

# INVITATION FOR BIDS



FOR CONSTRUCTION OF

Kawana Springs Community Park Garden

**CITY CONTRACT NUMBER**  
C02393

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

2025



LOCATION MAP

City of Santa Rosa

## TABLE OF CONTENTS

<b>Notice Inviting Bids .....</b>	<b>1</b>
<b>Instructions to Bidders .....</b>	<b>3</b>
<b>Bid Proposal.....</b>	<b>11</b>
<b>Bid Schedule .....</b>	<b>13</b>
<b>Subcontractor List.....</b>	<b>15</b>
<b>Noncollusion Declaration .....</b>	<b>16</b>
<b>Bid Bond.....</b>	<b>17</b>
<b>Contractor Agreement To Be Bound .....</b>	<b>19</b>
<b>Contract .....</b>	<b>20</b>
<b>Payment Bond.....</b>	<b>25</b>
<b>Performance Bond .....</b>	<b>27</b>
<b>General Conditions .....</b>	<b>29</b>
<b>Article 1 - Definitions.....</b>	<b>29</b>
Definitions.....	29
<b>Article 2 - Roles and Responsibilities .....</b>	<b>32</b>
2.1 City .....	31
2.2 Contractor.....	32
2.3 Subcontractors .....	37
2.4 Coordination of Work.....	36
2.5 Submittals.....	37
2.6 Shop Drawings. ....	38
2.7 Material List. ....	38
2.8 Access to Work. ....	38
2.9 Personnel .....	38
<b>Article 3 - Contract Documents.....</b>	<b>39</b>
3.1 Interpretation of Contract Documents .....	39
3.2 Order of Precedence .....	40
3.3 Caltrans Standard Specifications and Standard Plans .....	40
3.4 For Reference Only.....	41
3.5 Current Versions. ....	41
3.6 Conformed Copies. ....	41
3.7 Ownership. ....	41
<b>Article 4 - Bonds, Indemnity, and Insurance .....</b>	<b>41</b>
4.1 Payment and Performance Bonds. ....	41
4.2 Indemnity.....	42
4.3 Insurance.....	42
<b>Article 5 - Contract Time .....</b>	<b>45</b>
5.1 Time is of the Essence .....	45
5.2 Schedule Requirements.....	45
5.3 Delay and Extensions of Contract Time.....	47
5.4 Liquidated Damages. ....	50
<b>Article 6 - Contract Modification .....</b>	<b>51</b>
6.1 Contract Modification.....	51
6.2 Contractor Change Order Requests .....	52
6.3 Adjustments to Contract Price.....	53
6.4 Unilateral Change Order .....	54
6.5 Non-Compliance Deemed Waiver.....	54
<b>Article 7 - General Construction Provisions .....</b>	<b>54</b>
7.1 Permits, Fees, Licenses, Certificates, and Taxes .....	54
7.2 Temporary Facilities .....	54
7.3 Noninterference and Site Management. ....	55
7.4 Signs.....	56
7.5 Project Site and Nearby Property Protections. ....	56

7.6	Materials and Equipment.....	58
7.7	Substitutions .....	59
7.8	Testing and Inspection. ....	59
7.9	Project Site Conditions and Maintenance. ....	61
7.10	Instructions and Manuals .....	62
7.11	As-built Drawings .....	62
7.12	Existing Utilities .....	63
7.13	Notice of Excavation.....	63
7.14	Trenching and Excavations of Four Feet or More .....	63
7.15	Trenching of Five Feet or More .....	64
7.16	New Utility Connections .....	64
7.17	Lines and Grades .....	64
7.18	Historic or Archeological Items.....	66
7.19	Environmental Control.....	66
7.20	Noise Control.....	66
7.21	Mined Materials. ....	67
7.22	Water Department Notification. ....	67
7.23	Public Safety and Traffic Control.....	67
<b>Article 8</b>	<b>- Payment .....</b>	<b>68</b>
8.1	Schedule of Values .....	68
8.2	Progress Payments .....	69
8.3	Adjustment of Payment Application .....	69
8.4	Early Occupancy. ....	70
8.5	Retention .....	70
8.6	Payment to Subcontractors and Suppliers.....	70
8.7	Final Payment .....	70
8.8	Release of Claims .....	70
8.9	Warranty of Title .....	70
<b>Article 9</b>	<b>- Labor Provisions .....</b>	<b>71</b>
9.1	Discrimination Prohibited.....	71
9.2	Labor Code Requirements .....	71
9.3	Prevailing Wages .....	71
9.4	Payroll Records .....	71
9.5	Labor Compliance .....	72
<b>Article 10</b>	<b>- Safety Provisions .....</b>	<b>72</b>
10.1	Safety Precautions and Programs .....	72
10.2	Hazardous Materials .....	73
10.3	Material Safety .....	73
10.4	Hazardous Condition.....	73
10.5	Emergencies .....	73
10.6	Confined Space Operations .....	73
<b>Article 11</b>	<b>- Completion and Warranty Provisions .....</b>	<b>74</b>
11.1	Final Completion .....	74
11.2	Warranty .....	75
11.3	Use Prior to Final Completion .....	76
11.4	Substantial Completion .....	76
<b>Article 12</b>	<b>- Dispute Resolution .....</b>	<b>76</b>
12.1	Claims.....	76
12.2	Claims Submission.....	77
12.3	City's Response .....	78
12.4	Meet and Confer.....	79
12.5	Mediation and Government Code Claims .....	79
12.6	Tort Claims .....	80
12.7	Arbitration. ....	80
12.8	Burden of Proof and Limitations .....	80
12.9	Legal Proceedings.....	80



12.10	Other Disputes .....	80
<b>Article 13</b>	<b>- Suspension and Termination .....</b>	<b>80</b>
13.1	Suspension for Cause .....	80
13.2	Suspension for Convenience .....	81
13.3	Termination for Default.....	81
13.4	Termination for Convenience .....	82
13.5	Actions Upon Termination for Default or Convenience .....	83
<b>Article 14</b>	<b>- Miscellaneous Provisions .....</b>	<b>84</b>
14.1	Assignment of Unfair Business Practice Claims .....	84
14.2	Provisions Deemed Inserted .....	84
14.3	Waiver .....	84
14.4	Titles, Headings, and Groupings.....	84
14.5	Statutory and Regulatory References .....	84
14.6	Survival.....	84
<b>Special Conditions</b>	<b>.....</b>	<b>86</b>
<b>Technical Specifications</b>	<b>.....</b>	<b>91</b>
Section 10	General Construction	
Section 12	Temporary Traffic Control	
Section 13	Water Pollution Control	
Section 14	Environmental Stewardship	
Section 15	Existing Facilities	
Section 17	Earthwork and Landscape	
Section 19	Earthwork	
Section 20-10	Bioretention	
Section 25	Aggregate Subbases	
Section 26	Aggregate Base	
Section 39	Hot Mix Asphalt	
Section 40	Concrete Pavement	
Section 51	Concrete Structures	
Section 64	Plastic Pipe	
Section 73	Concrete Curbs and Sidewalks	
Section 81	Miscellaneous Traffic Control Devices	
Section 82	Signs and Markers	
Section 84	Markings	
Section 90	Concrete	
Section 112	Tree Protection	
Section 121	Notification	
Section 124	Material Recycling	
Section 132	Water Distribution System	
Section 12 9300	Site Furnishings	
Section 13 3123	Pre-Engineered Fabric Shade Structures	
Section 31 0000	Earthwork	
Section 31 2333	Trenching and Backfill	
Section 32 0523	Cement and Concrete for Exterior Improvements	
Section 32 1000	Base Courses	
Section 32 1200	HMA Flexible Paving	
Section 32 1723	Pavement Markings	
Section 32 3100	Fencing and Gates	
Section 32 8000	Irrigation System	
Section 32 9000	Landscape Planting	

## Notice Inviting Bids

1. **Bid Submission.** City of Santa Rosa ("City") will accept sealed bids for its Kawana Springs Community Park Garden Project City Project Number C02393 ("Project"), before **August 6<sup>th</sup>, 2025 at 2:00 p.m.**, at its Transportation and Public Works office, located at 69 Stony Circle, Santa Rosa, California, at which time the bids will be publicly opened and read aloud. Bidders may attend the public opening in person.
2. **Project Information.**
  - 2.1 **Location and Description.** The Project is located south of the Kawana Springs Road and Amethyst Way intersection and is described as follows: The Community Garden will include an asphalt concrete driveway, three parking spaces a new pedestrian crossing with solar powered flashing beacons, and a new ADA curb ramp will be installed at the Kawana Springs Road and Amethyst Way intersection. Additionally, a new concrete pathway will be constructed east of the Community Garden location connecting the garden to the existing curb ramp located at Meda Avenue which is also planned to be updated to a directional ramp. A new irrigation water line will be installed and is planned to connect to the existing water line located within Kawana Springs Road. Associated construction will include but is not limited to a new irrigation water line located within Kawana Springs Road, an ADA compliant raised garden bed, two shaded picnic tables, a concealed porta-potty, and two storage sheds.
  - 2.2 **Time for Final Completion.** The Project must be fully completed within **90 Working Days** from the start date set forth in the Notice to Proceed. City anticipates that the Work will begin on or about **May 1<sup>st</sup>, 2026**, but the anticipated start date is provided solely for convenience and is neither certain nor binding.
3. **License and Registration Requirements.**
  - 3.1 **License.** This Project requires a valid California contractor's license for the following classification(s): Class A
  - 3.2 **DIR Registration.** City may not accept a Bid Proposal from, or enter into the Contract with, a bidder without proof that the bidder is registered with the California Department of Industrial Relations ("DIR") to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
4. **Contract Documents.** The plans, specifications, bid forms and contract documents for the Project, and any addenda thereto ("Contract Documents") may be downloaded from the City's PlanetBids portal, which may be accessed by selecting the "Bid/Proposal Opportunities" link on the City's website at <https://www.srcity.org/165/Bids-Proposals>. A printed copy of the Contract Documents is not available.
5. **Bid Security.** The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, valid Certificates of Reported Compliance as required under the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), if applicable, and any other submittals required by the Contract Documents and as specified in the Notice of Award.

**6. Prevailing Wage Requirements.**

**6.1 General.** Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.

**6.2 Rates.** The prevailing rates are on file with the City and are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

**6.3 Compliance.** The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.

**7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.

**8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.

**9. Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the base bid price) for each Subcontractor that will perform Work or service, or fabricate and install Work, for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.

**10. Bidders' Conference.** A bidders' conference will be held on **July 23<sup>rd</sup> 2025, at 10:00 a.m.**, at the following location: south of the Kawana Springs Road and Amethyst Way intersection to acquaint all prospective bidders with the Contract Documents and the Project site. The bidders' conference is **NOT** mandatory. A bidder who fails to attend a mandatory bidders' conference may be disqualified from bidding.

**11. Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

By: Gregory Mariscal Date: 07/02/2025  
Gregory Mariscal (Jul 2, 2025 15:43 PDT)

Gregory Mariscal, Supervising Engineer

Publication Date: July 9, 2025

END OF NOTICE INVITING BIDS

## Instructions to Bidders

Each Bid Proposal submitted to the City of Santa Rosa ("City") for its Kawana Springs Community Park Garden Project City Project Number C02393 ("Project") must be submitted in accordance with the following instructions and requirements:

### 1. Bid Submission.

- 1.1 General.** Each Bid Proposal must be completed, using the form provided in the Contract Documents, signed, and submitted to City in a sealed envelope, with all required forms and attachments, before the deadline set forth in Section 1 of the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions (i.e., submissions at or after the exact hour of bid opening) will be returned unopened. City reserves the right to postpone the date or time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead.
- 1.2 Vendor Registration.** To participate in the bidding process, each bidder must register as a vendor on PlanetBids, download the Contract Documents, and add itself to the "Prospective Bidders" list for the Project. If City issues an addendum, each bidder must log in to PlanetBids and acknowledge the addendum prior to the bid deadline. (See Section 8, below.)
- 1.3 Bid Envelope.** The sealed envelope containing the Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

**BID PROPOSAL:**

Kawana Springs Community Park Garden Project  
Contract No. C02393

Transportation and Public Works Department  
69 Stony Circle  
Santa Rosa, California 95401  
Attn: Peter Porata

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code §§ 1725.5 and 1771.1):

*[Contractor company name]*  
*[street address]*  
*[city, state, zip code]*  
DIR Registration No: \_\_\_\_\_

- 1.4 DIR Registration.** Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code § 1725.5. If City is unable to confirm that the bidder is currently registered with the DIR, City may disqualify the bidder and return its bid unopened. (Labor Code §§ 1725.5 and 1771.1(a).)

**1.5 Bid Tabulation.** To access the bid tabulation when available, visit [www.srcity.org/bids](http://www.srcity.org/bids). Click the link to “Capital Projects Bid Results” under the Capital Projects heading.

- 2. Bid Proposal Form and Enclosures.** Each Bid Proposal must be completed legibly using the Bid Proposal form included with the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder’s authorized representative. A Bid Proposal submitted with exceptions or terms such as “negotiable,” “will negotiate,” or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Bid Schedule, Subcontractor List, and Non-Collusion Declaration using the forms included with the Contract Documents, and any additional forms required by the Notice Inviting Bids or Instructions to Bidders.
- 3. Authorization and Execution.** Each Bid Proposal must be signed by the bidder’s authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal under California Corporations Code § 313 or as otherwise authorized by law.
- 4. Bid Security.** Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier’s check or certified check, made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California. The bid security must guarantee that, within ten days after issuance of the Notice of Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; submit the insurance certificates and endorsements; and submit valid Certificates of Reported Compliance as required by the Off-Road Regulation, if applicable, and any other submittals, if any, required by the Contract Documents or the Notice of Award.
- 5. Requests for Information.** Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to City via the PlanetBids portal. Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five Working Days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.
- 6. Pre-Bid Investigation.**
  - 6.1 General.** Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.

- 6.2 Document Review.** Each bidder is responsible for review of the Contract Documents and any informational documents provided “For Reference Only,” e.g., as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code § 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.
- 6.3 Project Site.** Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder’s expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder’s field investigation. The bidder may request access to underlying or background information on the Project site in City’s possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.
- 6.4 Utility Company Standards.** The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, “utility owners”). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.
- 7. Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.
- 8. Addenda.** Subject to the limitations of Public Contract Code § 4104.5, City reserves the right to issue addenda prior to bid time. Any addenda issued prior to the bid opening are part of the Contract Documents. Bidders should check City’s PlanetBids portal periodically for any addenda or updates on the Project, which may be accessed via City’s website at: <https://www.srcity.org/165/Bids-Proposals>. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid and must acknowledge each addendum in the PlanetBids portal.
- 9. Brand Designations and “Or Equal” Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words “or equal,” is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after Notice of



Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code § 3400(c).

- 10. Bid Protest.** Any bid protest against another bidder must be submitted in writing and received by City at 69 Stony Circle, Santa Rosa, CA 95401 or sent via email at Email [pporata@srcity.org](mailto:pporata@srcity.org) before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:

- 10.1 General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. For purposes of this Section 10, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code § 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code § 1771.1(b).
- 10.2 Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.
- 10.3 Copy to Protested Bidder.** Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.
- 10.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.
- 10.5 Copy to Protesting Bidder.** Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 10.6 Exclusive Remedy.** The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of a bid protest. A bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

- 10.7 Right to Award.** City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.
- 11. Reservation of Rights.** Subject to the provisions of its charter and the Santa Rosa City Code ("City Code"), City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities; to accept or reject any or all bids; to cancel or reschedule the bid; to postpone or abandon the Project entirely; or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 90 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.
- 12. Bonds.** Within ten calendar days following issuance of the Notice of Award, the successful bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.
- 13. License(s) and Certificate(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business tax certificate, issued pursuant to Chapter 6.04 of the City Code before performing any Work on the Project. Subcontractors must also obtain a City business tax certificate before performing any Work.
- 14. Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code §§ 1777.1 or 1777.7 is prohibited from performing work on the Project.
- 15. Safety Orders.** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code § 6707.
- 16. In-Use Off-Road Diesel-Fueled Fleets.** If the Project involves the use of vehicles subject to the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), then within ten calendar days following City's issuance of the Notice of Award, the successful bidder must submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the Off-Road Regulation, unless exempt under the Off-Road Regulation.

17. **Community Workforce Agreement.** If checked below, the Project is subject to the City's Community Workforce Agreement ("CWA") and the successful bidder must comply with the requirements therein.

☒ This Project is subject to the City's CWA, which is available on the City's website at <https://www.srcity.org/165/Bids-Proposals> and incorporated herein by reference. Within three Working Days following a request from City, the apparent low bidder must submit to City an executed Appendix A, Contractor Agreement to be Bound, using the form provided with the Contract Documents. Each bidder must provide a copy of the CWA to its Subcontractors, and the successful bidder and its Subcontractors must comply with the CWA. Entering into the CWA is a condition of award of the Contract for the Project.

☐ This Project is not subject to the City's CWA.

18. **Bid Schedule.** Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.

18.1 **Incorrect Totals.** In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code § 5100 et seq.

18.2 **Estimated Quantities.** Unless identified as a "Final Pay Quantity," the quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.

18.3 **Bid Item Description.** The descriptions of bid items in the Specifications are not intended as exclusive descriptions of the Work. Each bidder must determine, and include in its unit pricing, all things necessary and incidental for the timely performance and completion of the Work as specified in the Contract Documents, including, but not limited to, all necessary labor, materials, supplies, tools, equipment, transportation, facilities, and utilities, unless otherwise specified.

19. **Withdrawal.** A Bid Proposal may not be withdrawn for a period of 90 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code § 5100 et seq. In the event that a bid includes a material error, the bidder may request to withdraw its bid in accordance with Public Contract Code § 5100 et

seq. The written request must establish the elements set forth in Public Contract Code § 5103.

- 20. Additive and Deductive Alternates.** As required by Public Contract Code § 20103.8, if this bid solicitation includes additive or deductive items, the method checked below will be used to determine the lowest bid. If no method is checked, subparagraph (A) will be used to determine the lowest bid. City retains the right to add to or deduct from the Contract any of the additive or deductive alternates included in the Bid Proposal. City reserves the right, acting in its sole discretion, to add to or deduct from the Contract any of the additive or deductive alternates included in the Bid Proposal, based on the bid price provided for each such alternate. In addition, following award and execution of the Contract, the City reserves the right to incorporate one or more of the alternates that were not included in the Contract as awarded. Any such post-award addition(s) and/or deduction(s) will be added by Change Order and based on the bid price provided for each such alternate.

\_\_\_\_\_ (A) The lowest bid will be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

  X   (B) The lowest bid will be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Proposal as being used for the purpose of determining the lowest bid price. The following alternates will be used for the purpose of determining the lowest bid price: Critter Barrier Around Entire Perimeter Fence.

\_\_\_\_\_ (C) The lowest bid will be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by City before the first bid is opened.

\_\_\_\_\_ (D) The lowest bid will be determined in a manner that prevents any information that would identify any of the bidders or the proposed subcontractors or suppliers from being revealed to City before the ranking of all bidders from lowest to highest has been determined.

- 21. For Reference Only.** The following documents are provided "For Reference Only," as defined in Section 3.4 of the General Conditions: No Documents
- 22. Schedule of Values After Bid Opening.** The apparent lowest bid shall provide a schedule of values for the lump sum bid, including any alternates to be awarded, as requested by the City within 5 days of the bid opening. The schedule of values shall have at a minimum break out unit pricing for the following items:

Overall Construction Services

- Mobilization (LS)
- Traffic Control (LS)
- Construction Staking (LS)
- Earthwork/Rough Grading (CY)
- Excess Grading Offhaul (CY)
- Earthen Swale (LF)
- 24" Over-Excavation & Import Fill for Pavement/Flatwork Areas (CY)
- Geofabric Under Pavement/Flatwork Area (SF)
- Keyway Bench (LF)
- Erosion Control (LS)

Street and Walk Construction

- Fine Grading (SF)
- Curb and Gutter (LF)
- Vertical Curb (LF)
- Colored Concrete Cheek Wall (LF)
- 5" Concrete over 4" AB Base (Pedestrian Concrete) (SF)
- 5" Colored concrete over 4" AB Base (Pedestrian Concrete) (SF)
- 6" Concrete over 6" AB (Reinforced Vehicular Concrete) (SF)
- 3" HMA Flexible Pavement over 10" Class 2 AB (SF)
- Traffic Striping (LF)
- Concrete Curb Ramp (SF)
- Driveway Curb Cut (SF)

#### Utilities

- Single 1" HDPE Svc (std 863-A) w/ Backflow Device (EA)
- 6" HDPE Storm Drainpipe (LF)
- 4" HDPE Storm Drainpipe (LF)
- 12" Drop Inlet (EA)

#### Flashing Beacon, Signage and Striping

- Rectangular Rapid Flashing Beacon (LS)
- Signage for ADA parking and all Pavement Markings (LS)

#### Site Elements

- 6' Tall Double Maintenance Gate (EA)
- 6' Tall Single-Entry Gate (EA)
- 6' Tall Single Maintenance Gate (EA)
- 6' Tall Fence (LF)
- 8' Tall Fence (LF)
- ADA Raised planter (EA)
- Bench (EA)
- Lighting (LS)
- Picnic Table - Type 1 (EA)
- Picnic Table - Type 2 (EA)
- Shade Structure (EA)
- Shed 4 x 8 (EA)
- Shed 8 x 8 (EA)
- Litter/Recycling Receptacle (EA)
- 30" Roadside Bioretention Section (SF)
- 42" Roadside Structural Soil Bioretention Section (SF)
- Soil Preparation and Fine Grading for landscape areas (excludes garden plots) (SF)
- Soil Preparation, Compost and Fine Grading for Garden Plots (CY)
- Irrigation (LF)
- Mulch (CY)
- Root Barriers (LF)
- Shrubs (1 gallon) (EA)
- Shrubs (5 gallon) (EA)
- Trees (15 gallon or bare root) (EA)
- Trees (24" box) (EA)
- Maintenance Period for City planting areas (excludes garden plots) (LS)

#### Additive Alternate

- Critter Barrier Around Entire Perimeter Fence (LF)

END OF INSTRUCTIONS TO BIDDERS

## Bid Proposal

### Kawana Springs Community Park Garden Project

\_\_\_\_\_ (“Bidder”) hereby submits this Bid Proposal to the City of Santa Rosa (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead, for the following price (“Base Bid”):  
\$\_\_\_\_\_.
2. **Bid Alternates.** Bidder submits the following prices for the specified bid alternates:  
  
Alternate #1: Critter Barrier Around Entire Perimeter Fence  
Add: \$\_\_\_\_\_
3. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this bid, as evidenced by its acknowledgement of each addendum on the City’s PlanetBids portal. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason.
4. **Bidder’s Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:
  - 4.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder’s knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code § 1104.
  - 4.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
  - 4.3 **Bidder Responsibility.** Bidder is a responsible bidder, with the necessary ability, capacity, experience, skill, qualifications, workforce, equipment, and resources to perform or cause the Work to be performed in accordance with the Contract Documents and within the Contract Time.
  - 4.4 **Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed bid. All statements and information provided in this Bid Proposal and enclosures are true and correct to the best of Bidder’s knowledge.
  - 4.5 **Nondiscrimination.** In preparing this bid, the Bidder has not engaged in discrimination against any prospective or present employee or Subcontractor on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status.
  - 4.6 **Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Bidder is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the “Act”), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.



**4.7 Agreement to be Bound by CWA.** If the Project is subject to the City's CWA, Bidder will submit an executed Appendix A, Contractor Agreement to be Bound, using the form provided with the Contract Documents, within three Working Days following a request from City. (See Section 17 of the Instructions to Bidders.)

**5. Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that, if City issues the Notice of Award to Bidder, then within ten days following issuance of the Notice of Award, Bidder will do all of the following:

**5.1 Execute Contract.** Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;

**5.2 Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents;

**5.3 Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents; and

**5.4 Certificates of Reported Compliance.** Submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, if the Project involves the use of vehicles subject to the Off-Road Regulation.

**6. Bid Security.** As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

\_\_\_\_\_ A cashier's check or certified check payable to City and issued by \_\_\_\_\_ [Bank name] in the amount of \$\_\_\_\_\_.

\_\_\_\_\_ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on \_\_\_\_\_, 20\_\_.

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

\_\_\_\_\_  
Name and Title

s/ \_\_\_\_\_  
[See Section 3 of Instructions to Bidders]

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
License #, Expiration Date, and Classification

\_\_\_\_\_  
Address

\_\_\_\_\_  
DIR Registration #

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Contact Name

\_\_\_\_\_  
Contact Email

END OF BID PROPOSAL

### Bid Schedule

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

This Bid Schedule must be completed legibly and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. If this Bid Schedule requests pricing for Alternates, pricing must be provided for each Alternate Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead.

AL = Allowance  
LF = Linear Foot

CF = Cubic Feet  
LS = Lump Sum

CY = Cubic Yard  
SF = Square Feet

EA = Each      LB = Pounds  
TON = Ton (2000 lbs)

#### BASE BID

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1	Base Bid	1	LS	\$	\$
2	Add Alternate 1 Critter Barrier Around Entire Perimeter Fence	1	LS	\$	\$

\* Final Pay Quantity

TOTAL BASE BID:      Items 1 through 2 inclusive: \$ \_\_\_\_\_

*Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.*

END OF BID SCHEDULE

### Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Base Bid,<sup>1</sup> the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the Base Bid price.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	PERCENT OF WORK

END OF SUBCONTRACTOR LIST

<sup>1</sup> For street or highway construction, this requirement applies to any subcontract of \$10,000 or more.

### Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ [title] of \_\_\_\_\_  
[business name], 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.

This declaration is intended to comply with California Public Contract Code § 7106 and Title 23 U.S.C § 112.

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].

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

\_\_\_\_\_  
Name [print]

END OF NONCOLLUSION DECLARATION

## Bid Bond

\_\_\_\_\_ ("Bidder") has submitted a bid, dated \_\_\_\_\_, 20\_\_\_\_ ("Bid"), to the City of Santa Rosa ("City") for work on the Kawana Springs Community Park Garden Project ("Project"). Under this duly executed bid bond ("Bid Bond"), Bidder as Principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the "Bond Sum"). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.
2. **Submittals.** Within ten days following issuance of the Notice of Award to Bidder, Bidder must submit to City the following:
  - 2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents ("Contract Documents");
  - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
  - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents;
  - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents;
  - 2.5 **Certificates of Reported Compliance.** Valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), if the Project involves the use of vehicles subject to the Off-Road Regulation; and
  - 2.6 **Other Submittals.** Any other documents required by the Instructions to Bidders or Notice of Award.
3. **Enforcement.** If Bidder fails to execute the Contract or to submit the bonds, insurance certificates, and valid Certificates of Reported Compliance as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

4. **Duration and Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise, it will remain in full force and effect for 90 days

following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first.  
Surety waives the provisions of Civil Code §§ 2819 and 2845.

This Bid Bond is entered into and effective on \_\_\_\_\_, 20\_\_\_\_\_.

**SURETY:**

\_\_\_\_\_  
Business Name

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

**BIDDER:**

\_\_\_\_\_  
Business Name

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

END OF BID BOND



## Appendix A

### City of Santa Rosa Community Workforce Agreement Contractor Agreement To Be Bound

The undersigned, as a Contractor or Subcontractor ("Contractor") for the Kawana Springs Community Park Garden Project City Project Number C02393, (hereinafter the "Covered Project"), for and in consideration of the award to it of a contract to perform work on said Covered Project, and in further consideration of the mutual promises made in the "City of Santa Rosa Community Workforce Agreement" (hereinafter "Agreement"), a copy of which was received and is acknowledged, hereby:

- (1) Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made thereto.
- (2) Agrees to be bound by the legally established local trust agreements as set forth in Article 17 of this Agreement.
- (3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor;
- (4) Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of the Agreement.
- (5) Agrees to secure from any Contractor(s) (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, a duly executed Agreement to be Bound in form identical to this document.

The obligation to be a party to and bound by the Agreement shall extend to all work for the Covered Project undertaken by the Contractor.

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

CONTRACTOR/SUBCONTRACTOR: \_\_\_\_\_

California Contractor State License No. or Motor Carrier (CA) Permit No.: \_\_\_\_\_

Name of Authorized Person (print): \_\_\_\_\_

Signature of Authorized Person: \_\_\_\_\_

Title of Authorized Person: \_\_\_\_\_

Telephone Number of Authorized Person: \_\_\_\_\_

Address of Authorized Person: \_\_\_\_\_

State Public Works Registration Number: \_\_\_\_\_

## Contract

This public works contract ("Contract") is entered into by and between the City of Santa Rosa ("City") and \_\_\_\_\_ ("Contractor"), for work on the Kawana Springs Community Park Garden Project City Project Number C02393 ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On \_\_\_\_\_, 20\_\_\_\_, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below. City has elected to include the following Project alternate(s) in the Contract: Critter Barrier Around Entire Perimeter Fence.
2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the documents listed below. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, including this Contract.
  - 2.1 Notice Inviting Bids;
  - 2.2 Instructions to Bidders;
  - 2.3 Addenda, if any;
  - 2.4 Bid Proposal and attachments thereto;
  - 2.5 Contract;
  - 2.6 Payment and Performance Bonds;
  - 2.7 General Conditions;
  - 2.8 Special Conditions;
  - 2.9 Project Plans and Specifications;
  - 2.10 Change Orders, if any;
  - 2.11 Notice of Award;
  - 2.12 Notice to Proceed;
  - 2.13 City Standards and City Specifications, as applicable;
  - 2.14 City's CWA, if applicable;
  - 2.15 Caltrans Standard Specifications (excluding Division I) and Caltrans Standard Plans, as applicable;
  - 2.16 Geotechnical Investigation dated, September 11, 2023;
  - 2.16a Supplemental Geotechnical Recommendations, dated December 14, 2023;
  - 2.16b Supplemental Geotechnical Recommendations, dated April 5, 2024; and
  - 2.17 The following: No other documents
3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, onsite facilities, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to diligently prosecute and complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.
4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \$\_\_\_\_\_ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.

5. **Time for Completion.** Contractor will fully complete the Work for the Project, meeting all requirements for Final Completion, within 90 Working Days from the start date set forth in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.
6. **Liquidated Damages.** As further specified in Section 5.4 of the General Conditions, if Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of \$1,500 per day for each day of unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.
7. **Labor Code Compliance.**
  - 7.1 **General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.
  - 7.2 **Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.
  - 7.3 **DIR Registration.** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
8. **Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 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 I will comply with such provisions before commencing the performance of the Work on this Contract."
9. **Conflicts of Interest.** Contractor, its employees, Subcontractors, and agents may not have, maintain, or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.
10. **Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.
11. **Notice.** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows:

**City:**

Transportation and Public Works Department  
69 Stony Circle  
Santa Rosa, CA 95401  
Attn: Peter Porata, Associate Civil Engineer  
pporata@srcity.org

Copy to: Allyson Gonyo  
agonyo@srcity.org

**Contractor:**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Attn: \_\_\_\_\_  
Email: \_\_\_\_\_  
Copy to: \_\_\_\_\_

**12. General Provisions.**

- 12.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's and City's lawful heirs, successors and permitted assigns.
- 12.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract.
- 12.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the Sonoma County Superior Court, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure § 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of Sonoma County, California.
- 12.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 12.5 Integration.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.
- 12.6 Severability.** If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.
- 12.7 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Contractor certifies, by signing below, that it is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

**12.8 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporations Code § 313 or as otherwise authorized by law.

**12.9 Electronic Signatures.** In accordance with Government Code § 16.5 and Civil Code § 1633.1 et seq., the parties agree that this Contract may be transmitted and executed electronically and that electronic signatures will have the same force and effect as the use of manual signatures.

*[Signatures are on the following page.]*

The parties agree to this Contract as witnessed by the signatures below:

**CITY:**

Approved as to form:

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

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

\_\_\_\_\_  
Name, Title

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Attest:

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

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

**CONTRACTOR:** \_\_\_\_\_  
Business Name

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

Seal:

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

Second Signature (See Section 12.8):

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

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

\_\_\_\_\_  
Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT



## Payment Bond

The City of Santa Rosa ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract for work on the Kawana Springs Community Park Garden Project City Project Number C02393 ("Project"). The Contract is incorporated by reference into this Payment Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee in an amount not less than \$ \_\_\_\_\_, under California Civil Code § 9550 et seq., to ensure payment to authorized claimants. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code § 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code § 13020 with respect to the work and labor, then Surety will pay the obligation.
3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code § 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
5. **Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code § 9550. Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:  
  
Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_
6. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Sonoma County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

*[Signatures are on the following page.]*

7. **Effective Date; Execution.** This Bond is entered into and is effective on \_\_\_\_\_,  
20\_\_.

**SURETY:**

\_\_\_\_\_  
Business Name

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

**CONTRACTOR:**

\_\_\_\_\_  
Business Name

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

**APPROVED BY CITY:**

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

END OF PAYMENT BOND

## Performance Bond

The City of Santa Rosa ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract for work on the Kawana Springs Community Park Garden Project City Project Number C02393 ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee for an amount not less than \$\_\_\_\_\_ to ensure Contractor's faithful performance of its obligations under the Contract. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligations.** Surety's obligations are co-extensive with Contractor's obligations under the Contract. If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void. Otherwise, Surety's obligations will remain in full force and effect.
3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845.
4. **Application of Contract Balance.** Upon making a demand on this Bond for completion of the Work prior to acceptance of the Project, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
5. **Contractor Default.** Upon written notification from City of Contractor's termination for default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
  - 5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
  - 5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or
  - 5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
6. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.
7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

8. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Sonoma County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

9. **Effective Date; Execution.** This Bond is entered into and effective on \_\_\_\_\_, 20\_\_\_\_.

**SURETY:**

\_\_\_\_\_  
Business Name

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

**CONTRACTOR:**

\_\_\_\_\_  
Business Name

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

**APPROVED BY CITY:**

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

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

END OF PERFORMANCE BOND

## **General Conditions**

### **Article 1 - Definitions**

**Definitions.** The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day,” or “working day.”

**Allowance** means a specific amount that must be included in the Bid Proposal for a specified purpose.

**Article**, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

**Awarding Authority** means the City Council or its authorized delegee(s) unless the Contract is awarded by the Water Department, in which case it means the Board of Public Utilities.

**Change Order** means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

**City** means the City of Santa Rosa, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

**City Engineer** means the City Engineer for City and his or her authorized delegee(s).

**City Specifications** means the City’s Construction Specifications for Public Improvements, which may be accessed on the City’s website at <https://www.srcity.org/2321/Design-Construction-Standards>.

**City Standards** means the City’s Design and Construction Standards, which may be accessed on the City’s website at <https://www.srcity.org/2321/Design-Construction-Standards>.

**Claim** means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; a written demand by Contractor disputing a unilateral Change Order or a portion thereof; or a written demand by Contractor objecting to the amount of Final Payment.

**Contract** means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

**Contract Documents** means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal and attachments thereto; the Contract; the Notice of Award and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Plans and Specifications; any Change Orders; and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided “For Reference Only,” or documents that are intended solely to provide information regarding existing conditions.

**Contract Price** means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an

Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies, or equipment following submission of the Bid Proposal.

**Contract Time** means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

**Contractor** (or **You**) means the individual, partnership, corporation, or joint venture that has signed the Contract with City to perform the Work.

**CWA** means the Community Workforce Agreement for the City.

**Day** means a calendar day unless otherwise specified.

**Design Professional** means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or other design professional services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

**DIR** means the California Department of Industrial Relations.

**Drawings** has the same meaning as Plans.

**Engineer** means the City Engineer for the City of Santa Rosa and his or her authorized delegates.

**Excusable Delay** is defined in Section 5.3(B), Excusable Delay.

**Extra Work** means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

**Final Completion** means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

**Final Payment** means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

**Furnish** means to purchase and deliver for the Project.

**Government Code Claim** means a claim submitted pursuant to California Government Code § 900 et seq.

**Hazardous Materials** means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

**Including**, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

**Inspector** means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

**Install** means to fix in place for materials, and to fix in place and connect for equipment.

**Laws** means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

**Materials Lab** means City's Materials Engineering Laboratory, which may perform quality assurance functions for a Project relating to asphalt and concrete, including inspection and/or testing of workmanship, materials, and the manner of construction.

**Non-Excusable Delay** is defined in Section 5.3(D), Non-Excusable Delay.

**Plans** means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

**Project** means the public works project referenced in the Contract, as modified by any Project alternates elected by City, if any.

**Project Manager** means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegate(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

**Recoverable Costs** is defined in Section 5.3(F), Recoverable Costs.

**Request for Information** or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

**Section**, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

**Shop Drawings** means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

**Specialty Work** means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

**Specifications** means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

**Subcontractor** means an individual, partnership, corporation, or joint venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

**Technical Specifications** has the same meaning as Specifications.

**Water Department** means the City of Santa Rosa Water Department.

**Work** means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

**Work Day or Working Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include the following holidays observed by the City:

- (A) New Year's Day, January 1;
- (B) Martin Luther King Jr. Birthday, the third Monday in January;
- (C) President's Day, the third Monday in February;
- (D) Cesar Chavez Day, March 31;
- (E) Memorial Day, the last Monday in May;
- (F) Juneteenth, June 19;
- (G) Independence Day, July 4;
- (H) Labor Day, the first Monday in September;
- (I) Veterans Day, November 11;
- (J) Thanksgiving Day, the fourth Thursday in November;
- (K) The day after Thanksgiving Day; and
- (L) Christmas Day, December 25.

**Worksite** means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

## **Article 2 - Roles and Responsibilities**

### **2.1 City.**

(A) **City Council.** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) **Engineer.** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) **Project Manager.** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. Unless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.

(D) **Design Professional.** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.



## 2.2 Contractor.

(A) **General.** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) **Responsibility for the Work and Risk of Loss.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested, but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism, or theft, subject to the limitations of Laws, including Public Contract Code § 7105.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards.** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents, Laws, and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) **Meetings.** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend and participate in a pre-construction conference, weekly Project progress meetings, and coordination meetings, as set forth herein.

(1) *Pre-Construction Conference.* City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed. Contractor must present City with the following information or documents at the conference, unless otherwise specified by City, for City's review and acceptance before the Work commences:

- a. Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;
- b. List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;
- c. Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;
- d. If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;
- e. Draft baseline schedule for the Work as required under Section 5.2, to be finalized within ten days after City issues the Notice to Proceed or as otherwise specified by City;
- f. Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;
- g. Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;
- h. Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;
- i. Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits;
- j. If requested by City, Contractor's cash flow projections; and
- k. Any other documents specified by City.

(2) *Progress Meetings.* Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must participate in weekly Project progress meetings scheduled with City.

(3) *Coordination Meetings.* If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) **Construction Records.** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site; primary Work activities; major deliveries; problems encountered, including injuries, if any; weather and site conditions; and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with Subcontractors, and records of meetings with Subcontractors. Upon request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts, or equipment. Workmanship, materials, parts, or equipment that do not conform to the requirements under the Contract Documents, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. If requested by City in City's notice to correct, Contractor must submit a Work plan for correcting defective Work in advance of Contractor taking corrective action. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(J) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records, copies of the insurance policies and endorsements required by the Contract Documents, and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct

costs to perform the Work, including, but not limited to, costs for labor, materials, and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's records relating to the Project during Contractor's normal business hours. Contractor's records may also be subject to examination and audit by the California State Auditor, pursuant to Government Code § 8546.7. The record-keeping requirements set forth in this subsection 2.2(J) will survive expiration or termination of the Contract.

(K) **Copies of Project Documents.** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

(L) **Quality Control.** Contractor is responsible for developing, implementing, and maintaining a quality control plan that includes sampling, testing, and inspecting the Work to control material quality and to ensure that the Work satisfies the quality characteristics in the Contract Documents. Contractor must submit copies of the quality control plan to City, within two Working Days after the pre-construction conference, and make one copy available at each Worksite.

(1) *Records.* Contractor must prepare and maintain quality control records, including the names and qualifications of samplers, testers, and inspectors; testing laboratories' identification and certifications; testing equipment calibrations and certifications; inspection reports; sampling and testing records organized by date and type of material; test results with comparison of quality characteristic requirements; test results in relation to action and any suspension limits; and records of corrective actions and suspensions. Contractor will submit any quality control test data and test results to the Engineer within two Working Days following test completion. Contractor must immediately notify the Engineer of any noncompliant Work.

(2) *Quality Control Manager.* Unless otherwise specified in the Special Conditions or Specifications, before starting Work, Contractor will designate in writing, and provide complete contact information for, the quality control manager for the Project who will be responsible for receiving, reviewing, and approving all correspondence and submittals prior to submission to the City; signing and implementing Contractor's quality control plan; and maintaining quality control records. The quality control manager must either be an employee of Contractor, or a Subcontractor retained solely to provide quality control services for the Project. The quality control manager must not be employed or compensated by a Subcontractor who will provide other Work for the Project.

(3) *Test Modifications.* The following specific tests are modified as follows: For California Test 216 (Relative Compaction), a mechanical compactor (Ploog Engineering Co. Model M 100 or equal) with a 10-pound hammer and split compaction molds must be used in lieu of the specified manual compaction equipment. For California Test 231 (Nuclear Gage Determination of In-Place Density), 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.

## 2.3 Subcontractors.

(A) **General.** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the Subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business tax certificate before performing any Work.

(B) **Contractual Obligations.** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code § 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code § 4107(a), City may request removal of the Subcontractor from the Project. Upon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code § 4107, as applicable.

## 2.4 Coordination of Work.

(A) **Concurrent Work.** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any City work forces or utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and

reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any City work forces, utility company or agency, or another contractor or subcontractor.

(B) **Coordination.** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

**2.5 Submittals.** Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.

(A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project. Contractor must provide submittals in electronic format, unless otherwise specified by the Engineer.

(C) **Required Contents.** Each submittal must be uniquely numbered and include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s). Submittal resubmissions must include a revision designation.

(D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal. Except as required for corrections, Contractor will not make changes to a submittal upon resubmission. City reserves the right to reject a partial resubmission of a submittal.

(E) **Effect of Review and Acceptance.** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract

Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

(F) **Enforcement.** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, Inspector, and Materials Lab.

(G) **Excessive RFIs.** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

- 2.6 Shop Drawings.** When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.
- 2.7 Material List.** Unless otherwise specified by City, Contractor must submit to the Engineer, at or before the pre-construction conference, a list of all materials proposed for use in the Work and any supporting documentation and samples required by the Contract Documents and source of supply. For a material listed on the "Engineer's List of Approved Items," located in the Sewer and Water sections of the City Standards, Contractor must provide the name of the manufacturer and model and part number for each material proposed for the Work, unless the item has been replaced for the Project, as specifically set forth in the Contract Documents. For all other materials, Contractor must provide the name of the manufacturer, model and part number, and supporting documentation and samples that will enable the Engineer to evaluate the material.
- 2.8 Access to Work.** Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City; and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.
- 2.9 Personnel.** Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. Upon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including

Laws pertaining to health and safety. Any such discharged personnel may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

### **Article 3 - Contract Documents**

#### **3.1 Interpretation of Contract Documents.**

(A) **Plans and Specifications.** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) **Duty to Notify and Seek Direction.** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy, omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on the Contractor. If Contractor proceeds with the related Work before obtaining the City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Articles 5 and 6.)

(C) **Figures and Dimensions.** Figures control over scaled dimensions.

(D) **Technical or Trade Terms.** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) **Measurements.** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) **Compliance with Laws.** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.



**3.2 Order of Precedence.** Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Attachment B – Federal Contract Requirements (only if used);
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;
- (I) Specifications;
- (J) Plans;
- (K) Notice of Award;
- (L) Notice Inviting Bids;
- (M) Attachment A – Federal Bidding Requirements (only if used);
- (N) Instructions to Bidders;
- (O) Community Workforce Agreement, if applicable;
- (P) Contractor's Bid Proposal and attachments;
- (Q) City Standards and City Specifications, as applicable; and
- (R) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications, Caltrans Special Provisions, or Caltrans Standard Plans.

**3.3 Caltrans Standard Specifications and Standard Plans.** Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the most current edition of Caltrans' Standard Specifications, unless otherwise specified ("Caltrans Standard Specifications"), including the most current amendments and revisions as of the date that Contractor's bid was submitted for this Project. Any reference to or incorporation of Caltrans' Standard Plans means the most current edition of Caltrans' Standard Plans, unless otherwise specified ("Caltrans Standard Plans"), including the most current amendments or revisions as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications, Special Provisions, or Caltrans Standard Plans:

(A) **Limitations.** The "Division I General Provisions" of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents. Unless otherwise specified in the Specifications, the remaining Divisions of the Caltrans Standard Specifications, i.e., Division II through Division XII, are applicable to the extent relevant to the Work and are subject to any modifications set forth in the Specifications. A specific reference in the Specifications to a section from the Caltrans Standard Specifications will not be construed as excluding other applicable sections from the Caltrans Standard Specifications.

(B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) **Meanings.** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:

- (1) Any reference to the "Engineer" or "Director" is deemed to mean the City Engineer.
- (2) Any reference to the "Special Provisions" is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.
- (3) Any reference to the "Department" or "State" is deemed to mean City.
- (4) Any reference to "Laboratory" is deemed to mean the Materials Lab, or such other laboratory as may be authorized by the City.

- 3.4 For Reference Only.** Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as "For Reference Only." Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that the City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.
- 3.5 Current Versions.** Unless otherwise specified by the City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code, or regulation in effect on the date that bids were due.
- 3.6 Conformed Copies.** If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor's responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor's sole expense.
- 3.7 Ownership.** No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is deemed to have conveyed the copyright in any designs, drawings, specifications, Shop Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

#### **Article 4 - Bonds, Indemnity, and Insurance**

- 4.1 Payment and Performance Bonds.** Within ten days following issuance of the Notice of Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, and each executed by Contractor and its surety using the bond forms included with the Contract Documents.
- (A) **Surety.** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at

its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.

(B) **Supplemental Bonds for Increase in Contract Price.** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.

**4.2 Indemnity.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, fees and costs of litigation or arbitration, and fees and expenses incurred in enforcing this Section) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code § 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.

**4.3 Insurance.** No later than ten days following issuance of the Notice of Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work. The required insurance must remain in full force and effect at all times during the period covered by the Contract through the date of City's acceptance of the Project, except as specified for commercial general liability insurance in subsection (A)(1), below, which requires a longer duration. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A-" or better and a financial size rating of "VII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance, or Contractor's failure to procure and maintain the required insurance, will not be construed to limit Contractor's liability under this Contract. The procurement of the required insurance will not be construed to fulfill Contractor's indemnification obligations under this Contract.

(A) **Policies and Limits.** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) **Commercial General Liability ("CGL") Insurance:** The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form with coverage at least as broad as ISO CG 00 01, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protective

coverage, contractual liability, products liability, completed operations, and broad form property damage, with limits of at least \$5,000,000 per occurrence and at least \$5,000,000 general aggregate. If insurance applies separately to a project/location, aggregate may be equal to per occurrence amount. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements. The products liability and completed operations coverage must continue for a period of three years following City's acceptance of the Project.

(2) *Automobile Liability Insurance:* The automobile liability insurance policy must provide coverage of at least \$3,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired, owned, and non-owned auto liability. Coverage must be at least as broad as ISO Form Number CA 00 01 covering any auto (Code 1).

(3) *Workers' Compensation Insurance and Employer's Liability:* The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least \$1,000,000 or as otherwise required by statute, per accident for bodily injury or disease. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance:* The pollution liability insurance policy must provide coverage of at least \$1,000,000 per occurrence and \$2,000,000 aggregate for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work. If the Work involves lead-based paint or asbestos identification and/or remediation, the pollution liability insurance 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 the definition of "pollution" in the policy must include microbial matter, including mold.

(5) *Builder's Risk Insurance:* The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City, without co-insurance provisions. Contractor must name City as loss payee.

(B) **Notice.** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days prior written notice to City, unless due to non-payment of premiums, in which case ten days prior written notice must be made to City.

(C) **Waiver of Subrogation.** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) **Required Endorsements.** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City of Santa Rosa, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract.

Coverage for an Additional Insured will not be limited to the Additional Insured's vicarious liability. The additional insured endorsement must be provided using ISO forms at least as broad as CG 20 10 04 13 or 20 38 04 13 (ongoing operations) and CG 20 37 04 13 (completed operations), or equivalent form(s) approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss. This endorsement must be provided using ISO form CG 20 01 04 13 or an equivalent form approved by the City.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Contractor's Responsibilities.** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage. Contractor's insurance coverage applies to the full extent of the policies, and nothing contained herein will be construed to limit the application of such coverage.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of \$10,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) **Subcontractors.** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

## Article 5 - Contract Time

**5.1 Time is of the Essence.** Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) **Authorization.** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. Contractor will diligently prosecute the Work to minimize the public's exposure to construction activities. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

**5.2 Schedule Requirements.** Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. Contractor must provide the Engineer with a license for use of Contractor's scheduling software, unless otherwise specified by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) **Baseline (As-Planned) Schedule.** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials, and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) **Specialized Materials Ordering.** Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase order date(s).

(2) *High Dollar or Long Duration Projects.* In addition to the requirements set forth above, if the Contract Price is \$5,000,000 or more or if the Contract Time is 100 Working Days or more, Contractor's baseline (as-planned) schedule must include the following: the start and completion dates for submittal development, submittal review, milestones and constraints, equipment and plant setup, interfaces with outside entities, erection and removal of falsework and shoring, test periods, major traffic stage change, and final cleanup; logical links between time-scaled Work activities; controlling activities; at least 50 but no more than 500 activities, unless otherwise specified or authorized by the Engineer; alphanumeric activity identification and activity description system for labeling Work activities; identification code for each activity for responsibility, stage, Work shifts, location, and bid items; activity durations of at least one Working Day and no more than 20 Working Days for each activity, unless otherwise authorized by the Engineer; and float as the predecessor activity to Final Completion. Each activity description must indicate its associated scope or location of Work.

(B) **City's Review of Schedules.** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) **Progress Schedules.** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) *Float.* The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) *Failure to Submit Schedule.* Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section, or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to five percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code § 7102.

(D) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination,

Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) **Effect of Acceptance.** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed or approved by City. If Contractor wants to perform non-critical Work activities that are out of sequence with the current City-accepted schedule, Contractor must notify and request approval from the Engineer in advance of performance of any such activities. Performance of any such Work must not impact the critical path Work activities. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) **Posting.** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, to facilitate City's use of its property, or to minimize the public's exposure to construction activities. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays observed by City, during City's normal business hours, except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

### 5.3 Delay and Extensions of Contract Time.

(A) **Notice of Delay.** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) **Excusable Delay.** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, or diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) **Weather Delays.** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day.



Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

(1) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.

(2) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

(3) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) **Non-Excusable Delay.** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight, or diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

(1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;

(2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time;

(3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time;

(4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor;

(5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers;

(6) performance or non-performance by Contractor's Subcontractors or suppliers;

(7) the time required to respond to excessive RFIs (see Section 2.5(G));

(8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals;

(9) time required for repair of, re-testing, or re-inspection of defective Work;

(10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work; or

(11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) **Compensable Delay.** Pursuant to Public Contract Code § 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to Weather Delay Days in excess of normal for a given month, as set forth in Section 5.3(C), is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) **Recoverable Costs.** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) **Request for Extension of Contract Time or Recoverable Costs.** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within 14 calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) **Required Contents.** The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) **Delay Days and Costs.** The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an

extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that: the delay was an Excusable Delay or Compensable Delay, as defined above; Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code § 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

**5.4 Liquidated Damages.** It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor fails to achieve Final Completion within the Contract Time due to Contractor's Non-Excusable Delay, City will charge Contractor in the amount specified in the Contract for each calendar day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegee.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable Delay or Compensable Delay, as set forth above.

(B) **Milestones.** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) **Other Remedies.** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

## **Article 6 - Contract Modification**

**6.1 Contract Modification.** Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a "no-cost" Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor's warranty obligations pursuant to Article 11 or any obligations of Contractor's bond sureties.

(A) **City-Directed Changes.** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation for cost savings resulting from "value engineering" pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) **Disputes.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute, City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor's sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) **Extra Work.** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by

City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must notify the Engineer in writing, within one Working Day following the date the Contractor first encounters the circumstances giving rise to Contractor's contention that Extra Work is necessary. Contractor's written notice must specifically identify the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit, by no later than close of business on that same Working Day, a daily report of the Extra Work performed that day, signed by the City and Contractor, identifying the labor, materials, and equipment used in the Extra Work ("Extra Work Report"). The Engineer may make any adjustments to Contractor's Extra Work Report(s) based on the Engineer's records of the Work. The Extra Work Report enables the parties to document and track the Extra Work, or Work that the Contractor contends is Extra Work. City's signature on the Extra Work Report is intended solely to document City's receipt of the Extra Work Report; it does not constitute any acknowledgement, acceptance, or approval of the Extra Work by City. To request compensation for Extra Work, Contractor must comply with the requirements in Section 6.2, below, including submission of the Extra Work Reports and a breakdown of the costs related to the Extra Work, together with copies of certified payroll, invoices, and other documentation substantiating the costs. Failure to submit the Extra Work Report by close of business on the same Working Day as the Extra Work is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) **Minor Changes and RFIs.** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

**6.2 Contractor Change Order Requests.** Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within 14 calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits,

and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. Upon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived."

**6.3 Adjustments to Contract Price.** The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work, and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented costs (including restocking fees), reasonably incurred before Contractor was notified of the City's intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) **Lump Sum.** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) **Time and Materials.** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor's performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work) will include allowed markup for overhead, profit, and other indirect costs, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15%:

(1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15% markup;

(2) All direct material costs provided by the Contractor, including sales tax, plus 15% markup;

(3) All direct plant and equipment rental costs provided by the Contractor, plus 15% markup;

(4) All direct additional subcontract costs plus 10% markup for Work performed by Subcontractors; and

(5) Increased bond and insurance premium costs computed at 1.5% of the total of the previous four sums.

**6.4 Unilateral Change Order.** If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

**6.5 Non-Compliance Deemed Waiver.** Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

## **Article 7 - General Construction Provisions**

### **7.1 Permits, Fees, Licenses, Certificates, and Taxes.**

(A) **Fees, Licenses, Certificates, and Permits.** Contractor must obtain and pay for all fees, licenses, and certificates required to perform the Work, including a City business tax certificate. Contractor must obtain all permits required to perform the Work. Contractor is not responsible for the fees associated with obtaining permits unless otherwise specified in the Special Conditions or Specifications. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses and certificates required for the Work.

(B) **Taxes.** Contractor must pay for all taxes on labor, material, and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

**7.2 Temporary Facilities.** Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities are set forth in this Article 7 and may also be included in the Specifications or Special Conditions.

(A) **Utilities.** Contractor must install and maintain the power, water, sewer, and all other utilities required for the Project site and performance of the Work, including the

pipng, wiring, internet and Wi-Fi connections, and any related equipment necessary to maintain the temporary facilities. Contractor may obtain water from the City's water system or from a source other than City's water system, if approved in advance by the Engineer. Before obtaining water from the City's water system, Contractor must obtain a Water Use Permit from the Water Department and rent a hydrant or bridge meter. Contractor is responsible for the cost of all water and all related deposits, permits, and fees. Contractor is prohibited from operating gate valves or fire hydrants on the City's water system. The acquisition of water from the City's water system through un-metered hydrants or other facilities is a violation of Laws. Citations and fines may be levied for violation of these and other utility regulations and may be deducted from payment otherwise due Contractor.

(B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

**7.3 Noninterference and Site Management.** Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours. Property owners, tenants, and businesses must have full access to their driveways during non-Work hours. The Engineer may, at any time, direct or approve of opening completed sections of surfacing, pavement, or structure roadway surface for public use.

(A) **Offsite Acquisition.** Unless otherwise provided by City, Contractor must acquire, use, and dispose of, at its sole expense, any Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) **Offsite Staging Area and Field Office.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space and obtain a temporary use permit, in accordance with City Code § 20-52.040. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) **Traffic Management.** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise required to ensure public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, and pedestrian traffic.

(D) **Railroad Property.** Sonoma-Marín Area Rail Transit ("SMART") maintains railroad property within the City. Contractor will not interfere with railroad operations or perform Work on or adjacent to railroad property unless Contractor has obtained an encroachment permit from SMART. Contractor is responsible for obtaining an encroachment permit from SMART if necessary for the Work or for Contractor's traffic



control. Contractor will not be entitled to an extension of time or additional compensation to obtain the SMART permit. For any excavation on or affecting railroad property, Contractor must submit Work plans to the City and SMART, if requested by SMART, showing the system to be used to protect the railroad facilities. Contractor will prevent material, equipment, and debris from falling onto railroad property.

(E) **Third Party Material Sourcing and Disposal.** If Contractor intends to procure materials from or dispose of materials on any property owned by a third party, before procuring material or disposing of material, Contractor must provide City with a copy of the agreement between Contractor and the third party authorizing the use of the property and absolving the City from responsibility in connection with the property. Contractor must obtain authorization from the third party to start sourcing or disposing of material on the property. As a condition precedent to Final Completion, Contractor must submit a document to the City, signed by the third party property owner, stating that the Contractor complied with its agreement with the third party.

**7.4 Signs.** No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

**7.5 Project Site and Nearby Property Protections.**

(A) **General.** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work; any Worksite, including the Project site; City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(6) All valves, hydrants, and other appurtenances of the City's water system that are the property of City and removed by Contractor in the performance of the Work must be delivered to City's Municipal Services Center (55 Stony Point Road) as a condition precedent to Final Completion, unless Contractor has obtained specific written approval from the Water Department to dispose of the items.

(B) **Securing Project Site.** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) **Notification of Property Damage.** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project, including damage to City's water system. Contractor must immediately provide a written report to City of any such property damage in excess of \$500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include: (1) the location and nature of the damage, and the owner of the property, if known; (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

(F) **Damage to City's Water System.** Contractor must promptly repair and remediate, at its sole expense, any damage caused by Contractor to the City's water system, in a manner satisfactory to the Water Department. This includes damage to property and facilities resulting from Contractor's failure to make a written request for a markout or starting Work without providing the Water Department a reasonable opportunity to mark facilities; Contractor's destruction of markouts; Contractor's failure to perform hand digging or probing for utilities near markouts; and Contractor's failure 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. All repairs must be witnessed, inspected, and approved by the Water Department prior to backfilling the excavation. If backfilling occurs

prior to inspection and approval, City may require re-excavation by Contractor, at Contractor's sole expense. Acting in its sole discretion, City may elect to have the damage remedied otherwise, including by its own forces, and may deduct the cost thereof from payment otherwise due to Contractor. If City elects to remedy damage to the water system with its own forces, the cost thereof will be in accordance with the emergency repair rate schedule of the Water Department.

## **7.6 Materials and Equipment.**

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. All materials, equipment, and tools furnished or installed by Contractor must meet or exceed applicable Occupational Safety and Health Administration ("OSHA") standards. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices, or processes that are incorporated into the Work. Upon request, Contractor must provide proof of any such authorization or license to City. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights.

(D) **Equipment Labeling and Information.** Contractor must label each piece of equipment, except hand tools, with the following information, at a clearly visible location on each piece of equipment using a stencil or stamp: an identifying number; and for compacting equipment, its make, model number, and empty gross weight that is either the manufacturer's rated weight or the scale weight, or for meters and on the load-receiving element and indicators of each scale, the make, model, serial number, and manufacturer's rated capacity. Upon request, Contractor must submit the manufacturer's information that designates portable vehicle scale capacities.

(E) **Measuring Devices.** For proportioning materials, Contractor must use measuring devices, material plant controllers, and undersupports that comply with 4 CCR § 4000 et seq. and Business and Professions Code § 12001 et seq. Measuring devices

must be tested and approved under California Test 109 in the Engineer's presence by any of the following: County Sealer of Weights and Measures; Scale Service Agency; or Official of the Division of Measurement Standards. The indicator over-travel must be at least one-third of the loading travel. The indicators must be enclosed against moisture and dust. Contractor must group the measuring system dials such that the smallest increment for each indicator can be read from the location at which proportioning is controlled.

## **7.7 Substitutions.**

(A) **"Or Equal."** Any Specification designating a material, product, or thing (collectively, "item") or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item or service that is used solely for the purpose of describing the type of item or service desired, will be deemed to be followed by the words "or equal." A substitution will only be approved if it is a true "equal" item or service in every aspect of design, function, and quality, as determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) **Request for Substitution.** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval at least four weeks in advance of Contractor's proposed order date and sufficiently in advance of the time needed to avoid delay of the Work. A request for substitution must contain a description of any proposed changes to the Work required to accommodate the substitution and drawings and details showing all such changes.

(C) **Substantiation.** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor's failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution at Contractor's sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City's determination is final.

(E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) **Contractor's Obligations.** City's approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

## **7.8 Testing and Inspection.**

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and at all locations during construction and/or fabrication, including at any Worksite, shops, and yards. All manufacturers' application or installation instructions must be provided to the Engineer at least ten days prior to the first such application or installation. Contractor must, at all

times, make the Work available for testing or inspection. City may record, including by photograph or video, all materials, equipment, and workmanship used in the Work. Neither City's inspection or testing of Work, nor its failure to do so, operate to waive or limit Contractor's duty to complete the Work in accordance with the Contract Documents.

(B) **Scheduling and Notification.** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor's expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor will coordinate directly with the Engineer when scheduling inspections or tests, unless otherwise specified in the Special Conditions or Specifications. Contractor must notify the Engineer no later than noon of the Working Day before any inspection or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor. Contractor will not coordinate directly with, or provide direction to, the Materials Lab.

(C) **Responsibility for Costs.** City will bear the initial cost of inspection and testing to be performed by independent consultants retained by City, subject to the following exceptions:

- (1) Contractor will be responsible for the costs of any subsequent inspections or tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.
- (2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready, or Contractor fails to appear for a scheduled inspection.
- (3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.
- (4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.
- (5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) **Contractor's Obligations.** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection or testing of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Contractor has an independent duty to test and inspect its Work and perform quality control activities to ensure that the Work and the materials, products, and equipment incorporated into the Work comply with the Contract Documents. City is not responsible for any testing performed by Contractor or a third-party retained by Contractor. Contractor will submit its testing methodology to City for review and acceptance. Any Work done without the inspection(s) or testing required by the Contract Documents will be subject to rejection by City.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

**7.9 Project Site Conditions and Maintenance.** Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided, and properly maintained and serviced for all workers on the Project site, located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) **Air Emissions Control.** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws. Contractor must comply with all Laws, including the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.).

(B) **Dust and Debris.** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use the minimum necessary. Contractor must take all necessary steps to keep waste water out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) **Clean up.** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) **Disposal.** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) **Completion.** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site,

Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace, in accordance with City Standards, all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, gates, signs, landscaping, drainage ditches, irrigation systems, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements. Concrete surface treatment and score marks must match adjacent existing concrete improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) **Non-Compliance.** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and deduct the cost from any amounts due or to become due to Contractor.

**7.10 Instructions and Manuals.** Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** The instructions and manuals, along with any required guarantees, must be delivered to City for review prior to requesting final inspection pursuant to Section 11.1(A), unless otherwise specified.

(B) **Training.** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

**7.11 As-built Drawings.** Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to

the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

#### **7.12 Existing Utilities.**

(A) **General.** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) **Unidentified Utilities.** Pursuant to Government Code § 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

(C) **Alteration or Relocation of Utilities.** If Contractor wishes to alter or relocate utilities for Contractor's convenience, and not due to a conflict that requires alteration or relocation, Contractor will be solely responsible for the time and cost required for such alteration or relocation, which may not proceed except as specified by the prior written authorization of the utility owner. Any damage to utilities or improvements caused by Contractor must be repaired by Contractor at its sole expense and to the full satisfaction of the utility owner and Engineer. Contractor will not be entitled to an extension of the Contract Time in connection with any such Work.

**7.13 Notice of Excavation.** Contractor must comply with all applicable requirements in Government Code § 4216 et seq., which are incorporated by reference herein, including, but not limited to, the requirement to notify Underground Service Alert ("USA") of a proposed excavation and provide USA all relevant data relating to the excavation, at least two Working Days before starting any excavation Work.

**7.14 Trenching and Excavations of Four Feet or More.** As required by Public Contract Code § 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

- (1) Material that Contractor believes may be a hazardous waste, as defined in § 25117 of the Health and Safety Code, that is required to be removed to a Class I,



Class II, or Class III disposal site in accordance with the provisions of existing Laws;

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) **Disputes.** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

**7.15 Trenching of Five Feet or More.** As required by Labor Code § 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards or if the trench is expected to exceed 20 feet, the plan must be prepared by a California registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

**7.16 New Utility Connections.** Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

**7.17 Lines and Grades.** Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project unless otherwise specified in the Special Conditions. All stakes or marks must be set by a California licensed land surveyor or a California registered civil engineer. All survey monuments that may be disturbed or destroyed during performance of the Work must be tied-out by Contractor prior to the start of Work. Contractor must also file a Pre-Construction Corner Record, prepared by a California licensed land surveyor, with the County of Sonoma Surveyor's Office, prior to the start of Work. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Contractor must replace any survey monuments that are disturbed, damaged, or destroyed during the Work and must file a Post-Construction Corner Record, prepared by a licensed land surveyor as required by law, with the County of Sonoma Surveyor's Office. Upon completion, all Work must

conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.

**7.18 Historic or Archeological Items.**

(A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.

**7.19 Environmental Control.** Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater, and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.

(A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws governing discharge of stormwater, including applicable municipal stormwater management programs.

(C) **Pest Management.** Contractor must comply with the City-Wide Integrated Pest Management ("IPM") Policy, Policy Number 000-74, which is available at <https://www.srcity.org/DocumentCenter/View/41774/Integrated-Pest-Management-Policy-030524>. Contractor will not use pesticides or herbicides in the Work without City's prior written approval. Contractor may submit a written request for use of pesticides or herbicides to the Engineer. Contractor's written request must include the location proposed for use, the proposed date and time of application, product specifications, and all other information required by the IPM policy. City reserves the right, in its sole discretion, to approve or reject the use of pesticides or herbicides, for any reason.

**7.20 Noise Control.** Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

- 7.21 Mined Materials.** Pursuant to Public Contract Code § 20676, Contractor will not purchase any sand, gravel, or other minerals for the Work from an operation subject to the Surface Mining and Reclamation Act of 1975 (Public Resources Code § 2710 et seq.) unless Contractor certifies, under penalty of perjury, that the minerals are from a mining operation included on the AB 3098 List, which may be accessed online at: <https://www.conservation.ca.gov/smgb/Pages/AB-3098-List.aspx>.
- 7.22 Water Department Notification.** If Contractor requires the services of the Water Department in connection with the Work, Contractor must request such services at least two Working Days in advance of the time the services are needed. If the requested services require Water Department forces for more than eight hours or an extensive number of City-provided parts, Contractor must request services at least seven calendar days in advance of the time the services are needed.
- (A) **Service Shut Down.** Contractor must minimize disruption of utility service to the greatest extent practicable. Contractor must coordinate any shut down or disruption of utility service with the Engineer, Water Department, and affected utility customers. If it is necessary to shut down or disrupt utility service to any customer of the Water Department, Contractor must request the services of the Water Department an additional three Working Days in advance of the time such services are needed, for a total of five Working Days advance notification for a standard service request, to allow affected customers a minimum of three days' advance notice. If Contractor fails to keep field appointments, Contractor will be billed for scheduled Water Department crew standby time and for costs incurred by the Water Department for re-notification of customers.
- (B) **Water Department Scheduling.** 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 authorized in advance by the Engineer. Requests by Contractor for after-hours or weekend work are to be avoided when possible. Contractor will be responsible for any overtime costs incurred by City for such work and the cost thereof may be deducted from payment otherwise due Contractor.
- 7.23 Public Safety and Traffic Control.** Contractor must undertake all required and appropriate measures to ensure public safety during construction of the Project, in accordance with Laws, including, but not limited to, the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.). Contractor will ensure the safe passage of pedestrians around the Project site at all times. If Work is within a City-owned right-of-way, Contractor will ensure the safe passage of public traffic through the Project site at all times, consistent with the requirements of City Code Chapter 13-04. Contractor is solely responsible for the costs of all public safety and traffic control measures.
- (A) **Warning Devices.** Contractor must furnish, install, and maintain, at its sole expense, all fences, barricades, signs, lights, and other devices necessary to prevent accidents, injuries, death, and property damage. All such devices must conform to the requirements of the current edition of the California Manual on Uniform Traffic Control Devices ("CA MUTCD") and the directions of the Engineer. Contractor's warning and safety devices will not obscure the visibility of or conflict with existing signs and traffic control devices. Contractor may be required to cover certain signs which regulate or direct public traffic to roadways that are not open to traffic, as directed by the Engineer.
- (B) **Flaggers.** Contractor must also furnish, at Contractor's sole expense, trained flaggers as necessary to provide adequate warning to the public of construction conditions that may impact pedestrian or vehicular traffic.

(C) **Project Signage.** Unless otherwise specified in the Special Conditions, Contractor must install and maintain Project identification signs at each boundary of the Project site or as directed by the Engineer. Contractor must install the signs two weeks prior to the start of Work at the Project site, using sign panels furnished by City. To mount sign panels, Contractor must furnish and install 4" X 4" posts or mount by other appropriate methods as approved by the Engineer. Upon completion of the Project, Contractor will remove Project identification signs, in a timely manner, and return the City-furnished sign panels to the City Corporation Yard at 55 Stony Point Road.

(D) **Road Closure Signage.** If the Work requires road closures, Contractor must furnish and install advance notice signs for road closures at each boundary of the Project site. Panel construction and lettering are subject to advance approval of the Engineer. Contractor must install the signs two weeks prior to the start of Work at the Project site. The signs must remain in place for the duration of the road closure and must be removed by Contractor when no longer necessary for the Work.

(E) **Emergency Response Agencies.** Contractor is responsible for notifying emergency response agencies operating in the jurisdiction of the Worksite(s) of obstructions to roads resulting from Contractor's Work.

(F) **Additional Devices.** City reserves the right to require additional warning or safety devices for the Project at the Contractor's sole expense, but no actions by City to add to or improve signage or any other public safety requirements will waive or limit Contractor's duties under the Contract Documents.

(G) **Compliance.** If Contractor fails or refuses to comply with the requirements of this Section, the Engineer may take immediate action to protect the public, including, but not limited to, furnishing the required safety measures at Contractor's expense or suspending the Work, in addition to all other remedies available to City. Any such remedial costs incurred by City may be deducted from payment otherwise due to Contractor as specified in Section 8.3, Adjustment of Payment Application. If there are insufficient Contract funds remaining to cover the remedial costs, City is entitled to recover the balance from Contractor or its performance bond surety.

## **Article 8 - Payment**

**8.1 Schedule of Values.** Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) **Measurements for Unit Price Work.** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) **Deleted or Reduced Work.** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material, or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual,

direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

**8.2 Progress Payments.** Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code § 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct or withhold additional amounts as set forth in Section 8.3, below.

**8.3 Adjustment of Payment Application.** City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), Joint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner specified or within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner specified or within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated cost to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

(J) For any other fines, payments, or penalties assessed against the City relating to Contractor's acts or omissions, including violations of Laws, City may withhold or deduct such amounts from payment otherwise due to Contractor.

(K) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

**8.4 Early Occupancy.** Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

**8.5 Retention.** City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment of Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work. Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's recordation of the Notice of Completion, subject to the terms of Public Contract Code § 7107.

(A) **Substitution of Securities.** As provided by Public Contract Code § 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code § 22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (g) of Public Contract Code § 22300 ("Escrow Agreement"), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City's rights pursuant to these Contract Documents to withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or backcharges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if

the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code § 7107(c).

- 8.6 Payment to Subcontractors and Suppliers.** Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) ***Withholding for Stop Notice.*** Pursuant to Civil Code § 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.

(B) ***Joint Checks.*** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney's Office. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

- 8.7 Final Payment.** Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.

- 8.8 Release of Claims.** City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.

- 8.9 Warranty of Title.** Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

## Article 9 - Labor Provisions

**9.1 Discrimination Prohibited.** Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.

### 9.2 Labor Code Requirements.

(A) **Eight Hour Day.** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.

(B) **Penalty.** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.

(C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.

(D) **Notices.** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.

**9.3 Prevailing Wages.** Each worker performing Work under this Contract that is covered under Labor Code §§ 1720, 1720.3, or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Project site.

(A) **Penalties.** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

**9.4 Payroll Records.** Contractor must comply with the provisions of Labor Code §§ 1771.4, 1776, and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for monthly electronic submission of payroll records to the DIR.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must



contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

- (1) The information contained in the payroll record is true and correct; and
  - (2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.
- (B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.
- (C) **Enforcement.** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion thereof, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

**9.5 Labor Compliance.** Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

## **Article 10 - Safety Provisions**

**10.1 Safety Precautions and Programs.** Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.

(A) **Reporting Requirements.** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must include: (1) the name and address of the injured or deceased person; (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.

(C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

**10.2 Hazardous Materials.** Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

**10.3 Material Safety.** Contractor is solely responsible for complying with § 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

**10.4 Hazardous Condition.** Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

**10.5 Emergencies.** In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

**10.6 Confined Space Operations.** If the Work requires a confined space entry, including, but not limited to, manhole or water storage tank entry, Contractor must obtain a confined space entry permit pursuant to Cal/OSHA regulations, as set forth in 8 CCR § 5156 et

seq. For any confined space entry for construction operations regulated by 8 CCR § 1502, Contractor must comply with 8 CCR § 5158. For any other confined space operations, Contractor must comply with 8 CCR § 5157. With respect to entry to any City-maintained confined space, Contractor is responsible for obtaining any available information regarding hazards and operations for any City-maintained confined spaces, pursuant to 8 CCR § 5157. The City-maintained Confined Space Entry Manual is available for viewing at the Water Department or Transportation and Public Works Department office. Contractor must immediately notify the Engineer of any previously unidentified hazards confronted or created during confined space entry.

## **Article 11 - Completion and Warranty Provisions**

### **11.1 Final Completion.**

(A) ***Final Inspection and Punch List.*** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) ***Requirements for Final Completion.*** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) ***Acceptance.*** The Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) ***Final Payment and Release of Retention.*** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

## 11.2 **Warranty.**

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance pursuant to Section 11.1(C) (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. If the City accepts the Project as complete subject to exceptions for incomplete punch list item(s) and the Contractor thereafter completes the punch list item(s), the completed punch list item(s) will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon City's acceptance of the completed punch list item(s). Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) **City's Remedies.** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) **Emergency Repairs.** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) **Reimbursement.** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein, in addition to any and all costs City incurs to correct the defective Work.

**11.3 Use Prior to Final Completion.** City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion.

(A) **Non-Waiver.** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

**11.4 Substantial Completion.** For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

## **Article 12 - Dispute Resolution**

**12.1 Claims.** This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(B) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code § 9204 and § 20104 et seq., which are incorporated by reference herein.

(C) **No Work Delay.** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or

other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(D) **Informal Resolution.** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

**12.2 Claims Submission.** The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing by registered or certified mail with return receipt requested and clearly identified as a "Claim" submitted pursuant to this Article 12. The Claim must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) **Claim Format and Content.** A Claim must be submitted in the following format:

- (1) Provide a cover letter, specifically identifying the submission as a "Claim" submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).
- (2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.
- (3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for each separate issue or Claim:
  - a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
  - b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above);
  - c. A chronology of relevant events; and
  - d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.
- (4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known,

Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived."

(C) **Submission Deadlines.**

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 21 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 21 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 21 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. **Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.**

**12.3 City's Response.** City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) **Non-Waiver.** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

**12.4 Meet and Confer.** If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to notify City of the dispute and demand for an informal conference to meet and confer in writing within the specified time, Contractor's Claim will be deemed waived.

(A) **Schedule Meet and Confer.** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) **Location for Meet and Confer.** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) **Written Statement After Meet and Confer.** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) **Submission to Mediation.** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

## **12.5 Mediation and Government Code Claims.**

(A) **Mediation.** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) **Government Code Claims.**

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a



Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

- 12.6 Tort Claims.** This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.
- 12.7 Arbitration.** City does not consent to arbitration unless required by Laws. It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.
- 12.8 Burden of Proof and Limitations.** Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.
- 12.9 Legal Proceedings.** In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.
- 12.10 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

### **Article 13 - Suspension and Termination**

- 13.1 Suspension for Cause.** In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.
- (A) **Notice of Suspension.** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension; comply with directions for cleaning and securing the Worksite; and protect the completed and in-progress Work and materials. Contractor is solely responsible for

any damages or loss resulting from its failure to adequately secure and protect the Project.

(B) **Resumption of Work.** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified; and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.

(C) **Failure to Comply.** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(D) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

**13.2 Suspension for Convenience.** City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

**13.3 Termination for Default.** City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) **Default.** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; Contractor's refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage; Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project; evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time; suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration; Contractor's failure to procure, maintain, or renew insurance coverage or provide notice of any modifications or reductions in insurance coverage; dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity; unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) **Notice of Default and Opportunity to Cure.** Upon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure

the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) **Termination.** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contractor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) **Compensation.** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) **Wrongful Termination.** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including special or consequential damages, lost opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

**13.4 Termination for Convenience.** City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) **Compensation to Contractor.** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) **Completed Work.** The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values

and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) *Demobilization.* Demobilization costs specified in the schedule of values, or if demobilization costs were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs; and

(3) *Termination Markup.* Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) **Disputes.** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

**13.5 Actions Upon Termination for Default or Convenience.** The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) **General.** Upon termination, City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) **Submittals.** Unless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) **Close Out Requirements.** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following:

(1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksites(s).

(2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.

(3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.

(4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.

(5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) **Payment Upon Termination.** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance with the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor; payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged; and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) **Continuing Obligations.** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

#### **Article 14 - Miscellaneous Provisions**

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code § 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.
- 14.3 Waiver.** City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that bids were due.
- 14.6 Survival.** The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6 of Section 12, General Provisions; and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7,

Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

## Special Conditions

### 15. Authorized Work Days and Hours.

**15.1 Authorized Work Days.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City: Monday through Friday

**15.2 Authorized Work Hours.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project during the following hours: 8:00 a.m. to 4:00 p.m.

**16. Normal Weather Delay Days.** This provision is intended to supplement the requirements of General Conditions Section 5.2 on Schedule Requirements and Section 5.3 on Delays and Extensions of Contract Time. Based on historic records for the Project location, Contractor's schedule should assume the following number of normal Weather Delay Days for each month:

Month	# Normal Weather Delay Days
January	10
February	10
March	12
April	8
May	4
June	2
July	1
August	1
September	2
October	5
November	8
December	13

Weather Delay Days which do not occur during a given month based on the number of days allocated for that month (above) do not carry over to another month.

**17. Construction Manager Role and Authority.** Green Valley Consulting Engineers is the Construction Manager for this Project. The Construction Manager will assist City in the management of the construction of the Project. The Construction Manager may perform services in the areas of supervision and coordination of the work of Contractor and/or other contractors, scheduling the Work, monitoring the progress of the Work, providing City with evaluations and recommendations concerning the quality of the Work, recommending the approval of progress payments to Contractor, or other services for the Project in accordance with the Construction Manager's contract with City.

**17.1 Communications.** Contractor must submit all notices and communications relating to the Work directly to the Construction Manager in writing, as follows:

*Mimi Arvin*  
*MimiA@GValley.com*

With a copy to the Engineer:

*Peter Porata*  
*pporata@srcity.org*

*Timothy Bernard*  
*tbernard@srcity.org*

- 17.2 On-Site Management and Communication Procedures.** The Construction Manager will provide and maintain a management team on the Project site to provide contract administration as an agent of City, and will establish and implement coordination and communication procedures among City, the Design Professional, Contractor, and others.
- 17.3 Contract Administration Procedures.** The Construction Manager will establish and implement procedures for reviewing and processing requests for clarifications and interpretations of the Contract Documents, Shop Drawings, samples, other submittals, schedule adjustments, Change Order proposals, written proposals for substitutions, payment applications, and maintenance of logs.
- 17.4 Pre-Construction Conference.** Contractor will attend the pre-construction conference, during which the Construction Manager will review the Contract administration procedures and Project requirements.
- 17.5 Contractor's Construction Schedule.** The Construction Manager will review Contractor's construction schedules and will verify that each schedule is prepared in accordance with the requirements of the Contract Documents.
- 18. Survey Staking.** Contractor is not responsible for providing the construction stakes for the Project. Contractor will coordinate directly with the Engineer for City-provided construction stakes. Contractor must submit a written request for staking to the Engineer at least four Working Days in advance of the date and time stakes are needed for the Work. Contractor must promptly notify the Engineer of any discrepancies found between City-provided staking and information provided by the Contract Documents. Contractor must preserve any City-provided construction stakes. If City is required to replace City-provided construction stakes, Contractor will be responsible for the cost thereof, which may be deducted from payments otherwise due to Contractor.
- 19. Mitigation Measures and Environmental Protection Requirements.** Contractor must implement and comply with the mitigation measures and environmental protection requirements applicable to the Work, as set forth in the Mitigation Monitoring and Reporting Program, Kawana Springs Creek Community Park Master Plan Project, which are incorporated herein by reference. The applicable mitigation measures and environmental protection requirements include, but are not limited to, the following:
- 19.1 Air Quality**
- (A) All exposed surfaces (e.g. parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
  - (B) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
  - (C) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day.
  - (D) All vehicle speeds on unpaved roads shall be limited to 15 mph.
  - (E) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  - (F) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five (5) minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.



- (G) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

19.2 Biological Resources

- (A) All workers will receive a worker environmental awareness training program describing California Red-Legged Frog (CRFL), its status, and penalties for take.
- (B) Work buffers will be observed around CRFL if any are detected.
- (C) Any trenches or pipes will be covered or capped overnight and BMPs will be constructed of natural materials that will not entrap wildlife.
- (D) If construction personnel observe a dead or injured listed species or if a listed species is killed or injured during construction-related activities, the worker will immediately report the incident to the service-approved biologist and the USFWS will be notified within 24-hours of the incident.
- (E) No ground disturbance work will occur within 24 hours of rain events that generate greater than 0.25-inch of accumulated precipitation or during rain events predicted to accumulate 0.25-inch or precipitation.
- (F) Work within 100 feet of any streams, ponds, or riparian areas will be limited to the dry season (April 1 to October 31) to the extent feasible.
- (G) No work within the bed and banks of Kawana Springs Creek will occur.
- (H) Any personnel involved in construction activities will receive worker environmental educational program training.

19.3 Tree Protection

- (A) Before the start of any clearing, excavation, construction or other work on the site, every protected tree shall be securely fenced off at the "protected perimeter," which shall be either the root zone or other limit as may be established by the City. Such fences shall remain continuously in place for the duration of all work undertaken in connection with the development. The area so fenced off shall not be used as a storage area or altered or disturbed except as may be permitted under this subsection.
- (B) If the proposed development, including any site work for the development, will encroach upon the protected perimeter of a protected tree, special measures shall be utilized, as approved by the City, to allow the roots to obtain oxygen, water, and nutrients as needed. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter, if authorized at all by the City, shall be minimized and subject to such conditions as may be imposed by the City. No significant change in existing ground level shall be made within the drip line of a protected tree. No burning or use of equipment with an open flame shall occur near or within the protected perimeter. All brush, earth and other debris shall be removed in a manner which prevents injury to the protected tree.
- (C) No oil, gas, chemicals or other substances that may be harmful to trees shall be stored or dumped within the protected perimeter of any protected tree, or at any other location on the site from which such substance might enter the perimeter of a protected tree. No construction materials shall be stored within the protected perimeter of a protected tree.
- (D) Underground trenching for utilities shall avoid major support and absorbing tree roots of protected trees. If avoidance is impractical, tunnels shall be made below the roots. Trenches shall be consolidated to service as many units as possible. Trenching within the drip line of protected trees shall be avoided to the greatest extent possible and shall only be done under the on-site directions of a Certified Arborist.

- (E) No concrete or asphalt paving shall be placed over the root zones of protected trees [selected for preservation]. No artificial irrigation shall occur within the root zone of oaks.
- (F) No compaction of the soil within the root zone of protected trees [selected for preservation] shall occur.

19.4 Cultural Resources

- (A) If evidence of an archaeological site or other suspected cultural resource as defined by CEQA Guideline Section 15064.5, including darkened soil representing past human activity ("midden"), that could conceal material remains (e.g. worked stone, worked bone, fired clay vessels, faunal bone, hearths, storage pits, or burials) is discovered during construction-related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the City and culturally affiliated Tribe(s) shall be notified. The City shall hire a qualified archaeologist and Native American monitor from the culturally affiliated Tribe(s) to conduct a field investigation.
- (B) Should a unique paleontological resource or site or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the City notified immediately.
- (C) If human remains are discovered at any project construction site during any phase of construction, all ground-disturbing activity within 100 feet of the resources shall be halted and the City and the Sonoma County coroner shall be notified immediately.

19.5 Noise and Vibration

- (A) Maximize the physical separation between noise generators and noise receptors. Such separation includes, but is not limited to, the following measures:
  - (1) Use heavy-duty mufflers for stationary equipment and barriers around particularly noisy areas of the site or around the entire site
  - (2) Use shields, impervious fences, or other physical sound barriers to inhibit transmission of noise to sensitive receptors
  - (3) Locate stationary equipment to minimize noise impacts on the community
  - (4) Minimize backing movements of equipment
- (B) Use quiet construction equipment whenever possible.
- (C) Impact equipment (e.g jack hammers and pavement breakers) shall be hydraulically or electrically powered whenever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers shall be used on other equipment. Other quieter procedures, such as drilling rather than using impact equipment, shall be used whenever feasible.
- (D) Prohibit unnecessary idling of internal combustion engines.
- (E) Select routes for movement of construction-related vehicles and equipment in conjunction with the City so that noise-sensitive areas, including residences and schools, are avoided as much as possible.

**19. Close Out Requirements.** Contractor's close out requirements include the following, if applicable:

- 19.1** Contractor must replace, with thermoplastic, any existing striping within and adjacent to the Project site that is damaged during the Work. Partially damaged striping must be replaced in its entirety.

- 19.2** Before removing any traffic control or street signs on the Project site, Contractor must take photographs showing their original locations. Upon completion of each phase of construction, Contractor must temporarily reset the signs at those locations. Contractor must then replace the signs permanently upon completion of the Work and the cost of their removal and replacement must be included in the Bid Proposal.
- 19.3** Contractor must maintain any rural mail boxes on the Project site and relocate them to their permanent locations as soon as possible in the course of the Work, to the satisfaction of the affected property owners and the postal service.

END OF SPECIAL CONDITIONS

PROFESSIONAL SEALS PAGE IDENTIFICATION STAMP

FOR

Kawana Springs Community Park  
Community Garden

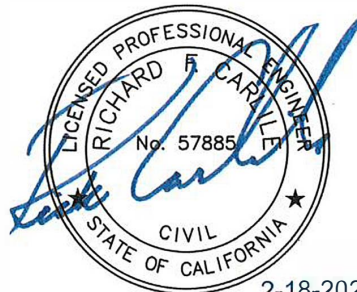
SANTA ROSA, CA



Civil Engineer  
City of Santa Rosa  
Peter Porata  
Lic: 96118



Landscape Architect  
GSM landscape architects, inc.  
1700 Soscol Avenue, Suite 23  
Napa, CA 94559  
P: 707-255-4630  
Gretchen Stranzl McCann  
Lic: 2790



Civil Engineer  
BKF Engineers  
200 4<sup>th</sup> Street, Suite 300  
Santa Rosa, CA 95401  
P: 707.583.8500  
Rick Carlile  
Lic: 57885

## 10 GENERAL CONSTRUCTION

**10-5 Dust Control- In Addition:** Sweeping, commercial street sweeping, covering stockpiles, applying water, and/or dust palliative, to control dust even caused by public traffic is included in the bid and not change order work.

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.

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

At the end of each workday, you shall thoroughly sweep all streets effected by the project to minimize airborne dust.

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

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.

[Revised: 05/19/2025-JB2 STD2024]

# 12 TEMPORARY TRAFFIC CONTROL

## **12-1 General**

**12-1.01 General - In Addition:** Construction area traffic control devices shall be installed and maintained in accordance with the applicable sections of these Contract Documents, the current Edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD), the Americans with Disabilities Act (ADA), Public Right-of-Way Accessibility Guidelines (PROWAG), and as directed by the Engineer.

## **12-3 Temporary Traffic Control Devices**

**12-3.01 General:** Prior to commencing construction which will affect existing vehicular and pedestrian traffic, you 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. Traffic Control Plans shall be prepared, sealed, and signed by a Professional Engineer registered in the State of California. If you propose 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 your name, address, phone number, project superintendent's name, contract name, dates and hours traffic control will be in effect, and a space for review acknowledgment.

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

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

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

## **12-4 Maintaining Traffic**

### **12-4.01 General:**

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 you to verify their proper location. All traffic signal and other traffic control devices shall be maintained at all times.
3. You shall conduct these 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. You 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 you shall notify and receive permission from the affected businesses and residents. Attention is directed to Section 7-1.03, "Public Convenience". **Full access shall be provided to all driveways during non-working hours.**
5. At locations where traffic is routed perpendicular to trench excavation, the excavation shall be conducted in a manner to provide a surface reasonably satisfactory for traffic at all times. Substructure installation or construction shall be conducted on only one-half the width of the roadway at a time, and that portion of the roadway being used by traffic shall be kept open and unobstructed until the opposite side of the roadway is ready for use. Upon completion of the rough grading, the surface of the roadbed shall be brought to a smooth, even condition free from humps and depressions and made satisfactory for traffic.

You 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 your operations and not shown to be replaced shall be replaced at your expense, per City Standards and to the satisfaction of the Engineer.

**12-4.02A General:** Attention is directed to General Conditions section 7.23 "Public Safety and Traffic Control" section 5.2 "Schedule Requirements" and to section 10-1.01 "General" of these Special Provisions.

Exact locations of Project Identification signs and Advance Notice signs (7.23 Public Safety and Traffic Control: (A) Warning Devices and (C) Project Signage) 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. Specified lane closures are located at the end of the Technical Specifications. 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. You shall maintain vehicle access to homes and other properties at all times while work is in progress.

You shall not park construction vehicles, contractor employee vehicles, stage materials or stockpiles in front of any business or residential driveway access and you 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 you 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. You will be required to maintain vehicle access to homes and other properties within the block where work is in progress.

You shall keep the City of Santa Rosa Fire Department informed regarding the closure of any traveled way. At a minimum, you 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.

You 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 Recology at (800) 243-0291 5 calendar days prior to any lane closures or restrictions in turning movements.

If you have 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, you 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 100 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.

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

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



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

You 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.

#### **12-4.04 Temporary Pedestrian Access Routes**

**12-4.04A General:** You are 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.

You 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 you from this requirement.

## 13 WATER POLLUTION CONTROL

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

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

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

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

**13-1.01B Definitions - In Addition: Construction phase:** The construction phase starts at the start of job site activities and ends at Contract acceptance.

**13-1.01C(4)(c) Water Quality Monitoring Reports:** If the project is less than 1 acre you shall complete and sign the Storm Water Correction Notices (below) with the City as part of the Storm Water Permit.

# STORM WATER CORRECTION NOTICE

*FAILURE TO CORRECT BY DUE DATE MAY RESULT IN STOP WORK NOTICE!*

PROJECT NAME: \_\_\_\_\_

JOB ADDRESS: \_\_\_\_\_

PROJECT / PERMIT #: \_\_\_\_\_ DATE: \_\_\_\_\_

☐ No storm water deficiencies identified.

**I HAVE INSPECTED THIS PROJECT SITE. THE FOLLOWING ISSUES AND DEFICIENCIES HAVE BEEN IDENTIFIED AND REQUIRE CORRECTIVE ACTION:**

## STORMWATER BMPs:

- |   |   |                           |                         |
|---|---|---------------------------|-------------------------|
| <input type="checkbox"/> <b>Storm Drain Protection:</b> | Install   | Maintain                  | Replace                 |
| <input type="checkbox"/> <b>Perimeter Controls:</b>     | Install   | Maintain                  | Replace                 |
| <input type="checkbox"/> <b>Housekeeping:</b>           | Sweep   | Clean                     | Remove Garbage & Debris |
| <input type="checkbox"/> <b>Stockpiles:</b>             | Cover   | Perimeter Controls        | Remove                  |
| <input type="checkbox"/> <b>Debris Bins:</b>            | Cover   | Perimeter Controls        |                         |
| <input type="checkbox"/> <b>Tracking:</b>               | Clean-Up  | Install Tracking Controls |                         |
| <input type="checkbox"/> <b>Portable Toilet:</b>        | Secondary Containment Required  |                           |                         |
| <input type="checkbox"/> <b>Concrete:</b>               | Install BMPs for Pumper or Concrete Truck<br>Cover / Maintain Concrete Washout Containers |                           |                         |
| <input type="checkbox"/> <b>Sediment &amp; Erosion:</b> | Install Appropriate Controls  | Dust Controls             |                         |
| <input type="checkbox"/> <b>Other:</b>                  |   |                           |                         |

**\*ALL DEFICIENCIES MUST BE CORRECTED PRIOR TO NEXT RAIN EVENT OR NO LATER THAN DUE DATE, WHICHEVER IS SOONER.**

DATE REQUIRED (SEE NOTE\*): \_\_\_\_\_

INSPECTOR: \_\_\_\_\_ PH #: ( ) \_\_\_\_\_

CONTRACTOR SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

- Inspection Type:**
- |  |  |
|--|--|
| <input type="checkbox"/> <b>Monthly</b> (Oct 1 <sup>st</sup> -April 30 <sup>th</sup> ) | <input type="checkbox"/> <b>Deficiency Re-Inspection</b>                               |
| <input type="checkbox"/> <b>Pre-Rain</b> (Sept 1 <sup>st</sup> -Oct 1 <sup>st</sup> )  | <input type="checkbox"/> <b>Following First 0.25" Rain</b><br>(within 2 business days) |

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

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

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

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

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

**13-4.03B: Spill Prevention and Control:** You shall comply with CASQA Spill Prevention and Control (BMP WM-4). If a spill occurs at the construction site and you do not take immediate and adequate steps to contain and clean up the spill, especially if rain is threatening or if a discharge to a storm drain or creek could occur, the City shall have the right, in its sole and absolute discretion, to clean up the spill using City forces or an independent contractor. The cost of any such cleanup, in addition to recovery of any penalty or fine imposed upon the City, plus an administrative charge of fifteen percent (15%) of the costs incurred by the City, shall be deducted from any amounts owed to you hereunder.

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

**13-4.03C(3): Stockpile Management- In Addition:** You shall comply with CASQA Stockpile Management (BMP WM-3). Do not block storm water flows.

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

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

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

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

**13-4.03E: Non stormwater Management:** You shall comply with CASQA Water Conservation Practices (BMP NS-1 and NS-2).

**13-4.03E(3): Vehicle and Equipment Cleaning- In Addition:** You shall comply with CASQA Vehicle and Equipment Cleaning (BMP NS-8).

**13-4.03E(4): Vehicle and Equipment Fueling and Maintenance- In Addition:** You shall comply with CASQA Vehicle and Equipment Fueling (BMP NS-9), and CASQA Vehicle and Equipment Maintenance (BMP NS-10).

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

1. Restrict paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions
2. Install BMPs at all susceptible storm drain inlets and manholes to prevent paving products and tack coat from entering
3. Prevent the discharge of release agents including soybean oil, other oils, or diesel to the storm water drainage system or watercourses
4. Minimize non-storm water runoff from water use for the roller and for evaporative cooling of the asphalt
5. Clean equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose of properly
6. Collect liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled, or disposed of properly 13-4.03D(5)
7. Collect solid waste by shoveling and vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled, or disposed of properly 13-4.03D(5)
8. Cover "cold-mix" asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm 13-4.03C(3)
9. Cover loads with tarp before haul-off to a storage site, ensuring that trucks are not overloaded
10. Minimize airborne dust by using water spray during grinding 14-9.03
11. Protect stockpiles with a cover or sediment barriers during a rain event and
12. Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in or near storm water drainage system or watercourses 13-4.03C(1)

**13-4.03F: Sweeping- In Addition:** You shall also comply with CASQA Street Sweeping and Vacuuming (BMP SE-7).

**13-4.03G: Dewatering- In Addition:** Groundwater levels may change depending on the time of year and the amount of seasonal rainfall.

It should be anticipated that groundwater will be encountered within deep excavations as part of this project. If groundwater is encountered, the Contractor shall immediately notify the City. The Contractor shall **remove all water** which accumulates in excavations during the progress of work

until the subgrade has been prepared and backfilling has progressed to a sufficient height above static groundwater levels. The Contractor shall have a minimum of two working pumps onsite and available for immediate use at all times.

Water accumulated in excavations shall be discharged to the sanitary sewer under the conditions set forth in the City's MS4 permit. Said water shall be disposed of in a manner as to cause no injury to public or private property or be a menace to public health. 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. An approved air gap shall be maintained at all times when dewatering from a water main trench.

The discharge shall be monitored to verify the lack of contamination. Periodic samples shall be analyzed by the City's Environmental Compliance Laboratory to confirm the acceptability of the discharge. **If any odor, sheen or other visual discrepancy is noted during excavation or discharge, stop pumping and immediately notify the Engineer.**

Pumped groundwater will not be allowed into any watercourse or storm drain system.

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 any excavations containing water as may be encountered during performance of the work. Dewatering plan for each occurrence shall be approved by the Engineer prior to implementation.

### **13-6 Temporary Sediment Control**

**13-6.03C Temporary Drainage Inlet Protection- In Addition:** You shall comply with CASQA Storm Drain Inlet Protection (BMP SE-10).

### **13-7 Temporary Tracking Control**

**13-7.01A: General- In Addition:** You shall comply with Stabilized Construction Entrance and Exit (BMP TC-1), Entrance Outlet Tire Wash (BMP TC-3).

**13-7.01C Construction- In Addition:** You shall comply with CASQA Stabilized Construction Site Entrance / Exit (BMP TC-1).

### **13-10 Temporary Linear Sediment Barrier**

**13-10.01 General:** You shall comply with CASQA Silt Fence and Sandbag Barrier (BMP SE-1 and SE-8).

## 14 ENVIRONMENTAL STEWARDSHIP

**14-1.00 General Environmental Protections:** An Initial Study and Mitigated Negative Declaration has been completed and adopted for the project which requires the project to implement the mitigation measures listed in a Mitigation Monitoring and Reporting Plan (MMRP). The Contractor shall comply with all applicable requirements of the MMRP. The Contractor's obligations for complying with the MMRP requirements have been incorporated into the project plans and technical specifications.

You 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.

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

**14-10.02 Solid Waste Disposal and Recycling Report - In Addition:** You shall provide a monthly recycling report for each quantity (in tons) of asphalt concrete and portland cement concrete with receipts verifying delivery to a material recycler.

Optional - For each failure to submit a completed report, the city deducts \$1,000.

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.

### OTHER AGENCY REGULATORY REQUIREMENTS

**14-12.05 City Wide Integrated Pest Management (IPM) Policy:** Comply with City Policy number 000-074. This includes the management pesticides for pests, including unwanted plants, insects, rodents, and fungus. Pest are controlled for assorted reasons including public safety, public health, plant health, aesthetic, and control of invasive plants, pathogenic organisms and/or insects.

[Revised 5/19/2025-JB2 STD2024]

## 15 EXISTING FACILITIES

**15-1.03 Construction:** All existing active utilities found to reside in excavated areas shall be supported in place with service maintained during construction. You shall be responsible for any damage caused by your 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 your option and at no additional cost to the City. You shall be responsible for maintaining the existing line and grade of the storm drains. If you elect 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.

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.

**15-1.03C Traffic Stripes and Pavement Markings:** All traffic stripes, pavement markings or any other traffic markings shall be removed by you to the satisfaction of the Engineer and in accordance with Sections 84 of the Standards, and the Plans.

**15-1.03D Pavement Markers:** All raised pavement markers shall be removed by you to the satisfaction of the Engineer and in accordance with Sections 82 of the Standard Specifications, City Standards, and the Plans.

**15-1.03E Asbestos Cement Pipe:** You are advised that asbestos cement pipe (ACP) will likely be encountered on the project and must be cut, handled, and disposed of according to your State Licensing Law and all other applicable laws and regulations.

**15-1.03F Reconstruct Sidewalk Drain:** Reconstruct sidewalk drain shall be done in conformance with requirements of Section 73 of the City Specifications, City STD-406 and as directed by the Engineer.

You shall remove portions of existing curb, gutter, and sidewalk, and the existing sidewalk drain and install new sidewalk drain, curb, gutter and sidewalk at the location designated and as directed by the Engineer.

**15-1.03G Adjust Existing Facilities:** Existing manhole frames and covers, valve boxes, Grates, pullboxes, mainline cleanouts, and monuments adjusted to grade shall conform to City Standards.

Adjust existing City facility boxes and lids to grade. The City will furnish new material to replace existing boxes and lids that do not comply with current City Standards or damaged prior to Contractor's operations. Notify the City 10 working days before the new boxes are needed to ensure the item is available or the City can provide an arrival date for the new box. If the new boxes need to be ordered and do not arrive on time, you will adjust the work schedule at no extra charge to the City.



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

All facilities on active systems shall always be labeled with white paint and accessible to City personnel unless otherwise stated in these Special Provisions or approved by the Engineer.

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

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

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

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

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

If you encounter water valve boxes with round lids, sanitary sewer frame and covers with open pick holes, nonstandard storm system features, monuments, or items damaged before construction which must be adjusted to grade, you are to provide a count to the Engineer a minimum of 10 days prior to paving to obtain replacements that complies with current City Standards. The City will provide replacements provided You are not required to replace them as part of the contract or due to damage by Your operations. Valve boxes and frames and covers on facilities to be abandoned shall not be included in the count provided to the Engineer. You shall be responsible for delivery of new frames, boxes, and covers from the City warehouse to the job site. Prior to removal, demolition around, or adjustment of an existing manhole frame, a platform shall be constructed in the manhole above the top of the sewer and storm drain to prevent any dirt or debris from falling into the sewer. The platform shall remain in place until all work on the manhole has been completed and the asphalt concrete has been placed around the manhole. Prior to the removal of the platform from the manhole, all dirt and debris shall be removed.

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

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

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

Existing Monuments adjusted shall conform to City Standards 280 to 284 and 78-2 Survey Monuments, of the specifications.

**15-1.03H Concrete Removal:** All removed concrete shall become the property of You and shall be immediately off hauled. None of the removed concrete shall be dumped or stockpiled on the work site. You shall dispose of all removed concrete at a recycler for this material. Burying of broken concrete within the limits of the project will not be allowed.

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

Concrete removal includes removal of any reinforcing steel embedded in the concrete and no additional allowance will be made for the removal of such steel.

Where new concrete is to join existing concrete, remove enough concrete to allow splicing of new reinforcement. Protect existing reinforcement to be incorporated into the new work from damage.

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

Keep existing irrigation facilities in place that are described to be removed, relocated, or modified until the Engineer determines they are no longer needed.

Maintain the existing water supply. If the existing water supply is interrupted for more than 3 consecutive days, provide an alternative water supply. Water the existing plants in the area irrigated from that water supply, including those maintained by the City, as necessary to maintain healthy plant growth.

Furnish enough water for watering plantings affected from construction activities as necessary to maintain a healthy condition through Contract acceptance.

If you damage irrigation facilities not to be removed:

1. Remove and dispose of them.
2. Repair and replace damaged facilities within 10 days.
3. Use similar commercial-quality components from the same manufacturer or components that are compatible with the existing irrigation system if authorized.
4. After completing the repair or replacement of the facilities, perform an operational test in the presence of the Engineer. If you repair or replace the remote-control valves, conduct the test with the irrigation controller in automatic mode.

Notify the Engineer:

1. At least 4 working days before shutting off the water supply to any portion of the existing irrigation system
2. Immediately after restoring the water supply to any portion of the existing irrigation system

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

If you damage plants not to be removed:

1. Dispose of them unless the Engineer authorizes you to reduce them to chips and spread the chips within locations designated by the Engineer
2. Replace them
  - a. Replace plants with plants of the same species.
  - b. Replace trees with 24-inch-box trees.
  - c. Replace shrubs with no. 15-container shrubs.
  - d. Replace ground cover plants with plants from flats. Replace Carpobrotus ground cover plants with plants from cuttings. Plant ground cover plants 1 foot on center.
3. If a plant establishment or permanent erosion control establishment period is specified, replace plants before the start of the plant establishment or permanent erosion control establishment period; otherwise, replace plants at least 30 days before Contract acceptance.
4. Water each plant immediately after planting. Saturate the backfill soil around and below the roots or the ball of earth around the roots of each plant. Water as necessary to maintain plants in a healthy condition until Contract acceptance.

The City may rearrange a third-party utility during the Contract. Rearrangement of a third-party utilities or City facilities includes installation, relocation, alteration, or removal of the facility.

The City may authorize third-party utilities or City facilities and their agents to enter the project limits to perform rearrangement work for their facilities or to make connections or repairs to their property. Coordinate activities to avoid delays.

**15-1.03I Utility Clearances:** *All items noted in this Section shall take place prior to any other construction activities.*

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

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

You shall determine elevations and alignments of existing sewer laterals, at the back of sidewalk before the new main is started. If a new proposed sewer main is at the same or higher elevation than the existing sewer main, *you 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. You 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.

If you want infrastructure rearrangement different from that described in the Contract:

1. Notify the Engineer
2. Make an arrangement with the infrastructure owner
3. Obtain authorization for the rearrangement
4. Pay the infrastructure owner any additional cost

The City does not adjust time or payment for a rearrangement different from that described the Contract.

**15-1.03J Tree Root Pruning:** All tree roots two inches and greater which are encountered during excavation must be pruned by hand. The root shall be cut cleanly with a saw to avoid splits. When digging within the drip line of trees, you shall exercise extreme caution to avoid pulling on roots with excavation equipment. Hand dig around all roots greater than one inch in diameter. You 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 You shall redirect crews to other contract work after safeguarding the area.

[Revised: 5/19/2025-JB2 STD2024]

## 17 EARTHWORK AND LANDSCAPE

### **Clearing and Grubbing**

**17-2.01 General - In Addition:** Clearing, grubbing, and access shall be confined to the limits shown on the plans and shall not exceed the minimum necessary to complete operations.

You 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 you before completion of the project.

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

**17-2.03 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.

All stumps, large roots and other objectionable material shall be removed to a depth of three feet below finished grade in the area of construction. 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.

## 19 EARTHWORK

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

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

**19-1.01A Summary - In Addition:** Earthwork shall also include excavation for trenching.

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

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

Backfill the space resulting from excavating unsuitable material with material suitable for the planned use. Place and compact suitable material under section 19-5.

**19-1.03B(1) Subgrade stabilization:** Any area of the subgrade determined by the Engineer to be unsuitable shall be stabilized. Processing of unsuitable subgrade material is not allowed. The areas to be stabilized will be marked in the field by the Engineer after roadway excavation of the area is complete. Use of a pavement grinder shall be considered an acceptable method of excavation of areas requiring subgrade stabilization.

**19-1.03C Grade Tolerance- In Addition:** 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.

**19-1.03F Measurement:** Subgrade Stabilization will be measured as marked in the field by the square foot.

**19-2.03 Construction:** The Engineer shall provide reference points and cut sheets for the excavation of the roadway. You shall furnish an excavation and paving plan and a qualified grade setter to ensure the subgrade conforms to the lines and grades established by the Engineer.

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

Roadway excavation and asphalt concrete base paving, including Stabilization Fabric per section 19-8.02, paving shall be completed for half the street width before beginning excavation of the remaining street.

You shall note that there are street trees near areas intended for roadway excavation. Your operation, including the size of the grinding equipment, shall be such, so as to ensure that existing street trees are not damaged. Where limited clearance under the street trees prevents the use

of a grinder, excavation shall be performed by an alternate method as approved by the Engineer. Alternate methods may include jackhammering and removal of existing pavement and base materials by hand, or by use of smaller grinding equipment.

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

**19-2.03B Surplus Material- In Addition:** You shall be responsible for the removal and disposal of surplus materials. You shall notify the City of the disposal location before the start of construction. Surplus material, including removal of existing bituminous pavement and base materials will be paid for as roadway excavation.

### **19-5 Compaction**

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

Relative compaction of not less than 95 percent shall be obtained for embankment under bridge and retaining wall footings without pile foundations within the limits established by inclined planes sloping 1.5:1 out and down from lines one foot outside the bottom edges of the footing.

### **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.

**19-10.02 Materials:** Subgrade enhancement geotextile (aka 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.

Prior to placement of soil stabilization fabric, you shall remove all loose dirt left from excavation operations.

Soil stabilization fabric shall be placed over the entire subgrade area. 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.



## 20-10 BIORETENTION

### **20-10 GENERAL**

#### **20-10.01A General:**

- A. This work will consist of constructing bioretention areas, to the lines, grades, and dimensions shown on the plan in accordance with these technical specifications. Bioretention areas will include excavation, grading, bioretention soil mix, moisture barriers, conforming to the City Standards, the Standard Specifications, and these Technical Specifications.
- B. Refer to related technical specifications for constructure drainage structures, storm drain, and other appurtenances to the bioretention areas.
- C. All work will be performed in compliance with the current City of Santa Rosa Low Impact Development Technical Design Manual.

#### **20-10.01B Submittals:**

- A. Submit Product Data for the following:
  - a. Bioretention soil mix
  - b. Moisture barrier

**20-11.01C Quality Assurance:** Conform to the quality control requirements of the product manufacturer, the City Standards, the Standard Specifications, the established reference documents, and these Special Provisions.

#### **20-11.02 Materials:**

- A. Bioretention soil mix shall be a Sandy Loam Soil mix will be a commercially blended mix of: 50% Sand, 30% loam, 20% compost, as available from Stony Point Rock Quarry, Inc. 707- 795-1775, or equal. Bioretention soil mix will meet the following requirements:
  - a. The percolation rate of the mix will be between 5" and 10" per minute.
  - b. The organic content will be 2.5% minimum by total weight
  - c. Fine gravel content to be between 5-8% total by weight.
  - d. Coarse sand content to be less than 2% total by weight
  - e. Ph and nutrients in a range preferable for plant growth.
- B. Moisture barrier within the bioretention areas will be a 20-mil minimum thickness nonreinforced polyvinyl chloride (PVC) geomembrane for use in buried applications and will conform to ASTM Standard D7176, the Standard Specifications, all Amendments, and these special provisions.
- C. PVC geomembrane sampling frequency will be in accordance with ASTM D4354, or as approved by the Engineer. The geomembrane subgrade will have a smooth, finished surface, free from pockets, ruts, sharp objects or other discontinuities that, in the judgment of the Engineer, may contribute to puncture or bridging of the material. You and the Engineer will inspect the subgrade surface immediately prior to the deployment of each geomembrane panel.
- D. Joints in the geomembrane will be minimized. Panels will be joined utilizing approved seaming methods. Dual-track fusion welding will be required where feasible. Chemical welds will be made only where approved by the Engineer. Any damaged caused to the

geomembrane by you will be repaired or replaced, as approved by the Engineer, at the expense of the contractor.

### **20-11.03 Construction:**

- A. Bioretention areas will not be constructed until all contributing drainage areas are stabilized as shown on the Contract Plans and to the satisfaction of the Engineer. Bioretention areas will not be used as sediment control facilities. No heavy equipment will operate within the perimeter of a bioretention facility during excavation, underdrain and moisture barrier placement, backfilling, or mulching of the bioretention areas.
- B. The bioretention areas will be excavated to the dimensions, side slopes, and depths shown on the plans. The method of excavation will minimize the compaction of the bottom of the bioretention areas. Excavators and backhoes, operating on the ground adjacent to the bioretention areas, will be used to excavate the areas if possible. Low ground-contact pressure equipment may also be used for excavation. No heavy equipment will be allowed on the bottom of the bioretention facility.
- C. Excavated materials will be removed from the bioretention areas. Excavated materials will be used or disposed of in conformance with the Standard Specifications and these Special Provisions.
- D. Prior to placing the bioretention soil mix, the bottom of the excavation will be scarified to a minimum depth of 6 inches to alleviate any compaction of the areas bottom. Any substitute method for scarifying must be approved by the Engineer prior to use. Any ponded water will be removed from the bottom of the areas and the soil will be friable before scarifying.
- E. The bioretention soil mix will be placed and graded using low ground contact pressure equipment or by excavators and/or backhoes operating on the ground adjacent to the bioretention areas. No heavy equipment will be used within the perimeter of the bioretention areas before, during, or after the placement of the bioretention soil mix. The bioretention soil mix will be placed in horizontal layers not to exceed 12 inches for the entire area of the bioretention areas. The bioretention soil mix will be compacted by saturating the entire bioretention areas after each lift of bioretention soil is placed. Water for saturation will be applied by spraying or sprinkling. Saturation of each lift will be performed in the presence of the Engineer. An appropriate sediment control device will be used to treat any sediment-laden water discharged from the underdrain. If the bioretention soil mix becomes contaminated during the construction of the areas, the contaminated material will be removed and replaced with uncontaminated material at no additional cost to the City. Final grading of the bioretention area will be performed after a 24-hour settling period.
- F. The final grade of the bioretention area will be inspected by the Engineer prior to placement of topsoil lift and will be within 1" of the lines and grades identified on the plan.
- G. Additional execution guidelines from Reference Document E from City of Santa Rosa and County of Sonoma LID Technical Design Manual regarding bioretention soil mix will be applied and adhered to during the construction of the bioretention area.

## 25 AGGREGATE SUBBASES

**25-1.02 Materials:** Aggregate subbases shall not consist of any combination of reclaimed processed asphalt concrete, PCC, LCB, or CTB.

Recycled material cannot be used below the designed structural section within the road and never for structural fill outside of the road structural section.

**25-1.02C Class 4 Aggregate Subbase:** Aggregate subbase shall be Class 4 conforming to and placed in accordance with the requirements of Section 25 of the City Specifications, with the following modifications and additional requirements.

Aggregate subbase shall be Class 4 with a minimum sand equivalent value of 21, a minimum R-value of 50 and shall conform to the following gradings:

<u>Sieve Size</u>	<u>Percent Passing</u>
3"	100
1-1/2"	90-100
3/4"	50-90
#4	25-55
#200	2-11

The material contained on the #4 screen shall consist of 100 percent crushed particles.

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

### **25-1.03 Construction**

**25-1.03E Compacting- In Addition:** The surface of the finished aggregate subbase shall be firm and unyielding. Any visible movement vertically or horizontally of the aggregate subbase under the action of construction equipment or other maximum legal axle loads shall be considered as evidence that the aggregate subbase does not meet this requirement.

**25-1.03F Grade Tolerance:** The subgrade to receive aggregate subbase, immediately prior to spreading, shall not vary more than 0.05-foot above or 0.1-foot below the grade established by the Engineer.

[Version 5/192025 JB2 STD2024]

## 26 AGGREGATE BASE

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

Recycled material cannot be used below the designed structural section within the roadway and never for structural fill outside of the roadway structural section.

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

### **26-1.02 Materials**

**26-1.02B Class 2 Aggregate Base-In Addition:** The minimum sand equivalent shall be 31 for any individual test.

### **26-1.03 Construction**

**26-1.03E Compacting-In Addition:** 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.

[Version: 5/19/25 JB2 STD2024]

## 39 HOT MIX ASPHALT

### **39-2.02 Type A Hot Mix Asphalt (HMA)**

**39-2.02A General:** Section 39 includes specific specifications for producing and placing Hot Mix Asphalt by mixing aggregate and asphalt binder at a mixing plant and spreading and compacting the HMA mixture.

HMA shall be placed in separate lifts as shown on the Project Plans.

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

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

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

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

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

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

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

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

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

All ground edges adjacent to curb ramps and driveways shall have temporary HMA ramps (tapers) installed if the asphalt concrete surfacing cannot be placed back the same day the existing

pavement is removed. Kraft paper or other bond breaker shall be placed under the conform ramps to facilitate removal when paving operations start.

Kraft paper or other bond inhibitor shall be placed under the temporary HMA taper to facilitate removal when paving operations resume.

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

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

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

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

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

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

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

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

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

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

**39-2.02A(2) Definitions:** For these specifications, Hot Mix Asphalt HMA, asphalt, and asphalt concrete shall be the same.

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

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

### **39-2.02B Materials**

**39-2.02B(3) Asphalt Binder:** Asphalt binder in HMA must comply with the specifications for asphalts.

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

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

Liquid anti-stripping agent (LAS) shall be added to the asphalt binder at a rate of 0.4 to 1.0% by weight of asphalt binder as specified by the Engineer at the time of paving. The LAS shall be AD-here LOF 65-00 or equivalent, and shall be stored, measured, and blended with the asphalt binder in accordance with the anti-stripping agent manufacture's recommended practice. The LAS can be added at the asphalt plant or at the refinery. When added at the HMA plant, the equipment shall indicate and record the amount of LAS added. If added at the refinery, the shipping ticket from the refinery shall certify the type and amount of LAS added.

### **39-2.02B(4) Aggregates**

**39-2.02B(4)(a) General- In Addition:** The aggregate grading of the various types of HMA shall conform to one of the following as directed by the Engineer:

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

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

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

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

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

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

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

**39-2.02B(4)(b) Aggregate Gradations- In Addition:** The proposed aggregate gradation must be within the TV limits for the specified sieve sizes shown in the following tables:

**Aggregate Gradation  
(Percentage Passing)**

**HMA Types A**

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

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

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

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

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

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



No. 8	43-49	TV $\pm$ 5
No. 30	22-27	TV $\pm$ 5
No. 200	2.0–8.0	--

**39-2.02B(5) Reclaimed Asphalt Pavement- In Addition:** Reclaimed Asphalt Pavement (RAP) may be used at your option. If RAP is used, you shall provide the proposed mix design and the quality control for all HMA that includes RAP, in accordance with the following requirements:

1. Contractor shall provide City with a mix design per California Test 384 for the proposed RAP HMA.
2. As part of City's evaluation of RAP HMA, Contractor and City shall perform bitumen ratio tests on at least six split samples of Contractor's RAP to establish correlation between respective binder ignition ovens.
3. RAP shall be processed from reclaimed Asphalt Concrete pavement only.
4. RAP pile(s) shall be separate from the stacker pile, not intermingled with other materials, and stored on smooth surfaces free from debris and organic material.
5. The project RAP pile shall be processed and mixed, identified, and of adequate quantity for the proposed project. "Live" piles shall not be permitted.
6. Contractor shall sample the RAP pile and determine the bitumen ratio (using same binder ignition oven used in #2 above) and provide the test results to the City at least one week prior to producing RAP HMA.
7. A minimum of three samples shall be tested for bitumen ratio for RAP pile of 1500 tons, or portion thereof.
8. RAP pile shall be mixed such that individual bitumen ratio test results of RAP pile so not vary more than +/- 0.5%.
9. During RAP HMA production, RAP shall be sampled by you off of the belt (into the batch plant), per method established by the City, and samples provided to the City.
10. Bitumen ratio of RAP sampled off of the belt shall be 4.0% minimum, as determined by City binder ignition oven. City shall select binder content for RAP HMA mix per Specifications.
11. RAP content shall be no more than 20% by dry aggregate mass in the HMA. If proposing a change in the RAP content, you shall notify the Engineer. If the content changes more than 5%, you shall submit a new mix design.
12. Moisture content of RAP pile shall be 4.0% maximum and shall be tested the day prior to the day of paving and tested/monitored during each day of HMA production.
13. RAP pile(s) shall be protected from exposure to moisture.
14. RAP HMA shall comply with all the specifications for HMA.
15. If batch mixing is used, RAP shall be kept separate from the virgin aggregate until both ingredients enter the weigh hopper or pugmill. After introduction to the pugmill and before asphalt binder is added, the mixing time for the virgin aggregate and RAP shall not be less than five seconds. After asphalt binder is added, the mixing time shall not be less than 30 seconds.

16. If continuous mixing is used, the RAP shall be protected from direct contact with the burner flame with a device such as a shield, separator, or second drum.
17. If any of the above criteria are not satisfied, or if the RAP HMA test result determined by the City are inconsistent, RAP HMA production shall stop for City projects until the issue(s) are corrected.

**39-2.02B(6) Smoothness:** Determine HMA smoothness with a straightedge or a profilograph. The completed surfacing shall be thoroughly compacted, smooth and free from ruts, humps, depressions or irregularities. Any ridges, indentations or other objectionable marks left in the surface of the asphalt concrete by blading or other equipment shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations or other objectionable marks in the asphalt concrete shall be discontinued, and acceptable equipment shall be furnished by you.

**39-2.02B(7) Straightedge:** The HMA pavement top layer must not vary from the lower edge of a 12-foot long straightedge:

1. More than 0.01 foot when the straight edge is laid parallel with the centerline
2. More than 0.02 foot when the straightedge is laid perpendicular to the centerline and extends from edge to edge of a traffic lane
3. More than 0.02 foot when the straightedge is laid within 24 feet of a pavement conform

**39-2.02B(8) Profilograph:** Under California Test 526, determine the zero (null) blanking band Profile Index (PI0) and must-grinds on the top layer of HMA Type A pavement. Take 2 profiles within each traffic lane, 3 feet from and parallel with the edge of each lane. A must-grind is a deviation of 0.3 inch or more in a length of 25 feet. You must correct must-grinds. Profile pavement in the Engineer's presence. Choose the time of profiling. On tangents and horizontal curves with a centerline radius of curvature 2,000 feet or more, the PI0 must be at most 3 inches per 0.1-mile section. On horizontal curves with a centerline radius of curvature between 1,000 feet and 2,000 feet including pavement within the super elevation transitions, the PI0 must be at most 6 inches per 0.1-mile section. Before the Engineer accepts HMA pavement for smoothness, submit written final profilographs. Submit 1 electronic copy of profile information in Microsoft Excel and 1 electronic copy of longitudinal pavement profiles in "erd" format or other ProVAL compatible format to the Engineer.

**39-2.02B(9) Smoothness Correction:** If the top layer of HMA Type A pavement does not comply with the smoothness specifications, grind the pavement to within tolerances, remove and replace it, or place a layer of HMA. The Engineer must authorize your choice of correction before the work begins.

Corrected HMA pavement areas must be uniform rectangles with edges:

1. Parallel to the nearest HMA pavement edge or lane line
2. Perpendicular to the pavement centerline

Measure the corrected HMA pavement surface with a profilograph or a 12-foot straightedge and correct the pavement to within specified tolerances. If a must-grind area or straight edged pavement cannot be corrected to within specified tolerances, remove and replace the pavement. On all ground areas, apply fog seal coat per Standard Specifications Section 37-1, "Seal Coats."

**39-2.02B(10) Acceptance Criteria Testing:** The acceptance testing requirement for Sand Equivalent shall be 50 (minimum) for HMA surface and 45 (minimum) for HMA base. HMA shall meet the following requirements.

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

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

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

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

A single TSR test shall not represent more than 750 tons of HMA.

HMA not meeting the above requirements shall be removed and replaced at your expense.

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

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

## **SUBMITTALS**

Before placing material containing asphalt binder, submit the current sales and use tax rate in effect in the tax jurisdiction where the material is to be placed.

Submit certified weight slips for HMA as specified in Section 9-1.01, "Measurement of Quantities," of the Standard Specifications.

[Version 5/19/2025 JB2 STD2024]

## 40 CONCRETE PAVEMENT

**40-1.01 General:** All P.C.C. pavement shall be constructed of 6.5 sack "Type II Modified" concrete, containing not less than 611 pounds of Portland cement per cubic yard, and conforming to the provisions in Section 90 of the Standard Specifications. Traffic shall not be allowed on new P.C.C. streets until the P.C.C. has attained a minimum compressive strength of 3,500 pounds per square inch (psi). Track-mounted construction equipment will not be allowed on the new P.C.C. streets at any time.

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

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

Define each paving phase using a map showing what ½ width road sections will be demolished and repaved. Note: The paving plan must be sequenced in such a way that the streets will be open to traffic during the time that the one half is being reconstructed.

For each concrete paving phase, you shall provide:

1. Map showing what ½ width road sections will be demolished and repaved.
2. Schedule showing when roadway will be out of service to traffic, show excavation, paving and curing dates
3. Requested location for survey staking of reference points
4. P.C.C. plant supplying mix including aggregate source
5. Disposal site for spoils
6. Type of trucks and equipment to be used
7. Haul routes through adjacent residential streets
8. Staging locations
9. Sequencing

**40-1.01C Submittals:** At least 10 days prior to the placement of the concrete, you shall submit for review and approval, a calibration chart for the mix design strength versus concrete temperature and a copy of the mix design proportions and proposed admixture(s) together with all supporting technical data. Submittal must be reviewed and approved by the City of Santa Rosa Material Lab before concrete can be poured.

**40-1.01C(13) Grade Tolerance:** The aggregate base to receive P.C.C., immediately prior to placing, shall conform to the compaction and elevation tolerances specified, and shall be free of loose or extraneous material. Aggregate base shall be uniformly moist, and any excess water standing in pools or flowing on the surface shall be removed prior to placing concrete.

**40-1.03B Joints:** Joints shall be constructed in accordance with the details shown on the Plans, the City standards, and be squares or have a 1 to 1.5 or less ratio. Contraction joints shall be formed with hand-tools. Keyed longitudinal construction joints shall be used between centerline lanes. A keyed joint shall be formed in the slab edge by attaching a metal or wooden key, of the dimensions shown on the Project Plan details to the side form. The keyway should be located at

mid-depth of the slab to provide maximum strength. If wooden keyway forms are used, they shall be maintained in good condition and well-oiled before each use. A keyed construction joint should be used at the end of each workday at the location of a transverse contraction joint.

**40-1.03F Placing Concrete:** Pavement smoothness requirements specified in Section 40-1.01D(8)(c)(iii) will not apply to the pavement surface unless otherwise specified. When a straightedge 12-feet-long is laid on the finished surface and parallel with the centerline, the concrete surface shall not vary more than 0.01-foot from the lower edge of the straightedge. The transverse slope of the finished surface shall be uniform to a degree such that no depressions greater than 0.02-foot are present when tested with a straightedge 12-feet-long laid in a direction transverse to the centerline and extending from edge to edge of a 12-foot lane.

Spreading, compacting and shaping shall also conform to the provisions in Section 40-1.03F(4) of the Standard Specifications, except that a truss screed capable of spreading, screening, shaping and consolidating only one-half of the planned street width in a workday, shall be used. The remaining one-half of the street shall not be demolished until the new P.C.C. has attained a minimum compressive strength of 3,500 psi for related construction equipment traffic. Track-mounted construction equipment will not be allowed on the new P.C.C streets at any time.

Immediately in advance of placing concrete, and after all aggregate base operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing concrete. However, the grade adjacent to the existing (or replaced) curb and gutter should not extend more than approximately 1/4-inch above the gutter lip after final finishing.

**40-1.03H(3) Final Finishing- In Addition:** In advance of curing operations, the pavement surface shall be finished to grade and cross section with a float, and troweled smooth. Concrete adjacent to the joints and lip of gutter shall be finished with an edger tool.

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

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

**40-1.03I Curing- In Addition:** The P.C.C. shall be cured using the same methods used during implementation of Section 40-1.01C(7) of these Special Provisions.

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

Concrete that is uncured at the end of the workday shall be protected in a manner approved by the Engineer, this may require trench plates.

**40-1.03P Operational Constraint:** You shall complete each concrete installation location such that the concrete reaches 3,500 psi within 3 days (72 hours).

If the repair is not progressing at a rate that will permit the restoration of traffic within the specified time period, you shall take appropriate temporary measures, acceptable to the Engineer, to open the road to traffic. These temporary measures shall be at your expense.

**40-1.03Q Measurement:** Quantities of P.C.C. Pavement and Pavement Repair to be paid for will be the area of the completed work in place, measured by the square foot.

[Version Date 5/20/2025 JB2 STD2024]

## 51 CONCRETE STRUCTURES

**51-7.01 General-In Addition:** Minor concrete structures are pipe headwalls, end walls, drainage inlets, and manholes.

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

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

Placing of concrete under water will not be permitted.

## 64 PLASTIC PIPE

**64-2.02 Materials:** Plastic pipe for use in public storm drain systems shall be 18 inches through 36 inches in diameter, Type S, smooth interior wall, corrugated exterior wall, high density polyethylene pipe (HDPE) as specified in AASHTO designation M294. Where the storm drainpipe is greater than 36 inches, or when the cover is less than 12" to subgrade, reinforced concrete pipe shall be used.

The use of plastic storm drainpipe shall not be permitted in unpaved areas or at openings that can be contacted by fire.

**64-2.02B Backfill- In Addition:** Excavation and backfill shall be in accordance with Section 64-1.05 of the City Standards. All trench excavation material from trenches, including any removed portions of the existing storm drainpipe, shall be the property of you. Excavated material shall not be disposed of on the work site. Prior to disposal of any material, you shall submit to the Engineer written authorization for such disposal of material and entry permission signed by the owners of the disposal site, and shall comply with any other requirements of disposal, such as City and County permits, as may be required.

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

Minimum trench width shall be as follows:

<u>Pipe Size, Inside Diameter</u>	<u>Trench Width (inches)*</u>
15	30
18	36
24	48
30	54
36	60

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

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

**64-2.03C Pipe Placement- In Addition:** Pipe placement shall be in accordance with Section 64-1.07 of the City Standards and on the alignment and grade as shown on the plans. When long radius curves are permitted, adjustments in horizontal alignment will be achieved through adjustments at each coupling, within manufacture's specification, and not by bending of the pipe.

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

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

**64-2.02F Joints- In Addition:** Joints shall be in accordance with Section 64-1.05 Couplings and Fittings of the City Standards. Pipe and fittings shall be joined with a bell-and-spigot joint meeting AASHTO M252, AASHTO M294, or MP7. The joint shall be silt tight with o-ring gaskets made of polyisoprene meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on gasket and bell during assembly. The spigot shall be pushed into the bell to the "home line" on the pipe.

**64-2.03D Television Inspection of Plastic Storm Drain Pipe:** You shall hire an independent television inspection service to perform a closed-circuit television inspection of all newly constructed storm drain systems. The video camera shall be able to pan and tilt and shall be equipped with high intensity lights. The video camera shall be mounted on a transporter at a height equal to the radius of the pipe. A video tape of the television inspection shall be produced and delivered to the Engineer in color VHS format, together with a typed log of the inspection.

The video tape shall display the following information:

The camera's location via a continuously updated footage counter measuring the distance from point of entry. At the beginning of each run of storm drainpipe, between adjacent structures, the video shall display the project name, date, company performing the inspection and the structure's number (as labeled on the plans) at each end.

The following conditions shall exist prior to the television inspection:

All storm drainpipes shall be installed, grouted, backfilled and compacted;

All structures shall be in place and grouted;

Flow line wetted with clean water immediately before televising.

When the above work has been completed you shall notify the Engineer 48 hours in advance of the date for television inspection. During this inspection, you or authorized representative shall be present to observe the video as provided by the television camera.

The following video tape observation shall be considered defects in the construction of the storm drain system and will require corrections prior to acceptance.

- a. Off grade - 0.08 foot or more deviation from grade.
- b. Joint separation - greater than one corrugation.
- c. Cracked or damaged pipe or evidence of the presence of an external object bearing upon the pipe (rock, root, etc).
- d. Pipe deflection of 7.5 percent or greater, measured inside the pipe.
- e. Debris or other foreign objects;
- f. Other obvious deficiencies when compared to approved Plans and Specifications, these Standards and Standard Drawings.

You shall be notified in writing of any deficiencies revealed by the television inspection that will require repair, following which you shall excavate and make the necessary repairs and request a television re-inspection. Television re-inspection shall be at your expense.



**64-2.03E Trench Shoring and Bracing - Storm Drain:** All bracing and shoring shall conform to Section 65-2 of these Special Provisions.

[Version: 05/20/2025 JB2 STD2024]

## 73 CONCRETE CURBS AND SIDEWALKS

**73-1.01 General- In Addition:** This work shall also consist of gutters. Provide control and weakened plane joint layout submittal to the Engineer for each curb ramp shown on the Plans with squares or 1 to 1.5 or less ratio, 2 weeks prior to construction of the curb ramp.

Joints shall be constructed in accordance with the details shown on the Plans and be squares or have a 1 to 1.5 or less ratio.

**73-2.03 Construction:** Curb construction shall be in accordance with Section 73-1.05 of the City Standards.

Curb and gutter shall be constructed per City STD-241.

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

Median curb shall be constructed per City STD-242. Median Curb installation shall include the removal of a 24-inch wide Hot Mix Asphalt (HMA) pavement strip which runs along the Median Curb. The HMA strip shall be saw cut neatly with removal of a minimum of 0.5 ft depth of the existing HMA for conforming purposes. Attention is directed to Section 39-2.02A(2) for HMA Strip (0.5').

Curb and gutter and median curb shall be cured in accordance with the requirements of Section 90-1.03B of the Standard Specifications except that you may substitute a pigmented sealer upon the approval in writing of such substituted sealer by the Engineer.

All oil, paint, tire marks, and other discoloring shall be removed from the curb and gutter by sandblasting prior to acceptance by the Engineer. Cement mortar will not be an acceptable substitute for sandblasting. Vandalism to uncured concrete surface shall be removed. If it cannot be removed from the surface, then the vandalized concrete shall be removed and replaced to the nearest score-mark.

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

Curb and gutter installation shall include the removal of a 24-inch wide Hot Mix Asphalt (HMA) pavement strip which runs along the lip of gutter. The HMA strip shall be saw cut neatly with removal of a minimum of 0.5 ft depth of the existing HMA for conforming purposes. Attention is directed to Section 39-2.02A(2) for HMA Strip (0.5').

**73-3.01D(2) Warranties- In Addition:**

The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is a defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. The warranty period shall begin upon acceptance of the contract.

**73-3.03 Construction:** Sidewalk, gutter depression, gutter, median curb, curb ramp, and driveway shall be constructed in accordance with Section 73-1.07 of the City Standards.

PG&E, SBC and AT&T utility vaults, new racks, manholes and/or valves that conflict with the construction and/or use of the curb ramp shall be identified ahead of time by you and coordinated with the appropriate agencies for adjustment in a timely manner to avoid impact on the progress

and completion of the project. Additionally, ¼-inch expansion material with thickened edges of 8-inches shall be applied surrounding all vertical poles and base plates.

Curb ramps shall be constructed at the locations specified in these special provisions, in full compliance with the most stringent requirements of the ADA, California Building Code sections 11B-302.3, 11B-406.2, 11B-406.3, and 11B-406.5, as well as Caltrans Standard Plan A88A, with the exception that the ramp thickness shall be a minimum of 4 inches, and the ramp width shall be 48 inches. Sidewalk and curb ramp control/weakened plane joints shall be scored with a ¼" radius with no finished joint larger than ½" wide by ¼" deep. For purposes of payment, curb ramp will be measured from curb return to curb return and include the back of sidewalk curb as required and exclude the curb and gutter. The area of concrete beneath the detectable warning surface shall be paid for at the contract price per square foot of curb ramp.

Trees overhanging the public right-of-way within proposed curb ramp and adjacent sidewalk areas shall be trimmed in accordance with Section 112 to provide a minimum 7 feet of vertical clearance above the finished walking surface.

Notify the Engineer 10 days prior to removal of the ramp of all anticipated conflicts at specific locations. Scheduling a "pre-curb ramp installation walk through" with the Engineer is recommended and can be requested or required by the City at the Preconstruction Meeting.

You are to confirm that the bottom of the traffic signal pole base plates are exposed and the grades of the ramp do not require raising or lowering of the traffic signal poles unless specifically noted on the Project Plans.

You are to confirm that the Fire Hydrant flange bottom bolts are exposed and the grades of the ramp do not require raising or lowering of the Fire Hydrant unless specifically noted on the Project Plans.

Replacement of Curb Ramps require flush transitions to the existing sidewalk. Dowels are required at the cold joints to existing concrete.

Unless noted otherwise on the Project Plans, Sidewalk conform areas are to be a minimum of 5 foot long or to the next control joint by the width of the existing sidewalk.

Curb ramp detectable warning surfaces shall consist of prefabricated raised truncated domes constructed with curb ramps in conformance with the details shown on the plans and Caltrans Standard Plan A88 and these Technical Specifications. The detectable warning surface shall be Armor-Tile cast-in-place and surface applied detectable warning surface or approved equal. The color of the detectable warning surface shall be yellow conforming to the Federal Standard 595C, Co. No. 33538. Prefabricated detectable warning surfaces shall be installed in accordance with the manufacturer's recommendations.

The detectable warning surface tiles shall be protected from concrete splatter while installing the cast-in-place detectable warning surface into the PCC sidewalk by a temporary 4 mil plastic sheeting or approved equal. Fire hydrants and poles shall be cleaned of concrete splatter and curing compound within 24 hours. City shall have the right to impose a charge against Contractor in an amount equal to \$100.00 per violation per day.

The finished surfaces of the detectable warning surface shall be free from blemishes. No cutting of the tiles shall be allowed. Installation shall be per manufacturer's instructions or as directed by the engineer.

All concrete which is to be removed from sidewalk and driveway areas shall be removed to the nearest transverse score mark across the full width of sidewalk or construction joint or as directed by the Engineer.

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

Sidewalks, gutter depression, median curb, curb ramps, and driveways shall be cured in accordance with the requirements of Section 90-1.03B of the Standard Specifications except that you may substitute other than pigmented sealer upon approval in writing of such substituted sealer by the Engineer.

All oil, paint, tire marks, and other discoloring shall be removed from the Sidewalks, gutter depression, median curb, curb ramps, and driveways by sandblasting prior to acceptance by the Engineer. Cement mortar will not be an acceptable substitute for sandblasting. Vandalism to uncured concrete surface shall be removed. If it cannot be removed from the surface, then the vandalized concrete shall be removed and replaced to the nearest scoremark.

Concrete with surface cracking exceeding a depth of 0.5 inches or 0.03 inches wide or a level change of 0.25 inches shall be removed and replaced at no additional cost to the City. Patching or any joint fillers are not allowed for repairs to damaged concrete.

Gutter Depression shall be constructed in accordance with City STD-243 Standard Valley Gutter.

## 81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

**81-3.01 General:** Raised pavement markers shall be placed at the locations shown on the Plans and in accordance with the applicable provisions of Section 81 of the Standard Specifications, these Special Provisions, and the City of Santa Rosa Traffic Standards. Attention is directed to Section 15 “Existing Facilities” of these Special Provisions.

**81-3.02 Materials:** All raised pavement markers (RPMs) shall conform to the most current State Specifications.

**81-3.02B Nonreflective Pavement Markers:** All non-reflective pavement markers shall be ceramic.

**81-3.02C Retroreflective Pavement Markers - In Addition:** Blue reflective raised pavement markers are to be placed per City STD -857 for each fire hydrant within the construction limits of the project. Where a hydrant, whether existing or new, is located at the corner of two streets, a blue RPM shall be placed in each street.

**81-3.03 Construction:** Existing raised pavement markers to remain, which are damaged by the Contractor, shall be replaced as determined by the Engineer, at the Contractor’s expense. This includes areas outside the immediate project limits.

The exact locations and limits of raised pavement markers will be determined in the field by the Engineer.

The Contractor shall provide, install and maintain temporary markers on the same day that the existing permanent markers are removed, or as directed by the Engineer, and maintain this delineation until new permanent markers are in place. Temporary markers on non-ground surfaces shall be plastic adhesive retroreflective delineators.

Existing raised pavement markers conflicting with the proposed striping shall be removed immediately prior to placement of new markers.

Existing raised pavement markers to remain, which are damaged by the Contractor, shall be replaced.

Holes left in the pavement due to the removal of raised pavement markers shall be filled with enough adhesive to replace any asphalt which comes off with the removal of the pavement marker, leaving a level driving surface.

Permanent raised pavement markers shall be installed within 5 days following final pavement operations. Temporary markings shall be in place the same day of pavement operations.

Raised pavement markers shall be installed the day following pavement overlay.

## 82 SIGNS AND MARKERS

**82-1.01 General:** This work shall consist of installation, removal, and relocation of roadside signs as shown on the plans, where directed by the Engineer, and shall conform to the City Standards and Specifications.

Signs and hardware which are not to be mounted on traffic signal mastarms or traffic signal poles shall be provided and installed by the Contractor at the locations shown on the plans per Part II of the City Traffic Standards.

Existing signs which are not on traffic signal mastarms or traffic signal poles shall be relocated as shown on the plans by the Contractor.

New signs and brackets to be mounted on traffic signal mastarms and traffic signal poles shall be provided and installed by the City.

Existing signs on traffic signal mast arms and traffic signal poles will be relocated by the City.

Where signs are shown on the plans as relocated or removed, the sign post and foundation shall be removed if no longer in use. Existing sign posts removed from sidewalks shall be ground flush with the existing sidewalk surface, and the void filled with grout.

Salvaged signs shall be returned to the City of Santa Rosa Sign Shop at 55 Stony Point Road. All poles being removed and not relocated shall become the property of the Contractor.

[Updated: 5/20/2025 JB2 STD2018]

## 84 MARKINGS

### **84-2 Traffic Stripes and Pavement Markings**

**84-2.01 General:** Attention is directed to Section 12 “Temporary Traffic Control” and Section 15 “Existing Facilities” of these Special Provisions. Traffic stripes and pavement markings shall conform to the applicable provisions of Section 84 of the Standard Specifications, The City Traffic Standards, and these Special Provisions and shall be placed at the locations shown on the Plans.

Contractor shall provide and install temporary retro-reflective traffic stripes and pavement markings on the same day as the existing traffic stripes and pavement markings are removed or destroyed, or as directed by the Engineer, and maintain them until the new, permanent traffic stripes and pavement markings are in place.

Temporary striping on all ground surfaces shall be paint (white and/or yellow) with retro-reflective glass beads or an approved equivalent and shall be installed the same day as the existing permanent traffic striping is removed, or as directed by the Engineer. Temporary traffic striping shall be maintained until new permanent traffic striping is in place.

Existing pavement markings, including crosswalks, disturbed by construction activities shall be replaced in their entirety.

All traffic striping to be replaced shall match existing sections in kind unless approved by the Engineer.

Contractor shall remove all existing traffic striping and pavement marking in conflict with proposed improvements, as shown on the Plans, and as directed by the Engineer, and shall be responsible for the proper disposal of their grindings away from site work.

Permanent traffic stripes and pavement markings shall be installed after all iron has been raised for that particular street section, but no more than five days after final paving for that section of roadway or a 15% pay deduction may be levied.

Existing traffic stripes and pavement markings to remain, which are damaged by the work shall be replaced at the contractor’s expense. This includes areas outside the immediate project limits.

Painted curbs which are damaged or replaced as part of the work shall be repainted to match existing conditions.

## 90 CONCRETE

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

**90-1.01D(2) Cementitious Material Content- In Addition:** Concrete shall contain a minimum of 564 pounds of cementitious material per cubic yard. The amount of cement by weight of the specified cementitious material shall be 75 to 85 percent.

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

**90-1.01D(6) Curing Compound- In Addition:** Concrete shall be cured per Section 90-1.03B of the Standard Specifications. Pigmented curing compound or any other material that will leave a noticeable residue shall not be allowed.

**90-1.02E(2) Chemical Admixtures- Replace With:** An admixture shall not be used to reduce the amount of cementitious material content.



# 112 TREE PROTECTION

**112-1.01 General:** The following requirements shall apply to any contractor who works on any property upon which a protected tree is located.

Protected tree means any tree, including a Heritage tree, designated to be preserved on the plans, or as directed by the Engineer. Heritage tree is any of the trees listed under Section 17-24.010 of the City of Santa Rosa Tree Ordinance.

**112-1.02 Scope:** Before the start of any clearing, excavation, construction or other work on the site, every protected tree shall be securely fenced off at the protected perimeter. Protected perimeter shall be either the root zone or other limit as directed by the Engineer. Such fences shall remain continuously in place for the duration of all work undertaken in connection with this project. The area so fenced off shall not be used as a storage area, altered, or disturbed except as may be permitted under this section.

If any of the site work encroaches upon the protected perimeter of a protected tree, special measures shall be utilized as approved by the Engineer to ensure that the roots obtain oxygen, water, and nutrients as needed. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter, if authorized by the Engineer, shall be minimized and subject to such conditions as may be imposed by the Engineer. No significant change in existing ground level shall be made within the drip line of the protected tree except as directed by the Engineer and as shown on the plans. No burning or use of equipment with an open flame shall occur near or within the protected perimeter. All brush, earth, and other debris shall be removed in a manner which prevents injury to the protected tree.

No oil, gas, chemicals, or other substances that may be harmful to trees shall be stored or dumped within the protected perimeter or any other location on the site from which such substances might enter the protected perimeter.

Underground trenching for utilities shall avoid major support and absorbing tree roots of protected trees. If avoidance is impracticable, tunnels shall be made below the roots. Trenches shall be consolidated to serve as many units as possible. Trench within the drip line of the tree shall be avoided and only be done at the approval and direction of the Engineer.

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

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

## 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.

[Version: 10/13/14-CDA STD2010]

## 124 MATERIAL RECYCLING

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

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

[Version: 11/6/14CDA STD2010]

## 132 WATER DISTRIBUTION SYSTEM

**132-1.01 Description:** Water Distribution System and related appurtenances shall conform to all applicable City of Santa Rosa standards. Contractor's attention is specifically directed to the requirements as specified in the City of Santa Rosa Water Distribution System Construction Standard Specifications Section 132, the Project Plans, and modifications herein.

**132-1.11 Excavation, Backfill, and Resurfacing:** The Contractor shall remove and replace sidewalk and planter strips as required for all water work to the nearest transverse score mark on both sides and full sidewalk width. All areas of sidewalk removed for construction shall be backfilled and compacted level with temporary asphalt concrete or covered with 1 inch thick plywood, laid flat with ADA compliant temporary asphalt concrete taper on both ends.

**132-1.12 Laying and Handling Pipe Materials:** If the Contractor installs a highpoint in the water system not shown on the Project Plans the Engineer may require the installation of a new combination air and vacuum valve, per City Standards, at no additional cost to the City.

Prior to pipe laying operations, Contractor shall have a copy of the pipe manufacturer's installation instructions on hand at the jobsite. Instructions shall include, at a minimum, proper methods for laying and bedding, field cutting and joint assembly (insertion). Contractor's pipe installation crew shall be informed of the proper installation methods and have access to the documentation.

Bell and spigot joints, including field cut pipe, shall be assembled (inserted) per the pipe manufacturer's instructions and AWWA C605-21. Any joint deemed to be either over inserted or under inserted, per the Engineer or their designee, shall be corrected by the Contractor at no additional cost to the City, and to the satisfaction of the Engineer. Contractor's attention is also directed to Section 132-1.12 "Laying and Handling Pipe Materials" located in the City Standards and Specifications for additional direction and information on proper installation.

Immediately prior to backfilling, the Contractor shall allow time for the on-site inspector to record the stationing, visually observe the installation condition, and photo document each water main joint.

At no additional cost to the City, the Contractor may be issued a Stop Work Notice by the Engineer or their designee if a significant deviation from the manufacturer's written installation procures or these technical specifications is noted that could, in the opinion of the Engineer, compromise the integrity of the installation. The Stop Work Notice will include the specific non-compliance issue(s) identified and the required corrective action(s) necessary before work can resume. Corrective actions may include training of all on-site personnel responsible for pipe laying by a material manufacturer or a third-party organization (PVC Pipe Association, American Water Works Association, Plastic Pipe Institute, National Association of Sewer Service Companies, or approved equivalent) as deemed necessary by the Engineer.

**132-1.15A Water Services:** New service laterals shall be installed with a minimum horizontal clearance of 3 feet from gas laterals. Water services shall be installed via 'open trench' construction methods only, unless otherwise specified herein.

Version Date: 2/12/25

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

<b>ALL OUT PLUMBERS/C. CROSS</b> P.O. BOX 599 CLOVERDALE, CA 95425 PHONE: (707) 894-8434 LICENSE #: 812540	<b>ALL PRO BACKFLOW/J.LOTITO</b> P.O. BOX 2193 FOLSOM, CA 95763 PHONE: (916) 276-7162 LICENSE #: 934557	<b>APB BACKFLOW, INC.</b> 1599 FELTA RIDGE ROAD HEALDSBURG, CA 95448 PHONE: (888) 356-7761 LICENSE: 1032328
<b>BRODERICK GENERAL ENG.</b> 21750 8 <sup>TH</sup> ST., EAST, SUITE B SONOMA, CA 95476 PHONE: (707) 996-7809 LICENSE #: 750809	<b>CAGWIN &amp; DORWARD</b> P.O. BOX 6004 PETALUMA, CA 94955 PHONE: (800) 891-7710 LICENSE #: 202399	<b>CHECKRITE BACKFLOW SERV.</b> 3618 CHANATE RD. SANTA ROSA, CA 95404 PHONE: (707) 575-5296 LICENSE #: 836022
<b>DEVOTO PLUMBING *</b> 1345 TRIPLE OAK WAY FULTON, CA 95439 PHONE: (707) 545-0734 LICENSE #: 82460	<b>ECONOMY PLUMBING</b> 1058 N. DUTTON AVE. SANTA ROSA, CA 95401 PHONE: (707) 545-4455 LICENSE #: 748220	<b>G A C COMPANY</b> P.O. BOX 5511 SANTA ROSA, CA 95402 PHONE: (707) 538-8000 LICENSE #: 927846
<b>GROUND HOG CONSTRUCTION</b> 5353 HESSEL RD. SEBASTOPOL, CA 95472 PHONE: (707) 529-2085 LICENSE #: 723766	<b>JV PLUMBING &amp; BACKFLOW *</b> 2911 MONTECITO AVE. SANTA ROSA, CA 95404 PHONE: (707) 799-2692 LICENSE #: 955698	<b>MAPLES PLUMBING &amp; HEATING</b> 280 CASTRO COURT #407 SANTA ROSA, CA 95407 PHONE: (707) 585-9979 LICENSE #: 1048751
<b>NEMESIS FIRE *</b> 591B, COLGAN AVE. SANTA ROSA, CA 95404 PHONE: (707) 495-5051 LICENSE #: 1036129	<b>NORTHBAY BACKFLOW</b> P.O. BOX 2765 PETALUMA, CA 94953 PHONE: (707) 484-3949 LICENSE #: 878332	<b>NORTHWOOD BACKFLOW</b> 2261 ATHENS AVE. REDDING, CA 96001 PHONE: (800) 750-4547 LICENSE #: 749187
<b>PACIFIC PLUMBING &amp; FIRE PROT</b> 2360 MENDOCINO AVE., A2-289 SANTA ROSA, CA 95403 PHONE: (707) 486-4054 LICENSE #: 1018110	<b>PUMPMAN NORCAL</b> 4000 S. MOORLAND AVE. SANTA ROSA, CA 95407 PHONE: (707) 584-9191 LICENSE: 200068	<b>RH &amp; SONS WATER SERVICES</b> 225 GOLDEN RIDGE AVE. SEBASTOPOL, CA 95472 PHONE: (800) 675-3569 LICENSE #: 698774
<b>ROBERTS MECHANICAL &amp; ELECTRICAL, INC.</b> 39 LARK CENTER DR. SANTA ROSA, CA 95403 PHONE: (707) 584-5880 LICENSE #: 556014	<b>ROBERTSON'S BACKFLOW</b> 3170 DEEP HAVEN RD. POLLACK PINES, CA 95726 PHONE: (530) 306-1056 LICENSE #: 972547	<b>SCOTT CRAMER PLUMBING</b> P.O. BOX 750084 PETALUMA, CA 94975 PHONE: (707) 778-8789 LICENSE #: 889152
<b>STEAD BACKFLOW PREVENTION</b> 2715 W. KETTLEMAN LN., #203-321 LODI, CA 95242 PHONE: (209) 327-3900 LICENSE #: 848490	<b>SUPER SERVICE PLUMBING*</b> P.O. BOX 11157 SANTA ROSA, CA 95406 PHONE: (707) 544-6444 LICENSE #: 651401	<b>VALLEY COMFORT HEAT &amp; AIR</b> 1813 FERDINAND COURT SANTA ROSA, CA 95404 PHONE: (707) 523-1244 LICENSE #: 376838
<p><b>NOTE:</b> These contractors have a C-16 or C-36 State Contractor's License or an A-General Engineering License. They are licensed and certified to test, repair, and install any type of backflow device. They are also licensed to work on fire protection backflow devices or fire protection systems. When installing a backflow device, a City Plumbing Permit is required, and if working in the City right-of-way, an Encroachment Permit is needed. All testers are required to have a City Business License.</p> <p style="text-align: center;"><i>*Spanish speaking</i></p> <p style="text-align: right;">(Updated List Only:2/12/2025)</p>		

## SECTION 12 9300

### SITE FURNISHINGS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- B. Work Included: furnish all labor, materials, equipment and services necessary to provide and construct, repair or install the site elements, complete in place, as shown and specified, including, but not limited to:
  - 1. Tuff Shed 4' x 8' or approved equal
  - 2. Tuff Shed 8' x 8' or approved equal
  - 3. Picnic Table Type I
  - 4. Picnic Table Type II
  - 5. Bench
  - 6. Litter/Recycling Receptacles
  - 7. Light Pole
  - 8. Portable Restroom
- C. Related Work
  - 1. 32 0523 Cement and Concrete for Exterior Improvements
  - 2. 13 3123 Pre-Engineering Fabric Shade Structure

##### 1.02 SUBMITTALS

- A. Submit shop drawings to the City for approval before installing any manufactured items. Plans shall include dimensions, color, finish, structural design (custom items) and connection details.
- B. Submit shop drawings of other materials listed in this section to the City for approval before installation.
  - 1. Provide material samples, color samples, brushouts or charts for all items.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURED ITEMS

- A. Tuff Shed 4' x 8' or approved equal
  - 1. Tuff Shed 4' x 8' shall be as specified on the Drawings. If the Tuff Shed 4' x 8' is not as specified on the Drawings, additional work in pavement and ADA access, and doorway/threshold connections may be required.
- B. Tuff Shed 8' x 8' or approved equal
  - 1. Tuff Shed 8' x 8' shall be as specified on the Drawings. If the Tuff Shed 4' x 8' is not as specified on the Drawings, additional work in pavement and ADA access, and doorway/threshold connections may be required.
- C. Picnic Table Type I
  - 1. Picnic Table Type I shall be as specified on the Drawings and be ADA compliant.

- D. Picnic Table Type II
  - 1. Picnic Table Type II shall be as specified on the Drawings.
- E. Bench
  - 1. Bench shall be as specified on the Drawings.
- F. Litter/Recycling Receptacles
  - 1. Little/Recycling Receptacles shall be as specified on the Drawings.
- G. Light Pole
  - 1. Light Pole shall be as specified on the Drawings.
- H. Portable Restroom
  - 1. Portable Restroom shall be Owner furnished/Owner installed.

## **2.02 MISCELLANEOUS MATERIALS**

- A. All other materials for site elements shall be as specified on the Drawings and these specifications.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Examination: Verify that conditions are satisfactory for installation of each item of site elements. When unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.
- B. Installation: Install products in conformance with the manufacturer's recommendations, Drawings and approved shop drawings, and as indicated.
  - 1. Install products square, plumb, level, accurately aligned and securely anchored.
  - 2. Repair abraded areas of shop-applied coating and areas of welds where shop-applied coating has been damaged, using a primer or galvanized repair compound compatible with the shop coating. Repair paint surface per manufacturer's specifications and City direction to match undamaged finish.
  - 3. Completion: Completed installation shall be securely anchored and free from defects and damage in material and finish.

### **3.02 GUARANTEE**

- A. At completion of project, Contractor shall provide City with written guarantee from each manufacturer identifying the nature of warranty for each product component.
- B. Contractor shall provide City with two (2) bound maintenance manuals identifying each piece of equipment on manufacturer's recommended maintenance program including, but not limited to, daily, weekly and monthly check lists.
- C. Contractor shall provide City with minimum of one (1) gallon each type and color of paint used on items with recommended surface preparation and application guidelines.

**END OF SECTION**

## SECTION 13 3123

### PRE-ENGINEERED FABRIC SHADE STRUCTURES

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this section.
- B. Work Included:
  - 1. A single, State of California-licensed fabric shade structure contractor shall be responsible for the design, wet-stamped engineering drawings, permitting, fabrication, supply, and erection of the work specified herein, including foundations. The intent of this specification is to have only one shade contractor be responsible for all of the functions listed above.
- C. Related Work:
  - 1. Section 32 0523 Cement and Concrete for Exterior Improvements

##### 1.02 SUBMITTALS

- A. With Bid Submittals:
  - 1. Provide proof of existing reference sites with structures of similar project scope and scale, and engineered to the specified CBC requirements.
  - 2. Provide proof of all quality assurance items, including;
    - a. A list of at least ten (10) reference projects of similar scope in California that have been installed over a minimum of 12 years.
    - b. Proof of General Liability, Professional Liability, and Umbrella insurance, as per Section 1.4B.
    - c. Proof of current State of California Contractor's License, Class A or Class B.
    - d. Proof of current Approved Fabricator license.
    - e. Proof of a minimum of \$6,000,000 aggregate bonding capacity.
    - f. Proof of current IAS certification, as per Section 1.4D.
    - g. Proof of an Annual Maintenance Inspection Program.
    - h. Proof of a Corporate Safety and/or Injury & Illness Prevention Program.
- B. After Awarded Project:
  - 1. Contractor shall provide a minimum of five (5) fabric samples that reflect fabric color and five (5) color chip samples of powder coat color.
  - 2. Contractor shall provide a digital (PDF) or paper document showing colors specified in the Drawings.
  - 3. Contractor shall provide a letter of authorization from the fabric manufacturer delineating authorized use of the specified fabric and powder coat paint.

##### 1.03 QUALITY ASSURANCE

Fabrication and erection are limited to firms with proven experience in the design, fabrication, and erection of fabric shade structures, and such firms shall meet the following minimum



requirements. No substitutions shall be allowed for the following:

- A. A single shade structure contractor shall design, engineer, manufacture, and erect the fabric shade structures, including the foundations, and shall provide a dedicated Project Manager throughout the entire Scope of Work related to the shade structure(s).
- B. Contractor shall have at least 15 years' experience in the design, engineering, manufacture, and erection of fabric shade structures, engineered to California Building Code requirements with similar scope, and a successful construction record of in-service performance.
- C. Contractor shall provide proof with bid submittal of General/Public Liability insurance, Professional Liability (PL) insurance, and Umbrella/Excess Liability insurance as required by City.
- D. Contractor shall be a currently licensed contractor in the State of California, and shall provide proof of a minimum aggregate bonding capacity required by City with bid.
- E. Manufacturer shall have a Fabricator license and be accredited by the IAS (International Accreditation Service) for Structural Steel Fabrication under CBC specified requirements.
- F. The fabric shade structure contractor shall have a Corporate Quality Control program (manual), which describes their complete quality assurance program.
- G. Contractor must be a current Member Contractor with ISNetworld, which confirms strict adherence to Safety, Insurance, Quality, and Regulatory standards.

#### **1.04 PROJECT CONDITIONS**

- A. Field Measurements: Contractor shall verify layout information for fabric shade structure(s) shown on the Drawings in relation to the property and proposed elements/structures, and verify locations by field measurements prior to erection of the fabric shade structure(s).

#### **1.05 WARRANTY**

- A. The installer shall provide a 12-month warranty on all labor and materials.
- B. A supplemental warranty from the manufacturer shall be provided for a period of 10 years (pro-rated) on fabric and 10 years on the structural integrity of the steel, from date of substantial completion.
- C. The warranty shall not deprive the Owner of other rights the Owner may have under the provisions of the Contract Documents, and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

### **PART 2 PRODUCTS**

#### **2.01 GENERAL**

- A. The structure shall consist of four structural columns. All columns shall match each other in diameter. All columns shall have a consistent diameter through entire height/length of column. Columns diameter shall be a minimum five (5") inches and a maximum of eight (8") inch in diameter. Fabric and associated attachments to column shall have a minimum entry height of eight (8') feet. Structural columns shall

allow for a minimum fabric size as noted on the Drawings.

- B. The structures shall be per plans, or approved equal. Shade structure shall include engineering drawings and calculations, fabric roof, steel cables, all fasteners, and erection of structure(s), including foundations.
- C. Contact:
  - Miracle Play Group
  - Phone: 510.514.5212
  - Attn: Shana Friesen
  - shana@miracleplaygroup.com
- D. To qualify as an approved equal, Contractor shall submit product documentation, fabric samples, and all quality assurance criteria as required by the City. No substitutions will be allowed after the City's substitution timeline. Any approval of alternate manufacturers shall be as required by the City.
- E. The fabric shade structure(s) shall conform to the current adopted version of the California Building Code.
- F. All fabric shade structures are designed and engineered to meet the minimum of 110mph Wind Load, Risk Category II, Exposure C, and Seismic (earthquake) Load based on Seismic Design Category D, Seismic Risk Category II, and a Live Load of 5psf. All fabric shade structures shall be engineered with a zero wind pass-through factor on the fabric. When ASD Steel Design Method is used based on CBC Section 1605.3.1, the load combinations Dead Load + 0.75 Live load + 0.75 Wind Load, and 0.6 Dead Load + Wind Load must be analyzed. NO EXCEPTIONS.
- G. Steel:
  - 1. All steel members of the fabric shade structure shall be designed in strict accordance with the requirements of the "American Institute of Steel Construction" (AISC) Specifications and the "American Iron and Steel Institute" (AISI) Specifications for Cold-Formed Members and manufactured in an IAS- (International Accreditation Service) accredited facility for Structural Steel Fabrication under CBC Section 1704.2.5.2.
  - 2. All connections shall have a maximum internal sleeving tolerance of .0625" using high-tensile strength steel sections with a minimum sleeve length of 6".
  - 3. All non-hollow structural steel members shall comply to ASTM A-36. All hollow structural steel members shall be cold-formed, high-strength steel and comply with ASTM A-500, Grade C. All steel plates shall comply with ASTM A-572, Grade 50. All galvanized steel tubing shall be triple-coated for rust protection using an in-line electroplating coat process. All galvanized steel tubing shall be internally coated with zinc and organic coatings to prevent corrosion.
- H. Bolts:
  - 1. All structural field connections of the shade structure shall be designed and made with high-strength bolted connections using ASTM A-325, Grade B or SAE J249, Grade 8.
  - 2. Where applicable, all stainless steel bolts shall comply with ASTM F-593, Alloy Group 1 or 2. All bolt fittings shall include rubber washers for water-tight seal at the joints. All nuts shall comply with ASTM F-594, Alloy Group 1 or 2.

I. Welding:

1. All shop-welded connections of the fabric shade structure shall be designed and performed in strict accordance with the requirements of the "American Welding Society" (AWS) Specifications. Structural welds shall be made in compliance with the requirements of the "pre-qualified" welded joints, where applicable and by certified welders. No onsite or field welding shall be permitted.
2. All full penetration welds shall be continuously inspected by an independent inspection agency and shall be tested to the requirement of specified CBC requirements.

J. Powder Coating:

1. Galvanized steel tubing preparation prior to powder coating shall be executed in accordance with solvent cleaning SSPC-SP1. Solvents such as water, mineral spirits, xylol, and toluol, which are to be used to remove foreign matter from the surface. A mechanical method prior to solvent cleaning, and prior to surface preparation, shall be executed according to Power Tool Cleaning SSPC-SP3, utilizing wire brushes, abrasive wheels, needle gun, etc.
2. Carbon structural steel tubing preparation prior to powder coating shall be executed in accordance with commercial blast cleaning SSPC-SP6 or NACE #3. A commercial blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, mill scale, rust, coating, oxides, corrosion, and other foreign material.
3. Powder coating shall be sufficiently applied (minimum 3 mils thickness) and cured at the recommended temperature to provide proper adhesion and stability to meet salt spray and adhesion tests, as defined by the American Society of Testing Materials.
4. Raw powder used in the powder coat process shall have the following characteristics:
  - (a) Specific gravity: 1.68 +/- 0.05
  - (b) Theoretical coverage: 114 +/- 4ft<sup>2</sup>/mil
  - (c) Mass loss during cure: <1%
  - (d) Maximum storage temperature: 80°F
  - (e) Interpon® 800 is a high-durability TGIC powder coating designed for exterior exposure. Tested against the most severe specifications, Interpon® 800 gives significantly improved gloss retention and resistance to color change.
5. When the fabric shade structure(s) will be located within 15 miles of the ocean or standing body of water, rust protection undercoat primer will be required on all structures. Sherwin-Williams® POWDURA® epoxy powder coating Z.R Primer, or approved equal, shall be applied in accordance with the manufacturer's specifications. Primer should be fused only and then top coated with the selected powder coat to ensure proper inter-coat adhesion.
  - (a) The primer's attributes shall be:
    - (1) Specific gravity (g/ml): 2.37
    - (2) Coverage at 1.0 mil (ft<sup>2</sup>/lb): 81.6
    - (3) Adhesion: ASTM D-3359 5B
    - (4) Flexibility: ASTM D-552 Pass 1/8"
    - (5) Pencil hardness: ASTM D-3363 H-2H
    - (6) Impact resistance (in.lb): ASTM D-2794 Dir & Rev, 120 in-lbs
    - (7) Salt spray resistance: ASTM B-117 2000 hours

- |                                      |  |
|--------------------------------------|--|
| (8) Humidity resistance: ASTM D-4585 | 2000 hours                                     |
| (9) 60° Gloss: ASTM D-523            | 50 ~ 70  |
| (10) Cure schedule (metal temp):     | 10min @ 200°C (390°F)<br>25min @ 135°C (275°F) |
| (11) Film thickness tange (mils):    | 2.0 ~ 3.0                                      |

K. Tension Cable: Steel cable is determined based on calculated engineering loads.

1. For light and medium loads, 0.25" (nominal) galvanized 7x19 strand cable shall be used.
2. For heavy loads, and depending on structural size, either 0.375" (nominal) or 0.5" (nominal) galvanized 7x19 strand cable shall be used.
3. Cable connectors and fabric hardware shall be stainless steel or galvanized.

L. Fabric Roof Systems:

1. UV Shade Fabric:

- (a) Alnet shade fabric is made of a UV-stabilized, high-density polyethylene (HDPE) with three bar Rachel-knitted, lockstitch fabric with one monofilament and two tape yarns to ensure that the material will not unravel if cut. Raw fabric rolls shall be 9.83 feet wide.

(b) Fabric Properties:

- (1) Life Expectancy: minimum 6 years with continuous exposure to the sun
- (2) Fading: minimum fading after 5 years (3 years for Red)
- (3) Fabric Mass: 5.31 oz/yd<sup>2</sup> ~ 5.6 oz/yd<sup>2</sup> (180gsm ~ 190gsm)
- (4) Fabric Width: 9.83 feet (3m)
- (5) Roll Length: 164 feet (50m)
- (6) Roll Dimensions: 62.99 inches x 16.5354 inches (160cm x 42cm)
- (7) Roll Weight +/- 66 lbs (+/- 30kg)
- (8) Minimum Temp: -13°F (-25°C)
- (9) Maximum Temp: +176°F (80°C)

(c) Fabric shall meet the following flame spread and fire propagation tests:

- (1) ASTM E-84
- (2) NFPA 701 Test Method 2
- (3) California's Office of the State Fire Marshal, Registered Flame Resistant Product

2. Stitching & Thread:

- (a) All sewing seams are to be double-stitched.
- (b) The thread shall be high density, low shrinkage, abrasion resistant, UV radiation immune. Thread shall meet or exceed the following:
- (1) Flexible temperature range
  - (2) Very low shrinkage factor
  - (3) Extremely high strength, durable in outdoor climates
  - (4) Resists flex and abrasion of fabric
  - (5) Unaffected by cleaning agents, acid rain, mildew, salt water, and is unaffected by most industrial pollutants
  - (6) Treated for prolonged exposure to the sun
  - (7) Rot resistant

3. Shade and UV Factors:

(a) Shade protection and UV screen protection factors shall meet or exceed the following:

<u>Color</u>	<u>UV Block %</u>	<u>Shade %</u>
Blue	85%	80%~86%
Green	85%	79%~86%
Red	86%	80%~83%
Silver/Grey	81%	80%~85%
Desert Sand	90%	80%~84%
Terracotta	82%	80%~83%
Yellow	89%	80%~82%

## PART 3 EXECUTION

### 3.01 INSTALLATION

- A. The installation of fabric shade structures shall be performed by manufacturer or manufacturer-approved contractor, which shall be bonded and holding a current contractor's license with the State of California's Contractors State License Board. All installation personnel must have experience in the erection of tensioned fabric structures.
- B. The installation shall comply with the manufacturer's instructions for assembly, installation and erection, per approved drawings.
- C. Concrete:
  1. Unless noted otherwise for footings and piers by the Project Engineer, the concrete specification for footings and/or piers shall meet a minimum 3,000psi at 28-day strength.
  2. Concrete work shall be executed in accordance with the latest edition of American Concrete Building Code ACI 318-14.
  3. Concrete specifications shall comply in accordance with the Section 03300 Cast-in- Place Concrete, detailed as per plans, and shall be as follows:
    - (a) 28 Days Strength  $F'_c = 3000$  psi
    - (b) Aggregate: HR
    - (c) Slump: 3 ~ 5 inch
    - (d) Portland Cement shall conform to C-150
    - (e) Aggregate shall conform to ASTM C-33
  4. All reinforcement shall conform to ASTM A-615 grade 60.
  5. Reinforcing steel shall be detailed, fabricated, and placed in accordance with the latest ACI Detailing Manual and Manual of Standard Practice.
  6. Whenever daily ambient temperatures are below 80 degrees Fahrenheit, the contractor may have mix accelerators and hot water added at the batch plant (See Table 1).
  7. The contractor shall not pour any concrete when the daily ambient temperature is to be below 55 degrees Fahrenheit.

**TABLE 1**

<b>Temperature Range</b>	<b>% Accelerator</b>	<b>Type Accelerator</b>
75~80 degrees F	1%	High Early (non calcium)
70~75 degrees F	2%	High Early (non calcium)
Below 70 degrees F	3%	High Early (non calcium)

D. Foundations:

1. All anchor bolts set in new concrete shall comply with ASTM F-1554 Grade 55 (Galvanized).
2. All anchor bolts shall be Hot-Dip Galvanized.
3. Footings and full rebar cages shall be drilled, set, and poured as per manufacturer's specifications. These four-point hypar fabric shade structures are to have a minimum footing of 9' with full rebar cage, as per final approved manufacturer's engineered specifications and drawings.

**END OF SECTION**

**THIS PAGE INTENTIONALLY LEFT BLANK**

## SECTION 31 0000

### EARTHWORK

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. This Section includes the following:
  - 1. Excavation and/or embankment from existing ground to subgrade, including soil sterilant, for roadways, driveways, parking areas, walks, paths, or trails and any other site improvements called for on the Drawings.
- B. Related Sections include the following:
  - 1. Section 31 2333, Trenching and Backfill.
  - 2. Section 32 1000, Base Courses.
- C. Related Sections exclude the following:
  - 1. Earthwork related to underground utility installation, see Section 31 0000.

##### 1.02 RELATED DOCUMENTS

- A. Geotechnical Report, entitled "Geotechnical Investigation Kawana Springs Community Garden" by Brunasing Associates, Inc., Dated September 11, 2023.
- B. Geotechnical Letter, entitled "Supplemental Geotechnical Recommendations" by Brunasing Associates, Inc., Dated December 14, 2023.
- C. Geotechnical Letter, entitled "Supplemental Geotechnical Recommendations" by Brunasing Associates, Inc., Dated April 5, 2024.
- D. City of Santa Rosa Design and Construction Standards (Current Edition)
- E. City of Santa Rosa Standard Specifications
- F. Sonoma County Water Pollution Prevention Program
- G. Sonoma County Dust and Noise Control Standards
- H. ASTM:
  - 1. D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
  - 2. D 1586, Method for Penetration Tests and Split-Barrel Sampling of Soils.
  - 3. D 2487, Classification of Soils for Engineering Purposes.
  - 4. D 3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
  - 5. D 4318, Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils.
  - 6. E 329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
  - 7. E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.
- I. California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 33, Site Work, Demolition and Construction.
- J. Caltrans Standard Specifications, latest edition:
  - 1. Section 17, Watering.



2. Section 19, Earthwork.

K. CAL/OSHA, Title 8.

### 1.03 DEFINITIONS

- A. Borrow: Approved soil material imported from off-site for use as Structural Fill or Backfill.
- B. Excavation: Removal of material encountered above subgrade elevations.
  - 1. Authorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions as shown on drawings or as authorized by the Inspector.
  - 2. Unauthorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions without authorization by the Inspector. Unauthorized excavation shall be without additional compensation.
- C. Inspector: City of Santa Rosa Authorized Inspector or Engineer
- D. Structural Fill: Soil materials approved by the Inspector and used to raise existing grades.
- E. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material  $\frac{3}{4}$ -cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2-inches.
- F. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below grade.
- G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials.
- H. Unsuitable Material: Any soil material that is not suitable for a specific use on the Project. The Inspector will determine if a soil material is unsuitable.
- I. Utilities: onsite underground pipes, conduits, ducts and cables.

### 1.04 SUBMITTALS

- A. Follow submittal procedure outlined by Engineer.
- B. Samples:
  - 1. If required by the Inspector, provide 40-pound samples sealed in airtight containers, tagged with source locations and suppliers of each proposed soil material from on-site or borrow sources. Do not import materials to the Project without written approval of the Inspector.
  - 2. Provide materials from same source throughout work. Change of source requires approval of the Inspector.
  - 3. Classification according to ASTM D 2487 of each onsite or borrow soil material proposed for fill and backfill.
  - 4. Laboratory compaction curve in conformance with ASTM D 1557 for each onsite or borrow soil material proposed for fill and backfill.

### 1.05 QUALITY ASSURANCE

- A. Conform all work and materials to the recommendations or requirements of the City of Santa Rosa Standards and Specifications and meet the approval of the Inspector.
- B. Conform all work to the appropriate portion(s) of Caltrans Standard Specifications, Section 17 and 19.
- C. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.
- D. Perform excavation, filling, compaction and related earthwork under the observation of the Inspector. Materials placed without approval of the Inspector will be presumed to be defective and, at the discretion of the Inspector, shall be removed and replaced at no cost to the City. Notify the Inspector at least 24-hours prior to commencement of earthwork and at least 48 hours prior to testing.
- E. The Inspector will perform observations and tests required to enable him to form an opinion of the acceptability of the Project earthwork. Correct earthwork that, in the opinion of the Inspector, does not meet the requirements of these Technical Specifications and the City of Santa Rosa Standards and Specifications.
- F. Upon completion of the construction work, certify that all compacted fills and foundations are in place at the correct locations, and have been constructed in accordance with sound construction practice. In addition, certify that the materials used are of the types, quality and quantity required by these Technical Specifications and the City of Santa Rosa Standards and Specifications. The Contractor shall be responsible for the stability of all fills and backfills constructed by his forces and shall replace portions that in the opinion of the Inspector have been displaced or are otherwise unsatisfactory due to the Contractor's operations.
- G. Finish subgrade tolerance at completion of grading:
  - 1. Building and paved areas:  $\pm 0.05$
  - 2. Other areas:  $\pm 0.10$  feet.

#### 1.06 PROJECT CONDITIONS

- A. Promptly notify the Engineer of surface or subsurface conditions differing from those disclosed in the Project Contract Documents. First notify the Engineer verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents will be allowed unless the Contractor has notified the Engineer in writing of differing conditions prior to the Contractor starting work on affected items.
- B. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- C. Contractor shall comply with the Sonoma Countywide Water Pollution Prevention Program and follow the Best Management Practices (BMP's) during construction activities.
- D. Prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.
- E. Temporarily stock-pile fill material in an orderly and safe manner and in a location approved by the Engineer. Contractor shall comply with CASQA Stockpile Management (BMP WM-3). Do not block storm water flows. Stockpiles of soil, sand and debris and the fill material in trucks for hauling soil shall be covered to prevent them from being blown away by the wind.
- F. Provide dust and noise control in conformance with the County of Sonoma Standards. Contractor shall assume liability for all claims related to windblown dust and dirt. Water shall be applied in

conformance with applicable provisions of Section 17 of the Caltrans Standard Specifications and with Section 1590 (e) of CAL/ OSHA, Title 8.

- G. Environmental Requirements: When unfavorable weather conditions necessitate interrupting earthwork operation, areas shall be prepared by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion. After interruption, compaction specified in last layer shall be re-established before resuming work.

## **PART 2 PRODUCTS**

### **2.01 SOIL MATERIALS**

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from on-site excavations.
- B. Obtain approval of on-site soil materials and borrow materials to be used for structural fill or structural backfill from the Inspector.
- C. On-Site Structural Fill and Structural Backfill: Soil or soil-rock mixture from on site excavations, free of deleterious substances. On-site structural fill and backfill shall be in accordance with the recommendations of the City of Santa Rosa Standards and Specifications, Geotechnical report, and Inspector.
- D. Imported Structural Fill and Structural Backfill: Conform to the requirements of on-site structural fill.

## **PART 3 EXECUTION**

### **3.01 GENERAL**

- A. Conform to Section 19, Earthwork, Caltrans Standard Specifications as modified by the Contract Documents.
- B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.
- C. The use of explosives will not be permitted.

### **3.02 CONTROL OF WATER AND DEWATERING**

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding the site and surrounding area. Provide dewatering equipment necessary to drain and keep excavations and site free from water.
- B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.
- C. Obtain the Inspector's approval for proposed control of water and dewatering methods.
- D. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.
- E. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations.
- F. Maintain dewatering system in place until dewatering is no longer required.

### **3.03 WET WEATHER CONDITIONS**

- A. Do not prepare subgrade, place or compact soil materials if subgrade or materials are above optimum moisture content.
- B. If the Inspector allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the Inspector.

### **3.04 BRACING AND SHORING**

- A. Conform to California and Federal OSHA requirements.
- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the Engineer, submit details and calculations to the Engineer. The Engineer may forward the submittal to the Inspector, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with drawings and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the Engineer.
- D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the position or operation of the facility being constructed or adjacent utilities and facilities.

### **3.05 EXCAVATION**

- A. Excavate earth and rock to lines and grades shown on drawings and to the neat dimensions indicated on the Drawings, required herein or to the satisfaction of the Engineer.
- B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.
- C. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.
- D. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements.

### **3.06 REMOVAL OF EXISTING FILLS AND UNSUITABLE MATERIAL**

- A. Over-excavate areas of existing fills and other unsuitable material encountered during mass grading as directed by the Inspector.
- B. Compensation for increased removal widths and depths that are not required by the Inspector will not be considered, except when such increase is necessary for protection of life and property as determined by and approved by the Engineer.
- C. The Inspector will provide written approval for each excavation prior to placement of fill. Allow adequate time after excavation and before filling for the Inspector's review and written approval and,

if necessary, time for the Engineer to conduct as built survey prior to placing fill. Basis for calculating the quantity of material excavated or placed may be the difference between the grading shown on the Drawing and an as built survey of the grading.

### **3.07 GRADING**

- A. Uniformly grade the Project to the elevations shown on drawings.
- B. Finish ditches, gutters and swales to the sections, lines and grades indicated on the drawings, and to permit proper surface drainage.
- C. Round tops and bottoms of slopes as indicated on the drawings or to blend with existing contours.

### **3.08 SUBGRADE PREPARATION**

- A. Install underground utilities and service connections prior to final preparation of subgrade and placement of base materials for final surface facilities. Extend services so that final surface facilities are not disturbed when service connections are made.
- B. Prepare subgrades under the structural section of paved areas, curbs, gutters, walks, structures, other surface facilities and areas to receive structural fill as specified in Geotechnical report.
- C. Prepare subgrades for the structural section of paved areas, curbs and gutters by plowing or scarifying surface at least 8 inches below final subgrade elevations and 5-feet beyond edge of pavement unless specified otherwise in Geotechnical report or by Inspector. Uniformly moisture condition to obtain optimum moisture contents. Break clods and condition surface by harrowing or dry rolling. Remove boulders, hard ribs and solid rock. Prepare earth uniform for full depth and width of subgrade.
- D. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.
- E. Obtain the Inspector's approval of subgrades prior to placing pavement structural section.

### **3.09 PLACEMENT OF STRUCTURAL FILL**

- A. Obtain the Inspector's approval of surface to receive structural fill prior to placement of structural fill material.
- B. Place structural fill on prepared subgrade.
- C. Spread structural fill material in uniform lifts in accordance with the recommendations of the City of Santa Rosa Standards and Specifications, and Geotechnical report.
- D. Place structural fill material to suitable elevations above grade to provide for anticipated settlement and shrinkage.
- E. Overbuild fill slopes, as required by the Inspector, to obtain required compaction. Remove excess material to lines and grades indicated.
- F. Do not drop fill on structures. Do not backfill around, against or upon concrete or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.

### **3.10 KEYWAYS AND BENCHES**

- A. Refer to Geotechnical recommendations, report, and supplemental documents. Recommendations include measures which exceed City of Santa Rosa grading Standards and Specifications for location specified in Drawings. Where Geotechnical recommendations are not specified, the following specifications shall be valid.
- B. Provide keyways as indicated for fill slopes steeper than 6 horizontal to 1 vertical. Extend keyway 5-foot minimum into competent, undisturbed soil or 3-foot minimum into competent, undisturbed rock as directed by the Inspector.
- C. Place subsurface drains in bottom of keyway in conformance with provisions of the City of Santa Rosa Standards and Specifications.
- D. Bench subgrade as indicated above toe of fill.
- E. Place subsurface drains at benches every 20 vertical feet or as directed by the Inspector.

### **3.11 COMPACTION AND TESTING**

- A. Refer to Geotechnical recommendations, report, and supplemental documents. Recommendations include measures which exceed City of Santa Rosa grading Standards and Specifications for location specified in Drawings. Where Geotechnical recommendations are not specified, the following specifications shall be valid.
- B. Do not compact by ponding, flooding or jetting.
- C. Compact soils at optimum water content or as recommended in Geotechnical report. Aerate material if it is too wet. Add water to material if it is too dry. Thoroughly mix lifts before compaction to ensure uniform moisture distribution.
- D. Perform compaction using appropriate equipment for area and lift thickness as approved by the Inspector. Pneumatic rollers shall not be allowed.
- E. Compaction requirements:
  - 1. Compact structural fills in accordance with the City of Santa Rosa Standards and Specifications or as recommended in Geotechnical report.
  - 2. Compact the upper 6 inches of subgrade soils beneath pavements, curbs and gutters to 95 percent relative compaction. Extend compaction 5-feet beyond pavement edges unless specified otherwise by the Inspector.
  - 3. Compact the upper 6-inches of subgrade soils under walks to 95 percent compaction.

### **3.12 DISPOSAL**

- A. Contractor shall be responsible for the removal and disposal of all unsuitable and surplus materials. Contractor shall notify the City of the disposal location before the start of construction.

**END OF SECTION**

**THIS PAGE INTENTIONALLY LEFT BLANK**

**SECTION 31 2333**  
**TRENCHING AND BACKFILL**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. This Section includes the following:
  - 1. Excavation, bedding, and backfill of underground storm drain, sanitary sewer and water piping and associated structures.
- B. This Section excludes the following:
  - 1. Drainage fill material and placement around subdrains.
  - 2. Trenching and backfill for other utilities such as underground electric, telephone, gas, cable TV, etc.
- C. Related sections include the following:
  - 1. Section 31 0000, Earthwork.

**1.02 RELATED DOCUMENTS**

- A. Geotechnical Report, entitled "Geotechnical Investigation Kawana Springs Community Garden" by Brunsing Associates, Inc., Dated September 11, 2023.
- B. Geotechnical Letter, entitled "Supplemental Geotechnical Recommendations" by Brunsing Associates, Inc., Dated December 14, 2023.
- C. Geotechnical Letter, entitled "Supplemental Geotechnical Recommendations" by Brunsing Associates, Inc., Dated April 5, 2024.
- D. City of Santa Rosa Design and Construction Standards (Current Edition)
- E. City of Santa Rosa Standard Specifications
- F. Sonoma County Water Pollution Prevention Program
- G. Sonoma County Dust and Noise Control Standards
- H. ASTM:
  - 1. C 33, Specification for Concrete Aggregates.
  - 2. C 150, Specification for Portland Cement.
  - 3. C 260, Specification for Air-Entraining Admixtures for Concrete.
  - 4. C 618, Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
  - 5. D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
  - 6. D 2321, Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.
  - 7. D 2487, Classification of Soils for Engineering Purposes.
  - 8. D 3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
  - 9. E 329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
  - 10. E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.



- I. California Building Code, California Code of Regulations, Title 24, Part 2 - Chapter 18, Foundations, and Retaining Walls, and Chapter 33, Site Work, Demolition and Construction.
- J. Caltrans Standard Specifications, latest edition:
  - 1. Section 19, Earthwork.
  - 2. Section 26, Aggregate Bases.
  - 3. Section 68, Subsurface Drains.
  - 4. Section 88, Engineering Fabrics.
- K. CAL/OSHA, Title 8.

### 1.03 DEFINITIONS

- A. AC: Asphalt Concrete.
- B. ASTM: American Society for Testing and Materials.
- C. Bedding: Material from bottom of trench to bottom of pipe.
- D. CDF: Controlled Density Fill.
- E. DIP: Ductile Iron Pipe.
- F. Initial Backfill: Material from bottom of pipe to 12-inches above top of pipe.
- G. Inspector: City of Santa Rosa Authorized Inspector or Engineer
- H. PCC: Portland Cement Concrete.
- I. RCP: Reinforced Concrete Pipe.
- J. Springline of Pipe: Imaginary line on surface of pipe at a vertical distance of  $\frac{1}{2}$  the outside diameter measured from the top or bottom of the pipe.
- K. Subsequent Backfill: Material from 12-inches above top of pipe to subgrade of surface material or subgrade of surface facility or to finish grade.
- L. Trench Excavation: Removal of material encountered above subgrade elevations and within horizontal trench dimensions.
  - 1. Authorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions as shown on drawings or authorized by the Inspector.
  - 2. Unauthorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions without authorization by the Inspector. Unauthorized excavation shall be without additional compensation.
- M. Utility Structures:
  - 1. Storm drainage manholes, catch basins, drop inlets, curb inlets, vaults, etc.
  - 2. Sanitary sewer manholes, vaults, etc.
  - 3. Water vaults, etc.

### 1.04 SUBMITTALS

- A. Follow submittal procedure outlined by the Engineer.
- B. Product Data:

1. Grading and quality characteristics showing compliance with requirements for the Work.
  2. Certify that material meets requirements of the Project.
- C. Samples:
1. If required by the Inspector, provide 40-pound samples of all imported trench bedding and backfill material sealed in airtight containers, tagged with source locations and suppliers of each proposed material. Do not import materials to Project without written approval of the Inspector.
  2. Provide materials from same source throughout work. Change of source requires approval of the Inspector and the Engineer.

#### **1.05 QUALITY ASSURANCE**

- A. Conform all work and materials to the recommendations or requirements of the City of Santa Rosa standards and specifications and meet the approval of the Inspector.
- B. Conform all work to the appropriate portion(s) of the Caltrans Standard Specifications, Section 19.
- C. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.
- D. The Inspector will perform observations and tests required to enable him to form an opinion of the acceptability of the trench backfill. Correct the trench backfill that, in the opinion of the Inspector, does not meet the requirements of these Technical Specifications and the City of Santa Rosa Standards and Specifications.

#### **1.06 PROJECT CONDITIONS**

- A. Promptly notify the Engineer of surface or subsurface conditions differing from those disclosed in the Project Contract Documents. First notify the Engineer verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents will be allowed unless Contractor has notified the Engineer in writing of differing conditions prior to contractor starting work on affected items.
- B. Protect open, trenches, and utility structure excavations with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- C. Stockpile on-site and imported backfill material temporarily in an orderly and safe manner.
- D. Provide dust and noise control in conformance with County of Sonoma standards.

### **PART 2 PRODUCTS**

#### **2.01 PIPE BEDDING AND INITIAL BACKFILL**

- A. ASTM D 2321, Class II.
  1. Clean and free of clay, silt or organic matter.
- B. Permeable Material: Conform to Section 68-1.025 of Caltrans Standard Specifications, Class 2.
- C. Class 2 Aggregate Base: Conform to Section 26 of Caltrans Standard Specifications, ¾-inch maximum.

- D. Sand: Conform to Section 19-3.025B of Caltrans Standard Specifications.

## **2.02 WARNING TAPE**

- A. Install in accordance with City of Santa Rosa plans and standards.

## **2.03 SUBSEQUENT BACKFILL**

- A. Conform to on-site or imported structural backfill in Section 310000, Earthwork.

## **2.04 CONTROLLED DENSITY FILL (CDF) (in trenches)**

- A. Provide non-structural CDF, from bottom of trench to finish subgrade of subbase or base material, that can be excavated by hand and produce unconfined compressive 28-day strengths from 50-psi to a maximum of 150-psi. Provide aggregate no larger than 3/8-inch top size. The 3/8-inch aggregate shall not comprise more than 30% of the total aggregate content.
- B. Cement: Conform to the standards as set forth in ASTM C-150, Type II Cement.
- C. Fly Ash: Conform to the standards as set forth in ASTM C-618, for Class F pozzolan. Do not inhibit the entrainment of air with the fly ash.
- D. Air Entraining Agent: Conform to the standards as set forth in ASTM C-260.
- E. Aggregates need not meet the standards as set forth in ASTM C-33. Any aggregate, producing performances characteristics described herein will be accepted for consideration. The amount of material passing a #200 sieve shall not exceed 12% and no plastic fines shall be present.
- F. Provide CDF that is a mixture of cement, Class F pozzolan, aggregate, air entraining agent and water. CDF shall be batched by a ready mixed concrete plant and delivered to the job site by means of transit mixing trucks.
- G. The Contractor shall determine the actual mix proportions of the controlled density fill to meet job site conditions, minimum and maximum strengths, and unit weight. Entrained air content shall be a minimum of 4.0%. The actual entrained air content shall be established for each job with the materials and aggregates to be used to meet the placing and unit weight requirements. Entrained air content may be as high as 20% for fluidity requirements.
- H. Mix design shall meet the Inspector's approval.

## **2.05 CONCRETE STRUCTURE BEDDING AND BACKFILL**

- A. Precast Structures: Same materials to the same heights as specified for pipe bedding and backfill, or other material approved by the Inspector.
- B. Poured-in-Place Structures:
- C. Bedding: Bedding shall meet the approval of the Inspector. In general, bedding is not required, pour bases against undisturbed native earth in cut areas and against engineered fill compacted to 90% relative compaction in embankment areas.

## **2.06 FILTER FABRIC**

- A. Filter Fabric:
  - 1. Filter Fabric: Section 88-1.03 of Caltrans Standard Specifications.
  - 2. Mirifi 140N (Mirifi Inc., Charlotte, NC) (Tel. 800-438-1855) or equal.

## **PART 3 EXECUTION**

### **3.01 TRENCHING AND EXCAVATION**

- A. Existing PCC or AC Areas: Cut PCC or AC to full depth at a minimum distance of 12-inches beyond the edge of the trench.
- B. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.
- C. Excavation Depth for Bedding: Minimum of 4-inches below bottom of pipe or as otherwise allowed or required by the Inspector, except that bedding is not required for nominal pipe diameters of 2-inches or less.
- D. Excavation Width at Springline of Pipe:
  - 1. Up to a nominal pipe diameter of 24-inches: Minimum of twice the outside pipe diameter, or as otherwise allowed or required by the Inspector.
- E. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.
- F. Comply with the Engineer's limitations on the amount of trench that is opened or partially opened at any one time. Do not leave trenches open overnight without the approval of the Engineer.
- G. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.
- H. Bottoms of trenches will be subject to testing by Inspector. Correct deficiencies as directed by the Inspector.
- I. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.

### **3.02 CONTROL OF WATER AND DEWATERING**

- A. Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage to the satisfaction of the Inspector and the Engineer until backfilling is completed.
- B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.
- C. Obtain the Inspector's approval for proposed control of water and dewatering methods.

- D. Reroute surface water runoff away from open trenches and excavations. Do not allow water to accumulate in trenches and excavations.
- E. Maintain dewatering system in place until dewatering is no longer required.

### **3.03 BRACING AND SHORING**

- A. Conform to California and Federal OSHA requirements.
- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the pipes and appurtenances being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the Engineer, submit details and calculations to the Engineer. The Engineer may forward the submittal to the Inspector, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with drawings and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations in trench section or around structures shall precede a response to the submittal by the Engineer.
- D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the line, grade, or backfill compaction or operation of the utility being installed or adjacent utilities and facilities.

### **3.04 PIPE BEDDING**

- A. Obtain approval of bedding material from the Inspector.
- B. Accurately shape bedding material to the line and grade called for on the Drawings. Carefully place and compact bedding material to the elevation of the bottom of the pipe in layers not exceeding 8-inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the Drawings or by the Inspector. Compact by vibratory tampers or other mechanical means approved by the Inspector. Jetting or ponding of bedding material will not be permitted.
- C. Upon completion of bedding operations, and prior to the installation of pipe, notify the Inspector, who will inspect the bedding layer. Do not commence pipe laying until the Inspector has approved the bedding.

### **3.05 WARNING TAPE AND TRACER WIRE**

- A. Install in accordance the City of Santa Rosa plans and standards.

### **3.06 BACKFILLING**

- A. Obtain approval of backfill material from Inspector.
- B. Bring initial backfill up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Carefully place and compact initial backfill

material to an elevation of 12-inches above the top of the pipe in layers not exceeding 8-inches in loose thickness. Compact initial backfill material at optimum water content to 90% relative compaction unless specified otherwise on the Drawings, Geotechnical report, or by the Inspector. Compact by vibratory tampers or other mechanical means approved by the Inspector. Jetting or ponding of initial backfill material will not be permitted.

- C. Bring subsequent backfill to subgrade or finish grade as indicated. Carefully place and compact subsequent backfill material to the proper elevation in layers not exceeding 8-inches in loose thickness. Compact subsequent backfill material at optimum water content in accordance with City of Santa Rosa Standard Details and Specifications, unless specified otherwise in the Geotechnical report, by Inspector or by the City Authorized Inspector or Engineer. Compact by vibratory tampers or other mechanical means approved by the Inspector. Jetting or ponding of subsequent backfill material will not be permitted.
- D. Do not use compaction equipment or methods that produce horizontal or vertical earth pressures which may cause excessive pipe displacement or damage the pipe.
- E. Utility backfill shall be inspected and tested by the Inspector during placement. Cooperate with the Inspector and provide working space for such tests in operations. Backfill not compacted in accordance with these specifications shall be re-compacted or removed as necessary and replaced to meet the specified requirements, to the satisfaction of the Inspector and the Engineer prior to proceeding with the Project.

### **3.07 CLEANUP**

- A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the Engineer.

**END OF SECTION**

**THIS PAGE INTENTIONALLY LEFT BLANK**

## SECTION 32 0523

### CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Materials for portland cement concrete.
- B. Aggregate and aggregate grading for portland cement concrete.
- C. Water for portland cement concrete.
- D. Admixtures for portland cement concrete.
- E. Proportioning for portland cement concrete.
- F. Mixing and transporting portland cement concrete.
- G. Formwork for cast in place portland cement concrete.
- H. Embedded materials for portland cement concrete.
- I. Steel reinforcement for portland cement concrete.
- J. Placing and finishing portland cement concrete.
- K. Curing portland cement concrete.
- L. Protecting portland cement concrete.

##### 1.02 RELATED SECTIONS

- A. Section 31 23 00, Excavation and Fill
- B. Section 32 17 23, Pavement Markings

##### 1.03 RELATED DOCUMENTS

- A. City of Santa Rosa Design and Construction Standards, Current Edition.
- B. City of Santa Rosa Standard Specifications, Current Edition.
- C. Sonoma County Water Pollution Prevention Program.
- D. Sonoma County Dust and Noise Control Standards.
- E. City of Santa Rosa Low Impact Development Design Manual, Current Edition.
- F. [Erosion and Sediment Control Field Manual](#), Fourth Edition, California Regional Water Quality Control Board, San Francisco Bay Region, 2002
- G. California Stormwater Best Management Practices (BMP) Handbook for Construction, California Stormwater Quality Association (CASQA), latest edition.  
<http://www.cabpmhandbook.com>
- H. ASTM Standards
  - 1. A 82, Cold Drawn Steel Wire for Concrete Reinforcement.
  - 2. A 185, Steel Welded Wire Fabric, Plain for Concrete Reinforcement.



3. A 615, Deformed and Plain Billet Steel Bars, for Concrete Reinforcement.
  4. C 94, Specification for Ready-mixed Concrete.
  5. C 114, Method for Chemical Analysis of Hydraulic Cement.
  6. C 150. Portland Cement.
  7. C 618, Fly Ash and Raw or Calcined Natural Pozzolan for use as Natural Admixture in Portland Cement.
  8. C 989, Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
  9. C 1751, Preformed Expansion Joint Fillers for Concrete. Paving and Structural Construction (Non-extruded and Resilient Bituminous Types).
- I. Caltrans Standard Specifications:
1. Section 51: Concrete Structures.
  2. Section 73: Concrete Curbs and Sidewalks.
  3. Section 90: Portland Cement Concrete.

#### **1.04 DEFINITIONS**

- A. ASTM: American Society for Testing and Materials.
- B. Inspector: City of Santa Rosa Authorized Inspector or Engineer

#### **1.05 SUBMITTALS**

- A. Follow submittal procedures outlined in Division 1.
- B. At least one week prior to the placement of the concrete, Contractor shall submit for review and approval, a calibration chart for the mix design strength versus concrete temperature and a copy of the mix design proportions and proposed admixture(s) together with all supporting technical data. Submittal must be reviewed and approved by the City of Santa Rosa Material Lab before concrete can be poured.

#### **1.06 QUALITY ASSURANCE**

- A. Concrete shall be subject to quality assurance in accordance with Section 90 of the Standard Specifications.
1. Slump tests: Have available, at job site, equipment required to perform slump tests. Make one slump test for each cylinder sample, from same concrete batch. Allowable maximum slump shall be 4 inches for walls and 3 inches for slabs on grade and other work.
- B. Certifications:
1. Provide City Engineer's Representative at the time of delivery with certificates of compliance signed by both Contractor and Supplier containing the following statements:
  2. Materials contained comply with the requirements of the Contract Documents in all respects.
  3. Proportions and mixing comply with the design mix approved by the Consulting Engineer and/or City Materials Lab. Design mix shall have been field tested in accordance with the herein requirements of the Caltrans Standard Specifications and produces the required compressive strength under like conditions.
  4. Statement of type and amount of any admixtures.
  5. Provide City Engineer's Representative, at time of delivery, with certified delivery ticket stating volume of concrete delivered and time of mixing, or time of load-out in case of transit mixers.

- C. Conform to the applicable provisions of Section 51, 73 and 90 of the Caltrans Standard Specification and these Technical Specifications.
  - 1. Conform construction of portland cement concrete surface improvements (including curbs, gutters, medians, valley gutters, walks) to the requirements of Section 73 of the Caltrans Standard Specifications unless otherwise required in these Technical Specifications or shown on the Drawings.
  - 2. Construct "V" ditches in accordance with Section 72-4 of the Standard Specifications; except that finishing shall be in accordance with Standard Specification Section 73 instead of 53, or as otherwise required in these Technical Specifications or shown on the Drawings.
  - 3. Conform other construction of portland cement concrete items to the requirements of Section 51 of the Caltrans Standard Specifications unless otherwise required in these Technical Specifications or shown on the Drawings.

## 1.07 DESIGNATION

- A. General: Whenever the 28-day compressive strength is designated herein or on the drawings is greater than 3,600 psi, the concrete shall be considered to be designated by compressive strength. The 28-day compressive strength shown herein or on the drawings which are 3,600 psi or less are shown for design information only and are not considered a requirement for acceptance of the concrete. Whenever the concrete is designated by class or as minor concrete herein or on the drawings, the concrete shall contain the cement per cubic meter shown in section 90-1.01 of the Caltrans Standard Specifications.

## PART 2- PRODUCTS

### 2.01 PORTLAND CEMENT

- A. General: Type V or type II (modified) cement conforming to the requirements of ASTM C 150, with the following modifications:
  - 1. Cement shall not contain more than 0.60% by weight of alkalis, calculated as the percentage of Na<sub>2</sub>O plus 0.658 times the percentage of K<sub>2</sub>O when determined by either 4 intensity flame photometry or by the atomic absorption method. The instrument and procedure used shall be qualified as to precision and accuracy in accordance with the requirements of ASTM C 114.
  - 2. The autoclave expansion shall not exceed 0.50%.
  - 3. Mortar containing the Portland Cement to be used and the sand, when tested in accordance with Test Method No. Calif. 527, shall not expand in water more than 0.010% and shall have an air content less than .048%.
  - 4. Allowable tri-calcium Aluminate (C<sub>3</sub>A) by weight shall not exceed 5%. Allowable tetracalcium alumino ferrite plus twice the tricalcium aluminate (C<sub>4</sub>AF+2C<sub>3</sub>A) by weight shall not exceed 25%. The sulfate expansion test (ASTM C 452) may be used in lieu of the above chemical requirements, provided the sulfate expansion does not exceed 0.040% at 14 days (max.).
  - 5. Contractor shall substitute pozzolan and/or slag for Portland Cement in the combined amount of 30% of the required mix. Use high early strength concrete as necessary to meet strength requirements.
    - a. Pozzolan shall consist of Class F Fly Ash meeting the requirements of ASTM C 618.
    - b. Slag shall consist of ground granulated blast-furnace slag meeting the requirements of ASTM C 989.
- B. Cement for Surface Improvements: Provide a coloring equivalent to ¼ pound of lampblack per cubic yard. Add to the concrete at the central mixing plant.

- C. Liquiblack, as supplied by Concrete Corporation of Redwood City, California, may be used in lieu of lampblack. One pint of liquiblack shall be considered equal to one pound of lampblack.

## **2.02 AGGREGATE AND AGGREGATE GRADING**

- A. General: Conform to the requirements of Section 90-2.02, 2.02A and 2.02B of the Caltrans Standard Specifications.
  - 1. Aggregate Size and Gradation: Conform to the requirements of section 90-3 of the Caltrans Standard Specifications for 25-mm (1-inch) maximum combined aggregate.

## **2.03 WATER**

- A. General: Conform to the requirements of section 90-2.03 of the Caltrans Standard Specifications, for mixing and curing portland cement concrete and for washing aggregates.

## **2.04 CLASSIFICATION OF PORTLAND CEMENT CONCRETE**

- A. Concrete for the following items shall be designated by the following classes per Section 90-1.01 of the Caltrans Standard Specifications:
  - 1. Vehicular Pavement: Class 2.
  - 2. Curbs, Gutters, and Sidewalks: Minor Concrete.
  - 3. Cast in place Concrete Pipe: The concrete shall consist of a minimum of 564 pounds of Portland cement per cubic yard of concrete.
  - 4. Thrust Blocks: The concrete shall have a minimum compressive strength of 3,000 psi.
  - 5. Sign and Fence Footings: The concrete shall consist of a minimum of 376 pounds of Portland cement per cubic yard of concrete.
  - 6. Water, Storm, and Sanitary Structures: The concrete shall consist of a minimum of 564 pounds of Portland cement per cubic yard of concrete.
  - 7. All other items unless specified otherwise on the Drawings: Class 2.

## **2.05 EXPANSION JOINT MATERIAL**

- A. Material for expansion joints in portland cement concrete improvements shall be premolded expansion joint fillers conforming to the requirements of ASTM Designation D 1751. Expansion joint material shall be shaped to fit the cross section of the concrete prior to being placed. Suppliers' certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site. Unless noted otherwise herein or on the Drawings expansion joint thickness shall be as follows:
  - 1. Curbs, Curb Ramps, Island Paving, Sidewalks, Driveways and Gutter Depressions: ¼-inch.
  - 2. Concrete Slope Protection, Gutter Lining, Ditch Lining and Channel Lining: ½-inch.
  - 3. Structures: As indicated.

## **2.06 REINFORCEMENT AND DOWELS**

- A. Bar reinforcement for concrete improvements shall be deformed steel bars of the size or sizes called for on the drawings conforming to the requirements of ASTM Designation A 615 for Grade 60 bars. Size and shape for bar reinforcement shall conform to the details shown or called for on the Drawings. Substitution of wire mesh reinforcement for reinforcing bars will not be allowed.
- B. Slip dowels, where noted or called for on the drawings or detail drawings shall be smooth billet-steel bars as designated and conforming to the requirements of ASTM Designation A 615 for

Grade 60 bars. Ends of bars inserted in new work shall be covered with a cardboard tube sealed with cork; no grease or oil shall be used.

- C. Mesh for reinforcement for concrete improvements shall be cold drawn steel wire mesh of the size and spacing called for on the drawings conforming to the requirements of ASTM Designation A 82 for the material and ASTM Designation A 185 for the mesh. Size and extent of mesh reinforcement shall conform to the details shown or called for on the drawings.
- D. Tie wire for reinforcement shall be eighteen (18) gauge or heavier, black, annealed conforming to the requirements of ASTM Designation A 82.
- E. Suppliers' certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site.

## **2.07 ACCESSORY MATERIALS**

- A. Conform water stops and other items required to be embedded inside of portland cement concrete structures to the applicable requirements of Section 51 of the Caltrans Standard Specifications unless otherwise specifically noted or called for on the Drawings or detail drawings.
- B. Curing Compounds:
  - 1. Regular Portland Cement Concrete: "Non-Pigmented Curing Compound - chlorinated Rubber Base-Clear" conforming to the requirements contained in Section 90-7.01B, of the Caltrans Standard Specifications.
  - 2. Color Conditioned Decorative Portland Cement Concrete: See Landscape Drawings.

## **2.08 FORMS**

- A. Conform to the requirements of Section 51-1.05 of the Caltrans Standard Specifications.

## **2.09 PRECAST CONCRETE STRUCTURES**

- A. Conform to the following Sections of Caltrans Standard Specifications:
  - 1. 51-1.02, Minor Structures.
  - 2. 70-1.02C, Flared End Sections.
  - 3. 70-1.02H, Precast Concrete Structures.

# **PART 3- EXECUTION**

## **3.01 STRUCTURAL EXCAVATION**

- A. Structural excavation may be either by hand, or by machine and shall be neat to the line and dimension shown or called for on the drawings. Excavation shall be sufficient width to provide adequate space for working therein, and comply with CAL-OSHA requirements.
- B. Where an excavation has been constructed below the design grade, refill the excavation to the bottom of the excavation grade with approved material and compact in place to 95% of the maximum dry density.
- C. Remove surplus excavation material remaining upon completion of the work from the job site, or condition it to optimum moisture content and compact it as fill or backfill on the site in accordance with Geotechnical report, and as approved by the Inspector.

## **3.02 BRACING AND SHORING**

- A. Conform to California and Federal OSHA requirements.
- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the City Engineer, submit details and calculations to the City Engineer. The City Engineer's Representative may forward the submittal to the Inspector, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with drawings and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the City Engineer's Representative.
- D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the position or operation of the facility being constructed or adjacent utilities and facilities.

### **3.03 PLACING CONCRETE FORMS**

- A. Form concrete improvements with a smooth and true upper edge. The side of the form with a smooth finish shall be placed next to concrete. Construct forms rigid enough to withstand the pressure of the fresh concrete to be placed without any distortion.
- B. Thoroughly clean all forms prior to placement and coat forms with an approved form oil in sufficient quantity to prevent adherence of concrete prior to placing concrete.
- C. Carefully set forms to the alignment and grade established and conform to the required dimensions. Rigidly hold forms in place by stakes set at satisfactory intervals. Provide sufficient clamps, spreaders and braces to insure the rigidity of the forms.
- D. Provide forms for back and face of curbs, lip of gutters and edge of walks, valley gutters or other surface slabs that are equal to the full depth of the concrete as shown, noted or called for on the Drawings. On curves and curb returns provide composite forms made from benders or thin planks of sufficient ply to ensure rigidity of the form.

### **3.04 PLACING STEEL REINFORCEMENT**

- A. Bars shall be free of mortar, oil, dirt, excessive mill scale and scabby rust and other coatings of any character that would destroy or reduce the bond. All bending shall be done cold, to the shapes shown on the drawings. The length of lapped splices shall be as follows:
  - 1. Reinforcing bars No. 8, or smaller, shall be lapped at least 45 bar diameters of the smaller bar joined, and reinforced bars Nos. 9, 10, and 11 shall be lapped at least 60 bar diameters of the smaller bars joined, except when otherwise shown on the drawings.
  - 2. Splice locations shall be made as indicated on the drawings.
- B. Accurately place reinforcement as shown on the drawings and hold firmly and securely in position by wiring at intersections and splices, and by providing precast mortar blocks or ferrous metal chairs, spacers, metal hangers, supporting wires, and other approved devices of sufficient strength to resist crushing under applied loads. Provide supports and ties of such strength and density to permit walking on reinforcing without undue displacement.
- C. Place reinforcing to provide the following minimum concrete cover:

1. Surfaces exposed to water: 4-inches.
  2. Surfaces poured against earth: 3-inches.
  3. Formed surfaces exposed to earth or weather: 2-inches.
  4. Slabs, walls, not exposed to weather or earth: 1-inch.
- D. Minimum spacing, center of parallel bars shall be two and one half (2-1/2) times the diameter of the larger sized bar. Accurately tie reinforcing securely in place prior to pouring concrete. Placing of dowels or other reinforcing in the wet concrete is not permitted.

### **3.05 MIXING AND TRANSPORTING PORTLAND CEMENT CONCRETE**

- A. Transit mix concrete in accordance with the requirements of ASTM Designation C 94. Transit mix for not less than ten (10) minutes total, not less than three (3) minutes of which shall be on the site just prior to pouring. Mix continuous with no interruptions from the time the truck is filled until the time it is emptied. Place concrete within one hour of the time water is first added unless authorized otherwise by the City Engineer's Representative.
- B. Do not hand mix concrete for use in concrete structures.

### **3.06 PLACING PORTLAND CEMENT CONCRETE**

- A. Thoroughly wet subgrade when concrete is placed directly on soil. Remove all standing water prior to placing concrete.
- B. Do not place concrete until the subgrade and the forms have been approved.
- C. Convey concrete from mixer to final location as rapidly as possible by methods that prevent separation of the ingredients. Deposit concrete as nearly as possible in final position to avoid re-handling.
- D. Place and solidify concrete in forms without segregation by means of mechanical vibration or by other means as approved by the City Engineer's Representative. Continue vibration until the material is sufficiently consolidated and absent of all voids without causing segregation of material. The use of vibrators for extensive shifting of fresh concrete will not be permitted.
- E. Concrete in certain locations may be pumped into place upon prior approval by the City Engineer's Representative. When this procedure requires redesign of the mix, such redesign shall be submitted for approval in the same manner as herein specified for approval of design mixes.

### **3.07 PLACING ACCESSORY MATERIALS**

- A. Place water stops and other items required to be embedded in of portland cement concrete structures at locations shown or required in accordance with Section 51 of the Caltrans Standard Specifications unless otherwise specifically noted or called for on the Drawings.
- B. Curing Compounds:
1. Regular Portland Cement Concrete: Apply "Non-Pigmented Curing Compound - chlorinated Rubber Base-Clear" in accordance with Section 90-7.01B, 7.01D and 7.03 of the Caltrans Standard Specifications.
  2. Color Conditioned Decorative Portland Cement Concrete: Apply LITHOCHROME colorwax, or approved equal, in accordance with the manufacturer's instructions.

### **3.08 EXPANSION JOINTS**

- A. Construct expansion joints in accordance with applicable City Standards or as indicated on Drawings in all concrete curbs, gutters, sidewalks, median/island paving, valley gutters, driveway approaches and at the ends of all returns. At each expansion joint install one-half inch by twelve inch (1/2" x 12") smooth slip dowels.
- B. Orient slip dowels at right angles to the expansion joint and hold firmly in place during the construction process by means of appropriate chairs.

### **3.09 WEAKENED PLANE JOINTS**

- A. Construct weakened plane joints in concrete curbs, gutters, sidewalks, median/island paving and valley gutters between expansion joints in accordance with applicable City Standards.
  - 1. Grooved Joints: Form weakened plane joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8-inch. Repeat grooving of weakened plane joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

### **3.10 FINISHING CONCRETE**

- A. Finish curb and gutter in conformance with the applicable requirements of Section 73-1.04 and 73-1.05A of the Caltrans Standard Specifications as modified herein.
- B. Where monolithic curb, gutter and sidewalk is specified, separate concrete pours will not be allowed.
- C. Provide a medium broom finish to all horizontal surfaces unless otherwise shown.
- D. Concrete paving and concrete finishes along accessible routes of travel shall be at least as slip-resistant as that described as a medium salted finish for slopes of less than 6%, and slip-resistant at slopes of 6% or greater.

### **3.11 FORM REMOVAL**

- A. Remove forms without damage to the concrete. Remove all shores and braces below the ground surface, before backfilling.
- B. Do not backfill against concrete until the concrete has developed sufficient strength to prevent damage.
- C. Leave forms for cast-in-place walls in place at least 72 hours after pouring.
- D. Leave edge forms in place at least 24 hours after pouring.

### **3.12 CONSTRUCTION**

- A. Form, place and finish concrete walkways, island paving, valley gutters and driveway approaches in conformance with the applicable requirements of Section 73-1.04 and 73-1.06 of the Caltrans Standard Specifications as modified herein.
- B. Construct new concrete curb, curb and gutter and valley gutters against existing asphalt concrete by removing a minimum of 12-inches of the asphalt concrete to allow placement of curb or gutter forms. Patch pavement with a 6-inch deep lift of asphalt concrete after gutter form is removed.

### **3.13 CONNECTING TO EXISTING CONCRETE IMPROVEMENTS**

- A. New curb, gutter, or sidewalk is to connect to existing improvements to remain by saw cutting to existing sound concrete at the nearest score line, expansion joint or control joint. Drill and insert ½-inch diameter by 12-inch long dowels at 24-inches on center into existing improvements. Install pre-molded expansion joint filler at the matching joint.
- B. A cold joint to the existing curb is not acceptable.

### **3.14 FIELD QUALITY CONTROL**

- A. Finish subgrade for concrete improvements shall be subject to approval prior to placement of forms.
- B. No concrete shall be placed prior to approval of forms.
- C. Concrete improvements constructed shall not contain "bird baths" or pond water and shall be smooth and ridge free.
- D. Conform the finish grade at top of curb, flow line of gutter, and the finish cross section of concrete improvements to the design grades and cross sections.
- E. Variation of concrete improvements from design grade and cross section as shown or called for on the drawings shall not exceed the tolerances established in Sections 73-1.05 and/or 73-1.06 of the Caltrans Standard Specifications.

### **3.15 RESTORATION OF EXISTING IMPROVEMENTS**

- A. Replace in kind all pavement or other improvements removed or damaged due to the installation of concrete improvements.
- B. Remove landscaping or plantings damaged or disturbed due to the installation of concrete improvements. Replace in kind.

**END OF SECTION**



**THIS PAGE INTENTIONALLY LEFT BLANK**

## SECTION 32 1000

### BASE COURSES

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. This Section includes the following:
  - 1. Aggregate subbase and base.
  - 2. Cement treated base.
  - 3. Lime stabilization.
- B. Related Sections include the following:
  - 1. Section 31 0000, Earthwork.
  - 2. Section 31 2333, Trenching and Backfill.

##### 1.02 RELATED DOCUMENTS

- A. Geotechnical Report, entitled "Geotechnical Investigation Kawana Springs Community Garden" by Brunsing Associates, Inc., Dated September 11, 2023.
- B. Geotechnical Letter, entitled "Supplemental Geotechnical Recommendations" by Brunsing Associates, Inc., Dated December 14, 2023.
- C. Geotechnical Letter, entitled "Supplemental Geotechnical Recommendations" by Brunsing Associates, Inc., Dated April 5, 2024.
- D. City of Santa Rosa Design and Construction Standards, Current Edition
- E. City of Santa Rosa Standard Specifications
- F. Sonoma County Water Pollution Prevention Program
- G. Sonoma County Dust and Noise Control Standards
- H. Caltrans Standard Specifications, latest edition:
  - 1. Section 24, Lime Stabilization.
  - 2. Section 25, Aggregate Subbases.
  - 3. Section 26, Aggregate Bases.
  - 4. Section 27, Cement Treated Bases.
- I. AASHTO:
  - 1. M147- Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses; American Association of State Highway and Transportation Officials; 1965 (2004).
  - 2. M180- Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in) Drop; American Association of State Highway and Transportation Officials; 2001 (2004).
- J. ASTM:
  - 1. C 136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates, 2005.
  - 2. D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
  - 3. D 2922, Standard Test Method for Density of Soil and Soil-Aggregate in place by Nuclear Methods (Shallow Depth); 2004

4. D 3017, Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2004
5. D 3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
6. E 329, Specification for minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
7. E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.

### **1.03 DEFINITIONS**

- A. ASTM: American Society for Testing Materials.
- B. Inspector: City of Santa Rosa Authorized Inspector or Engineer

### **1.04 SUBMITTALS**

- A. Follow submittal procedure outlined by the Engineer.
- B. Submit material certificates signed by the material producer and the Contractor, certifying that that each material item complies with, or exceeds the specified requirements.

### **1.05 QUALITY ASSURANCE**

- A. Do not mix or place cement treated base when the temperature is below 36 degrees F or when the ground is frozen.
- B. Conform to the appropriate portions of the City of Santa Rosa Standards and Specifications, these Specifications and Section 19 of Caltrans Standard Specifications.
- C. Finish surface of the prepared subgrade to receive aggregate subbase, aggregate base or cement treated base, shall be as specified in Section 31 0000.
- D. Finish surface of material to be stabilized prior to lime treatment shall be as specified in Section 24-1.04 of Caltrans Standard Specifications.
- E. Finish surface of the stabilized material after lime treatment shall be as specified in Section 24-1.08 of Caltrans Standard Specifications.
- F. Do not project the finish surface of aggregate subbase above the design subgrade.
- G. Finish surface of aggregate base shall be 0 to - 0.05-feet.
- H. Finish surface of cement treated base shall be as specified in Section 27 of Caltrans Standard Specifications.
- I. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM Designation D1557.

## **PART 2 PRODUCTS**

### **2.01 FILL MATERIAL**

- A. If fill material is required to restore the previously constructed subgrade to its proper elevation, provide structural fill material specified in Section 31 0000.

**2.02 AGGREGATE SUBBASE**

- A. Material: Caltrans Standard Specification Section 25.
  - 1. Class 2: Section 25-1.02A.
  - 2. All aggregate subbase shall be virgin material.

**2.03 AGGREGATE BASE**

- A. Material: Caltrans Standard Specification Section 26.
  - 1. Class 2, 3/4-inch Maximum: Section 26-1.02A.
  - 2. All aggregate subbase shall be virgin material.

**PART 3 EXECUTION**

**3.01 GENERAL**

- A. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.

**3.02 WET WEATHER CONDITIONS**

- A. Do not place or compact subgrade if above optimum moisture content.
- B. If the Inspector allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the Inspector.

**3.03 AGGREGATE SUBBASE**

- A. Spreading and Compacting: Sections 25-1.04 and 25-1.05 of Caltrans Standard Specifications.

**3.04 AGGREGATE BASE**

- A. Watering, Spreading and Compacting: Section 26-1.035, 26-1.04 and 26-1.05 of Caltrans Standard Specifications.

**END OF SECTION**

**THIS PAGE INTENTIONALLY LEFT BLANK**

**SECTION 32 1200**  
**HMA FLEXIBLE PAVING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Prime coat.
- B. Tack coat.
- C. Asphaltic concrete paving.
- D. Asphaltic concrete overlay.
- E. Slurry seals.
- F. Speed bumps.
- G. Asphalt curbs.
- H. Pavement grinding.

**1.02 RELATED SECTIONS**

- A. Section 32 11 00 – Base Courses

**1.03 RELATED DOCUMENTS**

- A. Geotechnical Report, entitled “Geotechnical Investigation Kawana Springs Community Garden” by Brunsing Associates, Inc., Dated September 11, 2023.
- B. Geotechnical Letter, entitled “Supplemental Geotechnical Recommendations” by Brunsing Associates, Inc., Dated December 14, 2023.
- C. Geotechnical Letter, entitled “Supplemental Geotechnical Recommendations” by Brunsing Associates, Inc., Dated April 5, 2024.
- D. City of Santa Rosa Design and Construction Standards (Current Edition)
- E. City of Santa Rosa Standard Specifications
- F. Sonoma County Water Pollution Prevention Program
- G. Sonoma County Dust and Noise Control Standards
- H. Erosion and Sediment Control Field Manual, Fourth Edition, California Regional Water Quality Control Board, San Francisco Bay Region, 2002
- I. California Stormwater Best Management Practices (BMP) Handbook for Construction, California Stormwater Quality Association (CASQA), latest edition. <http://www.cabpmhandbook.com>
- J. ASTM:
  - 1. D 979: Practice for Sampling Bituminous Paving Mixtures.

2. D 1073: Specification for Fine Aggregate for Bituminous Paving Mixtures.
  3. D 1188: Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens.
  4. D 2041: Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.
  5. D 2726: Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures.
  6. D 2950: Test Method for Density of Bituminous Concrete in Place by Nuclear Method.
  7. D 3549: Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
  8. D 3666: Specifications for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Mixtures.
- K. Caltrans Standard Specifications.
1. Section 37: Bituminous Seals.
  2. Section 39: Asphalt Concrete.
  3. Section 88: Engineering Fabrics.
  4. Section 92: Asphalts.
  5. Section 93: Liquid Asphalts.
  6. Section 94: Asphaltic Emulsions.

#### **1.04 DEFINITIONS**

- A. ASTM: American Society for Testing Materials.

#### **1.05 QUALITY ASSURANCE**

- A. Testing Agency: Owner will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.
1. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
- B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- C. Thickness of Asphaltic Concrete: In-place compacted thickness of asphalt courses will be determined according to ASTM D 3549.
- D. Surface Smoothness: Finished surface of each asphalt course will be tested for compliance with smoothness tolerances.
- E. In-Place Density: Samples of uncompacted paving mixtures and compacted pavement will be secured by testing agency according to ASTM D 979.
1. Reference maximum theoretical density will be determined by averaging results from 4 samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
  2. In-place density of compacted pavement may be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
    - a. One core sample may be taken for every 1000 sq. yd. or less of installed pavement, but in no case will fewer than 3 cores be taken.

b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

## **1.06 SUBMITTALS**

- A. Follow submittal procedures outlined in Division 1.
- B. Job-Mix Designs: Certificates signed by manufacturers certifying that each asphaltic concrete mix complies with requirements.
- C. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.

## **1.07 PROJECT CONDITIONS**

- A. Environmental Limitations:
  - 1. Prime Coat: Minimum surface temperature of 60 deg F at application.
  - 2. Tack Coat: Minimum surface temperature of 60 deg F at application.
  - 3. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at application.
  - 4. Asphalt Surface Course: Minimum surface temperature of 60 deg F at application.
  - 5. Reinforcing Fabric: Air temperature is 50 deg F and rising and pavement temperature is 40 deg F and rising.

## **PART 2 - PRODUCTS**

### **2.01 ASPHALTIC CONCRETE**

- A. Caltrans Standard Specifications Section 39, Type B.
- B. Asphalt Materials:
  - 1. Asphalt: Caltrans Standard Specification Section 92, steam refined paving asphalt.
    - a. Asphalt Curbs: use grade PG 70-10
    - b. All other asphalt products: use grade PG 64-10.
  - 2. Prime Coat: Caltrans Standard Specification Section 92, SC-70.
  - 3. Tack Coat: Caltrans Standard Specification Section 93, SS1.
  - 4. Asphaltic Emulsion: Caltrans Standard Specification Section 94, quick-setting type, Grade QS1h anionic or CQS1h cationic.
- C. Aggregates: Conform to Caltrans Standard Specification Sections 37-2.02C and 39-2.02 as applicable.
- D. Storing, Proportioning and Mixing Materials: Caltrans Standard Specification Section 39-3.
- E. Pavement Reinforcing Fabric: Caltrans Standard Specification Section 88.
- F. Sand: ASTM D 1073, Grade No. 2 or 3.



## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using fully loaded water truck or as directed by the Engineer to locate areas that are unstable or that require further compaction.
- C. Notify Owner in writing of any unsatisfactory conditions. Do not begin paving until these conditions have been satisfactorily corrected.

### **3.02 PAVEMENT GRINDING**

- A. Clean existing paving surface of loose or deleterious material immediately before pavement grinding.
- B. Grind conforms as indicated.

### **3.03 SURFACE PREPARATION FOR AGGREGATE BASE MATERIALS**

- A. General: Immediately before placing asphalt materials remove loose and deleterious material from substrate surfaces and ensure that prepared subgrade is ready to receive paving according to the Caltrans Standard Specification Section 39-4.01.
- B. Prime Coat: Apply uniformly over surface of compacted-aggregate base according to the Caltrans Standard Specification Section 39-4.02. Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure for 24 hours minimum.
  - 1. If prime coat is not entirely absorbed within 8 hours after application, spread excess prime coat with hand tools and broadcast sand over surface to blot excess asphalt. Use just enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
  - 2. Protect primed substrate from damage until ready to receive paving.
- C. Tack Coat: Apply uniformly to all vertical surfaces against which asphaltic concrete is to be placed, including existing surfaces of previously constructed asphalt or portland cement concrete paving and to surfaces abutting or projecting into new asphalt pavement, according to the Caltrans Standard Specification Section 39-4.02.
  - 1. Allow tack coat to cure undisturbed before paving.
  - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

### **3.04 SURFACE PREPARATION FOR PAVEMENT AT ASPHALTIC CONCRETE OVERLAYS AND SLURRY SEALS**

- A. Pavement Irregularities: Level with asphaltic concrete, Type B, No. 4 maximum.
- B. Pavement Cracks:

1. Less than ¼-inch wide: Clean of all dirt by compressed air jet, spray and seal with RS-1 asphaltic emulsion.
  2. Wider than ¼-inch: provide crack repair as shown on the Drawings.
- C. Clean surface of all material, such as leaves, dirt, sand, gravel, water and vegetation prior to applying binder of paving asphalt to existing surface.

### **3.05 ASPHALTIC CONCRETE SPREADING AND COMPACTING EQUIPMENT**

- A. Spreading Equipment: Caltrans Standard Specification Section 39-5.01.
- B. Compaction Equipment: Caltrans Standard Specification Section 39-5.02.

### **3.06 ASPHALTIC CONCRETE PLACEMENT**

- A. Place, spread and compact asphaltic concrete to required grade, cross section, and thickness according to the Caltrans Standard Specification Sections 39-6.01, 39-6.02 and 39-6.03.
- B. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

### **3.07 JOINTS**

- A. Construct joints to ensure continuous bond between adjoining paving sections according to the Caltrans Standard Specification Sections 39-6.01 and 39-6.02.
1. Construct joints free of depressions with same texture and smoothness as other sections of asphalt course.
  2. Clean contact surfaces and apply tack coat.
  3. Offset longitudinal joints in successive courses a minimum of 6 inches.
  4. Offset transverse joints in successive courses a minimum of 24 inches.
  5. Compact joints as soon as asphaltic concrete will bear roller weight without excessive displacement.

### **3.08 COMPACTION**

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact according to the Caltrans Standard Specification Sections 39-6.01 and 39-6.03.
- B. Compaction Requirements: Average Density to be 93 percent of reference maximum theoretical density according to ASTM D 2041.
- C. Finish Rolling: Finish roll paved surfaces to remove roller marks while asphalt is still warm.
- D. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- E. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh asphalt. Compact by rolling to specified density and surface smoothness.

- F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

### **3.09 INSTALLATION TOLERANCES**

- A. Asphalt Pavement:
  - 1. Course thickness and surface smoothness within the tolerances in the Caltrans Standard Specification Sections 39-6.01, 39-6.02 and 39-6.03.
  - 2. Total Thickness: Not less than indicated.
- B. Trench Patch:
  - 1. Compacted surface: Within 0.01 foot of adjacent pavement.
  - 2. Do not create ponding.

**END OF SECTION**

**SECTION 32 1723**  
**PAVEMENT MARKINGS**

**PART 1 - GENERAL**

**1.01 SECTION INCLUDES**

- A. Removal of existing traffic stripes and pavement markers.
- B. Removal of existing signs.
- C. Cleaning and sweeping of streets before application of traffic stripes and pavement markings.
- D. Materials and application for traffic stripes and pavement markings.
- E. Materials and application for pavement markers.
- F. Traffic control signs and street name signs.
- G. Object markers.

**1.02 RELATED SECTIONS**

- A. Section 32 0523 – Cement and Concrete for Exterior Improvements

**1.03 RELATED DOCUMENTS**

- A. Caltrans Standard Specifications:
  - 1. Section 56, Signs.
  - 2. Section 81, Monuments.
  - 3. Section 82, Markers and Delineators.
  - 4. Section 84, Traffic Stripes and Pavement Markings.
  - 5. Section 85, Pavement Markers.
- B. Caltrans Standard Plans:
  - 1. Plan A20A through A20D: Pavement Markers and Traffic Lines, Typical Details.
  - 2. Plan A24A and A24B: Pavement Markings Arrows.
  - 3. Plan A24C: Pavement Markings, Symbols and Numerals.
  - 4. Plan A24D: Pavement Markings, Words.
  - 5. Plan A24E: Pavement Markings, Words and Crosswalks.
  - 6. Plan A73A: Object Markers.
  - 7. Plan A73B: Markers.
  - 8. Plan A74: Survey Monuments.
  - 9. Plan RS1: Roadside Sign, Typical Installation Details No. 1.
- C. The Manual of Uniform Traffic Control Devices (MUTCD), and the California Supplement to the MUTCD, the editions in effect at time of date on the Drawings.

- D. The regulations, standards, and tests of the State of California Department of Transportation Materials and Research Division, edition in effect at time of date on the Drawings.

#### **1.04 QUALITY ASSURANCE**

- A. Deliver certificates showing conformance with this specification to the City Engineer with each shipment of materials and equipment to the Project site.

#### **1.05 PROJECT CONDITIONS**

- A. Do not apply traffic striping or pavement markings to the pavement until after approval to proceed has been given by the City Engineer.
- B. Thoroughly cure new asphalt concrete and portland cement concrete before application of stripes, markings or markers.
- C. Permeable concrete shall be in accordance with City of Santa Rosa Standard Specification and per the Santa Rosa Low Impact Development Design Manual Appendices.

### **PART 2- PRODUCTS**

#### **2.01 THERMOPLASTIC STRIPES AND MARKING**

- A. Conform thermoplastic striping and marking materials to Section 84-2.02 of Caltrans Standard Specifications, unless noted otherwise herein or on the Drawings.

#### **2.02 PAINTED STRIPES AND MARKINGS**

- A. Conform painted striping and marking materials to Section 84-3.02 of Caltrans Standard Specifications, unless noted otherwise herein or on the Drawings.

#### **2.03 PAVEMENT MARKERS**

- A. Types: Section 85-1.02 of Caltrans Standard Specifications and as indicated.
- B. Sampling, Tolerances and Packaging: Section 85-1.03 of Caltrans Standard Specifications.
- C. Material
  - 1. Non-reflective: Section 85-1.04 of Caltrans Standard Specifications.
  - 2. Retroreflective: Section 85-1.05 of Caltrans Standard Specifications.

#### **2.04 TRAFFIC CONTROL SIGNS**

- A. General: Section 56-2 of the Caltrans Standard Specifications.
- B. Sign Panels: Conform type (regulatory or warning), size, shape and pattern to the State of California, Department of Transportation, Traffic Manual, edition in effect at the date of the Drawings. Sign faces to be of reflectorized porcelain enamel.
- C. Posts:

1. Metal: Two (2) inch inside diameter steel pipe. Conform to Section 56-2.02A of Caltrans Standard Specifications, unless otherwise specified.
2. Wood: Conform to Section 56-2.02B.
3. Mounting Hardware: Section 56-2.02D of Caltrans Standard Specifications, unless otherwise specified.

- D. Post Foundations: Portland cement concrete conforming to Section 32 05 23 – Cement and Concrete for Exterior Improvements.

## **2.05 STREET NAME SIGNS**

- A. Conform to manufacturer, style, size, and shape shown on the Drawings.
- B. Posts: Two (2) inch inside diameter steel pipe unless noted otherwise on the Drawings. Conform to Section 56-2.02A of Caltrans Standard Specifications.
- C. Post Foundations: Portland cement concrete conforming to Section 32 05 23 – Cement and Concrete for Exterior Improvements.

## **2.06 REFLECTORIZED OBJECT MARKERS**

- A. ReflectORIZED Metal Object Markers: Conform to the applicable requirements of Section 82 of Caltrans Standard Specifications for target plates and reflectors, and Caltrans Standard Plan A73A for type L-1 or L-2 object markers.
- B. Posts: Metal posts conforming to the applicable requirements of Section 82-1.02B of Caltrans Standard Specifications and Caltrans Standard Plan A73B.
- C. Mounting Hardware: Conform to the applicable requirements of Section 82-1.02G of Caltrans Standard Specifications.

## **PART 3- EXECUTION**

### **3.01 REMOVAL OF TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS**

- A. Where blast cleaning is used for the removal of painted traffic stripes and pavement markings, or for removal of objectionable material, remove the residue, including dust and water, immediately after contact with the surface being treated. Remove by a vacuum attachment operating concurrently with the blast cleaning operation.
- B. Where grinding is used for the removal of thermoplastic traffic stripes and pavement markings; remove the residue by means of a vacuum attachment to the grinding machine. Do not allow the residue to flow across or be left on the pavement.
- C. Where markings are to be removed by blast cleaning or by grinding, the removed area shall be approximately rectangular so that no imprint of the removed marking remains on the pavement.
- D. Contractor will be responsible for repairing any damage to the pavement during removal of pavement markers. Damage to the pavement, resulting from removal of pavement markers, shall be considered as any depression more than 1/4-inch deep.

### **3.02 TEMPORARY PAVEMENT MARKERS**

- A. If permanent pavement markers cannot be installed immediately and the street or road is to be placed in service, install short term temporary pavement markers on the new pavement prior to opening the street or road to traffic.
- B. Place markers, at a minimum, of 24 feet on centers or as required by the governmental agency having jurisdiction, in the appropriate colors to delineate centerlines and travel lanes on multi-lane roadways.

### **3.03 THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS**

- A. Apply in conformance with the manufacturer's instructions and the applicable requirements of Section 84-2.04 of Caltrans Standard Specifications and Caltrans Standard Plans A20A through A20D, and A24A through A24E.

### **3.04 PAINTED TRAFFIC STRIPES AND PAVEMENT MARKINGS**

- A. Apply in conformance with the manufacturer's instructions and the applicable requirements of Section 84-3.03, 3.04, and 3.05 of Caltrans Standard Specifications and Caltrans Standard Plans A20A through A20D, and A24A through A24E.

### **3.05 PAVEMENT MARKERS**

- A. Place in conformance with the requirements of Section 85-1.06 of the Caltrans Standard Specifications.
- B. Pavement recesses are not required. Markers shall be installed accurately to the line established by the Engineer. No markers shall be installed until the surface has been approved by the City Engineer.

### **3.06 TRAFFIC CONTROL SIGNS**

- A. Install in conformance with Sections 56-2.03 and 2.04 of Caltrans Standard Specifications, Caltrans Standard Plan RS1, the applicable requirements of the State of California Department of Transportation Maintenance Manual and the details shown on the Drawings. The horizontal locations shown on Caltrans Standard Plan RS1 shall not be applicable, the horizontal location shall be as shown on the Drawings.
- B. Portland cement concrete for post foundations shall be of the configuration shown on the Drawings.
- C. After erection, damage to traffic sign faces shall be corrected or the sign replaced.

### **3.07 REFLECTORIZED OBJECT MARKERS**

- A. Install in conformance with the requirements of Section 82-1.03 of Caltrans Standard Specifications, except that the metal marker posts shall not be driven in place without prior approval of the City Engineer.
- B. Install at locations shown on the Drawings.

### **3.08 PROTECTION**

- A. Protect the newly installed traffic stripes and pavement markings from damage until the material has cured.
- B. Replace any traffic stripes or pavement markings or markers broken, misaligned or otherwise disturbed prior to opening roadway to traffic.

**3.09 RESTORATION OF EXISTING IMPROVEMENTS**

- A. Existing signs striping or other markings removed or damaged due to the installation of new facilities shall be replaced in kind.
- B. Existing landscaping or planting removed, damaged or disturbed due to the installation of traffic control signs or street name signs shall be replaced in kind.

**END OF SECTION**



**THIS PAGE INTENTIONALLY LEFT BLANK**

**SECTION 32 3100**  
**FENCING AND GATES**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. Work Included:
  - 1. Furnish all labor, equipment, and materials, transportation and services to complete necessary work to install fence and gate systems defined herein and on drawings.
- C. Related Work:
  - 1. Section 32 0523 Cement and Concrete for Exterior Improvements
  - 2. Section 31 0000 Earthwork

**1.02 COORDINATION**

- A. Coordinate work fully with all other trades involved. Coordinate with items of other trades to be furnished and set in place. Such portions of their work as is all or in part embedded, built-in, attached to, or supported by the work shall be executed by them in ample time that progress of the work is not delayed. Contractor shall be responsible for the proper installation of all items related to this section.
- B. Contractor shall coordinate with the City and fully acquaint themselves with the existing conditions particularly in reference to any existing underground piping. Any damage caused by the Contractor to work of other trades shall be repaired by them at no cost to the City.

**1.03 REFERENCE**

- A. Perform work in accordance with all applicable laws, codes and regulations, as required by the Architect.
- B. Reference to "Standard Specifications" shall mean the current Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
- D. ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
- E. ASTM D523 - Test Method for Specular Gloss.
- F. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.
- G. ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
- H. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- I. ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.

- J. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- K. ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.
- L. ASTM F2453/F 2453M - Standard Specification for Welded Wire Mesh Fence Fabric

#### **1.04 QUALITY ASSURANCE**

- A. Installer Qualifications: See Section 1.06, A.1.
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- C. Preinstallation Conference: Conduct conference at Project site.
- D. The Contractor shall provide laborers and supervisors who are thoroughly familiar with the type of constructions involved and materials and techniques specified.
- E. Lumber Grading Agency: Certified by American Lumber Standards Committee - Softwood Lumber Standards.
- F. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Contractor shall use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

#### **1.05 PRODUCT WARRANTY**

- A. All structural fence components (i.e posts, wire, and hardware) shall be warranted within specified limitations, by the Manufacturer for a period of 10 years from date of original purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering or corroding.
- B. Reimbursement for labor necessary to restore or replace components that have been found to be defective under the terms of manufactures warranty shall be guaranteed for five (5) years from date of original purchase.

#### **1.06 SUBMITTALS**

- A. Erector Qualifications:
  - 1. List seven (7) similar fence installations in Northern California for all types of fencing shown on drawings. Include job location, name and phone number of project administrator.
- B. Product Data: For each type of product indicated, including fence wire, wood and hardware fastener components.
- C. Shop Drawings: For all fence and gates types. Include drawings, elevations, sections, details, and attachments to other work.
- D. Samples: For each fence material and for each color specified
  - 1. Provide Samples 12 inches in length of welded wire fence.
- E. Welding Certificates

#### **1.07 MOCK UPS:**

- A. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

- B. Contractor shall build a sixteen (16) foot length of each type of fence complying with requirements.
- C. Approved mockups may become part of the completed Work if undisturbed at time of substantial Completion.

## **1.08 JOB CONDITIONS**

- A. Delivery:
  - 1. Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling and materials are free from pest infestation.
- B. Product Handling and Storage:
  - 1. Store and protect products as directed by the City of Santa Rosa.
  - 2. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.
  - 3. Protect materials on site to prevent termite, beetle or other wood boring insect attacks.
  - 4. Stack lumber flat, off grade, with spacers between each bundle to promote air circulation. Provide for air circulation around and under coverings.
- C. Clean up:
  - 1. Keep job site free of debris and rubbish as well as excess materials, tools and equipment connected with work specified herein. Clean up periodically during construction and at completion of work specified herein; lawfully dispose of all such material off the City's premises.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Wire fence shall be Non-Climb Welded Wire Fence of 4" x 2" mesh spacing with smooth knot, galvanized wire with zinc coating. 12 gauge filler wire with 10 gauge top and bottom wire. Height shall be per drawing.
- B. Critter Barrier shall be 19 gauge, 1/2" x 1/2" hardware cloth, and shown in locations on Drawings.
- C. Lumber:  
Manufactured, graded and grademark and seasoned, in compliance with the following reference specifications and grading rules, grades, and species as herein-after specified or noted on Drawings.
- D. Cedar:  
Grade in conformance with the following:
  - 1. Standard Specifications for Grades of Western Red Cedar, Western Red Cedar Lumber Association, latest edition.
- E. Metal fastenings and connections:
  - 1. Bolts: Conform to ASTM A307, Grade A, square or hexagonal head, sizes and spacing as required by the drawings. All heads and nuts bearing on wood shall be fitted with washers.
  - 2. Nails and Wood Screws: Sizes and types required for the purpose indicated, in conformance with FS FF-N-105A
  - 3. Metal Protection: Stainless steel, aluminum or hot dip galvanized for exterior work and where exposed. Wax or other lubricants are not permitted on nails, lag screws, or other fasteners that depend on friction for holding power

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. All new installation shall be laid out by the contractor in accordance with the construction drawings.

### **3.02 FENCE INSTALLATION**

- A. Workmanship: Carefully plan and lay out the work as required. Properly accommodate the work of other trades. Accurately saw-cut the fit lumber into the respective locations, true to line, grade, and level, as indicated or required, and permanently secure in proper position with lag bolts or other fastening to make the work substantial and rigid in all parts and connections.
- B. Connections: Make connections between members tight, accurate and secure. Place fastenings without splitting wood; predrill when required. Drill bolt holes same size as bolt diameter. Drill holes for lag screws same size as thread root diameter; and counterbore, same depth and diameter as shank. Turn lag screws washers under every head and nut bearing on wood. Tighten bolts and lag screws at installation: carefully retighten just prior to closing in, or at completion of project.
- C. Fence post shall be placed per drawings. All corner and brace posts shall be set in concrete footers conforming to City of Santa Rosa Standards and project drawings. Contractor shall follow most stringent requirements between the two.
- D. Fence fabric shall be installed per drawing. End of fence fabric shall be at post location. Weaving fence fabric ends together will not be accepted. When cutting/drilling fence fabric adhere to the following steps to seal the exposed surfaces; 1) Remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence fabric color.

### **3.03 GATE INSTALLATION**

- A. Gate posts shall be spaced according to the manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers' gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacture of the gate and shall be installed per manufacturer's recommendations.

### **3.04 FINISH:**

- A. All wood members shall be select, seasoned and sanded smooth, unless otherwise noted.

### **3.05 CLEAN UP**

- A. Upon completion of fence installation all debris that is a part of the operation shall be removed from the site.
- B. All pavements shall be washed off, and site shall be left in an absolutely clean condition. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all times.

**END OF SECTION**

**SECTION 32 8000**  
**IRRIGATION SYSTEM**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

- A. The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- B. Work Included: Order and furnish all labor, materials, supplies, tools, transportation, and perform all operations for a complete installation of the automatic irrigation system as shown on the Drawings. Items listed hereinafter are included as an aid to estimating quantities and are not necessarily a complete list of work items.
  - 1. Trenching, stockpiling excavation materials, and refilling trenches.
  - 2. Furnishing materials and installation for complete irrigation system including point of water connection to the existing water meter, controller programming, piping, valves, fittings, sprinkler heads, and final adjustment of sprinkler heads to ensure complete coverage and water to plants and trees.
  - 3. Installation of low voltage control wiring.
  - 4. Replacement of unsatisfactory materials.
  - 5. Clean-up, inspection, and approval.
  - 6. All work of every description mentioned in the Specification and/or addenda thereto, and all other labor and materials reasonably incidental to the satisfactory completion of the work, including clean-up of the site, as directed by the City's representative.
  - 7. Tests.
  - 8. Record Drawings.
- C. Related Work Described Elsewhere:
  - 1. City of Santa Rosa Standard Details for Electrical work
  - 2. 32 9000: Landscape Planting

**1.02 GENERAL REQUIREMENTS**

- A. Purpose: It is the intention of these Specifications to accomplish the work of installing an irrigation system which shall operate in an efficient manner, provide 100% uniform coverage, and be water conserving. The Drawings indicate the general arrangement of piping and equipment, and do not necessarily indicate all offsets, fittings and accessories that may be required. Furnish incidental materials and labor not specifically called for but required to complete work as intended.
- B. OSHA Compliance: All articles and services covered by this Specification shall meet or exceed the safety standards established under the Federal Occupational Safety and Health Act of 1970, together with all amendments in effect as of the date of this Specification.
- C. Codes and Standards: Comply with all applicable codes and standards.
  - 1. Perform work in accordance with the City's standards.

2. Work and materials shall be in full accordance with the latest rules and regulations of the California Electric Code, the Uniform Plumbing Code, published by the Western Plumbing Officials Association, and other applicable State or local laws or regulations. Nothing in these Drawings or Specifications shall be construed to permit work not conforming to these codes.
3. When the Specifications call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provision of the Specifications shall take precedence over the requirements of the said rules and regulations.
4. Furnish, without any additional cost to the City, any additional material and labor required to comply with these rules and regulations. Provide the work even if it is not mentioned in this section or shown on the Drawings.
5. Erect and maintain barricades, guards, warning signs and lights as required by the City or required by OSHA regulations for the protection of the public or work crew.
6. Damage by Leaks: The Contractor shall be responsible for damages to any property or work caused by leaks in the piping systems being installed. Repair, at no additional expense to the City, all damages so caused. All repair work shall be done as directed, and in a manner that is satisfactory to the City.
7. Protection: The Contractor shall be responsible for any damage to this work, which occurs before final acceptance. Securely cover all openings into the systems and protect all apparatus, equipment, and appliances, both before and after being set in place, to prevent obstructions in the pipes and breakage, misuse or disfigurement of the apparatus, equipment of appliance.

#### **1.03 QUALITY ASSURANCE**

- A. Provide evidence to the City that skilled and an experienced supervisor and work crew will be employed on the job from beginning to end.
- B. Provide evidence to the City that the Contractor is skilled and experienced in the construction of an irrigation system. Contractor shall provide with the bid documents a list of at least five irrigation projects constructed in the last five years by the Contractor that have used the listed equipment.

#### **1.04 INSTRUCTION**

- A. After the system has been installed and approved, instruct the City's personnel in the complete operation and maintenance of the irrigation system.

#### **1.05 SUBMITTALS**

- A. Equipment List and Drawings: Within 14 days after date of Notice to Proceed, submit to the City's representative for approval, a list of the proposed equipment and material to be furnished and installed. The list shall be complete as to name of manufacturer, size, and catalog number of unit, and be supplemented by such other data as may be required, including detailed scale Drawings, plumbing, and wiring diagrams. Submit materials list using the following format:

Item	Description	Manufacturer	Model No.
------	-------------	--------------	-----------

1	Pressure Supply Line	Lasco	Sch. 40
2	Bubbler Head	Rainbird	1401

**B. Record Drawings**

1. Record accurately on one set of blue or black line prints, changes in the work constituting departures from the original contract Drawings, including changes in pressure and non-pressure line locations, and a complete schematic diagram.
2. Record the changes and dimensions in a legible manner and to the satisfaction of the City. Prior to final inspection of work, and prior to transferring the information to mylars, submit record prints to the City for approval.
3. Dimension from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavements, etc.). Record data to be shown on record prints, day-to-day, as the project is being installed.
4. Show locations and depths of the following items:
  - a. Point of water connection.
  - b. Controller and solar assembly locations.
  - c. Routing of irrigation main line pipe. Provide dimensions a minimum of 100 feet along main line route.
  - d. Main line shut-off valves.
  - e. Remote control valves or valve groups.
  - f. Routing of control wires.
  - g. Routing of conduit.
  - h. Sleeves.
  - i. Pipe and/or wire stub-outs.
  - j. Related equipment including irrigation heads (as may be directed by the City).
5. Always keep and maintain record prints on-site.
6. Upon completion of work, transfer all as-built information and dimensions to reproducible sepia mylars. Correct and record the changes and dimensions in a legible manner and to the satisfaction of the City.

**PART 2 PRODUCTS**

**2.01 PIPE: MAIN AND LATERAL PIPE, SLEEVES**

- A. Pipe manufacturer: JM Eagle Pipe, or approved equal.
- B. Pipe Material: Polyvinylchloride (PVC) plastic in conformance with ASTM D1784 (cell class 12454-B).
- C. Schedule or Class:
  1. Main line pipe:



- a. 2.5-inch and smaller: Schedule 40 PVC plastic pipe with solvent cemented joints.
  - b. Standard white color.
- 2. Lateral line pipe (non-pressure):
  - a. Schedule 40 PVC plastic pipe with Schedule 40 Type I, Grade I, PVC with solvent weld or threaded fittings as shown on the Drawings.
  - b. Standard white color.
- D. Identification marking: Pipe shall be clearly marked at regular intervals indicating the manufacturer's name, nominal pipe size, schedule or class, pressure rating in PSI, and date of extrusion.
- E. Sleeves: 1120-Schedule 40, Class 315 PVC, minimum of two times the diameter of pipe contained within.
- F. Connections between main lines and remote control valves: Schedule 80 PVC (threaded both ends) nipples and fittings.

## **2.02 PVC PIPE FITTINGS**

- A. PVC fitting manufacturer: Lasco, Dura, Spears, or approved equal.

## **2.03 GATE OR BALL VALVES**

- A. Provide the valves as listed on the Drawings.
- B. Gate valves shall have a resilient wedge.
- C. Ball valves shall be the full port style.

## **2.04 MAIN CONTROL OR REMOTE CONTROL VALVE**

- A. Provide the solenoid control valve as listed on the Drawings. Griswold or approved equal.

## **2.05 FLOW SENSOR**

- A. Provide the flow sensor as listed on the Drawings. CST or approved equal.

## **2.06 QUICK COUPLING VALVE AND HOSE BIBS**

- A. Provide the quick coupling valves and hose bibs as listed on the Drawings. Rain Bird and Buckner, or approved equal.

**2.07 BOXES FOR MAIN CONTROL VALVE, FLOW SENSOR, REMOTE CONTROL VALVES, QCV, MAIN LINE SHUT-OFF VALVE, AND PULL BOXES**

- A. Main control valve: Carson Model 1220, 14.75-inch x 21.44-inch x 12 inch-deep (top dimensions) valve box with bolt-down T-type plastic lid or approved equal. Lid shall be marked: "Irrigation."
- B. Flow sensor, remote control valves, main line shut-off valve, and pull boxes: Carson Model 1419, 12-inch x 17-inch x 12 inch-deep (top dimensions) valve box with bolt-down T-type plastic lid or approved equal. Lid shall be marked: "Irrigation."
- C. Quick coupling valve: Carson Model 910, 12-inch deep round plastic valve box with bolt-down T-type plastic lid. Lid shall be marked: "Irrigation."
- D. Use plastic box extensions made by the same manufacturer and of equal size to the valve box as required to allow access to the valve.
- E. The valve box and lid shall be a green color, as manufactured by the vendor.

**2.08 CONTROLLER AND SOLAR PANEL**

- A. Provide the automatic controller, solar panel assembly and accessories as listed on the Drawings, or approved equal.

**2.09 LOW VOLTAGE WIRE**

- A. Single conductor type:
  - 1. Manufacturer: Paige Electric, Regency, or approved equal.
  - 2. Attributes:
    - a. Soft-annealed, uncoated copper.
    - b. Single conductor, with PVC insulating jacket, 600 volt rated UL listed Type UF for direct burial in soil.
    - c. Common ground wire to have a white insulating jacket with a colored strip along the jacket which matches the controller's control wire color.
    - d. Control wire to have an insulating jacket color other than white and each set of control wires at a satellite to have an insulating jacket color different from adjacent satellite control wires.
    - e. Spare wires to have an insulating jacket color other than white or the color of the control wires.
    - f. Control wires and spare wires: #14-1 AWG
    - g. Common wires: #12-1 AWG.
- B. Notes:
  - 1. All wire insulation shall be intact and free of nicks and cuts.
  - 2. All wire connections need to be watertight.

3. Wiring Sizes: Standard wire lengths for straight line installation i.e., wire distance to the furthest device without any loop: (Wire size chart is provided for reference only, #14Ga wire or larger is always recommended as specified above.)

Wire size (gauge)	#14	#12
Total loop wire length (ft.)	10,000	14,800
Distance to furthest valve (ft.)	5,000	7,400

- C. Weatherproof splices: 3M model 3M-DBY, King model Dryconn #10999, Spears model #400 pre-filled seal packs or approved equal.

## **2.10 IRRIGATION HEADS**

- A. Provide and install the irrigation heads as listed on the Drawings.
- B. Irrigation head body and risers: Provide and install bodies, risers, and equipment as shown in the construction details.

## **2.11 PULL BOXES**

- A. Install pull boxes at the locations shown on the drawings or at locations designated by the City at site of work. Contractor may, at no additional expense to the City, install additional pull boxes to facilitate work with good reason.
- B. Carson Model 1419, 12-inch x 17-inch x 12-inch deep valve box with bolt-down plastic lid or approved equal. Lid shall be marked: "Irrigation."

## **2.12 PVC-CONDUIT**

- A. Polyvinylchloride conduit: heavy-wall, Schedule 40, with factory made solvent cemented socket sweep elbows, couplings, and fittings, as permitted by NEC.

## **2.13 VALVE IDENTIFICATION TAGS**

- A. Manufacturer: T. Christy Enterprises or approved equal
- B. Material: Polyurethane behrdesopan
- C. Attributes:
1. 2.25-inch by 2.75-inch hot stamped with 1-1/8-inch black letters on a yellow background.
  2. Indicates controller letter or number and valve station number.

## **2.14 MARKING TAPE**

- A. Marking tape shall be a 6"-wide, detectable underground utility marking tape as follows:
1. It shall consist of a minimum 4.0 mil (0.004) thickness, inert 100% linear low-density polyethylene plastic film formulated for extended use underground.
  2. The tape tensile strength shall be in accordance with ASTM D882 and not be less than 4100 MD and 3650 TD.
  3. Elongation properties shall be in accordance with ASTM D882 and be greater than 550%+ at break point.
  4. Tape flexibility shall be in accordance with ASTM D671 and shall remain pliable.
  5. The materials shall be acid and alkali resistant.
  6. Width of warning tape shall be 6-inch.
- B. Color Coding: The tape shall conform to the American Public Works Association color code as follows:
- Non-Potable Water Pipelines: Tape color shall be blue.
- C. Message Inscription: The tape shall include an inscription in black letters to identify the type of utility pipeline on or over which it is installed. The inscription shall be impregnated with colorfast, lead-free, organic pigments suitable for direct burial and prolonged exposure to the elements normally encountered in moderately corrosive type soils. The height of the message letters shall be 1-inch minimum, and the message inscription shall be repeated at approximately 3-foot intervals. The message inscription shall be as follows:
1. Non-Potable Water Pipelines: The message on the tape shall be:  
"CAUTION NON-POTABLE WATER LINE BURIED BELOW"
  2. Note: Water within an irrigation main line may be contaminated with fertilizer, insecticide, or herbicides and the water is basically classified as non-potable water.
- D. Warning tape shall be manufactured by T. Christy Enterprises, Inc., or approved equal. Model for non-potable water: TA-DT-6-BNP.

## **2.15 MISCELLANEOUS INSTALLATION MATERIALS**

- A. Solvent cement and primer for solvent weld joints: make and type approved by manufacturer(s) of pipe and fittings. Maintain cement at proper consistency throughout use. IPS Weld-On, Oatey, or approved equal.
- B. Pipe joint compound: non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Rectorseal T+2 pipe thread sealant or approved equal.

## **2.16 MISCELLANEOUS EQUIPMENT**

- A. Provide all equipment called for by the Drawings.

## **PART 3 INSTALLATION**

### **3.01 PREPARATION**

- A. General: Prior to all work of this section, carefully inspect the installed work of all other trades, and verify that their work is complete or to the point where this installation may properly commence. Verify that irrigation system can be installed in strict accordance with pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.
- B. In the event any equipment or methods indicated on the Drawings or in Specifications conflicts with local codes, immediately notify the inspector prior to installing. If this notification is not provided, assume full responsibility for the cost of all revisions necessary to comply with code.
- C. Grades: Before starting work, carefully check grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.
- D. Coordination with work of other trades: Provide all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Coordinate the installation of irrigation materials with all other work. Give special attention to coordination of piping locations with new and existing signage, light standards, hydrants, and other utility locations to avoid conflicts.
- E. Water Supply (potable): Connect to the existing water meter for irrigation use at location as shown on the Drawings. Make minor changes caused by actual site conditions at no additional cost to the City. Complete and pass all required testing prior to connection. Contact the City for further instruction as needed.
- F. Electrical service: Connect high voltage or solar electrical connections to irrigation equipment.

### **3.02 HANDLING AND STORAGE**

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

### **3.03 LAYOUT**

- A. Lay out work in accordance with diagrammatic construction Drawings.
- B. Stake out the irrigation system as shown on the Drawings. Obtain approval from the City before starting work.
- C. Where site conditions do not permit location of piping, valves, and heads where shown, notify the City immediately and determine relocation in joint conference.

- D. Run pipelines and automatic control wiring in common trenches with separation wherever practical.
- E. Irrigation heads, valves, and boxes shall not be placed in the path of gates or vehicular/pedestrian traffic. Determine the proper locations at the time of staking the irrigation system.

### **3.04 EXCAVATING AND TRENCHING**

- A. Excavate trenches ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining. When two or more pipes are placed in the same trench, maintain a 3-inch minimum separation between pipes.
- B. Make trenches for pipelines deep enough to provide minimum cover from finish grade as follows:
  - 1. 2.5-inch and smaller main line pipe: 18-inch minimum soil cover; 24-inch soil cover under vehicular pavement.
  - 2. Lateral line pipe: 12-inch minimum cover.
  - 3. Low voltage wire: 18-inch minimum cover.
- C. Restore surfaces, existing underground installations, utilities, plant materials, etc., damaged or cut because of excavations, to original conditions in manner approved by the City.
- D. Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by the City.

### **3.05 ASSEMBLING PIPELINES**

- A. Assemble pipe free from dirt and pipe scale. Ream field cut ends to full pipe diameter with rough edges and burrs removed.
- B. Solvent-weld main or lateral line: At changes in direction or branch mains, use appropriate PVC fittings as specified and approved by the Uniform Plumbing Code.
- C. Solvent Weld Joint:
  - 1. Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning pipe and fittings of dirt, dust, and moisture.
  - 2. Dry-insert pipe into fitting. Pipe should enter fitting 1/3 to 2/3 depth of socket.
  - 3. Coat the inside of socket surface of the fitting and the external surface of the male end of the pipe with solvent cement primer (P-70 as manufactured by Weld-On or approved equal). Then without delay, apply solvent cement (Weld-On 711 as manufactured by Weld-On or approved equal) liberally to the male end of the pipe and apply solvent cement lightly to the inside of the socket. Now, apply a second coat of solvent cement to the pipe end. (Solvent cement with primer incorporated into the solvent cement may be used.)
  - 4. Insert pipe immediately into fitting and turn ¼ turn to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check alignment of the fitting. Align the pipe and fitting properly to prove no strain to either.

5. Hold joint still for approximately thirty (30) seconds and then wipe excess cement from the pipe and fitting.
6. Cure joints a minimum of thirty (30) minutes before handling and at least six (6) hours before allowing water in the pipe.
7. Use Weld-On #795 cement and P-70 primer on flexible PVC connections.

D. Threaded Joint:

1. Field threading of plastic pipe or fittings is not permitted. Provide factory-formed threads only.
  2. Field-cut threads in metallic pipe will be permitted only where necessary. When field threading, cut threads accurately an axis with sharp dies.
  3. Provide threaded joints with pipe joint compound. Apply compound to male threads and first two female threads only.
  4. Where assembling metallic pipe to metallic fitting or valve, no more than one full turn beyond hand tight.
  5. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tight.
  6. Where assembling soft metal (brass or copper) or plastic pipe, use strap type friction wrench only; do not use metal-jawed wrench.
- E. Cap or unplug openings as pipeline is assembled to prevent entrance of dirt or obstruction. Remove caps or plugs only when necessary to continue assembly.
- F. Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of earth.

**3.06 SLEEVES AND ELECTRICAL CONDUIT**

- A. Install sleeves to carry main line pipe, lateral line pipe, and wire under concrete and asphalt surfaces. Provide a sleeve even if the Drawings do not indicate a sleeve under the concrete and asphalt surfaces.
- B. Install PVC electrical conduit to carry control wires under concrete and asphalt surfaces where a sleeve does not exist for main and/or lateral line pipe.
- C. Install PVC electrical conduit to carry control wires under soil, concrete, and asphalt surfaces for valve control wires and flow sensor cable. Provide a separate conduit for each item.
- D. Sleeves and/or conduit under existing paving: Bore for sleeves and/or conduit under existing paving and extend 12 inches beyond paving edge. Provide a separate sleeve for each water line and conduit for electrical control wires.

**3.07 REMOTE CONTROL VALVES**

- A. Install where shown and on Drawings and group together where practical. Provide only one remote control valve per box without exceptions
- B. Locate valve boxes at a 12-inch distance from and perpendicular to hardscape edges and walls.

- C. Provide a 12-inch separation between valve boxes where valves are grouped together.
- D. Thoroughly flush main line before installing valve.
- E. Install in shrub or ground cover areas or non-turf areas.
- F. Label control line wire at each valve with a 2-1/4-inch x 2-3/4-inch polyurethane I.D. tag, indicating identification number of valve (controller and station number). Attach label to control wire.

### **3.08 QUICK COUPLING VALVES AND HOSE BIBS**

- A. Install where shown and on Drawings.
- B. Locate QCV valve boxes at a 12-inch distance from hardscape edges and walls.
- C. Thoroughly flush main line before installing valve.
- D. Install in shrub or ground cover areas or non-turf areas.

### **3.09 VALVE BOXES**

- A. Provide and install remote control valves, ball or gate valves, or other valves in a valve box as shown in details, complete with cover bolted to valve box at the finish of work.
- B. Set valve boxes to finish grade in turf areas and 2 inches above finish grade in groundcover areas.
- C. Install one remote control valve in one valve box - no exceptions.
- D. Do not allow valve boxes to rest on pipes.
- E. Provide a 2-inch minimum clear distance between valve and the box wall.
- F. Install valve boxes located near walks, curbs, headerboards and paving in such a way as to allow for valve boxes to abut those items with top lid surface matching plane of items listed above.

### **3.10 AUTOMATIC CONTROL WIRING**

- A. Run wires along mains wherever practical. Tie wires in bundles with pipe wrapping tape at 10-foot intervals and allow slack for contraction between strappings. Do not tape wire together where wire is contained within sleeving or conduit.
- B. Loop a minimum of three (3) feet of extra wire in each valve box; control wire, spare wire, and common ground wire.



- C. Provide an expansion curl within three (3) feet of each wire connection and at least every 100 feet of wire length on runs more than 100 feet in length. Form expansion curls by wrapping at least 5 turns of wire around a 1 -inch diameter pipe, then withdraw the pipe.
- D. Make connections by crimping bare wires with brass connectors and sealing with splice kits as detailed.
- E. Field splicing will be permitted only upon inspection and written approval from the City. Locate splices at valve locations within valve boxes.
- F. Where control lines pass under paving, install wire in Schedule 40 electrical PVC conduit or inside a sleeve for irrigation pipes.
- G. To prevent electrical interference, keep valve control wires separated from flow sensor cable.

### **3.11 CONTROLLER AND SOLAR PANEL ASSEMBLY**

- A. Install controller and solar panel assembly as detailed.
- B. Connect control lines to controller in sequential arrangement per assigned identification number of valve. Label each control line wire at controller with a permanent, non-fading label indicating station number of valve controlled. Attach label to control wire.
- C. Arrange for the controller and solar panel assembly, and installation to be inspected, approved, and certified by the controller manufacturer or vendor in writing. Provide written certification to the City.

### **3.12 BACKFILLING**

- A. Obtain City's approval for valve manifolds, main line shut-off valves, main line pipe, wire, and lateral line pipe prior to backfill at these items.
- B. Backfill only after piping has been tested, inspected, and approved by the City.
- C. Backfill material: Earth excavated from the trenches, free from rocks, concrete chunks and other foreign or coarse materials.
- D. Sand envelope: Provide a 4" sand envelope on all sides of the main line pipe.
- E. Place backfill materials in 4 -inch layers and compact to between 85%-90% relative compaction.
- F. Dress areas to finish grades and remove excess oil, rocks or debris remaining after backfill is completed.
- G. If settlement occurs along trenches, and adjustments in pipes, valves and sprinkler heads, soil, sod, or paving are necessary to bring the system, soil, sod or paving to the proper level

or the permanent grade, as part of the work under this Contract, make all adjustments without additional cost to the City.

### 3.13 TESTS

Perform tests as specified below. Remake any faulty joints with new materials. Use of cement or caulking to seal leaks is prohibited.

- A. Record Prints: No testing or system observation shall commence without "record" prints. In the event the Contractor calls for testing or system observation without up-to-date "record" prints, without completing previously noted corrections, or without preparing the system for testing or system observation, the testing or system observation will be canceled, and the Contractor will be charged for the direct costs of all City personnel's time and consultant's time used. Testing or system observation will be required for:
  - 1. Pressure test of irrigation main line.
  - 2. Coverage test.
  - 3. Start of maintenance period.
  - 4. Final acceptance.
- B. Notify the City's representative at least three (3) days in advance of testing.
- C. Perform testing at no additional expense to the City and in the presence of the City.
- D. Center load piping with small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.
- E. Pipe test for solvent welded main line: Apply the following tests after weld plastic pipe joints have cured at least 24 hours:
  - 1. Prior to the installation of any valves to the main line, flush pipes with water and fully expel air from piping. Cap ends of pipe and test pressure lines with the line fully charged with water.
  - 2. Test live (constant pressure) piping hydrostatically at 125-psi minimum. Lines will be approved if test pressure is maintained for six (6) hours. Contractor shall make tests and repairs as necessary until test conditions are met.
  - 3. Test RCV controlled (lateral) lines prior to installation of heads or bubblers with water at line pressure and risers capped, and visually inspect for leaks. Retest after correcting defects.
- F. Coverage Test: When the irrigation system is completed, perform a coverage test in the presence of the City's representative to determine if the water coverage for planting areas is complete and adequate. Provide this test prior to planting. Overspray that causes water to run off into non-landscaped areas such as storm drain system, streets, or waterway shall not be permitted. Overspray shall not be permitted.
- G. Testing of Electrical System:
  - 1. Prior to acceptance of the work, provide the following tests to wiring:
  - 2. Continuity test of each circuit.

3. Ground fault of each circuit.
4. A functional test to demonstrate that each part of the system functions as specified or intended herein.

### 3.14 GUARANTEE

- A. Unconditionally guarantee the entire irrigation system for material and installation, including settling of backfilled areas below grade for a minimum period of one year following the date of final acceptance of the work.
- B. Submit a guarantee on Contractor letterhead as follows:
  1. We hereby guarantee that the irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the Drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted, and that the work, materials, and equipment as installed will fulfill the requirements of the guarantee included in the specifications. We agree to repair or replace any or all our work, together with any other adjacent work which may be displaced by doing so, that may prove to be defective in materials and installation within a period of one (1) year from date of acceptance of the below named project in the City, at no additional cost to the City. We shall make such repairs or replacement of the work within seven (7) calendar days of written notification by the City. When the immediate repair or replacement of the work is necessary to ensure the public safety and welfare, which would be endangered by continued usage of the facility, such circumstance will be deemed an operational emergency. In the event of such an emergency after the City contacts our firm and after authorizing 24 hours to initiate repairs, if we fail to initiate and diligently complete such repairs in a timely manner, the City may direct City forces to perform such functions as may be necessary to correct the work and immediately place the facility back in operations condition. If such procedure is implemented, we shall bear all expenses incurred by the City. In all cases, the judgment of the City shall be final in determining whether an operational emergency exists. In the event of our failure to make such repairs or replacements within the times specified after receipt of written notice from the City (other than an operational emergency), we authorize the City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.
- C. PROJECT: \_\_\_\_\_
- D. LOCATION: \_\_\_\_\_
- E. SIGNED: \_\_\_\_\_
- F. ADDRESS: \_\_\_\_\_
- G. PHONE: \_\_\_\_\_
- H. If, within one year following acceptance of the work, settlement occurs and adjustments in pipes, valves, heads, sod, or paving is necessary to bring the system, sod, or paving to the proper level of the permanent grades, as part of the work under this Contract, make all adjustments without extra cost to the City, including the complete restoration of all damaged planting, paving, or other improvements of any kind.

- I. Should any operational difficulties in connection with the irrigation system develop within the specified guarantee period which in the opinion of the City may be due to inferior material and/or workmanship, correct said difficulties immediately and to the satisfaction of the City and at no additional cost to the City, including all other damage caused by such defects.

### **3.15 CLEAN UP**

- A. Upon completion of the work, and at the end of each day, smooth all ground surfaces; remove excess materials, rubbish, debris, etc., sweep adjacent streets, curbs, gutters, and trails and remove construction equipment from the premises.

### **3.16 MAINTENANCE**

- A. Properly and completely maintain the irrigation system. Maintain a balanced water program to ensure proper germination and growth until acceptance of the work. Plants must be watered sufficiently with the irrigation system.
  1. Controller shall have each station individually adjusted on a weekly basis. Program controller considering the application rate each area can receive. Operate the system on short intervals, with the cycle repeating later to reduce runoff. Program the irrigation system to operate between dusk and dawn (nightly) only and during non-windy hours.

### **3.17 TURNOVER ITEMS**

- A. Controller Charts:
  1. The City must approve record prints before charts are prepared.
  2. Provide one controller chart (of the maximum size controller door will allow) for automatic controller. Chart shall show the new contract area covered by controller.
  3. The chart shall be a reduced copy of the actual "record" print. In the event the controller sequence is not legible when the print is reduced, enlarged to a readable size.
  4. Color code the chart with a different color to show the area of coverage for each station.
  5. When completed and approved, hermetically seal the chart between two pieces of plastic, each piece being minimum 20 mils in thickness. Install the chart in the controller enclosure using weatherproof Velcro fasteners.
  6. Complete controller charts prior to final observation.
- B. Operation and Maintenance Manuals: Within 10 calendar days prior to acceptance of construction, prepare and deliver to the City all required descriptive materials, properly prepared in two individually bound copies plus a version in PDF format of the operation and maintenance manual. The manual shall describe the material installed and be in sufficient detail to permit operating personnel to understand, operate and maintain all equipment. Include spare parts lists and related manufacturer's information for each equipment item installed. Each complete, bound manual shall include the following information:
  1. Index sheet stating Contractor's address and telephone, including names and addresses of local manufacturer's representative.
  2. Complete operating and maintenance instructions on all major equipment.

C. Furnish the following materials:

1. Supply as part of the contract the following spare parts:
  - a. One (1) quick coupler key with a  $\frac{3}{4}$  inch bronze hose bib, bent nose type with hand wheel.
  - b. Four (4) loose keys for hose bib operations.
  - c. Two sets of keys for controller door(s) and backflow enclosure padlock.
  - d. "As-built" mylars from "record" prints.
2. Turnover the above spare parts to the City at the final observation.

**END OF SECTION**

**SECTION 32 9000**  
**LANDSCAPE PLANTING**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. Work Included:
  - 1. Furnish all plant materials.
  - 2. Furnish all compost.
  - 3. Furnish all labor, equipment, and materials necessary for landscape planting installation and maintenance according to these Specifications.
  - 4. Furnish all labor, equipment, and materials necessary for preparing garden plot areas.
- C. Related Work:
  - 1. Section 32 8000: Irrigation System
  - 2. Irrigation system shall be installed and operative before beginning planting operation. Contractor shall fully acquaint themselves with the existing conditions, particularly in reference to underground piping. Any damage caused by the Contractor to work of other trades shall be repaired by them at no cost to the City.

**1.02 COORDINATION**

- A. Coordinate work fully with all other trades involved. Coordinate with items of other trades to be furnished and set in place. Such portions of their work as is all or in part embedded, built-in, attached to, or supported by the work shall be executed by them in ample time that progress of the work is not delayed. Contractor shall be responsible for the proper installation of all items related to this section.
- B. Contractor shall coordinate with the City and fully acquaint themselves with the existing conditions particularly in reference to any existing underground piping. Any damage caused by the Contractor to work of other trades shall be repaired by them at no cost to the City.

**1.03 REFERENCE**

- A. Perform work in accordance with all applicable laws, codes and regulations, as required by the City.
- B. Reference to "Standard Specifications" shall mean the current Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

**1.04 QUALITY ASSURANCE**

- A. Personnel:

All planting shall be performed by personnel familiar with planting procedures under the supervision of a qualified foreman.
- B. Codes and Standards:

Nursery stock shall meet the standards of the current edition of the "Agricultural Code of California" and the "Regulations of the Director of Agriculture Pertaining to Nursery Stock" as to grading and quality. They shall be true to type and name in accordance with

“Standardized Plant Names, Second Edition.”

C. Substitutions:

No substitutions shall be permitted without approval of the City. The City reserves the right to require the Contractor to replace at the Contractor’s cost any plants which the Contractor has installed without the City’s approval.

D. Plants shall be subject to inspection and approval of the City at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work.

## 1.05 SUBMITTALS

A. Plant Certification:

1. All plants must meet specifications of Federal, State and County laws requiring inspection for plant disease and insect infestations. Inspection certifications required by law shall accompany each shipment, invoice and order for stock.

B. Plant Material:

1. Contractor shall submit nursery sources for all plant material, clearly stating Botanical Name and container size. Additionally, Contractor shall submit photos from the sources and size specification including container size, height, diameter, and trunk caliper.

C. Topsoil, Amendment and Fertilizer:

1. Contractor shall provide current, accurate analysis from an approved testing laboratory.

D. Mycorrhizae planting backfill.

E. Soils Fertility Laboratory Test Results for each planting area:

1. Two (2) separate planting areas. Submit proposed locations to the City for approval prior to testing.

F. Mulch as indicated on the Drawings.

G. Compost for garden plot areas:

1. Contactor shall submit source for compost.
2. Additionally, Contactor shall provide current, accurate analysis from an approved testing laboratory.

## 1.06 JOB CONDITIONS

A. Delivery:

1. Deliver fertilizer and amendments to site in original, unopened containers bearing manufacturer’s guaranteed chemical analysis, name, trade mark and conformance to state law.
2. Deliver compost to site with supplier tags clearly stating material type, quantity, and weight.
3. Deliver plants with identification labels.
  - a. Labels shall state correct name and size.
  - b. Use durable, water-proof labels with water resistant ink that will remain legible for at least 60 days.
4. Protect plant materials during transport to prevent damage to rootball or desiccation of leaves.
5. Remove unacceptable plant materials immediately from job site.

B. Storage:

1. Contractor shall maintain the plant material properly between delivery and planting. This includes protection from animals and vandals; proper watering, and feeding when necessary.
2. Shade plants shall be stored in the shade, and sun plants shall be stored in the sun.
3. Compost shall be stored and protected as necessary so that material is not windblown away from project site.

C. Timing

1. Under no circumstances shall any work be performed when the temperature exceeds 90 degrees or is below 40 degrees. No planting shall be done with the soil saturated with water.

## PART 2 PRODUCTS

### 2.01 SOIL AMENDMENTS

A. The following Top Soil, organic amendments, and fertilizer rates and quantities are to be used for bid basis only. Contractor shall arrange and pay for testing by an accredited soils laboratory of existing site soil after rough grading operations are complete, and shall amend the soils according to said laboratory's recommendations. The soils recommendations shall be considered a part of this specification.

B. Topsoil: Provide topsoil as required to complete landscape work.

1. Topsoil may include clean on-site material that has been previously stripped from the top 6 inches (6") of original grade or acceptable import material (as applicable). Acceptable topsoil shall be free from "rocks" (rock, stones, rubble, clay clods, etc. over 1" in diameter), roots, toxins, and any other deleterious material per the discretion of the City. All import topsoil proposed for use shall be submitted to the City for review and acceptance prior to use. Submit samples and current soil fertility and structure analyses for approval by the City.
2. Topsoil to be furnished shall be fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. When herbicide contamination is suspected then a radish/rye grass growth trial must be performed. Consult with the City prior to decision to test. It shall be uniformly textured and free of all objectionable foreign materials, oil or chemicals which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium absorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 millimhos per centimeter. Obtain topsoil from naturally well-drained sites where topsoil occurs in a depth of not less than four inches (4"); do not obtain from bogs or marshes.

C. Organic Amendment:

1. Physical Properties: A minimum of 90% of the material by weight shall pass a 1/2" screen. Material passing the 1/2" screen shall meet the following criteria:

% Passing	Sieve Designation
85-100	9.51 mm
50-80	2.38 mm
0-40	500 micron
2. Source material: Fully composted organic green waste.
3. Carbon and Nitrogen ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.



4. Organic matter: Minimum 50% based on dry weight and determined by ash method. Minimum 270 lbs. organic matter per cubic yard of compost.
5. Iron content: Minimum 0.08% dilute acid soluble iron based on dry weight; iron treated.
6. Salinity (ECe): 4.5 dS/m maximum @ 25 degrees C. as determined in a saturation extract.
7. Reaction (pH): Minimum: 5.5, Maximum: 8.0 as determined in saturated paste.
8. Moisture content 35% - 60%.
9. Contaminants: the compost shall be free of contaminants such as glass, metal and plastic.
10. Maturity: Shall exhibit visible characteristics of maturity, including: dark brown to black color. Acceptable odor: moldy/musty, soil like, or none. Unacceptable odor: sour, ammonia or putrid.
11. Appearance: Identifiable wood pieces are acceptable, but the balance of the material should be soil like, without recognizable leaves.

D. Fertilizer:

1. Fertilizer shall be an organic fertilizer in the granular or pelleted form. Fertilizer shall be delivered to the site in containers labeled in accordance with the applicable State of California regulations, bearing the warranty of the producer or the grade furnished, and shall be uniform in composition, dry and free-flowing.
2. Shrubs and Vines shall be fertilized as specified on the Drawings.
3. Trees shall be fertilized as specified on the Drawings.

E. Mycorrhizae Planting Backfill:

1. MycoApply Endo/Ecto, available from Mycorrhizal Applications, Inc., [www.mycorrhizae.com](http://www.mycorrhizae.com) or approved equal.

F. Compost:

1. Compost for garden plots shall be as noted on the Drawings.

## 2.02 BIORETENTION SOIL

- A. Bioretention soil shall be per Civil Engineering Drawings and specifications.

## 2.03 CONTAINER PLANTS

- A. All plant materials shall be nursery grown in accordance with the best known horticultural practices and under climatic conditions similar to those in the locality of the project.
- B. Plants shall be vigorous and shall have a normal habit of growth. Plants shall be free of damage by insects, pests, diseases or wind; burns from insecticides or fertilizer; and stunted growth due to lack of water, lack of food, diseases or other causes. Plants shall be in conformity with the sizes shown on the Drawings.
- C. Trees:
1. Unless otherwise specified, tree trunks shall be straight with leader intact, undamaged and uncut. All old abrasions and cuts are acceptable only when completely callused over.
- D. Quantities:
1. Quantities necessary to complete the work as shown on the Drawings shall be furnished.
- E. Root Systems:
1. All trees shall have a normal root system. No plants with roots that have encircled themselves will be accepted. In case of any unsatisfactory root system, a total group of plants may be rejected.

## **PART 3 INSTALLATION**

### **3.01 SURFACE CONDITIONS**

**A. Inspections by the Landscape Contractor:**

1. Prior to all work in this section, verify grades and carefully inspect the installed work of all other trades. Verify that all such work is complete to the point where the installation may properly commence.
2. All planting areas shall contain a minimum of eight inches (8") of acceptable topsoil. As applicable and where needed, only previously acceptable topsoil shall be installed.
3. Inspect plant materials for injury, insect infestations and proper pruning.
4. Landscape Contractor shall receive site graded to plus or minus one-tenth of a foot (0.10') of finish grades shown on the Drawings. Allow for depth of soil amendments and mulch in determining the difference between finished subgrade in groundcover and shrub beds. Verify that subgrades are not compacted.
5. Landscape Contractor shall over excavate planting beds along the perimeter of lime treated areas to remove excess lime if added for constructability. Provide new topsoil in these planting areas.
6. Contaminated Soil:
  - a. Do not perform any soil preparation work in areas where soil is contaminated with cement, plaster, paint or other construction debris. Bring such areas to the attention of the City and do not proceed until the contaminated soil is removed and replaced.
  - b. Contaminated soil shall be removed to full depth of contaminants with a minimum depth of 12 inches and replaced with acceptable topsoil.
7. Moisture Content: Soil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily. Water shall be applied, if necessary, to bring soil to an optimum moisture content for tilling and planting.
8. Soil Loosening: Soil in all planting areas and garden plot areas shall be ripped or cultivated to the depths specified below. Water shall be added and ripping or cultivating shall be continued until the entire specified depth is loose and friable. All debris, pavement, concrete, and rocks over 1 inch in diameter shall be removed to the specified depth and shall be removed from the site and disposed of properly.
  - a. Slopes 2½ horizontal to 1 vertical and steeper: No loosening required.
  - b. All other areas to be planted: 12 inches (12") deep.
  - c. Garden plot areas: 12 inches (12") deep.
9. Weed Control and removal:
  - a. Remove all weeds and other debris prior to any soil preparation or grading work. Weeds and debris shall be disposed of off the site properly.
  - b. Grow and Kill: After grading finish is complete, apply water in sufficient quantity over a minimum period of 14 days to germinate weed seeds. When weeds have germinated, kill them and remove them in a manner acceptable to the City and that will not have a detrimental residual effect on the growth and vigor of the landscape planting work. Provide temporary irrigation as required to apply the water.
10. In the event of discrepancy, immediately notify the City. Do not proceed with this installation in areas of discrepancies until all such discrepancies have been fully resolved.

### **3.02 SOIL PREPARATION**

- A. In the areas designated for landscaping on the Drawings, except for bioretention areas and within tree protection zones and garden plot areas, Contractor shall, prior to placing imported**

material, replacing existing topsoil before doing any planting, verify that the areas are clear and free of weeds, roots, debris, rocks and underground obstructions, and construction debris to a depth acceptable for planting. All debris, roots, weeds and other materials in excess of 1 inch in diameter shall be removed. Scarify the subgrade to a four inch (4") minimum depth prior to spreading topsoil. Finished grades shall be approved by the City prior to commencing soil preparation and planting operations.

**B. Cultivation and Placement of Amendment:**

1. In planting areas, except for bioretention areas and within tree protection zones, cultivate soil to a depth of eight inches (8"). Prior to planting, incorporate six (6) cubic yards per 1,000 square feet of nitrified fir bark, and the following fertilizers, per 1,000 square feet: 30lbs. 6N-20P-20K to a depth of six inches (6").
2. In garden plot areas, rip and cross rip to a depth of 12" as noted in 3.01, item 8. Add 4" depth of compost over existing soil, spread evenly, and rototill to a depth of 8". Place a second 4" lift, spread evenly, and rototill to a depth of 8" for a total addition of 8" depth of compost. Remove any debris, roots, weeds, and other materials in excess of 1 inch in diameter.

**C. Finish Preparation:**

1. After approval of amendment and fertilizer applications by the City, incorporate into the top six inches (6") of soil by repeated rotary-hoe cultivation in landscape areas except within tree protection zones and garden plot areas.
2. When rough grading and soil conditioning has been completed, all planting areas shall be smooth graded, ready for placement of plant materials. Grading shall be done when soil is at optimum moisture content for working.
3. Finished grades shown on the Drawings are given in feet and decimals of feet. Slope uniformly between given spot elevations. Planting areas shall be true to grade within one inch when tested in any direction with a 10-foot straightedge.
4. Grades not otherwise indicated shall be uniform levels or slopes between points where elevations are given or between points established by walks, paving, curbs or catch basins. Finished grades shall be smooth even and on a uniform plane with no abrupt change of surface. Minor adjustments of finish grades shall be made at the direction of the City if required.
5. All grades shall provide for natural runoff of water without low spots or pockets. Flow line grades shall be accurately set and shall not be less than 2% gradient wherever possible unless otherwise indicated on the Drawings.
6. Tops and toes of all slopes shall be rounded to produce a gradual and natural-appearing transition between relatively level areas and slopes.
7. Roll to compact amended soil to not more than 85% compaction.
8. Finish out to a smooth, even surface conforming to established grades after settlement. Rake immediately prior to planting.
9. If rain is likely between completion of soil preparation and planting, precaution shall be taken to prevent erosion of the soil.

### **3.03 CONTAINER PLANTS**

**A. Preparation:**

1. Place plants in containers in the locations indicated on the Drawings and obtain the approval of the City before digging. Maintain plants as required for optimal condition until approved for installation.
2. The Contractor shall protect all utilities, vegetation and structures during work.

**B. Excavation:**

1. All plant pits shall be dug circular in outline and with sloped walls. The sides and bottoms of all planting pits shall be thoroughly scarified.
2. Holes for plants shall be three times wider than the rootball.
3. After pits are dug, break sides to open wall of pit for root penetration and loosen bottom of pit to a depth of three inches (3"). Construct a foot tamped mound in bottom of pit to support plant at proper level.
4. Following excavation of planting holes and prior to placing backfill, fill planting hole with water to a depth of 6", and allow water to percolate into existing soil for 24 hours. Any planting holes not drained within 24 hours shall have drainage holes drilled to a depth that allows planting hole to drain or install subdrain from planting pit to storm drain system as directed by the City. After drilling drainage hole or installing subdrain, refill with water and repeat process above as directed by the City.

C. Plants in Containers:

1. Plants shall be removed carefully from their containers after the containers have been cut on two (2) sides minimum; fifteen (15) gallon containers shall be opened in three (3) places.
2. After removing plant material from its container, stimulate root growth by making four (4) or five (5) vertical cuts, one inch (1") deep around the circumference of the rootball.
3. Do not lift or handle plants by the top, stems or trunk at any time. All plants shall be lifted in such a manner that the rootball is supported from the underside.
4. The Contractor shall check all plants for adequate root systems. When the root system is defective, contractor shall remove deficient plants from the site and replace them with new ones with adequate root system.

D. Planting:

1. Center plant in pit or trench over tamped mound.
2. Face for best effect.
3. Set plant plumb and hold rigidly in position.
4. All plants shall be set in the ground so that the rootball will be flush with the finish grade. All plants that settle below the finish grade within thirty (30) days of acceptance of the work shall be replanted in the proper position. In case a total section of planting area settles, the Contractor shall lift the plants, import additional soil mix, regrade and replant, at no additional cost to the City.
5. Use amended soil mix only for backfill. Backfill pit with soil mix in nine inch (9") layers and water each layer thoroughly to settle soil. The filled pit shall be flush with surrounding grade when complete.
  - a. In the top one inch (1") of the plant hole, mix Mycorrhizae planting backfill with the plant backfill. Evenly distribute the Mycorrhizae and place as close to rootball as possible at the following rates.
    - 4" pot or Liner: 1 teaspoon
    - # 1 gallon: 1 tablespoon
    - # 5 gallon: 4 tablespoons
    - # 15 gallon: 6 tablespoons
    - 24" box: 8 tablespoons
6. When the plant pit has been approximately one-half (1/2) filled, place planting tablets according to the manufacturer's schedule.
  - a. Planting areas shall be hand raked to remove all clods, weeds, roots, debris, and rocks 1-inch in diameter and larger.
7. Dispose of excess excavated soil (if any) on the site at no additional cost to the City.

### **3.04 TREE STAKING**

- A. Stake trees as indicated on the Drawings.
- B. Tying: find the proper support height by holding the trunk in one hand and pulling the top to one side and releasing it. The lowest height at which the trunk will return to the upright position when the top is released is the height at which to attach tree ties. Tree stakes shall be adjusted throughout the maintenance period as necessary to insure perpendicular growth habit due to severe windy conditions. Tree ties and tree stakes shall be adjusted if tree ties start to damage tree. Trees ties and tree stakes shall be removed when tree no longer needs support.

### **3.05 PRUNING**

- A. Pruning shall be performed as required to maintain a natural appearance, promote healthy and vigorous growth and eliminate diseased or damaged growth.
- B. Trees shall be pruned to thin crown and avoid wind damage, eliminate narrow V-shaped branch forks that lack strength, eliminate sucker growth and maintain a radial branching pattern to avoid crossing branches.
- C. Under no circumstances will stripping of lower branches ("raising-up") of young trees be permitted. Lower branches shall be retained in a "tipped back" or pinched condition with as much foliage as possible to promote caliper trunk growth (tapered trunk).
- D. Major pruning of trees to compensate for root loss or for aesthetic reasons shall be done only with approval of the City.
- E. All pruning shall be made flush to lateral branches, buds or trunk. "Stubbing" will not be permitted.
- F. Damage: All cuts over one inch (1") resulting from pruning or wind breakage shall be inspected periodically for insect infestation or disease.

### **3.06 PROTECTION**

- A. Protect all planted areas and plants against trespassing and damage at all times. If any plants are damaged, replace as directed by the City with no additional cost to the City.

### **3.07 CLEAN UP**

- A. Upon completion of planting, all cans, boxes and other debris that is a part of the planting operation shall be removed from the site.
- B. All pavements shall be washed off, and site shall be left in an absolutely clean condition. All planting areas shall be cultivated and weed free before final inspection. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all times.

### **3.08 SITE OBSERVATIONS**

- A. Notification: The Contractor shall notify the City a minimum of 72 hours before requiring a visit by the City.
- B. Check Points: The following shall be considered check points and the Contractor shall only proceed with the work after the City has visited the site and determined that the work is proceeding satisfactorily.
  - 1. Completion of rough grading in planting areas.
  - 2. After placement of topsoil, soil amendment and fine grading before planting.
  - 3. After placement of compost in garden plot areas.

4. Layout of plant material. All plant material in the planting area shall be placed in the configuration shown on the Drawings prior to plant pit excavation.
5. Maintenance period shall not start until final observation and construction punch list items have been completed.
6. A check visit shall be made to begin the maintenance period. At this time the Contractor shall have completed all phases of the Drawings and Specifications. Any discrepancies shall be noted at that time and the Contractor shall make appropriate corrections before beginning the maintenance period.

### 3.09 MAINTENANCE

- A. Contractor shall furnish all labor, material, equipment and services required to maintain the landscape in a healthy and attractive condition for a period of nine (9) months.
- B. Maintenance shall include fertilization, watering, insect and disease control, weed control (hand or spray), mowing, pruning, re-staking, continual checking, adjusting, programming and making all necessary repairs to the automatic irrigation system, cleaning of pavement, replenishment of bark mulch, and weekly trash removal from all project site areas. All chemical use shall conform to City's standards for application and notification.
- C. No later than two (2) calendar weeks prior to the end of the maintenance period, the Contractor shall request in writing a review of the work by the City. When, upon review, the City finds all project work to be complete, the plant material to be in a healthy condition and all landscape areas to be weed-free and in a neat, orderly condition, then written acceptance of work shall be given by the City. When approval and acceptance of the work is not given, the City shall prepare a list of items to be completed before acceptance of the work is given. Acceptance shall only then be given upon verification by the City that the punch list items have been completed. Maintenance period shall only commence after items have been completed and approved. Items shall be completed within the specified time to avoid liquidated damages and extension of maintenance period.
  1. All plant material shall be live, healthy, undamaged, vigorous and free from infestations.
  2. All turf areas shall be completely covered at the time of final acceptance, leaving no bare spots.
  3. Planting areas shall be free of all weeds.
  4. Nursery stakes shall be removed from trees.
- D. The Contractor's maintenance period will be extended when the provisions required within the Drawings and Specifications are not full complete and accepted by the City.
- E. Watering:
  1. All plants shall be kept watered as often as it is necessary to keep them in optimum, vigorous growth. Watering shall be done preferably during the early morning hours.
  2. Water shall be controlled so that there will be no excessive run-off, ponding or overwatering.
  3. Root Growth: Periodically the Contractor shall check the progress of the root growth within the back fill area. As the root growth increases beyond the root ball, the frequency of watering shall be reduced so that the roots are encouraged to grow to a lower soil depth. Watering then shall be less frequent, but applications shall be very slow and the Contractor shall assure that water does penetrate to the depth of the former plant pit.
- F. Spraying:
  1. Trees shall be inspected at least two (2) times a month during the growing period to determine the need for spraying to control insect damage, fungus development or any other disease that might be attacking the plants. Plants shall be sprayed with an organic

- certified broad spectrum material that will control the specific pest. Preventative spraying shall be done only with the approval of the City.
2. Operators of spray equipment shall take all reasonable precautions to protect themselves, other people and buildings from spray. The Contractor shall publicly notice the use of herbicides and have all permits and licenses required for such an operation. Where applicable, dormant spray shall be applied to shrubs and trees during the winter period.
  3. All equipment shall be properly washed before and after use. No spraying shall take place without proper public noticing procedures or during windy or gusty days.
- G. Staking and Guying: Stakes and guys shall be inspected a minimum of two (2) times a month to assure that the wires and ties are tight and no damage has occurred to the tree trunk or branches. Contractor shall re-stake and guy trees as directed by the City. Trees ties and tree stakes shall be removed when tree no longer needs support.
- H. Weed Control:
1. Weeds shall be kept under control by hand removal. Herbicides shall only be used when approved by the City. Weed all areas at an interval of not more than ten (10) days.
  2. Pre-emergent herbicide shall be applied to all tree and turf areas including plant basins. Chemicals used are to be in written chemical control program prepared by a licensed pest control advisor and approved by the City. Apply prior to any mulching.
  3. All equipment used for herbicides shall be properly cleaned before it is used on this project. Herbicides shall be applied at temperatures recommended by the manufacturers. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.
  4. The bases of all plants shall be kept completely free of weeds. Periodically, the base of the trees and shrubs shall be cultivated in order to allow better penetration of water, but such cultivation shall be carefully done in order not to destroy surface roots.
- I. Fertilization: Top-dress all areas at one (1) month intervals from time of planting with fertilizer of same composition and at same rate as at time of planting.
- J. Litter: The Contractor shall remove promptly after pruning, trimming and weeding or other work required under the contract, all debris generated by his performance of the work. Walkways, driveways and paved areas shall be vacuumed clean with suitable equipment immediately after working in these areas. All areas covered by this contract shall be kept free of debris and litter.
- K. Pruning: Prune as necessary to remove injured twigs, branches, dead wood and suckers.

### **3.10 GUARANTEE AND REPLACEMENT**

- A. Guarantee period shall be extended for a period of one (1) year from the date of written acceptance.
- B. All plants shall be guaranteed to be alive and healthy as determined by the City at the end of the guarantee period.
- C. The Contractor shall replace within two (2) weeks of notice and in accordance with the Drawings and Specifications throughout the guarantee period, any plants that die, or in opinion of the City, are in an unhealthy or unsightly condition, and or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or any other causes due to the Contractor's negligence. Any plant that shows 25% defoliation shall be considered unhealthy.

**END OF SECTION**