SPECIFICATIONS and CONTRACT DOCUMENTS

FOR

HALE AVENUE EXTENSION PROJECT

CITY OF MORGAN HILL

MORGAN HILL, CALIFORNIA
PUBLIC WORKS DEPARTMENT

PREPARED BY

ENGINEERING & UTILITIES DEPARTMENT

September 2020

TABLE OF CONTENTS

NOTICE INVITING BIDS **1**
INSTRUCTIONS TO BIDDERS **4**
BID PROPOSAL **13**
BID SCHEDULE I – GENERAL **166**
SUBCONTRACTOR LIST **211**
NONCOLLUSION DECLARATION **222**
BID BOND **244**
BIDDER'S QUESTIONNAIRE **266**
CONTRACT **300**
PAYMENT BOND **35**
PERFORMANCE BOND **37**
GENERAL CONDITIONS **40**
Article 1 - Definitions **40**
1.1 Definitions. 40
Article 2 - Roles and Responsibilities **44**
2.1 City. 44
2.2 Contractor. 44
2.3 Subcontractors. 48
2.4 Coordination of Work. 49
2.5 Submittals. 50
2.6 Shop Drawings. 51
2.7 Access to Work. 51
2.8 Personnel. 51
Article 3 - Contract Documents **52**
3.1 Interpretation of Contract Documents 52
3.2 Order of Precedence 53
3.3 Caltrans Standard Specifications 54
3.4 For Reference Only 54
3.5 Current Versions. 55
3.6 Conformed Copies. 55
3.7 Ownership 55
Article 4 - Bonds, Indemnity, and Insurance **55**
4.1 Payment and Performance Bonds 55
4.2 Indemnity 56
4.3 Insurance. 56
Article 5 - Contract Time **61**
5.1 Time is of the Essence. 61
5.2 Schedule Requirements. 61
5.3 Delay and Extensions of Contract Time. 64
5.4 Liquidated Damages. 68
Article 6 - Contract Modification **69**
6.1 Contract Modification. 69
6.2 Contractor Change Order Requests. 71
6.3 Adjustments to Contract Price. 72
6.4 Unilateral Change Order. 73
6.5 Non-Compliance Deemed Waiver. 73
Article 7 - General Construction Provisions **73**
7.1 Permits, Fees, Business License, and Taxes. 73
7.2 Temporary Facilities. 73
7.3 Noninterference and Site Management. 74
7.4 Signs. 75
7.5 Project Site and Nearby Property Protections. 75

7.6 Materials and Equipment. 77
7.7 Substitutions. 78
7.8 Testing and Inspection. 79
7.9 Project Site Conditions and Maintenance. 80
7.10 Instructions and Manuals. 82
7.11 As-built Drawings. 82
7.12 Existing Utilities. 83
7.13 Notice of Excavation. 84
7.14 Trenching and Excavations of Four Feet or More. 84
7.15 Trenching of Five Feet or More 85
7.16 New Utility Connections 85
7.17 Lines and Grades. 85
7.18 Historic or Archeological Items. 85
7.19 Environmental Control. 86
7.20 Noise Control. 86
7.21 Mined Materials. 87
Article 8 - Payment 88
8.1 Schedule of Values. 87
8.2 Progress Payments. 87
8.3 Adjustment of Payment Application. 88
8.4 Early Occupancy. 89
8.5 Retention. 89
8.6 Payment to Subcontractors and Suppliers. 90
8.7 Final Payment. 91
8.8 Release of Claims. 91
8.9 Warranty of Title. 91
CONTRACT BALANCE FORM 92
Article 9 - Labor Provisions 93
9.1 Discrimination Prohibited. 93
9.2 Labor Code Requirements. 93
9.3 Prevailing Wages 93
9.4 Payroll Records 94
9.5 Labor Compliance. 94
9.6 Wage Theft Prevention 95
Article 10 - Safety Provisions 97
10.1 Safety Precautions and Programs. 96
10.2 Hazardous Materials. 97
10.3 Material Safety. 97
10.4 Hazardous Condition 98
10.5 Emergencies. 98
Article 11 - Completion and Warranty Provisions 99
11.1 Final Completion. 98
11.2 Warranty. 99
11.3 Use Prior to Final Completion. 100
11.4 Substantial Completion. 101
Article 12 - Dispute Resolution 101
12.1 Claims. 101
12.2 Claims Submission. 102
12.3 City's Response. 104
12.4 Meet and Confer. 105
Article 13 - Suspension and Termination 107
13.1 Suspension for Cause. 107
13.2 Suspension for Convenience. 108
13.3 Termination for Default. 108
13.4 Termination for Convenience. 110

13.5 Actions Upon Termination for Default or Convenience. 110
Article 14 - Miscellaneous Provisions 112
14.1 Assignment of Unfair Business Practice Claims 112
14.2 Provisions Deemed Inserted. 112
14.3 Waiver. 112
14.4 Titles, Headings, and Groupings. 112
14.5 Statutory and Regulatory References. 112
14.6 Survival. 113
SPECIAL CONDITIONS 114

Technical Specifications……..1-226

Appendix A –Not Used
Appendix B - Mitigation Monitoring and Reporting Program
Appendix C - Central Coast Water Quality Permit
Appendix D - US Army Corp of Engineers Permit

NOTICE INVITING BIDS

1. **Bid Submission.** The City of Morgan Hill ("City"), will accept sealed bids for its Hale Avenue Extension ("Project"), by or before October 22, 2020, at 2:00 p .m., at its DEVELOPMENT SERVICES CENTER, located at 17575 PEAK AVENUE MORGAN HILL, California, at which time the bids will be publicly opened and read aloud.

2. **Project Information.**

   2.1 Location and Description. The Project is located between West Main Avenue and the Spring/Dewitt intersection in Morgan Hill, CA 95037, and is described as follows:
   Construct a multimodal roadway with a pedestrian path, including grading and paving, undergrounding overhead electric, storm drain system, water main, sound walls, street lights, signing and striping, irrigation and planting.

   2.2 Time for Completion. The Project must be completed within 365 calendar days from the start date set forth in the Notice to Proceed. City anticipates that the Work will begin on or about February 2021, 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): A-General Engineering.

   3.2 DIR Registration. City will not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations ("DIR") to perform public work pursuant to Labor Code Section 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 obtained from the City of Morgan Hill, at 17575 Peak Avenue, Morgan Hill, CA, (408) 778-6480. Electronic copies of the Contract Documents are available on CD for ten dollars ($10.00). If mailing by USPS, a five dollar ($5.00) charge will be added. To download plans and specifications at no charge, register at www.publicpurchase.com.

5. **Bid Proposal and Security.**

   5.1 Bid Proposal Form. Each Bid must be submitted using the Bid Proposal form provided with the Contract Documents.

5.2 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 of Morgan Hill, 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 (10) days after City issues the Notice of Award, the successful bidder will execute the Contract and submit payment and performance bonds and insurance certificates and endorsements as required by the Contract Documents and the Notice of Award.

6. Prevailing Wage Requirements.

6.1 General. Pursuant to California Labor Code Section 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. These prevailing rates 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 California Department of Industrial Relations, pursuant to Labor Code Section 1771.4.

7. Performance and Payment Bonds. The successful bidder will be required to provide performance and payment bonds each for one hundred percent of the Contract Price as further described 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 Section 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 and DIR registration number and percentage of the Work to be performed (based on the base bid price) for each Subcontractor who will perform Work or service or fabricate or install Work for the prime contractor in excess of one-half

(1/2) of one percent (1%) of the bid price, using the Subcontractor List form included with the Contract Documents. For street or highway construction, this requirement applies to any subcontract of $10,000 or more.

10. **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: _____ Date: _____

Publication Dates: 1) September 25, 2020 2) October 2, 2020

END OF NOTICE INVITING BIDS

INSTRUCTIONS TO BIDDERS

Each Bid Proposal submitted to the City of Morgan Hill ("City") for its **Hale Avenue Extension Project** ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

1.1 General. Each Bid Proposal must be signed, sealed and submitted to City, using the form provided in the Contract Documents, by or before the date and time 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 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, materials, supplies, and equipment and all other direct or indirect costs such as applicable federal, state and local taxes, insurance and overhead.

1.2 Bid Envelope. The envelope containing the sealed Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

BID PROPOSAL
Morgan Hill Development Services Center
Hale Avenue Extension Project
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
Attention: Bid Opening
Bid Date:_____
Bid Time: _____

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 sections 1725.5 and 1771.1):

[Contractor company name]
[Street address]
[City, state, zip code]
DIR Registration No._____

1.3 DIR Registration. Subject to limited legal exceptions for joint venture bids and federally-funded projects, City will 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 Section 1725.5.

Please note: 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 Section 1725.5 and 1771.1(a)).

2. Bid Proposal Form and Enclosures. Each Bid Proposal must be completed in ink 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 Subcontractor List and Non-Collusion Declaration using the forms included with the Contract Documents.

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 limited liability company (LLC) must be signed in the name of the LLC by a member or manager with authority to bind the LLC. 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 Corporation Code Section 313.

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; and submit the insurance certificates and endorsements and any other submittals, if any, required by the Contract Documents or the Notice of Award.

4.1 Withdrawal of Bid Proposals. 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 Section 5100 *et seq*.

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 David Gittleson, Project Engineer, at david.gittleson@morganhill.ca.gov. 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 or, omissions, inconsistencies, or conflicts it discovers in the Contract Documents prior to submitting a Bid Proposal, subject to the limitations of Public Contract Code Section 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 Project 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. Any addenda issued prior to the bid opening are part of the Contract Documents. Subject to the limitations of Public Contract Code section 4104.5, City reserves the right to issue addenda prior to bid time. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid. Bidders should check City's website periodically for any addenda or updates on the Project at: http://www.morgan-hill.ca.gov/bids.aspx

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. 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 Section 3400(c).

9.1 Pre-Bid Requests. Any request for submission made before the Contract is awarded must be submitted to the City Engineer at least ten

(10) days before the opening of bids so that all interested bidders may be notified of any approved alternative.

9.2 Post-Award Requests. After the Contract is awarded, Contractor may submit a substitution within fourteen (14) days after the date of award of the Contract, or as specified in the Special Conditions.

10. Bid Protest. Any bid protest against another bidder must be submitted in writing and received by City at the City Attorney's Office at 17575 Peak Avenue, Morgan Hill, CA, (Fax: (408) 779-1592), 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. If required by City, the protesting bidder must submit a non-refundable fee in the amount specified by City, based upon City's reasonable costs to administer the bid protest. Any such fee must be submitted to City no later than the Bid Protest Deadline, unless otherwise specified. 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 Section 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 Section 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 include 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 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. 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 ninety 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 City's issuance of the Notice of Award to the apparent low bidder, the 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).** 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 license within ten days following City's issuance of the Notice of Award. Subcontractors must also obtain a City business license before performing any Work.

14. **Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code Sections 1777.1 or 1777.7 is prohibited from performing work on this Project.

15. **Evidence of Responsibility.** Within twenty four (24) hours following a request by City, a bidder must submit to City satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by City, the bidder's organization available for the performance of the Contract and any other required evidence of the bidder's qualifications to perform the proposed Contract. City may consider such evidence before making its decision awarding the proposed Contract.

16. **Subcontractor Work Limits.** The prime contractor must perform at least 30% of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the 30% self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).

17. **Additive and Deductive Alternates.** As required by Public Contract Code Section 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.

17 (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.

17 (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.

17 (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.

17 (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.

18. **Bidder's Questionnaire.** A completed, signed Bidder's Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder's Questionnaire which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

19. **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.

    19.1 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.

19.2 Estimated Quantities. 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.

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20. 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 Section 6707.

21. For Reference Only. The following documents are provided "For Reference Only," as defined in Section 3.4 of the General Conditions: Geotechnical Investigation, Hale Avenue Extension, Project 2012.0005.

END OF INSTRUCTIONS TO BIDDERS

BID PROPOSAL

Hale Avenue Extension Project

_____ ("Bidder") hereby submits this Bid Proposal to the City of Morgan Hill ("City") for the above-referenced project ("Project") in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced therein.

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. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this Bid. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason. Bidder specifically acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

3. **Bidder's Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:

3.1 **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 Section 1104.

3.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.

3.3 **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.

3.4 **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.

3.5 **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. **Award of Contract**. By signing and submitting this Bid Proposal, Bidder agrees that if Bidder is awarded the Contract for the Project, that within ten days following issuance of the Notice of Award to Bidder, Bidder will do all of the following:

4.1 **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;

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

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

5. **Wage Theft Prevention**. All Bidders are expected to have read and understand the "Wage Theft Prevention Policy" adopted by the City Council on July 26, 2017.

The undersigned Bidder certifies that neither Bidder nor its principals have been found by a final court judgement or final administrative action of an investigatory agency to have violated federal, state or local wage and hour laws within the past five years from the date of the submitted bid. Bidder or its principals who are unable to so certify, must disclose wage and hour violations, and shall provide a copy of (i) the court order and judgment and/or final administrative decision; and (ii) documents demonstrating either that the order/judgment has been satisfied, or if the order/judgment has not been fully satisfied, a written and signed description of Bidder's efforts to date to satisfy the order/judgment. Signing this bid shall constitute signature of this Certification.

The City, at its sole discretion, may disqualify a bidder based on one or more disclosed judgments consistent with the criteria set forth in the Policy.

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 (10%) of its maximum bid amount in one of the following forms (check one):

____ A cashier's check or certified check payable to City of Morgan Hill and issued by _____ Bank in the amount of $_____.

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

7. **Iran Contracting Act.** Bidder certifies that it is not identified on a list created under the Iran Contracting Act, Public Contract Code Section 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.

This Bid Proposal is hereby submitted on _____, 20__:

s/ _____ _____
Name and Title [print]

_____ _____
Company Name License # and Classification

_____

DIR Registration #

_____ _____
Address Phone

_____ _____
City, State, Zip Fax

END OF BID PROPOSAL

BID SCHEDULE I – GENERAL

Hale Avenue Extension Project

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid 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. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal Form. Quantities shown are required for bid purposes and may or may not be final pay quantities. Actual quantities, if different, must be substantiated during the Project by the Contractor (either by field measurement, trucking tags, or other means acceptable to the Engineer).

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs)

Bid Item No.		Description of Bid Item	Estimated Quantity/Unit of Measure	Unit Price	Extended Total Amount
		Civil			
1	TS-21	Mobilization	LS	$	$
2	TS-10	Storm Water Pollution Prevention Plan and Implementation	LS	$	$
3	TS-11	Construction Site Management	LS	$	$
4	TS-12	Street Sweeping	LS	$	$
5	TS-13	Erosion Control and (Hydroseed)	124,270 SF	$	$
6	TS-14	Temporary Concrete Washout	4 EA	$	$
7	TS-15	Temporary Fiber Roll	3,740 LF	$	$
8	TS-16	Temporary Silt Fence	8,700 LF	$	$
9	TS-18	Temporary Construction Entrance	4 EA	$	$
10	TS-19	Temporary Drainage Inlet Protection	19 EA	$	$
11	TS-20	Move-In/Move-Out (Temporary Erosion Control)	6 EA	$	$
12	TS-24	Maintaining Existing Traffic Management System Elements During Construction	LS	$	$
13	TS-25	Temporary Pavement Marking (Paint)	1,840 SF	$	$
14	TS-25	Temporary Traffic Stripe (Paint)	4,670LF	$	$
15	TS-25	Temporary Pavement Marker	1,190 EA	$	$
16	TS-26	Type III Barricade	65 EA	$	$

17	TS-28	Temporary Railing (Type K)	3,460 LF	$	$
18	TS-29	Channelizer (Surface Mounted)	278 EA	$	$
19	TS-30	Temporary In-line Crash Cushion	11 EA	$	$
20	TS-31	Shed Demolition	LS	$	$
21	TS-31	Adjust Water Meter to Grade	2 EA	$	$
22	TS-31	Adjust Water Valve to Grade	11 EA	$	$
23	TS-31	Adjust Electrical Vault to Grade	7 EA	$	$
24	TS-31	Adjust SD Manhole to Grade	10 EA	$	$
25	TS-31	Adjust SS Manhole to Grade	9 EA	$	$
26	TS-31	Adjust Communication (AT&T) Manhole to Grade	1 EA	$	$
27	TS-31	Adjust SD Inlet to Grade	2 EA	$	$
28	TS-31	Remove Storm Drain Inlet	2 EA	$	$
29	TS-31	Remove Cobblestone Ditch	20 LF	$	$
30	TS-31	Remove Concrete V Ditch	110 LF	$	$
31	TS-31	Remove Storm Drain Pipe	35 LF	$	$
32	TS-31	Remove Traffic Stripe and Pavement marking	LS	$	$
33	TS-31	Remove Base & Surfacing	2,010 CY	$	$
34	TS-31	Remove Concrete Sidewalk	540 SF	$	$
35	TS-31	Remove Concrete Curb & Gutter	1,100 LF	$	$
36	TS-31	Remove Sign & Post	1 EA	$	$
37	TS-31	Remove concrete Sound walls	940 LF	$	$
38	TS-31	Remove Wood Fence	3,500 LF	$	$
39	TS-31	Remove Chain Link Fence	300 LF	4	4
40	TS-31	Replace Fence	50 LF	$	$
41	TS-31	Remove Interlocking Block Retaining Wall	40 LF	$	$
42	TS-31	Remove Concrete Retaining Wall	850 LF	$	$
43	TS-31	Remove Metal Beam Guard Rail	45 LF	$	$
44	TS-31	Relocate Street Light Pole & Pull Box	1 EA	$	$
45	TS-31	Relocate Fire Hydrant	2 EA	$	$
46	TS-32	Cold Plane AC (2" to 4")	1,730 SY	$	$
47	TS-33	Clearing and Grubbing	LS	$	$
48	TS-34	Earthwork (Roadway and Bio Swale Grading & Excavation)	100,000 CY	$	$
49	TS-34	Earthwork (Detention Basin Grading & Excavation)	1,000 CY	$	$

50	TS-36	Irrigation crossovers	1 EA	$	$
51	TS-38	Class 2 Aggregate Base (Roadway)	9,300 CY	$	$
52	TS-38	Class 2 Aggregate Base (Bike/Pedestrian Path)	415 CY	$	$
53	TS-39	Hot-Mixed Asphalt (Type A) (Roadway)	6,750 TON	$	$
54	TS705-392	Hot-Mixed Asphalt (Type A) (Bike/Pedestrian Path)	475 TON	$	$
55	TS-39	2" to 4" HMA Overlay	705 TON	$	$
56	TS-42	Concrete Headwall	2 EA	$	$
57	TS-46	Pedestrian Barricade	8 EA	$	$
58	TS-47	Roadside Sign	57 EA	$	$
59	TS-49	6" Perforated High Density Polyethylene Pipe (Subdrain)	4,350 LF	$	$
60	TS-50	15" RCP SD pipe	910 LF	$	$
61	TS-50	18" RCP SD pipe	3,700 LF	$	$
62	TS-50	24" RCP SD pipe	42 LF	$	$
63	TS-53	Rock Rip-Rap	75 CY	$	$
64	TS-55	Bio Filtration Swale (Include Permeable Soil, Root Barriers, Vegetation & Filter fabric)	3,400 SY	$	$
65	TS-56	Ditch Inlet (SD-3)	18 EA	$	$
66	TS-56	Curb Inlet (SD-5)	11 EA	$	$
67	TS-57	18" Storm Drain Manhole	15 EA	$	$
68	TS-58	Pipe Riser w/Debris Rack Cage (Outlet)	1 EA	$	$
69	TS-59	Stamped Concrete (Apron at Roundabout)	3,897 SF	$	$
70	TS-59	Concrete Sidewalk	8,000 SF	$	$
71	TS-59	Concrete Driveway	13 CY	$	$
72	TS-59	Concrete Curb and Gutter (Type 1)	4,506 LF	$	$
73	TS-59	Concrete Apron Curb (Type D-4)	300 LF	$	$
74	TS-59	Concrete Full Vertical Curb (Type 2)	8,872 LF	$	$
75	TS-59	Cobblestone Median Paving	840 SF	$	$
76	TS-63	Object Markers (4 type P) (4 type K-1)	8 EA	$	$
77	TS-66	Split Rail fence	2,400 LF	$	$
78	TS-64	Metal Beam Guard Railing	50 LF	$	$
79	TS-68	4" Thermoplastic Traffic Stripe	30,190 LF	$	$
80	TS-68	6" Thermoplastic Traffic Stripe	9,130 LF	$	$
81	TS-68	8" Thermoplastic Traffic Stripe	1,310 LF	$	$

82	TS-68	Thermoplastic Pavement Marking	2,080 SF	$	$
83	TS-69	Pavement Marker (Retroreflective)	18 EA	$	$
84	TS-70	12" DIP Water Main	3,863 LF	$	$
85	TS-70	12” Water Valves	10 EA	$	$
86	TS-70	8” Water Valves	4 EA	$	$
87	TS-70	Blowoff Valve	2 EA	$	$
88	TS-70	Air Relief Valve	2 EA	$	$
89	TS-70	Fire Hydrants	16 EA	$	$
		Structural-Oldcastle Sierrawall Soundwall			
90	TS-43	8’ Tall Sound Wall-Grapestake (Complete in Place)	32,730 SF	$	$
91		***Concrete Retaining Wall Type 5***			
92	TS-34	Structure Excavation (Retaining Wall)	4,400 CY	$	$
93	TS-34	Structure Backfill (Retaining Wall)	3,500 CY	$	$
94	TS-42	Structure Concrete (Retaining Wall)	960 CY	$	$
95	TS-44	Joint Seal MR 1/2"	1,185 LF	$	$
96	TS-45	Bar Reinforcing Steel	70,140 LB	$	$
97	TS-59	Concrete Gutter	887 LF	$	$
98	TS-65	Chain Link Railing	788 LF	$	$
		Electrical			
99	TS-E25	Street Lighting	LS	$	$
100	TS-E25	PG&E Conduits and Vaults for Undergrounding	LS	$	$
101	TS-E25	Fiber Optic Conduits/boxes	LS	$	$
		Landscape			
102	TS-L03	Hardscape Paving	LS	$	$
103	TS-L04	Irrigation System	LS	$	$
104	TS-L05	Landscape Planting	LS	$	$
105	TS-L06	Landscape Maintenance Period-3 years	LS	$	$
106	TS-73	**Supplemental**	$200,000	$200,000	$200,000

Bid Schedule I Total	

TOTAL BASE BID: Items 1 through _____ 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 who will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Contract Price,[1] 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.
Bidders: Please print legibly. Illegible forms may be rejected.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NUMBER	DIR REG. NO.	LOCATION OF BUSINESS	LOCAL VENDOR[2] YES/NO	PERCENT OF WORK

END OF SUBCONTRACTOR LIST

[1] For street or highway construction this requirement applies to any subcontract of $10,000 or more.
[2] A Subcontractor is considered local if its principle place of business is within the city limits of Morgan Hill.

NONCOLLUSION DECLARATION

(To be executed by bidder and submitted with bid)

State of California County of _____	)))	ss.

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.

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

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT CIVIL CODE ' 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of **CALIFORNIA**)

County of SANTA CLARA)

On _____, before me,

_____

a Notary Public in and for said County and State, personally appeared

_____

_____

proved to me on the basis of satisfactory evidence to be the person/s whose name/s is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity/ies, and that by his/her/their signature/s on the instrument the person/s, or the entity upon behalf of which the person/s acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____

SIGNATURE OF NOTARY PUBLIC

Place Notary Seal Above

BID BOND

_____ ("Bidder") has submitted a bid, dated _____, 20_____ ("Bid"), to the City of Morgan Hill ("City") for work on the _____ ("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 (10%) 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 one hundred percent (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 one hundred percent (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; and

2.4 Insurance. The insurance certificate(s) and endorsement(s) required by the Contract Documents, and any other documents required by the Instructions to Bidders.

3. Enforcement. If Bidder fails to execute the Contract and to submit the bonds and insurance certificates 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; 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 ninety days following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code Sections 2819 and 2845.

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

SURETY:

_____

s/ _____

Name: _____

Title: _____

(Attach Acknowledgement, Notary Seal, and Attorney-In-Fact Certificate)

CONTRACTOR:

_____

s/ _____

Name: _____

Title: _____

APPROVED AS TO FORM:

By:_____
Donald A. Larkin, City Attorney

Date:_____

BIDDER'S QUESTIONNAIRE

HALE AVENUE EXTENSION PROJECT

Within forty-eight (48) hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form and all required attachments, including clearly labeled additional sheets as needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire as part of its investigation to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part 1: General Information

Bidder Business Name: _____ ("Bidder")

Check One: ___ Corporation State of Incorporation _____
___ Partnership
___ Sole Proprietorship
___ Joint Venture of:_____
___ Other:_____

Main Office Address:
_____

_____

Phone: _____

Fax: _____

Local Office Address and Phone: _____

_____

Website address: _____

Owner of Business: _____

Contact Name and Title: _____

Contact phone and email:
_____

Bidder's California Contractor's License Number(s):
_____

Bidder's DIR Registration Number: _____

Part 2: Bidder Experience

1. How many years has Bidder been in business under its present business name? _____ years

2. Has Bidder completed projects similar in type and size to this Project as a general contractor? ___ Yes _____ No

3. Has Bidder ever been disqualified from a bid on grounds that it is not responsible, or otherwise disqualified or disbarred from bidding under state or federal law? ?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the disqualification or disbarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or disbarred, and the month and year in which the disqualification or disbarment occurred.

4. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

5.1 Six most recently completed public works projects within the last three years;

5.2 Three largest completed projects within the last three years; and

5.3 Any project which is similar to this Project including scope and character of the work.

6. Use separate sheets to provide all of the following information for each project identified in response to the above three categories:

6.1 Project name
6.2 Location
6.3 Owner
6.4 Owner contact (name, address, email, and phone number)
6.5 Prime contractor, if applicable (name, address, email, and phone number);
6.6 Architect or engineer name
6.7 Architect or engineer contact (name, email and phone number)
6.8 Project and/or construction manager (name and current phone number)
6.9 Description of project, scope of work performed
6.10 Initial contract value (at time of bid award)
6.11 Final cost of construction (including change orders)
6.12 Original scheduled completion date
6.13 Time extensions granted (number of days)
6.14 Actual date of completion
6.15 Number and amount of stop notices or mechanic's liens filed
6.16 Amount of liquidated damages assessed against Bidder
6.17 Nature and resolution of any project-related claim, lawsuit, mediation and/or arbitration involving Bidder.

Part 3: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year:

2.1 Number of lost workday cases: ____
2.2 Number of medical treatment cases: ____
2.3 Number of deaths: ____

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

_____	_____	_____
Name	Title	Email
_____	_____	_____
Name	Title	Email

Part 4: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By [name, title]: _____

END OF BIDDER'S QUESTIONNAIRE

CONTRACT

This public works contract ("Contract") is entered into by and between the City of Morgan Hill ("City") and _____ ("Contractor") for work on the Hale Avenue Extension Project ("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 on the Project. On _____, 2020, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below.

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; and
2.13 The following: Geotechnical Investigation, by Geo-Logic, dated 8-31-2020
Mitigation Monitoring and Reporting Program
Santa Clara County Encroachment Permit
Central Coast Regional Water Quality Control Board Permit
U.S. Army Corp of Engineers Permit
Habitat Agency Permit

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 _____ Dollars ($_____) (the "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 within 365 calendar days from the commencement date given in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.

6. **Liquidated Damages.** If Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of One Thousand Five Hundred Dollars ($1,500) per day for each day of unexcused delay in completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract Price will be reduced accordingly.

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 will 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 Section 1725.5, subject to limited legal exceptions.

8. **Workers' Compensation Certification.** Pursuant to Labor Code Section 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code Section 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and 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 Section 1090 *et seq*., or the Political Reform Act, as set forth in Government Code Section 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 required by 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 (or comparable) file. Notice is deemed effective upon delivery unless otherwise specified. Notice for each party must be given as follows:

City:

City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
Phone: (409) 779-7259
Attn: City Clerk
Email: michelle.bigelow@morganhill.ca.gov
Copy to: david.gittleson@morganhill.ca.gov

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 Superior Court of Santa Clara County, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure Section 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of Santa Clara 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 Section 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 Corporation Code Section 313. If Contractor is a partnership, signature by a general partner with authority to bind the partnership is required. If Contractor is a limited liability company (LLC), a signature by a member or manager with authority to bind the LLC is required.

[Signatures are on the following page.]

AS SET FORTH IN CA. CORP. CODE § 313, TWO SIGNATURES ARE REQUIRED FOR CALIFORNIA CORPORATIONS:
(1) CHAIRPERSON OF THE BOARD, PRESIDENT, OR VICE PRESIDENT; AND
2) SECRETARY, ASSISTANT SECRETARY, CHIEF FINANCIAL OFFICER OR ASSISTANT TREASURER.

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

CITY OF MORGAN HILL:

_____
Christina J. Turner
City Manager

Date: _____

Attest:

_____
Michelle Bigelow
Deputy City Clerk

Date: _____

Approved as to Form:

_____
Donald A. Larkin
City Attorney

Date: _____

CONTRACTOR:
[NAME OF CONTRACTOR]

_____
Signature

_____
Name/Title [print]

Date: _____

Corporate entities must provide a second signature:

_____
Signature

_____
Name/Title [print]

Date: _____

_____
Contractor's License Number(s)

_____
Expiration Date(s)

Seal:

_____
Contractor's DIR Registration Number(s)

_____
Expiration Date

END OF CONTRACT

PAYMENT BOND

The City of Morgan Hill ("City") and _____ ("Contractor") have entered into a contract, dated _____, 20___ ("Contract") for work on the **Hale Avenue Extension Project** ("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 _____ Dollars ($_____) ("Bond Sum"), under California Civil Code Sections 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 Section 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 Section 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 Section 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 Sections 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code Section 9550. 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: _____
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 Superior Court of Santa Clara County, 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.

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

SURETY:

s/ _____

Name: _____

Title: _____

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

s/ _____

Name: _____

Title: _____

APPROVED AS TO FORM:

By:_____
Donald A. Larkin, City Attorney

Date:_____

END OF PAYMENT BOND

PERFORMANCE BOND

The City of Morgan Hill ("City") and
_____ ("Contractor")
have entered into a contract, dated _____, 20____ ("Contract") for work on the **Hale Avenue Extension Project** ("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 _____ Dollars ($_____) (the "Bond Sum"). By executing this Bond, Contractor and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, to the provisions of this Bond.

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 under this bond 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 Sections 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 that Contractor is in 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 delivered or transmitted 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 Superior Court of Santa Clara County, 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___.

[Signatures are on the following page.]

SURETY:

s/ _____

Name: _____

Title: _____

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

s/ _____

Name: _____

Title: _____

APPROVED AS TO FORM:

By:_____
Donald A. Larkin, City Attorney

Date:_____

END OF PERFORMANCE BOND

GENERAL CONDITIONS

Article 1 - Definitions

1.1 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 Work that may or may not be included in the Project, depending on conditions that will not become known until after bids are opened. If the Contract Price includes an Allowance and the cost of performing the Work covered by that Allowance is greater or less than the Allowance, the Contract Price will be increased or decreased accordingly.

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

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 Morgan Hill, acting through its City Council, officers, employees, and authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s) designated to oversee and manage the Project on City’s behalf.

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; 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

expressly 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. The Contract Price is deemed to include all applicable federal, state, and local taxes.

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

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

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural or engineering 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 Morgan Hill and his or her authorized delegee(s).

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 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.

Law(s) 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.

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.

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 delegee(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 a 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, suppliers, fabricators, and equipment lessors 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.

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 holidays observed by City.

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.

(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 and 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 a pre-construction conference, if requested by City, as well as weekly Project progress meetings scheduled with City. 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, 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 Plans, Specifications and every other Contract Document, 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 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, but are not limited to, complete Project cost records 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 Project records relating to the Project or to investigate Contractor's plant or equipment during Contractor's normal business hours. 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.

2.3 Subcontractors.

(A) ***General.*** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors, subject to the 40% limitation set forth in the Instructions to Bidders. 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 adequately trained workforce. Each Subcontractor must obtain a City business license 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. Copies of subcontracts must be available to the Engineer upon request. Before a Subcontractor commences Work on the Project, Contractor must provide the Engineer a written statement with the name of the Subcontractor, a description of each portion of the Work performed by the Subcontractor, and the percentage of the overall Work to be performed by the 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 Section 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 Section 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 Section 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 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 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 Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data and similar submittals required by the Contract Documents, or upon request by Engineer. Unless otherwise specified, all submittals, including Requests for Information (RFIs) are subject to the 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 elsewhere 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.

(C) ***Required Contents.*** Each submittal must 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).

(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.

(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 or material, repairs to other affected portions of the Work, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, or Inspector.

(G) **Excessive RFIs.** An RFI will be considered excessive or unnecessary if the 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 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.

2.8 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 Plan(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 the City of the issue and request clarification, interpretation, or direction. The Engineer's clarification, interpretation, or direction will be final and binding on Contractor. If Contractor proceeds with the related Work before obtaining 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 Article 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) not 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) not used
(N) Instructions to Bidders;
(O) Contractor's Bid Proposal and attachments;
(P) The City's standard specifications, as applicable; and
(Q) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as Caltrans Standard Specifications or Caltrans Special Provisions.

3.3 Caltrans Standard Specifications. 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 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 or Special Provisions:

(A) ***Limitations.*** None of the "General Provisions" of the Caltrans Standard Specifications, i.e., Sections 1 through 9, applies to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

(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" 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.

3.4 For Reference Only. Contractor is responsible for the careful review of any document, study, or report provided by the 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 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 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 at the time the Contract is signed.

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 percent 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, and fees and costs of litigation or arbitration) (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 this Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code Section 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, and 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. The coverages 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 herein. 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 "VIII" 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. Contractor further understands that City reserves the right to modify the insurance requirements set forth herein, with thirty (30) days' notice provided to Contractor, at any time as deemed necessary to protect the interests of City. The procurement of the required insurance will not be construed to limit Contractor's liability under this Contract or to fulfill Contractor's indemnification obligations under this Contract.

(A) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions must be declared to and approved by City. If the City's Risk Manager determines that the deductibles and/or self-insured retentions are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles and/or self-insured retentions 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.

(B) **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 Insurance ("CGL").** Contractor shall maintain CGL and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work against claims and liabilities for personal injury, death, or property damage providing protection in the minimum amount of: (i) two million dollars ($2,000,000.00) combined single limit each occurrence and either a general aggregate limit of four million dollars ($4,000,000.00) or a general aggregate limit of two million dollars ($2,000,000.00) as applied on a "per project" or "per location" basis, or (ii) the maximum amount of such insurance available to Contractor under Contractor's combined insurance policies (including any excess or "umbrella" policies), whichever is greater.

a. CGL policy may not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

b. CGL policy must include contractor's protected coverage, blanket contractual, and completed operations.

(2) **Builder's Risk Insurance***:* The Builder's Risk Insurance policy must be issued on occurrence basis, for all-risk coverage (including Flood and Earthquake) on a one hundred percent (100%) completed value basis on the insurable portion of the Project for the benefit of City.

(3) **Workers' Compensation Insurance and Employer's Liability***:* Contractor shall maintain Workers Compensation coverage, as required by law. The policy must comply with the requirements of the California Workers' Compensation Insurance and Safety Act and provide protection in the

minimum amount of: (i) One Million Dollars ($1,000,000.00) for any one accident or occurrence, or (ii) the maximum amount of such insurance available to Contractor under Contractor's combined insurance policies (including any excess or "umbrella" policies), whichever is greater.. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the Department of Industrial Relations.

(4) **Automobile Liability**: Contractor shall maintain Automobile Liability covering all owned, non-owned and hired automobiles (if Contractor does not own automobiles, then Contractor shall maintain Hired/Non-owned Automobile Liability) against claims and liabilities for personal injury, death, or property damage providing protection in the minimum amount of: (i) One Million Dollars ($1,000,000.00) combined single limit, or (ii) the maximum amount of such insurance available to Contractor under Contractor's combined insurance policies (including any excess or "umbrella" policies), whichever is greater.

(5) **Pollution (Environmental) Liability**: If the performance of Contractor's work or service under this Contract involves hazardous materials, contaminated soil disposal, and/or a risk of accidental release of fuel oil, chemicals or other toxic gases or hazardous materials, Contractor shall procure and maintain Pollution Liability covering Contractor's liability for bodily injury, property damage and environmental damage resulting from pollution and related cleanup costs arising out of the work or services to be performed under this Contract. Coverage shall be provided for both work performed on site, as well as during the transport of hazardous materials. Such coverage shall be in the minimum amount of: (i) One Million Dollars ($1,000,000.00) for any one accident or occurrence, or (ii) the maximum amount of such insurance available to Contractor under Contractor's combined insurance policies (including any excess or "umbrella" policies), whichever is greater.

(6) **Professional Liability**:

a. If the performance of Contractor's work or service under this Contract involves professional and/or technical services (examples include, but are not limited to, architects, engineers, land surveyors, legal services, and appraisers), Contractor shall procure and maintain either a claims made or occurrence Errors and Omission liability insurance in the minimum amount of: (i) One Million Dollars ($1,000,000.00)

each claim, or (ii) the maximum amount of such insurance available to Contractor under Contractor's combined insurance policies (including any excess or "umbrella" policies), whichever is greater. Further, if Contractor maintains a claims-made policy, Contractor shall provide written evidence of such insurance to City for at least five (5) years after the completion of work performed under this Contract.

b. If the performance of Contractor's work or service under this Contract relates to Information Technology or related services (examples include, but are not limited to computer programmers, hardware engineers, or other systems consultants), Contractor shall procure and maintain a claims made Errors and Omission liability insurance, including Cyber Liability and Data Breach, in the minimum amount of: (i) One Million Dollars ($1,000,000.00) each claim, or (ii) the maximum amount of such insurance available to Contractor under Contractor's combined insurance policies (including any excess or "umbrella" policies), whichever is greater.

(C) **Required Endorsements.** Contractor must provide proof of the following endorsements, listed for each policy for which endorsements are required, as outlined below:

(1) For all Policies except Builder's Risk and Professional Liability:

a. "Waiver of Subrogation" endorsements providing that the carrier agrees to waive any right of subrogation it may have against the City of Morgan Hill and the City's elected or appointed officials, boards, agencies, officers, agents, employees, and volunteers.

(2) General Liability, Automobile, and Pollution Liability:

a. "Additionally Insured" endorsements naming the City of Morgan Hill, its elected or appointed officials, boards, agencies, officers, agents, employees, and volunteers as additional insureds;

b. "Primary and Non-Contributing" endorsements stating that the policy is primary non-contributing;

(3) General Liability:

a. “Separation of Insureds” endorsements stating that 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.

(D) **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. Contractor must confirm that each Subcontractor has complied with requirements as outlined herein. The insurance requirements for Subcontractors do not replace or limit the Contractor’s insurance obligations.

(E) **Certificates**. Contractor must furnish City with copies of all certificates as outlined herein, whether new or modified, promptly upon receipt. In the event of a claim or legal action, CONSULTANT shall promptly furnish CITY of Morgan Hill with copies of all policies outlined herein. No policy subject to Contractor’s Contract with City shall be reduced, canceled, allowed to expire, or materially changed except after thirty (30) days' notice by the insurer to City, unless due to non-payment of premiums, in which case ten (10) days written notice must be made to City. Certificates, including renewal certificates, may be mailed electronically to riskmgmt@morganhill.ca.gov or delivered to the Certificate Holder address as follows:

City of Morgan Hill
Attn: Risk Management
17575 Peak Avenue
Morgan Hill, CA 95037

(F) ***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.

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. 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 Engineer, and must provide the schedules in electronic and paper form as requested 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 orders date(s).

(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 ten 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 Section 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 by City. 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, or to facilitate City's use of its property. 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 City of Morgan Hill-observed holidays, during City's normal business hours, except as expressly 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, and 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 and 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 to the 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 Section 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 causes that are beyond the control of either City or Contractor, including Weather Delay Days, discovery of Historic or Archeological Items pursuant to Section 7.18, or the actions or inactions of third parties or other agencies, 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 ten 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 the Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount of 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 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 Section 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 section 7203, if Contractor fails to achieve Final Completion within the Contract Time, City will charge Contractor in the amount specified in the Contract for each day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty.

(A) ***Liquidated Damages.*** Liquidated damages will not be assessed for any Excusable 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 Work. City reserves the right to make 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 intent of 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 Section 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 extra 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. 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 no later than the following Working Day, a daily report of the Extra Work performed that day and the related costs, together with copies of certified payroll, invoices, and other documentation substantiating the costs ("Extra Work Report"). The Engineer will make any adjustments to Contractor's Extra Work Report(s) based on the Engineer's records of the Work. When an Extra Work Report(s) is agreed on and signed by both City and Contractor, the Extra Work Report(s) will become the basis for payment under a duly authorized and signed Change Order. Failure to submit the required documentation by close of business on the next Working Day 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.*** Contactor'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 ten 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 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 only 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 previously 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, and which may include a not-to-exceed limit, 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 percent markup;

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

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

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

(5) Increased bond or insurance premium costs computed at 1.5% percent of 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 amount of compensation or added 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, Business License, and Taxes.

(A) ***Permits, Fees, and City Business License.*** Contractor must obtain and pay for all permits, fees, or licenses required to perform the Work, including a City business license. 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 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 may 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, including the piping, wiring, internet and Wi-Fi connections, and any related equipment necessary to maintain the temporary facilities.

(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.

(A) ***Offsite Acquisition.*** Unless otherwise provided by City, Contractor must acquire, use and dispose of, at its sole expense, any additional 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. 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 the public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, or pedestrian traffic.

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.

(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 and 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 Engineer. If 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. 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.

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. . 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. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights in violation of this provision.

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 that is used solely for the purpose of describing the type of item 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 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 in advance, within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(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. City has sole discretion to determine whether a proposed substitution at Contractor's sole cost 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 the 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 locations during construction and/or fabrication and at any Worksite, including at shops and yards as well as at the Project site. All manufacturers' application or installation instructions must be provided to the Inspector 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. 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 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.

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

(1) Contractor will be responsible for the costs of any subsequent 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 of noncompliant Work or material. Inspection of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Any Work done without the required inspection(s) will also 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.

(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 wastewater 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 rubbish debris and waste along with the construction equipment, tools, machinery, waste and surplus materials. Contractor must, at all times, minimize and confine dust and debris resulting from construction activities.

(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 all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, signs, 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. 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 commence compliance with its maintenance and cleanup obligations within two business days following written notification from any City or its representative 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 the cost will be deducted 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.*** All manufacturers' application or installation instructions must be provided to the City at least ten days prior to the first such application. The instructions and manuals, along with any required guarantees, must be delivered to City for review.

(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 the 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 City 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 Section 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 such 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 such delay was caused by City's failure to provide for removal or relocation of the utility facilities.

7.13 Notice of Excavation. Contractor must comply with all applicable requirements in Government Code Sections 4216 through 4216.5, which are incorporated herein. Government Code Section 4216.2, requires that except in an emergency, Contractor must contact the appropriate regional notification center, or Underground Services Alert, at least two working days, but not more than fourteen calendar days before starting any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations. Contractor may not begin excavation until it has obtained and submitted to Engineer an inquiry identification number from Underground Services Alert.

7.14 Trenching and Excavations of Four Feet or More. As required by Public Contract Code Section 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 Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with 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 do 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 the 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 Section 6705, if the Contract Price exceeds $25,000.00 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, it 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. All stakes or marks must be set by a California licensed surveyor or a California registered civil engineer. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. 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 the same 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 must also comply with all other Laws governing discharge of stormwater, including applicable municipal stormwater management programs.

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 the Surface Mining and Reclamation Act of 1975, Public Resources Code Section 2710 *et seq*., any purchase of mined materials, such as construction aggregate, sand, gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation included on the AB 3098 List, which is available online at: ftp://ftp.consrv.ca.gov/pub/omr/AB3098%20List/AB3908List.pdf.

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 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. **Each application for payment shall be accompanied by completed "Contract Balance Form," a copy of which is provided at the end of Article 8.**

(B) ***Payment of Undisputed Amounts.*** City will pay the undisputed amount due within thirty days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code Section 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may 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 and 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 and 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) Work performed without Shop Drawings, that have been accepted by the City when accepted Shop Drawings are required before proceeding with the Work. City may deduct an amount based on the estimated costs 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 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 to 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 acceptance of the Project.

(A) ***Substitution of Securities.*** As provided by Public Contract Code Section 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 Section 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 (f) of Public Contract Code Section 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 Section 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 Section 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 to Subcontractor or supplier who has provide 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 Section 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.

CONTRACT BALANCE FORM

Hale Avenue Extension Project

Note: A detailed invoice MUST be attached to this Contract Balance Form.

CONTRACTOR NAME: _____ DATE: _____

MAILING ADDRESS: _____ TELEPHONE NO.: _____

_____ FAX NO.: _____

_____ PROJECT NO.: _____

INVOICE NO.: _____

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1. ORIGINAL CONTRACT AMOUNT: $_____

2. APPROVED CHANGE ORDERS TOTAL: $_____

3. REVISED CONTRACT AMOUNT: (1+2) $_____

4. PREVIOUS BALANCE PAID: $_____

5. REMAINING BALANCE: (3-4) $_____

6. CURRENT PROGRESS PAYMENT DUE: $_____
   (before retention)

7. 5% RETENTION FROM WORK DONE: (-)$_____

8. CURRENT BALANCE DUE: (6-7) $_____

9. REMAINING BALANCE OF REVISED CONTRACT AMOUNT: (5-8) $_____
   (including retention)

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 (Government Code Sections 12900 *et seq.*), Government Code Section 11135, and Labor Code Sections 1735, 1777.5, 1777.6, and 3077.5.

9.2 Labor Code Requirements.

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

(B) ***Penalty.*** Pursuant to Labor Code Section 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 Section 1815.

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

(D) ***Notices.*** Pursuant to Labor Code Section 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 Sections 1720 or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in Sections 1771 and 1774 of the Labor Code. The prevailing wage rates are 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 Section 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to $200.00 for each calendar day, or portion a day, 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 Sections 1776 and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for 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.

(2) Contractor or Subcontractor has complied with the requirements of Labor Code Sections 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, or 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 Section 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 a day, 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 Section 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

9.6 Wage Theft Prevention. Compliance with Wage and Hour Laws: Contractor, and any subcontractor it employs to complete work under this Agreement, shall comply with all applicable federal, state and local wage and hour laws. Applicable laws may include, but are not limited to, the Federal Fair Labor Standards Act and the California Labor Code.

Final Judgments, Decisions, and Orders: For purposes of this Section, a "final judgment, decision, or order" refers to one for which all appeals have been exhausted or the time to appeal has expired. Relevant investigatory government agencies include: the federal Department of Labor, the California Division of Labor Standards Enforcement, or any other governmental entity or division tasked with the investigation and enforcement of wage and hour laws.

Prior Judgments against Contractor and/or its Subcontractors: BY SIGNING THIS AGREEMENT, CONTRACTOR AFFIRMS THAT IT HAS DISCLOSED ANY FINAL JUDGMENTS, DECISIONS OR ORDERS FROM A COURT OR INVESTIGATORY GOVERNMENT AGENCY FINDING – IN THE FIVE (5) YEARS PRIOR TO EXECUTING THIS AGREEMENT – THAT CONTRACTOR OR ITS SUBCONTRACTOR(S) HAS VIOLATED ANY APPLICABLE WAGE AND HOUR LAWS. CONTRACTOR FURTHER AFFIRMS THAT IT OR ITS SUBCONTRACTOR(S) HAS SATISFIED AND COMPLIED WITH – OR HAS REACHED AGREEMENT WITH THE CITY REGARDING THE MANNER IN WHICH IT WILL SATISFY – ANY SUCH JUDGMENTS, DECISIONS OR ORDERS.

Judgments or Decisions During Term of Contract: If at any time during the term of this Agreement, a court or investigatory government agency issues a final judgment, decision or order finding that Contractor or an subcontractor it employs to perform work under this Agreement has violated any applicable wage and hour law, or Contractor learns of such a judgment, decision, or order that was not previously disclosed, Contractor shall inform the City Attorney, no more than fifteen (15) days after the judgment, decision or order becomes final or of learning of the final judgment, decision or order. Contractor and its subcontractors shall promptly satisfy and comply with any such judgment, decision, or order, and shall provide the City Attorney with documentary evidence of compliance with the final judgment, decision or order within five (5) days of satisfying the final judgment, decision or order. The City reserves the right to require Contractor to enter into an agreement with the City regarding the manner in which any such final judgment, decision, or order will be satisfied.

City's Right to Withhold Payment: Where Contractor or any subcontractor it employs to perform work under this Agreement has been found in

violation of any applicable wage and hour law by a final judgment, decision or order of a court or government agency, the City reserves the right to withhold payment to Contractor until such judgment, decision or order has been satisfied in full.

Material Breach: Failure to comply with any part of this Section constitutes a material breach of this Agreement. Such breach may serve as a basis for immediate termination of this Agreement and/or any other remedies available under this Agreement and/or law.

Notice to City Related to Wage Theft Prevention: Notice provided to the City Attorney as required under this Section shall be addressed to: City Attorney, City of Morgan Hill, 17575 Peak Avenue, Morgan Hill, CA 95037. The Notice provisions of this Section are separate from any other notice provisions in this Agreement and, accordingly, only notice provided to the above address satisfies the notice requirements in this Section.

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 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 Section 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 Law, 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.

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 the 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 City Council action during a public meeting to accept the Project, unless the Engineer is authorized to accept the Project, in which case 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 (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. 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 expressly 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, Contractor expressly agrees that 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. City will notify Contractor in writing of its intent to occupy or make use of the Project or any portions of the Project, pursuant to this provision.

(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) ***Definition.*** "Claim" means a separate demand by Contractor, submitted in writing by registered or certified mail with return receipt requested, for a change in the Contract Time, including a time extension or relief from liquidated damages, or a change in the Contract Price when the demand has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected or disputed by City, in whole or in part. A Claim may also include that portion of a unilateral Change Order that is disputed by the Contractor.

(B) ***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.

(C) ***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 Section 9204 and Sections 20104 *et seq.*, which are incorporated herein by this reference.

(D) ***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 a Claim or other dispute.

(E) ***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, clearly identified as a "Claim" submitted pursuant to this Article 12, and 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. Contractor understands that submission of a Claim which has no basis in fact or which Contractor knows to be false may violate the False Claims Act (Government Code Section 12650 et seq.).

(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); and

(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 15 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 15 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 15 days of the effective date of Final Payment, under Section 8.7, Final Payment, above.

(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 Section 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, 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 dispute City's response, 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 Section 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. It is expressly agreed, under Code of Civil Procedure Section 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) ***Failure to Comply.*** Contractor will not be entitled to an increase in Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(B) ***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. The Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to 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 suspension notice. However, the time for completing the Project will only be extended if the suspension causes or will cause delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension, 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 the 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; 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 Contactor 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 demobilizations cost 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 Worksite(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 to 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 Section 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. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 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 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

1.0 **Shop Drawings.** Whenever Shop Drawings are required by the Contract Documents or by the Engineer, Contractor must submit five (5) prints of each shop drawing to the Engineer.

(A) If three (3) prints of the drawing are returned to Contractor marked "NO EXCEPTIONS TAKEN," further revision of the drawings will not be required. If one (1) print of the drawing is returned to Contractor marked "REVISE AND RESUBMIT," Contractor must revise the drawing and resubmit five (5) copies of the revised drawing to the Engineer. City reserves the right to withhold payment due Contractor to cover additional costs of the Engineer's review beyond the second submission.

(B) Fabrication of an item may not commence before the Engineer has reviewed the pertinent shop drawings and returned copies to Contractor marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

(C) Revisions indicated on shop drawings are deemed necessary to meet the existing requirements of the Contract Documents and may not be taken as the basis of claims for extra Work. Contractor is not entitled to claim for damages or extension of time due to any delay resulting from making the required revisions to shop drawings. The Engineer's review of the shop drawings does not relieve Contractor of responsibility for any errors or omissions contained in the shop drawings nor will such review operate to waive or modify any provision contained in the Contract Documents.

2.0 ***Waste Water.*** City will provide water required for performance of the Work. Contractor is responsible for the appropriate disposal of waste water in coordination with City personnel. Contractor must provide a backflow preventer on all point of connections to City's Water System. All backflow preventers must be checked and approved by City's Public Works Water Division. Contractor must provide a deposit (refundable) and make necessary arrangements to pick up a hydrant meter at City's Public Works Office. At the completion of the Project, if the hydrant meter is not returned promptly or if it is damaged, Contractor shall forfeit its deposit.

3.0 ***Equipment.*** Contractor must provide and use equipment and plants suitable to produce the quality of Work and materials required by the Contract Documents. Contractor may be required to remove equipment which the Engineer deems unsuitable for the Work. Contractor must ensure that equipment is operated by trained, experienced operators, and at a speed or rate of production not to exceed that recommended by the manufacturer. Any vehicles

used to haul materials over existing streets and highways must be equipped with pneumatic tires.

4.0 **Lines and Grades.** The Contractor will set the stakes or marks necessary to establish the lines and grades required for the completion of the Work in accordance with the Contract Documents. Payment shall be included in the other bid items and no separate payment shall be made.

(A) ***Measurements.*** Distances and measurements are given and will be made in a horizontal plane. Grades are given from the top of stakes or nail unless otherwise noted. Three (3) consecutive points shown on the same rate of slope must be used in common in order to detect any variation from a straight grade. Any variation from a straight grade, straight slope or line, must be reported to the Engineer. If such discrepancy is not reported to the Engineer, Contractor is responsible for any error in the finished work.

(B) ***Stakes.*** Contractor must preserve all stakes and points set for lines, grades or measurements of the Work in their proper places until authorized by the Engineer to remove them. All expense incurred by replacing stakes that have been removed without proper authority may be deducted from any payment due to Contractor.

5.0 **Disposal of Materials Outside of Street Right-of-Way.** Unless otherwise specified in the Specifications or Special Conditions, Contractor is solely responsible for disposing of materials outside the street right-of-way and for all associated costs. Before disposing materials outside the street right-of-way, Contractor must 1) obtain a written release from the property owner releasing City from any and all responsibility in connection with the disposal of material on that property; and 2) obtain permission from the Engineer to dispose of the material at the permitted location.

6.0 **Emergency Contact.** Prior to the commencement of Work on the Project, Contractor must provide contact information to the Engineer for the person designated by Contractor to respond to any emergency that arises on the Worksite during the course of the Project. That person will be responsible for responding to the Worksite within thirty (30) minutes following notification of an emergency by City's Police or Fire Department, regardless of the time of day.

7.0 **Right-of-Way.** City will provide the right-of-way for performance of the Work. Contractor is solely responsible for any additional area required outside of the designated the right-of-way, unless otherwise provided in the Contract Documents.

(A) ***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 and its subcontractors shall at all times in the performance of the Work comply with all applicable federal, state, and local laws and regulations concerning pollution of waterways.

8.0 **Use of Explosives.** When the use of explosives is necessary for the prosecution of the Work, Contractor must ensure that they are used with the utmost care to avoid endangering persons or property. All explosives must be used and stored in strict accordance with all applicable federal, state, and local laws and regulations.

9.0 **Authorized Work Days and Hours.**

(A) ***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

(B) ***Authorized Work Hours.*** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project during the following hours:

8am-5pm

10.0 ***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, and Contractor must present City with the following information or documents at the meeting for City's review and acceptance before the Work commences:

10.1 Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;

10.2 List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;

10.3 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;

10.4 If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;

10.5 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;

10.6 Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;

10.7 Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;

10.8 Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;

10.9 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;

10.10 If requested by City, Contractor's cash flow projections; and

10.11 Any other documents specified in the Special Conditions or Notice of Award.

11.0 **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.

(A) ***Weather Delay Day***. A Weather Delay Day is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than forty percent (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 Worksite 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.

(B) ***Normal Weather Delay Days.*** 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	11
February	11
March	10
April	6
May	4
June	2
July	1
August	1
September	1
October	4
November	7
December	10

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.

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

12.1 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.

12.2 Contractor must replace any survey monuments that are damaged or removed during the Work, with a Record of Survey filed by a licensed land surveyor as required by California law.

12.3 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.

12.4 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.

13.0 **Value Engineering.** The Contractor may be entitled to additional compensation for cost reduction changes made pursuant to a value engineering

proposal submitted by the Contractor, subject to the limitations of Public Contract Code Section 7107, and in strict compliance with this Section __. Contractor will not be entitled to any such additional compensation unless all of the following requirements have been met:

13.1 The Contractor must submit a written proposal for changes to the Plans or Specifications for the Project, in which it:

(A) Identifies the written proposal as a proposal for cost reduction changes with reference to this section;

(B) Clearly and specifically identifies the proposed cost reduction changes by describing in detail each of the changes proposed with specific references to each of the Specifications and Plans involved in the proposed changes, and providing proposed revised Specifications and Plans as applicable; and

(C) Estimates the net amount of the cost reduction and provides the basis for that estimate.

13.2 The proposed changes have been identified and developed solely by the Contractor, and not, in whole or in part, by the City.

13.3 The City accepts the proposed changes in whole or in part in a writing signed by the Engineer. The Contractor will only be entitled to additional compensation for those changes specifically accepted by the City. The Engineer will determine the net savings in construction costs from any such changes that are both accepted and implemented by the City. Contractor will not be entitled to more than 50% of the net savings as determined by the Engineer, acting in his or her sole discretion.

14.0 **COVID-19 REQUIREMENTS**

The CONTRACTOR shall comply with all State or Local requirements regarding COVID-19 during the project duration and no separate payment shall be made for compliance. Requirements include all online forms, all jobsite postings, employee training, supplying masks or other required protection devices, and temperature testing.

15.0 **PL-566 SANTA CLARA VALLEY WATER PROJECT**

The CONTRACTOR shall coordinate his work with Valley Water’s pl-566 project near Warren Avenue. No separate payment shall be made.

16.0 **Mitigation Monitoring and Reporting Program**
Contractor to comply with the requirements listed in the Hale Avenue Extension Mitigation Monitoring and Reporting Program, see Appendix B. Payment shall be included in (Bid Item 3) TS-11-Construction Site Management.

17.0 **PERMITS**

17.1 Santa Clara County Encroachment Permit:
Contractor to comply with the permit requirements listed in the County Encroachment Permit. Contractor will be required to obtain their own encroachment permit from the County for work within their jurisdiction. Payment shall be included in (Bid Item 3) TS-11-Construction Site Management.

17.2 Central Coast Regional Water Quality Control Board Permit:
Contractor to comply with the requirements listed in the Central Coast Regional Water Quality Control Board Permit, see Appendix C. Payment shall be included in (Bid Item 3) TS-11-Construction Site Management.

17.3 U.S. Army Corps of Engineers Permit:
Contractor to comply with the permit requirements listed in the U.S. Army Corps of Engineers permit, see Appendix D. Payment shall be included in (Bid Item 3) TS-11-Construction Site Management.

18.0 **PG&E Undergrounding**
The CONTRACTOR shall coordinate his work with PG&E for the undergrounding work at Dewitt/Spring, and for providing services for street lights. No separate payment shall be made.

19.0 **Construction Sequencing.** All work under this Contract shall be conducted in a manner which will minimize shutdowns, roadway closures, or traffic obstructions caused by the construction. Shutdowns causing damage to adjacent public right-of-way and private property shall not be permitted, and any damage resulting shall be the sole responsibility of the Contractor.

20.0 **Construction Yard Staging.** The Contractor shall be responsible for acquiring or leasing space for temporary construction material and equipment staging. Any staging on private property shall be arranged and agreed upon solely between the Contractor and Property Owner(s). The Contractor shall provide the City a copy of the executed project related staging agreement between the Contractor and Property Owner(s).

END OF SPECIAL CONDITIONS

TECHNICAL SPECIFICATIONS

FOR CONSTRUCTION OF

HALE AVENUE EXTENSION PROJECT

CITY OF MORGAN HILL

MORGAN HILL, CALIFORNIA
PUBLIC WORKS DEPARTMENT

PREPARED BY

MARK THOMAS
2833 Junction Avenue
Suite 110
San Jose, CA 95134

MARK THOMAS

FOR USE WITH THE LATEST DESIGN STANDARDS AND STANDARD DETAILS OF THE CITY OF MORGAN HILL AND THE STANDARD SPECIFICATIONS DATED MAY 2018, AND STANDARD PLANS DATED MAY 2018, unless noted otherwise OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION

September 25, 2020

HALE AVENUE
EXTENSION PROJECT

The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

Approval Date: _____

_____
Michael K. Cooper, Registered Civil Engineer
Mark Thomas & Company, Inc.

_____
Spencer Lee, Registered Professional Engineer
Y&C Transportation Consultants, Inc

_____
Reed C. Grandy, Licensed Landscape Architect
Phoenix Design Group

TECHNICAL SPECIFICATIONS

TABLE OF CONTENTS

GENERAL CONSTRUCTION 1
TS-02 SUPPLEMENTAL PROJECT INFORMATION 1
TS-03 ENGINEERING FABRICS 1
TS-04 PORTLAND CEMENT CONCRETE 1
TS-05 PRECAST CONCRETE QUALITY CONTROL 2
TS-06 WELDING3 5
TS-07 ORDER OF WORK 12
TS-08 COOPERATION 14
TS-09 CONSTRUCTION PROJECT INFORMATION SIGNS 15
TS-10 WATER POLLUTION CONTROL 15
TS-11 CONSTRUCTION SITE MANAGEMENT 30
TS-12 STREET SWEEPING 42
TS-13 EROSION CONTROL (HYDROSEED) 44
TS-14 TEMPORARY CONCRETE WASHOUT FACILITY 45
TS-15 TEMPORARY FIBER ROLL 49
TS-16 TEMPORARY SILT FENCE 52
TS-17 TEMPORARY FENCE (TYPE ESA) 55
TS-18 TEMPORARY CONSTRUCTION ENTRANCE 57
TS-19 TEMPORARY DRAINAGE INLET PROTECTION 61
TS-20 MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL) 65
TS-21 MOBILIZATION 66
TS-22 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES 66
TS-23 CONSTRUCTION AREA SIGNS 67
TS-24 MAINTAINING TRAFFIC 69
TS-25 TEMPORARY PAVEMENT DELINEATION 69
TS-26 BARRICADE 70
TS-27 PORTABLE CHANGEABLE MESSAGE SIGNS 71
TS-28 TEMPORARY RAILING 72
TS-29 CHANNELIZER 73
TS-30 TEMPORARY IN-LINE CRASH CUSHION 73
TS-31 SITE PREPARATION 74
TS-32 COLD PLANE ASPHALT CONCRETE PAVEMENT 80
TS-33 CLEARING AND GRUBBING 82
TS-34 EARTHWORK 82
TS-35 EARTH RETAINING STRUCTURE 84
TS-36 IRRIGATION CROSSOVERS 86
TS-37 FINISHING ROADWAY 86
TS-38 AGGREGATE BASE 87
TS-39 HOT MIX ASPHALT 87
TS-40 PILING 88
TS-42 CONCRETE STRUCTURES 88
TS-44 SEALING JOINTS 89
TS-45 REINFORCEMENT 89
TS-46 PEDESTRIAN BARRICADE 90
TS-47 ROADSIDE SIGNS 91
TS-48 DUCTILE IRON PIPE 91
TS-50 REINFORCED CONCRETE PIPE 91

TS-53 ROCK RIP-RAP **93**
TS-55 BIO FILTRATION SWALE **93**
TS-56 STORM DRAIN DITCH AND CURB INLETS **98**
TS-57 STORM DRAIN MANHOLE **98**
TS-58 PIPE RISER WITH DEBRIS RACK CAGE **99**
TS-59 MISCELLANEOUS CONCRETE CONSTRUCTION **99**
TS-60 MISCELLANEOUS IRON AND STEEL **101**
TS-61 BARBED WIRE FENCE **101**
TS-63 OBJECT MARKERS **101**
TS-64 METAL BEAM GUARD RAILING **102**
TS-65 CHAIN LINK RAILING **102**
TS-68 THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING **102**
TS-69 PAVEMENT MARKERS **103**
TS-70 WATER SYSTEM **104**
TS-71 UTILITY DUCT (EMPTY) **109**
TS-73 SUPPLEMENTAL WORK **109**
LANDSCAPING AND IRRIGATION SYSTEMS **110**
TS-L01 LANDSCAPE SITE PREPARATION **110**
TS-L02 LANDSCAPE GRADING **114**
TS-L03 HARDSCAPE PAVING **117**
TS-L04 IRRIGATION DISTRIBUTION SYSTEM **119**
TS-L05 LANDSCAPE PLANTINGS **125**
TS-L06 LANDSCAPE MAINTENANCE PERIOD **136**
TS-L08 HYDROSEEDING **141**
ELECTRICAL SYSTEMS **147**
TS-E01 DESCRIPTION **147**
TS-E02 COST BREAK-DOWN **148**
TS-E04 CAST-IN-DRILLED-HOLE CONCRETE PILE FOUNDATIONS **148**
TS-E05 STANDARDS, STEEL PEDESTALS, AND POSTS **148**
TS-E06 CONDUIT **149**
TS-E07 PULL BOXES **149**
TS-E08 CONDUCTORS, CABLES, AND WIRING **149**
TS-E09 SERVICE **149**
TS-E10 NUMBERING ELECTRICAL EQUIPMENT **150**
TS-E20 LIGHT EMITTING DIODE (LED) LUMINAIRES **150**
TS-E22 PHOTOELECTRIC CONTROLS **156**
TS-E24 DISPOSING OF ELECTRICAL EQUIPMENT **156**
STANDARD PLANS LIST **157**
STANDARD DETAILS LIST **160**

APPENDIX

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GENERAL CONSTRUCTION

TS-02 SUPPLEMENTAL PROJECT INFORMATION

The City makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Available for inspection at the office of the City Engineer of the City of Morgan Hill, at 17575 Peak Avenue, Morgan Hill, CA 95037.	• Geotechnical and Foundation Investigation Report for Hale Avenue Extension dated

Said report is made available for the convenience of the Contractor only, All statements, findings, and interpretations in said report are those of Pacific Geotechnical Engineering, Contractor shall make their own interpretations as to the conditions existing at the proposed project site.

TS-03 ENGINEERING FABRICS

Engineering fabrics shall conform to the provisions in Section 88, "Engineering Fabrics," of the Standard Specifications and these Technical Specifications.

Filter fabric for this project shall be ultraviolet (UV) ray protected.

TS-04 PORTLAND CEMENT CONCRETE

Portland cement concrete shall conform to the provisions in Section 90, "Concrete," of the Standard Specifications and these Technical Specifications.

STRENGTH DEVELOPMENT TIME

The time allowed to obtain the minimum required compressive strength as specified in Section 90-1.01, "Description," of the Standard Specifications will be 56 days when the Contractor chooses cementitious material that satisfies the following equation:

$$\frac{(41 \times UF) + (19 \times F) + (11 \times SL)}{TC} \geq 7.0$$

Where:

F = Fly ash or natural pozzolan conforming to the requirements in AASHTO Designation: M 295, Class F or N, including the amount in blended cement, pounds per cubic yard. F is equivalent to either FA or FB as defined in Section 90-2.01C, "Required Use of Supplementary Cementitious Materials," of the Standard Specifications

SL = GGBFS, including the amount in blended cement, pounds per cubic yard

UF = Silica fume, metakaolin, or UFFA, including the amount in blended cement, pounds per cubic yard

TC = Total amount of cementitious material used, pounds per cubic yard

For concrete satisfying the equation above, the Contractor shall test for the modulus of rupture or compressive strength specified for the concrete involved, at least once every 500 cubic yards, at 28, 42, and 56 days. The Contractor shall submit test results to the Engineer and the City of Morgan Hill, Attention: Public Works Engineering Division.

SUPPLEMENTARY CEMENTITIOUS MATERIALS

The Contractor may use rice hull ash as a supplementary cementitious material (SCM) to make minor concrete. Rice hull ash shall conform to the requirements in AASHTO Designation: M 321 and the following chemical and physical requirements:

Chemical Requirements	Percent
Silicon Dioxide (SiO_2) [a]	90 min.
Loss on ignition	5.0 max.
Total Alkalies (as Na_2O) equivalent	3.0 max.

Physical Requirements	Percent
Particle size distribution Less than 45 microns Less than 10 microns	 95 50
Strength Activity Index with portland cement [b] 7 days 28 days	 95 (minimum % of control) 110 (minimum % of control)
Expansion at 16 days when testing job materials in conformance with ASTM C 1567 [c]	0.10 max.
Surface Area when testing by nitrogen adsorption in conformance with ASTM D 5604	40.0 m^2/g min.

Notes:
[a] A maximum of 1.0% of the SiO_2 may exist in crystalline form.
[b] When tested in conformance with the requirements for strength activity testing of silica fume in AASHTO Designation: M 307
[c] In the test mix, Type II or Type V portland cement shall be replaced with at least 12% RHA by weight.

Rice hull ash will be considered as a Type UF SCM for the purposes of calculating cementitious material requirements in Section 90-2.02B, "Cementitious Material," of the Standard Specifications and these Technical Specifications.

TS-05 PRECAST CONCRETE QUALITY CONTROL

GENERAL

Precast concrete quality control shall conform to these Technical Specifications.

Unless otherwise specified, precast concrete quality control shall apply when any precast concrete members are fabricated in conformance with the provisions in Section 49, "Piling," or Section 51, "Concrete Structures," of the Standard Specifications.

Precast concrete quality control shall not apply to precast concrete members that are fabricated from minor concrete.

In addition, precast concrete quality control shall apply when precast members are fabricated for the following work:

A. MSE Wall Panels

Quality Control (QC) shall be the responsibility of the Contractor. The Contractor's QC inspectors shall perform inspection and testing prior to precasting, during precasting, and after precasting, and as specified in this section and additionally as necessary to ensure that materials and workmanship conform to the details shown on the plans, and to the specifications.

Quality Assurance (QA) is the prerogative of the Engineer. Regardless of the acceptance for a given precast element by the Contractor, the Engineer will evaluate the precast element. The Engineer will reject any precast element that does not conform to the approved Precast Concrete Quality Control Plan (PCQCP), the details shown on the plans, or to these Technical Specifications.

The Contractor shall designate in writing a precast Quality Control Manager (QCM) for each precasting facility. The QCM shall be responsible directly to the Contractor for the quality of precasting, including materials and workmanship, performed by the Contractor and all subcontractors. The QCM shall be the sole individual responsible to the Contractor for submitting, receiving, and approving all correspondence, required submittals, and reports to and from the Engineer. The QCM shall not be employed or compensated by any subcontractor, or other persons or entities hired by subcontractors, or suppliers, who will provide other services or materials for the project. The QCM may be an employee of the Contractor.

Prior to submitting the PCQCP required herein, a meeting between the Engineer, the Contractor's QCM, and a representative from each entity performing precast concrete operations for this project, shall be held to discuss the requirements for precast quality control.

QC Inspectors shall either be 1) licensed as Civil Engineers in the State of California, or 2) have a current Plant Quality Personnel Certification, Level II, from the Precast/Prestressed Concrete Institute. A QC Inspector shall witness all precast concrete operations.

PRECAST CONCRETE QUALIFICATION AUDIT

Unless otherwise specified, no Contractors or subcontractors performing precast concrete operations for the project shall commence work without having successfully completed the Department's Precast Fabrication Qualification Audit, hereinafter referred to as the audit. Copies of the audit form, along with procedures for requesting and completing the audit, are available at:

http://www.dot.ca.gov/hq/esc/Translab/OSM/smbresources.htm

An audit that was previously approved by the Department no more than 3 years before the award of this contract will be acceptable for the entire period of this contract, provided the Engineer determines the audit is for the same type of work that is to be performed on this contract.

A list of facilities who have successfully completed the audit and are authorized to provide material for this contract is available at:

http://www.dot.ca.gov/hq/esc/Translab/OSM/smdocuments/Internet_auditlisting.pdf

Successful completion of an audit shall not relieve the Contractor of the responsibility for furnishing materials or producing finished work of the quality specified in these Technical Specifications and as shown on the plans.

PRECAST CONCRETE QUALITY CONTROL PLAN

Prior to performing any precasting operations, the Contractor shall submit to the Engineer, in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications, 3 copies of a separate PCQCP for each item of work to be precast. A separate PCQCP shall be submitted for each facility. As a minimum, each PCQCP shall include the following:

A. The name of the precasting firm, the concrete plants to be used, and any concrete testing firm to be used;
B. A manual prepared by the precasting firm that includes equipment, testing procedures, safety plan, and the names, qualifications, and documentation of certifications for all personnel to be used;
C. The name of the QCM and the names, qualifications, and documentation of certifications for all QC inspection personnel to be used;
D. An organizational chart showing all QC personnel and their assigned QC responsibilities;
E. The methods and frequencies for performing all required quality control procedures, including all inspections, material testing, and any required survey procedures for all components of the precast elements including prestressing systems, concrete, grout, reinforcement, steel components embedded or attached to the precast member, miscellaneous metal, and formwork;
F. A system for identification and tracking of required precast element repairs, and a procedure for the reinspection of any repaired precast element. The system shall have provisions for a method of reporting nonconforming precast elements to the Engineer; and
G. Forms to be used for Certificates of Compliance, daily production logs, and daily reports.

The Engineer shall have 4 weeks to review the PCQCP submittal after a complete plan has been received. No precasting shall be performed until the PCQCP is approved in writing by the Engineer.

A PCQCP that was previously approved by the Engineer no more than one year prior to the beginning of work on this contract will be acceptable for the entire period of this contract, provided the Engineer determines the PCQCP is for the same type of work that is to be performed on this contract.

An amended PCQCP or addendum shall be submitted to, and approved in writing by the Engineer, for any proposed revisions to the approved PCQCP. An amended PCQCP or addendum will be required for any revisions to the PCQCP, including but not limited to changes in concrete plants or source materials, changes in material testing procedures and testing labs, changes in procedures and equipment, changes in QC personnel, or updated systems for tracking and identifying precast elements. The Engineer shall have 2 weeks to complete the review of the amended PCQCP or addendum, once a complete submittal has been received. Work that is affected by any of the proposed revisions shall not be performed until the amended PCQCP or addendum has been approved.

After final approval of the PCQCP, amended PCQCP, or addendum, the Contractor shall submit 7 copies to the Engineer of each of these approved documents.

It is expressly understood that the Engineer's approval of the Contractor's PCQCP shall not relieve the Contractor of any responsibility under the contract for the successful completion of the work in conformance with the requirements of the plans and specifications. The Engineer's approval shall neither constitute a waiver of any of the requirements of the plans and specifications nor relieve the Contractor of any obligation thereunder; and defective work, materials, and equipment may be rejected notwithstanding approval of the PCQCP.

REPORTING

The QC Inspector shall provide reports to the QCM on a daily basis for each day that precasting operations are performed.

A daily production log for precasting shall be kept by the QCM for each day that precasting operations, including setting forms, placing reinforcement, setting prestressing steel, casting, curing, post tensioning, and form release, are performed. The log shall include the facility location, and shall include a specific description of casting or related operations, any problems or deficiencies discovered, any testing or repair work performed, and the names of all QC personnel and the specific QC inspections they performed that day. The daily report from each QC Inspector shall also be included in the log. This daily log shall be available for viewing by the Engineer, at the precasting facility.

All reports regarding material tests and any required survey checks shall be signed by the person who performed the test or check, and then submitted directly to the QCM for review and signature prior to submittal to the Engineer. Corresponding names shall be clearly printed or type-written next to all signatures.

The Engineer shall be notified immediately in writing when any precasting problems or deficiencies are discovered and of the proposed repair or process changes required to correct them. The Engineer shall have 4 weeks to review these procedures. No remedial work shall begin until the Engineer approves these procedures in writing.

The following items shall be included in a precast report that is to be submitted to the Engineer following the completion of any precast element:

A. Reports of all material tests and any required survey checks;
B. Documentation that the Contractor has evaluated all tests and corrected all rejected deficiencies, and all repairs have been re-examined with the required tests and found acceptable; and
C. A daily production log.

At the completion of any precast element, and if the QCM determines that element is in conformance with these Technical Specifications, the QCM shall sign and furnish to the Engineer, a Certificate of Compliance in conformance with the provisions in Section 6-2.03C, "Certificates of Compliance," of the Standard Specifications. This Certificate of Compliance shall be submitted with the precast report. The certificate shall state that all of the materials and workmanship incorporated in the work, and all required tests and inspections of this work, have been performed in conformance with the details shown on the plans and the provisions of the Standard Specifications and these Technical Specifications.
Standard Specifications.

All required repair work or process changes required to correct precasting operation deficiencies, whether discovered by the QCM, QC Inspector, or by the Engineer, and any associated delays or expenses to the Contractor caused by performing these repairs, shall be at the Contractor's expense.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

TS-06 WELDING

GENERAL

Unless otherwise specified, Section 11, "Welding," shall apply to any welding that is specified to conform to an AWS welding code.

Requirements of the AWS welding codes shall apply unless otherwise specified in the Standard Specifications, on the plans, or in these Technical Specifications. Wherever the abbreviation AWS is used, it shall be equivalent to the abbreviations ANSI/AWS or AASHTO/AWS.

Wherever reference is made to the following AWS welding codes in the Standard Specifications, on the plans, or in these Technical Specifications, the year of adoption for these codes shall be as listed:

AWS Code	Year of Adoption
D1.1	2008
D1.3	2008
D1.4	2005
D1.5	2008
D1.6	2007
D1.8	2009

Flux cored welding electrodes conforming to the requirements of AWS A5.20 E6XT-4 or E7XT-4 shall not be used to perform welding for this project.

Unless otherwise specified, Clause 6.1.3 of AWS D1.1, paragraph 1 of Section 7.1.2 of AWS D1.4, and Clause 6.1.1.2 of AWS D1.5, are replaced with the following:

The QC Inspector shall be the duly designated person who acts for and on behalf of the Contractor for inspection, testing, and quality related matters for all welding.

Quality Assurance (QA) is the prerogative of the Engineer. The QA Inspector is the duly designated person who acts for and on behalf of the Engineer.

The QC Inspector shall be responsible for quality control acceptance or rejection of materials and workmanship.

When the term "Inspector" is used without further qualification, it shall refer to the QC Inspector.

Inspection and approval of all joint preparations, assembly practices, joint fit-ups, welding techniques, and the performance of each welder, welding operator, and tack welder shall be documented by the QC Inspector on a daily basis for each day welding is performed. For each inspection, including fit-up, Welding Procedure Specification (WPS) verification, and final weld inspection, the QC Inspector shall confirm and document compliance with the requirements of the AWS or other specified code criteria and the requirements of these Technical Specifications on all welded joints before welding, during welding, and after the completion of each weld.

The Engineer shall have the authority to verify the qualifications or certifications of any welder, QC Inspector, or NDT personnel to specified levels by retests or other means approved by the Engineer.

When joint weld details that are not prequalified to the details of Clause 3 of AWS D1.1 or to the details of Figure 2.4 or 2.5 of AWS D1.5 are proposed for use in the work, the joint details, their intended locations, and the proposed welding parameters and essential variables, shall be approved by the Engineer. The Contractor shall allow the Engineer 15 days to complete the review of the proposed joint detail locations.

In addition to the requirements of AWS D1.1, welding procedure qualifications for work welded in conformance with this code shall conform to the following:

When a nonstandard weld joint is to be made using a combination of WPSs, a single test may be conducted combining the WPSs to be used in production, provided the essential variables, including weld bead placement, of each process are limited to those established in Table 4.5.

Upon approval of the proposed joint detail locations and qualification of the proposed joint details, welders and welding operators using these details shall perform a qualification test plate using the WPS variables and the joint detail to be used in production. The test plate shall have the maximum thickness to be used in

production and a minimum length of 18 inches. The test plate shall be mechanically and radiographically tested. Mechanical and radiographic testing and acceptance criteria shall be as specified in the applicable AWS codes.

The Engineer will witness all qualification tests for WPSs that were not previously approved by the Department.

In addition to the requirements specified in the applicable code, the period of effectiveness for a welder's or welding operator's qualification shall be a maximum of 3 years for the same weld process, welding position, and weld type. If welding will be performed without gas shielding, then qualification shall also be without gas shielding. Excluding welding of fracture critical members, a valid qualification at the beginning of work on a contract will be acceptable for the entire period of the contract, as long as the welder's or welding operator's work remains satisfactory.

The Contractor shall notify the Engineer 7 days prior to performing any procedure qualification tests. Witnessing of qualification tests by the Engineer shall not constitute approval of the intended joint locations, welding parameters, or essential variables. The Contractor shall notify the Engineer using the "Standard TL-38 Inspection Form" located at:

http://www.dot.ca.gov/hq/esc/Translab/OSM/smbforms.htm

Clause 6.14.6, "Personnel Qualification," of AWS D1.1, Section 7.8, "Personnel Qualification," of AWS D1.4, and Clause 6.1.3.4, "Personnel Qualification," of AWS D1.5 are replaced with the following:

> Personnel performing nondestructive testing (NDT) shall be qualified and certified in conformance with the requirements of the American Society for Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A and the Written Practice of the NDT firm. The Written Practice of the NDT firm shall meet or exceed the guidelines of the ASNT Recommended Practice No. SNT-TC-1A. Individuals who perform NDT, review the results, and prepare the written reports shall be either:
>
> A. Certified NDT Level II technicians, or;
> B. Level III technicians who hold a current ASNT Level III certificate in that discipline and are authorized and certified to perform the work of Level II technicians.

Clause 6.6.5, "Nonspecified NDT Other than Visual," of AWS D1.1, Section 7.6.5 of AWS D1.4 and Clause 6.6.5 of AWS D1.5 shall not apply.

For any welding, the Engineer may direct the Contractor to perform NDT that is in addition to the visual inspection or NDT specified in the AWS or other specified welding codes, in the Standard Specifications, or in these Technical Specifications. Except as provided for in these Technical Specifications, additional NDT required by the Engineer, and associated repair work, will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications. Prior to release of welded material by the Engineer, if testing by NDT methods other than those originally specified discloses an attempt to defraud or reveals a gross nonconformance, all costs associated with the repair of the deficient area, including NDT of the weld and of the repair, and any delays caused by the repair, shall be at the Contractor’s expense. A gross nonconformance is defined as the sum of planar type rejectable indications in more than 20 percent of the tested length.

When less than 100 percent of NDT is specified for any weld, it is expected that the entire length of weld meet the specified acceptance-rejection criteria. Should any welding deficiencies be discovered by additional NDT directed or performed by the Engineer that utilizes the same NDT method as that originally

specified, all costs associated with the repair of the deficient area, including NDT of the weld and of the weld repair, and any delays caused by the repair, shall be at the Contractor's expense.

Repair work to correct welding deficiencies discovered by visual inspection directed or performed by the Engineer, and any associated delays or expenses caused to the Contractor by performing these repairs, shall be at the Contractor's expense.

WELDING QUALITY CONTROL

Welding quality control shall conform to the requirements in the AWS or other specified welding codes, the Standard Specifications, and these Technical Specifications.

Unless otherwise specified, welding quality control shall apply to work welded in conformance with the provisions in the following:

A. Section 49, "Piling," Section 52, "Reinforcement," Section 55, "Steel Structures," and Section 60-4.09, "Bridge Joint Restrainer," of the Standard Specifications
B. "Structural Steel for Building Work" of these Technical Specifications

Unless otherwise specified, Clauses 6.1.4.1 and 6.1.4.3 of AWS D1.1, paragraph 2 of Section 7.1.2 of AWS D1.4, and Clauses 6.1.3.2 through 6.1.3.3 of AWS D1.5 are replaced with the following:

The QC Inspector shall be currently certified as an AWS Certified Welding Inspector (CWI) in conformance with the requirements in AWS QC1, "Standard for AWS Certification of Welding Inspectors."

The QC Inspector may be assisted by an Assistant QC Inspector provided that this individual is currently certified as an AWS Certified Associate Welding Inspector (CAWI) in conformance with the requirements in AWS QC1, "Standard for AWS Certification of Welding Inspectors." The Assistant QC Inspector may perform inspection under the direct supervision of the QC Inspector provided the assistant is always within visible and audible range of the QC Inspector. The QC Inspector shall be responsible for signing all reports and for determining if welded materials conform to workmanship and acceptance criteria. The ratio of QC Assistants to QC Inspectors shall not exceed 5 to 1.

The Contractor shall designate in writing a welding Quality Control Manager (QCM). The QCM shall be responsible directly to the Contractor for the quality of welding, including materials and workmanship, performed by the Contractor and subcontractors.

The QCM shall be the sole individual responsible to the Contractor for submitting, receiving, reviewing, and approving all correspondence, required submittals, and reports to and from the Engineer. The QCM shall be a registered professional engineer or shall be currently certified as a CWI.

Unless the QCM is hired by a subcontractor providing only QC services, the QCM shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project. The QCM may be an employee of the Contractor.

The QCM shall sign and furnish to the Engineer, a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for each item of work for which welding was performed. The certificate shall state that all of the materials and workmanship incorporated in the work, and all required tests and inspections of this work, have been performed in conformance with the details shown on the plans, the Standard Specifications, and these Technical Specifications.

Welding inspection personnel or NDT firms to be used in the work shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project, except for the following conditions:

A. The work is welded in conformance with AWS D1.5 and is performed at a permanent fabrication or manufacturing facility that is certified under the AISC Quality Certification Program, Category CBR, Major Steel Bridges and Fracture Critical endorsement F, when applicable.
B. Structural steel for building work is welded in conformance with AWS D1.1 and is performed at a permanent fabrication or manufacturing facility that is certified under the AISC Quality Certification Program, Category STD, Standard for Steel Building Structures.

For welding performed at such facilities, the inspection personnel or NDT firms may be employed or compensated by the facility performing the welding provided the facility maintains a QC program that is independent from production.

Unless otherwise specified, an approved independent third party will witness the qualification tests for welders or welding operators. The independent third party shall be a current CWI and shall not be an employee of the contractor performing the welding. The Contractor shall allow the Engineer 15 days to review the qualifications and copy of the current certification of the independent third party.

Prior to submitting the Welding Quality Control Plan (WQCP) required herein, a prewelding meeting between the Engineer, the Contractor's QCM, and a representative from each entity performing welding or inspection for this project, shall be held to discuss the requirements for the WQCP.

Information regarding the contents, format, and organization of a WQCP, is available at the Transportation Laboratory and at:

http://www.dot.ca.gov/hq/esc/Translab/OSM/smbresources.htm

The Contractor shall submit to the Engineer, in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications, 2 copies of a separate WQCP for each subcontractor or supplier for each item of work for which welding is to be performed.

The Contractor shall allow the Engineer 15 days to review the WQCP submittal after a complete plan has been received. No welding shall be performed until the WQCP is approved in writing by the Engineer.

An amended WQCP or any addendum to the approved WQCP shall be submitted to, and approved in writing by the Engineer, for proposed revisions to the approved WQCP. An amended WQCP or addendum will be required for revisions to the WQCP, including but not limited to a revised WPS; additional welders; changes in NDT firms, QC, or NDT personnel or procedures; or updated systems for tracking and identifying welds. The Engineer shall have 7 days to complete the review of the amended WQCP or addendum. Work affected by the proposed revisions shall not be performed until the amended WQCP or addendum has been approved.

After final approval of the WQCP, amended WQCP, or addendum, the Contractor shall submit 7 copies to the Engineer of the approved documents. A copy of the Engineer approved document shall be available at each location where welding is to be performed.

All welding will require inspection by the Engineer. The Contractor shall request inspection at least 3 business days prior to the beginning of welding for locations within California and 5 business days for locations outside of California. The Contractor shall request inspection at:

http://www.dot.ca.gov/hq/esc/Translab/OSM/smbforms.htm

Continuous inspection shall be provided when any welding is being performed. Continuous inspection, as a minimum, shall include having a QC Inspector within such close proximity of all welders or welding operators so that inspections by the QC Inspector of each welding operation at each welding location does not lapse for a period exceeding 30 minutes.

A daily production log for welding shall be kept for each day that welding is performed. The log shall clearly indicate the locations of all welding. The log shall include the welders' names, amount of welding performed, any problems or deficiencies discovered, and any testing or repair work performed, at each location. The daily report from each QC Inspector shall also be included in the log.

The following items shall be included in a Welding Report that is to be submitted to the Engineer within 15 days following the performance of any welding:

A. A daily production log.
B. Reports of all visual weld inspections and NDT.
C. Radiographs and radiographic reports, and other required NDT reports.
D. A summary of welding and NDT activities that occurred during the reporting period.
E. Reports of each application of heat straightening.
F. A summarized log listing the rejected lengths of weld by welder, position, process, joint configuration, and piece number.
G. Documentation that the Contractor has evaluated all radiographs and other nondestructive tests and corrected all rejectable deficiencies, and that all repaired welds have been reexamined using the required NDT and found acceptable.

The following information shall be clearly written on the outside of radiographic envelopes: name of the QCM, name of the nondestructive testing firm, name of the radiographer, date, contract number, complete part description, and all included weld numbers, report numbers, and station markers or views, as detailed in the WQCP. In addition, all interleaves shall have clearly written on them the part description and all included weld numbers and station markers or views, as detailed in the WQCP. A maximum of 2 pieces of film shall be used for each interleave.

Reports of all visual inspections and NDT shall be signed by the inspector or technician and submitted daily to the QCM for review and signature prior to submittal to the Engineer. Corresponding names shall be clearly printed or typewritten next to all signatures. Reports of all NDT, whether specified, additional, or informational, performed by the Contractor shall be submitted to the Engineer.

The Engineer will review the Welding Report to determine if the Contractor is in conformance with the WQCP. Except for field welded steel pipe piling, the Engineer shall be allowed 15 days to review the report and respond in writing after the complete Welding Report has been received. Prior to receiving notification from the Engineer of the Contractor's conformance with the WQCP, the Contractor may encase in concrete or cover welds for which the Welding Report has been submitted. However, should the Contractor elect to encase or cover those welds prior to receiving notification from the Engineer, it is expressly understood that the Contractor shall not be relieved of the responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Material not conforming to these requirements will be subject to rejection.

For field welded steel pipe piling, including bar reinforcement in the piling, the Contractor shall allow the Engineer 2 business days to review the Welding Report and respond in writing after the required items have been received. No field welded steel pipe piling shall be installed, and no reinforcement in the piling shall be encased in concrete until the Engineer has approved the above requirements in writing.

In addition to the requirements in AWS D1.1 and AWS D1.5, third-time excavations of welds or base metal to repair unacceptable discontinuities, regardless of NDT method, and all repairs of cracks require prior approval of the Engineer.

The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered, and also of the proposed repair procedures to correct them. For requests to perform third-time excavations or repairs of cracks, the Contractor shall include an engineering evaluation of the proposed repair. The engineering evaluation, at a minimum, shall address the following:

A. What is causing each defect?
B. Why the repair will not degrade the material properties?
C. What steps are being taken to prevent similar defects from happening again?

The Contractor shall allow the Engineer 7 days to review these procedures. No remedial work shall begin until the repair procedures are approved in writing by the Engineer.

Clause 6.5.4 of AWS D1.5 is replaced with the following:

> The QC Inspector shall inspect and approve each joint preparation, assembly practice, welding technique, joint fit-up, and the performance of each welder, welding operator, and tack welder to make certain that the applicable requirements of this code and the approved Welding Procedure Specification (WPS) are met. The QC Inspector shall examine the work to make certain that it meets the requirements of Clauses 3 and 6.26. The size and contour of all welds shall be measured using suitable gages. Visual inspection for cracks in welds and base metal, and for other discontinuities shall be aided by strong light, magnifiers, or such other devices as may be helpful. Acceptance criteria different from those specified in this code may be used when approved by the Engineer.

In addition to the requirements of AWS D1.5, Clause 5.12 or 5.13, welding procedures qualification for work welded in conformance with that code shall conform to the following requirements:

A. Unless considered prequalified, fillet welds shall be qualified in each position. The fillet weld soundness test shall be conducted using the essential variables of the WPS as established by the Procedure Qualification Record (PQR).
B. For qualification of joints that do not conform to Figures 2.4 and 2.5 of AWS D1.5, a minimum of 2 WPS qualification tests are required. The tests shall be conducted using both Figure 5.1 and Figure 5.3. The test conforming to Figure 5.1 shall be conducted in conformance with AWS D1.5, Clause 5.12 or 5.13. The test conforming to Figure 5.3 shall be conducted using the welding electrical parameters that were established for the test conducted conforming to Figure 5.1. The ranges of welding electrical parameters established during welding per Figure 5.1 in conformance with AWS D1.5, Clause 5.12, shall be further restricted according to the limits in Table 5.3 during welding per Figure 5.3.
C. Multiple zones within a weld joint may be qualified. The travel speed, amperage, and voltage values that are used for tests conducted per AWS D1.5 Clause 5.13 shall be consistent for each pass in a weld joint, and shall in no case vary by more than ±10 percent for travel speed, ±10 percent for amperage, and ±7 percent for voltage as measured from a predetermined target value or average within each weld pass or zone. The travel speed shall in no case vary by more than ±15 percent when using submerged arc welding.
D. For a WPS qualified in conformance with AWS D1.5 Clause 5.13, the values to be used for calculating ranges for current and voltage shall be based on the average of all weld passes made in

the test. Heat input shall be calculated using the average of current and voltage of all weld passes made in the test for a WPS qualified in conformance with Clause 5.12 or 5.13.

E. Macroetch tests are required for WPS qualification tests, and acceptance shall be per AWS D1.5 Clause 5.19.3.

F. When a nonstandard weld joint is to be made using a combination of WPSs, a test conforming to Figure 5.3 may be conducted combining the WPSs to be used in production, provided the essential variables, including weld bead placement, of each process are limited to those established in Table 5.3.

G. Prior to preparing mechanical test specimens, the PQR welds shall be inspected by visual and radiographic tests. Backing bar shall be 3 inches in width and shall remain in place during NDT testing. Results of the visual and radiographic tests shall comply with AWS D1.5 Clause 6.26.2, excluding Clause 6.26.2.2. Test plates that do not comply with both tests shall not be used.

TS-07 ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these Technical Specifications.

A first order of work shall be to relocate power poles & overhead utilities along proposed Hale Avenue. The Contractor shall layout these areas that will receive the relocated utilities so that those areas can be accessed by the forces deployed by PG&E, Verizon, Charter, and AT&T.

The Contractor shall coordinate with PG&E, Verizon, Charter, AT&T, and the City of Morgan Hill in regards to shutdown of their respective facilities prior to making connections to new utilities installed as part of the project or to coordinate relocation of facilities shown on the plans to be done by others..

Prior to the start of the operation for cold plane asphalt concrete pavement, the Contractor shall have a certified hot mix asphalt plant and an approved mix design for the initial hot mix asphalt paving layer.

Any areas that are cold planed in a work period shall be paved with the first layer of hot mix asphalt within the same work period before the area is opened to public traffic.

Prior to starting work on the City's sanitary sewer and water system, the Contractor shall coordinate with the Engineer ten working days in advance regarding shutoff and inspection.

Attention is directed to "Miscellaneous Concrete Construction" of these Technical Specifications regarding constructing a 2-foot by 2-feet test panel prior to constructing curb ramps with detectable warning surfaces.

Temporary railing (Type K) and temporary in-line crash cushions shall be secured in place prior to commencing work for which the temporary railing and crash cushions are required.

Attention is directed to "Temporary Fence (Type ESA)" of these Technical Specifications. Prior to beginning work, the boundaries of the protected trees shall be clearly delineated in the field. The boundaries shall be delineated by the installation of temporary fence (Type ESA).

Attention is directed to "Water Pollution Control" of these Technical Specifications regarding the submittal and approval of the Storm Water Pollution Prevention Plan prior to performing work having potential to cause water pollution.

Attention is directed to "Move-In/Move-Out (Temporary Erosion Control)" of these Technical Specifications regarding the possibility that application of erosion control may require several move in/move outs of erosion control equipment.

A first order of work shall be to place the order for the electrical equipment. The Contractor shall furnish the Engineer with a statement from the vendor that the order for the street light equipment has been received and accepted by the vendor.

No above ground electrical work shall be performed on any system within the project site until all Contractors furnished electrical materials for that individual system have been tested and delivered to Contractor.

The uppermost layer of new pavement shall not be placed until all underlying conduits and loop detectors have been installed.

Attention is directed to "Maintaining Traffic" and "Temporary Pavement Delineation" of these Technical Specifications and to the stage construction and traffic handling sheets of the plans.

The work shall be performed in conformance with the stages of construction shown on the plans. No conflicting work in subsequent stages may proceed concurrently with work in preceding stages, provided satisfactory progress is maintained in the preceding stages of construction.

In each stage, after completion of the preceding stage, the first order of work shall be the removal of existing pavement delineation as directed by the Engineer. Pavement delineation removal shall be coordinated with new delineation so that lane lines are provided at all times on traveled ways open to public traffic.

Before obliterating any pavement delineation (traffic stripes, pavement markings, and pavement markers) that is to be replaced on the same alignment and location, as determined by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings. Full compensation for referencing existing pavement delineation shall be considered as included in the contract prices paid for new pavement delineation and no additional compensation will be allowed therefor.

Prior to applying hot mix asphalt, the Contractor shall cover all manholes, valve and monument covers, grates, or other exposed facilities located within the area of application, using a plastic or oil resistant construction paper secured to the facility being covered by tape or adhesive. The covered facilities shall be referenced by the Contractor, with a sufficient number of control points to relocate the facilities after the hot mix asphalt has been placed. After completion of the hot mix asphalt operation, all covers shall be removed and disposed of in a manner satisfactory to the Engineer. Full compensation for covering manholes, valve and monument covers, grates, or other exposed facilities, referencing, and removing temporary cover shall be considered as included in the contract price paid per ton for hot mix asphalt, and no additional compensation will be allowed therefor.

At the end of each working day if a difference in excess of 2 inches exists between the elevation of the existing pavement and elevation of excavations within 8 feet of the traveled way, material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose; however, once placing of the structural section commences, structural material shall be used. The material shall be placed to the level of the elevation of the top existing

pavement and tapered at a slope of 4:1 (horizontal: vertical) or flatter to the bottom of the excavation. Treated base shall not be used for the taper. Full compensation for placing the material on a 4:1 slope, regardless of the number of times the material is required, and subsequent removing or reshaping of the material to the lines and grades shown on the plans shall be considered as included in the contract price paid for the material involved and no additional compensation will be allowed therefor. No payment will be made for material placed in excess of that required for the structural section.

At those locations exposed to public traffic where guard railings or barriers are to be constructed, reconstructed, or removed and replaced, the Contractor shall schedule operations so that at the end of each working day there shall be no post holes open nor shall there be any railing or barrier posts installed without the blocks and rail elements assembled and mounted thereon.

At least 60 days before applying seed, furnish the Engineer a statement from the vendor that the order for the seed required for this contract has been received and accepted by the vendor. The statement from the vendor must include the names and quantity of seed ordered and the anticipated date of delivery.

The Engineer designates ground locations of erosion control by directing the placing of stakes or other suitable markers before application of erosion control materials as specified under "Erosion Control (Hydroseed)," of these Technical Specifications.

When embankment settlement periods or surcharge embankments settlement periods are specified, the settlement periods and the deferment of portions of the work shall comply with the provisions in Section 19-6.03D, "Settlement Periods and Surcharges," of the Standard Specifications and in "Earthwork of these Technical Specifications.

Description of Sound Wall & Retaining Wall Work

Sound Wall No.1: Construct Masonry Block Wall, approximately 2,980 feet long and 8 feet height.

Sound Wall No.2: Construct Masonry Block Wall, approximately 430 feet long and 8 feet height.

Sound Wall No.3: 160 Feet?

Retaining Wall No.1: Construct Reinforced Concrete Retaining wall, approximately 160 feet long and approximately 8 feet maximum height with Chain Link Railing.

Retaining Wall No.2: Construct Reinforced Concrete Retaining wall, approximately 60 feet long and approximately 6 feet maximum height with Chain Link Railing.

Retaining Wall No.3: Construct Reinforced Concrete Retaining wall, approximately 90 feet long and approximately 11 feet maximum height with Chain Link Railing.

Retaining Wall No.4: Construct Reinforced Concrete Retaining wall, approximately 70 feet long and approximately 7 feet maximum height with Chain Link Railing.

TS-08 COOPERATION

Comply with Section 7-1.14, "Cooperation," of the Standard Specifications.

Utility Coordination

PG&E will relocate Power Poles, trench and place their own conduits by their own forces.

Contractor shall install all undergrounding conduits/vaults as shown on the design plans, see Appendix xx

Contractor will trench and install new 12” Water main and sform drain system, fiber optic and street light conduits.

Contractor shall coordinate and cooperate with forces from PG&E, AT&T and City of Morgan Hill regarding installation and relocation of their facilities, including activation and deactivation of the utilities.

Coordination Meetings

Contractor shall attend joint weekly meetings with other contractors and/or operations managers to coordinate work including, but not necessarily limited to, 3-week ahead schedule. Contractor shall accommodate other contractors when preparing operations and work schedules.

TS-09 CONSTRUCTION PROJECT INFORMATION SIGNS

Before any major physical construction work readily visible to roadway users and public is started on this contract, the Contractor shall furnish and erect Construction Project Information Signs at the locations designated by the Engineer. City to provide sign template.

The signs and overlays shall be of a type and material consistent with the estimated time of completion of the project and shall conform to the details shown on the plans.

The sign letters, the border and the City's construction logos shall conform to the colors (non-reflective) and details shown on the plans, and shall be on a white background (non-reflective).

The sign message to be used for the Year of Completion of Project Construction will be furnished by the Engineer. The Contractor shall furnish and install the "Year" sign overlay within 10 working days of notification of the year date to be used.

The signs shall be kept clean and in good repair by the Contractor.

Upon completion of the work, the signs shall be removed and disposed of outside the City right of way in conformance with the provisions in Section 7-1.13 of the Standard Specifications.

MEASUREMENT AND PAYMENT

Full compensation for furnishing, erecting, maintaining, and removing and disposing of the Construction Project Information Signs shall be considered as included in the contract lump sum price paid for Construction Area Signs and no additional compensation will be allowed therefor.

TS-10 WATER POLLUTION CONTROL

GENERAL

Summary

Discharges of storm water from the project must comply with NPDES General Permit for "Storm Water Discharges Associated with Construction and Land Disturbance Activities" (Order No. 2009-0009-DWQ, NPDES No. CAS000002) hereinafter called the "Permit." Manage work activities to reduce the discharge of pollutants to surface waters, groundwater, or municipal separate storm sewer systems including work items shown in the Bid Item List for:

1. Prepare Storm Water Pollution Prevention Plan. SWPPP preparation includes obtaining SWPPP approval, amending the SWPPP, submitting NOI, preparing a CSMP and a SAP, and monitoring and inspecting WPC practices at the job site.
2. Storm Water Annual Report. Storm Water Annual Report preparation includes certifications, monitoring and inspection results, and obtaining Storm Water Annual Report acceptance.
3. Storm Water Sampling and Analysis Day. Storm Water Sampling and Analysis Day includes reporting of storm water quality per qualifying rain event. If specified for the risk level, the work includes preparation, collection, analysis, and reporting of storm water samples for turbidity, pH, and other constituents.
4. Rain Event Action Plan. If specified for the project risk level, REAP preparation includes preparing and submitting REAP forms and monitoring weather forecasts.

Do not start work until:

1. SWPPP is approved.
2. WDID is issued.
3. SWPPP review requirements have been fulfilled. If the RWQCB requires time for SWPPP review, allow 30 days for the RWQCB to review the SWPPP as specified under "Submittals" of these Technical Specifications.

This project is Risk Level 2.

Definitions and Abbreviations

active and inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 14 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMPs: Best Management Practices are water pollution control practices.

construction phase: Construction phases are (1) Highway Construction including work activities for building roads and structures, (2) Plant Establishment including maintenance on vegetation installed for final stabilization, and (3) Suspension where work activities are suspended and areas are inactive.

CSMP: Construction Site Monitoring Program.

NAL: Numeric Action Level.

NEL: Numeric Effluent Limit.

NPDES: National Pollutant Discharge Elimination System.

NOI: Notice of Intent.

normal working hours: The hours you normally work on this project.

Preparation Manual: The Department's "Storm Water Pollution Prevention Plan and Water Pollution Control Program Preparation Manual."

QSD: Qualified SWPPP Developer.

QSP: Qualified SWPPP Practitioner.

qualified rain event: A qualified rain event is a storm that produces at least 0.5 inch of precipitation with a 48 hour or greater period between storms.

REAP: Rain Event Action Plan.

RWQCB: Regional Water Quality Control Board.

SAP: Sampling and Analysis Plan.

SSC: Suspended Sediment Concentration.

SWRCB: State Water Resources Control Board.

SWPPP: Storm Water Pollution Prevention Plan.

WDID: Waste Discharge Identification Number.

WPC: Water Pollution Control.

WPC Manager: Water Pollution Control Manager. The WPC Manager implements water pollution control work described in the SWPPP and oversees revisions and amendments to the SWPPP.

Submittals

Within 20 days after contract approval, start the following process for SWPPP approval:

1. Submit 3 copies of the SWPPP and allow 20 days for the Engineer's review. If revisions are required, the Engineer provides comments and specifies the date that the review stopped.
2. Change and resubmit the SWPPP within 15 days of receipt of the Engineer's comments. The Engineer's review resumes when the complete SWPPP is resubmitted.
3. When the Engineer approves the SWPPP, submit an electronic and 4 printed copies of the approved SWPPP.
4. If the RWQCB reviews the approved SWPPP, the Engineer submits one copy of the approved SWPPP to the RWQCB for their review and comment. RWQCBs requiring time to review SWPPPs include:

    4.1. Lahontan for projects in the Lake Tahoe Hydrologic Unit and the Mammoth Lakes Hydrologic Unit

5. If the Engineer requests changes to the SWPPP based on RWQCB comments, amend the SWPPP within 10 days.

Submit:

1. Storm water training records including training dates and subjects for employees and subcontractors. Include dates and subjects for ongoing training, including tailgate meetings.
2. Employee training records:

    2.1. Within 5 days of SWPPP approval for existing employees
    2.2. Within 5 days of training for new employees
    2.3. At least 5 days before subcontractors start work for subcontractor's employees

Prepare a Storm Water Annual Report for the reporting period from July 1st to June 30th. For the prior reporting period, submit the report no later than July 15th if construction occurs from July 1st through June 30th or within 15 days after contract acceptance if construction ends before June 30th.

Submit the Storm Water Annual Report as follows:

1. Submit 2 copies of the Storm Water Annual Report and allow 10 days for the Engineer's review. If revisions are required, the Engineer provides comments and specifies the date that the review stopped.
2. Change and resubmit the Storm Water Annual Report within 5 days of receipt of the Engineer's comments. The Engineer's review resumes when the complete Storm Water Annual Report is resubmitted.
3. When the Engineer accepts the Storm Water Annual Report, insert the WPC Manager's signed certification and the Engineer's signed certification.

Submit one electronic copy and 2 printed copies of the accepted Storm Water Annual Report.

Submit as required:

1. NAL Exceedance Reports

2. NEL Exceedance Reports
3. Visual Monitoring Reports
4. Inspection Reports
5. BMP Status Report

At least 5 days before operating any construction support facility, submit:

1. A plan showing the location and quantity of WPC practices associated with the construction support facility
2. A copy of the NOI approved by the RWQCB and the SWPPP approved by the RWQCB if you will be operating a batch plant or a crushing plant under the General Industrial Permit

Quality Control and Assurance

Training

Provide storm water training for:

1. Project managers
2. Supervisory personnel
3. Employees involved with WPC work

Train all employees, including subcontractor's employees, in the following subjects:

1. WPC rules and regulations
2. Implementation and maintenance for:

    2.1. Temporary Soil Stabilization
    2.2. Temporary Sediment Control
    2.3. Tracking Control
    2.4. Wind Erosion Control
    2.5. Material pollution prevention and control
    2.6. Waste management
    2.7. Non-storm water management
    2.8. Identifying and handling hazardous substances
    2.9. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances

Employees must receive initial WPC training before working on the job site.

Conduct weekly training meetings covering:

1. WPC BMP deficiencies and corrective actions
2. BMPs that are required for work activities during the week
3. Spill prevention and control
4. Material delivery, storage, use, and disposal
5. Waste management
6. Non-storm water management procedures

Training for personnel to collect water quality samples must include:

1. SAP review
2. Health and safety review
3. Sampling simulations

If you operate construction support facilities, protect storm water systems or receiving waters from the discharge of potential pollutants by using WPC practices.

Construction support facilities include:

1. Staging areas
2. Storage yards for equipment and materials
3. Mobile operations
4. Batch plants for PCC and HMA
5. Crushing plants for rock and aggregate
6. Other facilities installed for your convenience such as haul roads

If you operate a batch plant to manufacture PCC, HMA, or other material; or a crushing plant to produce rock or aggregate; obtain coverage under the General Industrial General Permit. You must be covered under the General Industrial Permit for batch plants and crushing plants located:

1. Outside of the job site
2. Within the job site that serve one or more contracts

Discharges from manufacturing facilities such as batch plants must comply with the general waste discharge requirements for Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, issued by the SWRCB for "Discharge of Stormwater Associated with Industrial Activities Excluding Construction Activities." For the General Industrial Permit, go to:

http://www.waterboards.ca.gov/

You may obtain copies of the Preparation Manual from the Publication Distribution Unit. The mailing address for the Publication Distribution Unit is:

State of California
Department of Transportation
Publication Distribution Unit
1900 Royal Oaks Drive
Sacramento, California 95815
Telephone: (916) 445-3520

The Preparation Manual and other WPC references are available at the Department's "Construction Storm Water and Water Pollution Control" Web site. For the Web site, go to:

http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm

Water Pollution Control Manager

Assign one WPC Manager to implement the SWPPP. The WPC Manager must comply with the Permit qualifications for a QSP and a QSD. You may assign a different QSD to prepare the SWPPP.

The QSD must have the following qualifications:

1. Department approved storm water management training described in the Department's "Construction Storm Water and Water Pollution Control" web site
2. Registration or certification described in the Permit

The QSP must meet the qualifications of the QSD or have the following certifications:

1. Department approved storm water management training described in the Department's "Construction Storm Water and Water Pollution Control" web site
2. Certification described in the Permit

At the job site, the WPC Manager must:

1. Be responsible for WPC work
2. Be the primary contact for WPC work
3. Oversee the maintenance of WPC practices
4. Oversee and enforce hazardous waste management practices
5. Have the authority to mobilize crews to make immediate repairs to WPC practices
6. Ensure that all employees have current water pollution control training
7. Implement the approved SWPPP and amend the SWPPP when required

WPC Manager must oversee:

1. Inspections of WPC practices identified in the SWPPP
2. Inspections and reports for visual monitoring
3. Preparation and implementation of REAPs
4. Sampling and analysis
5. Preparation and submittal of:

    5.1. NAL exceedance reports
    5.2. NEL exceedance reports
    5.3. SWPPP annual certification
    5.4. Annual reports
    5.5. BMP status reports

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

General

SWPPP work includes preparing a SWPPP including a CSMP, obtaining SWPPP approval, amending the SWPPP, submitting NOI, inspecting and reporting on WPC practices at the job site. The SWPPP must comply with the Preparation Manual and the Permit. The SWPPP must be submitted in place of the water pollution control program under Section 13, "Water Pollution Control," of the Standard Specifications.

You may request, or the Engineer may order, changes to the WPC work. Changes may include the addition of new WPC practices. Additional WPC work will be paid for as extra work under Section 4-1.03D, "Extra Work," of the Standard Specifications.

The SWPPP must include sections as specified for the project risk level as follows:

1. For risk level 2:

    2.1. Schedule
    2.2. CSMP
    2.3. Adherence to Effluent Standards for NALs
    2.4. REAP

The SWPPP must include WPC practices for:

1. Storm water and non-stormwater from areas outside of the job site related to project work activities such as:

    1.1. Staging areas
    1.2. Storage yards
    1.3. Access roads

2. Activities or mobile operations related to contractor obtained NPDES permits
3. Construction support facilities

The SWPPP must include a copy of permits obtained by the Department such as Fish & Game permits, US Army Corps of Engineers permits, RWQCB 401 Certifications, and RWQCB Waste Discharge Requirements for Aerially Deposited Lead Reuse.

Amend the SWPPP annually and resubmit it by July 15th.

Amend the SWPPP if:

1. Changes in work activities could affect the discharge of pollutants
2. WPC practices are added by change order work
3. WPC practices are added at your discretion
4. Changes in the amount of disturbed soil are substantial
5. Objectives for reducing or eliminating pollutants in storm water discharges have not been achieved
6. There is a Permit violation

Whenever you amend the SWPPP, follow the same process specified for SWPPP approval.

Retain a printed copy of the approved SWPPP at the job site.

SWPPP Schedule

The SWPPP schedule must:

1. Describe when work activities will be performed that could cause the discharge of pollutants into storm water
2. Describe WPC practices associated with each construction phase
3. Identify soil stabilization and sediment control practices for disturbed soil areas

Construction Site Monitoring Program (CSMP)

General

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

The CSMP must include sections for the project risk level as follows:

1. For risk level 2:

    2.1. Visual Monitoring
    2.2. SAP for Non-Visible Pollutants
    2.3. SAP for sediment and turbidity
    2.4. SAP for pH

Visual Monitoring

The WPC Manager must oversee the performance of visual inspections for qualifying rain events.

For each qualifying rain event, perform visual inspections and record observations during normal working hours as follows:

1. Record the time, date, and rain gauge reading
2. Observe:

    2.1. Within 2 days before the storm:

        2.1.1. Drainage areas for spills, leaks, or uncontrolled pollutants
        2.1.2. Proper implementation of WPC practices
        2.1.3. Storm water storage areas for leaks and adequate freeboard

    2.2. Every 24 hours during the storm:

        2.2.1. WPC practices for effective operation
        2.2.2. WPC practices needing maintenance and repair

    2.3. Within 2 days after the storm event:

        2.3.1. Discharge locations
        2.3.2. WPC practices to evaluate the design, implementation, and effectiveness
        2.3.3. To identify where additional WPC practices may be needed

Perform non-stormwater discharge visual inspections as follows:

1. At least once during each of the following periods:

    1.1. January through March
    1.2. April through June
    1.3. July through September
    1.4. October through December

2. Observe flowing and contained storm water for the presence of floating and suspended materials, sheen on the surface, discoloration, turbidity, odors, and sources of observed pollutants
3. Observe the job site for the presence of authorized and unauthorized non-stormwater discharges and their sources

The WPC Manager must prepare visual inspection reports that include the following:

1. Name of personnel performing the inspection, inspection date, and date inspection report completed
2. Storm and weather conditions
3. Locations and observations
4. Corrective actions taken

Maintain visual inspections reports at the job site as part of the SWPPP.

Sampling and Analysis Plan (SAP)

General

Include a SAP in the CSMP to monitor the effectiveness of WPC practices.

The SAP must comply with the Preparation Manual.

Assign trained personnel to collect water quality samples. Document their training in the SAP.

Describe the following water quality sampling procedures in the SAP:

1. Sampling equipment
2. Sample preparation
3. Collection
4. Field measurement methods
5. Analytical methods
6. Quality assurance and quality control
7. Sample preservation and labeling
8. Collection documentation
9. Sample shipping
10. Chain of custody
11. Data management and reporting
12. Precautions from the construction site health and safety plan
13. Laboratory selection and certifications

Whenever assigned field personnel take samples, comply with the equipment manufacturer's recommendation for collection, analysis methods, and equipment calibration.

Samples taken for laboratory analysis must follow water quality sampling procedures and be analyzed by a State-certified laboratory under 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants."

The SAP must identify the State-certified laboratory, sample containers, preservation requirements, holding times, and analysis method. For a list of State-certified laboratories, go to:

http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx

Include procedure for sample collection during precipitation.

Retain water quality sampling documentation and analytical results with the SWPPP at the job site.

Show pollutant sampling locations on SWPPP drawings.

If discharges or sampling locations change because of changed work activities or knowledge of site conditions, amend the SAP.

If the project is risk level 2 or risk level 3, include procedures for collecting and analyzing at least 3 samples for each day of each qualifying rain event. Describe the collection of effluent samples at all locations where the storm water is discharged off-site.

Analytical Results and Evaluation

Submit an electronic copy (in file format .xls, .txt, .csv, .dbs, or .mdb) and a printed copy of water quality analytical results, and quality assurance and quality control within 48 hours of field analysis sampling, and within 30 days for laboratory analysis. Also provide an evaluation of whether the downstream samples show levels of the tested parameter that are higher than the control sample.

Electronic water quality analysis results must have the following information:

1. Sample identification number
2. Contract number
3. Constituent
4. Reported value
5. Analytical method
6. Method detection limit
7. Reported limit

SAP for Non-Visible Pollutants

The SAP must include a description of the sampling and analysis strategy for monitoring non-visible pollutants.

The SAP must identify potential non-visible pollutants present at the job site associated with any of the following:

1. Construction materials and waste
2. Existing contamination due to historical site usage
3. Application of soil amendments, including soil stabilization materials, with the potential to change pH or contribute toxic pollutants to storm water

SWPPP drawings must show the locations planned for storage and use of potential non-visible pollutants.

The SAP must include sampling procedures for the following conditions when observed during a storm water visual inspection. For each of the following, collect at least one sample for each qualifying storm event:

1. Materials or waste containing potential non-visible pollutants that are not stored under watertight conditions
2. Materials or waste containing potential non-visible pollutants that are stored under watertight conditions, but a breach, leakage, malfunction, or spill is observed; the leak or spill has not been cleaned up before precipitation; and material or waste could discharge non-visible pollutants to surface waters or drainage system
3. Chemical applications, including fertilizer, pesticide, herbicide, methyl methacrylate concrete sealant, or non-pigmented curing compound used during precipitation or within 24 hours preceding precipitation, and could discharge pollutants to surface waters or drainage system
4. Applied soil amendments, including soil stabilization materials that could change pH levels or contribute toxic pollutants to storm water runoff and discharge pollutants to surface waters or drainage system, unless available independent test data indicates acceptable concentrations of non-visible pollutants in the soil amendment
5. Storm water runoff from an area contaminated by historical usage of the site that could discharge pollutants to surface waters or drainage systems

The SAP must provide sampling procedures and schedule for:

1. Sample collection during the first 2 hours of each rain event that generate runoff
2. Sample collection during normal working hours
3. Each non-visible pollutant source
4. Uncontaminated control sample

The SAP must identify locations for sampling downstream and control samples, and reasons for selecting those locations. Select control sample locations where the sample will not come in contact with materials, waste, or areas associated with potential non-visible pollutants or disturbed soil areas.

SAP for Sediment and Turbidity

If the project is risk level 2 or risk level 3, sample and analyze for turbidity:

Parameter	Test Method	Detection Limit (Min)	Unit
Turbidity	Field test with calibrated portable instrument	1	NTU

SAP for pH

If the project is risk level 2 or risk level 3, sample and analyze for pH:

Parameter	Test Method	Detection Limit (Min)	Unit
pH	Field test with calibrated portable instrument	0.2	pH units

Rain Event Action Plan (REAP)

REAP work includes preparing and submitting REAP forms and monitoring weather forecasts. The WPC Manager must submit a REAP to protect the job site at least 48 hours before a predicted rain event.

Prepare a REAP when the National Weather Service is predicting at least a 50 percent probability of precipitation within 72 hours.

For the REAP, use approved forms and include:

1. Site location
2. Risk level
3. Contact information including 24-hour emergency phone numbers for:

    3.1. WPC Manager
    3.2. Erosion and sediment control providers or subcontractors
    3.3. Storm water sampling providers or subcontractors

4. Storm Information
5. Construction phase information for:

5.1. Highway Construction including active and inactive areas for work activities for building roads and structures
5.2. Plant Establishment including maintenance on vegetation installed for final stabilization where areas are inactive
5.3. Suspension where work activities are suspended and areas are inactive

6. Construction phase information including:

6.1. Construction activities
6.2. Subcontractors and trades on the job site
6.3. Pre-storm activities including:

6.3.1. Responsibilities of the WPC Manager
6.3.2. Responsibilities of the crew and crew size
6.3.3. Stabilization for active and inactive disturbed soil areas
6.3.4. Stockpile management
6.3.5. Corrective actions taken for deficiencies identified during pre-storm visual inspection

6.4. Activities to be performed during storm events including:

6.4.1. Responsibilities of the WPC Manager
6.4.2. Responsibilities of the crew and crew size
6.4.3. BMP maintenance and repair

6.5. Description of flood contingency measures

You must have the REAP onsite at least 24 hours before a predicted rain event. A printed copy of each REAP must be at the job site as part of the SWPPP.

Implement the REAP including mobilizing crews to complete activities no later than 24 hours before precipitation occurs.

IMPLEMENTATION REQUIREMENTS

SWPPP Implementation

Obtain, install, and maintain a rain gauge at the job site. Observe and record daily precipitation.
Monitor the National Weather Service Forecast Office on a daily basis. For forecasts, go to:

http://www.srh.noaa.gov/forecast

Whenever you or the Engineer identifies a deficiency in the implementation of the approved SWPPP:

1. Correct the deficiency immediately, unless the Engineer agrees to a later date for making the correction
2. Correct the deficiency before precipitation occurs

If you fail to correct the deficiency by the agreed date or before the onset of precipitation, the City may correct the deficiency and deduct the cost of correcting the deficiency from payment.

Continue SWPPP implementation during any temporary suspension of work activities.

Install WPC practices within 15 days or before predicted precipitation, whichever occurs first.

Numeric Action Levels (NALs)

If the project is risk level 2 or risk level 3, then it is subject to NALs:

Parameter	Test Method	Detection Limit (Min)	Unit	Numeric Action Level
pH	Field test with calibrated portable instrument	0.2	pH units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	Field test with calibrated portable instrument	1	NTU	250 NTU

Storm Water Sampling and Analysis Day

Storm Water Sampling and Analysis Day work includes preparation, collection, analysis, and reporting of storm water samples for turbidity, pH, and other constituents. If the project is risk level 2 or risk level 3, and there is a qualified rain event that produces runoff, comply with the project's SAP for preparation, collection, analysis, and reporting of storm water samples. Collect:

1. Samples for each non-visible pollutant source and a corresponding uncontaminated control sample
2. Samples for turbidity, pH, and other constituents as specified
3. At least 3 samples for each day of each qualifying rain event
4. Samples for all locations where the storm water is discharged off-site

Perform sample collection during:

1. First 2 hours of each qualified rain event that produces runoff
2. Normal working hours

You are not required to physically collect samples during dangerous weather conditions such as flooding or electrical storms.

If downstream samples show increased levels, assess WPC practices, site conditions, and surrounding influences to determine the probable cause for the increase.

Inspection

The WPC Manager must oversee inspections for WPC practices identified in the SWPPP:

1. Before a forecasted storm
2. After precipitation that causes site runoff
3. At 24-hour intervals during extended precipitation
4. On a predetermined schedule, a minimum of once a week

The WPC Manager must oversee daily inspections of:

1. Storage areas for hazardous materials and waste
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities
4. WPC practices specified under "Construction Site Management" of these Technical Specifications

The WPC Manager must use the Storm Water Site Inspection Report provided in the Preparation Manual.

The WPC Manager must prepare BMP status reports that include the following:

1. Location and quantity of installed WPC practices
2. Location and quantity of disturbed soil for the active or inactive areas

Within 24 hours of finishing the weekly inspection, the WPC Manager must submit:

1. Copy of the completed site inspection report
2. Copy of the BMP status report

REPORTING REQUIREMENTS

Storm Water Annual Report

Storm Water Annual Report work includes certifications, monitoring and inspection results, and obtaining Storm Water Annual Report acceptance. The WPC Manager must prepare a Storm Water Annual Report. The report must:

1. Use an approved report format
2. Include project information including description and location
3. Include storm water monitoring information including:

    3.1. Summary and evaluation of sampling and analysis results including laboratory reports
    3.2. Analytical methods, reporting units, detections limits for analytical parameters
    3.3. Summary of corrective actions
    3.4. Identification of corrective actions or compliance activities that were not implemented
    3.5. Summary of violations
    3.6. Names of individuals performing storm water inspections and sampling
    3.7. Logistical information for inspections and sampling including location, date, time, and precipitation
    3.8. Visual observations and sample collection records

4. Include documentation on training for:

    4.1. Individuals responsible for NPDES permit compliance
    4.2. Individuals responsible for BMP installation, inspection, maintenance, and repair
    4.3. Individuals responsible for preparing, revising, and amending the SWPPP

NAL Exceedance Report

If the project is risk level 2 or risk level 3 and an effluent sample exceeds a NAL, notify the Engineer and submit a NAL Exceedance Report no later than 48 hours after the conclusion of the storm event. The report must:

1. Include the following field sampling results and inspections:

    1.1. Analytical methods, reporting units, and detection limits
    1.2. Date, location, time of sampling, visual observation and measurements
    1.3. Quantity of precipitation of the storm event

2. Description of BMPs and corrective actions taken to manage NAL exceedance

If the project is risk level 2 or risk level 3, submit all sampling results to the Engineer no later than 48 hours after the conclusion of a storm event.

PAYMENT

The contract lump sum price paid for Prepare Storm Water Pollution Prevention Plan includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in preparing, obtaining approval of, and amending the SWPPP and CSMP, inspecting water pollution control practices, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

For projects with 60 working days or less, payments for SWPPP are made as follows:

1. After the Engineer approves the SWPPP, the City includes up to 75 percent of the bid item price in the monthly progress estimate
2. After contract acceptance, the City pays for the remaining percentage of the bid item price

For projects with more than 60 working days, payments for SWPPP are made as follows:

1. After the Engineer approves the SWPPP, the City includes up to 50 percent of the bid item price in the monthly progress estimate
2. The City pays 40 percent of the bid item price over the life of the contract
3. After contract acceptance, the City pays for the remaining 10 percent of the bid item

If risk level 2 or 3, the City pays $500 for each Rain Event Action Plan submitted. The contract unit price paid for Rain Event Action Plan includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in preparation and submittal of REAP forms, and monitoring weather forecasts as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The City does not adjust payment for an increase or decrease in the quantity of Rain Event Action Plans submitted. Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications does not apply.

The City pays $2,000 for each Storm Water Annual Report submitted. The contract unit price paid for Storm Water Annual Report includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in preparation and submittal of Storm Water Annual Report as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The City does not adjust payment for an increase or decrease in the quantity of Storm Water Annual Reports submitted. Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications does not apply.

The work to complete the final Storm Water Annual Report contract item is excluded from Section 5-1.46, "Final Inspection and Contract Acceptance," of the Standard Specifications.

If risk level 2 or 3, the contract unit price paid for Storm Water Sampling and Analysis Day includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in preparation, collection, analysis, and reporting of storm water samples per qualifying rain event as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The City does not adjust payment for an increase or decrease in the quantity of Storm Water Sampling and Analysis Day. Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications does not apply.

You may request or the Engineer may order laboratory analysis of storm water samples. Laboratory analysis of storm water samples will be paid for as extra work under Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

The City does not pay for the preparation, collection, laboratory analysis, and reporting of storm water samples for non-visible pollutants if WPC practices are not implemented before precipitation or if a failure of a WPC practice is not corrected before precipitation.

The City does not pay for implementation of WPC practices in areas outside the City right-of-way not specifically provided for in the plans or in the Technical Specifications.

The City does not pay for WPC practices installed at your construction support facilities.

WPC practices for which there are separate bid items of work are measured and paid for as those bid items of work.

For each failure to submit a completed Storm Water Annual Report, the City withholds $10,000. This withhold is in addition to other withholds under Section 9-1.16E(3) "Performance Failure Withholds," of the Standard Specifications.

Each failure to comply with any part of these Technical Specifications and each failure to implement water pollution control practices are considered separate performance failures.

TS-11 CONSTRUCTION SITE MANAGEMENT

GENERAL

Summary

This work includes controlling potential sources and comply with mitigated negative Dec. of water pollution before they come in contact with storm water systems or watercourses.

Control material pollution and manage waste and non-stormwater at the job site by implementing effective handling, storage, use, and disposal practices.

For information on documents specified in these Technical Specifications, refer to the Department's Preparation Manual, Dewatering Guide, and BMP Manual.

Preparation Manual, Dewatering Guide, and BMP Manual are available from the Department's Construction Storm Water and Water Pollution Control web site at:

http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm

Definitions and Abbreviations

active and inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 14 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMP Manual: The Department's Construction Site Best Management Practices (BMP) Manual.

CDPH: California Department of Public Health

Dewatering Guide: The Department's Field Guide to Construction Site Dewatering.
ELAP: Environmental Laboratory Accreditation Program
minor spills: Small quantities of oil, gasoline, paint, or other material that are small enough to be controlled by a first responder upon discovery of the spill.
MSDS: Material Safety Data Sheet
Preparation Manual: The Department's Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual.
semi-significant spills: Spills that can be controlled by a first responder with help from other personnel.
significant or hazardous spills: Spills that cannot be controlled by construction personnel.
WPC: Water Pollution Control
WPC Manager: Water Pollution Control Manager as defined under "Water Pollution Control" of these Technical Specifications.

Submittals

Submit the following:

1. MSDS at least 5 days before material is used or stored
2. Monthly inventory records for material used or stored
3. Copy of written approval to discharge into a sanitary sewer system at least 5 days before beginning discharge activities

CONSTRUCTION

Spill Prevention and Control

Implement spill and leak prevention procedures for chemicals and hazardous substances stored at the job site. If you spill or leak chemicals or hazardous substances at the job site, you are responsible for all associated cleanup costs and related liability.

As soon as it is safe, contain and clean up spills of petroleum products, sanitary and septic waste substances listed under CFR Title 40, Parts 110, 117, and 302.

Minor Spills

Clean up minor spills using the following procedures:

1. Contain the spread of the spill
2. Recover the spilled material by absorption
3. Clean the contaminated area
4. Dispose of the contaminated material promptly and properly

Semi-significant Spills

Clean up semi-significant spills immediately by the following procedures:

1. Contain the spread of the spill
2. Recover the spilled material using absorption whenever a spill occurs on a paved surface or an impermeable surface
3. Contain the spill with an earthen dike and dig up the contaminated soil for disposal whenever a spill occurs on soil
4. If the spill occurs during precipitation, cover the spill with plastic or other material to prevent contaminated runoff
5. Dispose of the contaminated material promptly and properly

Significant or Hazardous Spills

Immediately notify qualified personnel of significant or hazardous spills. Do not let construction personnel attempt to clean up the spill until qualified staff have arrived. Do the following:

1. Notify the Engineer and follow up with a written report
2. Obtain the services of a spills contractor or hazardous material team immediately
3. Notify the local emergency response team by dialing 911 and county officials at the emergency phone numbers kept at the job site
4. Notify the Governor's Office of Emergency Services Warning Center at (805) 852-7550
5. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under CFR Title 40, Parts 110, 119, and 302
6. Notify other agencies as appropriate, including:

    6.1. Fire Department
    6.2. Public Works Department
    6.3. Coast Guard
    6.4. Highway Patrol
    6.5. City Police or County Sheriff Department
    6.6. Department of Toxic Substances
    6.7. California Division of Oil and Gas
    6.8. Cal OSHA
    6.9. Regional Water Resources Control Board

Report minor, semi-significant, and significant spills to the WPC Manager. The WPC Manager must notify the Engineer immediately. The WPC Manager must oversee and enforce proper spill prevention and control measures.

Prevent spills from entering storm water runoff before and during cleanup. Do not bury spills or wash spills with water.

Keep material or waste storage areas clean, well organized, and equipped with enough cleanup supplies for the material being stored.

Material Management

General

Material must be delivered, used, and stored for this job in a way that minimizes or eliminates discharge of material into the air, storm drain systems, and watercourses.

Implement the practices described under "Material Management" of these Technical Specifications while taking delivery of, using, or storing any of the following materials:

1. Hazardous chemicals including acids, lime, glues, adhesives, paints, solvents, and curing compounds
2. Soil stabilizers and binders
3. Fertilizers
4. Detergents
5. Plaster
6. Petroleum materials including fuel, oil, and grease
7. Asphalt components and concrete components
8. Pesticides and herbicides

Employees trained in emergency spill cleanup procedures must be present during the unloading of hazardous materials or chemicals.

If practicable, use less hazardous materials.

Material Storage

Use the following material storage procedures:

1. Store liquids, petroleum materials, and substances listed in CFR Title 40, Parts 110, 117, and 302 as specified by the Department, and place them in secondary containment facilities.
2. Secondary containment facilities must be impervious to the materials stored there for a minimum contact time of 72 hours.
3. Cover secondary containment facilities during non-working days and when precipitation is predicted. Secondary containment facilities must be adequately ventilated.
4. Keep secondary containment facility free of accumulated rainwater or spills. After precipitation, or in the event of spills or leaks, collect accumulated liquid and place into drums within 24 hours. Handle these liquids as hazardous waste under "Hazardous Waste" of these Technical Specifications unless testing determines them to be nonhazardous.
5. Do not store incompatible materials, such as chlorine and ammonia, in the same secondary containment facility.
6. Store materials in the original containers with the original material labels maintained in legible condition. Replace damaged or illegible labels immediately.
7. Secondary containment facilities must have the capacity to contain precipitation from a 24-hour-long, 25-year storm, and 10 percent of the aggregate volume of all containers, or entire volume of the largest container within the facility, whichever is greater.
8. Store bagged or boxed material on pallets. Protect bagged or boxed material from wind and rain during non-working days and while precipitation is predicted.
9. Provide sufficient separation between stored containers to allow for spill cleanup or emergency response access. Storage areas must be kept clean, well organized, and equipped with cleanup supplies appropriate for the materials being stored.
10. Repair or replace perimeter controls, containment structures, covers, and liners as necessary. Inspect storage areas before and after precipitation, and at least weekly during other times.

Stockpile Management

Use the following stockpile management procedures:

1. Reduce or eliminate potential water pollution from stockpiled material including soil, paving material, and pressure treated wood.
2. Locate stockpiles:

    2.1. If within the floodplain, at least 100 feet from concentrated flows of storm water, drainage courses, and inlets unless approved
    2.2. If outside the floodplain, at least 50 feet from concentrated flows of storm water, drainage courses, and inlets unless approved

Install WPC practices within 15 days or before predicted precipitation, whichever occurs first.

Active and inactive soil stockpiles must be:

1. Covered with soil stabilization measures, plastic sheeting, or geosynthetic fabric
2. Surrounded with a linear sediment barrier

Portland cement concrete rubble, AC, HMA, AC and HMA rubble, aggregate base or aggregate sub-base stockpiles must be:

1. Covered with plastic sheeting, or geosynthetic fabric
2. Surrounded with a linear sediment barrier

Pressure treated wood stockpiles must be:

1. Placed on pallets
2. Covered with impermeable material

Cold mix asphalt concrete stockpiles must be:

1. Placed on impervious surface
2. Covered with impermeable material
3. Protected from run-on and runoff

Control wind erosion year round under Section 10-5, "Dust Control" of the Standard Specifications.

Repair or replace linear sediment barriers and covers as needed to keep them functioning properly. If sediment accumulates to 1/3 of the linear sediment barrier height, remove the sediment.

Waste Management

Solid Waste

Do not allow litter or debris to accumulate anywhere at the job site, including storm drain grates, trash racks, and ditch lines. Pick up and remove trash and debris from the job site at least once a week. The WPC Manager must monitor solid waste storage and disposal procedures at the job site.

If practicable, recycle nonhazardous job site waste and excess material. If recycling is not practicable, disposal must comply with Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Furnish enough closed-lid dumpsters of sufficient size to contain any solid waste generated by work activities. When the refuse reaches the fill line, empty the dumpsters. Dumpsters must be watertight. Do not wash out dumpsters at the job site. Furnish additional containers and pick up dumpsters more frequent during the demolition phase of construction.

Solid waste includes:

1. Brick
2. Mortar
3. Timber
4. Metal scraps
5. Sawdust
6. Pipe
7. Electrical cuttings
8. Non-hazardous equipment parts
9. Styrofoam and other packaging materials
10. Vegetative material and plant containers from highway planting
11. Litter and smoking material, including litter generated randomly by the public
12. Other trash and debris

Furnish and use trash receptacles at the job site yard, field trailers, and locations where workers gather for lunch and breaks.

Hazardous Waste

Use hazardous waste management practices if waste is generated at the job site from the following substances:

1. Petroleum products
2. Asphalt products
3. Concrete curing compound
4. Pesticides
5. Acids
6. Paints
7. Stains
8. Solvents
9. Wood preservatives and treated posts
10. Roofing tar
11. Road flares
12. Lime
13. Glues and adhesives
14. Materials classified as hazardous by California Code of Regulations, Title 22, Division 4.5; or listed in CFR Title 40, Parts 110, 117, 261, or 302

The WPC Manager must oversee and enforce hazardous waste management practices. Minimize the production of hazardous materials and hazardous waste at the job site. If damaged, repair or replace perimeter controls, containment structures, and covers.

If hazardous material levels are unknown, use a laboratory certified by ELAP under CDPH to sample and test waste to determine safe methods for storage and disposal.

Separate potentially hazardous waste from nonhazardous waste at the job site. Hazardous waste must be handled, stored, and disposed of under California Code of Regulations, Title 22, Division 4.5, Section 66262.34; and in CFR Title 49, Parts 261, 262, and 263.

Store hazardous waste in sealed containers constructed and labeled with the contents and date accumulated under California Code of Regulations, Title 22, Division 4.5; and in CFR Title 49, Parts 172, 173, 178, and 179. Keep hazardous waste containers in temporary containment facilities under "Material Storage" of these Technical Specifications.

Furnish containers with adequate storage volume at convenient locations for hazardous waste collection. Do not overfill hazardous waste containers. Do not mix hazardous waste. Do not allow potentially hazardous waste to accumulate on the ground. Store containers of dry waste that are not watertight on pallets. Store hazardous waste away from storm drains, watercourses, moving vehicles, and equipment.

Clean water based or oil based paint from brushes or equipment within a contained area and in a way that does not contaminate soil, watercourses, and storm drain systems. Handle and dispose of the following as hazardous waste: paints, thinners, solvents, residues, and sludges that cannot be recycled or reused. When thoroughly dry, dispose of the following as solid waste: dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths.

Dispose of hazardous waste within 90 days of being generated. Use a licensed hazardous waste transporter to take hazardous waste to a Class I Disposal Site. Submit a copy of uniform hazardous waste manifest forms within 24 hours of transporting hazardous waste.

The WPC Manager must inspect the following daily:

1. Storage areas for hazardous materials and waste
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities

Contaminated Soil

Identify contaminated soil from spills or leaks by noticing discoloration, odors, or differences in soil properties. Soil with evidence of contamination must be sampled and tested by a laboratory certified by ELAP.

If levels of contamination are found to be hazardous, handle and dispose of the soil as hazardous waste.

Prevent the flow of water, including ground water, from mixing with contaminated soil by using one or a combination of the following measures:

1. Berms
2. Cofferdams
3. Grout curtains
4. Freeze walls
5. Concrete seal course

If water mixes with contaminated soil and becomes contaminated, sample and test the water using a laboratory certified by ELAP. If levels of contamination are found to be hazardous, handle and dispose of the water as hazardous waste.

Concrete Waste

Use practices that will prevent the discharge of Portland cement concrete, AC, or HMA waste into storm drain systems or watercourses.

Do not washout equipment in median island.

Collect and dispose of Portland cement concrete, AC, or HMA waste at locations where:

1. Concrete material, including grout, is used
2. Concrete dust and debris result from demolition
3. Sawcutting, coring, grinding, grooving, or hydro-concrete demolition of Portland cement concrete, AC, or HMA creates a residue or slurry
4. Concrete truck or other concrete-coated equipment is cleaned at the job site

Sanitary and Septic Waste

Do not bury or discharge wastewater from sanitary or septic systems within City right-of-way. The WPC Manager must inspect sanitary or septic waste storage and monitor disposal procedures at least weekly. Sanitary facilities that discharge to the sanitary sewer system must be properly connected and free from leaks. Place sanitary facilities at least 50 feet away from storm drains, watercourses, and flow lines.

Obtain written approval from the local health agency, city, county, and sewer district before discharging from a sanitary or septic system directly into a sanitary sewer system, and submit a copy to the Engineer. Comply with local health agency provisions while using an on-site disposal system.

Liquid Waste

Use practices that will prevent job site liquid waste from entering storm drain systems or watercourses. Liquid waste includes the following:

1. Drilling slurries or fluids
2. Grease-free or oil-free wastewater or rinse water
3. Dredgings, including liquid waste from drainage system cleaning
4. Liquid waste running off a surface including wash or rinse water
5. Other non-stormwater liquids not covered by separate permits

Hold liquid waste in structurally sound, leak proof containers such as:

1. Roll-off bins
2. Portable tanks

Liquid waste containers must be of sufficient quantity and volume to prevent overflow, spills and leaks.

Store containers:

1. At least 50 feet from moving vehicles and equipment
2. If within the floodplain, at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved
3. If outside the floodplain, at least 50 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

Remove and dispose of deposited solids from sediment traps under "Solid Waste" of these Technical Specifications unless the Engineer approves another method.

Liquid waste may require testing to determine hazardous material content before disposal.

Drilling fluids and residue must be disposed of outside the highway right-of-way.

If an approved location is available within the job site, fluids and residue exempt under California Code of Regulations, Title 23, Section 2511(g) may be dried by evaporation in a leak proof container. Dispose of remaining solid waste under "Solid Waste" of these Technical Specifications.

Non-Storm Water Management

Water Control and Conservation

Manage water used for work activities to prevent erosion or discharge of pollutants into storm drain systems or watercourses. Obtain approval before washing anything at the job site with water that could discharge into a storm drain system or watercourse. Report discharges immediately.

If water is used at the job site, implement water conservation practices. Inspect irrigation areas. Adjust watering schedules to prevent erosion, excess watering, or runoff. Shut off water source to broken lines, sprinklers, or valves, and repair breaks within 24 hours. If possible, reuse water from waterline flushing for landscape irrigation. Sweep and vacuum paved areas; do not wash them with water.

Direct job site water runoff, including water from water line repair, to areas where it can infiltrate into the ground and not enter storm drain systems or watercourses. Do not allow spilled water to escape water truck filling areas. If possible, direct water from off-site sources around the job site. Minimize the contact of off-site water with job site water.

Illegal Connection and Discharge Detection and Reporting

Inspect the job site and the site perimeter before starting work for evidence of illegal connections, discharges, or dumping. After starting work, inspect the job site and perimeter on a daily schedule.

Whenever illegal connections, discharges, or dumping are discovered, notify the Engineer immediately. Take no further action unless ordered by the Engineer. Assume unlabeled or unidentifiable material is hazardous.

Look for the following evidence of illegal connections, discharges, or dumping:

1. Debris or trash piles
2. Staining or discoloration on pavement or soils
3. Pungent odors coming from drainage systems
4. Discoloration or oily sheen on water
5. Stains or residue in ditches, channels or drain boxes
6. Abnormal water flow during dry weather
7. Excessive sediment deposits
8. Nonstandard drainage junction structures
9. Broken concrete or other disturbances near junction structures

Vehicle and Equipment Cleaning

Limit vehicle and equipment cleaning or washing at the job site except what is necessary to control vehicle tracking or hazardous waste. Notify the Engineer before cleaning vehicles and equipment at the job site with soap, solvents, or steam. Contain and recycle or dispose of resulting waste under "Liquid Waste" or "Hazardous Waste" of these Technical Specifications, whichever is applicable. Do not use diesel to clean vehicles or equipment, and minimize the use of solvents.

Clean or wash vehicles and equipment in a structure equipped with disposal facilities. If using a structure is not possible, clean or wash vehicles and equipment in an outside area. The outside area must be:

1. Paved with AC, HMA, or concrete paving
2. Surrounded by a containment berm
3. Equipped with a sump to collect and dispose of wash water
4. If within the floodplain, located at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved
5. If outside the floodplain, located at least 50 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

When washing vehicles or equipment with water, use as little water as possible. Hoses must be equipped with a positive shutoff valve.

Discharge liquid from wash racks to a recycle system or to another approved system. Remove liquids and sediment as necessary.

The WPC Manager must inspect vehicle and equipment cleaning facilities:

1. Daily if vehicle and equipment cleaning occurs daily

2. Weekly if vehicle and equipment cleaning does not occur daily

Vehicle and Equipment Fueling and Maintenance

If practicable, perform maintenance on vehicles and equipment off the job site.

If fueling or maintenance must be done at the job site, designate a site, or sites, and obtain approval before using. Minimize mobile fueling or maintenance.

If vehicle and equipment fueling and maintenance must be done at the job site, areas for the following activities must be:

1. On level ground
2. Protected from storm water run-on
3. If within the floodplain, located at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved
4. If outside the floodplain, located at least 50 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

Use containment berms or dikes around the fueling and maintenance area. Keep adequate quantities of absorbent spill cleanup material and spill kits in the fueling and maintenance area and on fueling trucks. Dispose of spill cleanup material and kits immediately after use. Use drip pans or absorbent pads during fueling or maintenance.

Fueling or maintenance activities must not be left unattended. Fueling nozzles must be equipped with an automatic shutoff control. Vapor recovery fueling nozzles must be used where required by the Air Quality Management District. When not in use, nozzles must be secured upright. Do not top-off fuel tanks.

Recycle or properly dispose of used batteries and tires.

The WPC Manager must inspect vehicle and equipment maintenance and fueling areas:

1. Daily when vehicle and equipment maintenance and fueling occurs daily
2. Weekly when vehicle and equipment maintenance and fueling does not occur daily

The WPC Manager must inspect vehicles and equipment at the job site for leaks and spills on a daily schedule. Operators must inspect vehicles and equipment each day of use.

If leaks cannot be repaired immediately, remove the vehicle or equipment from the job site.

Material and Equipment Used Over Water

Place drip pans and absorbent pads under vehicles or equipment used over water. Keep an adequate supply of spill cleanup material with the vehicle or equipment. If the vehicle or equipment will be idle for more than one hour, place drip pans or plastic sheeting under the vehicle or equipment on docks, barges, or other surfaces over water.

Furnish watertight curbs or toe boards on barges, platforms, docks, or other surfaces over water to contain material, debris, and tools. Secure material to prevent spills or discharge into water due to wind.

Structure Removal Over or Adjacent to Water

Do not allow demolished material to enter storm water systems or watercourses. Use approved covers and platforms to collect debris. Use attachments on equipment to catch debris on small demolition activities.

Empty debris catching devices daily and handle debris under "Waste Management" of these Technical Specifications.

The WPC Manager must inspect demolition sites within 50 feet of storm water systems or watercourses daily.

Paving, Sealing, Sawcutting, Grooving, and Grinding Activities

Prevent the following materials from entering storm drain systems or water courses:

1. Cementitious material
2. Asphaltic material
3. Aggregate or screenings
4. Grinding grooving, or sawcutting residue
5. Pavement chunks
6. Shoulder backing
7. Methacrylate

Cover drainage inlets and use linear sediment barriers to protect downhill watercourses until paving, sealing, sawcutting, grooving, or grinding activities are completed and excess material has been removed. Cover drainage inlets and manholes during the application of seal coat, tack coat, slurry seal, or fog seal.

If precipitation is predicted, limit paving, sawcutting, and grinding to places where runoff can be captured.

Do not start seal coat, tack coat, slurry seal, or fog seal activities if precipitation is predicted during the application or curing period. Do not excavate material from existing roadways during precipitation.

Use a vacuum to remove slurry immediately after slurry is produced. Do not allow slurry to run onto lanes open to traffic or off the pavement.

Collect residue from Portland cement concrete grinding and grooving activities with a vacuum attachment on the grinding machine. Do not leave any residue on the pavement or allow the residue to flow across the pavement.

If approved, material excavated from existing roadways may be stockpiled under "Stockpile Management" of these Technical Specifications.

Do not coat asphalt trucks and equipment with substances that contain soap, foaming agents, or toxic chemicals.

When paving equipment is not in use, park over drip pans or plastic sheeting with absorbent material to catch drips.

Thermoplastic Striping and Pavement Markers

Thermoplastic striping and preheating equipment shutoff valves must work properly at all times. Do not preheat, transfer, or load thermoplastic within 50 feet of drainage inlets or watercourses. Do not fill a preheating container above a level that is 6 inches below the top. Truck beds must be cleaned daily of scraps or melted thermoplastic.

Do not unload, transfer, or load bituminous material for pavement markers within 50 feet of drainage inlets or watercourses. Release all pressure from a melting tank before removing the lid to fill or service. Do not fill a melting tank above a level that is 6 inches below the top.

Collect bituminous material from the roadway after marker removal.

Pile Driving

Keep spill kits and cleanup material at pile driving locations. Pile driving equipment must be parked over drip pans, absorbent pads, or plastic sheeting with absorbent material. If precipitation is predicted, protect pile driving equipment by parking on plywood and covering with plastic.

Store pile driving equipment when not in use. Stored pile driving equipment must be:

1. Kept on level ground
2. Protected from storm water run-on
3. If within the floodplain, at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved
4. If outside the floodplain, at least 50 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

If practicable, use vegetable oil instead of hydraulic fluid.

The WPC Manager must inspect the pile driving area for leaks and spills:

1. Daily when pile driving occurs daily
2. Weekly when pile driving does not occur daily

Concrete Curing

Do not overspray chemical curing compound. Minimize the drift by spraying as close to the concrete as possible. Cover drainage inlets before applying the curing compound.

Minimize the use and discharge of water by using wet blankets or similar methods to maintain moisture while curing concrete.

Concrete Finishing

Collect and dispose of water and solid waste from high-pressure water blasting. Cover drainage inlets within 50 feet before sandblasting. Minimize drift of dust and blast material by keeping the nozzle close to the surface of the concrete. The blast residue may contain hazardous material.

Inspect concrete finishing containment structures for damage before each day of use and before predicted precipitation. Remove liquid and solid waste from containment structures after each work shift.

Sweeping

Sweeping must be done using hand or mechanical methods such as vacuuming.

Monitor paved areas and roadways within the job site for sediment and debris generating activities such as:

1. Clearing and grubbing
2. Earthwork
3. Trenching
4. Roadway structural section work
5. Vehicles entering and leaving the job site
6. Soil disturbing work
7. Work that causes offsite tracking of material

If sediment or debris is observed, perform sweeping:

1. Within:

    1.1. 8 hours of predicted rain
    1.2. 24 hours unless the Engineer approves a longer period

2. On paved roads at job site entrances and exit locations
3. On paved areas within the job site that flow to storm drains or receiving waters

You may stockpile collected material at the job site. Remove collected material including sediment from paved shoulders, drain inlets, curbs and dikes, and other drainage areas. If stockpiled, dispose of collected material at least once per week.

You may dispose of sediment within the job site that you collected during sweeping activities. Protect disposal areas against erosion.

Remove and dispose of trash collected during sweeping under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

PAYMENT

The contract lump sum price paid for Construction Site Management includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in spill prevention and control, material management, conforming to MND, waste management, non-stormwater management, and dewatering and identifying, sampling, testing, handling, and disposing of hazardous waste resulting from your activities, as specified in the Standard Specifications and these Technical Specifications, and as ordered by the Engineer.

TS-12 STREET SWEEPING

GENERAL

Summary

This work includes street sweeping.

The SWPPP must describe and include the use of street sweeping as a water pollution control practice for sediment control and tracking control.

Submittals

At least 5 business days before starting clearing and grubbing, earthwork, or other activities with the potential for tracking sediment or debris, submit:

1. Number of sweepers described in the SWPPP
2. Type of sweeper technology

Quality Control and Assurance

Retain and submit records of street sweeping including:

1. Quantity of sweeping waste disposal
2. Sweeping times and locations

CONSTRUCTION

Street Sweepers

Sweepers must use one of these technologies:

1. Mechanical sweeper followed by a vacuum-assisted sweeper
2. Vacuum-assisted dry (waterless) sweeper
3. Regenerative-air sweeper

Operation

Street sweeping must be done at:

1. Paved roads at job site entrance and exit locations
2. Paved areas within the job site that flow to storm drains or water bodies

Street sweeping must be done:

1. During clearing and grubbing activities
2. During earthwork activities
3. During trenching activities
4. During roadway structural section activities
5. When vehicles are entering and leaving the job site
6. After soil disturbing activities
7. After observing offsite tracking of material

Monitor paved areas and roadway within the jobsite. Street sweeping must be done:

1. Within 1 hour, if sediment or debris is observed during activities that require sweeping
2. Within 24 hours, if sediment or debris is observed during activities that do not require sweeping

At least 1 sweeper must be on the job site at all times when sweeping work is required. The sweeper must be in good working order.

Perform street sweeping to minimize dust. If dust generation is excessive or sediment pickup is ineffective, use water or a vacuum.

You may stockpile collected material on the jobsite according to the approved SWPPP. Dispose of collected material at least once per week.

Material collected during street sweeping must be removed and disposed of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Your WPCM must inspect paved roads at job site access points:

1. Daily if earthwork and other sediment or debris generating activities occur daily
2. Weekly if earthwork and other sediment or debris generating activities do not occur daily
3. When the National Weather Service predicts precipitation with a probability of at least 30 percent

MEASUREMENT AND PAYMENT

The contract lump sum price per SF, not LS paid for Street Sweeping includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in Street

Sweeping, including disposal of collected material, as shown on the plans, as specified in the Standard Specifications, these Technical Specifications, and as directed by the Engineer.

TS-13 EROSION CONTROL (HYDROSEED)

GENERAL

Summary

This work includes removing and disposing of weeds and applying erosion control materials including seed and commercial fertilizer, to erosion control (Hydroseed) areas shown on the plans.

Comply with Section 21, "Erosion Control," of the Standard Specifications.

Comply with "Move-In/Move-Out (Erosion Control)" of these Technical Specifications.

If notified by the Engineer that an area is ready to receive erosion control materials, start erosion control (Hydroseed) work within 5 business days of the Engineer's notification to perform the work.

The Engineer will designate the ground location of all erosion control (Hydroseed) areas in increments of one acre or smaller by directing the placing of stakes or other suitable markers. Furnish all tools, labor, materials, and transportation required to adequately indicate the various erosion control (Hydroseed) locations.

MATERIALS

Seed

Comply with Seed Mix Type A - Sloped Banks in "Hydroseeding" of these Technical Specifications.

Commercial Fertilizer

Comply with "Hydroseeding" of these Technical Specifications.

CONSTRUCTION

Site Preparation

Immediately prior to applying seed to erosion control (Hydroseed) areas, trash and debris and weeds must be removed.

Removed weeds must be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Application

Apply erosion control (Hydroseed) materials in separate applications in the following sequence:

1. Apply the following mixture with hydroseeding equipment at the rates indicated within 60 minutes after the seed has been added to the mixture:

Material	Pounds Per Acre (Slope Measurement)
Seed	77
Commercial Fertilizer	250

Seed may be dry applied at the total rate specified in the preceding table for small areas not accessible by the hydro-seeding equipment, when approved in writing by the Engineer. Dry applied seed must be incorporated into the soil a maximum depth of 1/4 inch by raking or dragging.

Hydraulic application of erosion control (Hydroseed) materials for rolled erosion control product (Netting) areas must be applied by hose, from the ground. Erosion control (Hydroseed) materials must be applied onto the slope face such that the materials are well integrated into the rolled erosion control product (Netting) and in contact with ground surface. Application must be perpendicular to the slope face such that rolled erosion control product (Netting) materials are not damaged or displaced.

The Engineer may change the rates of erosion control (Hydroseed) materials to meet field conditions.

For any area where erosion control (Hydroseed) materials are to be applied, the application of all erosion control (Hydroseed) materials to be applied to that area must be completed within 72 hours from when the first materials were applied.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Erosion Control (Hydroseed) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Erosion Control (Hydroseed) complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-14 TEMPORARY CONCRETE WASHOUT FACILITY

GENERAL

Summary

This work includes removal and disposal of concrete waste by furnishing, maintaining, and removing temporary concrete washout facilities.

SWPPP must describe and include the use of temporary concrete washout facilities as a water pollution control practice for waste management and materials pollution control.

Submittals

At least 5 business days before concrete activities start, submit:

1. Location of washout facilities
2. Name and location of off-site concrete waste disposal facility to receive concrete waste
3. Copy of permit issued by RWQCB for off-site commercial disposal facility
4. Copy of license for off-site commercial disposal facility
5. Copy of permit issued by state or local agency having jurisdiction over disposal facility if disposal site is located outside of the State of California
6. Gravel-filled bag fabric
7. Plastic liner
8. Alternate attachment device for staples, if used

Quality Control and Assurance

Retain and submit records of disposed concrete waste.

MATERIALS

Straw Bales

Straw bales must comply with Section 20-2.02H, "Straw," of the Standard Specifications and be:

1. At least 14 inches wide, 18 inches high, 36 inches long, and weigh at least 50 pounds.
2. Composed entirely of vegetative matter, except for binding material.
3. Bound by wire, nylon, or polypropylene string. Do not use jute or cotton binding. Baling wire must be minimum 16 gauge. Nylon or polypropylene string must be approximately 0.08-inch in diameter with 80 pounds of breaking strength.

Stakes

Stakes may be either wood or metal and must comply with the following:

1. Wood stakes must be:

    1.1. Untreated fir, redwood, cedar, or pine and cut from sound timber
    1.2. Straight and free of loose or unsound knots and other defects which would render stakes unfit for use
    1.3. Pointed on the end to be driven into the ground
    1.4. At least 2" x 2" x 48" in size

2. Metal stakes must be at least 0.5-inch diameter and 48 inches long. Tops of metal stakes must be bent at a 90-degree angle or capped with an orange or red plastic safety cap that fits snugly to the metal stake.

Concrete Washout Sign

Concrete washout sign must comply with Section 12-3.11B(3), "Portable Signs" of the Standard Specifications and:

1. Be approved by the Engineer
2. Consist of base, framework, and sign panel
3. Be made of plywood
4. Be minimum 2' x 4' in size
5. Read "Concrete Washout" with 3 inches high black letters on white background

Gravel-filled Bag Fabric

Geosynthetic fabric for temporary gravel bag berm must consist of one of these:

1. Polyester
2. Polypropylene
3. Combined polyester and polypropylene

Sample under ASTM D 4354, Procedure C.

Test under ASTM D 4759. All properties must be based on Minimum Average Roll Value (MARV).

Identify, store, and handle under ASTM D 4873.

Protect geosynthetics from moisture, sunlight, and damage during shipping and storage. Label each unit with manufacturer's name, identifying information, and product identification.

Gravel-filled bag fabric must comply with requirements in this table:

Specification	Requirements
Grab breaking load 1-inch grip, lb, min. in each direction	205
Apparent elongation percent, min., in each direction	50
Water Flow Rate max. average roll value, gallons per minute/square foot	80-150
Permittivity 1/sec., min	1.2
Apparent opening size max. average roll value, U.S. Standard sieve size	40-80
Ultraviolet Degradation percent of original unexposed grab breaking load 500 hour, minimum	70

Gravel

Gravel for gravel-filled bags must be:

1. From 3/8 to 3/4 inch in diameter
2. Clean and free of clay balls, organic matter, and other deleterious materials

Gravel-filled Bag

Gravel-filled bag must:

1. Be made of gravel-filled bag fabric.
2. Have inside dimensions from 24 to 32 inches long, and from 16 to 20 inches wide.
3. Have bound opening to retain gravel. Opening must be sewn with yarn, bound with wire, or secured with a closure device.
4. Weigh from 30 to 50 pounds when filled with gravel.

Plastic Liner

Plastic liner must be:

1. Single ply, new polyethylene sheeting
2. At least 10 mils thick
3. Free of holes, punctures, tears or other defects
4. Without seams or overlapping joints

CONSTRUCTION

Placement

Place concrete washout facilities at job site:

1. Before concrete placement activities start
2. In the immediate area of concrete work as approved by the Engineer
3. No closer than 50 feet from storm drain inlets, open drainage facilities, ESAs, or watercourses
4. Away from construction traffic or public access areas

Install a concrete washout sign adjacent to each temporary concrete washout facility location.

For at grade and below grade concrete washout facilities:

1. Build to contain liquid and concrete waste without seepage, spills, or overflow
2. Build in sufficient quantity and size to contain liquid and concrete waste generated by washout activities for concrete wastes
3. Install with plastic liner

If approved, the length and width of temporary concrete washout facility may be increased from minimum dimensions shown on the plans.

If below grade concrete washout facilities are used, construct berms from compacted native material. Gravel may be used in conjunction with compacted native material.

Operation

Use concrete washout facilities for:

1. Washout from concrete delivery trucks
2. Slurries containing Portland cement concrete or hot mix asphalt from sawcutting, coring, grinding, grooving, and hydro-concrete demolition
3. Concrete waste from mortar mixing stations

Relocate concrete washout facilities as needed for concrete construction work.

Do not fill higher than 6 inches below rim.

Your WPC manager must inspect concrete washout facilities:

1. Daily if concrete work occurs daily
2. Weekly if concrete work does not occur daily

Maintenance

Maintain temporary concrete washout facility by:

1. Providing adequate holding capacity with 12-inch minimum freeboard
2. Removing and disposing of hardened concrete under Section 15-3.02, "Removal Methods"
3. Patching holes, rips, and voids in plastic liner with tape
4. If plastic liner leaks after patching, replace plastic liner
5. Repairing or replacing gravel-filled bags when they become split, torn, unraveled, or gravel spills out

Repair temporary concrete washout facility within 24 hours of discovering damage unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace temporary concrete washout facility, repair temporary concrete washout facility at your expense.

Removal

Dispose of concrete waste material at a facility specifically licensed to receive solid concrete waste, liquid concrete waste, or both. When concrete washout facility is full, remove and dispose of concrete waste within 2 days.

When the Engineer determines that temporary concrete washout facility is not needed, remove and dispose of it under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Backfill and repair ground disturbance, including holes and depressions, caused by the installation and removal of temporary concrete washout facility, under Section 15-1.36, "Property and Facility Preservation," of the Standard Specifications.

Roadway medians shall not be used as washout facilities.

MEASUREMENT AND PAYMENT

Temporary Concrete Washout Facility is measured by the actual count of concrete washout facilities in place.

The contract unit price paid for Temporary Concrete Washout Facility includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing, maintaining, and removing the concrete washout facility, including removal and disposal of concrete waste, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-15 TEMPORARY FIBER ROLL

GENERAL

Summary

This work includes constructing, maintaining, and removing temporary fiber roll.

The SWPPP must describe and include the use of temporary fiber roll as a water pollution control practice for sediment control.

Submittals

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

MATERIALS

Fiber Roll

Fiber roll must:

1. Last for at least one year after installation
2. Be Type 1 or Type 2

If specified, Type 1 fiber roll must be:

1. Made from an erosion control blanket:
   - 1.1. Classified by the Erosion Control Technology Council (ECTC) as ECTC 2D
   - 1.2. With a Universal Soil Loss Equation (USLE) C-Factor of not more than 0.20 at a 2:1 (horizontal:vertical) slope
   - 1.3. Capable to withstand a maximum shear stress of 1.75 pounds per square foot under ASTM D 6460
   - 1.4. With a minimum tensile strength of 75 pounds per foot under ASTM D 5035
   - 1.5. With top and bottom surfaces covered with lightweight non-synthetic netting
   - 1.6. That complies with one of the following:

1.6.1. Double net straw and coconut blanket with 70 percent straw and 30 percent coconut fiber
1.6.2. Double net excelsior blanket with 80 percent of the wood excelsior fibers being 6 inches or longer

2. Rolled along the width
3. Secured with natural fiber twine every 6 feet and 6 inches from each end
4. Finished to be either:
   4.1. From 8 to 10 inches in diameter, from 10 to 20 feet long, and at least 0.5 pounds per linear foot
   4.2. From 10 to 12 inches in diameter, at least 10 feet long, and at least 2 pounds per linear foot

If specified, Type 2 fiber roll must:

1. Be filled with rice or wheat straw, wood excelsior, or coconut fiber
2. Be covered with a biodegradable jute, sisal, or coir fiber netting
3. Have the netting secured tightly at each end
4. Be finished to be either:
   4.1. From 8 to 10 inches in diameter, from 10 to 20 feet long, and at least 1.1 pounds per linear foot
   4.2. From 10 to 12 inches in diameter, at least 10 feet long, and at least 3 pounds per linear foot

Wood Stakes

Wood stakes must be:

1. Untreated fir, redwood, cedar, or pine and cut from sound timber
2. Straight and free of loose or unsound knots and other defects which would render the stakes unfit for use
3. Pointed on the end to be driven into the ground

For fiber roll, wood stakes must be at least:

1. 1" x 1" x 24" in size for Type 1 installation
2. 1" x 2" x 24" in size for Type 2 installation

Rope

For Type 2 installation, rope must:

1. Be biodegradable, such as sisal or manila
2. Have a minimum diameter of 1/4 inch

CONSTRUCTION

Before placing fiber roll, remove obstructions including rocks, clods, and debris greater than one inch in diameter from the ground.

If fiber roll is to be placed in the same area as erosion control blanket, install the blanket before placing the fiber roll. For other soil stabilization practices such as hydraulic mulch or compost, place the fiber roll and then apply the soil stabilization practice.

Place fiber roll on slopes at the following spacing unless the plans show a different spacing:

1. 10 feet apart for slopes steeper than 2:1 (horizontal: vertical)

2. 15 feet apart for slopes from 2:1 to 4:1 (horizontal: vertical)
3. 20 feet apart for slopes from 4:1 to 10:1 (horizontal: vertical)
4. 50 feet apart for slopes flatter than 10:1 (horizontal: vertical)

Place fiber roll approximately parallel to the slope contour. For any 20 foot section of fiber roll, do not allow the fiber roll to vary more than 5 percent from level.

Type 1 and Type 2 fiber roll may be installed using installation method Type 1, Type 2, or a combination:

For installation method Type 1, install fiber roll by:

1. Placing in a furrow that is from 2 to 4 inches deep
2. Securing with wood stakes every 4 feet along the length of the fiber roll
3. Securing the ends of the fiber roll by placing a stake 6 inches from the end of the roll
4. Driving the stakes into the soil so that the top of the stake is less than 2 inches above the top of the fiber roll

For installation method Type 2, install fiber roll by:

1. Securing with rope and notched wood stakes.
2. Driving stakes into the soil until the notch is even with the top of the fiber roll.
3. Lacing the rope between stakes and over the fiber roll. Knot the rope at each stake.
4. Tightening the fiber roll to the surface of the slope by driving the stakes further into the soil.

MAINTENANCE

Maintain temporary fiber roll to provide sediment holding capacity and to reduce runoff velocities.

Remove sediment deposits, trash, and debris from temporary fiber roll as needed or when directed by the Engineer. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water. Trash and debris must be removed and disposed of as specified in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Maintain temporary fiber roll by:

1. Removing sediment from behind the fiber roll when sediment is 1/3 the height of the fiber roll above ground
2. Repairing or adjusting the fiber roll when rills and other evidence of concentrated runoff occur beneath the fiber roll.
3. Repairing or replacing the fiber roll when they become split, torn, or unraveled
4. Adding stakes when the fiber roll slump or sag
5. Replacing broken or split wood stakes

Repair temporary fiber roll within 24 hours of discovering damage unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace temporary fiber roll, repair temporary fiber roll at your expense.

The City does not pay maintenance costs for cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence.

REMOVAL

When the Engineer determines that temporary fiber roll is not required, they must be removed and disposed of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary fiber roll must be backfilled and repaired under 15-1.36, "Property and Facility Preservation," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Temporary fiber roll is measured by the linear foot along the centerline of the installed roll. Where temporary fiber roll is joined and overlapped, the overlap is measured as a single installed roll.

The contract price paid per linear foot for Temporary Fiber Roll includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the Temporary Fiber Roll, complete in place, including removal of materials, cleanup and disposal of retained sediment and debris, and backfilling and repairing holes, depressions and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer

TS-16 TEMPORARY SILT FENCE

GENERAL

Summary

This work includes installing, maintaining, and removing temporary silt fence.

The SWPPP must describe and include the use of temporary silt fence as a water pollution control practice for sediment control.

Submittals

Submit a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications for silt fence fabric.

MATERIALS

Silt Fence Fabric

Geosynthetic fabric for temporary silt fence must consist of one of the following:

1. Polyester
2. Polypropylene
3. Combined polyester and polypropylene

Sample under ASTM D 4354, Procedure C.

Test under ASTM D 4759. All properties must be based on Minimum Average Roll Value (MARV).

Identify, store, and handle under ASTM D 4873.

Protect geosynthetics from moisture, sunlight, and damage during shipping and storage. Label each unit with the manufacturer's name, identifying information, and product identification.

Silt fence fabric must comply with:

Property	ASTM Designation	Specification	
		Woven	Non-woven
Grab breaking load 1-inch grip, lb, min. in each direction	D 4632	120	120
Apparent elongation percent, min., in each direction	D 4632	15	50
Water Flow Rate max. average roll value, gallons per minute/square foot	D 4491	10-50	100-150
Permittivity 1/sec., min.	D 4491	0.05	0.05
Apparent opening size max. average roll value, U.S. Standard sieve size	D 4751	30	30
Ultraviolet Degradation percent of original unexposed grab breaking load 500 hr, minimum	D 4595	70	

Posts

Posts must be wood or metal.

Wood posts must be:

1. Untreated fir, redwood, cedar, or pine and cut from sound timber
2. Straight and free of loose or unsound knots and other defects that would render the stakes unfit for use
3. Pointed on the end to be driven into the ground
4. At least 2" x 2" in size, and 4 feet long

Metal posts must:

1. Be made of steel.
2. Have a "U," "T," "L," or other cross sectional shape that can resist failure from lateral loads.
3. Be pointed on the end to be driven into the ground.
4. Weigh at least 0.75-pound per foot.
5. Be at least 4 feet long.
6. Have a safety cap attached to the exposed end. The safety cap must be orange or red plastic and fit snugly to the metal post.

CONSTRUCTION

Silt fence must be:

1. Constructed with silt fence fabric, posts, and fasteners
2. Prefabricated or assembled at the job site

Silt fence fabric must be attached to posts using these methods:

1. If prefabricated silt fence is used, posts must be inserted into sewn pockets
2. If assembled on the job site:

    2.1. If wood posts are used, fasteners must be staples or nails
    2.2. If steel posts are used, fasteners must be tie wires or locking plastic fasteners
    2.3. Spacing of the fasteners must be no more than 8 inches apart

Place silt fence approximately parallel to the slope contour. For any 50 foot section of silt fence, do not allow the elevation at the base of the fence to vary more than 1/3 of the fence height.

Install silt fence by:

1. Placing the bottom of the fabric in a trench that is 6 inches deep
2. Securing with posts placed on the downhill side of the fabric
3. Backfilling the trench with soil and hand or mechanically tamping to secure the fabric in the trench

If you reinforce the silt fence fabric with wire or plastic mesh, you may increase the post spacing to a maximum of 10 feet. The field-assembled reinforced silt fence must be able to retain saturated sediment without collapsing.

Connect silt fence sections by:

1. Joining separate sections of silt fence to form reaches that are no more than 500 feet long
2. Securing the end posts of each section by wrapping the tops of the posts with at least two wraps of 16-gage diameter tie wire
3. Ensuring that each reach is a continuous run of silt fence from end to end or from an end to an opening, including joined panels

If you mechanically push the silt fence fabric vertically through the soil, you must demonstrate that the silt fence fabric will not be damaged and will not slip out of the soil, resulting in sediment passing under the silt fence fabric.

MAINTENANCE

Maintain temporary silt fence to provide sediment holding capacity and to reduce runoff velocities.

Remove sediment deposits, trash, and debris from temporary silt fence as needed or when directed by the Engineer. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water. Trash and debris must be removed and disposed of as specified in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Maintain temporary silt fence by:

1. Removing sediment from behind the silt fence when sediment is 1/3 the height of the silt fence above ground
2. Repairing or adjusting the silt fence when rills and other evidence of concentrated runoff occur beneath the silt fence fabric
3. Repairing or replacing the silt fence fabric when it become split, torn, or unraveled

Repair temporary silt fence within 24 hours of discovering damage unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace temporary silt fence, repair temporary silt fence at your expense.

The City does not pay maintenance costs for cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence.

REMOVAL

When the Engineer determines that temporary silt fence is not required, remove and dispose of fence under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary silt fence must be backfilled and repaired under 15-1.36, "Property and Facility Preservation," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Temporary Silt Fence is measured by the linear foot along the centerline of the installed fence.

The contract price paid per linear foot for Temporary Silt Fence includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing the Temporary Silt Fence, complete in place, including removal of materials, cleanup and disposal of retained sediment and debris, and backfilling and repairing holes, depressions and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-17 TEMPORARY FENCE (TYPE ESA)

GENERAL

Summary

This work includes constructing, maintaining, and removing temporary fence (Type ESA). Temporary fence (Type ESA) provides a visible boundary adjacent to protected areas such as an environmentally sensitive area.

Submittals

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

1. High visibility fabric
2. Safety cap for metal posts

MATERIALS

High Visibility Fabric

High visibility fabric for temporary fence (Type ESA) must consist of one of the following:

1. Polyethylene
2. Polypropylene
3. Combined polyethylene and polypropylene

Sample under ASTM D 4354, Procedure C.
Test under ASTM D 4759. All properties must be based on Minimum Average Roll Value.
Identify, store, and handle under ASTM D 4873.

High visibility fabric must:

1. Contain ultraviolet inhibitors
2. Comply with the following:

Property	Specifications	Requirements
Width, inches, Min	Measured	48
Opening size inches	Measured	1" x 1" (Min) 2" x 2" (Max)
Color	Observed	Orange
Grab breaking load 1-inch grip, lb, Min. in each direction	ASTM D4632	260
Apparent elongation percent, Min., in each direction	ASTM D4632	5
Ultraviolet Degradation percent of original unexposed grab breaking load 500 hr, minimum	ASTM D4355	70

Posts

Posts must be wood or steel.

Wood posts must be:

1. Untreated fir, redwood, cedar, or pine and cut from sound timber
2. Straight and free of loose or unsound knots and other defects that would render the stakes unfit for use
3. Pointed on the end to be driven into the ground
4. At least 2" x 2" in size and 6 feet long

Steel posts must:

1. Have a "U," "T," "L," or other cross sectional shape that can resist failure from lateral loads.
2. Be pointed on the end to be driven into the ground.
3. Weigh at least 0.75-pound per foot.
4. Be at least 6 feet long.
5. Have a safety cap attached to the exposed end. The safety cap must be yellow, orange or red plastic and fit snugly to the metal post.

CONSTRUCTION

General

Install temporary fence (Type ESA):

1. With high visibility fabric, posts, and fasteners as follows:

    1.1. If wood posts are used, fasteners must be staples or nails
    1.2. If steel posts are used, fasteners must be tie wires or locking plastic fasteners
    1.3. Spacing of the fasteners must be no more than 8 inches apart

2. Before clearing and grubbing activities
3. From outside of the protected area
4. With posts spaced 8 feet apart and embedded at least 16 inches in the soil

If trees and other plants need protection, install fence to:

1. Enclose the foliage canopy (drip line) of protected plants
2. Protect visible roots from encroachment

Maintenance

Maintain temporary fence (Type ESA) by:

1. Keeping posts in a vertical position
2. Reattaching fabric to posts
3. Replacing damaged sections of fabric
4. Replacing and securing signs

Removal

When the Engineer determines that temporary fence (Type ESA) is no longer required, remove and dispose of it under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Backfill and repair ground disturbance caused by the installation and removal of temporary fence (Type ESA), including holes and depressions, under 15-1.36, "Property and Facility Preservation," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Temporary Fence (Type ESA) is measured and paid for by the linear foot in the same manner specified for fence (Type BW or WM) in Section 80, "Fences," of the Standard Specifications.

The contract price paid per linear foot for Temporary Fence (Type ESA) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing the Temporary Fence (Type ESA), complete in place, including maintenance, removal of materials, and backfilling and repairing holes, depressions and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as ordered by the Engineer.

TS-18 TEMPORARY CONSTRUCTION ENTRANCE

GENERAL

Summary

This work includes constructing, maintaining, and removing temporary construction entrance to provide temporary access.

The SWPPP must describe and include the use of temporary construction entrance as a water pollution control practice for tracking control.

Temporary construction entrance must be Type 1, Type 2, or a combination.

Submittals

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

1. Temporary entrance fabric
2. Rock

Submit details for alternatives at least 5 business days before installation. You may propose alternatives for the following items:

1. Alternative sump
2. Alternative corrugated steel panels

If the Engineer approves, you may eliminate the sump.

MATERIALS

Temporary Entrance Fabric

Temporary entrance fabric must comply with Section 96-1.02I, "Rock Slope Protection Fabric," of the Standard Specifications and be woven Type B or non-woven Type B.

Rock

Rock must be Type A or Type B.

Rock (Type A) must comply with:

1. Requirements under Section 72-2.02, "Materials," of the Standard Specifications
2. Following sizes:

Square Screen Size (inch)	Percentage Passing	Percentage Retained
6	100	0
3	0	100

Rock (Type B) must be Railway Ballast Number 25. Do not use blast furnace slag. Railway Ballast Number 25 must comply with:

1. Description in AREMA Manual for Railway Engineering.
2. Following sizes:

Nominal Size Square Opening	Percentage Passing								
	3"	2-1/2"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	No. 4
2-1/2"-3/8"	100	80-100	60-85	50-70	25-50	-	5-20	0-10	0-3

3. Following properties:

Specification	Requirements
Percent material passing No. 200 sieve, max. ASTM: C 117	1.0
Bulk specific gravity, min. ASTM: C 127	2.60
Absorption, percent min. ASTM: C 127	1.0
Clay lumps and friable particles, percent max. ASTM: C 142	0.5
Degradation, percent max. ASTM: C 535	30
Soundness (Sodium Sulfate), percent max. ASTM: C 88	5.0
Flat, elongated particles, or both, percent max. ASTM: D 4791	5.0

Corrugated Steel Panels

Corrugated steel panels must:

1. Be made of steel.
2. Be pressed or shop welded
3. Have a slot or hook for connecting panels together

CONSTRUCTION

Prepare location for temporary construction entrance by:

1. Removing vegetation to ground level and clear away debris
2. Grading ground to uniform plane
3. Grading ground surface to drain
4. Removing sharp objects that may damage fabric
5. Compacting the top 1.5 feet of soil to at least 90 percent relative compaction

If temporary entrance (Type 1) is specified, use rock (Type A).

If temporary construction entrance (Type 2) is specified, use Rock (Type B) under corrugated steel panels. Use at least 6 corrugated steel panels for each entrance. Couple panels together.

Install temporary construction entrance by:

1. Positioning fabric along the length of the entrance
2. Overlapping sides and ends of fabric by at least 12 inches
3. Spreading rock over fabric in the direction of traffic
4. Covering fabric with rock within 24 hours
5. Keeping a 6 inch layer of rock over fabric to prevent damage to fabric by spreading equipment

Do not drive on fabric until rock is spread.

Unless the Engineer eliminates the sump, install a sump within 20 feet of each temporary construction entrance.

Repair fabric damaged during rock spreading by placing a new fabric over the damaged area. New fabric must be large enough to cover damaged area and provide at least 18-inch overlap on all edges.

Maintenance

Maintain temporary construction entrance to minimize generation of dust and tracking of soil and sediment onto public roads. If dust or sediment tracking increases, place additional rock unless the Engineer approves another method.

Repair temporary construction entrance if:

1. Fabric is exposed
2. Depressions in the entrance surface develop
3. Rock is displaced

Repair temporary construction entrance within 24 hours of discovering damage unless the Engineer approves a longer period.

During use of temporary construction entrance, do not allow soil, sediment, or other debris tracked onto pavement to enter storm drains, open drainage facilities, or watercourses. When material is tracked onto pavement, remove it within 24 hours unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace the temporary construction entrance, repair it at your expense.

The City does not pay maintenance costs for cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence.

Removal

When the Engineer determines that temporary construction entrance is not required, remove and dispose of it under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Backfill and repair ground disturbance, including holes and depressions, caused by installation and removal of temporary construction entrance under 15-1.36, "Property and Facility Preservation," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Temporary Construction Entrance is determined from actual count in place. Temporary Construction Entrance is measured one time only and no additional measurement will be recognized.

The contract unit price paid for Temporary Construction Entrance includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing Temporary Construction Entrance, complete in place, including removal of temporary construction entrance, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

No additional compensation will be made if the Temporary Construction Entrance is relocated during the course of construction.

TS-19 TEMPORARY DRAINAGE INLET PROTECTION

GENERAL

Summary

This work includes constructing, maintaining, and removing temporary drainage inlet protection. Drainage inlet protection settles and filters sediment before stormwater runoff discharges into storm drainage systems.

The SWPPP must describe and include the use of temporary drainage inlet protection as a water pollution control practice for sediment control.

Provide temporary drainage inlet protection to meet the changing conditions around the drainage inlet. Temporary drainage inlet protection must be:

1. Appropriate type to meet the conditions around the drainage inlet
2. Type 3A, Type 3B

Submittals

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

1. Erosion control blanket
2. Sediment filter bag
3. Gravel-filled bag fabric

If you substitute the steel wire staple with an alternative attachment device, submit a sample of the device for approval at least 5 business days before installation.

MATERIALS

Geosynthetic Fabrics

Geosynthetic fabrics for temporary drainage inlet protection must consist of one of the following:

1. Polyester
2. Polypropylene
3. Combined polyester and polypropylene

Geosynthetic fabrics for temporary drainage inlet must comply with the specifications for water pollution control in Section 13, "Water Pollution Control," of the Standard Specifications.

Erosion Control Blanket

Erosion control blanket must be:

1. Described as a rolled erosion control product (RECP)
2. Classified as temporary and degradable or long-term and non-degradable
3. Machine-made mats
4. Provided in rolled strips
5. Classified by the Erosion Control Technology Council (ECTC)

Erosion control blanket classified as temporary and degradable must be one of the following:

1. Double net excelsior blanket:

1.1. Classified as ECTC Type 2D
1.2. Classified as an erosion control blanket
1.3. Designed to last for at least one year after installation
1.4. With a Universal Soil Loss Equation (USLE) C-Factor of not more than 0.20 at a 2:1 (horizontal:vertical) slope
1.5. With 80 percent of the wood excelsior fibers being 6 inches or longer
1.6. Capable to withstand a maximum shear stress of 1.75 pounds per square foot under ASTM D 6460
1.7. With a minimum tensile strength of 75 pounds per foot under ASTM D 5035
1.8. With top and bottom surfaces covered with lightweight non-synthetic netting

2. Double net straw and coconut blanket:

2.1. Classified as ECTC Type 2D
2.2. Classified as an erosion control blanket
2.3. Designed to last for at least one year after installation
2.4. With a USLE C-Factor of not more than 0.20 at a 2:1 (horizontal:vertical) slope
2.5. Comprised of 70 percent straw and 30 percent coconut fiber
2.6. Capable to withstand a maximum shear stress of 1.75 pounds per square foot under ASTM D 6460
2.7. With a minimum tensile strength of 75 pounds per foot under ASTM D 5035
2.8. With top and bottom surfaces covered with lightweight non-synthetic netting

3. Jute netting:

3.1. Classified as ECTC Type 3B
3.2. Classified as an open weave textile and have from 14 to 20 strands per foot in each direction
3.3. Designed to last for at least one year after installation
3.4. With a USLE C-Factor of not more than 0.25 at a 1.5:1 (horizontal:vertical) slope
3.5. Comprised of 100 percent unbleached and undyed spun yarn made of jute fiber
3.6. With an average open area from 63 to 70 percent
3.7. From 48 to 72 inches in width
3.8. Capable to withstand a maximum shear stress of 2.0 pounds per square foot under ASTM D 6460
3.9. With a minimum tensile strength of 100 pounds per foot under ASTM D 5035
3.10. From 0.90 to 1.20 pounds per square yard in weight

4. Coir netting:

4.1. Classified as ECTC Type 4
4.2. Classified as an open weave textile and from 13 to 18 strands per foot in each direction
4.3. Designed to last for at least three years after installation
4.4. With a USLE C-Factor of not more than 0.25 at a 1:1 (horizontal:vertical) slope
4.5. Comprised of 100 percent unbleached and undyed spun coir yarn made of coconut fiber
4.6. With an average open area from 63 to 70 percent
4.7. From 72 to 158 inches in width
4.8. Capable to withstand a maximum shear stress of 2.25 pounds per square foot under ASTM D6460
4.9. With a minimum tensile strength of 125 pounds per foot under ASTM D 5035
4.10. From 1.20 to 1.67 pounds per square yard in weight

Erosion control blanket classified as long-term and non-degradable must:

1. Be a geosynthetic fabric
2. Comply with the specifications for rock slope protection fabric (Class 8) in Section 96-1.02I, "Rock Slope Protection Fabric," of the Standard Specifications

Staples

You may use an alternative attachment device such as a geosynthetic pins or plastic pegs to install erosion control blanket.

Rock

Rock must comply with:

1. Requirements under Section 13-7.03B, "Materials," of the Standard Specifications
2. Following sizes:

Square Screen Size (inch)	Percentage Passing	Percentage Retained
6	100	0
3	0	100

Gravel-filled Bags

Gravel-filled bags must:

1. Be made from fabric.
2. Have inside dimensions from 24 to 32 inches in length, and from 16 to 20 inches in width.
3. Have the opening bound to retain the gravel. The opening must be sewn with yarn, bound with wire, or secured with a closure device.
4. Weigh from 30 to 50 pounds when filled with gravel.

Gravel for gravel-filled bags must be:

1. From 3/8 to 3/4 inch in diameter
2. Clean and free from clay balls, organic matter, and other deleterious materials

Sediment Filter Bag

Sediment filter bag must:

1. Be made of fabric
2. Be sized to fit the catch basin or drainage inlet
3. Include a high-flow bypass

Sediment filter bag may include a metal frame. Sediment filter bags that do not have a metal frame and are deeper than 18 inches must:

1. Include lifting loops and dump straps
2. Include a restraint cord to keep the sides of the bag away from the walls of the catch basin

CONSTRUCTION

For drainage inlet protection at drainage inlets in paved and unpaved areas:

1. Prevent ponded runoff from encroaching on the traveled way or overtopping the curb or dike. Use linear sediment barriers to redirect runoff and control ponding.
2. Clear the area around each drainage inlet of obstructions including rocks, clods, and debris greater than one inch in diameter before installing the drainage inlet protection.
3. Install a linear sediment barrier up-slope of the existing drainage inlet and parallel with the curb, dike, or flow line to prevent sediment from entering the drainage inlet.

Erosion Control Blanket

To install erosion control blanket and geosynthetic fabric:

1. Secure blanket or fabric to the surface of the excavated sediment trap with staples and embed in a trench adjacent to the drainage inlet
2. Anchor the perimeter edge of the erosion control blanket in a trench

Gravel Bag Berm

If gravel bag berm is used as a linear sediment barrier:

1. Place gravel-filled bags end-to-end to eliminate gaps
2. Stack bags in a way that the bags in the top row overlap the joints in the lower row

If gravel bag berms are used for Type 3A and Type 3B:

1. Place gravel-filled bags end-to-end to eliminate gaps
2. Stack bags in a way that the bags in the top row overlap the joints in the lower row
3. Arrange bags to create a spillway by removing one or more gravel-filled bags from the upper layer

Sediment Filter Bags

Install sediment filter bags for Type 5 by:

1. Removing the drainage inlet grate
2. Placing the sediment bag in the opening
3. Replacing the grate to secure the sediment filter bag in place

MAINTENANCE

Maintain temporary drainage inlet protection to provide sediment holding capacity and to reduce runoff velocities.

Remove sediment deposits, trash, and debris from temporary drainage inlet protection as needed or when directed by the Engineer. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water. Trash and debris must be removed and disposed of as specified in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Maintain temporary drainage inlet protection by removing sediment from:

1. Surface of the erosion control blanket when sediment exceeds 1 inch in depth
2. Sediment filter bags when filled or when the restraint cords are no longer visible

For sediment filter bags without metal frames, empty by placing one inch steel reinforcing bars through the lifting loops and then lift the filled bag from the drainage inlet. For sediment filter bags with metal frames,

empty by lifting the metal frame from the drainage inlet. Rinse before replacing in the drainage inlet. When rinsing the sediment filter bags, do not allow the rinse water to enter a drain inlet or waterway.

Repair temporary drainage inlet protection within 24 hours of discovering damage unless the Engineer approves a longer period.

If your vehicles, equipment, or activities disturb or displace temporary drainage inlet protection, repair temporary drainage inlet protection at your expense.

The City does not pay maintenance costs for cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence.

REMOVAL

When the Engineer determines that the temporary drainage inlet protection is not required, it must be removed and disposed of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary drainage inlet protection must be backfilled and repaired under 15-1.36, "Property and Facility Preservation," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Quantities of Temporary Drainage Inlet Protection will be determined from actual count in place. The protection will be measured one time only and no additional measurement will be recognized.

The contract unit price paid for Temporary Drainage Inlet Protection includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing the Temporary Drainage Inlet Protection, complete in place, including removal of materials, cleanup and disposal of retained sediment and debris, and backfilling and repairing holes, depressions and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

No additional compensation will be made if the Temporary Drainage Inlet Protection is relocated during the course of construction.

TS-20 MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL)

GENERAL

Summary

This work includes moving onto the project when an area is ready to receive temporary erosion control, setting up required personnel and equipment for the application of erosion control materials, and moving out all personnel and equipment when temporary erosion control in that area is completed.

Temporary erosion control consists of any water pollution control practice for soil stabilization.

When notified by the Engineer that an area is ready for temporary erosion control, start erosion control work within 5 business days.

MEASUREMENT AND PAYMENT

Move-In/Move-Out (Temporary Erosion Control) is measured as units from actual count. A move-in followed by a move-out is considered one unit.

The contract unit price paid for Move-In/Move-Out (Temporary Erosion Control) includes full compensation for furnishing all labor, materials (excluding temporary erosion control materials), tools, equipment, and incidentals and for doing all the work involved in moving in and removing from the project all personnel and equipment necessary for application of temporary erosion control, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-21 MOBILIZATION

Mobilization shall conform to the provisions in Section 11, "Mobilization," of the Standard Specifications and these Technical Specifications, except for measurement and payment.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Mobilization includes full compensation for furnishing all labor, materials, tools, equipment and incidentals for Mobilization and all other related costs therefor, including, but not limited to, bonding and insurance costs for prime and subcontractors, equipment delivery and setup, installation of sanitation facilities, construction fencing, removal of all equipment, final site cleanup and all other related mobilization costs as specified in the Standard Specifications.

TS-22 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES

Flagging, signs, and temporary traffic control devices furnished, installed, maintained, and removed when no longer required shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these Technical Specifications.

Category 1 temporary traffic control devices are defined as small and lightweight (less than 100 pounds) devices. These devices shall be certified as crashworthy by crash testing, crash testing of similar devices, or years of demonstrable safe performance. Category 1 temporary traffic control devices include traffic cones, plastic drums, portable delineators, and channelizers.

If requested by the Engineer, the Contractor shall provide written self-certification for crashworthiness of Category 1 temporary traffic control devices at least 5 business days before beginning any work using the devices or within 2 business days after the request if the devices are already in use. Self-certification shall be provided by the manufacturer or Contractor and shall include the following:

A. Date,
B. Federal Aid number (if applicable),
C. Contract number, district, county, route and post mile of project limits,
D. Company name of certifying vendor, street address, city, state and zip code,
E. Printed name, signature and title of certifying person; and
F. Category 1 temporary traffic control devices that will be used on the project.

The Contractor may obtain a standard form for self-certification from the Engineer.

Category 2 temporary traffic control devices are defined as small and lightweight (less than 100 pounds) devices that are not expected to produce significant vehicular velocity change, but may cause potential harm to impacting vehicles. Category 2 temporary traffic control devices include barricades and portable sign supports.

Category 2 temporary traffic control devices shall be on the Federal Highway Administration's (FHWA) list of Acceptable Crashworthy Category 2 Hardware for Work Zones. This list is maintained by FHWA and can be located at:

http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/listing.cfm?code=workzone

The Department also maintains this list at:

http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf/Category2.pdf

Category 2 temporary traffic control devices that have not received FHWA acceptance shall not be used. Category 2 temporary traffic control devices in use that have received FHWA acceptance shall be labeled with the FHWA acceptance letter number and the name of the manufacturer. The label shall be readable and permanently affixed by the manufacturer. Category 2 temporary traffic control devices without a label shall not be used.

If requested by the Engineer, the Contractor shall provide a written list of Category 2 temporary traffic control devices to be used on the project at least 5 business days before beginning any work using the devices or within 2 business days after the request if the devices are already in use.

Category 3 temporary traffic control devices consist of temporary traffic-handling equipment and devices that weigh 100 pounds or more and are expected to produce significant vehicular velocity change to impacting vehicles. Temporary traffic-handling equipment and devices include crash cushions, truck-mounted attenuators, temporary railing, temporary barrier, and end treatments for temporary railing and barrier.

Type III barricades may be used as sign supports if the barricades have been successfully crash tested, meeting the NCHRP Report 350 criteria, as one unit with a construction area sign attached.

Category 3 temporary traffic control devices shall be shown on the plans or on the Department's Highway Safety Features list. This list is maintained by the Division of Engineering Services and can be found at:

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

Category 3 temporary traffic control devices that are not shown on the plans or not listed on the Department's Highway Safety Features list shall not be used.

MEASUREMENT AND PAYMENT

Full compensation for providing self-certification for crashworthiness of Category 1 temporary traffic control devices and for providing a list of Category 2 temporary traffic control devices used on the project shall be considered as included in the prices paid for the various items of work requiring the use of the Category 1 or Category 2 temporary traffic control devices and no additional compensation will be allowed therefor.

TS-23 CONSTRUCTION AREA SIGNS

Construction area signs for temporary traffic control shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Technical Specifications.

Type II retroreflective sheeting shall not be used on construction area sign panels. Type III, IV, VII, VIII, or IX retroreflective sheeting shall be used for stationary mounted construction area sign panels.

Attention is directed to "Construction Project Information Signs" of these Technical Specifications regarding the type of construction project information signs to be furnished, erected, maintained, and removed and disposed of.

Unless otherwise shown on the plans or specified in these Technical Specifications, the color of construction area warning and guide signs shall have black legend and border on orange background, except W10-1 or W47(CA) (Highway-Rail Grade Crossing Advance Warning) sign shall have black legend and border on yellow background.

Orange background on construction area signs shall be fluorescent orange.

Repair to construction area sign panels will not be allowed, except when approved by the Engineer. At nighttime under vehicular headlight illumination, sign panels that exhibit irregular luminance, shadowing or dark blotches shall be immediately replaced at the Contractor's expense.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2 business days, but not more than 14 days, prior to commencing excavation for construction area sign posts. The regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert	(800) 277-2600

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes. The post hole diameter, if backfilled with Portland cement concrete, shall be at least 4 inches greater than the longer dimension of the post cross section.

Construction area signs placed within 15 feet from the edge of the travel way shall be mounted on stationary mounted sign supports as specified in "Construction Area Traffic Control Devices" of these Technical Specifications.

The Contractor shall maintain accurate information on construction area signs. Signs that are no longer required shall be immediately covered or removed. Signs that convey inaccurate information shall be immediately replaced or the information shall be corrected. Covers shall be replaced when they no longer cover the signs properly. The Contractor shall immediately restore to the original position and location any sign that is displaced or overturned, from any cause, during the progress of work.

MEASUREMENT AND PAYMENT

Full compensation for Traffic Handling Signs used in staging project construction shall be considered as included in the contract lump sum price paid for Construction Area Signs and no additional compensation will be allowed therefor.

The contract lump sum price paid for Construction Area Signs includes full compensation for furnishing all labor, materials (including signs), tools, equipment, and incidentals, and for doing all work involved in furnishing Construction Area Signs required for the direction of public traffic through or around the work and for erecting or placing, maintaining (including covering and uncovering as needed), removing, storing, replacing and disposing of the Construction Area Signs, including sign panels, posts, excavation and backfill, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-24 MAINTAINING TRAFFIC

Maintaining traffic shall conform to the provisions in Sections 7-1.03, "Public Convenience," Section 7-1.04, "Public Safety," and Section 12, "Temporary Traffic Control," of the Standard Specifications and these Technical Specifications.

For all work involving traffic control on existing arterial streets, contractor shall prepare site specific traffic control plans, sign and stamped by a traffic engineer (TE) and shall be approved by the City prior to commencing with work.

The Contractor shall have necessary materials and equipment on the site to erect or remove the girders in any one span or over any one opening before detouring or stopping public traffic.

Contractor shall provide a Shutdown Plan for each utility to the Engineer for review and approval.

The Contractor shall ensure that existing services provided by utility purveyors within the project area are not disrupted at any time throughout the course of the construction period.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Maintain Traffic and preparing and implementing TCP's includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in providing Maintain Traffic, including traffic control via flaggers, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-25 TEMPORARY PAVEMENT DELINEATION

Temporary pavement delineation shall be furnished, placed, maintained, and removed in conformance with the provisions in Section 12-6.01, "General," of the Standard Specifications and these Technical Specifications. Nothing in these Technical Specifications shall be construed as reducing the minimum standards specified in the California MUTCD or as relieving the Contractor from the responsibilities specified in Section 7-1.04, "Public Safety," of the Standard Specifications.

GENERAL

When the work causes obliteration of pavement delineation, temporary or permanent pavement delineation shall be in place before opening the traveled way to public traffic. Laneline or centerline pavement delineation shall be provided for traveled ways open to public traffic.

Work necessary, including required lines or markers, to establish the alignment of temporary pavement delineation shall be performed by the Contractor. Surfaces to receive application of paint or removable traffic tape temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with a new pattern of temporary pavement delineation or permanent pavement delineation, or as determined by the Engineer.

Temporary pavement markers and removable traffic tape that conflicts with a new traffic pattern or that is applied to the final layer of surfacing or existing pavement to remain in place shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

Temporary pavement delineation shall be used on or adjacent to lanes open to public traffic for a maximum of 14 days. Before the end of the 14 days, the permanent pavement delineation shall be placed. If the

permanent pavement delineation is not placed within the 14 days, additional temporary pavement delineation shall be provided by the Contractor at no additional cost to the City. The additional temporary pavement delineation to be provided shall be equivalent to the pattern specified for the permanent pavement delineation for the area, as determined by the Engineer.

Painted traffic stripe used for temporary delineation shall conform to "Paint Traffic Stripe and Pavement Marking" of these Technical Specifications, except for payment. The number of coats shall be, at the option of the Contractor, either one or 2 coats. The quantity of painted traffic stripe used for temporary delineation will not be included in the quantities of paint traffic stripe to be paid for.

TEMPORARY LANELINE AND CENTERLINE DELINEATION

When lanelines or centerlines are obliterated, the minimum laneline and centerline delineation to be provided shall be temporary pavement markers placed at longitudinal intervals of not more than 24 feet. The temporary pavement markers shall be the same color as the laneline or centerline the markers replace. Temporary pavement markers shall be, at the option of the Contractor, one of the temporary pavement markers listed for short term day/night use (14 days or less) or long term day/night use (6 months or less) in "Prequalified and Tested Signing and Delineation Materials" of these Technical Specifications. Temporary pavement markers shall be placed in conformance with the manufacturer's instructions and shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place pavement markers in areas where removal of the markers will be required.

Temporary laneline or centerline delineation consisting entirely of temporary pavement markers shall be placed on longitudinal intervals of not more than 24 feet.

MEASUREMENT AND PAYMENT

The contract price paid per square foot for Temporary Pavement Marking (Paint) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals to furnish, place, maintain, and remove Temporary Pavement Marking (Paint) when no longer needed, all in accordance with the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for Temporary Traffic Stripe (Paint) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals to furnish, place, maintain, and remove Temporary Traffic Stripe (Paint) when no longer needed, all in accordance with the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Temporary Pavement Marker includes full compensation for furnishing all labor, materials, tools, equipment and incidentals to furnish, place, maintain, and remove Temporary Pavement Marker when no longer needed, all in accordance with the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-26 BARRICADE

Barricades shall be furnished, placed and maintained at the locations shown on the plans, specified in the Standard Specifications or in these Technical Specifications or where designated by the Engineer. Barricades shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Technical Specifications.

Construction area sign and marker panels conforming to the provisions in Section 12-3.11, "Construction Area Signs," of the Standard Specifications shall be installed on barricades in a manner determined by the Engineer at the locations shown on the plans.

Sign panels for construction area signs and marker panels installed on barricades shall conform to the provisions in Section 12-3.11B(2), "Stationary Mounted Signs," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Full compensation for furnishing, installing, maintaining, and removing construction area signs and marker panels on barricades shall be considered as included in the contract unit price paid for the type of barricade involved and no separate payment will be made therefor.

The contract unit price paid for Type III Barricade includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing, placing, maintaining, repairing, replacing and removing Type III Barricade when no longer needed, including furnishing, installing, maintaining, and removing construction area signs and marker panels on barricades, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-27 PORTABLE CHANGEABLE MESSAGE SIGNS

GENERAL

Summary

Work includes furnishing, placing, operating, maintaining, and removing portable changeable message signs.

Comply with Section 12-3.32 "Portable Changeable Message Signs," of the Standard Specifications.

Definitions

useable shoulder area: Paved or unpaved contiguous surface adjacent to the traveled way with:

1. Sufficient weight bearing capacity to support portable changeable message sign
2. Slope not greater than 6:1 (horizontal:vertical)

Submittals

Upon request, submit a Certificate of Compliance for each portable changeable message sign under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

Quality Control and Assurance

Comply with the manufacturer's operating instructions for portable changeable message sign.

Approaching drivers must be able to read the entire message for all phases at least twice at the posted speed limit before passing portable changeable message sign. You may use more than 1 portable changeable message sign to meet this requirement.

Only display the message shown on the plans or ordered by the Engineer or specified in these Technical Specifications.

MATERIALS

The text of the message displayed on portable changeable message sign must not scroll, or travel horizontally or vertically across the face of the message panel.

CONSTRUCTION

Continuously repeat the entire message in no more than 2 phases of at least 3 seconds per phase.

If useable shoulder area is at least 15 feet wide, the displayed message on portable changeable message sign must be minimum 18-inch character height. If useable shoulder area is less than 15 feet wide, you may use a smaller message panel with minimum 12-inch character height to prevent encroachment in the traveled way.

Start displaying the message on portable changeable message sign 5 minutes before closing the lane.

Place portable changeable message sign in advance of the first warning sign for:

1. Each stationary lane closure

For 5 days starting on the day of signal activation, place 1 portable changeable message sign in each direction of travel and display the message, "SIGNAL AHEAD -- PREPARE TO STOP."

Place portable changeable message sign as far from the traveled way as practicable where it is legible to traffic and does not encroach on the traveled way. Place portable changeable sign before or at the crest of vertical roadway curvature where it is visible to approaching traffic. Avoid placing portable changeable message sign within or immediately after horizontal roadway curvature. Where possible, place portable changeable message sign behind guardrail or temporary railing (Type K).

Except where placed behind guardrail or temporary railing (Type K) use traffic control for shoulder closure to delineate portable changeable message sign.

Remove portable changeable message sign when not in use.

MEASUREMENT AND PAYMENT

Full compensation for Portable Changeable Message Signs, including furnishing, placing, operating, modifying messages, maintaining, transporting from location to location, removing, and repairing or replacing defective or damaged portable changeable message signs is included in the contract lump sum price paid for Construction Area Signs and no separate payment will be made therefor.

TS-28 TEMPORARY RAILING

GENERAL

Temporary railing (type K) shall be placed as shown on the plans, as specified in the Standard Specifications or these Technical Specifications or where ordered by the Engineer and shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Technical Specifications.

Temporary railing (type K) shall be secured in place before starting work for which the temporary railing is required.

Temporary railing (type K) shall be placed in conformance with the provisions in section 7-1.09, "Public Safety" of the Standard Specifications.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for Temporary Railing (Type K) includes full compensation for furnishing all labor, materials (including reinforcement, Type P marker panels and reflectors), tools, equipment, and incidentals, and for doing all work involved in furnishing, installing, maintaining, moving, and resetting during a work period for access to the work, and removing from the site of the work when no longer required (including those damaged by public traffic) Temporary Railing (Type K), complete in place, including excavation and backfill, drilling holes and bonding threaded rods or dowels when required, removing threaded rods or dowels and filling the drilled holes with mortar and moving and replacing removable panels as required, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-29 CHANNELIZER

Channelizers shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Technical Specifications.

When no longer required for the work as determined by the Engineer, channelizers and underlying adhesive used to cement the channelizer bases to the pavement shall be removed. Removed channelizers and adhesive shall become the property of the Contractor and shall be removed from the site of work.

MEASUREMENT AND PAYMENT

Channelizers (Surface Mounted) will be measured by the unit from actual count designated on the plans or ordered by the Engineer.

The contract unit price paid for Channelizer (Surface Mounted) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing, placing, maintaining, repairing, replacing and removing Channelizer (Surface Mounted) when no longer needed, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-30 TEMPORARY IN-LINE CRASH CUSHION

Temporary in-line crash cushion shall be furnished and installed as shown on the plans and in conformance with the provisions in the Standard Specifications and these Technical Specifications.

Attention is directed to "Temporary Railing" of these Technical Specifications.

Whenever the work or the Contractor's operations establishes a fixed obstacle, the exposed fixed obstacle shall be protected with a temporary in-line crash cushion. The temporary in-line crash cushion shall be in place prior to opening the lanes adjacent to the fixed obstacle to public traffic. Temporary in-line crash cushions shall be maintained in place at each location, including times when work is not actively in progress. Temporary in-line crash cushions may be removed during a work period for access to the work provided that the exposed fixed obstacle is 15 feet or more from a lane carrying public traffic and the temporary in-line crash cushion is reset to protect the obstacle prior to the end of the work period in which the fixed obstacle was exposed. When no longer required temporary in-line crash cushions shall be removed from the site of the work and shall become the property of the Contractor.

Modules damaged due to the Contractor's operations shall be repaired immediately by the Contractor at the Contractor's expense. Modules damaged beyond repair, as determined by the Engineer, due to the Contractor's operations shall be removed and replaced by the Contractor at the Contractor's expense.

A Type P marker panel shall be attached to the front of the crash cushion as shown on the plans, when the closest point of the crash cushion array is within 12 feet of the traveled way. The marker panel, when required, shall be firmly fastened to the crash cushion with commercial quality hardware or by other methods determined by the Engineer.

Temporary in-line crash cushion shall be an ABSORB-350 seven element system as manufactured by Barrier Systems Sales and Service, or approved equal, and shall include the items detailed for crash cushion as supplied from the manufacturer.

The Contractor shall provide the Engineer with a Certificate of Compliance from the manufacturer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications. The Certificate of Compliance shall certify that the crash cushion conforms to the contract plans and specifications, conforms to the prequalified design and material requirements, and was manufactured in conformance with the approved quality control program. Crash cushion shall be installed in conformance with the manufacturer's installation instructions.

MEASUREMENT AND PAYMENT

Temporary In-Line Crash Cushion will be measured per each complete ABSORB-350 seven element system from actual count in place for each separate stage as shown on plans. Type P marker panel shall be included in the unit price paid for temporary in-line crash cushion and no payment will made therefor.

The contract unit price paid for Temporary In-Line Crash Cushion includes full compensation for furnishing all labor, materials (including anchor bolts, nuts, washers, and marker panels), tools, equipment, and incidentals, and for doing all work involved in furnishing and installing Temporary In-Line Crash Cushion in a manner suitable for public traffic, complete in place, including Type P marker panel, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-31 SITE PREPARATION

The work performed in connection with various existing roadway facilities shall conform to the provisions in Section 15, "Existing Facilities," of the Standard Specifications and these Technical Specifications.

All facilities shown on the Plans to be removed and salvaged shall remain the property of the City of Morgan Hill, unless otherwise noted in the plans and as directed by the Engineer. Salvaged materials shall be cleaned of all earth and other foreign materials. Salvaged facilities that are not to be reinstalled shall be delivered to the City Corporation Yard at 100 Edes Court as directed by the Engineer.

Materials shown on the Plans or specified in the Technical Specifications to be reused in the work that are damaged as a result of the Contractor’s operations shall be repaired by the Contractor, at his expense, to the satisfaction of the Engineer.

The contractor shall furnish all materials, tools, equipment, devices, appurtenances, facilities, and services as required for performing the demolition and removal work. Materials used for backfill shall conform to the requirements for backfill of section TS-34 - Earthwork.

Underground irrigation systems, damaged or removed during construction shall be restored within 48 hours of the first destruction or removal in order to be functional outside the limits of the transitions. The Contractor shall be responsible for all damage to existing vegetation to remain due to lack of irrigation or flow from broken irrigation lines.

Full compensation for relocating or modifying any irrigation system shall be considered as included in the various contract items of work involved and no additional compensation will be allowed therefor.

Existing gas laterals, sewer laterals, and water service laterals damaged or blocked by the Contractor's operations shall be reconnected/repaired within a four-hour period. The Contractor shall notify the Engineer 48 hours in advance prior to any work, which may sever or block known existing service laterals.

Burying of trash and debris on the site will not be permitted. Remove trash and debris from the site at frequent intervals so that their presence will not delay the progress of the work or cause hazardous conditions for workers and the public.

Removed materials, trash and debris shall become the property of the Contractor and shall be disposed of in a legal manner. Location of disposal site and length of haul shall be the Contractor's responsibility.

MEASUREMENT AND PAYMENT

Demolition will be measured for payment by the lump-sum method, acceptably performed and completed. Structure excavation and backfill shall be considered as included in the contract price and no additional compensation will be allowed therefor.

REMOVE STORM DRAIN PIPE

Existing storm drains, where shown on the Plans to be removed, shall be removed and disposed of. Resulting openings into existing structures that are to remain in place shall be plugged with concrete conforming to the provisions in Section 90-10 "Minor Concrete," of the Standard Specifications. The concrete shall contain not less than 505 pounds of cementitious material per cubic yard.

MEASUREMENT AND PAYMENT

Full compensation for concrete plugs, pipe removal, structure excavation, and backfill (including sand, controlled low strength material or slurry cement backfill) shall be considered as included in the contract price paid per linear foot for Remove Storm Drain and no additional compensation will be allowed therefor.

REMOVE STORM DRAIN INLET

Existing concrete drainage inlets, where shown on the Plans to be removed, shall be removed and disposed of.

Pipe openings shall be plugged with concrete conforming to the provisions in Section 90-10 "Minor Concrete," of the Standard Specifications. The concrete shall contain not less than 505 pounds of cementitious material per cubic yard. Frames and grates shall be salvaged.

MEASUREMENT AND PAYMENT

Full compensation for inlets removal, salvaging frames and grates, plugging pipe openings, supplying aggregate subbase, and backfilling shall be considered as included in the contract unit price paid for Remove Storm Drain Inlet and no separate payment will be made therefor.

REMOVE DRAINAGE FACILITY

Existing Cobblestone Ditch and Concrete V Ditch, where shown on the Plans to be removed, shall be completely removed and disposed of.

MEASUREMENT AND PAYMENT

The contract unit price paid per linear foot for Remove Cobblestone Ditch and Remove Concrete V Ditch shall include full compensation for furnishing all labor, materials, tools, and equipment and incidentals and

for doing all work involved in removing, backfilling and disposing of the existing Cobblestone Ditch and Concrete V Ditch and no additional compensation will be allowed therefor.

REMOVE TRAFFIC STRIPE AND PAVEMENT MARKING

This work includes removing existing traffic stripe and pavement marking at the locations shown on the Plans.

Waste residue from removal of thermoplastic and painted traffic stripe and pavement marking is a non–hazardous waste residue and contains lead in average concentrations less than 1000 mg/kg total lead and 5 mg/L soluble lead. This waste residue does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs and is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Prepare a lead compliance plan to prevent or minimize worker exposure to lead while managing and handling earth materials, paint system debris, traffic stripe residue, and pavement marking residue containing lead. Regulations containing specific Cal/OSHA requirements when working with lead include 8 CA Code of Regs § 1532.1.

The plan must contain the items listed in 8 CA Code of Regs § 1532.1(e)(2)(B). Before submittal, a CIH must sign and seal the plan. Submit the plan at least 7 days before starting any activity that presents the potential for lead exposure. The Engineer notifies you of the acceptability of the plan within 4 business days of receipt.

Before starting any activity that presents the potential for lead exposure to employees who have no prior training, including State employees, provide a safety training program to these employees that complies with 8 CA Code of Regs § 1532.1 and your lead compliance program.

Submit copies of air monitoring or job site inspection reports made by or under the direction of the CIH under 8 CA Code of Regs § 1532.1 within 10 days after the date of monitoring or inspection.

Supply personal protective equipment, training, and washing facilities required by your lead compliance plan for 5 State employees.

MEASUREMENT AND PAYMENT

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in preparing the lead compliance plan, removing and disposing of traffic stripe, pavement marking, and pavement markers shall be considered as included in the contract lump sum price paid for Remove Traffic Pavement Markings and no separate payment will be made therefor.

REMOVE SIGN & POST

Existing signs, at those locations shown on the Plans to be removed, shall be removed and disposed of. Sign panels shown on the Plans shall be salvaged. Existing signs shall not be removed until replacement signs have been installed or until the existing signs are no longer required for the direction of public traffic, unless otherwise directed by the Engineer.

MEASUREMENT AND PAYMENT

The contract unit price paid for Remove Sign & Post shall include full compensation for furnishing all labor, materials, tools, and equipment and incidentals and for doing all work involved in removing roadside sign including salvaging sign panels, removing and disposing of the footing, and backfilling the resulting hole and no additional compensation will be allowed therefor.

REMOVE FENCE

Existing fences of various types of construction shall be removed as shown on the Plans.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for Remove Fence shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing and disposing of fences, including the removal and disposal of existing foundation and backfilling of the resulting holes, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

REPLACE FENCE

Existing fences schedule for replacement shall be removed and replaced with the same or equal materials as shown on the Plans. Contractor shall submit shop drawings to City Engineer and get approval from property owner.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for Replace Fence shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing and disposing of fences, foundation and backfilling of the resulting holes, clearing the line of the fence and disposing of the resulting material, excavating high points in the existing ground between posts, excavating holes, disposing of surplus excavated material, and furnishing and placing portland cement concrete footings, and connecting new fences to structures of existing fences, as specified in the Standard Specifications and these Technical Specifications and as directed by the Engineer.

ADJUST FRAME AND COVER TO GRADE

General

Summary

This work includes lowering frame and cover before cold planning and raising frame and cover to grade after paving.

Adjust frames and covers of existing manholes, junction structures, water valve box, water meter box, sewer cleanout, survey monument boxes, inlets, all utility boxes or other facilities to grade under these Technical Specifications, Section 15-2.05, "Reconstruction," of the Standard Specifications and details shown on the Plans.

Construction

Lower frames and covers of existing facilities before cold planning or replacing asphalt concrete surfacing. Temporarily fill utility depressions with HMA (Type B) before opening the lane to public traffic.

Adjust frames and covers of existing facilities to grade as shown on the Plans after completion of paving activities.

MEASUREMENT AND PAYMENT

The quantity of Adjust Water Meter, Adjust Water Valve, Adjust SD Inlet, Adjust Manhole and Adjust Vault to grade will be measured as units determined from actual count in place.

The contract unit price paid for Adjust Water Meter, Adjust Water Valve, Adjust SD Inlet, Adjust Manhole and Adjust Vault To Grade includes full compensation for furnishing all labor, materials, tools, equipment,

and incidentals, and for doing all the work involved in lowering and raising frames and cover to grade, salvaging or replacing broken lids and boxes, complete in place, including concrete and HMA (Type B)**,** as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

REMOVE BASE AND SURFACING

Existing base and bituminous surfacing shown on the plans to be removed, shall be removed to a depth of at least 30 inches in the locations of the proposed median islands and 6 inches below the grade of the existing surfacing in all other areas. Resulting holes and depressions shall be backfilled with earthy material selected from excavation to the lines and grade established by the Engineer.

The material removed shall be disposed of outside the roadway right of way in conformance with the provisions in Section 15 of the Standard Specifications.

MEASUREMENT AND PAYMENT

Remove Base and Surfacing will be measured by the cubic yard in the same manner specified for roadway excavation in conformance with the provisions in Section 19 of the Standard Specifications and will be paid for at the contract price per cubic yard for Remove Base and Surfacing. The contract price paid per cubic yard for Remove Base and Surfacing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removing pavement from the areas shown on the plans, as specified in these Technical Specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

REMOVE CONCRETE SIDEWALK

Existing concrete sidewalk, where shown on the Plans to be removed, shall be removed and disposed of. Concrete removal shall include the removal of the concrete and underlying base material, retaining curb, curb ramps, driveways and footings. Resulting holes and depressions shall be backfilled with earthy material selected from excavation to the lines and grade established by the Engineer.

Concrete removed shall be disposed of outside the roadway right of way in conformance with the Section 7 of the Standard Specifications. Where no joint exists between concrete to be removed and concrete to remain in place, the concrete shall be cut on a neat line to a minimum depth of 0.17-foot with a power driven saw before the concrete is removed.

Where concrete has been removed outside the roadway prism, the backfilled areas shall be graded to drain and blended in with the surrounding terrain.

Concrete to be removed which has portions of the same structure both above and below ground will be considered as concrete above ground for compensation.

MEASUREMENT AND PAYMENT

Remove Concrete Sidewalk will be measured and paid at the contract unit price per square foot. Full compensation for furnishing all labor, materials, tools, and equipment and incidentals and for doing all work involved in Remove Concrete Sidewalk, including removal of base material, cutting, removing, and disposing of the concrete is considered to be included in the contract unit price paid per square foot for Remove Concrete Sidewalk and no additional compensation will be made therefor.

REMOVE CONCRETE CURB AND GUTTER

Concrete Curb and Concrete Curb and Gutter, where shown on the Plans to be removed, shall be removed. Concrete removal shall include the removal of the concrete and underlying base material.

Concrete removed shall be disposed of outside the highway right of way in conformance with Section 7 of the Standard Specifications.

Where no joint exists between concrete to be removed and concrete to remain in place, the concrete shall be cut on a neat line to a minimum depth of 0.17-foot with a power driven saw before the concrete is removed.

Where concrete has been removed outside the roadway prism, the backfilled areas shall be graded to drain and blend in with the surrounding terrain.

MEASUREMENT AND PAYMENT

Remove Concrete Curb, and Remove Concrete Curb and Gutter shall be measured by the linear foot, measured along the curb, before removal operations.

The contract unit price paid per linear foot shall include full compensation for furnishing all labor, materials, tools, and equipment and incidentals and for doing all work involved in removing existing Portland Cement Concrete and underlying aggregate base material including saw cutting, removing, and disposing of the concrete and base material and no additional compensation will be allowed therefor.

REMOVE INTERLOCKING BLOCK RETAINING WALL

Existing interlocking block retaining walls and concrete foundations shall be removed completely as shown on the Plans and shall become the property of the Contractor. All material shall be properly disposed of outside the right-of-way in accordance with Section 7-1.13 of the Standard Specifications.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for Remove Interlocking Block Retaining Wall shall include full compensation for furnishing all labor, materials, tools, and equipment and incidentals for doing all work involved in removing the interlocking block retaining wall and foundation, as shown on the Plans, as specified in these Technical Specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

REMOVE METAL BEAM GUARD RAILING

Existing metal beam guard railing, where shown on the plans to be removed, shall be removed and disposed of.

MEASUREMENT AND PAYMENT

Existing concrete anchors or steel foundation tubes shall be completely removed and disposed of. Full compensation for removing and disposing concrete anchors, cable anchor assemblies, terminal anchor assemblies or steel foundation tubes is included in the contract lump sum price paid per linear foot for remove metal beam guard railing and no separate payment will be made therefor.

Full compensation for removing cable anchor assemblies, terminal anchor assemblies or steel foundation tubes shall be considered as included in the contract price paid per linear foot for remove metal beam guard railing and no separate payment will be made therefor.

The contract price paid per linear foot for Remove Metal Beam Guard Rail includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in Remove Metal Beam Guard Rail, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

RELOCATE FIRE HYDRANT

Work consists of relocating fire hydrants where shown on the Plans in accordance with Section 2 of the City Design Standards and Standard Detail W-13. If the fire hydrant is to be moved more than five feet

laterally, then a new tap on the main is required. In cases where the hydrant is being moved less than five feet, the existing tap can be used with an elbow to facilitate the relocation. An elbow of up to 90 degrees is acceptable, although a smaller bend angle is preferred.

The existing fire hydrant shall be connected to the mainline water pipe with all necessary materials, including the tee at the mainline water pipe, thrust blocks, valves, and any other required fittings. After installation, the relocated fire hydrant shall be flushed, field-tested, and disinfected as specified in City Design Standards. City forces will perform the main tap where necessary. The Contractor will provide 48 hours advance notice to the Engineer and shall perform access to City forces to perform the main tap. Where new valves are necessary for the relocation, the old valve box shall be removed.

The Contractor must notify the Fire Department when fire hydrants are going to be out of service for more than four hours. Fire hydrants shall not be out of service overnight.

MEASUREMENT AND PAYMENT

The contract unit price paid for Relocate Fire Hydrant shall include full compensation for furnishing all labor, materials, tools, and equipment and incidentals and for doing all work involved in relocating the existing fire hydrant, as specified in these Technical Specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

TS-32 COLD PLANE ASPHALT CONCRETE PAVEMENT

GENERAL

Summary

This work includes cold planing existing asphalt concrete pavement.

Sequencing and Scheduling

Schedule cold planing activities to ensure hot mix asphalt (HMA) is placed over cold planed area during the same work shift before opening to traffic. If you cannot place HMA over the entire cold planed area before opening it to traffic:

1. Construct a temporary HMA taper to the level of the existing pavement.
2. Place HMA during the next lane or shoulder closure for that area.
3. Submit a corrective action plan that shows that you are able to cold plane and place HMA in the same work shift. Do not perform cold planing work until the Engineer approves the corrective action plan.

MATERIALS

HMA for temporary tapers must be of the same quality as the HMA used elsewhere on the project.

CONSTRUCTION

General

Perform planing of asphalt concrete pavement without the use of a heating device to soften the pavement.

Cold Planing Equipment

Cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width. If the only available cutter head width is wider than the cold plane area shown, submit to the Engineer a request for using a wider cutter head. Do not cold plane until the Engineer approves your request.

2. Equipped with automatic controls to control the longitudinal grade and transverse slope of the cutter head and:
   2.1. If a ski device is used, it must be at least 30 feet long, rigid, and 1 piece unit. The entire length must be used in activating the sensor.
   2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint matching shoe may be used.
3. Equipped to effectively control dust generated by the planing operation.
4. Operated so that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

Grade Control and Surface Smoothness

Furnish, install, and maintain grade and transverse slope references.

The depth, length, width, and shape of the cut must be as shown or as ordered. The final cut must result in a neat and uniform surface. Do not damage remaining surface.

The completed surface of the planed asphalt concrete pavement must not vary more than 0.02 foot when measured with a 12-foot straightedge parallel with the centerline. The transverse slope of the planed surface must not vary more than 0.03 foot from the straightedge when placed at right angles to the centerline.

A drop-off of more than 0.15 foot is not allowed between adjacent lanes open to public traffic.

Temporary HMA Tapers

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

1. Placed to the level of the existing pavement and tapered on a slope of 30:1 (Horizontal: Vertical) or flatter to the level of the planed area
2. Compacted by any method that will produce a smooth riding surface
3. Completely removed before placing the permanent surfacing. The removed material must be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Disposal of Planed Material

Remove cold planed material concurrent with planing activities, within 50 feet of the planer or as ordered.

Dispose of planed material and under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Cold plane asphalt concrete pavement is measured by the square yard.

The contract price paid per square yard for Cold Plane Asphalt Concrete Pavement includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in cold planing asphalt concrete surfacing and disposing of planed material, including constructing, maintaining, removing temporary HMA tapers if applicable, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications and as directed by the Engineer.

Full compensation for removal of thermoplastic traffic stripe, painted traffic stripe, and pavement marking in areas of cold plane asphalt concrete is included in the contract price paid for cold plane asphalt concrete and no separate payment will be made therefor.

TS-33 CLEARING AND GRUBBING

Clearing and grubbing shall conform to the provisions in Section 17-2, "Clearing and Grubbing," of the Standard Specifications and these Technical Specifications.

Vegetation shall be cleared and grubbed only within the excavation and embankment slope lines.

Tree Removal

Trees to be removed are shown on the plans. Trees shall be removed in their entirety, including stumps and root system, to a depth of 3 feet below finished grade. Removed trees shall become property of the Contractor and shall be disposed of outside the City right of way in conformance to the provisions in Section 7-1.13, “Disposal of Material Outside the Highway Right of Way”, of the Standard Specifications.

Trees not otherwise shown on the plans, or designated in these Technical Specifications to be removed, that are within the limits of excavation and embankment slopes, shall be removed in accordance with the provisions in Section 17-2 “Clearing and Grubbing”, of the Standard Specifications and these Technical Specifications.

Holes resulting from the removal of existing trees shall be backfilled the same day the trees are removed. Soil from the surrounding area may be used to backfill these holes. The backfill shall be graded to conform with the adjacent existing grade.

Activities controlled by the Contractor, except cleanup or other required work, shall be confined within the graded areas of the roadway.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Clearing and Grubbing includes full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in providing Clearing and Grubbing, including removal and disposal of trees and of all the resulting material, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-34 EARTHWORK

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Technical Specifications.

Where a portion of the existing surfacing is to be removed, the outline of the area to be removed shall be cut on a neat line with a power-driven saw to a minimum depth of 0.17-foot before removing the surfacing. Full compensation for cutting the existing surfacing shall be considered as included in the contract price paid per cubic yard for roadway excavation and no additional compensation will be allowed therefor.

Construction, showing and bracing of excavations shall comply with the current CAL-OSHA safety standards and City of Morgan Hill requirements. The stability and safety of excavations, braced and unbraced, is the responsibility of the Contractor.

Trench excavations adjacent to existing or proposed foundations shall be above an imaginary plane having an inclination of 1 1/2:1 (horizontal: vertical) extending down from the bottom edge of the foundations.

The portion of imported borrow placed within 4 feet of the finished grade shall have a Resistance (R-Value) of not less than 40.

Reinforcement or metal attached to reinforced concrete rubble placed in embankments shall not protrude above the grading plane. Prior to placement within 2 feet below the grading plane of embankments, reinforcement or metal shall be trimmed to no greater than 3/4 inch from the face of reinforced concrete rubble. Full compensation for trimming reinforcement or metal shall be considered as included in the contract prices paid per cubic yard for the types of excavation shown in the Engineer's estimate, or the contract prices paid for furnishing and placing imported borrow or embankment material, as the case may be, and no additional compensation will be allowed therefor.

The total quantity of embankment will be computed in conformance with the provisions for roadway excavation in Section 19-2.08, "Measurement," of the Standard Specifications, on the basis of the planned or authorized cross section for embankments as shown on the plans and the measured ground surface.

Areas to receive engineered fills and pavements shall be over-excavated and re-compacted. The depth of over-excavation below existing ground surface shall be a minimum of 24 inches in areas of the proposed approach fills (including MSE walls), and a minimum of 12 inches in areas of at-grade roadways and levees. The over-excavations shall extend a minimum of 5 feet beyond the limits of the proposed improvements.

Contractor shall account for a settlement period of at least 45 days for all fill embankments in the construction schedule. Said settlement period shall not delay the construction schedule of the project.

Subgrade soil in areas to receive engineered fills and pavements shall be scarified to a minimum depth of 8 inches. Subgrade preparation shall extend a minimum of 5 feet beyond the limits of proposed improvements unless it is restrained by existing improvements. After the subgrades have been properly prepared, the areas may be raised to design grades by placement of engineered fill.

Cobbles, if crushed into fragments smaller than 3 inches, may be used as part of the structural fill; otherwise, cobbles will have to be removed.

All imported borrow shall be approved by the Engineer prior to delivery to the site. At least five (5) working days prior to importing to the site, a representative sample of the proposed imported borrow shall be delivered for evaluation.

Engineered fill shall be placed in horizontal lifts each not exceeding 8 inches in thickness, and shall be moisture conditioned and mechanically compacted. Moisture conditioning of soils shall consist of adding water to the soils if they are too dry and allowing the soils to dry if they are too wet.

A relative compaction of not less than 95 percent shall be obtained for embankments under retaining wall footings without pile foundations within the limits established by inclined planes sloping 1 1/2: 1 (horizontal:vertical) out and down from lines one foot outside the bottom edges of the footing.

In roadway areas, the upper 8 inches of the subgrade shall be compacted at a minimum of 95 percent relative compaction. If fill is placed in roadway areas, the upper 24 inches below top of pavement shall be compacted to a minimum of 95 percent relative compaction. Aggregate base in pavement areas shall also

be compacted to a minimum of 95 percent relative compaction at slightly above the optimum moisture content.

Pervious backfill material placed within the limits of payment for bridges will be measured and paid for as structure backfill (bridge).

Pervious backfill material placed within the limits of payment for retaining walls will be measured and paid for as structure backfill (retaining wall).

If structure excavation or structure backfill for bridges is not otherwise designated by type and payment for the structure excavation or structure backfill has not otherwise been provided for in the Standard Specifications or these Technical Specifications, the structure excavation or structure backfill will be measured and paid for as structure excavation (bridge) or structure backfill (bridge), respectively.

MEASUREMENT AND PAYMENT

The contract price paid per cubic yard for Roadway and Bio Swale Grading and Excavation includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in providing Roadway and Bio Swale Grading and Excavation, including excavation in the median island, soil off-haul, disposal, scarifying and compacting the material, and relocating and grading of all the resulting material, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per cubic yard for Detention Basin Grading and Excavation includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in providing Detention Basin Grading and Excavation, including grading and excavation for concrete structures, soil off-haul, disposal, scarifying and compacting the material, and relocating and grading of all the resulting material, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per cubic yard for Structure Excavation (Retaining Wall) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in providing Structure Excavation (Retaining Wall), including relocating and grading of all the resulting material, soil off-haul, disposal, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per cubic yard Structure Backfill (Retaining Wall) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in Structure Backfill (Retaining Wall), as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-35 EARTH RETAINING STRUCTURE

Earth retaining structures shall conform to the details shown on the plans and these Technical Specifications.

MATERIALS

Earthwork

Excavation and backfill shall conform to the details shown on the plans, the provisions in Section 19, "Earthwork," of the Standard Specifications, and these Technical Specifications.

Structure backfill for earth retaining structures with soil reinforcement shall be free of organic material and substantially free of shale or other soft materials of poor durability. Structure backfill shall not contain slag aggregate or recycled materials such as glass, shredded tires, Portland cement concrete rubble, asphaltic concrete rubble, or other unsuitable material as determined by the Engineer.

Structure backfill for earth retaining structures with soil reinforcement shall conform to the following requirements:

Gradation Requirements		
Sieve Size	Percentage Passing	California Test
6"	100	202
3"	78-100	202
No. 4	----	202
No. 30	0-60	202
No. 200	0-15	202

Property Requirements		
Test	Requirement	California Test
Sand Equivalent	12 minimum	217
Plasticity Index	6 maximum	204
Minimum Resistivity	2000 ohm-cm	643
Chlorides	< 250 ppm	422
Sulfates	< 500 ppm	417
pH	5.5 to 10.0	643

If 12 percent or less passes the No. 200 sieve and 50 percent or less passes the No. 4, the Sand Equivalent and Plasticity Index requirements shall not apply.

Permeable material shall be used for the portion of the structure backfill for earth retaining structures with soil reinforcement within the limits shown on the plans. Permeable material shall be Class 1, Type B, conforming to the provisions in Section 68-2.02F, "Permeable Material," of the Standard Specifications.

Permeable material for earth retaining structures with metallic soil reinforcement shall conform to the following requirements:

Property Requirements		
Test	Requirement	California Test
Minimum Resistivity	2000 ohm-cm	643
Chlorides	< 250 ppm	422
Sulfates	< 500 ppm	417
pH	5.5 to 10.0	643

Permeable material for earth retaining structures with geosynthetic soil reinforcement shall conform to the following requirements:

Property Requirements		
Test	Requirement	California Test
pH	4.5 to 9.0	643

Water used for earthwork or dust control within 500 feet of earth retaining structures with metallic soil reinforcement shall conform to the provisions for water in Section 90-1.02D, "Water," of the Standard Specifications. Measurement and payment shall be included in other bid items and no separate payment shall be made.

TS-36 IRRIGATION CROSSOVERS

Irrigation crossovers shall conform to the provisions in Section 20-2, "Irrigation," of the Standard Specifications and these Technical Specifications.

Conduits shall be placed in open trenches in conformance with the provisions in Section 20-2.07, "Irrigation Conduit," of the Standard Specifications.

Conduits shall be corrugated high density polyethylene (CHDPE) pipe. Corrugated high density polyethylene pipe shall conform to the requirements in ASTM Designation: F 405 or F 667, or AASHTO Designation: M 252 or M 294 and shall be Type S. Couplings and fittings shall be as recommended by the pipe manufacturer.

Sprinkler control crossovers shall conform to the provisions in Section 20-2.09, "Sprinkler Assemblies," of the Standard Specifications.

Installation of pull boxes shall conform to the provisions in Section 20-20.01C(3), "Pull Boxes," of the Standard Specifications. When no conductors are installed in electrical conduits, pull boxes for irrigation crossovers shall be installed on a foundation of compacted soil.

MEASUREMENT AND PAYMENT

Irrigation crossovers shall be paid per each installed crossover.

TS-37 FINISHING ROADWAY

Finishing roadway shall conform to the provisions in Section 22, "Finishing Roadway," of the Standard Specifications.

MEASUREMENT AND PAYMENT

Full compensation for any necessary finishing shall be considered as included in the prices paid for the various contract items of work requiring finishing and no addition compensation will be allowed therefor.

TS-38 AGGREGATE BASE

Aggregate base must comply with Section 26, "Aggregate Bases," of the Standard Specifications and these Technical Specifications.

Aggregate base must be Class 2.

Do not store reclaimed asphalt concrete or aggregate base with reclaimed asphalt concrete within 100 feet measured horizontally of any culvert, watercourse, or bridge.

MEASUREMENT AND PAYMENT

The contract price paid per cubic yard for Class 2 Aggregate Base includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Class 2 Aggregate Base, complete in place, including grading and compaction, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer. Final volume may vary depending upon determination of pavement section after rough grading of subgrade.

TS-39 HOT MIX ASPHALT

GENERAL

Summary

This work includes producing and placing hot mix asphalt (HMA) Type A using the Standard process. Top 2-1/2 inch lift shall be ½” medium, type A with **No RAP.** Bottom 3 inch lift shall be ¾” medium type A.

Comply with Section 39-2, "Hot Mix Asphalt," of the Standard Specifications.

MATERIALS

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA Type A must be PG 64-10.

Aggregate

The aggregate for HMA Type A must comply with the 1/2-inch grading.

CONSTRUCTION

Conform Tapers

Place shoulder conform tapers concurrently with the adjacent lane's paving.

Place additional HMA along the pavement's edge to conform to road connections and private drives. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

MEASUREMENT AND PAYMENT

The contract price paid per ton for Hot-Mixed Asphalt (Type A) includes full compensation for furnishing all labor, material, tools, equipment, and incidentals, and for doing all work involved in installing Hot-

Mixed Asphalt (Type A), complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer. Final tonnage may vary depending upon determination of pavement section after rough grading of subgrade.

The contract price paid per ton for 2" to 4" HMA Overlay (Type A) includes full compensation for furnishing all labor, material, tools, equipment, and incidentals, and for doing all work involved in providing 2" to 4" HMA Overlay (Type A), complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-40 Not Used**TS-40 Not used**

TS-41 Not Used

TS-42 CONCRETE STRUCTURES

Portland cement concrete structures shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these Technical Specifications.

Full compensation for underdrain systems, complete in place, including weep holes, wire mesh hardware cloths, filter fabric, and permeable material, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer, shall be included in the contract price paid per cubic yard for Structural Concrete, Retaining Wall, and no additional compensation will be allowed therefor.

Shotcrete shall not be used as an alternative construction method for reinforced concrete members unless otherwise specified.

Concrete Headwalls shall be constructed in accordance with the Caltrans Standard Plan D89, shown in the plans, the Standard Specifications, and these Technical Specifications.

When a roughened concrete surface is shown on the plans, the existing concrete surface shall be roughened to full amplitude of approximately 1/4 inch by abrasive blasting, water blasting, or mechanical equipment.

MEASUREMENT AND PAYMENT

Measurement and payment for concrete in structures shall conform to the provisions in Section 51-1.22, "Measurement," and Section 51-1.04, "Payment," of the Standard Specifications.

The contract price paid per cubic yard for Concrete Structure (Retaining Wall) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing Concrete Structure (Retaining Wall), including all structure excavation, pervious backfill and structure backfill, and wall drainage system, necessary to construct the retaining wall, as shown on the Plans, as specified in these Technical Specifications and the Standard Specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

The contract price paid per cubic yard for Concrete Structure (Pile Cap) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing Concrete Structure (Pile Cap), including all structure excavation, pervious backfill, and structure backfill and for furnishing and placing all bar reinforcing steel, and wall drainage system, necessary to construct the retaining wall, as shown on the Plans, as specified in these Technical

Specifications and the Standard Specifications, and as directed by the Engineer and no additional compensation will be allowed therefor.

The contract unit price paid for Concrete Headwall Structure includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Concrete Headwall Structure, complete in place, including furnishing and installing structural concrete, bar reinforcing steel, various joints, subgrade compaction, grading and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-43 SOUND WALL

The sound wall shall be 8 foot tall precast concrete per Old Castle Sierrawall, Grapestake style as shown on the plans or approved equal. The sound wall shall include concrete wall panels, support posts, caps and foundation for a complete sound wall system. Contractor to provide full submittal for approval.

Prior to installation of sound wall, Contractor must remove existing fencing and sound walls along rear yards. Contractor shall install temporary fencing directly after removal to secure home owners back yards until new sound wall can be built.

MEASUREMENT AND PAYMENT

The contract price paid per square foot for Sound Wall includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in constructing the sound wall, complete in place, including walls, posts, foundations, caps, temporary chain link fencing, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications and as directed by the Engineer.

TS-44 SEALING JOINTS

Joints in concrete walls and joints between concrete structures and concrete approach slabs must be sealed in conformance with the details shown on the plans, the provisions in Section 51, "Concrete Structures," of the Standard Specifications, and these Technical Specifications.

When ordered by the Engineer, a joint seal larger than called for by the Movement Rating shown on the plans must be furnished and installed. Payment to the Contractor for furnishing the larger seal and for saw cutting the increment of additional depth of groove required will be determined as provided in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for Joint Seal (MR 1/2") includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in constructing the joint seal, including protecting, repairing, cleaning and saw cutting joints, complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications and as directed by the Engineer.

TS-45 REINFORCEMENT

Reinforcement shall conform to the provisions in Section 52, "Reinforcement," of the Standard Specifications and these Technical Specifications.

The provisions in "Welding Quality Control" of these Technical Specifications do not apply to resistance butt welding.

The following shall apply to ultimate splices for bar reinforcing cages of columns and cast-in-place piles where the longitudinal bars are spliced vertically at the job site in or above their final positions:

1. Instead of being removed from the completed lot, sample splices may be prepared in the same manner as specified in Section 52-1.08C(2)(a), "Production Test Requirements for Service Splices," of the Standard Specifications for service sample splices. These sample splices shall be tested in conformance with the requirements in Section 52-6.02B(3), "Ultimate Butt Splices," of the Standard Specifications.
2. Splices may be encased in concrete prior to having the QCM review, approve, and forward each Production Test Report to the Engineer. Should the Contractor exercise this option, it is expressly understood that the Contractor will not be relieved of the Contractor's responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Material not conforming to these requirements will be subject to rejection.

MEASUREMENT AND PAYMENT

Measurement and payment for Reinforcement in structures shall conform to the provisions in Section 52-1.10, "Measurement," and Section 52-1.04, "Payment," of the Standard Specifications and these Technical Specifications.

Full compensation for Galvanizing Steel Reinforcement shall be considered as included in the prices paid for the various items of work involved, except for Bar Reinforcing Steel (Retaining Wall), and no additional compensation will be allowed therefor.

The contract price paid per pound for Bar Reinforcing Steel (Retaining Wall) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in Bar Reinforcing Steel (Retaining Wall), complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications and as directed by the Engineer.

TS-46 PEDESTRIAN BARRICADE

Pedestrian barricades shall be furnished, placed and maintained at the locations shown on the plans, specified in the Standard Specifications or in these Technical Specifications or where designated by the Engineer. Barricades shall conform to the provisions in the Standard Specifications and these Technical Specifications.

Roadside signs conforming to the provisions in Section 82-3, "Roadside Signs," of the Standard Specifications shall be installed on pedestrian barricades in a manner determined by the Engineer at the locations shown on the plans.

MEASUREMENT AND PAYMENT

The contract unit price paid for Pedestrian Barricade includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Pedestrian Barricade, complete in place, including concrete, and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-47 ROADSIDE SIGNS

Roadside signs shall be furnished and installed at the locations shown on the plans or where designated by the Engineer and in conformance with the provisions in Section 82-3, "Roadside Signs," of the Standard Specifications and these Technical Specifications.

Wood posts shall be pressure treated after fabrication in conformance with the provisions in Section 57-2.01B(3), "Preservative Treatment," of the Standard Specifications and AWPA Use Category System: UC4A, Commodity Specification A or B.

MEASUREMENT AND PAYMENT

Frame assemblies for multiple sign installations, back braces, straps and saddle brackets, lag screws, bolts, washers and nuts as specified in Section 56-2.02D, "Sign Panel Fastening Hardware" of the Standard Specifications, shall be considered as sign panel fastening hardware. Full compensation for furnishing and installing sign panel fastening hardware shall be considered as included in the contract unit price paid for Roadside Sign and no separate payment will be made therefor.

The contract unit price paid for Roadside Sign includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Roadside Sign, complete in place, including sign panel, sign panel fastening hardware, posts, concrete, and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-48 Not Used

TS-49 Perforated High Density Polyethylene Pipe

GENERAL

This work includes furnishing and placing perforated pipe for sub drainage in the bioswales , as shown on the plans and as specified in these Technical Specifications.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for Perforated pipe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing Perforated Pipe, complete in place, including structure excavation and structure backfill, and connecting new pipe to existing or new facilities, including concrete collars or tees and reinforcement, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer per standard details.

TS-50 REINFORCED CONCRETE PIPE

Reinforced concrete pipe shall conform to the provisions in Section 65-2, "Reinforced Concrete Pipe," of the Standard Specifications, City Standards and these Technical Specifications.

GENERAL

Where embankment will not be placed over the top of the pipe, a relative compaction of not less than 85 percent shall be required below the pipe spring line for pipe installed using Method 1 backfill in trench, as shown on Standard Plan A62D. Where the pipe is to be placed under the traveled way, a relative compaction of not less than 90 percent shall be required unless the minimum distance between the top of the pipe and the pavement surface is the greater of 4 feet or one half of the outside diameter of the pipe.

Except as otherwise designated by classification on the plans or in the specifications, joints for culvert and drainage pipes shall conform to the plans or specifications for standard joints.

MATERIALS

The concrete for reinforced concrete pipe shall contain not less than 470 pounds of cementitious material per cubic yard and have a water–cementitious material ratio that does not exceed 0.40 by weight. Supplementary cementitious material is optional. Reinforcement shall have a minimum cover of 1 inch except that for pipe with a nominal diameter of 18 inches or less the minimum cover shall be 3/4 inch.

Special reinforced concrete pipe, having concrete cover over the steel reinforcement greater than the cover specified in AASHTO Designation: M 170, shall conform to the provisions in Section 65-2.02, "Materials," and Section 65-2.02C, "Circular Reinforced Concrete Pipe," of the Standard Specifications, except the width of crack produced by the D-load test specified in AASHTO Designation: M 170 shall be the width determined by the following formula:

$$b = \frac{t - 3/8d}{t - 3/8d - C} \times 0.01 \text{ inch}$$

Where:

- b = Width of crack to be produced in lieu of the 0.01-inch crack specified in AASHTO Designation: M 170
- t = Wall thickness of pipe, inches
- d = Effective depth of the section to be tested, feet
- C = Concrete cover over steel reinforcement in excess of cover specified in AASHTO Designation: M 170

Reinforced concrete pipe that is to be hydrostatically tested shall be strength tested by the 3-edge bearing method to a maximum D-load of 10 percent greater than the 0.01-inch cracking D-load specified in AASHTO Designation: M 170 or to the actual D-load required to produce a 0.01-inch crack, whichever is the lesser.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for 15” Reinforced Concrete Pipe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 15” Reinforced Concrete Pipe, complete in place, including structure excavation and structure backfill, and connecting new pipe to existing or new facilities, including concrete collars or concrete tees and reinforcement, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer per standard details.

The contract price paid per linear foot for 18” Reinforced Concrete Pipe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 18” Reinforced Concrete Pipe, complete in place, including structure excavation and structure backfill, and connecting new pipe to existing or new facilities, including concrete collars or concrete tees and reinforcement, as shown on the plans per standard details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for 24” Reinforced Concrete Pipe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 24” Reinforced Concrete Pipe, complete in place, including structure excavation and structure backfill, and

connecting new pipe to existing or new facilities, including concrete collars or concrete tees and reinforcement, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer per standard details

TS-53 ROCK RIP-RAP

GENERAL

Summary

This work includes placing geosynthetic fabric and granular material for rock rip-rap, as shown on the plans and as specified in these Technical Specifications. Comply with specifications for rock slope protection under Section 72-2 "Rock Slope Protection," of the Standard Specifications.

MATERIALS

Granular material for rock rip-rap must be gravel, crushed gravel, rock, crushed rock, or any combination thereof. Granular material must contain at least 90 percent crushed particles under California Test 205.

CONSTRUCTION

Section 72-2.03 "Placing," of the Standard Specifications does not apply to rock rip-rap.

You may place granular material by dumping. After dumping, you may spread granular material with a bulldozer or other suitable equipment. During spreading activity, do not crack, shove or displace granular material.

MEASUREMENT AND PAYMENT

The contract price paid per cubic yard for Rock Rip-Rap includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Rock Rip-Rap, complete in place, including geosynthetic fabric, excavation and backfilling footing trenches, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-55 BIO FILTRATION SWALE

Bio Filtration Swales includes applying erosion control materials and planting liner plants to unlined ditches and swales and other areas as shown on the plans. Erosion control materials for Bio filtration swales shall include seed, fiber, compost, and stabilizing emulsion. Bio Filtration Swale must comply with Section 21, "Erosion Control," and Section 20-4, "Highway Planting," of the Standard Specifications and these Technical Specifications.

Erosion control materials and liner plants shall be applied when an area is ready to receive (Erosion Control)" of these Technical Specifications.

Before applying erosion control materials and planting liner plants, prepare soil surface under Section 19-2.03G, "Slopes," of the Standard Specifications, except that rills and gullies exceeding 50 millimeters in depth or width must be leveled. Remove vegetative growth, temporary erosion control materials, and other debris from areas to receive erosion control.

Before applying erosion control materials and planting liner plants, the Engineer designates the ground location of Bio Filtration Swale in increments of square meters. Place stakes or other suitable markers at the locations designated by the Engineer. Furnish all tools, labor and materials required to adequately indicate the various locations.

MATERIALS

Materials must comply with Section 20-2, "Materials," of the Standard Specifications and these Technical Specifications.

Seed

Seed must comply with Section 21-2.02F, "Seed," of the Standard Specifications. Seed not required to be labeled under the California Food and Agricultural Code shall be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists. Measure and mix individual seed species in the presence of the Engineer.

Seed must contain at most 1.0 percent total weed seed by weight.

Seed must comply with the following:

Seed

Botanical Name (Common Name)	Percent Germination (Minimum)	Kilograms Pure Live Seed Per Hectare (Slope Measurement)
Agrostis pallens	45	8
Carex tumulicola	40	2
Festuca idahpensis	45	24
Festuca rubra	45	16

Seed Sampling Supplies

At the time of seed sampling, provide the Engineer a glassine lined bag and custody seal tag for each seed lot sample.

Liner Plants

Liner plants shall be furnished in containers with a minimum size of either: 32mm X 32mm X 76mm or 38mm (Diameter) X 152 millimeters. Liner plant containers made of biodegradable material shall not be used. All liner plants shall be removed from their containers at the time of planting.

At the option of the Contractor, seedling plants may be furnished in lieu of liner plants. Seedling plants shall be bare root. If the Contractor elects to furnish seedling plants, the plants will be measured and paid for by the unit as liner plants.

Compost

The compost producer must be fully permitted as specified under the California Integrated Waste Management Board, Local Enforcement Agencies and any other State and Local Agencies that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility must certify that it follows guidelines and procedures for production of compost meeting the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.

The compost producer must be a participant in United States Composting Council's Seal of Testing Assurance program.

Compost may be derived from any single, or mixture of any of the following feedstock materials:

A. Green material consisting of chipped, shredded, or ground vegetation; or clean processed recycled wood products
B. Biosolids
C. Manure
D. Mixed food waste

Compost feedstock materials to reduce weed seeds, pathogens and deleterious materials as specified under Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7, Section 17868.3

Compost must not be derived from mixed municipal solid waste and must be reasonably free of visible contaminates. Compost must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Compost must not possess objectionable odors.

Metal concentrations in compost must not exceed the maximum metal concentrations listed in Title 14, California Code of Regulations, Division 7, Chapter 3.1, Section 17868.2.

Compost must comply with the following:

Physical/Chemical Requirements

Property	Test Method	Requirement
pH	*TMECC 04.11-A, Elastometric pH 1:5 Slurry Method, pH Units	6.0–8.0
Soluble Salts	TMECC 04.10-A, Electrical Conductivity 1:5 Slurry Method dS/m (mmhos/cm)	0-10.0
Moisture Content	TMECC 03.09-A, Total Solids & Moisture at 70+/- 5 deg C, % Wet Weight Basis	N/A
Organic Matter Content	TMECC 05.07-A, Loss-On-Ignition Organic Matter Method (LOI), % Dry Weight Basis	30–65
Maturity	TMECC 05.05-A, Germination and Vigor Seed Emergence Seedling Vigor % Relative to Positive Control	 80 or Above 80 or Above
Stability	TMECC 05.08-B, Carbon Dioxide Evolution Rate mg CO_2-C/g OM per day	8 or below
Particle Size	TMECC 02.02-B Sample Sieving for Aggregate Size Classification % Dry Weight Basis	95% Passing 16 mm 70% Passing 9 mm
Pathogen	TMECC 07.01-B, Fecal Coliform Bacteria < 1000 MPN/gram dry wt.	Pass
Pathogen	TMECC 07.01-B, Salmonella < 3 MPN/4 grams dry wt.	Pass
Physical Contaminants	TMECC 02.02-C, Man Made Inert Removal and Classification: Plastic, Glass and Metal, % > 4mm fraction	Combined Total: < 1.0
Physical Contaminants	TMECC 02.02-C, Man Made Inert Removal and Classification: Sharps (Sewing needles, straight pins and hypodermic needles), % > 4mm fraction	None Detected

*TMECC refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC).

Before compost application, provide the Engineer with a copy of the compost producer's compost technical data sheet and a copy of the compost producers Seal of Testing Assurance certification. The compost technical data sheet includes:

A. Laboratory analytical test results
B. Directions for product use
C. List of product ingredients

Before compost application, provide the Engineer with a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

Stabilizing Emulsion

Stabilizing emulsion must comply with Section 20-2.11, "Stabilizing Emulsion," of the Standard Specifications and these Technical Specifications.

Stabilizing emulsion:

A. Must be in a dry powder form
B. Must be a processed organic adhesive used as a soil tackifier
C. May be reemulsifiable

APPLICATION

Erosion Control

Apply erosion control materials in separate applications in the following sequence:

A. Compost shall be dry applied at the total of the rates specified in the following table and must be applied before the next operation.

Material	Cubic Meter Per Hectare (Slope Measurement)
Compost	200

A. Apply the following mixture with hydroseeding equipment at the rates indicated within 60 minutes after the seed has been added to the mixture:

Material	Kilograms Per Hectare (Slope Measurement)
Seed	50
Fiber	200

C. Apply the following mixture with hydro-seeding equipment at the corresponding rates:

Material	Kilograms Per Hectare (Slope Measurement)
Fiber	320
Stabilizing Emulsion (Solids)	140

Material	Cubic Meter Per Hectare (Slope Measurement)
Compost	200

The ratio of total water to total stabilizing emulsion in the mixture must be as recommended by the manufacturer.

Once erosion control materials work is started in an area, complete stabilizing emulsion applications in that area on the same working day.

The Engineer may change the rates of erosion control materials to meet field conditions.

Liner Plants

Immediately prior to planting liner plants, the area within and extending 1 meter beyond the limits for Bio Filtration Swale shall be cleared and cultivated.

Trash and debris and rocks greater than 50 millimeters shall be removed, and weeds shall be mowed as close to the ground as possible. Mowed material shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

After mowing and trash removal and just prior to planting liner plants, the liner plant area shall be cultivated. Compost shall be added at the rate of 0.04 cubic meters per square meter. Compost shall be thoroughly mixed with the soil.

Liner plants shall not be planted before February 1 nor after April 1 and not until the soil is moist to a minimum depth of 200 millimeters, unless otherwise approved in writing by the Engineer. If liner planting work cannot be performed prior to the start of maintenance or plant establishment and within the above specified time limit, then the work shall be performed during the maintenance or plant establishment period when directed by the Engineer.

Planting holes for liner plants shall be large enough to accommodate the total length and width of the roots.

MAINTENANCE

The Contractor shall maintain erosion control materials and liner plants until project acceptance and provide water as needed in conformance with Sections 10-6, "Watering," and 20-4"Plant Establishment Work" of the Standard Specifications. The Contractor shall perform work to maintain biofiltration swale areas in a neat appearance and to promote healthy plant growth. The work shall include the following:

A. Weeds shall be controlled before the weeds reach the seed stage of growth or exceed 300 millimeters in height. Weeds within liner plant areas shall be controlled by hand pulling. Weeds outside of liner plant areas shall be controlled by mowing.
B. Weeds within liner planting areas may be controlled by killing between April 16 and October 14. Pesticides used to control weeds shall conform to the provisions in Section 20-1.02C, "Pesticides," of the Standard Specifications. Except as otherwise provided in these Technical Specifications, pesticide use shall be limited to Triclopyr. If the Contractor elects to request the use of other pesticides on this project, the request shall be submitted, in writing, to the Engineer not less than 15 days prior to the intended use of the other pesticides. Except for the pesticides listed in these Technical Specifications, no pesticides shall be used or applied without prior written approval of the Engineer.
C. Trash, debris and weeds shall be removed from biofiltration swale areas. Weeds shall be mowed or killed prior to removal. Trash, debris and weed removal shall extend 5-meter beyond the outer limits of biofiltration swale areas.
D. When the weeds, erosion control material or liner plants have reached a height of 300 millimeters the areas shall be mowed to a height of 100 to 152 millimeters.

Unsuitable liner plants shall be replaced in conformance with Section 20-3.01C(4), "Replacement Plants" of the Standard Specifications nor less than 20 working days prior to acceptance of the contract. Unsuitable or damaged plants shall be removed and disposed of outside the highway right of way in conformance with

the provisions in Section 7-l.13 of the Standard Specifications. Replacement liner plants shall be watered as necessary to maintain the plants in a healthy condition.

MEASUREMENT AND PAYMENT

Bio Filtration Swale will be measured by the square yard. The area will be calculated on the basis of actual or computed slope measurements.

The contract price paid per square yard for Bio Filtration Swale includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in applying and maintaining erosion control materials, permeable soil, root barriers, vegetation & filter fabric, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-56 STORM DRAIN DITCH AND CURB INLETS

This work shall consist of constructing storm drain ditch and curb inlets complete in place, including connections to new or existing storm drain pipes or culverts, in accordance with the design and details shown on the plans, as specified in the Standard Specifications and these Technical Specifications.

Concrete shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," of the Standard Specifications. The concrete shall contain not less than 590 pounds of cementitious material per cubic yard.

All Ditch Inlets shall be constructed in accordance with Standard Detail SD-3.

Cast-in-place Curb Inlets shall be constructed in accordance with Standard Details SD-4, SD-5 and SD-6.

MEASUREMENT AND PAYMENT

The quantity for various types and various sizes of storm drain inlets will be determined as units from actual count.

The contract unit price paid for Ditch Inlet (SD-3) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing Ditch Inlet (SD-3), complete in place, including bar reinforcing steel, steel plate, anchor bolts, mortar, excavation and backfill, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Curb Inlet (SD-5) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing Curb Inlet (SD-5), complete in place, including bar reinforcing steel, hood, frame, grate, minor concrete band, mortar, weep holes, geotextile fabric, excavation and backfill, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-57 STORM DRAIN MANHOLE

This work shall consist of constructing storm drain manholes complete in place, including connections to new or existing storm drain pipes or culverts, in accordance with the design and details shown on the plans, as specified in the Standard Specifications and these Technical Specifications.

Concrete shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," of the Standard Specifications. The concrete shall contain not less than 590 pounds of cementitious material per cubic yard.

Storm Drain Manholes shall be constructed in accordance with Standard Detail SD-1.

MEASUREMENT AND PAYMENT

The quantity for 18" storm drain manholes will be determined as units from actual count.

The contract unit price paid for 18" Storm Drain Manhole includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing 18" Storm Drain Manhole, including concrete collar and base, bar reinforcing steel, frame, cover, mortar, excavation and backfill, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-58 PIPE RISER WITH DEBRIS RACK CAGE

This work shall consist of constructing pipe riser, concrete junction box & debris rack cage complete in place, including connections to new or existing storm drain pipes, in accordance with the Caltrans Standard Plan DC93C shown on the plans, as specified in Section 70, "Miscellaneous Drainage Facilities" of the Standard Specifications and these Technical Specifications.

Concrete shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," of the Standard Specifications. The concrete shall contain not less than 590 pounds of cementitious material per cubic yard.

MEASUREMENT AND PAYMENT

The contract unit price paid per each for Pipe Riser With Debris Rack Cage includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing Pipe Riser With Debris Rack Cage, including concrete junction box, bar reinforcing steel, excavation and backfill, as shown in Caltrans Standard Plan D93C on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-59 MISCELLANEOUS CONCRETE CONSTRUCTION

Miscellaneous concrete construction shall conform to the provisions in Section 73, "Concrete Curbs and Sidewalks," of the Standard Specifications and these Technical Specifications.

Curb ramp detectable truncated domes shall be per City standard, shall consist of raised truncated domes constructed or installed on curb ramps in conformance with the details shown on the plans and these Technical Specifications. At the option of the Contractor, the detectable warning surface shall be prefabricated, cast-in-place, or stamped into the surface of the curb ramp. The color of the detectable warning surface shall be dark or light grey.

Prefabricated detectable warning surface shall be in conformance with the requirements established by the Department of General Services, Division of State Architect and be attached in conformance with the manufacturer's recommendations.

The finished surfaces of the detectable warning surface shall be free from blemishes.

Prior to constructing the cast-in-place or stamping the detectable warning surface, the Contractor shall demonstrate the ability to produce a detectable warning surface conforming to the details shown on the plans and these Technical Specifications by constructing a 24" x 24" test panel.

The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. The warranty period shall begin upon acceptance of the contract.

Concrete curb and gutter (Type 1) and concrete full vertical curb (Type 2) shall be constructed in accordance with City Standard Detail A-3. Concrete Apron Curb (Type D-4) shall be constructed in accordance with these plans and the Standard Plans.

Concrete sidewalk, including handicap ramps and driveway aprons, shall be constructed in accordance with City Standard Details A-1, A-4, A-5, A-8, and A-9.

Concrete median paving shall be constructed in accordance with City Standard Detail A-27.

Stamped Concrete (Truck Apron at Roundabout).
The Contractor shall perform the work in accordance with all applicable laws, codes, and regulations required by the State of California. The Contractor shall furnish one 4'x4'x8" sample of concrete finish and pattern at the job site for approval of the Engineer and haul them away after approval. Approved samples shall be standards for finishes and patterns in stamped concrete work. The Portland cement, aggregates, water and reinforcement shall conform to the requirements of Section 201-1 and 201-2 of the Standard Specifications. The concrete substrate shall contain a minimum of 5-1/2 sacks of cement per cubic yard. All fine and coarse aggregates shall be totally non-reactive. The water content shall be the minimum practicable and the slump shall not exceed 4". Aggregates shall be pea gravel. Only commercially pure mineral pigments shall be used to produce the desired color. Color shall be brick red, or an approved equal.

MEASUREMENT AND PAYMENT

Full compensation for constructing or furnishing and installing ADA curb ramps including detectable warning surfaces is included in the contract price paid per square foot for Concrete Sidewalk and no separate payment will be made therefor.

The contract price paid per linear foot for Concrete Curb and Gutter (Type 1) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Concrete Curb and Gutter (Type 1), complete in place, including bar reinforcing steel, slots and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for Concrete Full Vertical Curb (Type 2) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing AB Concrete Full Vertical Curb (Type 2), complete in place, including bar reinforcing steel and excavation, as shown on the plans, as specified per City standards in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for Concrete Apron Curb (Type D-4) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Concrete Apron Curb (Type D-4), complete in place, including bar reinforcing steel and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per square foot for Concrete Sidewalk includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Concrete Sidewalk, complete in place, including AB handicap ramp construction, bar reinforcing steel, and excavation as shown on the plans per City standards as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per square yard for Concrete Driveway includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Concrete Driveway, AB in place, including bar reinforcing steel, welded wire mesh reinforcing, and excavation, as shown on the plans, as specified per City Standards in the Standard Specifications and these Technical Specifications, and as directed by the Engineer

The contract price paid per square foot for Cobblestone Median Paving includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Cobblestone Median Paving complete in place, including furnishing and installing compacted subgrade, mortar bed and stone, grading and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per square foot for Stamped Concrete includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in constructing Stamped Concrete Truck Apron at Roundabout in place, including furnishing and installing Class II aggregate base and compacted subgrade, grading and excavation, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-60 MISCELLANEOUS IRON AND STEEL

Miscellaneous iron and steel shall conform to the provisions in Section 75, "Miscellaneous Metal," of the Standard Specifications and these Technical Specifications.

MEASUREMENT AND PAYMENT

Full compensation for furnishing and installing Miscellaneous Iron and Steel is included in the contract prices paid for various items requiring such work and no separate payment will be made therefor.

TS-63 OBJECT MARKERS

Object markers shall conform to the provisions in Section 81-8, "Existing Pavement Markers and Delineators," of the Standard Specifications and these Technical Specifications.

Flexible posts shall be made from a flexible white plastic which shall be resistant to impact, ultraviolet light, ozone, and hydrocarbons. Flexible posts shall resist stiffening with age and shall be free of burns, discoloration, contamination, and other objectionable marks or defects which affect appearance or serviceability.

Retroreflective sheeting for metal and flexible target plates shall be the retroreflective sheeting designated for channelizers, markers, and delineators conforming to the requirements in ASTM Designation: D 4956-95 and in conformance with these Technical Specifications.

MEASUREMENT AND PAYMENT

Quantities of Object Markers to be paid for will be determined as units from actual count in place.

The contract unit price paid for Object Marker (Type K-1) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing Object Marker (Type K-1), complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Object Marker (Type P) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing Object Marker (Type P), complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer. (how many each??)

TS-64 METAL BEAM GUARD RAILING

Metal beam guard railing shall be constructed in conformance with the provisions in Section 83, "Railings and Barriers," of the Standard Specifications and these Technical Specifications.

Line posts shall be wood or steel. Blocks shall be wood.

MEASUREMENT AND PAYMENT

The contract price per linear foot for Metal Beam Guard Railing includes full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work for the construction of Metal Beam Guard Railing, complete in place, including excavation, backfill and disposal of surplus material, as shown on the plans and as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-65 CHAIN LINK RAILING

Chain link railing shall conform to the provisions in Section 83, "Railings and Barriers," of the Standard Specifications and these Technical Specifications.

MEASUREMENT AND PAYMENT

The contract price per linear foot for Chain Link Railing includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing Chain Link Railing, complete in place, including, but not limited to, concrete and reinforcing steel, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-66 SPLIT RAIL FENCE

Split rail concrete fence shall be per Signature Stone or approved equal. Fence system shall include, 2 rails, posts and foundations. Foundations shall be 36” deep, 12” dia concrete piers spaced at 8 feet. Fence height shall be 3’-0” to top rail. Measurement and Payment shall be per linear foot per bid item TS-66.

TS-68 THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING

Thermoplastic traffic stripes (traffic lines) and pavement markings shall be applied in conformance with the provisions in Section 84-2, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these Technical Specifications.

Thermoplastic material shall be free of lead and chromium, and shall conform to the requirements in State Specification PTH-02ALKYD.

Retroreflectivity of the thermoplastic traffic stripes and pavement markings shall conform to the requirements in ASTM Designation: D 6359-99. White thermoplastic traffic stripes and pavement markings shall have a minimum initial retroreflectivity of 250 mcd m^{-2} lx^{-1}. Yellow thermoplastic traffic stripes and pavement markings shall have a minimum initial retroreflectivity of 150 mcd m^{-2} lx^{-1}.

Where striping joins existing striping, as shown on the plans, the Contractor shall begin and end the transition from the existing striping pattern into or from the new striping pattern a sufficient distance to ensure continuity of the striping pattern.

Thermoplastic material for traffic stripes shall be applied at a minimum rate of 0.20-lb/ft. The minimum application rate is based on a solid stripe of 4 inches in width.

Thermoplastic traffic stripes and pavement markings shall be free of runs, bubbles, craters, drag marks, stretch marks, and debris.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for 4" Thermoplastic Traffic Stripe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 4" Thermoplastic Traffic Stripe, including establishing alignment for stripes, and layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for 6" Thermoplastic Traffic Stripe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 6" Thermoplastic Traffic Stripe, including establishing alignment for stripes, and layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for 8" Thermoplastic Traffic Stripe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 8" Thermoplastic Traffic Stripe, including establishing alignment for stripes, and layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per linear foot for 12" Thermoplastic Traffic Stripe includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing 12" Thermoplastic Traffic Stripe, including establishing alignment for stripes, and layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract price paid per square foot for Thermoplastic Pavement Marking includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing Thermoplastic Pavement Marking, including establishing alignment for marking, and layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-69 PAVEMENT MARKERS

Pavement markers shall be placed in conformance with the provisions in Section 81-3, "Pavement Markers," of the Standard Specifications and these Technical Specifications.

The Contractor shall furnish the Engineer certificates of compliance for the pavement markers in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

Retroreflective pavement markers shall be marked as abrasion resistant on the body of the markers.

MEASUREMENT AND PAYMENT

The contract unit price paid for Pavement Marker (Reflective) includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in installing Pavement Marker (Reflective), complete in place, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-70 WATER SYSTEM

REQUIREMENTS

This section of the Technical Specifications includes the requirements for furnishing all labor, materials, equipment and services necessary for and incidental to installing water mains, fire hydrants, water services and appurtenances as shown on the plans and described in these Technical Specifications.

Prior to construction the Contractor shall, at his own expense, pothole all conflicting utilities and verify their exact location and depth. At his own expense, the Contractor shall adjust the grades of the water line as approved by the Engineer to clear all existing shown utilities by a minimum of 6" vertically, and to maintain minimum cover.

QUALITY ASSURANCE

Materials and installation work shall be in accordance with Section 2, "Water Design Standards," of the City Design Standards, the City Standard Details, the plans, the Standard Specifications, and these Technical Specifications.

CONTROL OF WORK

Maintaining Existing Water Services

Existing water mains shall remain in service at all times until new mains have been tested and placed into service and all water services have been transferred.

Specific attention is called to the requirement to maintain domestic water service at all times, except for periods not exceeding six hours in any one day required to transfer service to the new main or repair broken pipes. All fire hydrants and fire lines shall also be in service at all times except for short periods required to perform changes in connections.

Scheduled shut downs of the system shall be done between the hours of 12:00 midnight and 6:00 a.m. and only upon approval and coordination with the City.

Each property owner shall be notified in writing before 4:00 p.m., 48 hours prior to a scheduled interruption of water service. The notice shall contain an estimate of the time during which the interruption is expected to occur.

Acceptance of Finished Work

The City shall approve the installation of the water system. Specifically disinfection work and pressure testing shall be witnessed and accepted by the City. The City will perform routine inspections in all phases of the installation.

WATER MAIN

Pipe Materials

Ductile Iron Pipe (DIP) and Fittings

Ductile iron pipe shall be Class 50 minimum and shall be manufactured in accordance with ANSI A 21.51 (AWWA C151). Pipe shall have rubber gasket joints, Class 2 in thickness and in conformance with ANSI 21.11 and 21.51 (AWWA C111 and C151). Ductile iron pipe shall be cement mortar lined in accordance with ANSI A21.4.

Valves

All gate valves shall be iron body, bronze mounted (IBBM), resilient rubber seat ring, non-rising stem type and shall conform to AWWA/C509. The stuffing box shall be "O" ring type with at least two "O" rings, one below the stem thrust collar and one above the thrust collar. The stem shall be made of rolled bronze with an integral thrust collar. The stem shall also have a pre-engineered failure point external to the valve body, such that, in the event of stem failure, the valve may be operated with a pipe wrench. In the closed position the disc shall bottom out to provide metal-to-metal contact with valve body to prevent over-compression of the resilient seat. Valves shall be internally coated with an Epoxy conforming to AWWA C550 and externally coated with an approved material conforming to Federal Specification TTC494-A. Valves shall have a standard two inch operating nut and open left. Valves for this project shall be Mueller A-2370-6, Mueller A-2370-20, or approved equal. Valve boxes shall be Christy G-5 with a cast iron lid marked "WATER" per City standards.

1. All valves shall be fusion bonded and epoxy coated.
2. The valves shall have ends designed to join directly with the type of pipe or fitting being used or with ends as indicated on the plans. 304 Stainless steel bolts and nuts shall be used for flanged joints, and core 10 bolts and nuts shall be used for mechanical joints.
3. Gate valves shall be installed at the locations shown on the plans. All valves shall conform to Section 2 of the City Design Standards.
4. Air relief valves shall be 1 inch and installed at the locations shown on the plans. Valves shall conform to Section 2 of the City Design Standards and installed per Standard Detail W-5.
5. Blow-off valves shall be 2 inches and installed at the locations shown on the plans. Valves shall conform to Section 2 of the City Design Standards and installed per Standard Detail W-20.

Fittings

All water main fittings shall be ductile iron as specified in Section 2 of the Standard Provisions. Fittings shall conform to the current revision of AWWA C110 or C153. Fittings shall be fusion epoxy coated.

Adapters and Couplings

1. Where it is necessary to join pipe of different types, the Contractor shall furnish and install the necessary adapters unless solid sleeves are indicated on the plans or approved.
2. Adapters shall have ends conforming to the above specifications for the appropriate type of joint to receive the adjoining pipe.
3. To ensure correct fitting of pipe and couplings, couplings and accessories shall be furnished by the supplier of the pipe and shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed. Couplings shall be provided with gaskets of a composition suitable for exposure to the water within the pipe.

Pipe Restraint

Thrust Blocks

Thrust blocks shall be constructed of Class B concrete as shown in the Standard Detail W-17.

Contractor is responsible for appropriate restraint and shall submit a plan for review.

Fire Hydrant

New fire hydrants shall be Clow Valve Co. or approved equal. New tee, hydrant valve, pipe, bury, concrete thrust blocks, and breakaway spools shall be installed as shown in the Standard Detail W-13 and as specified in the Standard Provisions. Pipe for hydrant run shall be ductile iron pipe as shown on the project plans. All fire hydrants shall be installed with hollow breakaway bolts. Hydrants shall be painted with finish "Yellow."

VERIFICATION OF EXISTING FACILITIES

Site Inspection and Preparation

Thoroughly inspect the work sites to verify existing surface and subsurface conditions affecting proposed work prior to commencing construction.

Erect and post all necessary traffic control signs and devices. Provide facilities to protect existing improvements to remain.

Point of Water Pipe Connection Verification

Prior to commencing water pipe installation work and before continuing pipe-laying operations within 200 feet of a proposed new-to-existing pipe connection, verify locations of the following:

1. Existing water pipes to which connections will be made.
2. Existing utilities and other facilities that may interfere or obstruct the proposed work and report such interference or obstruction to the Engineer immediately.

Subject to prior approval by the City, make minor adjustments to realign the new water pipe to avoid interference and/or obstructions so that the proposed connection can be performed.

ABANDONMENT/REMOVAL OF EXISTING FACILITIES

Abandon Existing Water Mains

Water mains shown to be abandoned on the plans shall be abandoned in place as directed by the Engineer.

Water mains to be abandoned shall remain in service until new mains have been tested and placed into service and all domestic and fire services have been transferred.

Removal of Existing Water Mains

Water mains to be removed shall remain in service until new or temporary mains have been tested and placed into service and all domestic and fire services have been transferred.

Cut and Cap Existing Mains To Remain in Service

Where existing water mains are to be cut, but with a portion remain in service, a cap at the pipe end shall be installed at the locations shown on the plans. The portion of the existing water main to be abandoned shall be plugged by placing a minimum of 6 inches of portland cement concrete into the open end of the cut pipe.

Existing water mains shall remain in service at all times until new mains have been tested and placed into service and all water services have been transferred.

INSTALLATION

Water Main Installation

All water main installation work shall conform to Section 2, "Water Design Standards", of the City Design Standards.

The stations and invert elevations shown on the plans for the water main construction are for information only. Actual existing field conditions may be different than those depicted in the plans. Additional fittings, adapters, and pipe may be required to complete construction in areas where conflicts with existing utilities exist.

Fire Hydrants

Fire hydrants shall be constructed where shown on the plans and in accordance with Section 2 of the City Design Standards and Standard Detail W-13.

Fire hydrants that are not in service shall be bagged until placed into service. Fire hydrants to be removed shall be bagged when placed out of service.

Thrust Blocks

Install thrust blocks at all elbows, tees, valves, fire hydrant buries, and flexible couplings in accordance with Standard Details W-17 and W-18.

Connection to Existing Water Mains

Connections to existing water mains shall be as shown on the plans and shall be completed in accordance with Section 2 of the City Design Standards.

Blowoff Valve Installation

The Contractor shall verify all valve sizes and the status of all connections prior to construction.

Where new water mains are installed, the Contractor shall install new valves and new valve boxes unless indicated otherwise on the drawings. New blowoff valves shall be installed in conformance with Section 2, "Water Design Standards" of the City Design Standards and Standard Detail W-20.

Air Relief Valve Installation

The Contractor shall verify all valve sizes and the status of all connections prior to construction.

Where new water mains are installed, the Contractor shall install new valves and new valve boxes unless indicated otherwise on the drawings. New air relief valves shall be installed in conformance with Section 2, "Water Design Standards" of the City Design Standards and Standard Detail W-5.

Flushing, Disinfecting, and Leakage Tests

Conform to Standard Details W-I, W-II and W-III, "General Notes" and AWWA Standards.

All new pipe shall be tested within 10 feet of a connection to an existing pipe, valve or fitting. In no instance shall an existing pipe, valve or fitting be used as part of this test. Each section being tested shall be slowly filled with water. All air shall be expelled from the pipes during the tests.

Disinfection of new mains shall be as specified in Standard Details W-I, W-II and W-III and shall be in accordance with AWWA Standard C651 and B301.

The water used in disinfection operation shall not be discharged into the storm drain system, but may be discharged into the sanitary sewer system after the work is done.

MEASUREMENT AND PAYMENT

Pipe will be measured and paid by the linear foot of each size or type installed. Pipe will be measured based on horizontal projected length as measured along the centerline of pipe.

Gate valves, Blowoff Valves and Air Relief Valves will be measured and paid for by the unit of each size or type of valve installed.

The contract price paid per linear foot for 12" Ductile Iron Pipe includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing 12" Ductile Iron Pipe, complete in place, including trench excavation, existing and temporary piping removal and disposal, connections, casings, installing temporary piping, trench backfilling, pipe fittings, adapters, polywrap, coatings, linings, testing, jumper testing assembly, disinfecting, and excavation and trench backfill for final connection, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer per City standard details U1-U3.

The contract unit price paid for Gate Valves includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Gate Valve, complete in place, including valve box, valve nut, riser, concrete slabs and thrust blocking, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Blowoff Valve includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Blowoff Valve, complete in place, including valve box, valve nut, riser, concrete slabs and thrust blocking, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Air Relief Valve includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Air Relief Valve, complete in place, including valve box, valve nut, riser, concrete slabs and thrust blocking, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Fire Hydrant includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Fire Hydrants, complete in place, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The contract unit price paid for Landscape Water Service includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing Landscape Water Service, complete in place, including installing corporation stop, tubing, fittings, meter stops, connecting water meters to the water service piping, backfilling, pavement repair, repair concrete curb, gutter and sidewalk, leakage testing, disinfection and cleanup, as shown on the plans and City Standard Details, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

TS-71 UTILITY DUCT (EMPTY)

Utility ducts shall conform to the requirements in Section 51-1.03E(9), “Utility Facilities” of the Standard Specifications and these Technical Specifications. (change to fiber optic conduit or delete)

1. Ducts shall be Schedule 40 PVC conduit. PVC conduit shall be marked for future use with pull rope installed inside.

2. Contractor shall extend utility duct 10 feet beyond the retaining walls and terminate the conduit into the pull boxes as shown on the plans.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Utility Duct (Empty) shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in furnishing and installing Utility Duct (Empty), complete in place, including ducts shown in the bridge sidewalk, pull boxes and rope, as shown on the plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer

TS-73 SUPPLEMENTAL WORK

Supplemental work shall include any new or unforeseen work not specified for on the plans and specifications. The lump sum dollar amount listed in the Bid Schedule will be included in each bidder's proposal. Supplemental work shall be performed only upon direct written authorization from the Engineer and is revocable.

LANDSCAPING AND IRRIGATION SYSTEMS

TS-L01 LANDSCAPE SITE PREPARATION

GENERAL

Furnish all labor, materials, equipment, facilities, transportation and services to complete “Landscape Site Preparation” and related work as shown on the drawings and/or specified herein.

The work performed in connection with “Landscape Site Preparation” shall conform to the provisions in Section 20-4 "Highway Planting" of the Standard Specifications and these special provisions.

Summary

The general extent of site preparation includes all areas of construction as shown on the Drawings and includes, but is not limited to, the following:

A. Clearing and grubbing
B. Remove 30” of existing site soil from Median Islands and areas indicated on the drawings
C. Cross-rip 6” of existing site soil in areas indicated on the drawings
D. Demolition of deleterious material necessary to prepare the site for new construction.
E. Disposal of items included in this section at an approved legal dumpsite location.

Related Work

Landscape Contractor to coordinate landscape work with that of other various trades. Refer to specification sections for additional information, but is not limited to, the following:

B3	Control of Work
B4	Control of Materials
C-1.11	Environmental Control
C-1.13	Clean-Up
TS-10	Order of Work
TS-12	Water Pollution Control
TS-20	Mobilization
TS-23	Maintaining Traffic
TS-31	Clearing & Grubbing
TS-38	Imported Topsoil
TS-L02	Landscape Grading
TS-L03	Hardscape Paving
TS-L04	Irrigation Distribution System
TS-L05	Landscape Planting
TS-L06	Hydroseeding
TS-L07	Landscape Maintenance

Identification of Submittals

Conform to requirements of

Part B	General Provisions
B3-3.02	Shop Drawings
B3-3.09	Samples and Tests
B3-3.14	As-Built Drawings
B6-6.04	Progress Schedule

Submittals

Submit proposed site preparation procedures to the City’s Engineer for review and approval prior to

commencement of work. Procedures should include:

A. List of items to be removed
B. Disconnection or interruption of utility services
C. Request for Construction Water from Fire Hydrates
D. Detail description of methods and equipment to be used for each operation.
E. Sequence of operations.
F. Safety procedures regarding work adjacent to occupied structures.

Site Conditions

Traffic: Do not interfere with or close public ways or sidewalks without permission of the City Engineer. Do not interfere with adjacent driveways and private facilities. Conform to Staging Plans and the provisions in the Section on 'Maintaining Traffic' of the Standard Specifications for detouring traffic during construction operations.

Final Clean-Up: Before final inspection of the work, the Contractor shall clean the street, material sites and all grounds occupied by him in connection with the work, of all deleterious materials, rubbish, excess construction materials, false work, temporary structures and equipment.

Project Conditions

A. Utility Services: Issue written notices of planned site preparation operations to permitting agencies, (as required) utility companies and coordinate work as needed. Existing power pole and lines serving existing occupied buildings shall remain. Provide temporary utilities when any disconnection or interruption of utility services occurs. Arrange all necessary work in order to temporarily interrupt utilities and operation of the adjacent structures. Coordinate Work in order to maintain utilities to temporary on-site facilities.
B. Existing Conditions: After the project is begun, the contractor is responsible for the condition of items and/or equipment to be demolished. The City does not warrant the condition of demolition items and/or equipment to be demolished to be identical to the time of inspection for bidding purposes.
C. Unforeseen Conditions: Should unforeseen conditions be encountered that affect design or function of project, investigate fully and submit an accurate, detailed, written report to the City Engineer. While awaiting the City Engineer response, reschedule operations as necessary to avoid delay of overall project.
D. Dust Control: Contractor shall take appropriate means to prevent dust from being a nuisance to traffic, the public and neighbors.

Sequencing and Scheduling

Coordinate schedule with the City Engineer so as not to interfere with City operations.

Site Utilities

A. Advise utility companies of excavation activities before starting excavations. Locate and identify underground utilities passing through work areas before starting work.
B. If underground utilities are encountered in locations other than indicated, immediately advise City Engineer and utility owners before proceeding. Amend project record documents to show actual locations.
C. Protect existing utilities indicated to remain.
D. Do not interrupt existing utilities without advance notice to and written approval from the City Engineer.

Archaeological Requirements

Should evidence of prehistoric cultural resources be discovered during construction, work within 50 feet

of the find shall be stopped to allow adequate time for evaluation and mitigation by a qualified professional archaeologist. The material shall be evaluated and if significant, a mitigation program including collection and analysis of the materials at a recognized storage facility shall be developed and implemented under the direction of the City Engineer.

As required by Santa Clara County ordinance, this project has incorporated the following guidelines. Pursuant to Section 7050.5 of the Health and Safety Code, and Section 5097.94 of the Public Resources Code of the State of California in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

MATERIALS

Use of Pesticides

All pesticide usage at the Project site shall be in accordance with the State regulations, County of Santa Clara's Integrated Pest Management and Pesticide Use Ordinance's.

The use of pesticides by the Contractor on the Project sites shall be consistent with the City's Design Standards for Best Management Practices ("BMPs"). Herbicides are classified as pesticides. The Contractor shall determine if a non-chemical solution is feasible to address the target pest. At no time shall the use of Diazinon, chlorpyrifos, chlopyralid be used on City Property. Prior to the application of organophosphate or copper-based pesticides, vendor shall obtain explicit permission from the City. The precise prescription for chemical use shall be provided by means of a written recommendation by a State of California Licensed Pest Control Advisor. Pesticide applications shall be under the direction and supervision of a Qualified Applicator holding a Qualified Applicator Certificate (QAC) from the California Department of Pesticide Regulation (DPR). The Contractor shall submit a Chemical Control Recommendation, in accordance with the State of California, Department of Pesticide Regulation, to be submitted at the pre-construction meeting for the project. Obtain City Engineer approval prior to use on site. The Contractor shall provide copies of monthly Pesticide Use Reports specific to the site(s) to the Engineer in a timely manner.

Herbicides

Non-Selective (broad spectrum) systemic herbicides for perennial weeds.

A. Product shall be a complete broad spectrum post-emergence professional herbicide for industrial and ornamental weed control. Roundup(r) Pro by Monsanto, or equal.
B. Herbicides are considered hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200). Contractor is responsible for compliance with state and federal guidelines for hazardous chemicals.
C. Manufacturer to supply material safety data, product description and recommendations for use.
D. All application of herbicides shall be in accordance with a licensed pest control advisor.

CONSTRUCTION

Examination

A. Survey existing conditions and correlate with Drawings and Specifications.
B. Verify that impacted utilities have been disconnected and capped. Remove all abandoned utilities uncovered by the work, and terminate in a manner conforming to the Standard Specifications.

C. Insofar as is practicable, arrange operations to reveal unknown or concealed conditions for examination and verification before removal or demolition.
D. Verify actual conditions to determine in advance whether removal or demolition of any element will result in structural deficiency, overloading, failure, or unplanned collapse.
E. Mark interface items as directed by the City Engineer to clearly identify items to be removed and items to be left in place and intact.

Protection:

A. Make provisions and take necessary precautions to protect existing work that is to remain.
B. Provide temporary fencing at locations shown on the Drawings from the commencement of work to the end of the project.
C. Warning Signs: Provide warning signs and lighting for vehicular and personnel protection. Maintain warning signs during the period of work as required by applicable safety ordinances.
D. Notify Underground Services Alert (USA) (800) 642-2444, and local utility companies to verify locations of existing utilities 48 hours prior to beginning work.
E. Provide for the protection of persons passing around the area of demolition.
F. Damages: Without cost to the City and without delay, repair any damages caused to facilities, structures and plant material to remain.

Utility Services

The City Engineer will permit no interruption of use of utilities without prior written approval. Provide temporary utilities when existing utilities are interrupted.

Pollution Controls

A. Refer to "Water Pollution Control" Drawings and Specifications.
C. Control as much as practicable the spread of dust and dirt.
D. Observe environmental protection regulations.
E. Do not allow water usage that result in freezing or flooding.
F. Do not allow adjacent improvements to remain to become soiled by site preparation operations.

Demolition

A. After issuance of the Notice to Proceed, the contractor assumes responsibility for all site conditions and is responsible for conditions of items and/or equipment to be demolished.
B. Remove all deleterious material, construction debris, miscellaneous debris, and equipment from all areas to receive landscape, irrigation work.
C. Remove minimum 30" of existing site soil from landscape planting areas in Median Islands and areas indicated on the drawings. 30" depth measured from subgrade in Median Island.
D. Cross-rip/Scarify 6" of existing site soil in areas indicated on the drawings.
E. Verify the sub-grades within all planting and irrigation areas are graded per Plans and Specifications. Coordinate work with other trades.

Cleaning

A. Remove all tools, equipment and materials used for demolition from the site upon completion of the work. Dispose of scraps in a legal manner.
B. Clean public sidewalks and all paved areas.
C. Leave exterior areas free of debris.
D. Return structures and surfaces to remain to their existing condition prior to commencement of demolition.

MEASUREMENT AND PAYMENT

Full compensation shall be included in the contract Lump Sum price paid for "Landscape Planting" complete and in place, and no additional compensation shall be allowed. Work includes furnishing all labor and materials, including tools, equipment and incidentals; and for performing the work involved as specified in the State Standard Specifications, these Technical Specifications, on the Drawings and as directed by the Engineer. In general the Site Preparation work includes installation of temporary fencing; clearing and grubbing, removal of deleterious materials and disposal of removed materials.

Cost Break-Down

The Contractor shall furnish the Engineer a cost break-down for the contract lump sum items of Landscape Planting, Irrigation Systems, Landscape Maintenance and Mitigation Planting and Maintenance. Cost break-down tables shall be submitted to the Engineer for approval within 15 working days after the contract has been approved. Cost break-down tables will be approved, in writing, by the Engineer before any partial payment will be made for the applicable items of Highway Planting and Irrigation System involved.

Cost break-downs shall be completed and furnished in the format shown in the samples of the cost break-downs included in this section. Line item descriptions of work shown in the samples are the minimum to be submitted. Additional line item descriptions of work may be designated by the Contractor. If the Contractor elects to designate additional line item descriptions of work, the quantity, value and amount for those line items shall be completed in the same manner as for the unit descriptions shown in the samples. The line items and quantities given in the samples are to show the manner of preparing the cost break-downs to be furnished by the Contractor.

The Contractor shall determine the quantities required to complete the work shown on the plans. The quantities and their values shall be included in the cost break-downs submitted to the Engineer for approval. The Contractor shall be responsible for the accuracy of the quantities and values used in the cost break-downs submitted for approval.

The sum of the amounts for the line items of work listed in each cost break-down table for highway planting and for irrigation system work shall be equal to the contract lump sum price bid for Highway Planting and Irrigation System, respectively. Overhead and profit, shall be included in each individual line item of work listed in a cost break-down table.

No adjustment in compensation will be made in the contract lump sum prices paid for highway planting and irrigation system due to differences between the quantities shown in the cost break-downs furnished by the Contractor and the quantities required to complete the work as shown on the plans and as specified in these Technical Specifications.

Individual line item values in the approved cost break-down tables will be used to determine partial payments during the progress of the work and as the basis for calculating an adjustment in compensation for the contract lump sum items of highway planting and irrigation system due to changes in line items of work ordered by the Engineer.

TS-L02 LANDSCAPE GRADING

GENERAL

Furnish all labor, materials, equipment, facilities, transportation and services to complete "Landscape Grading" and related work as shown on the drawings and/or specified herein.

The work performed in connection with "Landscape Grading" shall conform to the provisions in

Section 20 "Highway Planting" of the Standard Specifications and these special provisions.

Summary

This work includes applying and consolidating topsoil. The general extent of fine grading is shown on the Drawings and includes, but is not limited to, the following:

A. Import topsoil and place
C. Grade, compact topsoil and level all landscape areas
B. Fine Grade all Landscape Areas

Identification of Submittals

Conform to requirements of

Part B	General Provisions
B3-3.09	Samples and Tests
B3-3.14	As-Built Drawings
B6-6.04	Progress Schedule

Submittals

A. Submit Soil Reports for all imported topsoil
B. Submit 10 lb. sample of imported fill in air-tight containers, to testing laboratory and City Engineer
D. Certify that the test material and actual on-site-delivered soil is the same.

Protection

A. Protect landscaping and any other features remaining as final work.
B. Protect existing structures, fences, roads, sidewalks, paving, and curbs.
C. Perform excavation work near utilities by hand. Provide necessary protection as the work progresses.
D. Control dust on and near the work.

MATERIALS

Imported Landscape Topsoil

Comply with Section 20-2.02C, "Topsoil," of the Standard Specifications. Imported, sandy loam, sandy clay loam, loam or clay loam, free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5.

Physical Properties: USDA classification of fraction passing 2.0 mm sieve:

Designation: sandy loam, sandy clay loam, loam or clay loam.

Class	**Particle size range**		**maximum, %**	**minimum, %**
Coarse sand	0.5 0 - 2.0	mm	15	0
Silt plus clay	<0.05	mm	65	30
Silt	0.002 - 0.05	mm	40	10
Clay	0 - 0.002	mm	30	10

Other Classes

Gravel	2 - 13	mm	20%	0
Rock		None >	12.5 mm	10% by volume with none >1 inch

Organic	15% max.

Chemistry	**Suitability Considerations**
Salinity:	Saturation Extract Conductivity (Ece) Less than 3.0 dS/m @ 25 degrees C
Sodium:	Sodium Absorption Ratio (SAR) Less than 6.0
Boron:	Saturation Extract Concentration Less than 1.0 ppm
dReaction:	pH of Saturated Paste 5.5 - 7.5

If native sub-grade texture is within specified limits, the import topsoil texture should be as similar as practical to that material.

Fertility Considerations: Soil to contain sufficient quantities of available nitrogen, phosphorus, potassium, calcium and magnesium to support normal plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials prior to planting.

CONSTRUCTION

Comply with Section 20-3.02, "Preparation," of the Standard Specifications. Spread topsoil to a uniform thickness. Water may be used to assist this process but must not cause erosion.

Inspections

A. Verify site conditions and note irregularities affecting work of this Section. Notify City Engineer if any discrepancies exist.
B. Identify known below grade utilities. Stake and flag locations.
C. Contact Underground Service Alert (USA) (800) 624-2444 and local utility companies to verify locations of existing utilities.
D. Beginning work of this Section means acceptance of existing conditions.

Subsoil Preparation

A. Eliminate uneven areas and low spots. Remove all deleterious materials, debris, roots, branches, rocks in excess of 1” in size. Remove subsoil contaminated from petroleum products.
B. Cross-rip/Scarify 6” of existing site soil where topsoil is scheduled.
C. Scarify all areas where equipment used for hauling and spreading topsoil has compacted subsoil.

Placing Topsoil

A. Median Island: Place 30” of topsoil in all Median Island’s landscape areas, as shown on the Drawings.
B. Use topsoil in relatively dry state. Place during dry weather.
C. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.
D. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.
E. Manually spread topsoil around trees, plants, building and concrete pavement to prevent damage.
F. Compact placed topsoil to 85%.
G. Remove surplus subsoil and topsoil from site.
H. Remove stockpile areas from site, clean and rake grade smooth, ready to receive landscaping.

Finish Grading

A. Parkways areas: Thoroughly rip and cross rip topsoil to a depth of six (6”) inches.
B. Compact soil to 85% maximum density.
C. Perform fine grading in all landscape areas as necessary to eliminate all low spots and ensure positive drainage toward drain facilities.
D. Tolerance: Top of Topsoil - Plus or minus 1/2 inch (13 mm). Finish grades of bark/rock mulch in Median Island landscape areas shall be 1” below adjacent paved areas. Finish grades of bark/rock mulch in Parkways, Sloped banks and mitigation areas shall be flush with adjacent curbs and sidewalk.

MEASUREMENT AND PAYMENT

Full compensation shall be included in the contract Lump Sum price paid for ‘Landscape Plantings’ complete and in place, and no additional compensation shall be allowed. Work includes furnishing all labor and materials, including tools, equipment and incidentals; and for performing the work involved as specified in the State Standard Specifications, these Technical Provisions and as directed by the Project Engineer. Landscape Grading work includes importation of soil, placing of soil and fine grading.

TS-L03 HARDSCAPE PAVING

GENERAL

Furnish all labor, materials, equipment, facilities, transportation and services to complete installation of cobblestone paving, and related work as shown on the drawings and/or specified herein. This work consists of installing cobblestone in miscellaneous areas outside the traveled way.

The general extent of site preparation includes all areas of construction as shown on the Drawings and includes, but is not limited to, the following:

A. Prepare areas to receive hardscape paving
B. Installation of colored concrete maintenance bands
C. Installation of Type 1 Paving - cobblestone pavers

Identification of Submittals

Conform to requirements of

Part B	General Provisions
B3-3.09	Samples and Tests
B3-3.14	As-Built Drawings
B6-6.04	Progress Schedule

Submittals

Submit the following items for approval:

A. Samples - Obtain approval before delivery of materials to the site:
   1. Submit (4) granite cobblestone pavers

Quality Assurance

Manufacturer Qualifications: Obtain required products from a single manufacturer. Provide accessory items only as produced or recommended by manufacturer of primary products.

MATERIALS

Soil Sterilant

Soil sterilant must be dichlobenil and must comply with Section 20-1.02C, "Pesticides," of the Standard Specification, except recommendations from a Pest Control Adviser will not be required.

CONSTRUCTION

Examination

A. Subgrades shall have been rough graded to within 0.10 ft. of sub-grades less 3" depth of cobblestone paving.

B. Verify that paving and irrigation sleeving have been installed and accepted under Irrigation Distribution System Section prior to commencement of work.

Clearing

Prior to beginning hardscape paving work, areas to receive materials shall be cleared in conformance with the provisions in "Roadside Clearing" of these special provisions.

Earthwork

Earthwork must comply with Section 19, "Earthwork," of the Standard Specifications and these special provisions.

After clearing, excavate areas to receive hardscape paving. Where hardscape paving l is to be placed adjacent to an existing curb, pavement, sidewalk or wall excavate so that the finished hardscape paving elevation adjacent to those items will maintain planned flow lines, slope gradient and contours of the project site. After excavation, grade areas to receive hardscape paving to a smooth, uniform surface and compact to not less than 95 percent compaction.

Preparation

A. Soil Sterilant:
   1. Mixing: Mix soil sterilant in sprayer in sprayer tank with clean water according to manufacturer's current printed specifications. Use sprayer which will apply the solution uniformly, without disturbing the soil.
   2. Solution Rate: 5 gallons per 1000 square feet for small areas and 150 gallons per acre for large areas.
   3. Spray Solution: Shake or stir prior to each application. Apply to dry soil surface only.
   4. Overspraying: Avoid spraying on walls and areas to receive planting.
   5. Depth: Immediately after application of spray solution, thoroughly incorporate the solution into the soil to a depth of 2 to 4 inches per manufacturer's current printed specifications.

B. Compaction: After completion of soil sterilization, compact subgrade to a minimum of 90 percent. See Section 02221 - Excavation, Backfilling and Compacting.

Filter Fabric

Surfaces to receive filter fabric, immediately prior to placing, shall be free of loose or extraneous material and sharp objects that may damage the filter fabric during installation. The fabric shall be aligned and placed in a wrinkle-free manner. Adjacent rolls of the fabric shall be overlapped from 12 inches to 18 inches. The preceding roll shall overlap the following roll in the direction the material is being spread. Fabric shall be held in place with staples or stakes that are flush with the fabric and prevent movement of fabric during or after placement of gravel. Should the fabric be damaged during placing, the torn or punctured section shall be either completely replaced or shall be repaired by placing a piece of fabric that is large enough to cover the damaged area and to meet the overlap requirement. Damage to the fabric resulting from the Contractor's vehicles, equipment or operations shall be replaced or repaired by the Contractor at the Contractor's expense.

Installation

Install Cobblestone paving per Drawings and Details.

Field Quality Control

Tests: For each lift, have the testing laboratory verify the degree of compaction. Recompact failed areas until specified compaction is achieved.

Protection

Protect the paving against traffic, injury, defacement, or damage by subsequent construction operations until Final Acceptance.

MEASUREMENT AND PAYMENT

Full compensation for Hardscape Paving shall be included in the contract lump sum price for "Hardscape Paving" and shall include furnishing all labor and materials, including materials, tools, equipment and incidentals, and for performing the work involved in construction of hardscape paving and as specified in the Standard Specifications and these Technical Provisions and as shown on the Drawings as directed by the Project Engineer.

TS-L04 IRRIGATION DISTRIBUTION SYSTEM

B. Low Voltage:
   1. Conductors:
      a. UL rated for direct burial, Type TW, 14 gauge or larger. Pilot wire insulation color shall be uniquely color coded to identify each irrigation controller.
      b. Common shall be impulse wire. Insulation color shall be white.

C. Wiring: Wire shall be #14 or larger per valve manufacturers specifications.

D. Connectors: Splice-Kote, Dura-seal heat shrink waterproof nylon wire connectors, or 3M 'DBY' connectors

Irrigation Controller

Irrigation controller shall be single, solid-state independent controller conforming to the :

A. Irrigation controllers shall be fully automatic and shall operate a complete 14-day or longer irrigation program.

B. A switch or switches shall be provided on the face of the control panel that will turn the irrigation controller "on" or "off" and provide for automatic or manual operation. Manual operation shall allow cycle start at the desired station and shall allow activation of a single station.

C. The watering time of each station shall be displayed on the face of the control panel.

D. The irrigation controller and the low voltage output source shall be protected by fuses or circuit breakers.

E. The irrigation controller mechanism, panel and circuit board shall be connected to the low voltage control and neutral conductors by means of plug and receptacle connectors located in the irrigation controller enclosure.

F. Each station shall have a variable or incremental timing adjustment with a range of 600 minutes to a minimum of one minute.

G. Irrigation controllers shall be capable of a minimum of 2 program schedules.

H. Irrigation controllers shall have an output that can energize a pump start circuit or a remote control valve (master).

I. When 2 or more irrigation controllers operate the same electric remote control valve (master), an

isolation relay shall be provided and installed per the controller manufacturer's instructions.

J. Irrigation controller shall be manufactured by the same company.

K. Where direct burial conductors are to be connected to the terminals strip, the conductors shall be connected with the proper size open-end crimp-on wire terminals. No exposed wire shall extend beyond the crimp of the terminal and the wires shall be parallel on the terminal strip.

Sprinkler Heads

Sprinklers shall conform to the type, pattern, material, and operating characteristics listed in the plans

Wye Strainers

Wye strainers shall be installed on the upstream side of the electric remote control valves as shown on the plans.

When garden valves are opened, discharge shall be up and out of the valve box.

Additional Material

A. Pipe Detection Tape:
Three inch (3") wide, detectable, "Caution" tape indicating potable water fine buried below.

B. Detectable "Caution" tape indicating pressured, non-potable water line below.

C. Sleeving: PVC Schedule 40 pipe, 6 inch minimum diameter.

D. Perforated styrene pipe and fittings for aeration tubes, and tree bubbler systems.

E. Teflon tape shall be used on all pressurized, threaded P.V.C. connections and all threaded P.V.C. to metal connections.

F. Christy irrigation I.D. tags with permanent Hot Stamped Alphabet-Numerical or Numerical Sequences tested against ultra-violet degradation and general weathering, or equal. Tags shall be manufactured from polyurethane Behr Desopan.

CONSTRUCTION

Examination

A. Test and Verify that water pressure levels meet the requirements specified on the Drawings. Notify the Project Engineer immediately of any discrepancies.

B. The irrigation plan and the piping details are diagrammatic. Pipelines and valves shown outside of the street curb are intended to be located with the limit of work. Pipelines shown parallel in the Drawing may be placed in a common trench, provided that a minimum horizontal distance of three inches (3") is maintained between buried lines.

C. Sprinkler heads are shown schematically. Discrepancies in dimension or sizes of areas to be irrigated shall be brought to the attention of the Project Engineer prior to installation. After such time, the Project Engineer shall govern resolution of discrepancies.

Preparation

A. Make provisions and take necessary precautions to protect existing work.

B. Lay-out: Coordinate layout of system with Project Engineer. Flag all head locations for approval.

Trenching

A. Conform to per City standards.

B. Excavate trenches with vertical sides uniform bottom, free of deleterious materials, and wide enough for pipes to lay side by side, fully supported on bottom. Minimum three-inch (3") clearance between pipes.

   1. No lines shall be installed directly over another line. Three-inch (3”) horizontal clearance shall be maintained.

2. When lines must cross, the angle shall be forty-five to ninety degree (45-90 degree), and a minimum of three-inch (3") vertical clearance shall be maintained.

C. Depth to provide minimum coverage as follows:
   1. Mainline: 24" in landscape areas. 30" under pavement.
   2. Lateral Lines: 18" in landscape areas. 24" under pavement.

D. Hydraulic driving methods shall not be used under paved surfaces.

Pipe Installation

A. Comply with related sections and manufacturer's instructions.

B. Solvent Welded Joints:
   1. Assemble above ground where possible.
   2. Cut square, ream, and thoroughly clean.
   3. Make joints using specified primer and cement, continuously wiping off excess.
   4. Allow sixty (60) minutes of set-up time before handling and twenty-four (24) hour curing before applying water pressure.

C. Threaded Joints:
   1. Use pipe pint compound for all plastic-to-plastic and plastic-to-steel joints (Do not apply to sprinkler inlet ports).
   2. Hand tighten and use only light strap-type friction wrench pressure to complete.
   3. Use specified pipe joint ad for all steel-to-steel joints.

D. Snake pipe a minimum of one (1) additional foot per one hundred (100) feet of pipe to allow for expansion and contraction.

E. Pipe shall be fully and evenly supported by bedding material, as shown in details.

F. Cap or plug openings as soon as lines have been installed to prevent intrusions of debris.

G. Sleeves:
   1. Install pipe sleeves at all points where pipes pass through concrete or masonry. In footings, allow one inch (1") clearance around pipe, and in other locations allow one-half inch (1/2").
   2. Each end of sleeve shall extend six inch (6") beyond edge of paving or structure above. Provide removable non-decaying plug at each of sleeve, to prevent earth from entering pipe.

H. Install approved thrust blocks as shown in Details.

I. Prior to backfilling trenching, irrigation mainline piping and potable water service shall be installed with a three inch (3") wide, detectable "Caution" tape.

J. Thoroughly flush system prior to installing valves and heads.

Irrigation Crossovers

Irrigation crossovers shall conform to the provisions in Section 20-2, "Irrigation," of the Standard Specifications and these special provisions. Conduits shall be placed in open trenches in conformance with the provisions in Section 20-2.07, "Irrigation Conduit," of the Standard Specifications.

Conduits shall be corrugated high density polyethylene (CHDPE) pipe. Corrugated high density polyethylene pipe shall conform to the requirements in ASTM Designation: F 405 or F 667, or AASHTO Designation: M 252 or M 294 and shall be Type S. Couplings and fittings shall be as recommended by the pipe manufacturer.

Conduits shall be alternative conduits and, at the option of the Contractor, shall be one of the following:

A. Bituminous coated corrugated steel pipe,

B. Corrugated aluminum pipe,

C. Acrylonitrile-butadiene-styrene (ABS) composite pipe,

D. Corrugated high density polyethylene (CHDPE) pipe conforming to the requirements in ASTM Designation: F 405 or F 667, or AASHTO Designation: M 252 or M 294 and shall be Type S. Couplings and fittings for CHDPE pipe shall be as recommended by the pipe manufacturer.

Water line crossovers shall conform to the provisions in Section 20-5.03C, "Water Line Crossovers," of the Standard Specifications. Fittings for water line crossovers shall be Schedule 80. Sprinkler control crossovers shall conform to the provisions in Section 20-5.027D, "Sprinkler Control Crossovers," of the Standard Specifications.

Installation of pull boxes shall conform to the provisions in Section 20-5.027I, "Conductors, Electrical Conduit and Pull Boxes," of the Standard Specifications. When no conductors are installed in electrical conduits, pull boxes for irrigation crossovers shall be installed on a foundation of compacted soil.

Equipment and Installation

A. Reduced Pressure Backflow Prevention Device: Install in accordance with local codes as directed by the Project Engineer.

B. Automatic Valves:
   1. Install as shown in Detail.
   2. Fill area under box with gravel before installing box.
   3. Valve boxes shall be set plumb and square with adjacent structures.
   4. Permanently mark top of valve box and install valve tags in approved manner with valve station and controller number. One (1) valve per box.
   5. Provide six (6) inches minimum separation when valve boxes are grouped together and align in a neat and orderly manner.

C. Quick Coupler Valves:
   Install as shown in Detail.

D. Gate Valve(s)
   1. Install as shown in Detail.
   2. Group where practical one (1) valve per box.

E. Pull Boxes shall be installed at intervals not to exceed two hundred feet and at all changes in direction and where the conduit crosses a roadway, bridge or railroad track (with a 36 inch loop inside the box) Pull boxes shall be installed in area to be landscaped whenever possible. The bottom of the pull box shall be bedded in crushed rock six inches deep prior to installation of the interconnect cable.

F. Control Wire:
   1. Connect control wires to controller in sequential arrangement according to identification number in the Drawings. Color code wires and label each controller station with permanent non-fading labels indicating identification number of valve controlled.
   2. Install as shown in Detail.
   3. Wire from controller shall be installed in approved conduit to a depth of 24" below grade as shown in detail.
   4. Bundle multiple wires with tape or ties at twenty (20) foot intervals maximum.
   5. Make splices in valve boxes using only specified connectors. Splices shall only be allowed in runs exceeding 2500 l.f. in length.
   6. Provide thirty (30) inch wire coil at each valve and at pipe directional changes.
   7. Install additional (total number to equal the number of "Spare" valve stations indicated on irrigation valve charts) unconnected control wires from each controller through each associated control valve box and each add alternate valve box.
   8. Control wiring under concrete, asphalt, or other masonry shall be installed in schedule 40 PVC sleeve - six (6) inch minimum as shown on plans.

H Sprinkler Heads:
   1. Install as shown in Details.
   2. Install plumb with finish grade.
   3. Thoroughly flush all lines prior to installing nozzles.

I. Tree Bubblers:

1. Install as shown in Detail.
2. Coordinate installation with planting contractor to ensure timely and proper placement of heads.

Field Quality Control

A. General:
   1. Notify Project Engineer for the following reviews, with 72 hours minimum notice.
      a. Pressure supply fine installations and testing
      b. System layout
      c. Automatic controller installation and Programming
      d. Control wire installations
      e. Lateral line and sprinkler head installation
      f. Coverage test prior to landscape planting
   2. Provide 7 day notice for Final Review.
   3. Provide equipment and/or personnel required to conduct tests.
   4. Provide up-to-date As-Built Drawings at each review.
   5. No reviews without preparing the system for inspections shall be made.

B. Pressure Tests:
   Method A pressure testing shall conform to the provisions in Section 20-5.03H(1), "Method A", of the Standard Specifications, except leaks that develop in the tested portion of the system shall be located and repaired after each test period when a drop of more than 5 pounds per square inch is indicated by the pressure gage. After the leaks have been repaired, the one hour pressure test shall be repeated and additional repairs made until the drop in pressure is 5 pounds per square inch or less
   1. Do not install remote control valves, quick couplers, or any other valve assembly until testing of pressure main lines is completed and approved by the Project Engineer.
   2. Center load pipe between fittings prior to test.
   3. Do not backfill trenches more than necessary until system has been reviewed, tested and approved by the Project Engineer.
   4. Test pressure supply lines under hydrostatic pressure of 125 psi, or line pressure, whichever is greater, for a period of eight (8) consecutive hours and provide verification that the pressure has held.
   5. Lateral line shall be tested under full line pressure for a period of one (1) hour prior to backfilling. Cap all heads and center load pipe between fittings prior to testing.
   6. Correct all deficiencies revealed by tests.

C. System Flushing:
   1. After sprinkler pipe lines and risers are in place and connected, and prior to installation of automatic valves, quick couplers, and sprinkler heads, thoroughly flush all lines with a full head of water.
   2. Install sprinkler heads after lines have been flushed to the satisfaction of the Project Engineer.

D. Coverage Tests:
   1. Perform coverage tests after all systems are completed and operational, after finish grading per E-21: Fine Grading has been complete but prior to any planting, in the presence of the Project Engineer.
   2. Coverage and Efficiency: The Contractor shall be responsible for complete coverage in all areas. A water audit is to be performed. Corrections to the irrigation system per the water audit shall be made. If more than 25% of the project requires adjusting an additional water audit may be required.

   Correct all deficiencies prior to planting.

Backfilling

A. Backfill only after specified tests have been performed and approved.

B. Clean trenches of all debris and deleterious material before backfilling.
C. Backfill, as shown in Details, with native material granular in nature and free from deleterious material and rocks over 1”.
D. Compact trenching to 95% relative density under pavement and 85% relative density within planting areas.
E. Dress off trench surfaces flush with finish grade.

Adjusting

Adjust and balance system per water audit recommendations and as directed by Project Engineer to obtain complete and effective coverage. Watering onto street shall be avoided.

Demonstration

Instruct City personnel in complete and proper operation of systems per Standard Section

Final Review

Provide Project Engineer with submittal requirements prior to Final Review.

Irrigation Systems Functional Test

Functional tests for the irrigation controllers and associated automatic irrigation systems shall conform to the provisions in Section 20-5.027J, "Testing," of the Standard Specifications and these special provisions.

Tests shall demonstrate to the Engineer, through one complete cycle of the irrigation controllers in the automatic mode, that the associated automatic components of the irrigation systems operate properly. If automatic components of the irrigation systems fail a functional test, these components shall be repaired at the Contractor's expense and the testing repeated until satisfactory operation is obtained.

Associated automatic components shall include, but not be limited to, remote control valves.

Upon completion of work on an irrigation system, including correction of deficiencies and satisfactory functional tests for the systems involved, the plants to be planted in the area watered by the irrigation system may be planted provided the planting areas have been prepared as specified in these special provisions.

Final Irrigation System Check

A final check of Irrigation Facilities shall be performed not more than 40 working days and not less than 30 working days prior to acceptance of the contract. The length of watering cycles using potable water measured by water meters for the final check of irrigation facilities will be determined by the Engineer.

Remote control valves connected to new irrigation controller shall be checked for automatic performance when the controllers are in automatic mode.

Unsatisfactory performance of irrigation facilities installed or modified by the Contractor shall be repaired and rechecked at the Contractor's expense until satisfactory performance is obtained, as determined by the Engineer.

Nothing in this section "Final Irrigation System Check" shall relieve the Contractor of full responsibility for making good or repairing defective work or materials found before the formal written acceptance of the entire contract by the Director

MEASUREMENT AND PAYMENT

Full compensation for Final Irrigation System Check prior to the acceptance of the contract shall be considered as included in the contract lump sum price paid for Irrigation System and no additional compensation will be allowed therefore

Full compensation shall be included in the contract lump sum price paid for “Irrigation Distribution Systems” complete and in place, and no additional compensation shall be allowed. Work includes furnishing all labor and materials, including tools, equipment and incidentals; and for performing the work involved as specified in the State Standard Specifications, these Technical Provisions and as directed by the Project Engineer. In general the work involved in providing power to the irrigation controllers, concrete pads, concrete bands, water line connections, mainline installation, irrigation distribution systems including trenching and backfilling and other pertinent equipment necessary for a complete and effective system.

Full compensation for Watering Plants Outside Normal Working Hours shall be considered as included in the contract lump sum prices paid for Highway Planting and Plant Establishment Work and no additional compensation will be allowed therefore.

TS-L05 LANDSCAPE PLANTINGS

GENERAL

Furnish all labor, materials, facilities, transportation and services to complete landscaping planting of trees, shrubs, and ground covers and related work as shown on the Drawings and specified herein.

The work performed in connection with Landscape Planting shall conform to the provisions in Section 20-4, "Highway Planting," per City standards of the Standard Specifications and these special provisions.

Scope of Work:

The general extent of landscaping is shown on the Drawings and includes, but is not limited to, the following:

A. Fine grading
B. Imported Topsoil backfilling & Site Preparation
C. Trees, shrubs, grasses and ground cover planting

References And Regulatory Requirements

A. American Joint Committee on Horticulture Nomenclature (AJCHN):
B. American Association of Nurserymen, Inc. (AAN):
C. Sunset Western Garden Book, Sunset Publishing Corp.
D. Agricultural Code of California
E. International Society of Arboriculture (ISA)

Identification of Submittals

Conform to requirements of

Part B	General Provisions
B3-3.09	Samples and Tests
B3-3.14	As-Built Drawings
B6-6.04	Progress Schedule

Submittals

A. Product Data: A copy of the manufacturer's product sheet together with instructions for installation

of landscape weed control fabric

B. Certificate of Compliance for the landscape weed control fabric under Section 6-1.07, "Certificates of Compliance"

C. Material list:
   1. within 60 days of start of project and prior to planting, submit documentation that all plants specified have been ordered. Include names and addresses of all suppliers. Make request and arrangements with Project Engineer for inspection with this submittal.
   2. Trees, shrubs and ground cover shall be tagged by the Contractor for review at a nursery within sixty (60) miles from the project site. Contractor to notify Project Engineer at least two (2) week before delivery of plants material for the Landscape Architect to review tagged plants at the nursery prior to delivery to the site. If the nursery is more than 60 miles from the project site, the contractor is to pay for transportation to the nursery.
   3. Substitutions: Apply to Project Engineer, at time of submittal, for any necessary substitutions in accordance with General Conditions.

D. Samples: Submit samples of the following:
   1. Soil Fertilizer (1 c.f.)
   2. Mulch (1 c.f. each)

E. Tree tie and stake: Certificates: Submit labels showing certified chemical analysis of the following. Information to be dated within 6 months previous to date of submittal.
   1. All fertilizer
   2. All herbicides
   3. Top Soil

Progress Inspections

Progress inspections will be performed by the Engineer for completed highway planting work at designated stages during the life of the contract. Progress inspections will not relieve the Contractor of responsibility for installation in conformance with the special provisions, plans and Standard Specifications. Work within an area shall not progress beyond each stage until the inspection has been completed, corrective work has been performed, and the work is approved, unless otherwise permitted by the Engineer. The requirements for progress inspections will not preclude additional inspections of work by the Engineer at other times during the life of the contract.

The Contractor shall notify the Engineer, in writing, at least 4 working days prior to completion of the work for each stage of an area and shall allow a minimum of 3 working days for the inspection. Progress inspections will be performed at the following stages of work:

A. Before planting begins and after completion of the work specified for planting in Section 20-4.03, "Preparing Planting Areas," of the Standard Specifications.

B. Before plant establishment work begins and after completion of the work specified for planting in Section 20-4.05, "Planting," of the Standard Specifications.

C. At intervals of one month during the plant establishment period.

Site Conditions

Traffic: Do not interfere with or close public ways without permission of the City Engineer. Do not interfere with adjacent driveways and private facilities. Refer to ‘TS-23 – Maintaining Traffic’ section for information on detouring traffic during construction operations.

Final Clean-Up: Specification Section B2-2.02: Before final inspection of the work, the Contractor shall clean the street, material sites and all ground occupied by him in connection with the work, of all rubbish, excess materials, false work, temporary structures and equipment.

Quality Assurance

Contractor shall employ on-site at all times during execution of the Section at least one person who is thoroughly familiar and experienced with the materials and products being installed and proper methods of their installation. Notify Project Engineer immediately of all changes in supervision.

Delivery, Storage, and Handling

A. General:
   1. Handle and store all products of this Section in such a manner as to protect them from harmful elements.
   2. Storage of products on-site shall be done in an orderly manner so as not to unnecessarily impede Work or reasonable use of Project Site.
   3. Keep all material away from construction activities. Piles of soil amendment shall not be stored on site, unless approved by the Project Engineer.

B. Plants:
   1. Delivery: Coordinate with Project Engineer. Provide proper identification for landscape labor force and vehicles at all times on site.
   2. Storage: Coordinate with Project Engineer. Provide shade as required by plant variety and provide wind protection for all plants. Water regularly to maintain thorough moisture in root zone. Temporary, automatic irrigation system will be required at discretion of Project Engineer if extended storage period becomes necessary.
   3. Labeling: Plants shall be legibly labeled at all times clearly indicating correct plant name and size as indicated on Drawings. Labels shall be durable with waterproof ink.

C. Fertilizers:
   1. Deliver in original, unopened containers with original labels stating guaranteed chemical analysis intact and legible.
   2. Store in protected, dry place. Coordinate with the Project Engineer.

D. Bulk Material:
   1. Coordinate delivery and storage of bulk material with Project Engineer.
   2. Confine neat piles of materials to areas approved Project Engineer.

Project Conditions

Provide dust alleviation and control measures during the course of the work to the Project Engineer's satisfaction at no additional cost to the contract.

Progress Inspections

Progress inspections will be performed by the Engineer for completed highway planting and irrigation system work at designated stages during the life of the contract.

Progress inspections will not relieve the Contractor of responsibility for installation in conformance with the special provisions, plans and Standard Specifications. Work within an area shall not progress beyond each stage until the inspection has been completed, corrective work has been performed, and the work is approved, unless otherwise permitted by the Engineer.

The requirements for progress inspections will not preclude additional inspections of work by the Engineer at other times during the life of the contract.

The Contractor shall notify the Engineer, in writing, at least 4 working days prior to completion of the work for each stage of an area and shall allow a minimum of 3 working days for the inspection.

A. During pressure testing of the pipelines on the supply side of control valves.
B. During testing of low voltage conductors.
C. Before planting begins and after completion of the work specified for planting in Section 20-4.03, "Preparing Planting Areas," of the Standard Specifications.
D. Before plant establishment work begins and after completion of the work specified for planting in Section 20-4.05, "Planting," of the Standard Specifications.
E. At intervals of one month during the plant establishment period

Warranty

A. Provide a warranty under a provision of Specifications
B. Work executed under this section shall be guaranteed to be free of infestation, disease or any other harmful element that may impair the health of the plant.

MATERIALS

Plant Materials

Substitutions will be allowed only when specified material is proved unavailable and only with approval of Project Engineer. Proposals will be considered for use of nearest equivalent variety.

Fertilizers, Soil Amendments and Additives

Commercial Fertilizer (Slow Release) (Plant Establishment)

Commercial fertilizer (slow release) shall be a pelleted or granular form, shall be slow or controlled release with a nutrient release over an 8-month to 12-month period, and shall fall within the following guaranteed chemical analysis range:

Ingredient	Percentage
Nitrogen	20
Phosphoric Acid	10
Water Soluble Potash	5

Commercial Fertilizer (Packets)

Commercial fertilizer (packet) shall be slow or controlled release and shall be in a biodegradable packet form. The packet shall gradually release nutrients over a 12-month period. Each packet shall have a weight of 10 g ± 1 g and shall have the following guaranteed chemical analysis:

Ingredient	Percentage
Nitrogen	20
Phosphoric Acid	10
Water Soluble Potash	5

A. Soil Preparation/Amendments: First quality, standard brand, agricultural products; formulated by a commercial fertilizer supplier. All rate listed are per 1,000 square feet. Supply chemical analysis as required by USDA regulations. Soil amendments vary by section. Refer to the Drawings for specific locations of each type of soil amendments as defined in the Soil Analysis Report that follows this section.
B. Soil Mixture: All products identified in Soil Analysis Report shall be uniformly incorporated to obtain a homogeneously blended soil mixture.

Nitrogen/Iron Stabilized Organic Amendment

A. Gradation: 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:

Percent Passing	Sieve Designation
85-100	3/8"
50-80	No. 8
0-40	No. 35

B. Organic Content: Minimum 50% based on dry weight and determined by ash method. Minimum 250 lbs. organic matter per cubic yard of compost.

C. Carbon to Nitrogen Ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.

D. pH: 5.5 - 8.0 as determined in saturated paste.

E. Soluble Salts: Soluble nutrients typically account for most of the salinity levels, but sodium should account for less than 25% of the total. To avoid a leaching requirement, the addition of the compost shall result in a final ECe of the amended soil of less than 4.0 dS/m @ 25oC

F. Iron: If the amendment chosen does not contain at least .08% iron, then 10 pounds of iron sulfate per 1,000 square feet shall be included in each sample mixture.

G. Use the following table to determine the maximum allowable ECe (dS/m of saturation extract) of compost at desired use rate and allowable ECe increase:

Desired Use Rate	Max. Allowable ECe Increase from Amendment			
Cu. Yds. Amendment per 1,000 sq. ft. for incorporation to 10" depth	Volume % of Amendment	1 dS/m	2 dS/m	3 dS/m
		Maximum ECe of Compost		
6	32	2.5	4.5	7

Example: Specification calls for 5 cubic yards compost per 1,000 square feet for incorporation to 10" depth, and site soil has an ECe of 2.0. In order to avoid exceeding ECe of 4 in final blend, compost ECe should be less than 5.5 dS/m.

H. Moisture Content: 35 - 60%

I. Contaminants: The compost shall be free of contaminants such as glass, metal, and visible plastic.

J. Maturity: Physical characteristics suggestive of maturity include:
Color: Dark brown to black
Odor: Acceptable = none, soil-like, musty, or moldy
Unacceptable = sour, ammonia, or putrid

K. Particle Characterization: Identifiable wood pieces are acceptable, but the balance of material should be soil-like without recognizable grass or leaves.

Planting Mix for Planting Holes

Planting mix for backfilling planting holes shall consist of two parts of soil excavated from the planting holes (free of rock over one-half (1) inch in diameter) and one part soil amendment. The materials shall be thoroughly mixed until they lose their individual identities.

Landscape Fabric and Bark Mulch

Mulch must consist of tree bark only.

Imported bark material to be 3/4" to 1" size, acorn type, brown bark. No shards, shredded wood or dyed colors. Submit a (1) c.f. sample to City Engineer for approval by Landscape Architect prior to delivery of

bark mulch on-site.

Trees, Shrubs, Grasses and Ground Covers

Plants shall be as specified in the Plant List on the Plans and shall be healthy, vigorous stock, free of insects and disease. Use only plant materials that are first class representations of the species and cultivars specified and that conform to all State and local laws governing the sale, transportation, and inspection of plant materials. Only healthy and shapely plants of the size and type indicated and only plants with a normal plant and root structure will be acceptable. All plants shall be nursery grown stock and shall have been grown in the specified containers for not less than six (6) months but shall not have been overgrown in the containers so as to become root-bound. They shall have straight, single trunks, unless otherwise specified on the plans. No pruning shall be undertaken before planting. Plants specified to be multi-trunk shall have at least three main leaders from the base. Any and all plants that have any encircling roots (not root-bound) shall have root balls lightly slashed on a minimum of three (3) sides to stop encircling root growth. All plants shall be free from disfiguring knots and sunscald injuries, abrasions, abrasion of bark, or other objectionable disfigurements. Tree trunks shall be sturdy and well "hardened off".

Any plants delivered to the job site, which are found to be not true to name or unsuitable in growth or conditions, shall be removed from the site and replaced with acceptable plants. All plants shall be of the genus, species, cultivar, size, age, and condition as specified herein and as shown on the Plans. Under no condition will there be any substitution of plants or sizes for those listed on the accompanying plans, except with the written consent of the Project Landscape Architect.

Tagging: All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of the plant in accordance with the standards of practice recommended by the American Association of Nurserymen.

Inspection: All plant materials shall meet the specifications of Federal, State, and County laws requiring inspection for plant diseases and insect infestations. Inspection certifications required by law shall accompany each shipment, invoice, or order for stock, and when such plants arrive at the site of the work, the certificate of inspection shall be filed with the Project Engineer. Inspection of all plant material for acceptance shall be made at the project site at time of delivery. All plant material shall be approved by the Project Landscape Architect prior to installation. Any and all rejected plant material shall be marked as such and removed from the project site immediately.

Delivery and Protection: The Contractor shall notify the Landscape Architect at least two (2) days prior to the delivery date of each shipment of plant materials. Plant materials shall be protected and maintained in good condition. Bare root and balled materials shall be watered regularly and placed in a cool area, protected from sun and wind.

Planting Tablets (Tabs)

A. Shall be tightly compressed, non-burning, long lasting fertilizer of the following guaranteed analysis.

Nitrogen, water soluble	7.00%
Nitrogen, water insoluble	13.00%
Phosphoric Acid, available	10.00%
Potash, soluble	5.00%
Calcium, combined	2.60%
Sulfur, combined	1.60%
Iron, expressed as Fe	0.35%

Herbicides

A. Pre-emergent: Ronstar-G, Treflan, Surflan, or equal
B. Other: All other herbicides shall be approved by Project Engineer prior to use.

Pesticides

Pesticides used to control weeds shall conform to the provisions in Section 20-1.02C, "Pesticides," of the Standard Specifications. Except as otherwise provided in these special provisions, pesticide use shall be limited to the following materials:

Fluazifop-butyl
Glyphosate
Isoxaben (Preemergent)
Sethoxydim
Oxadiazon - 50 percent WP (Preemergent)
Pendimethalin (Preemergent)
Prodiamine (Preemergent)
Trifluralin (Preemergent)
Napropamide (Preemergent)

Granular preemergents may be used when applied to areas that will be covered with mulch, excluding plant basins. Granular preemergents shall be limited to the following materials:
Dichlobenil (Preemergent)
Oxadiazon (Preemergent)

Granular preemergents shall be applied prior to the application of mulch. Mulch applications shall be completed in these areas on the same working day. Photosensitive dye will not be required.

Glyphosate shall be used to kill stolon type weeds.

Oxadiazon shall be of the emulsifiable concentration or wettable powder type, except when Oxadiazon is used under mulch in conformance with these special provisions.
Prior to the application of preemergents, ground cover plants shall have been planted a minimum of 3 days and shall have been thoroughly watered.

A minimum of 100 days shall elapse between applications of preemergents.

Except for ground cover plants, preemergents shall not be applied within 18 inches of plants or within wild flower seeding areas.

If the Contractor elects to request the use of other pesticides on this project, the request shall be submitted, in writing, to the Engineer not less than 15 days prior to the intended use of the other pesticides. Except for the pesticides listed in these special provisions, no pesticides shall be used or applied without prior written approval of the Engineer.

Pesticides shall not be applied within the limits of the plant basins. Pesticides shall not be applied in a manner that allows the pesticides to come in contact with the foliage and woody parts of the plants.

Staking Material

A. Tree stakes: All tree stakes shall be new, peeled, clean and smooth lodge pole pine two inches (2") in diameter, treated with copper napthenate. Height as specified on Drawings.
B. Tree Ties: As shown in Details

Other Materials

A. Provide all other materials necessary to complete landscaping planting as shown of Drawings and specific herein.
B. All materials shall be new, first quality and approved by Project Engineer

Source Quality Control

A. Project Engineer shall approve sources of all plant material.
B. Project Engineer shall, at its option inspect and/or tag plants at Nursery site(s) prior to delivery. Contractor shall notify in Project Engineer in writing of delivery schedule to accommodate source inspection.
C. Project Engineer shall have right of refusal upon delivery and inspection at the project site.

CONSTRUCTION

Preparation

A. Make provisions and take necessary precautions to protect existing work from damage during execution of this work.
B. Fine Grading: Refer to E-21 Fine Grading
   1. Prior to any Work of this Section, thoroughly scarify and loosen top ten inches (10") of soil.
   2. Remove all rocks, sticks, clods, debris, and other deleterious materials over one inch (1") in diameter from top six inches (10") of soil.
   3. Float, rake, and roll all planter areas to establish finished grades as directed by Project Engineer Hold finish grades to 2-1/2" from adjacent pavement surfaces, utility boxes, tops of curbs, etc. within shrub and ground cover areas.

Soil Preparation

A. Backfill material for plant holes must be a mixture of top soil and soil amendment. The quantity of soil amendment shall be as described in these specifications. Thoroughly mix backfill material and uniformly distribute throughout the entire depth of the plant pit without clods and lumps

B. The Contractor shall fine grade so that proper drainage is assured. All rocks, soil lumps, and other deleterious materials larger than one (1”) inch shall be removed and the area raked smooth.
C. The Contractor shall avoid any compaction of the soils after treatment and shall not permit vehicular or equipment traffic over such areas. In the event of such compaction, the Contractor shall be required to re-cultivate any areas thus compacted, at his own expense.
D. After tilling, rake smooth and set finish grades as specified on Drawings and Details.
E. Water thoroughly for compaction one (1) week prior to planting.
F. Soil Mixture: In all planting areas add the following and thoroughly till into the top ten inches (10”) of topsoil at the following rates per 1,000 square feet. The following is a summary of the Soil and Plant Laboratory report that is included in these specifications. Refer to the report for additional instructions. The Drawings specify the locations of each Sample and the extent of soil conditioning. After tilling in the above amendments, rake smooth and set finish grades as specified and on Drawings and Details. Water thoroughly for compaction one (1) week prior to planting.

Sample 1:	Amount / 1,000 square feet
6 cubic yards	Nitrogen/*Iron Stabilized Organic Amendment
20 pounds	6-20-20 Complete Fertilizer
15 pounds	Soil Sulfur

These quantities are for bidding purposes only. The contractor is responsible for obtaining a minimum of 28 additional sample locations throughout the project area. A soil fertility and

agricultural suitability report will be prepared for each sample. Contractor to amend soils per soil report. Contractor has the option to have additional samples taken in the areas where soil is shown to be removed. Should it be determined that areas of soil can remain if amended the Project Engineer may consider modifying the scope of soil removal.

Herbicide Application

A. Apply in accordance with manufacturer's recommendations.
B. Apply to soil prior to placement of mulch.

Planting

Backfill material for plant holes must be a mixture of soil and soil amendment. The quantity of soil amendment shall be as shown on the Plant List. Thoroughly mix backfill material and uniformly distribute throughout the entire depth of the plant hole without clods and lumps. Apply or place commercial fertilizer (granular and slow release) and iron sulfate at the time of planting and at the rates shown on the Plant List.

Place commercial fertilizer packets in the backfill of each plant at the time of planting and at the rate shown on the Plant List to within 6 inches to 8 inches of the soil surface and approximately one inch from the roots. When more than one fertilizer packet is required per plant, the packets must be distributed evenly around the root ball.
Mulch is not required in the plant basins when mulch is not indicated on the Plant List for the plants involved.
A granular preemergent must be applied to areas to be covered with mulch outside of plant basins.

Mulch placed in areas outside of plant basins shall be spread to a uniform depth. Spread mulch from the outside of the proposed plant basin to the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, fences, and existing plantings. If the proposed plant material is 12 feet or more from the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, fences, and other existing plantings, the mulch must be spread 6 feet beyond the outside edge of the proposed plant basins. Attention is directed to "Irrigation Systems Functional Test" of these special provisions regarding functional tests of the irrigation systems. Do not perform planting in an area until the functional test has been completed for the irrigation system serving that area.

Tree Planting

Location Staking: Each tree and shrub location shall be as indicated on the Plans and shall not be in conflict with any existing utilities, utility boxes, etc. The contractor shall layout the trees and shrubs while still in their containers for review and approval. Landscape Architect shall walk the project and may adjust plant locations so design concept is maintained. Any and all plants improperly located shall be replanted in their proper location at no additional cost to the City.

A. Excavate holes by auger, unless otherwise specified for particular situations. Before an augured hole is made, the top 6" of amended soil shall be removed and stockpiled at one side of hole.
B. An augured hole of the appropriate size shall be made to a depth of the container. The size of the auger shall depend on the size of the plant container. The hole shall be broken in with a crowbar until it is twice the width of the container, leaving the sides rough with no "auger slick." Break up the bottom 6 inches of soil prior to placing plant.
C. The plant shall then be set in an upright position in the center of the hole and the space around it backfilled with planting mix so that a minimum of 4" of amended soil is around the sides of the root ball. Tamp the bottom of the hole to ensure compaction so that the plants don’t sink. Do not place organic matter beneath the plant's root ball. The plant shall be set so that the root crown is 1/2" - 3/4" higher than average surrounding grade. Dispose of balance of borings around plant in a manner that water is shed away from the crown or trunk of plant.

D. When the backfill around the plant is approximately two-thirds completed, the plant shall be thoroughly watered, after which the backfill shall be completed to the grade of the surrounding area.

E. Install planting tablets as per the following schedule:

1 gal. stock:	2 tablets, 21 grams each
2 or 5 gal. stock:	3 tablets, 21 grams each
15 gal. stock:	6 tablets, 21 grams each

F. No boxed, balled, or canned trees shall be planted if the ball is broken or cracked, either before or during the process of planting. Once the container has been removed the plant shall be planted immediately. Any plants left sitting, unplanted, for more that 2 hours will be subject to rejection by the Project Engineer. Any plant rejected shall be removed from the site immediately.

Tree Staking: All trees shall be provided with two (2) Lodge Pole Pine Stakes, pressure treated with Chemonite (See Plans for Tree Planting Detail). Tree stakes shall not be driven into the rootball.

A. 15 gallon trees or smaller - 2" diameter x 10' long stake - 6' above ground.

B. The tree ties shall be pieces of corded rubber placed in one place just below the main fork or branches.

C. Stake as per details.
   1. Set stakes plumb, without damage to rootball and sufficiently deep to provide necessary support
   2. Tree ties to be tied loosely yet taut enough to support tree.

Soil Berm: In all planting areas (excluding turf), each plant shall have a soil berm constructed around it to retain water. The soil berm shall be at least four (4) inches high and shall have a minimum diameter of two (2) feet for shrubs and three (3) feet for trees.

Pruning: Pruning shall be limited to a minimum necessary for removal of injured twigs and branches, with cuts over one-half (1/2) inch in diameter painted with a tree wound compound.

Watering: Immediately after planting, each tree or shrub shall be thoroughly watered, and the areas between soil rings shall be raked smooth.

Mulch placed in areas outside of plant basins shall be spread to a uniform depth of 3 inches.

Attention is directed to "Irrigation Systems Functional Test" of these special provisions regarding functional tests of the irrigation systems. Do not perform planting in an area until the functional test has been completed for the irrigation system serving that area

Shrubs

A Planting Shrubs: Planting shall take place in the existing prepared soil, which shall be moist and friable, never dry or wet and soggy. The moist condition shall extend to the full depth of cultivation.

B. Spacing: The spacing of all ground cover plants shall be as indicated on the Plans and in the Plant List. They shall be planted in evenly spaced

C. Weed Control: Prior to applying Landscape Fabric and Bark Mulch, all planted areas to be treated for pre-emergent weed control shall receive:3 lbs. of Ronstar-G control, apply 1/2" to 1" of irrigation immediately after planting.

Landscape Bark Mulch

A. After planting operations are completed, install (2) layers of landscape fabric and a 3" minimum layer of bark mulch in all non-paved areas. Refer to Tree Drawings for locations.

B. Site Preparation: After fine grading and planting of trees, shrubs and grasses have been completed,

the Contractor shall remove all trash, empty plant containers, tools, and equipment used in this work, or any other debris accumulated by the work, from the site, and all scars, ruts, or other marks in the area caused by this work shall be repaired at the Contractor's expense, and the ground left in a neat and orderly condition throughout the site of the work. Plant containers shall be recycled.

C. Install on finish grade of soil (2) layers of salvaged Landscape Fabric in all work areas per construction details. (no fabric under Concrete Paving). Only sections larger than 4'x4' of existing un-damaged fabric will be allowed for re-use on site. Contractor responsible to supply and install additional Landscape Fabric, as needed, to achieve the (2) continuous layers.

D. Install Headerboards, Hardscape Paving, Trees, Shrubs and Grasses prior to spreading Bark Mulch.

E. Install a 3" minimum layer of salvaged Bark Mulch over Landscape Fabric in all areas shown to receive bark. Contractor responsible to supply and install additional Bark Mulch material as needed to provide the 3" minimum layer. Mix imported Bark Mulch with existing salvaged bark so distinct color changes are not noticeable. Imported Bark Mulch material to be 3/4" to 1" size, acorn type brown bark. No shards, shredded wood or dyed colors. Submit a (1) c.f. sample for approval by Landscape Architect prior to delivery of Bark Mulch on-site.

F. Contractor is responsible for excess Landscape Fabric and Bark Mulch. Remove from the site and dispose of in an appropriate manner.

G. Rake evenly to create a uniform surface.

Field Quality Control

A. Project Engineer shall inspect and approve the following prior to proceeding with subsequent Work.
   1. Preparation - At completion of finish grading and prior to planting, grading tolerances and soil preparation shall be checked for conformance to Construction Documents.
   2. Layout - Layout of plants, Headerboards, and other major items shall be directed and/or approved by Project Engineer
   3. Pre-maintenance review - At substantial completion of this Section, work shall be reviewed to check conformance with Construction Documents. Approval shall mark commencement of the three hundred and sixty five (365) day maintenance period.
   4. Final review - At the end of specified maintenance period, Work shall be reviewed for conformance with Construction Documents including additional requirements stipulated during maintenance period. If work is not approved at this time, maintenance period shall be extended at Contractors sole cost as direct by Project Engineer.

   B. Re-inspections required due to Contractor not being prepared or non-conformance to Construction Documents shall be back charged to the Contractor.

Plant Guarantee

One (1) Year Guarantee: Following the plant establishment period, the Contractor shall provide a warranty which guarantees all trees for one (1) year from date of initial acceptance of the contract. The Contractor shall replace any tree which has died, and the tree replacement shall be the same size container as originally designated on the plans.

Maintenance:

Refer to Section TS-L06 – Maintenance Period

MEASUREMENTS AND PAYMENT

Full compensation shall be included in the contract Lump Sum price paid for "Landscape Planting" complete and in place, and no additional compensation shall be allowed. Work includes furnishing all labor and materials, including tools, equipment and incidentals; and for performing the work involved as specified in the State Standard Specifications, these Technical Provisions and as directed by the Project

Engineer.

Full compensation for Paving Type 3 - Bark Mulch shall be considered as included in the contract lump sum price paid for" Landscape Planting" and no additional compensation will be allowed therefore.

TS-L06 LANDSCAPE MAINTENANCE PERIOD

GENERAL

Furnish all labor, materials, facilities, transportation and services to complete Landscape Maintenance Period and related work as shown on the plans and specified herein.

The Landscape Maintenance Period shall be Type 2 PER Standard Specifications and shall not be less than three (3) years, 1,095 calendar days.

Scope of Work

The general extent of Landscape Maintenance Period includes, but is not limited to, the following:

A. One (3) Year Landscape Maintenance and Plant Establishment Period from the start date listed in the letter authoring this next stage in the project. Maintenance Period is measured by calendar days.
B. Supply all equipment ,materials and labor needed to maintain the:
1. Landscape fabric, bark mulch and hardscape paving areas
2. Irrigation system and all plant material
3. Plant materials

References And Regulatory Requirements

A. American Joint Committee on Horticulture Nomenclature (AJCHN):
B. American Association of Nurserymen, Inc. (AAN):
C. Sunset Western Garden Book, Sunset Publishing Corp.
D. Agricultural Code of California
E. International Society of Arboriculture (ISA)

Identification of Submittals

Conform to requirements of

Part B	General Provisions
B3-3.02	Shop Drawings
B3-3.09	Samples and Tests
B3-3.14	As-Built Drawings
B6-6.04	Progress Schedule

Submittals

Submit proposed site preparation procedures to the City's Engineer for review and approval prior to commencement of work. Procedures should include:

A. Material list
B. Fertilizer technical data

Site Conditions

Traffic: Do not interfere with or close public ways without permission of the Engineer. Do not interfere with adjacent driveways and private facilities.

Final Clean-Up: Before final inspection of the work, the Contractor shall clean the street, material sites and all ground occupied by him in connection with the work, of all rubbish, excess materials, false work, temporary structures and equipment.

Quality Assurance

Contractor shall employ on-site at all times during execution of the Section at least one person who is thoroughly familiar and experienced with the materials and products being installed and proper methods of their installation. Notify the Engineer immediately of all changes in supervision.

Emergency Contract Information:

Provide current, available, emergency contact information to City Maintenance Personnel. Contractor shall be available within 24 hours of contact and have a Crew on site to replace or repair work damaged.

Emergency Work:

Contractor to provide a Summary Report for all Emergency Work on Monthly Reports and submit separate certified payrolls reports documenting man-hours on-site and equipment used for each emergency. Compensation shall be as described under Payment section.

Warranty

A. Provide a warranty under a provision of these specifications
B. Work executed under this section shall be guaranteed to be free of weeds, infestation, disease or any other harmful element that may impair the health of the existing plants on-site.

CONSTRUCTION

Inspection for Start of Maintenance Period

Upon completion of all work, the Contractor shall notify the Engineer, in writing, that the project is ready for acceptance. The Engineer shall then schedule a Pre-Maintenance walk-through inspection for the project and shall notify the Contractor and the Landscape Architect as to the time and date.

The Engineer and Landscape Architect will review work for compliance with the plans and specifications and determine acceptance of the project. Once City accepts the work, the Contractor shall be authorized, in writing, to start the Landscape Maintenance Period. Written notice will be given the contractor to inform him as to the starting date of the Maintenance Period.

Landscape Maintenance Period

The landscape maintenance and plant establishment period shall be Type 2 and shall not be less than three (3) years, 1,095 calendar days or until acceptance of all items of work under this contract, whichever is the later. Maintenance in general, shall include keeping all planting, paving, and curb areas throughout the entire project site free from all deleterious materials, weeds, paper, glass, debris, and trash during the entire duration of the contract.

At the option of the Contractor, plants of a larger container size than those originally specified may be used for replacement plants during the first 125 working days of the plant establishment period.

After 125 working days of the plant establishment period have been completed, replacement of plants, shall be one-gallon size for seedlings, pot and liner size plants; 5-gallon size for one-gallon size plants; 15-gallon size for 5-gallon size plants; and other plant replacement plants shall be the same size as originally specified.

Commercial fertilizer (slow release) shall be applied to trees and shrubs, during the first week of April and September of each year. Commercial fertilizer shall be applied at the rates specified by the manufacturer and shall be spread with a mechanical spreader wherever possible.

The center to center spacing of replacement plants for unsuitable shrub plants shall be determined by the number of completed plant establishment working days at the time of replacement and the original spacing in conformance with the following:

ORIGINAL SPACING (Inches)	SPACING OF REPLACEMENT SHRUB PLANTS (Inches)		
	Number of Completed Plant Establishment Working Days		
	1-125	126-190	191-End of Plant Establishment
24	24	18	12
36	36	24	18
48	48	36	24

During the plant establishment period, the plants shall be watered utilizing the Irrigation Controller. A watering schedule shall be submitted to the Engineer for use during the plant establishment period.

Weeds within plant basins, including basin walls and ground cover, shall be controlled by hand pulling. Weeds within mulch and shrub areas and outside of plant basins shall be controlled by killing.

Weeds within median areas, pavement, curbs, sidewalk, and other surfaced areas shall be controlled by killing.

When ordered by the Engineer, one application of a pre-emergent pesticide conforming to the provisions in "Pesticides" of these Technical Specifications, shall be applied 40 working days prior to completion of the plant establishment period.

If Hydroseeding cannot be performed within the time limits specified in these Technical Specifications and the Engineer determines that the work, except Hydroseeding and plant establishment work, has been completed, the Engineer will notify the Contractor in writing of the start of the plant establishment period.

Hydroseeding not performed prior to the start of the plant establishment period shall be performed during the plant establishment period. The work involved in preparing areas to receive Hydroseeding and applying seed shall be in conformance with the provisions in " Hydroseeding " of these Technical Specifications.

After sowing wild flower seed, plant establishment work for the Hydroseeding areas will not be required except for removing trash and debris and mowing. Mowing shall be performed after the Hydroseeding has set and the plants have begun to die back.

Except as specified in these Technical Specifications, disposal of Hydroseed mowed material will be required unless ordered by the Engineer.

When ordered by the Engineer, apply one application per year of a pre-emergent pesticide conforming to the provisions in "Pesticides" of the Standard Specifications, shall be applied between 40 working days and 50 working days prior to completion of the plant establishment period.

During the plant establishment period, if plants become restricted by foliage protectors, the tops of foliage protectors shall be removed. Foliage protectors shall be completely removed, including the support stakes, within 15 working days prior to completion of the plant establishment period.

Wye strainers shall be cleaned at least 15 days prior to the completion of the plant establishment period. Previously installed filters shall be removed, cleaned and reinstalled at least 15 days prior to the completion of the plant establishment period.

The final inspection shall be performed in conformance with the provisions in Section 5-1.46, "Final Inspection and Contract Acceptance," of the Standard Specifications and shall be completed a minimum of 20 working days before the estimated completion of the contract.

Attention is directed to "Relief From Maintenance and Responsibility" in these Technical Specifications regarding relief from maintenance and protection.

Weekly and Monthly Maintenance

These notes are for general reference, in conjunction with, and as a supplement to, the written specifications associated with the contract documents. A complete set of contract documents shall be on-site for use by the Landscape Architect and the Engineer. This includes addenda, change orders, supplemental instructions and other change documents.

The contractor is responsible to maintain the site in a safe & clean condition.

Weekly: Contractor's Maintenance Crew shall be on-site a minimum of once twice a month and as described. Semi-Monthly perform the following:

1. Site clean-up: remove all trash, debris, weeds, glass and all deleterious materials.
2. Walk entire site: inspect general conditions on-site and note areas that need work. Perform work to restore site to original condition accepted as end of construction.
3. Irrigation: adjust irrigation run times per seasonal weather
4. Trees: remove all suckers from tree trunks to maintain a minimum of 6' clear to lowest branch. Maintain tree basin free of weeds.
5. Shrubs: deadhead shrubs, as needed.
6. Hardscape paving: Refer to Hardscape Paving below.
7. Bark maintenance: in-fill areas where bark has rutted or washed out

Month 3: Perform the following:

1. Submit a written report to City Maintenance Personnel summarizing work the previous month and present any proposed changes to maintenance.
3. Irrigation: Run each system while present on-site, repair & replace equipment as needed.
4. Shrub areas: Infill as needed to meet plant spacing
5. Work described above for Weekly and Monthly Maintenance.
6. Fertilize plants per specifications.

Semi-Annually Maintenance

Mid-Year Updates

Month 6: Provide the following:

1. Work described above for Weekly and Monthly Maintenance.
2. Provide a Tree Monitoring Report that summarizes findings for the quarter and makes recommendations for any major changes needed.
3. Run irrigation systems while present on-site, repair and replace equipment as needed.
4. Fertilize plants per required.
8. Installation of additional bark/rock mulch to maintain a minimum 3" layer
9. Walk site w/ City Maintenance Personnel and Landscape Architect to review changes to existing schedules
10. Replace plant material identified in the field to be in poor condition

Month 9: Perform the following:

1. Work described above for Weekly and Monthly Maintenance.
2. Fertilize plants per specifications

End of First Year - Month 12: Perform the following:

1. Work described above for Weekly and Monthly Maintenance.
2. Prepare soil fertility report w/ revised Maintenance Recommendations
3. Meeting with City Maintenance Personnel to review Soils Report recommendations
4. Adjust fertilization program per soil report
   Provide a Tree Monitoring Report with recommendations for any changes.
5. Run irrigation systems while present on-site, repair and replace equipment as needed.
6. Fertilize plants per schedule in Soil Reports
7. Refer to Final Acceptance of Maintenance for additional requirements for 12th month

Second Year - Months 13 to 24

Perform work described under Weekly and Monthly Maintenance

Third Year - Months 25 to 36

Perform work described under Weekly and Monthly Maintenance

Hardscape Paving Maintenance

1. Maintain paving free of weeds, trash, debris and deleterious materials.
2. In-fill areas where paving has rutted or washed out.

Plant Maintenance

Work shall include, but is not limited to, all watering, weeding, fertilizing, cultivating, spraying, cutting, thinning and pruning as necessary to keep all plant material in a healthy, thriving and growing condition. Keep the planted areas neat and attractive in appearance throughout the plant Maintenance Period.

This work shall also include any additional watering by hand which may be necessary. All plants shall be watered not less than twice a week unless the Tree Monitoring Reports indicate otherwise. Each watering shall be of such quantity as to provide optimum growth conditions. Refer to Irrigation Maintenance for additional requirements.

Trees: Shall be watered, cultivated, thinned, pruned, as required, to assure a vigorous, thriving condition from day of planting to end of Maintenance Period. All weeds and deleterious materials shall be removed from the tree basin and surrounding areas during this period. Refer to Weekly, Monthly, Semi-annually and Final Acceptance for additional information and requirements for Tree maintenance.

Shrubs: Shall be watered, cultivated, thinned, pruned, as required, to assure a vigorous, thriving condition from day of planting to end of Maintenance Period. All weeds and deleterious materials shall be removed from the shrub basin and surrounding areas during this period. Refer to Weekly, Monthly, Semi-annually and Final Acceptance for additional information and requirements for Tree maintenance.

Non-Conformance to provisions of Maintenance

Should the Contractor fail, be neglectful, or be negligent in furnishing the required maintenance and/or maintaining the project site, the City may maintain these facilities. As the City incurs these costs, the City shall charge the Contractor the cost for providing any required maintenance by deducting this cost from the periodic progress payments due the Contractor

Guarantee and Replacement

Prior to and during the plant establishment period, should the appearance of any plant material indicate weakness and probability of dying, in the Engineer's opinion, that plant shall be replaced immediately by the Contractor, at his own expense. Replacements shall be made in the same manner as specified for the

original planting. At the end of the plant establishment period, all plant material shall be in a healthy growing condition. Any plant material replaced within the last thirty (30) days of the plant establishment period must be maintained by the Contractor for thirty (30) days from the date of replacement at no additional cost to the City.

Weed Control: Weed control herbicides, in addition to that which is specifically required elsewhere, may be applied to planted areas at no expense to the City if the Contractor deems it necessary. Type of herbicide to be used and method of application shall be approved by the Engineer.

Preparation for Final Acceptance of Maintenance Period - Month 24

Provide the following to City Maintenance Personnel for review and approval 30 days prior to final acceptance of Maintenance Period

1. Soil Fertility Report with revised Maintenance Recommendations
2. Meet with City Maintenance Personnel to review Soil Report recommendations.
3. Walk site with City Maintenance Personnel and Landscape Architect to review any changes

Prepare site for final acceptance of maintenance period.

1. Adjust fertilization program per Soil Report
2. Installation of additional bark to maintain 3" layer
3. Replace plant material identified in the field to be in poor condition

RELIEF FROM MAINTENANCE AND RESPONSIBILITY

The Contractor may be relieved of the duty of maintenance and protection for those items not directly connected with plant establishment work in conformance with the provisions in Section 8-1.14B, "Relief From Responsibility of Work," of the Standard Specifications. Water pollution control, maintain existing planted areas, maintain existing irrigation facilities, trees, and shrubs shall not be relieved of maintenance.

MEASUREMENT AND PAYMENT

One (3) Year Landscape Maintenance Period is measured by Calendar days (1,065 days). Full compensation shall be included in the contract Lump Sum price paid for ‘Landscape Maintenance Period’ complete and in place, and no additional compensation shall be allowed. Work includes furnishing all labor and materials, including tools, equipment and incidentals; and for performing the work involved as specified in the State Standard Specifications, these Technical Specifications and as directed by the Engineer. In general the Maintenance Period work includes site clean-up, weeding, tree, shrub, grasses and ground cover maintenance.

TS-L08 HYDROSEEDING

GENERAL

Furnish all labor, materials, equipment, facilities, transportation and services to complete Landscape Site Preparation and related work as shown on the drawings and/or specified herein.

The work performed in connection with Landscape Site Preparation shall conform to the provisions in Section 20-4 - "Highway Planting" of the Standard Specifications and these special provisions.

This work includes applying Hydroseeding and erosion control (bonded fiber matrix). Comply with Section 21, "Erosion Control," of the Standard Specifications. If notified by the Engineer that an area is ready to receive erosion control materials, start erosion control (Bonded Fiber Matrix) work within 5

business days of the Engineer's notification to perform the work.

Summary

The general extent of Mitigation Planting & Maintenance is shown on the Drawings and includes, but is not limited to, the following:

A.
B.
C. One Year Mitigation Maintenance Period

Identification of Submittals

Conform to requirements of

Part B	General Provisions
B3-3.09	Samples and Tests
B3-3.14	As-Built Drawings
B6-6.04	Progress Schedule

Hydroseeding

Hydroseeding shall consist of all work and materials necessary to install hydroseed. Included in this item of work shall be preparation of the seed mix, spray application, watering and all other miscellaneous items necessary for the installation of hydroseed as shown on the Drawings, and as specified in these Specifications.

A. Wild flower seeding shall conform to the provisions in Section 21, "Erosion Control," of the Standard Specifications and these special provisions.
B. Wild flower seeding work shall consist of mowing weeds, scarifying the soil, furnishing and incorporating commercial fertilizer and dry applying native wild flower seed to areas shown on the plans as "Wild Flower Seeding."
C. Use if seasonal rains will promote seed growth. Wild flower seeding materials shall not be applied prior to NOVEMBER 15 or after APRIL 15. If wild flower seeding work cannot be performed prior to the start of plant establishment and within the above specified time limit, then the work shall be performed during the plant establishment period when directed by the Engineer.
D. Pesticides shall not be used on wild flower seeding areas after the seed has been applied.

Site Preparation

Immediately prior to planting wild flower seeding areas, trash and debris shall be removed, and weeds shall be mowed as close to the ground as possible. Removal of mowed material will not be required. After mowing and just prior to seed application, wild flower seeding areas shall be scarified to a minimum depth of 3”. Removed trash and debris shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. Materials shall conform to the provisions in Section 20-2, "Materials," of the Standard Specifications and these special provisions.

Seed

Seed shall conform to the provisions in Section 21-2.02F, "Seed," of the Standard Specifications. Individual seed species shall be measured and mixed in the presence of the Engineer.

Seed shall be delivered to the job site in unopened separate containers with the seed tag attached. Containers without a seed tag will not be accepted.

A sample of approximately 30 g of seed will be taken from each seed container by the Engineer.

Legume Seed

Legume seed and non-legume shall be pellet-inoculated or industrial-inoculated and shall conform to the following:

A. Pellet-inoculated seed shall be inoculated in conformance with the provisions in Section 21-2.02F, "Seed," of the Standard Specifications.
B. Inoculated seed shall have artificial soil medium and soil making inoculants,a calcium carbonate coating, enzymes, algae inoculums, polymer, organic carbon chains, mycorrhiza and benefical bacillus
C. Pellet-inoculated seed shall be sown within 90 days after inoculation.
D. Industrial-inoculated seed shall be inoculated with Rhizobia and coated using an industrial process by a manufacturer whose principal business is seed coating and seed inoculation or shall be inoculated in the pellatazation process such as done with Sow-EZ manufactured by ConservaSeed (ph 916.775.1676) or equal.

Industrial-inoculated seed shall be sown within 180 calendar days after inoculation.

Pellets shall be set in soil with an imprinter with a 3 mm depression.

SEED MIX TYPE A - shall consist of the following Legume seed and non-legume seeds::

SEED MIX TYPE A - SLOPED BANKS

Botanical Name Common Name	Lbs Pure Live Seed/Acre
Lupinus succentus Arroyo Lupine	15
Eschscholzia californica California Poppy	10
Bromus carinatus	10

SEED MIX TYPE B - CHANNEL BANKS

Botanical Name Common Name	Lbs Pure Live Seed/Acre
Bromus carinatus, Native California Brome	9.5
Elymus glaucus, Blue Wildry	8
Hordeum californicum, California Barley	6
Festuca idahoensis, Idaho Fescue	3.75
Vulpia microstachys, 3 Weeks Fescue	3.75
Eschscholzia californica California Poppy	1.5
Lasthenia californica, Goldfields	0.5
Lupinus nanus, Sky Lupine	3.0
Sisyrinchium bellum, Blue eyed grass	1.0

SEED MIX TYPE C

Botanical Name Common Name	Lbs Pure Live Seed/Acre
Hordeum brachyantherum, meadow barley	5.0

Vulpia microstachys, 3 weeks fescue	5.0
Elymus glaucus, blue wildrye	8.0
Bromus carinatus, California brome	4.0
Trifolium wildenovii, Tomcat Clover	4.0
Hordeum californicum, California Barley	6.0
Festuca idahoensis, Idaho Fescue	3.75

Notes
Seed sources from Santa Clara County and Watershed only.

Commercial Fertilizer

Commercial fertilizer shall conform to the provisions in Section 20-2.02, "Commercial Fertilizer," of the Standard Specifications and shall have a guaranteed chemical analysis of 20 percent nitrogen, 5 percent phosphoric acid and 20 percent water soluble potash.

Placement/Application

Wild flower seed shall be applied at the rate specified above.

Commercial fertilizer shall be applied at the rate specified in the soil report as described in 17.04 – Site Preparation.
Seed and fertilizer shall be incorporated into the soil to a maximum depth of 6 mm by raking, dragging or drilling.

EROSION CONTROL (BONDED FIBER MATRIX)

GENERAL

Submittals

At least 5 business days before applying erosion control materials, submit:

1. Material Safety Data Sheet for the tackifier.
2. Product label describing the tackifier as an erosion control product.
3. List of pollutant indicators and potential pollutants for erosion control materials. Pollutant indicators are described under "Sampling and Analysis Plan for Non-Visible Pollutants" in the Preparation Manual.
4. Determination of acute and chronic toxicity for aquatic organisms conforming to EPA methods for the tackifier.
5. Composition of ingredients including chemical formulation.

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

a. Tackifier
b. Fiber

Quality Control and Assurance

Retain and submit records of erosion control materials applications including:

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

MATERIALS

Seed

Seed for erosion control must comply with "Erosion Control (_____)," of these special provisions.

Seed

Seed not required to be labeled under the California Food and Agricultural Code must be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists.

Seed must not contain more than 1.0 percent total weed seed by weight.

Seed must be free of the following specific weed species: _____, _____, and _____.

Deliver seed to the job site in unopened separate containers with the seed tags attached. A container without a seed tag attached is not accepted. The Engineer takes a sample of approximately 1 ounce or 0.25 cup of seed for each seed lot greater than 2 pounds.

Seed must comply with the following:

Seed Sampling Supplies

At the time of seed sampling, furnish a glassine lined bag and custody seal tag for each seed lot sample.

Commercial Fertilizer

Comply with "Erosion Control" of the Standard Specifications

Organic Fertilizer

Fertilizer must be a pelleted or granular form and must be one of the following products:

Fertilizer

Products	Guaranteed Chemical Analysis (N-P-K) (%)	Company
Biosol Mix® - Granular	7-2-3	Rocky Mountains Bioproducts Edwards, CO
Fertil-Fibers™	6-4-1	Quattro Environmental Coronado, CA
Sustane®	5-2-4	Natural Fertilizer of America Cannon Falls, MN
Approved Equal*	(N) 5 to 7 (P) 2 to 10 (K) 1 to 5	____

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

350 days or more.

Tackifier

Tackifier must be:

1. Nonflammable
2. Nontoxic to aquatic organisms
3. Free from growth or germination inhibiting factors
4. Bonded to the fiber or prepackaged with the fiber by the manufacturer
5. At least 10 percent of the weight of the dry fiber and include the weight of the activating agents and additives
6. Organic, high viscosity colloidal polysaccharide with activating agents, or a blended hydrocolloid-based binder

Fiber

Fiber must be:

1. Long strand, whole wood fibers, thermo-mechanically processed from clean, whole wood chips
2. Not made from sawdust, cardboard, paper, or paper byproducts.
3. At least 25 percent of fibers 3/8 inch long.
4. At least 50 percent held on a No. 25 sieve.
5. Free from lead paint, printing ink, varnish, petroleum products, seed germination inhibitors, or chlorine bleach.
6. Free from synthetic or plastic materials.
7. At most 7 percent ash.
8. Coloring agent for fiber must be a biodegradable nontoxic coloring agent free from copper, mercury, and arsenic.

CONSTRUCTION

Application

Measure and mix individual seed species in the presence of the Engineer.
Use hydroseeding equipment to apply erosion control to locations shown on the plans:

1. To form a continuous mat with no gaps between the mat and the soil surface.
2. From 2 or more directions to achieve a continuous mat.
3. In layers to avoid slumping and to aid drying.
4. During dry weather or at least 24 hours before predicted rain. Unless manufacturer guidelines allow for application during wet weather.

Do not apply erosion control if:

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

Apply erosion control in two applications:

The Contractor will determine the bonder fiber rate in conformance with the chart below. Application rates may be modified to suit project. Do not delete rows.

1. Apply bonded fiber (fiber and tackifier) in the first application according the following rates:

First Application

Slope Rate	Pounds Per Acre[1] (Slope Measurement)
Flatter than 3:1(horizontal:vertical)	1,100
From 3:1 to 2:1(horizontal:vertical)	1,500

[1]Application rates of bonded fiber must be increased by 500 pounds per acre for surfaces roughened by techniques such as sheepsfoot-rolled, ripped, tracked, and imprinted.

2. Combine seed, organic fertilizer, and bonded fiber (fiber and tackifier) for the second application according to the following spread rates and apply the mixture within 60 minutes of adding seed to the mixture:

Second Application

Material	Pounds Per Acre[1] (Slope Measurement)
Seed	
Commercial Fertilizer	
Organic Fertilizer	
Bonded Fiber (Fiber and Tackifier)	500

[1]Application rates of bonded fiber must be increased by 500 pounds per acre for surfaces roughened by techniques such as sheepsfoot-rolled, ripped, tracked, and imprinted.

The ratio of water to bonded fiber (fiber and tackifier) in the mixture must be as recommended by the manufacturer.

MEASUREMENT AND PAYMENT

Hydroseeding shall be included in bid item TS-13.

Do not over-spray erosion control materials onto the traveled way, sidewalks, lined drainage channels, or existing vegetation.

ELECTRICAL SYSTEMS

TS-E01 DESCRIPTION

Traffic signals, street lighting, sign illumination, electric service (irrigation), communication conduit, sprinkler control conduit and maintaining existing traffic management system elements during construction shall conform to the provisions in Section 86, "Electrical Systems," of the Standard Specifications and these Technical Specifications.

Locations of Street Lighting installations are shown on the Street Lighting plans.

Lighting equipment is installed along Hale Ave but not in any structures.

TS-E02 COST BREAK-DOWN

Cost break-downs shall conform to the provisions in Section 86-1.03, "Cost Break-Down," of the Standard Specifications and these Technical Specifications.

The Engineer shall be furnished a cost break-down for each contract lump sum item of work described in this Section 10-3.

The cost break-down shall be submitted to the Engineer for approval within 15 days after the contract has been approved. The cost break-down shall be approved, in writing, by the Engineer before any partial payment for the items of electrical work will be made.

TS-E04 CAST-IN-DRILLED-HOLE CONCRETE PILE FOUNDATIONS

GENERAL

Summary

This work includes constructing cast-in-drilled-hole concrete pile foundations for traffic signal and lighting standards.

Comply with Section 48-2.03B, "Foundations," of the Standard Specifications.

MATERIALS

Concrete must contain not less than 590 pounds of cementitious material per cubic yard.

CONSTRUCTION

For standards located in sidewalk areas, the pile foundation must be:

1. Placed to final sidewalk grade before the sidewalk is placed
2. Square for the top 4 inches

Use sleeve nuts on Type 1-B standards. The bottom of the base plate must be flush with finished grade.

TS-E05 STANDARDS, STEEL PEDESTALS, AND POSTS

Standards, steel pedestals, and posts for traffic signal and lighting standards shall conform to the provisions in 2010 Section 86-2.04, "Standards, Steel Pedestals and Posts," of the Standard Specifications, "Steel Structures" of these Technical Specifications, and the following requirements, PER City standards.

Steel bolts not designated on the plans as high-strength (HS) or stainless steel shall be for general applications and shall conform to the requirements in ASTM Designation: A 307.

Anchor bolts shall conform to the requirements in ASTM Designation: F 1554, Grade 36. High-strength (HS) anchor bolts shall conform to the requirements in ASTM Designation: F 1554, Grade 105.

The sign mounting hardware shall be installed at the locations shown on the plans.

Handhole reinforcement rings for standards, steel pedestals, and posts shall be continuous around the handholes.

Type 1 standards shall be assembled and set with the handhole on the front of the pole in relation to traffic or as shown on the plans per City standards.

TS-E06 CONDUIT

Conduit to be installed underground shall be Type 1 or Type 3 unless otherwise specified.

The conduit in a foundation and between a foundation and the nearest pull box shall be Type 1 or Type

When Type 3 conduit is placed in a trench (not in pavement or under Portland cement concrete sidewalk), after the bedding material is placed and the conduit is installed, the trench shall be backfilled to not less than 4 inches above the conduit with minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," of the Standard Specifications, except the concrete shall contain not less than 421 pounds of cementitious material per cubic yard. The remaining trench shall be backfilled to finished grade with backfill material.

Conduit runs shown on the plans to be located behind curbs may be installed in the street, within 3 feet of, and parallel with the face of the curb, by the trenching in pavement method in conformance with the provisions in Section 86-2.05C, "Installation," of the Standard Specifications. Pull boxes shall be located behind the curb or at the locations shown on the plans.

After conductors have been installed, the ends of conduits terminating in pull boxes, service equipment enclosures, and controller cabinets shall be sealed with an approved type of sealing compound.

At locations where conduit is required to be installed under pavement and if a delay to vehicles will not exceed 5 minutes, conduit may be installed by the "Trenching in Pavement Method."

TS-E07 PULL BOXES

Grout shall not be placed in the bottom of pull boxes.

TS-E08 CONDUCTORS, CABLES, AND WIRING

Splices shall be insulated by "Method B" or, at the Contractor's option, splices of conductors shall be insulated with heat-shrink tubing of the appropriate size after thoroughly painting the spliced conductors with electrical insulating coating.

Conductors shall be wrapped around projecting end of conduit in pull boxes, as shown on the plans. Cables shall be secured to the projecting end of conduit in pull boxes to prevent pulling of cables without removing the securing device.

TS-E09 SERVICE

Continuous welding of exterior seams in service equipment enclosures is not required.

Service equipment enclosures shall be the aluminum type.

Circuit breakers shall be the cable-in/cable-out type, mounted on non-energized clips. All circuit breakers shall be mounted vertically with the up position of the handle being the "ON" position.

Each service shall be provided with up to 2 main circuit breakers which shall disconnect ungrounded service entrance conductors. Where the "Main" circuit breaker consists of 2 circuit breakers as shown on the plans or required in these Technical Specifications, each of the circuit breakers shall have a minimum interrupting capacity of 10,000 A, rms.

Contractor shall assure the Type III-AF service cabinet at Monterey to have sufficient size and dimensions to house the equipment shown in the plans and these technical specifications, and have two doors, one side shall house the traffic signal, street lighting, and irrigation circuit breakers, and the other side shall house the sensor well and “flooding” signs controls and disconnect.

TS-E10 NUMBERING ELECTRICAL EQUIPMENT

Self-adhesive reflective numbers shall be Contractor-furnished.

The numbers shall be placed on the equipment where shown on the City Standard Detail E-18.

Reflective numbers shall be applied to a clean surface. Where shown on the plans, 5-digit, self-adhesive equipment numbers shall be placed for all electroliers, sign lighting, and service pedestals. On service pedestals, the numbers shall be placed on the front door. On electroliers, the numbers shall be placed as shown on the City Standard Detail E-18.

TS-E20 LIGHT EMITTING DIODE (LED) LUMINAIRES

This work includes installing Light Emitting Diode (LED) luminaires. Comply with Section 86, "Electrical Systems," of the 2010 Standard Specifications and these Technical Specifications per City standards.

General

Each luminaire shall consist of an assembly that utilizes LEDs as the light source. In addition, a complete luminaire shall consist of a housing, LED array, and electronic driver (power supply).

Each luminaire shall be rated for a minimum operational life of 63,000 hours of operations at an average operating time of 11.5 hours per night.

Each luminaire is expected to have a minimum operational life of 180 months (15 years).

Each luminaire shall be designed to operate at an average nighttime temperature of 70°F.

The operating temperature range shall be -40°F to +130°F.

Each luminaire is expected to operate above 100°F, but not expected to comply with photometric requirements.

Some parameters and tests (such as LM-79 and LM-80) shall be conducted at different ambient temperatures.

Each luminaire shall meet all parameter of this specification throughout the minimum operational life when operated at the average nighttime temperature.

Each luminaire shall be defined by the application (additional applications may be added as needed)

Application	Roadway 1	Roadway 2
Replaces	200 Watt HPS mounted at 34 ft	310 Watt HPS mounted at 40 ft.

**Is this for this project????

The individual LEDs shall be connected such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire.

Each luminaire shall be listed with Underwriters Laboratory, Inc. under UL 1598 for luminaires, or an equivalent standard from a recognized testing laboratory.

Technical Requirements**Is this for this project????

Power Consumption

Maximum power consumption allowed for the luminaire shall be (by application).

Application	Roadway 1	Roadway 2
Max Wattage	165	235

Operation Voltage

The luminaire shall operate from a 60 HZ ±3 HZ AC line over a voltage ranging from 95 VAC to 250 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.

The standard operating voltages are 120 VAC, 240 VAC.

Power Factor

The luminaire shall have a power factor of 0.90 or greater.

THD

Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 20 percent.

Surge Suppression

The luminaire on-board circuitry shall include surge protection devices (SPD) to withstand high repetition noise transients as a result of utility line switching, nearby lightning strikes, and other interference.

The SPD shall protect the luminaire from damage and failure for transient peak voltages up to 10 kV (minimum) and transient peak currents up to 5 kA (minimum).

SPD shall conform to UL 1449, or UL 1283, depending of the components used in the design.

SPD performance shall be tested per the procedures in ANSI/IEEE C62.41-1992 (or current edition) for category A (standard) and D (additional) waveforms.

Operational Performance

The LED circuitry shall prevent perceptible flicker to the unaided eye over the voltage range specified above.

Compatibility

The luminaire shall be operationally compatible with currently used lighting control systems and photoelectric controls as detail in Standard Specification 86-6.07 (2006 Version).

RF Interference

The luminaires and associated on-board circuitry must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 regulations concerning the emission of electronic noise.

Photometric Requirements

Light Color/Quality.

The luminaire shall have a correlated color temperature (CCT) range of 4,000K to 6,500K.

The color rendition index (CRI) shall be 70 or greater.

Cut-Off Requirements

The luminaire shall not allow more than 10 percent of the rated lumens to project above 80 degrees from vertical.

The luminaire shall not allow more than 2.5 percent of the rated lumens to project above 90 degrees from vertical.

Thermal Management

The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the expected useful life (section 2.2).

The LED manufacturer's maximum junction temperature for the expected life (Section 2.2) shall not be exceeded.

The designed maximum junction temperature shall not exceed 105°C
The junction-to-ambient thermal resistance shall be 35°C/Watt or less.
Thermal management shall be passive by design.
The use of fans or other mechanical devices shall not be allowed.
The luminaire shall have a minimum heat sink surface of 3.5 sq in per Watt.
The heat sink material shall be aluminum.

The luminaire shall contain circuitry that will automatically reduce the power to the LEDs to 50% of normal operating power, or to a level that will insure that the maximum junction temperature is not exceeded, when the ambient, outside air temperature is 100°F or greater.

Physical and Mechanical Requirements

The luminaire shall be a single, self-contained device, not requiring on-site assembly for installation. The power supply for the luminaire shall be integral to the unit.

The maximum weight of the luminaire shall be 35 lbs.
The maximum effective projected area (when viewed from either side or either end) shall be 1.4 sq ft.
The housing shall be a light or medium gray color with a flat or semi-gloss sheen.
Each housing shall be provided with a slip-fitter capable of mounting on a 2 inch pipe tenon.

This slip-fitter shall fit on mast-arms from 1-5/8 to 2-3/8 in (O.D.)

The slip-fitter shall be capable of being adjusted a minimum of ±5 degrees from the axis of the tenon in a minimum of five steps (+5, +2.5, 0, -2.5, -5).

The clamping brackets of the slip-fitter shall not bottom out on the housing bosses when adjusted within the designed angular range.

No part of the slip-fitter mounting brackets on the luminaires shall develop a permanent set in excess of 1/32 in. when the two or four 3/8 in. diameter cap screws used for mounting are tightened to 10 ft-lb.

The assembly and manufacturing process for the LED luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

Luminaires to be mounted on horizontal mast arms, when tested in conformance with California Test 611, shall be capable of withstanding cyclic loading in (G = Acceleration of Gravity):

a) A vertical plane at a minimum peak acceleration level of 3.0 G peak-to-peak sinusoidal loading (same as 1.5 G peak) with the internal ballast removed, for a minimum of 2 million cycles without failure of any luminaire parts, and
b) A horizontal plane perpendicular to the direction of the mast arm at a minimum peak acceleration level of 1.5 G peak-to-peak sinusoidal loading (same as 0.75-G peak) with the internal ballast installed, for a minimum of 2 million cycles without failure of any luminaire parts, and
c) A vertical plane at a minimum peak acceleration level of 1.0 G peak-to-peak sinusoidal loading (same as 0.5-G peak) with the internal ballast installed, for a minimum of 2 million cycles without failure of any luminaire parts.

The housing shall be designed to prevent the build up of water on the top of the housing. Exposed heat sink fins shall be oriented so that water can freely run off the luminaire, and carry dust and other accumulated debris away from the unit.

The optical assembly of the luminaire shall be protected against dust and moisture intrusion per the requirements of IP-66 (minimum) to protect all internal components.

The electronics/power supply enclosure shall be protected per the requirements of IP-65 (minimum).

Each mounted luminaire may be furnished with or without a photoelectric unit receptacle.

If a photoelectric unit receptacle is included, a rain tight shorting cap shall be provided and installed. The receptacle shall conform to requirements of Standard Specification 86-6.07B(1).

If the luminaire housing is provided with a hole for the receptacle, the hole shall be closed, covered and sealed with weatherproof material, in a permanent manner.

When the components are mounted on a down-opening door, the door shall be hinged and secured to the luminaire housing separately from the refractor or flat lens frame. The door shall be secured to the housing in a manner to prevent its accidental opening.

Field wires connected to the luminaire shall terminate on a barrier type terminal block secured to the housing. The terminal screws shall be captive and equipped with wire grips for conductors up to No. 6. Each terminal position shall be clearly identified.

The circuit board and power supply shall be contained inside the luminaire. Circuit boards shall conform to Chapter 1, Section 6 of the "Transportation Electrical Equipment Specifications".

Electrolytic capacitors used in the power supplies shall be rated for -40°F to 220°F (-40°C to +105°C), long life (> 5000 hours), and operated at no more than 70% of their rated voltage, and 70% of rated current.

Materials

Housings shall be fabricated from materials that are designed to withstand a 3000-hour salt spray test as specified in ASTM Designation: B117.

Each refractor or lens shall be made from UV inhibited high impact plastic such as acrylic or polycarbonate, and be resistant to scratching.

Polymeric materials (if used) of enclosures containing either the power supply or electronic components of the luminaire shall be made of UL94VO flame retardant materials. The len(s) of the luminaire are excluded from this requirement.

Paint or powder coating of the housing shall conform to the requirement of the Standard Specifications and these Technical Specifications.

Luminaire Identification

Each luminaire shall have the manufacturer's name, trademark, model number, serial number, date of manufacture (month-year), and lot number as identification permanently marked inside each unit and the outside of each packaging box.

The following operating characteristics shall be permanently marked inside each unit: rated voltage and rated power in Watts and Volt-Ampere.

Quality Assurance

The luminaires shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two types of quality assurance: (1) design quality assurance and (2) production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of the modules built to meet this specification, and a documented process of how problems are to be resolved.

QA process and test results documentation shall be kept on file for a minimum period of seven years.

LED luminaire designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

Design Qualification Testing

Design Qualification Testing shall be performed by the manufacturer or an independent testing lab hired by the manufacturer on new luminaire designs, and when a major design change has been implemented on an existing design.

A major design change is defined as a design change (electrical or physical) which changes any of the performance characteristics of the luminaire, results in a different circuit configuration for the power supply, or changes the layout of the individual LED's in the module.

A quantity of two units for each design shall be submitted for Design Qualification Testing.

Test units shall be submitted to Caltrans after the manufacturer's testing is complete.

Manufacturer's testing data shall be submitted with test units for Caltrans verification of Design Qualification Testing data.

Product submittals shall be accompanied by product specification sheets or other documentation that includes the designed parameters as detailed in this specification. These parameters include (but not limited to):

a) Maximum power in Watts
b) Maximum Designed Junction Temperature
c) Heat sink area in square inches.
d) Designed junction to ambient thermal resistance calculation with thermal resistance components clearly defined.

Product submittals shall be accompanied by IES LM-79 and IES LM-80 compliant test reports from a CALiPER qualified or NVLAP approved testing laboratory for the specific model being submitted.

Product submittals shall be accompanied by initial and depreciated ISO-foot candle charts showing the specified minimum illuminance curve for that particular application.

Product submittals shall be accompanied by a test report showing SPD performance as tested per the procedures in ANSI/IEEE C62.41

Burn In.

The sample luminaires shall be energized for a minimum of 24 hours, at 100 percent on-time duty cycle, at a temperature of +70°F (+21°C) before performing any design qualification testing.

Any failure of the luminaire, which renders the unit non-compliant with the specification after burn-in, shall be cause for rejection.

The luminaire shall be tested according to California Test No. 678, and as described herein.

Luminaire performance shall be judged against the specified minimum illuminance in the specified pattern for a particular application.

The luminaire lighting performance shall be adjusted (depreciated) for the minimum life expectancy (Section 2.2).

The performance shall be adjusted (depreciated) by using the LED manufacturer’s data or the data from the LM-80 test report, which ever one results in a higher level of lumen depreciation.

The luminaire may be determined to be compliant photometrically, if:

a) The minimum initial illuminance level is achieved in 100% of the area of the specified lighting pattern, and
b) The minimum depreciated illuminance is maintained in at least 95% of the area of the specified lighting pattern, and
c) The minimum length of the depreciated lighting pattern is equal or greater than the length of the specified lighting pattern.

Caltrans Quality Assurance Testing (random sample testing)

Caltrans may perform random sample testing on all shipments.
Testing shall be completed within than 30 days after delivery to the Transportation Laboratory.
Luminaires shall be tested according to California Test No. 678, and as described herein.
All parameters of the specification may be tested on the shipment sample.

Warranty

In addition to meeting the performance requirements for the minimum period of 120 months, the manufacturer shall provide a written warranty against defects in materials and workmanship for the luminaires for a period of 120 months after acceptance of the luminaires. Replacement luminaires shall be provided promptly after receipt of luminaires that have failed at no cost to the State. All warranty documentation shall be given to the Translab prior to random sample testing.

TS-E22 PHOTOELECTRIC CONTROLS

Contactors shall be the mechanical armature type.

TS-E24 DISPOSING OF ELECTRICAL EQUIPMENT

Fluorescent light ballasts which contain polychlorinated biphenyls (PCBs) shall be disposed of in conformance with the California Department of Toxic Substances Control (DTSC) Regulations set forth in Title 22, Division 4.5, Chapter 42, of the California Code of Regulations.

Ballasts and transformers that contain polychlorinated biphenyl (PCB) are designated as extremely hazardous wastes and fluorescent tubing and mercury lamps are designated as hazardous wastes under Title 22, Division 4.5, Chapter 11, Article 4.1 and Article 5, of the California Code of Regulations.

The State assumes generator responsibility for these wastes. The Engineer will prepare the Hazardous Waste Manifest for Shipment. Ballasts shall be packaged and transported to a hazardous waste disposal facility. The Contractor shall package and transport fluorescent lights to an appropriately permitted facility.

PAYMENT

Full compensation for hauling, stockpiling, and disposing of transformers, fluorescent tubing and mercury lamps and non-leaking fluorescent light ballasts shall be considered as included in the contract price paid for the various items of work and no additional compensation will be allowed therefor.

The Standard Plan sheets applicable to this contract include, but are not limited to, those indicated below. Applicable Revised Standard Plans (RSP) and New Standard Plans (NSP) indicated below are included in the project plans as Standard Plan sheets.

	ACRONYMS, ABBREVIATIONS AND SYMBOLS
A10A	**Acronyms and Abbreviations (Sheet 1 of 2)**
A10B	**Acronyms and Abbreviations (Sheet 2 of 2)**
A10C	**Symbols (Sheet 1 of 2)**
A10D	**Symbols (Sheet 2 of 2)**
	PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS
A20A	**Pavement Markers and Traffic Lines, Typical Details**
A20B	**Pavement Markers and Traffic Lines, Typical Details**
A20C	**Pavement Markers and Traffic Lines, Typical Details**
A20D	**Pavement Markers and Traffic Lines, Typical Details**
A24A	**Pavement Markings – Arrows**
A24B	**Pavement Markings – Arrows**
A24D	**Pavement Markings – Words**
A24E	**Pavement Markings – Words and Crosswalks**
	EXCAVATION AND BACKFILL
A62B	**Limits of Payment for Excavation and Backfill – Bridge Surcharge and Wall**
A62C	**Limits of Payment for Excavation and Backfill – Bridge**
A62E	**Excavation and Backfill – Cast-In-Place Reinforced Concrete Box and Arch Culverts**
	METAL BEAM GUARD RAILING – STANDARD RAILING SECTIONS
A77A1	**Metal Beam Guard Railing – Standard Railing Section (Wood Post with Wood Block)**
A77A2	**Metal Beam Guard Railing – Standard Railing Section (Steel Post with Notched Wood or Notched Recycled Plastic Block)**
A77B1	**Metal Beam Guard Railing – Standard Hardware**
A77C1	**Metal Beam Guard Railing – Wood Post and Wood Block Details**
A77C2	**Metal Beam Guard Railing Steel Post, Notched Wood Block and Notched Recycled Plastic Block Details**
A77C3	**Metal Beam Guard Railing – Typical Line Post Embedment and Hinge Point Offset Details**
	METAL BEAM GUARD RAILING – TYPICAL LAYOUTS FOR STRUCTURES
A77F1	**Metal Beam Guard Railing – Typical Layouts for Structure Approach**
A77F4	**Metal Beam Guard Railing – Typical Layouts for Structure Departure**
	METAL BEAM GUARD RAILING – TYPICAL LAYOUTS FOR FIXED OBJECTS
A77G4	**Metal Beam Guard Railing – Typical Layouts for Roadside Fixed Objects**
	METAL BEAM GUARD RAILING – END ANCHORAGE AND RAIL TENSIONING ASSEMBLY
A77H1	**Metal Railing – End Anchor Assembly (Type SFT)**

	METAL BEAM GUARD RAILING – CONNECTIONS DETAILS AND TRANSITION RAILING TO BRIDGE RAILINGS, ABUTMENTS AND WALLS
A77J4	**Metal Beam Guard Railing – Transition Railing (Type WB)**
	METAL BEAM GUARD RAILING – TERMINAL SYSTEM END TREATMENT
A77L1	**Metal Beam Railing – Terminal System (Type SRT)**
A77L2	**Metal Beam Railing – Terminal System (Type SKT)**
	FENCES
A85	**Chain Link Fence**
	CURBS, DRIVEWAYS, DIKES, CURB RAMPS AND ACCESSIBLE PARKING
A87A	**Curbs and Driveways**
A88A	**Curb Ramp Details**
D81	**Cast-In-Place Reinforced Concrete – Double Box Culvert**
D82	**Cast-In-Place Reinforced Concrete Box Culvert – Miscellaneous Details**
D84	**Box Culvert Wingwalls – Types A, B and C**
	SLOTTED AND GRATED LINE DRAINS
D98C	**Grated Line Drain Details**
	GABIONS AND UNDERDRAINS
D102	**Underdrains**
	TEMPORARY CRASH CUSHIONS, RAILING AND TRAFFIC SCREEN
T2	**Temporary Crash Cushion, Sand Filled (Shoulder Installations)**
T3	**Temporary Railing (Type K)**
	PROJECT FUNDING SIGNS
T7	**Construction Project Funding Identification Signs**
	TEMPORARY WATER POLLUTION CONTROL
T51	**Temporary Water Pollution Control Details (Temporary Silt Fence)**
T56	**Temporary Water Pollution Control Details (Temporary Fiber Roll)**
T58	**Temporary Water Pollution Control Details (Temporary Construction Entrance)**
T59	**Temporary Water Pollution Control Details (Temporary Concrete Washout Facility)**
T62	**Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)**
T65	**Temporary Water Pollution Control Details [Temporary Fence (Type ESA)]**
	BRIDGE DETAILS
B0-3	**Bridge Details**
B0-13	**Bridge Details**
	PILES
B2-3	**16" and 24" Cast-In-Drilled-Hole Concrete Pile**
	RETAINING WALLS
B3-7	**Retaining Wall Type 5**
B3-8	**Retaining Wall Details No. 1**
B3-9	**Retaining Wall Details No. 2**

JOINT SEALS

B6-21	**Joint Seals (Maximum Movement Rating = 2")**

BRIDGE CONCRETE BARRIERS

B11-54	**Concrete Barrier Type 26**

ELECTRICAL SYSTEMS – SYMBOLS AND ABBREVIATIONS

ES-1A	**Electrical Systems (Symbols and Abbreviations)**
ES-1B	**Electrical Systems (Symbols and Abbreviations)**

ELECTRICAL SYSTEMS – SERVICE EQUIPMENT AND WIRING DIAGRAMS

ES-2C	**Electrical Systems (Service Equipment Notes, Type III Series)**
ES-2D	**Electrical Systems (Service Equipment and Typical Wiring Diagram, Type III – A Series)**

ELECTRICAL SYSTEMS – SIGNAL HEADS, SIGNAL FACES AND MOUNTINGS

ES-4A	**Electrical Systems (Signal Heads and Mountings)**
ES-4B	**Electrical Systems (Signal Heads and Mountings)**
ES-4C	**Electrical Systems (Signal Heads and Mountings)**
ES-4D	**Electrical Systems (Signal Heads and Mountings)**

ELECTRICAL SYSTEMS – DETECTORS

ES-5B	**Electrical Systems (Detectors)**
ES-5C	**Electrical Systems (Detectors)**
ES-5D	**Electrical Systems (Detectors)**

ELECTRICAL SYSTEMS – SIGNAL AND LIGHTING STANDARD, PUSH BUTTON POSTS AND TYPE 15TS STANDARD

ES-7A	**Electrical Systems (Signal and Lighting Standards, Push Button Posts and Type 15TS Standard)**

ELECTRICAL SYSTEMS – SIGNAL AND LIGHTING STANDARDS

ES-7F	**Electrical Systems (Signal and Lighting Standard – Case 4 Arm Loading, Wind Velocity = 100 mph, Arm Lengths 25' to 45')**
ES-7G	**Electrical Systems (Signal And Lighting Standard – Case 5 Arm Loading, Wind Velocity = 100 mph, Arm Lengths 50' to 55')**

ELECTRICAL SYSTEMS – SIGNAL AND LIGHTING STANDARD DETAILS

ES-7N	**Electrical Systems (Signal and Lighting Standards – Details No. 2)**

ELECTRICAL SYSTEMS – INTERNALLY ILLUMINATION STREET NAME SIGN

ES-70	**Electrical Systems (Sign Illumination – Internally Illumination Street Name Sign)**

ELECTRICAL SYSTEMS – PEDESTRIAN BARRICADES

ES-7P	**Electrical Systems (Pedestrian Barricades)**

ELECTRICAL SYSTEMS – PULL BOX DETAILS

ES-8	**Electrical Systems (Pull Box Details)**

ELECTRICAL SYSTEMS – SPLICING, WIRING DETAILS AND FUSE RATINGS

ES-13A	**Electrical Systems (Splicing Details)**
ES-13B	**Electrical Systems (Wiring Details and Fuse Ratings)**

STANDARD DETAILS LIST

The City of Morgan Hill Standard Details applicable to this contract include, but are not limited to, those indicated below.

	GENERAL SECTION
G-I	**General Notes**
G-II	**General Notes**
G-1	**Legend (Sheet 1 of 2)**
G-2	**Legend (Sheet 2 of 2)**
	STREET SECTION
A-I	**General Notes**
A-II	**General Notes**
A-III	**General Notes**
A-1	**Handicap Ramp (Residential Sidewalk)**
A-3	**Concrete Curb and/or Gutter Types (Modified)**
A-4	**Sidewalk (Commercial, Detached Residential, and Attached Residential)**
A-5	**Standard Returns (Detached and Transition Sidewalks)**
A-6	**Residential Sidewalk Transition**
A-8	**Residential Driveway Approach (Attached Sidewalk)**
A-11	**Cross-Drain Commercial Driveway Approach**
A-16	**Street Section (68' Industrial and 92' 4-Lane Undivided Arterial)**
A-17	**Street Section (96' Butterfield Boulevard without Drainage Channel)**
	(157' Butterfield Boulevard with Drainage Channel)
A-20	**Street Section (Cul-De-Sac)**
A-21	**Street Section (Rural)**
A-23	**Standard Street Knuckle**
A-24	**Standard Median Taper**
A-25	**Asphalt Concrete Berm**
A-26	**Temporary Paved Median Island**
A-27	**Cobblestone Median Island (Modified)**
A-28	**Landscape Median Island (Modified)**
A-29	**Street Name / Stop Sign**
A-30	**Street Striping & Stop Bar**
	WATER SECTION
W-I	**General Notes**
W-II	**General Notes**
W-III	**General Notes**
W-IV	**General Notes**
W-1	**Typical Water Service Installation**
W-2	**Water Service Manifold(for Domestic & Fire or Domestic & Irrigation Services)**
W-4	**Recommended Pressure Regulator Assembly and Location (for Water Services with Pressure Greater than 150 P.S.I.)**
W-5	**Air Relief Valve Assembly**

W-11	**Meter Installation & Bypass (for 4" thru 8" Domestic Water Services)**
W-12	**Typical Valve Installation**
W-14	**Hydrant Location Attached Sidewalk (without Sidewalk Meander)**
W-16	**Fire Hydrant Location Marker**
W-17	**Elbow Thrust Block (Horizontal and Downward Thrusts)**
W-18	**Elbow Thrust Block (Upward Thrust)**
W-19	**Tee Thrust Block**
W-20	**Blow Off**
	SEWER SECTION
S-I	**General Notes**
S-II	**General Notes**
S-III	**General Notes**
S-1	**Sewer Cleanout**
S-2	**Sewer Lateral**
S-3	**Sewer Lateral Connection Options**
S-4	**Sanitary Sewer Manhole (Pipe Sizes 6" to 36")**
S-6	**Standard Manhole Frame & Cover**
	STORM DRAIN SECTION
SD-I	**General Notes**
SD-II	**General Notes**
SD-1	**Storm Drain Manhole (Pipe Sizes 15" to 42")**
SD-2	**Storm Drain Manhole (Pipe Sizes 48" to 72")**
SD-3	**Ditch Inlet**
SD-4	**Drop Inlet**
SD-5	**Curb Inlet**
SD-6	**Hood, Frame, and Grate**
SD-7	**Pre-Cast Base (Gallery System Curb Inlet)**
SD-8	**Hood (Gallery System Curb Inlet)**
SD-9	**Fiberglass Gallery (Gallery System Curb Inlet)**
	LANDSCAPE SECTION
L-1	**Irrigation and Trench Drain Line Trench (Modified)**
L-2	**High Pop-Up Shrub Head**
L-7	**1" Quick Coupling Valve (Modified)**
L-8	**Gate Valve**
L-9	**Remote Control Valve (without Quick Coupling Valve) (Modified)**
L-11	**Reduced Pressure Backflow Preventer (Modified)**
	(2 1/2" to 4" with Double-Swing Hinged Enclosure)
L-12	**Landscape Backflow Preventer Legend and Notes**
L-13	**Thrust Blocks for Plastic Pipes**
L-14	**Valve Box Location**
L-20	**Irrigation Controller (Pedestal Mount) (Modified)**
	ELECTRICAL SECTION
E-I	**General Notes**

E-II	**General Notes**
E-1	**Service Connection Diagram**
E-2	**Electrolier Location -- Attached Sidewalk with Sidewalk Meander (Including Detached Sidewalk, & Commercial Sidewalk)**
E-3	**Electrolier Location -- Attached Sidewalk without Sidewalk Meander**
E-4	**Concrete Pullbox (Non-Traffic)**
E-5	**Concrete Pullbox (Traffic)**
E-6	**Concrete Pullbox Details and Dimensions**
E-7	**Concrete Pullbox Notes**
E-8	**Underground Streetlight 120V Service Connection**
E-9	**Underground Streetlight 240V Service Connection**
E-10	**Streetlight -- Branch Circuit Pullbox**
E-11	**Electrolier & Base**
E-13	**Electrolier Service Connection**
E-14	**Typical Luminaire**
E-15	**Conductor Splicing Spring Connectors**
E-17	**Electrolier Spacing**
E-18	**Pole Numbering (for Traffic Signal Poles and Electroliers)**
	UNDERGROUND SECTION
U-1	**Trench Bedding**
U-2	**Trench Restoration / Backfill (for Trench Widths Less than 18")**
U-3	**Trench Restoration / Backfill (for Trench Widths Greater than 18")**

APPENDIX A

NOT USED

APPENDIX B
MITIGATION MONITORING AND
REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Hale Avenue Extension and Santa Teresa Corridor Widening and Realignment

File No. 546007
State Clearinghouse #2016052076

CITY OF MORGAN HILL

August 2017

P R E F A C E

Section 21081 of the California Environmental Quality Act (CEQA) requires a Lead Agency to adopt a Mitigation Monitoring and Reporting Program whenever it approves a project for which measures have been required to mitigate or avoid significant effects on the environment. The purpose of the Mitigation Monitoring and Reporting Program is to ensure compliance with the mitigation measures during project implementation.

The Environmental Impact Report (EIR) concluded that implementation of the Hale Avenue Extension and Santa Teresa Corridor Widening and Realignment project could result in significant effects on the environment and mitigation measures were incorporated into the proposed project or are required as a condition of project approval. This Mitigation Monitoring and Reporting Program addresses those measures in terms of how and when they will be implemented.

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Air Quality				
Impact AQ-1: Construction activities associated with the proposed project, including both Phase I and Phase II, could temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. **(Significant Impact)**	**MM AQ-1:** The project applicant shall ensure the following measures are implemented during construction of the proposed project: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material offsite shall be covered. • 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. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph) • 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. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five 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. • 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	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	During project construction activities.

Impact	Mitigation and Avoidance Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
	determined to be running properly prior to operation. • A publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. **(Less Than Significant Impact with Mitigation Incorporated)**			
Impact AQ-2: The maximum increased residential cancer risk due to TAC emissions during construction would be 28.0 in one million for a child exposure, which exceeds the single-source threshold of 10.0 per million. The maximum modeled annual residential $PM_{2.5}$ concentration	**MM AQ-2:** The project shall develop a plan to demonstrate at least a 65 percent reduction in DPM emissions. This can be accomplished several ways.[1] Two examples of measures that could be implemented to achieve such reductions are provided, below: • All diesel-powered construction equipment larger than 50 hp and operating on site for more than two days continuously shall meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent, or • All diesel-powered construction equipment larger than 50 hp and operating on site for more than two days continuously shall be retrofitted with CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS). **(Less Than Significant Impact with Mitigation Incorporated)**	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans. Submittal of proposed DPM reduction plan to the Community Development Director for review and approval.	Prior to the issuance of a Grading Permit for Phase I.

[1] Note that the construction contractor could use other measures to minimize construction period DPM emissions to reduce the predicted cancer risk below the thresholds. Such measures may be the use of alternative powered equipment (e.g., LPG powered forklifts), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of such measures, provided that these measures are shown to be effective by a qualified air quality specialist and approved by the City of Morgan Hill.

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
would be 0.5 μg/m^3, which exceeds the single-source threshold of 0.3 μg/m3. **(Significant Impact)**				
Biological Resources				
Impact BIO-1: The proposed extension of Hale Avenue (Phase I) would impact sensitive creek, drainage, and wetland habitats. **(Significant Impact)**	**MM BIO-1:** The proposed project is located within the Habitat Plan coverage area. As part of the Habitat Plan application process, a wetland delineation will be completed and the square footage of project impacts to sensitive creek, drainage, and wetland habitats will be calculated. The Habitat Plan fees paid by the project will be based, in part, upon the calculated square footage of each sensitive habitat. **(Less Than Significant Impact with Mitigation Incorporated)**	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans. *Santa Clara Valley Habitat Plan Fees and Conditions Worksheet for Public Projects* will be completed for the project and submitted to the Community Development Director for review and approval.	Prior to the issuance of a Grading Permit for Phase I.
Impact BIO-2: Construction of the proposed Hale Avenue alignment would result in the	**MM BIO-2.1:** TREE PROTECTION: Unless tree removal has been previously approved, all trees located within the project shall be protected using the following minimum protection measures (these guidelines shall be included with all site development plans):	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	MM BIO-2.1 shall be completed prior to and during Phase I project

Impact	Mitigation and Avoidance Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
removal of 12 ordinance sized trees, and construction activities near the five ordinance sized and two non-ordinance sized trees designated to be retained could impact tree health and survival. **(Significant Impact)**	• Mark all trees to be saved with a survey flag or ribbon. Do not nail or staple directly to the tree. • Erect a temporary fence enclosing an area equal to at least the dripline of the tree (or as far from the trunk as possible). This tree protection zone shall not be used for parking, storage of building materials, or other equipment or the placement of temporary or permanent fill. Signs should be posted identifying the restriction of uses in the tree protection zone. • Locate structures, grade changes, and other ground or surface disturbances (e.g. concrete pours) as far as feasible from the "dripline" area of the tree. • Avoid root damage through grading, trenching, compaction, etc at least within an area 1.5 times the dripline area of the tree. Where root damage cannot be avoided, roots encountered over 1" in diameter should be exposed approximately 12" beyond the area to be disturbed (towards the tree stem), by hand excavation, or with specialized hydraulic or pneumatic equipment, cut cleanly with hand pruners or power saw and immediately back-filled with soil. Avoid tearing or otherwise disturbing that portion of the roots to remain. • The addition of plant or other landscaping materials shall remain outside of the dripline of all trees. • Any tree subject to Chapter 12.32 Restrictions on Removal of Significant Trees of the Morgan Hill Municipal Code requires approval from the Planning Division. The applicant shall request approval prior to removing any significant trees.		The tree assessment report shall be submitted to the Community Development Director for review and approval.	construction activities. MM BIO-2.2 shall be completed prior to issuance of a Grading Permit for Phase I.

Impact	Mitigation and Avoidance Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
	MM BIO-2.2: TREE ASSESSMENT: Prior to site development, the applicant shall retain the services of a certified arborist to assess all trees that may be impacted by the proposed project. The arborist will conduct a tree assessment and submit a report to the City detailing all trees subject to the Chapter 12.32 Restrictions on Removal of Significant Trees. The report will include: • Tree species and common name. • Size (dbh) and approximate height of tree(s) • Current health of the tree including at a minimum: bark, foliage, structure/integrity, and roots. • Evaluation of current health and potential impacts to future health. • Recommendations for protection or removal of tree (if removal of tree is recommended, provide justification). • Proposed mitigation measures and/protection measures. **(Less Than Significant Impact with Mitigation Incorporated)**			
Hazardous Materials				
Impact HAZ-1: Grading and excavation activities associated with the Phase I project could expose construction workers and/or the environment to	**MM HAZ – 1.1:** Soil sampling and testing shall be completed at the time of future implementation when the project design has been finalized. Prior to the start of demolition, grading, and excavation activities associated with the proposed extension of Hale Avenue, soil within the proposed Phase I alignment will be sampled and tested for pesticides and the soil in the area of the PG&E building will be sampled and tested for PCBs, petroleum hydrocarbons, and heavy metals to determine whether	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans. A report summarizing the results of the soil sampling and testing	Prior to issuance of a Grading Permit for Phase I.

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
harmful chemicals. **(Significant Impact)**	contamination is present at levels that exceed applicable standards. The number and location of the test samples shall be determined by a qualified hazardous materials specialist in consultation with the Santa Clara County Department of Environmental Health (SCCDEH) and the City of Morgan Hill. If contamination is found to be present above applicable screening levels, then a soil management plan will be prepared by the hazardous material specialist under SCCDEH oversight. The soil management plan will identify the specific procedures for the excavation, storage, transport, and disposal of contaminated soil, as necessary, consistent with applicable regulations. **(Less Than Significant Impact with Mitigation Incorporated)**		prepared by a qualified hazardous materials specialist shall be submitted to the Community Development Director for review and approval. The soil management plan, if necessary, shall be submitted to the Community Development Director for review and approval.	
Hydrology and Water Quality				
Impact HYD-1: During large storm events, the runoff generated by the proposed extension of Hale Avenue (Phase I) could exacerbate flooding downstream of the Hale Avenue extension. **(Significant Impact)**	**MM HYD-1.1:** The proposed retention basins shall be sized to meet the Hydromodification Management requirement. In order to meet this requirement, the post-project runoff shall not exceed pre-project flow rates for the two-year, 24-hour storm. **MM HYD-1.2:** The proposed retention basins shall be sized to meet the City of Morgan Hill storm drain design standards. In order to meet these standards, the basins shall be designed to provide storage for a 25-year, 24-hour storm with an additional capacity of 25 percent for freeboard. The storm drain outlet from the detention basins to the public storm drain system would be sized to limit the runoff rate from the proposed roadway	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans. A stormwater quality control plan prepared by a qualified engineer, documenting that the retention basins and bioretention areas meet the Hydromodification	Prior to issuance of a Grading Permit for Phase I.

Impact	Mitigation and Avoidance Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
	improvements to existing conditions. If there is no outlet, the retention basins shall be designed to contain the 100-year storm event. **MM HYD-1.3:** The stormwater runoff generated by the proposed roadway improvements shall be treated using bioretention areas that are designed to meet the requirements set forth in the Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region. **MM HYD-1.4:** The stormwater runoff generated by the proposed roadway improvements shall be retained onsite through the use of infiltration, evaporation, or rainwater harvesting. If retention is deemed infeasible due to poorly draining soils, 10 percent of the equivalent impervious surface shall be set aside for stormwater management controls as described in the Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region. This will be incorporated into the two retention basins. **(Less Than Significant Impact with Mitigation Incorporated)**		Management requirement, the City of Morgan Hill storm drain design standards, and the Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region shall be submitted to the Community Development Director for review and approval.	
Impact HYD-2: During large storm events, the runoff generated by the planned future	**MM HYD – 2:** A Hydrology and Water Quality Report would be prepared for the proposed roadway improvements, which would evaluate the potential for the proposed improvements to cause or exacerbate downstream flooding. Mitigation measures would be identified to ensure that the existing frequency of	Community Development Director	The Hydrology and Water Quality Report shall be prepared by a qualified engineer and submitted to the Community	At the time of future project level environmental review for Phase

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
widening and realignment of the Santa Teresa Corridor (Phase II) could exacerbate flooding downstream of the proposed roadway improvements. **(Significant Impact)**	capacity exceedance of the storm drain system downstream of the planned future roadway improvements is maintained or decreased. These measures may be similar to mitigation measures MM HYD-1.1 through MM HYD-1.4 identified above to reduce potential flooding impacts from the proposed Phase I roadway improvements to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**		Development Director for review and approval.	II of the proposed project.
Impact HYD-3: During large storm events, the increased rate and volume of stormwater runoff resulting from the proposed extension of Hale Avenue could result in downstream erosion and siltation. **(Significant Impact)**	As described above under mitigation measures MM HYD-1.1 through MM HYD-1.4, the proposed retention basins will be designed to reduce the rate of stormwater runoff from the proposed Hale Avenue extension to existing conditions. In addition to reducing downstream flooding impacts to a less than significant level, implementation of mitigation measures MM HYD-1.1 through MM HYD-1.4 would also reduce downstream erosion and siltation to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to issuance of a Grading Permit for Phase I.
Impact HYD-4: During large storm events, the runoff generated by the	As described above under mitigation measure MM HYD-2, a Hydrology and Water Quality Report would be prepared for the planned future Phase II roadway improvements, which would evaluate the potential for the roadway improvements to cause or	Community Development Director	The Hydrology and Water Quality Report shall be prepared by a qualified engineer and submitted to	At the time of future project level environmental

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
planned future widening of the Phase II segment of the Santa Teresa Corridor could result in downstream erosion and siltation. **(Significant Impact)**	exacerbate downstream flooding. Mitigation measures would be identified to ensure that the existing frequency of capacity exceedance of the storm drain system downstream of the planned future roadway improvements is maintained or decreased. These measures may be similar to mitigation measures MM HYD-1.1 through MM HYD-1.4 identified above to reduce potential flooding impacts from the proposed Phase I roadway improvements to a less than significant level. In addition to reducing flooding, implementation of MM HYD-2 would also reduce downstream erosion and siltation to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**		the Community Development Director for review and approval.	review for Phase II of the proposed project.
Noise and Vibration				
Impact NOI-1: Groundborne vibration levels at adjacent structures could be substantial during the construction of planned Phase II roadway improvements. **(Significant Impact)**	**MM NOI – 1:** An environmental noise assessment would be completed at the time of future project-level environmental review prior to commitment to implement a specific Phase II alignment to identify potential noise and vibration impacts during construction and operation of the Phase II roadway improvements. If vibration levels at adjacent residences during construction is projected to exceed 0.3 in/sec PPV, then mitigation measures would be identified to reduce the vibration impact to less than significant. **(Less Than Significant Impact with Mitigation Incorporated)**	Community Development Director	The environmental noise assessment shall be submitted to the Community Development Director for review and approval.	At the time of future project level environmental review for Phase II of the proposed project.

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Impact NOI-2: Operation of the planned future widening and realignment of the Santa Teresa Corridor (Phase II) could substantially increase noise levels at adjacent receptors. **(Significant Impact)**	**MM NOI – 2:** An environmental noise assessment would be completed at the time of future project-level environmental review prior to commitment to implement a specific Phase II alignment to identify potential noise and vibration impacts during construction and operation of the Phase II roadway improvements. If noise levels at adjacent receptors during operation are projected to substantially increase, then feasible mitigation measures (e.g., sound walls) would be identified to reduce traffic noise to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**	Community Development Director	The environmental noise assessment shall be submitted to the Community Development Director for review and approval.	At the time of future project level environmental review for Phase II of the proposed project.
Impact NOI-3: Operation of the planned future widening and realignment of the Santa Teresa Corridor in combination with planned future development in the project area could substantially increase noise levels at adjacent receptors. **(Significant Impact)**	**MM NOI – 3:** An environmental noise assessment would be completed at the time of future project-level environmental review prior to commitment to implement a specific Phase II alignment to identify potential noise and vibration impacts during construction and operation of the Phase II roadway improvements. If noise levels at adjacent receptors during operation are projected to substantially increase, then feasible mitigation measures (e.g., sound walls) would be identified to reduce traffic noise to a less than significant level. **(Less Than Significant Cumulative Impact with Mitigation Incorporated)**	Community Development Director	The environmental noise assessment shall be submitted to the Community Development Director for review and approval.	At the time of future project level environmental review for Phase II of the proposed project.

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Transportation				
Impact TRAN-1: Under Existing Plus Project conditions, the proposed extension of Hale Avenue (Phase I) would cause the intersection of Hale Avenue and Wright Avenue to operate at an unacceptable LOS E during the PM peak hour. (**Significant Impact)**	**MM TRAN-1:** Peak-hour signal warrants would be met during the PM peak hour under Existing Plus Project conditions. Signalizing the intersection would reduce the impact to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to operation of the Hale Avenue extension (Phase I).
Impact TRAN-2: Under Year 2020 Plus Project conditions, the proposed extension of Hale Avenue (Phase I) would cause the intersection of Hale Avenue and Wright Avenue to operate at an unacceptable LOS F	**MM TRAN-2:** Peak-hour signal warrants would be met during both the AM and PM peak hours under Year 2020 Plus Project conditions. Signalizing the intersection would reduce the impact to a less than significant level. **(Less Than Significant Cumulative Impact with Mitigation Incorporated)**	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to operation of the Hale Avenue extension (Phase I).

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT				
Impact	**Mitigation and Avoidance Measures**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
during the PM peak hour. **(Significant Cumulative Impact)**				
Impact TRAN-3: Under Year 2035 Plus Project conditions, the proposed project, including both Phase I and Phase II, would exacerbate unacceptable operations at the intersection of Hale Avenue and Wright Avenue. **(Significant Cumulative Impact)**	**MM TRAN-3:** Peak-hour signal warrants would be met during both the AM and PM peak hours under Year 2035 Plus Project conditions. Signalizing the intersection or implementing other measures to reduce delays at the intersection (e.g., traffic circle) would reduce the impact to a less than significant level. **(Less Than Significant Cumulative Impact with Mitigation Incorporated)**	Community Development Director	Incorporation of required measure on all construction documents, contracts, and project plans.	Prior to operation of the Hale Avenue extension (Phase I).

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT			
Standard Measures	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Biological Resources			
<u>Standard Measures:</u> The following standard measures shall be implemented in conformance with the Morgan Hill Citywide Burrowing Owl Habitat Mitigation Plan and the Habitat Plan to reduce impacts to burrowing owls and burrowing owl habitat to a less than significant level. In addition to compensatory mitigation required by the Morgan Hill Citywide Burrowing Owl Habitat Mitigation Plan that shall be payed to the Santa Clara Valley Habitat Agency, pre-construction surveys for burrowing owls shall be conducted prior to conducting any site grading activities, and are required by both the Habitat Plan and the Citywide Burrowing Owl Habitat Mitigation Plan. The project shall implement the Habitat Plan survey requirements, which are outlined below: • A minimum of two pre-construction burrowing owl surveys are required, with the first survey initiated no more than 14 days prior to grading initiation and the final survey concluded no more than two days prior to grading initiation. In the event that burrowing owls are discovered in the Phase I alignment, a qualified biologist shall delineate the extent of western burrowing owl habitat in the alignment, and additional avoidance measures shall be implemented according to the Habitat Plan as follows, depending on whether owls are encountered during the non-nesting or nesting seasons: ▪ If the survey finds burrowing owls in or adjacent to the Phase I alignment during the non-nesting season (September 1 through January 31), impacts to individuals may be avoided by establishing a 250-foot exclusion buffer between active burrows and any earth-moving activities or other disturbance in the Phase I alignment. Construction activities outside of this 250-foot buffer would be allowed. Construction activities within the non-disturbance buffer would be allowed if: a qualified biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior and monitors the owls	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans. A report prepared by a qualified biologist documenting the findings of the burrowing owl preconstruction surveys shall be submitted to the Community Development Director for review and approval.	Prior to issuance of a Grading Permit for Phase I.

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
during construction and finds no change in owl foraging behavior in response to construction activities. If there is any change in owl nesting and foraging behavior as a result of construction activities, these activities will cease within the 250-foot buffer. If the owls are gone for at least one week, the project proponent may request approval from the Santa Clara Valley Habitat Agency (Implementing Entity) that a qualified biologist excavate usable burrows to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue. Monitoring must continue as described above for the non-breeding season as long as the burrow remains active. • If the survey finds burrowing owls in or adjacent to the Phase I alignment during the nesting season (February 1 through August 31), all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young will be avoided. Avoidance will include establishment of a 250-foot exclusion zone required between each nest burrow and any earth-moving activities or other disturbance in the Phase I alignment. Construction may occur outside of the 250-foot non-disturbance buffer zone. Construction may occur inside of the 250-foot non-disturbance buffer during the breeding season if: the nest is not disturbed, and the project proponent develops an avoidance, minimization, and monitoring plan that will be reviewed by the Santa Clara Valley Habitat Agency and the CDFW prior to project construction based on criteria set forth in the Habitat Plan. The exclusion zone can be removed once it is determined by a qualified biologist that the nest is abandoned prior to the end of the nesting season and the burrow is no longer in use by owls.			

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT			
Standard Measures	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Standard Measures: Implementation of following Habitat Plan standard measures will reduce impacts to special-status and non-special-status native nesting birds from the proposed Hale Avenue alignment to a less than significant level: Special-Status and Non-Special-Status Native Nesting Birds • To reduce potential nesting habitat and impacts to nesting birds in the Phase I alignment, all vegetation scheduled for removal shall be cleared during the non-nesting season (September 1st through January 31st) prior to grading activities. This will reduce suitable nesting habitat for many common species. • During the avian nesting season (February 1st through August 31st), a qualified biologist shall conduct a nesting bird survey no more than 14 days prior to initial vegetation removal and ground disturbance to determine if any birds are nesting on or adjacent to the Phase I alignment. If active nests are found close enough to the alignment to impact nesting success, a qualified biologist shall establish an appropriate exclusion zone around the nest. This exclusion zone may be modified depending upon the species, nest location, and existing visual or auditory buffers. Once all young have become independent of the nest, vegetation removal and ground disturbance may take place in the former exclusion zone. Tricolored Blackbird • To avoid impacts to nesting tricolored blackbirds, any existing emergent vegetation deemed suitable by a qualified biologist for tricolored blackbird nesting shall be removed. Removal shall occur outside of the nesting season (September 1st through January 31st) and vegetation shall be maintained such that it does not grow to a sufficient height and density to support nesting. If construction of the proposed Hale Avenue alignment during the nesting season cannot be avoided, Section 6 of the	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans. If project construction activities start during the nesting season, then a report prepared by a qualified biologist and summarizing the findings of the nesting bird survey(s) shall be submitted to the Community Development Director for review and approval.	Prior to issuance of a Grading Permit for Phase I.

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
Habitat Plan requires a pre-construction survey of any potential tri-colored blackbird nesting habitat that shall be completed no more than two days prior to initial vegetation removal or ground disturbance. A preliminary survey may be additionally conducted up to 14 days prior to the start of construction. If nesting activity is observed, a 250-foot exclusion zone shall be implemented around the active nesting area, and the appropriate wildlife agencies shall be notified. The exclusion zone shall remain in place until the colony abandons the site or the nesting season ends (beginning September 1st).			
Cultural Resources			
Standard Measures: Although unlikely, the proposed project could impact undocumented human remains or unintentionally discover significant historic or archaeological materials. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply: • If human remains are discovered, it is probable they are the remains of Native Americans. If human remains are encountered they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld: ▪ Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled. ▪ Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains. • In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to issuance of a Grading Permit for Phase I.

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below. • An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time of discovery, by the monitoring archaeologist (typically twenty-five to fifty feet for single burial or archaeological find). • The exclusion zone shall be secured (e.g., twenty-four hour surveillance) as directed by the City or county if considered prudent to avoid further disturbances. • The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition: ▪ The City of Morgan Hill Community Development Director, ▪ The contractor's point(s) of contact, ▪ The coroner of the county of Santa Clara (if human remains found), ▪ The Native American Heritage Commission (NAHC) in Sacramento, and ▪ The Amah Mutsun Tribal Band. • The coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has twenty-four hours to			

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
notify the NAHC. • The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.). • Within twenty-hour hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose. • Within twenty-four hours of their notification by the NAHC, the MLD may recommend to the City's community development director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. • If the MLD recommendation is rejected by the City of Morgan Hill, the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.			
Standard Measures: At the time of future implementation of Phase II and consistent with the recommendations in Section 18.75 of the City of Morgan Municipal Code, the following standard measures would be implemented: The City will consult with the Northwest Information Center for information about whether the project is located within or adjacent to a known archaeological site, and if it is determined that it is so located, then a historical alteration permit is required for the project, and CEQA review of the project shall consider potentially significant impacts on archaeological resources and identify appropriate mitigation measures to be imposed as conditions of approval in addition to the standard conditions identified below.	Community Development Director	A report prepared by a qualified archaeologist and summarizing the results of the Northwest Information Center consultation shall be submitted to the Community Development Director for review and approval.	At the time of future project level environmental review for Phase II of the proposed project.

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
• An archaeologist shall be present on-site to monitor all ground-disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below: ▪ Work at the location of the find will halt immediately within thirty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter; ▪ If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist will prepare a brief informal memo/letter that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find; ▪ If the find appears significant and to qualify as a unique archaeological resource, the archaeologist will determine if the resource can be avoided and will detail avoidance procedures in a formal memo/letter; and ▪ If the resource cannot be avoided, the archaeologist shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the community development director. The action plan shall be in conformance with California Public Resources Code 21083.2. In addition to standard conditions listed above, all development projects located within an archaeological sensitivity area and/or containing known archaeological resources on-site shall also be subject to the following measures as standard conditions of project approval. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply: • If human remains are discovered, it is probable they are the remains of Native Americans. If human remains are encountered they shall be treated with dignity and			

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld: ▪ Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled. ▪ Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains. • In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below. • An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the monitoring archaeologist (typically twenty-five to fifty feet for single burial or archaeological find). • The exclusion zone shall be secured (e.g., twenty-four hour surveillance) as directed by the City or county if considered prudent to avoid further disturbances.			

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
• The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition: ▪ The City of Morgan Hill Community Development Director, ▪ The contractor's point(s) of contact, ▪ The coroner of the county of Santa Clara (if human remains found), ▪ The Native American Heritage Commission (NAHC) in Sacramento, and ▪ The Amah Mutsun Tribal Band. • The coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has twenty-four hours to notify the NAHC. • The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Amah Mutsun Tribal Band. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.). • Within twenty-hour hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose. • Within twenty-four hours of their notification by the NAHC, the MLD may recommend to the City's community development director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. • If the MLD recommendation is rejected by the City of Morgan Hill, the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.			

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT			
Standard Measures	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Hazards and Hazardous Materials			
<u>Standard Measures:</u> Phase I and Phase II of the proposed project includes the following standard measures to reduce impacts related to asbestos and lead-based paint containing building materials: • All potentially friable asbestos-containing materials shall be removed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines prior to building demolition or renovation that may disturb the materials. • All demolition activities will be undertaken in accordance with Cal/OSHA standards, contained in Title 8 of the California Code of Regulations (CCR), Section 1529, to protect workers from exposure to asbestos. Materials containing more than one percent asbestos are also subject to BAAQMD regulations. • During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings will be disposed of at landfills that meet acceptance criteria for the waste being disposed.	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to issuance of a Grading Permit for Phase I and II.
Hydrology and Water Quality			
<u>Standard Measures:</u> Phase I and Phase II of the proposed project would implement the following standard measures in conformance with Federal and State requirements: • Preparation of a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) prior to construction activities. The SWPPP shall include the following: ▪ Erosion Control Plan. The Erosion Control Plan shall include components for erosion control, such as phasing of grading, limiting areas of disturbance, designation of restricted-entry zones, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provision for re-vegetation or mulching. The plan would also prescribe treatment measures to trap sediment once it has been mobilized, at a scale and density appropriate to	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to issuance of a Grading Permit for Phase I and Phase II.

Standard Measures	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
the size and scale of the catchment. ▪ Identification of construction best management practices (BMPs). BMPs shall be implemented in accordance with criteria in the *California Stormwater BMP Handbook for Construction* or other accepted guidance. ▪ The City shall identify a SWPPP manager. The SWPPP manager shall be the responsible party to ensure proper implementation, maintenance, and performance of the identified BMPs.			
Standard Measures: Phase I and Phase II of the proposed project would implement the following standard measures in conformance with the City of Morgan Hill's NPDES Small MS4s General Permit: • Preparation of a SWMP. The SWMP shall implement post-construction water quality BMPs that control pollutant levels to pre-development levels, or to the maximum extent practicable. • Preparation of an operations and maintenance plan for water quality and quality control measures. The design and maintenance documents shall include measures to limit vector concerns, especially with respect to control of mosquitoes.	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	Prior to issuance of a Grading Permit for Phase I and Phase II.
Noise and Vibration			
Standard Measures: Phase I and Phase II of the proposed project would implement the following standard construction noise suppression measures during construction activities: • Equip all internal combustion engine-driven equipment with mufflers, air-inlet silencers, and any other shrouds shields, or other noise-reducing features that are in good operating condition and appropriate for the equipment; • Use "quiet" models of air compressors and other stationary noise sources where such technology exists; • Use electrically powered equipment instead of pneumatic or internal combustion	Community Development Director	Incorporation of required measures on all project construction documents, contracts, and plans.	During Phase I and Phase II construction activities.

MITIGATION MONITORING AND REPORTING PROGRAM HALE AVENUE EXTENSION AND SANTA TERESA CORRIDOR WIDENING AND REALIGNMENT			
Standard Measures	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
powered equipment, where feasible; • Limit noise-producing signals, including horns, whistles, alarms, and bells, to safety warning purposes only; • Locate stationary noise-generating equipment, construction parking, and maintenance areas as far as reasonable from sensitive receptors when sensitive receptors adjoin or are near the construction project area; • Avoid unnecessary idling of internal combustion engines (i.e., in excess of five minutes); • Place temporary sound walls or enclosure around stationary noise-generating equipment when located near noise sensitive areas; • Ensure that project-related public address or music systems are not audible at adjacent receptors; and • Notify adjacent residents in advance of construction work.			

SOURCE: City of Morgan Hill. *Hale Avenue Extension and Santa Teresa Corridor Widening and Realignment Final EIR.* August 2017.

APPENDIX C

CENTRAL COAST REGIONAL WATER QUALITY PERMIT

March 19, 2019

David Gittleson
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
E-mail: David.Gittleson@Morganhill.ca.gov

VIA ELECTRONIC MAIL

Dear Mr. Gittleson:

RE: CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER FOR THE HALE AVENUE EXTENSION PROJECT (CERTIFICATION (WDID) NO. 34318WQ04)

Enclosed please find a Clean Water Act Section 401 Water Quality Certification (Order), authorized by the Central Coast Regional Water Quality Control Board Executive Officer. This Order is issued to the City of Morgan Hill for the Hale Avenue Extension Project (Project). Attachments A through E of the Enclosure are also part of the Order.

This Order is issued in response to an application submitted by the City of Morgan Hill for proposed Project discharges to waters of the state, to ensure that water quality standards for all waters of the state impacted by the Project are met. You may proceed with your Project according to the terms and conditions of the enclosed Order.

If you require further assistance, please contact Mark Cassady at (805) 549-3689 or via email at Mark.Cassady@waterboards.ca.gov, or Phil Hammer at (805) 549-3882. Please mention the above certification file number in all future correspondence pertaining to this project.

Sincerely,

for
John M. Robertson
Executive Officer
Central Coast Regional Water Quality Control Board

Enclosures (1): Certification (WDID) Order No. 34318WQ04 for Hale Avenue Extension

cc: (w/ enclosure)

Scott Yarger
WRA, Inc.
E-mail: yarger@wra-ca.com

Katerina Galacatos
U.S. Army Corps of Engineers
E-mail: Katerina.galacatos@usace.army.mil

Kristin Garrison
California Department of Fish and Wildlife
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U.S. Environmental Protection Agency
E-mail: siu.jennifer@epa.gov

CWA Section 401 WQC Program
Division of Water Quality
State Water Resources Control Board
E-mail: Stateboard401@waterboards.ca.gov

Ashley Green
Central Coast Water Board
E-mail: Ashley.Green@waterboards.ca.gov

Mark Cassady
Central Coast Water Board
Email: Mark.Cassady@waterboards.ca.gov

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER

Reg. Meas. ID:	425656
Place ID:	851708
Certification (WDID):	34318WQ04
USACOE No:	RGP-18

Effective Date: March 19, 2019

Program Type: Fill/Excavation

Project Type: Roads and Highways

Project: Hale Avenue Extension (Project)

Applicant: City of Morgan Hill

Applicant Contact:
David Gittleson
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
Phone: (408) 310-4642
Email: David.Gittleson@Morganhill.ca.gov

Applicant Agent:
Scott Yarger
Plant Biologist
WRA, Inc.
2169-G East Francisco Blvd.
San Rafael, CA 94901
Phone: (415) 524-7549
Email: yarger@wra-ca.com

Water Board Staff:
Mark Cassady
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906
Phone: (805) 549-3689
Email: Mark.Cassady@waterboards.ca.gov

Water Board Contact Person: If you have any questions, please call Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff listed above or (805) 549-3147 and ask to speak with the Water Quality Certification Program Manager.

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Table of Contents

I. Order 3

II. Conditions 3

III. Public Notice 13

IV. Project Information 13

V. California Environmental Quality Act (CEQA) 14

VI. Petitions for Reconsideration 14

VII. Fees Received 14

VIII. Water Quality Certification 15

Attachment A Receiving Waters, Impact, and Mitigation Information
Attachment B Report and Notification Requirements
Attachment C Project Maps
Attachment D Signatory Requirements
Attachment E CEQA Findings of Facts

I. Order

This Clean Water Act (CWA) section 401 Water Quality Certification action and Order (Order) is issued at the request of the City of Morgan Hill (hereinafter Permittee) for the Project. This Order is based on the information in the application and supplemental information submitted by the Permittee. The application was received on September 27, 2018. The application was deemed complete on November 8, 2018. Prior to receiving a complete application, Central Coast Water Board staff issued a notice of incomplete application and the Permittee completed responding to the request for application information on the following date (Table 1).

Table 1: Record of Notice(s) of Incomplete Application	
Date of Notice of Incomplete Application	Date all requested information was received
October 10, 2018	November 8, 2018

Central Coast Water Board staff requested additional information necessary to supplement the contents of the complete application and the Permittee completed responding to the request for supplemental information on the following date (Table 2).

Table 2: Record of Supplemental Application Information	
Date of initial request for supplemental information	Date all requested information was received
December 18, 2018	February 28, 2019

Additionally, Central Coast Water Board staff issued a Denial Without Prejudice on January 7, 2019.

II. Conditions

The Central Coast Water Board has independently reviewed the record of the Project to analyze impacts to water quality and designated beneficial uses within the watershed of the Project. In accordance with this Order, the Permittee may proceed with the Project under the following terms and conditions:

A. Authorization

Impacts to waters of the state shall not exceed quantities shown in Table 3.

Table 3: Total Project Fill/Excavation Quantity									
Aquatic Resource Type	**Temporary Impact[1]**			**Permanent Impact**					
				Physical Loss of Area			Degradation of Ecological Condition Only		
	Acres	CY[2]	LF	Acres	CY	LF	Acres	CY	LF
Lake									
Ocean/bay/ estuary									
Riparian Zone									
Stream Channel				0.01	9	114.5			
Vernal Pool									
Wetland				0.11	16	125			

B. Compensatory Mitigation Conditions for Permanent Impacts[3]

1. Purchase of Mitigation Credits by Permittee for Compensatory Mitigation
   a. A copy of the fully executed agreement for the purchase of mitigation credits shall be provided to the Central Coast Water Board prior to the start of construction.
   b. Permittee shall retain responsibility for providing the compensatory mitigation and long-term management until Central Coast Water Board staff has received documentation of the credit purchase and the transfer agreement between the Permittee and the seller of credits.

2. Total Required Compensatory Mitigation
   Total required Project compensatory mitigation information for permanent physical loss of area is summarized in Table 4.

[1] Includes only temporary direct impacts to waters of the state and does not include upland areas of temporary disturbance which could result in a discharge to waters of the state.

[2] Cubic Yards (CY); Linear Feet (LF)

[3] Compensatory Mitigation is for permanent physical loss and permanent ecological degradation of a water of the state.

(footnote continued on next page)

Table 4: Required Project Compensatory Mitigation Quantity for Permanent Physical Loss of Area								
Aquatic Resource Type	Mit. Type	Units	Method[4]					
			Est.	Re-est.	Reh.	Enh.	Pres.	Unknown
Wetland	MB	Acres	0.12					
		LF	-					

C. Project Implementation Conditions

1. All personnel who engage in construction activities or their oversight at the project site (superintendent, construction manager, foreman, crew, contractor, biological monitor, etc.) must attend trainings on the conditions of this Certification and how to perform their duties in compliance with those conditions. Every person shall attend an initial training within five working days of their start date at the project site. Trainings shall be conducted by a qualified individual with expertise in 401 Water Quality Certification conditions and compliance.

2. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize land disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.

3. Erosion and sediment control measures shall be on site prior to the start of construction and kept on site at all times so they are immediately available for installation in anticipation of rain events.

4. The Permittee shall implement and maintain an effective combination of erosion and sediment control measures (e.g., revegetation, biodegradable fiber rolls, biodegradable erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) to prevent erosion and capture sediment. The Permittee shall implement and maintain washout, trackout, dust control, and any other applicable source control BMPs.

5. Erosion and sediment control measures and other construction BMPs shall be implemented and maintained in accordance with all specifications governing their proper design, installation, operation, and maintenance.

6. To prevent unpermitted direct impacts, all areas of waters of the state that are not authorized for permanent and/or temporary impacts under this Certification shall be clearly delineated with flags, construction fencing, or other suitable visual aids prior to construction commencement.

[4] Methods: establishment (Est.), reestablishment (Re-est.), rehabilitation (Reh.), enhancement (Enh.), preservation (Pres.). Unknown applies to advance credits with an unknown method and or location.

7. Portions of the project that occur below top of creek banks or in other waters of the State shall be stabilized for the winter prior to October 31 of each year, either by completing construction of those portions of the project (including installation of permanent erosion control measures) or by implementing winterization stabilization measures capable of effectively stabilizing the area and preventing erosion under winter rain and flow conditions generated by the 10-year 24-hour storm event. No construction activities shall be conducted below top of creek banks or in other waters of the State during the winter period (October 31 – April 15), unless prior written approval has been obtained from Central Coast Water Board staff. Work Window Extension Requests to conduct construction activities below top of creek banks or in other waters of the State during the winter period shall be submitted to Central Coast Water Board staff at least 21 days prior to the planned winter period work date. Work Window Extension Requests shall include the information specified in Attachment B. If the Work Window Extension Request is approved, the Permittee shall implement the approved winter work as specified in the Central Coast Water Board staff approval and as described in the Work Window Extensions Request and any other documentation submitted by the Permittee while seeking the approval.

8. At any time of year, the Permittee shall not conduct construction activities below top of creek banks or in other waters of the State during rain events or on any day for which the National Weather Service has predicted a 25% or more chance of at least 0.10 inch rain in 24 hours (Predicted Rain Event). The Permittee shall install effective erosion control, sediment control, and other protective measures no later than the day prior to the Predicted Rain Event, and prior to the start of any rainfall. Construction activities below top of creek banks or in other waters of the State may resume after the rain has ceased, the National Weather Service predicts clear weather for at least 24 hours, and site conditions are dry enough to continue work without discharge of sediment or other pollutants from the project site.

9. Any material stockpiled that is not actively being used during construction shall be covered and surrounded with a linear sediment barrier.

10. The Permittee shall retain a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur.

11. The Permittee shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris at an approved site at least weekly.

12. All construction vehicles and equipment used on site shall be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials.

13. All vehicle fueling and maintenance activity shall occur at least 100 feet away from waterways and in designated staging areas, unless a requested exception on a case-by case basis granted by prior written approval has been obtained from Central Coast Water Board staff.

14. In-water work, dewatering, and/or stream diversion are not authorized based on the application. If the project requires in-water work, dewatering, and/or diversion, the Permittee shall submit a detailed In-Water Work, Dewatering, and/or Diversion Plan for Central Coast Water Board staff approval at least 30 days prior to any in-water

work, dewatering and/or diversion. The In-Water Work, Dewatering, and/or Diversion Plan must include all information as specified in Attachment B. In-water work, dewatering and/or diversion shall not commence until the Permittee has obtained Central Coast Water Board staff approval of the In-Water Work, Dewatering, and/or Diversion Plan. Any in-water work, dewatering, and/or diversion must be implemented in compliance with approved In-Water Work, Dewatering, and/or Diversion Plan. All in-water work, dewatering, and/or diversion structures and equipment shall be removed immediately upon completion of the in-water work, dewatering, and/or diversion, and areas impacted by the structures and equipment restored as soon as possible.

15. All post-construction BMPs shall be implemented and functioning in accordance with the Stormwater Control Plan for Hale Avenue Extension prior to completion of the project.

16. All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the project.

D. General Compliance Conditions

1. Failure to comply with any condition of this Order shall constitute a violation of the Porter-Cologne Water Quality Control Act and the Clean Water Act. The Permittee and/or discharger may then be subject to administrative and/or civil liability pursuant to Water Code section 13385.

2. Permitted actions must not cause a violation of any applicable water quality standards, including impairment of designated beneficial uses for receiving waters as adopted in the Basin Plan by the Central Coast Water Board or any applicable State Water Board water quality control plan or policy. The source of any such discharge must be eliminated as soon as practicable**.**

3. In response to a suspected violation of any condition of this Order, the Central Coast Water Board may require the holder of this Order to furnish, under penalty of perjury, any technical or monitoring reports the Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The additional monitoring and reporting requirements ensure that permitted discharges and activities comport with any applicable effluent limitations, water quality standards, and/or other appropriate requirement of state law.

4. The Permittee must, at all times, fully comply with engineering plans, specifications, and technical reports submitted to support this Order; and all subsequent submittals required as part of this Order. The conditions within this Order and Attachments supersede conflicting provisions within Permittee submittals.

5. This Order and all of its conditions contained herein continue to have full force and effect regardless of the expiration or revocation of any federal license or permit issued for the Project. For purposes of Clean Water Act, section 401(d), this condition constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements of state law. This Order expires if Project construction does not begin within five years from the date of this Order.

6. The Permittee shall adhere to all requirements in the mitigation monitoring and reporting program (MMRP) (Mitigation Monitoring and Reporting Program for Hale Avenue Extension and Santa Teresa Corridor Widening and Realignment, August 2017), which is incorporated herein by reference, and any additional measures as outlined in this Order and/or Attachment E, CEQA Findings of Fact.

7. Construction General Permit Requirement: The Permittee shall maintain compliance with conditions described in, and required by, NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ; NPDES No. CAS000002).

E. Administrative Conditions

1. Signatory requirements for all document submittals required by this Order are presented in Attachment D of this Order.

2. This Order does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, §§ 2050-2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531-1544). If a "take" will result from any act authorized under this Order held by the Permittee, the Permittee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Permittee is responsible for meeting all requirements of the applicable endangered species act for the Project authorized under this Order.

3. The Permittee shall grant Central Coast Water Board staff, or an authorized representative (including an authorized contractor acting as a Water Board representative), upon presentation of credentials and other documents as may be required by law, permission to:
   a. Enter upon the Project or compensatory mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records are kept.
   b. Have access to and copy any records that are kept and are relevant to the Project or the requirements of this Order.
   c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order.
   d. Sample or monitor for the purposes of assuring Order compliance.

4. A copy of this Order shall be provided to any consultants, contractors, and subcontractors working on the Project. Copies of this Order shall remain at the Project site for the duration of this Order. The Permittee shall be responsible for work conducted by its consultants, contractors, and any subcontractors.

5. A copy of this Order must be available at the Project site(s) during construction for review by site personnel and agencies. All personnel performing work on the Project shall be familiar with the content of this Order and its posted location at the Project site.

F. Standard Conditions

1. This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330, and California Code of Regulations, title 23, chapter 28, Article 6 commencing with sections 3867-3869, inclusive. Additionally, the Central Coast Water Board reserves the right to suspend, cancel, or modify and reissue this Order, after providing notice to the Permittee, if the Central Coast Water Board determines that: the Project fails to comply with any of the conditions of this Order; or, when necessary to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) or federal Clean Water Act section 303 (33 U.S.C. § 1313). For purposes of Clean Water Act section 401(d), the condition constitutes a limitation necessary to assure compliance with water quality standards and appropriate requirements of state law.

2. This Order is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to subsection 3855(b) of chapter 28, title 23 of the California Code of Regulations, and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. This Order is conditioned upon total payment of any fee required under title 23 of the California Code of Regulations and owed by the Permittee.

4. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state and federal law. For purposes of Clean Water Act, section 401(d), the applicability of any state law authorizing remedies, penalties, processes, or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Order.

G. Water Quality and Project Site Monitoring

1. General: Take representative photos of the project, including all areas of permanent and temporary impact, prior to, during, and after project construction. If surface water is present, continuous visual surface water monitoring shall be conducted to detect accidental discharge of construction related pollutants (e.g. oil and grease, spills, turbidity plumes, or uncured concrete).

2. Accidental Discharges/Noncompliance: Upon occurrence of an accidental discharge of hazardous materials or a violation of compliance with a water quality standard, Central Coast Water Board staff may require water quality monitoring based on the discharge constituents and/or related water quality objectives and beneficial uses.

3. In-Water Work, Dewatering, and/or Diversions:For projects involving planned work in water, dewatering, and/or stream diversions, a water quality monitoring plan, as part of the In-Water Work, Dewatering, and/or Diversions Plan requirements set forth in

section E.15, shall be submitted for Central Coast Water Board staff review and approval at least 30 days in advance of any in-water work, dewatering, and/or diversion. Water quality monitoring shall be conducted in accordance with the approved In-Water Work, Dewatering, and/or Diversions Plan. During planned in-water work, dewatering, and/or diversion, discharges to waters of the state shall conform to the following water quality goals in receiving waters at the point of discharge. If water quality goals are not achieved, the Permittee shall stop the discharge and implement corrective measures to achieve water quality goals.

a. Oil and Grease: No visible film on surface of water or on objects in the water.
b. Turbidity: When natural turbidity is between 0 and 50 NTU, increases shall not exceed 20 percent. When natural turbidity is between 50 and 100 NTU, increases shall not exceed 10 NTU. When natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.

Sampling shall be conducted in accordance with Table 5 sampling parameters and frequencies.[5]

Table 5: Sample Type and Frequency Requirements

Parameter	Unit of Measurement	Type of Sample	Minimum Frequency
Oil and Grease	N/A	Visual	Continuous
Turbidity	NTU	Grab	Every 4 hours

4. Post-Construction: Visually inspect the Project site during the rainy season for one year to ensure excessive erosion, stream instability, or other water quality pollution is not occurring in, upstream of, or downstream of the Project site as a result of the Project. If water quality pollution is occurring, contact the Central Coast Water Board staff member overseeing the Project within three working days. The Central Coast Water Board may require the submission of a Violation of Compliance with Water Quality Standards Report. Additional permits may be required to carry out any necessary site remediation.

H. Reporting and Notification Requirements

The following section details the reporting and notification types and timing of submittals. Requirements for the content of these reporting and notification types are detailed in Attachment B, including specifications for photo and map documentation during the Project. Written reports and notifications must be submitted using the Reporting and Notification Cover Sheet located in Attachment B, which must be signed by the

[5] Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant, the method shall be approved by Central Coast Water Board staff. Grab samples shall be taken between the surface and mid-depth and not be collected at the same time each day to get a complete representation of variations in the receiving water. A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring shall be maintained onsite.

Permittee or an authorized representative. All reports and notifications shall be submitted electronically to **RB3_401Reporting@waterboards.ca.gov**.

1. Project Reporting
   a. Annual Reporting: The Permittee shall submit an Annual Report each year on May 31. Annual reporting shall continue until a Notice of Project Complete is issued to the Permittee.

2. Project Status Notifications
   a. Commencement of Construction: The Permittee shall submit a Commencement of Construction Report at least seven days prior to start of initial ground disturbance activities.
   b. Notice of Completion of Discharges: The Permittee shall submit a Notice of Completion of Discharges following completion of active Project construction activities, including any required restoration and permittee-responsible mitigation installation. This request shall be submitted to the Central Coast Water Board staff within 30 days following completion of all Project construction and discharge activities.
   c. Request for Notice of Project Complete: The Permittee shall submit a Request for Notice of Project Complete when all required construction, post-discharge, and mitigation monitoring is complete,[6] all mitigation success criteria have been achieved, and no further Project activity is planned. This request shall be submitted to Central Coast Water Board staff within 30 days following completion of all Project activities. Upon approval of the request, the Central Coast Water Board staff will issue a Notice of Project Complete to the Permittee.

3. Conditional Notifications and Reports: The following notifications and reports are required as appropriate.
   a. Compensatory Mitigation: The Permittee shall submit a copy of the fully executed agreement for the purchase of mitigation credits prior to the start of construction, as described in Section II.B.
   b. Accidental Discharges of Hazardous Materials[7]
      Following an accidental discharge of a reportable quantity of a hazardous material, sewage, or an unknown material, the following applies (Wat. Code, § 13271):
      i. As soon as (A) Permittee has knowledge of the discharge or noncompliance, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures then:
         - first call – 911 (to notify local response agency)
         - then call – Office of Emergency Services (OES) State Warning Center at: (800) 852-7550 or (916) 845-8911
         - Lastly follow the required OES procedures as set forth in:

[6] Completion of post-discharge monitoring shall be determined by Central Coast Water Board staff and shall be contingent on successful attainment of restoration and mitigation success criteria.

[7] "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. (Health & Saf. Code, § 25501.)

http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf

ii. Following notification to OES, the Permittee shall notify Central Coast Water Board, as soon as practicable (ideally within 24 hours). Notification may be via telephone, e-mail, delivered written notice, or other verifiable means.

iii. Within five working days of notification to the Central Coast Water Board, the Permittee must submit an Accidental Discharge of Hazardous Material Report.

c. Violation of Compliance with Water Quality Standards: The Permittee shall notify the Central Coast Water Board within 24 hours of any event causing a violation of compliance with water quality standards. Notification may be via telephone, e-mail, delivered written notice, or other verifiable means.

i. Examples of noncompliance events include: spills to a water of the state, monitoring results indicating an exceedance of water quality standards, discharges causing a visible plume in a water of the state, and excessive erosion in a water of the state.

ii. This notification must be followed within three working days by submission of a Violation of Compliance with Water Quality Standards Report.

d. In-Water Work, Dewatering, or Diversions:

i. If the project requires in-water work, dewatering, and/or diversion, the Permittee shall submit a detailed In-Water Work, Dewatering, and/or Diversion Plan for Central Coast Water Board staff approval at least 30 days prior to any in-water work, dewatering and/or diversion. The In-Water Work, Dewatering, and/or Diversion Plan must include all information as specified in Attachment B.

e. Modifications to Project

Project modifications may require an amendment of this Order. The Permittee shall give 14-day advance notice to Central Coast Water Board staff if Project implementation as described in the application materials is altered in any way or by the imposition of subsequent permit conditions by any local, state or federal regulatory authority by submitting a Modifications to Project Report. The Permittee shall give 14-day advance notice to Central Coast Water Board staff of any Project modifications that will interfere with the Permittee's compliance with this Order. Proposed project modifications shall be described in a submitted Modifications to Project Report. The Permittee shall not implement modifications to the Project as it was described in the application materials without Central Coast Water Board staff approval and/or amendment of this Order.

f. Transfer of Property Ownership or Project Responsibility

This Order is not transferable in its entirety or in part to any person or organization except after notice to the Central Coast Water Board in accordance with the following terms:

i. The Permittee must notify the Central Coast Water Board of any change in ownership or interest in ownership of the Project area by submitting a Transfer of Property Ownership or Project Responsibility Report. The Report must include a written agreement between the existing and new responsible party containing a specific date for the transfer of this Order's responsibility

and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on. The Permittee and purchaser must sign and date the Report and provide the Report to the Central Coast Water Board at least 30 days prior to the transfer of ownership.

ii. Until such time as this Order has been modified to name the purchaser as the permittee, the Permittee shall continue to be responsible for all requirements set forth in this Order.

g. Transfer of Long-Term BMP Maintenance
If maintenance responsibility for post-construction BMPs is legally transferred, the Permittee must submit to the Central Coast Water Board a copy of such documentation and must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer or designer specifications. The Permittee must provide such notification to the Central Coast Water Board with a Transfer of Long-Term BMP Maintenance Report at least 10 days prior to the transfer of BMP maintenance responsibility.

III. Public Notice

The Central Coast Water Board provided public notice of the application pursuant to California Code of Regulations, title 23, section 3858 for at least 21 days starting 10/10/2018. The Central Coast Water Board did not receive any comments during the comment period.

IV. Project Information

A. Project Purpose

The purpose of the project is to construct a two-lane roadway between West Main Avenue and DeWitt/Spring Avenue as envisioned in the City's General Plan.

B. Project Description

Central Coast Water Board staff understands that the project includes the following activities:

- Construction of an approximately 4,500-foot extension of Hale Avenue from West Main Avenue in the north to the intersection of Spring Avenue and DeWitt Avenue in the south.
- Demolition or relocation of permanent structures within the right-of-way.
- Relocation of utilities.
- Placement of an existing drainage ditch in a culvert under the roadway, and filling of a seasonal wetland depression.
- Construction of two stormwater detention basins.

C. Project Location

The project is located in the City of Morgan Hill between West Main Avenue and the intersection of Spring Avenue and DeWitt Avenue. Map coordinates are Latitude -121.65753889, Longitude 37.12527778. A map showing the Project location is found in Attachment C of this Order.

D. Project Impact and Receiving Waters Information

The Project is located within the jurisdiction of the Central Coast Water Board. Receiving waters and groundwater potentially impacted by this Project are protected in accordance with the Water Quality Control Plan for the Central Coast Basin (Basin Plan) and other plans and policies which may be accessed online at: http://www.waterboards.ca.gov/plans_policies/. The Basin Plan includes water quality standards, which consist of existing and potential beneficial uses of waters of the state, water quality objectives to protect those uses, and the state and federal antidegradation policies.

Project impact and receiving waters information can be found in Attachment A. Table 1 of Attachment A lists the receiving waters and beneficial uses of waters of the state impacted by the Project. Individual impact location and quantity is shown in Table 2 of Attachment A.

E. Avoidance and Minimization

The eastern side of the alignment along the northern section of the project area will include a retaining/sound wall sited outside of the top of bank of Llagas Creek. Therefore, impacts to Llagas Creek were considered and avoided during the project design phase.

V. California Environmental Quality Act (CEQA)

On August 23, 2017, the City of Morgan Hill, as lead agency, certified an environmenal impact report (EIR) (State Clearinghouse (SCH) No. 2016052076) for the Project and filed a Notice of Determination (NOD) at the County of Santa Clara on August 29, 2017. Pursuant to CEQA, the Central Coast Water Board has made Findings of Facts (Findings) which support the issuance of this Order and are included in Attachment E.

VI. Petitions for Reconsideration

Any person aggrieved by this action may petition the State Water Resources Control Board (State Water Board) to reconsider this Order in accordance with California Code of Regulations, title 23, section 3867. A petition for reconsideration must be submitted in writing and received within 30 calendar days of the issuance of this Order.

VII. Fees Received

An application fee of $1,500 was received on October 1, 2018. An additional fee of $92 based on total Project impacts was received on March 18, 2019. The fee amount was determined as required by California Code of Regulations, title 23, sections 3833(b)(3) and

2200(a)(3), and was calculated as category A - Fill & Excavation Discharges (fee code 84) with the dredge and fee calculator.

VIII. Water Quality Certification

I hereby issue the Order for the Hale Avenue Extension, Certification No. 34318WQ04, certifying that as long as all of the conditions listed in this Order are met, any discharge from the referenced Project will comply with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards).

This discharge is also regulated pursuant to State Water Board Water Quality Order No. 2003-0017-DWQ which authorizes this Order to serve as Waste Discharge Requirements pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.).

Except insofar as may be modified by any preceding conditions, all Order actions are contingent on: (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the conditions of this Order and the attachments to this Order; and, (b) compliance with all applicable requirements of Statewide Water Quality Control Plans and Policies, the Regional Water Boards' Water Quality Control Plans and Policies.

for _____ March 19, 2019
John M. Robertson Date
Executive Officer
Central Coast Water Board

Receiving Waters

The following table shows the receiving waters associated with each impact and Permittee responsible mitigation site.

Table 1: Receiving Water(s) Information					
Impact Site ID	Waterbody Name	Impacted Aquatic Resource Type	Water Board Hydrologic Units	Receiving Waters	Receiving Waters Beneficial Uses
1	Unnamed tributary to Little Llagas Creek	Stream Channel	305.30	Little Llagas Creek	MUN, AGR, GWR, REC-1, REC-2, WILD, WARM, COMM
2	Unnamed tributary to Little Llagas Creek	Wetland	305.30	Little Llagas Creek	MUN, AGR, GWR, REC-1, REC-2, WILD, WARM, COMM

Individual Direct Impact Locations

The following table shows individual impact locations.

Table 2: Individual Direct Impact Information

Impact Site ID	Latitude	Longitude	Direct Impact Duration	Dredge			Fill/Excavation		
				Acres	Cubic Yards	Linear Feet	Acres	Cubic Yards	Linear Feet
1	37.12706111	-121.65833333	Temporary						
			Permanent				0.01	9	114.5
2	37.12216667	-121.6572000	Temporary						
			Permanent				0.11	16	125

Mitigation Information for Temporary and Permanent Impacts

The following table(s) show(s) individual mitigation information and locations for both temporary and permanent impacts.

Mitigation Bank Mitigation Site Information

Table 3 : Mitigation Bank

Mitigation Bank	Name:	Pajaro River Mitigation Bank
	Website:	https://www.wildlandsinc.com/banks/pajaro-river-mitigation-bank-wetl/
Contact Information	Name:	Julie Maddox
	Phone:	916-435-3555
	Email:	jmaddox@heronpacific.com
Mitigation Location	County:	San Benito
	Latitude:	36.977785
	Longitude:	-121.487473

Aquatic Resource Credit Type	Mitigation Method	Mitigation Quantity		
		Acres	Linear Feet	Number of Credits Purchased
Wetland	Establishment	0.12	-	0.12

Copies of this Form

In order to identify your project, it is necessary to include a Project specific copy of the Report and Notification Cover Sheet below with all reports and notifications: please retain for your records. A copy of the Cover Sheet is available for download at:
http://www.waterboards.ca.gov/centralcoast/water_issues/programs/401wqcert/index.shtml

Report Submittal Instructions

1. Check the box on the Report and Notification Cover Sheet next to the report or notification you are submitting.

- **Part A (Annual Report):** This report must be submitted annually on May 31 of each year until a Notice of Project Complete is issued.
- **Part B (Project Status Notifications):** Used to notify the Central Coast Water Board of the status of the Project schedule that may affect Project billing.
- **Part C (Conditional Notifications and Reports):** Required on a case by case basis for accidental discharges of hazardous materials, violation of compliance with water quality standards, notification of in-water work, or other situations.

2. Sign the Report and Notification Cover Sheet and attach all information requested for the Report Type.

3. Electronic Report Submittal Instructions:

- Submit signed Report and Notification Cover Sheet and required information via email to: **RB3_401Reporting@waterboards.ca.gov** and cc: Mark Cassady at Mark.Cassady@waterboards.ca.gov
- Include in the subject line of the email:
  Subject: Project Name; Mark Cassady; Certification (WDID) No.: 34318WQ04; Report Title

Map/Photo Documentation Information

When submitting maps or photos, meet the following requirements.

1. <u>Map Format Information:</u>

a. Maps must show the boundaries of all project areas and extent/type of aquatic resources impacted.
b. Maps must include an accurate scale
c. Preferred map formats of at least 1:24000 (1" = 2000') detail

2. <u>Photo-Documentation:</u> Include a unique identifier, date stamp, written description of photo details, and latitude/longitude (in decimal degrees) or map indicating location of photo. Successive photos shall be taken from the similar vantage points to compare pre/post construction and/or mitigation conditions.

REPORT AND NOTIFICATION COVER SHEET

Project Name (as found on Certification):	Hale Avenue Extension
Permittee:	City of Morgan Hill
Reg. Meas. ID:	425656
Place ID:	851708
Certification (WDID):	34318WQ04
Order Effective Date:	March 19, 2019

Report Type Submitted

Part A – Project Reporting
☐ **Annual Report**
Part B - Project Status Notifications
☐ **Commencement of Construction**
☐ **Notice of Completion of Discharges**
☐ **Request for Notice of Project Complete**
Part C - Conditional Notifications and Reports
☐ **Work Window Extension Request**
☐ **In-Water Work, Dewatering, or Diversion Plan**
☐ **Purchase Agreement for Mitigation Credits**
☐ **Accidental Discharge of Hazardous Material Report**
☐ **Violation of Compliance with Water Quality Standards Report**
☐ **Modifications to Project Report**
☐ **Transfer of Property Ownership Report**
☐ **Transfer of Long-Term BMP Maintenance Report**

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name [1]	**Affiliation and Job Title**
Signature	**Date**

[1]**STATEMENT OF AUTHORIZATION (include if authorization has changed since application was submitted)**

I hereby authorize _____ to act in my behalf as my representative in the submittal of this report, and to furnish upon request, supplemental information in support of this submittal.

_____ Permittee's Signature

_____ Date

***This Report and Notification Cover Sheet must be signed by the Permittee or a duly authorized representative and included with all written submittals.**

Part A – Project Reporting

	Annual Report
Report Purpose	Notify the Central Coast Water Board staff of Project status during construction and post-construction monitoring periods.
When to Submit	Annual reports shall be submitted each year on **May 31**. Annual reports shall continue until a Notice of Project Complete is issued to the Permittee.
Report Contents	The contents of the annual report shall include the topics indicated below for each project period. Required report contents are identified in Annual Report Topic below. • **Topic 1: Construction and Site Monitoring Summary**
Annual Report Topic	
Annual Report	**Construction and Site Monitoring Summary**
Report Contents	Report the following information: 1. The status of the project: construction not started, construction started, or construction complete. 2. The date of construction initiation, if applicable. 3. Date of executed purchase agreement for mitigation bank credits. 4. The date of construction completion, if applicable. 5. If project construction is complete: a. A summary of daily activities, monitoring and inspection observations, and problems incurred and actions taken; b. Status of permanent post-construction stormwater management BMPs, including photo documentation of all BMPs; c. Identification of when site personnel trainings occurred, description of the topics covered during trainings, and confirmation that every person that engaged in construction activities or their oversight at the project site was trained initially. d. A description of the results of the annual visual inspection of the project site and areas of waters of the State adjacent to project impact areas, including: i. Erosion conditions; ii. Stream stability conditions; iii. Water quality and beneficial use conditions; iv. Clearly identified photo-documentation of all areas of permanent and temporary impact, prior to and after project construction; and v. Clearly identified representative photo-documentation of other project areas, prior to and after project construction. vi. If the visual inspection monitoring period is over, but water quality problems persist, the Annual Report shall identify corrective measures to be undertaken, including extension of

	the monitoring period until the project is no longer causing excessive erosion, stream instability, or other water quality problems.

Part B – Project Status Notifications

	Commencement of Construction
Report Purpose	Notify Central Coast Water Board staff prior to the start of construction.
When to Submit	Must be received at least seven days prior to start of initial ground disturbance activities.
Report Contents	Report the following information: 1. Date of commencement of construction. 2. Anticipated date when discharges of fill or dredged material to waters of the state will occur. 3. Confirm work will not occur in waters in the wet season beginning October 31. 4. Project schedule milestones including a schedule for onsite compensatory mitigation, if applicable.

	Notice of Completion of Discharges
Report Purpose	Notify Central Coast Water Board staff that active Project construction and discharges, including any mitigation installation, is complete.
When to Submit	Must be received by Central Coast Water Board staff within 30 days following completion of all Project discharge, construction, and mitigation installation activities.
Report Contents	Report the following information: 1. Date of completion of all Project discharge, construction, and mitigation installation activities. 2. Status of storm water Notice of Termination(s), if applicable. 3. Status of post-construction storm water BMP installation. 4. Dates when post-construction monitoring for the Project will begin.

	Request for Notice of Project Complete
Report Purpose	Notify Central Coast Water Board staff that all required construction, post-discharge, and mitigation monitoring is complete, all mitigation success criteria have been achieved, and no further Project activity is planned.
When to Submit	Must be received by Central Coast Water Board staff within 30 days following completion of all Project activities, including achievement of all mitigation success criteria.
Report Contents	Report the following information: Part A: Mitigation Status for Temporary and Permanent Impacts 1. Date of executed purchase agreement for mitigation bank credits. 2.

	Part B: Project Site Monitoring 1. A description of the results of the annual visual inspection of the project site and areas of waters of the State adjacent to project impact areas, including: a. Erosion conditions; b. Stream stability conditions; c. Water quality and beneficial use conditions; d. Clearly identified photo-documentation of all areas of permanent and temporary impact, prior to and after project construction; and e. Clearly identified representative photo-documentation of other project areas, prior to and after project construction.

Part C – Conditional Notifications and Reports

	Work Window Extension Request
Report Purpose	Request approval to work in waters beyond work window and into winter season.
When to Submit	Must be received at least 21 days prior to the planned winter season work date that is outside the Order's specified work window.
Report Contents	Report the following information: 1. Identify the dates when work will occur in waters during the winter season. 2. Describe the work proposed to be conducted in waters during the winter season. 3. Explain why the proposed work in waters must occur during the winter season. 4. Provide a Preparedness Plan for Rain and Water Body Flows that describes the steps the Permittee will take to stabilize the site and prevent the discharge of sediment and other pollutants prior to the start of a rain event. The Preparedness Plan for Rain and Water Body Flows shall include the following (Note: Rain Event Action Plans addressed in Storm Water Pollution Prevention Plans typically do not include sufficient information): a. Identification of measures that will be implemented to stabilize the site and water body, including locations. b. Identification of steps that will be taken to remove all construction equipment and materials from the water body prior to rain. c. Identification of weather triggers for implementation of the Preparedness Plan for Rain and Water Body Flows. d. The length of time needed to implement the Preparedness Plan for Rain and Water Body Flows. e. Confirmation materials and equipment needed to implement the Preparedness Plan for Rain and Water Body Flows will be located on site. f. Responsibilities of personnel to implement the Preparedness Plan for Rain and Water Body Flows, including weather monitoring and best management practice installation and maintenance.

	In-Water Work, Dewatering, and/or Diversion Plan
Report Purpose	Request approval of a final In-Water Work, Dewatering, and/or Diversion Plan.

When to Submit	Must be received at least 30 days prior to commencement of in-water work, dewatering, and/or diversion activities.
Report Contents	Submit a final In-Water Work, Dewatering, and/or Diversions Plan that includes the following information: 1. The time period during which in-water work, dewatering, and/or diversion will occur; 2. A description of the water body at the location of the in-water work, dewatering, and/or diversion, with photographs. 3. A description of measures that will be implemented to maintain water body stability and protect water quality. 4. The time period the system will be in place and a plan for what will happen if the Permittee is unable to complete work and remove the system by the stop-work deadline. 5. A plan for water quality monitoring that includes: a. Provisions to conduct baseline monitoring to determine turbidity levels at the proposed project site. b. Provisions to report as required in Attachment B, “Weekly In-Water Work, Dewatering, and/or Diversion Monitoring and Maintenance Report.” c. Provisions for daily visual monitoring and record keeping that document in-water work, dewatering, and/or diversion activities, control measures used in the process, estimated volume of diversion/dewatering discharges, and visible water characteristics (e.g., visible turbidity, sedimentation, and/or erosion) during in-water work, dewatering, and/or diversion. d. Provisions that representative samples of receiving waters upstream and immediately downstream of in-water work, dewatering, and/or diversion will be collected and analyzed for turbidity daily while in-water work, dewatering, and/or diversion continues. e. Provisions that turbidity sample results from receiving waters will be compared to the following receiving water quality goals: where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTUs), increases shall not exceed 20 percent; where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent. f. Provisions for implementation of ongoing monitoring and corrective measures if monitoring results indicate exceedance of the criteria described above. g. Provisions for sampling of other parameters (e.g., temperature, pH, dissolved oxygen, settleable solids) as indicated in the Central Coast Water Board Basin Plan and as deemed appropriate by Central Coast Water Board staff. 6. If dewatering will occur, a plan for dewatering activities that includes: a. An assessment of the potential for the presence of groundwater contaminant plumes (use Geotracker on the State Water Resources Control Board website for an interactive map that identifies potential contamination sites). If present, there is the

	potential for discharge of polluted groundwater to surface water, which must be addressed.
	b. An inspection and assessment action plan the Permittee will follow to observe the condition of the system and assess the need to increase the capacity of the system, and measures the Permittee will implement to increase the capacity of the system, if warranted.
	c. Actions that will be taken and measures that will be implemented to prevent erosion, scour, and/or sediment deposits that could impact natural bedding materials.
	d. Descriptions and diagrams of the pumps, intakes, piping, and settlement tanks or basins (i.e., quantities, capacities, etc.) that will be used to convey water from the dewatering point to the treatment system and to the point of discharge.
	e. A description of how the system will be installed and removed.
	f. Design schematic in profile and plan views. Schematics should include:
	i. Date;
	ii. Engineer's Stamp (for dewatering systems that will be in place during the rainy season);
	iii. Intake design(s), capacity(ies), and location(s);
	iv. Pipe design(s), capacity(ies), and location(s);
	v. Settling tank design(s), capacity(ies), and location(s);
	vi. Discharge outlet design(s), capacity(ies), and location(s); and
	vii. Erosion, scour, and sediment BMPs to be installed at the discharge location.
	g. A description of BMPs that will be implemented to prevent runoff or eroded sediments from being discharged to surrounding wetlands or surface waters in concentrations that adversely affect beneficial uses, including:
	h. Prevention of erosion at each discharge point for the dewatering system (e.g., energy dissipation at each discharge hose to prevent erosion/scour).
	i. Methods for matching the discharge velocity to natural flow rate or diminishing the flow rate below the natural rate to protect and prevent secondary erosion.
	j. Confirmation that sandbags will not be used and that only bags filled with clean gravel will be used at or near a waterbody.
	k. Confirmation that natural flow is maintained upstream and downstream of the project area.
	l. A description of how the area will be restored.
	7. If diversion will occur, a plan for diversion activities that includes.
	a. An inspection and assessment action plan the Permittee will follow to observe flow conditions upstream of the system and assess the need to increase the flow capacity of the system, and measures the Permittee will implement to increase the flow capacity of the system, if warranted.
	b. An analysis of historic rainfall and/or flow data in the watershed identifying the range of flow events (quantity and likelihood) that could occur during the period in which the system is in place. If no historical rainfall and/or flow data is available for the water body,

	assess the channel morphology (i.e., low flow channel width, ordinary high water mark) to evaluate past historic flows) or use early winter storm data to extrapolate what the flows of an unanticipated summer storm event might be. c. The capacity of the proposed system, including an assessment of the capacity relative to the information generated through the analysis of historical rainfall, flow data, or channel morphology. d. A contingency plan describing what the Permittee will do should a flow event occur that exceeds the capacity of the system. The plan should address at least the following: i. Descriptions of the measures the Permittee will take (e.g., increase the capacity of the system, demobilize and stabilize the construction site and remove the system, etc.); ii. The length of time it will take the Permittee to enact the above measures; iii. The availability of a reliable weather forecast providing enough lead-time to enact the measures; and iv. Consideration of the implications of (i) rain upstream in the watershed (not just at the project site); (ii) the cumulative effect of a series of smaller events; and (iii) a description of how the Permittee will interpret the weather forecast to account for these implications. e. A water quality impact analysis that assesses the potential risks to water quality and channel stability if a flow event should occur that exceeds the capacity of the system. f. Actions that will be taken and measures that will be implemented to prevent erosion, scour, and/or sediment deposits that could impact natural bedding materials. g. A description of how the system will be installed and removed. The diversion intake removal plan should include an explanation of how the Permittee will control the build-up of bed load (if any) once the intake is removed, so that built-up sediment is not released into flows. h. Design schematic in profile and plan views. Schematics should include: i. Date; ii. Engineer's Stamp (for diversion systems that will be in place during the rainy season); iii. Intake design(s), capacity(ies), and location(s); iv. Discharge outlet design(s), capacity(ies), and location(s); and v. Erosion, scour, and sediment BMPs to be installed at the discharge location. i. Descriptions and diagrams of the upstream and downstream diversion dams, intakes, pipes, and discharge outlets (i.e., quantities, capacities, etc.) that will be used to convey water through the diversion system to the point of discharge. j. A description of BMPs that will be implemented to prevent ponding, runoff, and/or eroded sediments from being discharged to surrounding wetlands or surface waters in concentrations that adversely affect beneficial uses, including:

	i. Prevention of erosion at each discharge point for the diversion system (e.g., energy dissipation at each discharge hose to prevent erosion/scour). ii. Methods for matching the discharge velocity to natural flow rate or diminishing the flow rate below the natural rate to protect and prevent secondary erosion. k. Confirmation that sandbags will not be used and that only bags filled with clean gravel will be used at or near a waterbody. l. Confirmation that natural flow is maintained upstream and downstream of the project area. m. A description of how the area will be restored.

	Purchase Agreement for Mitigation Credits
Report Purpose	Demonstrates purchase of required mitigation credits.
When to Submit	Prior to the start of construction.
Report Contents	Provide a copy of the purchase agreement that includes type of mitigation credits and amount (size) purchased.

	Accidental Discharge of Hazardous Material Report
Report Purpose	Notifies Central Coast Water Board staff that an accidental discharge of hazardous material has occurred.
When to Submit	Within five working days following the date of an accidental discharge. Continue reporting as required by Central Coast Water Board staff.
Report Contents	Report the following information: 1. Include the Office of Emergency Services Incident/Release Assessment Form (http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf), a full description and map of the accidental discharge incident (i.e. location, time and date, source, discharge constituent and quantity, areal extent, and photo documentation). 2. If applicable, any sampling data, with a full description of the sampling methods including frequency/dates and times of sampling, equipment, and locations of sampling sites. 3. Locations and construction specifications of any barriers, including silt curtains or diverting structures, and any associated trenching or anchoring. 4. A description of actions the Permittee took to stop the discharge. 5. A description of actions the Permittee took to clean up or remove the discharge. 6. Photo documentation of the discharge locations after the discharge is cleaned up or removed.

	Violation of Compliance with Water Quality Standards Report
Report Purpose	Notifies Central Coast Water Board staff that a violation of compliance with water quality standards has occurred.

When to Submit	The Permittee shall report any event that causes a violation of water quality standards within three working days of the noncompliance event notification to Central Coast Water Board staff.
Report Contents	Report the following information: the cause of the noncompliance; the location of the noncompliance shown on a map; and the period of the noncompliance including exact dates and times. If the noncompliance has not been corrected, include: the anticipated time it is expected to be corrected; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and any monitoring results.

	Modifications to Project Report
Report Purpose	Notifies Central Coast Water Board staff if the Project, as described in the application materials, is proposed to be altered in any way.
When to Submit	No later than 14 days prior to proposed implementation of Project alterations.
Report Contents	Report the following information: A description and location of any proposed alterations to Project implementation. Identification of any proposed Project modifications that will interfere with the Permittee's compliance with this Order.

	Transfer of Property Ownership or Project Responsibility Report
Report Purpose	Notifies Central Coast Water Board staff of change in property ownership or Project responsibility.
When to Submit	At least 30 days prior to the date of transfer.
Report Contents	Provide a written agreement between the existing and new responsible party containing a specific date for the transfer of this Certification's responsibility and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on. The report shall be signed by both parties.

	Transfer of Long-Term BMP Maintenance Report
Report Purpose	Notifies Central Coast Water Board staff of transfer of long-term BMP maintenance responsibility.
When to Submit	At least 10 working days prior to the transfer of BMP maintenance responsibility.
Report Contents	Provide a copy of the legal document transferring maintenance responsibility of post-construction BMPs.

Location Map
Hale Avenue Extension
Legend
37.12527778, -121.65753889
Road Alignment
Morgan Hill
37.12527778, -121.65753889
El Toro Ct
Longview Dr
Heidi Dr
Crest Ave
Hale Ave
Warren Ave
Nob Hill Terrace
W 1st St
E 1st St
E 2nd St
E 3rd St
E 4th St
W 3rd St
E 5th St
Depot St
Peak Ave
Alkire Ave
Noble Ct
Torrey Ct
W Dunne Ave
Munro Way
La Selva Dr
Oak Park
Dewitt Ave
Chargin Dr
Barnell Ave
Manor
Ciolino Ave
Myrtle
Foothill Ct
Mathilda Ct
Spring Ave
Spring Hill Dr
Google Earth
© 2018 Google
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2000 ft

SIGNATORY REQUIREMENTS

All Documents Submitted In Compliance With This Order Shall Meet The Following Signatory Requirements:

1. All applications and reports submitted to the Central Coast Water Board must be signed and certified as follows:

   a) For a corporation, by a responsible corporate officer of at least the level of vice-president.
   b) For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
   c) For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
   d) For a LLC, by a managing member, chief executive officer, president, or principal.

2. A duly authorized representative of a person designated in items 1.a through 1.d above may sign documents if:

   a) The authorization is made in writing by a person described in items 1.a through 1.d above.
   b) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
   c) The written authorization is submitted to the Central Coast Water Board Staff Contact prior to submitting any documents listed in item 1 above.

3. Any person signing a document under this section shall make the following certification:

   "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

A. Environmental Review

On August 23, 2017, the City of Morgan Hill, as lead agency, certified a Final Environmental Impact Report (FEIR) (State Clearinghouse (SCH) No. 2016052076) for the Project and filed a Notice of Determination (NOD) at the County of Santa Clara on August 29, 2017. The Central Coast Water Board is a responsible agency under CEQA (Pub. Resources Code, § 21069) and in making its determinations and findings, must presume that the City of Morgan Hill's certified environmental document comports with the requirements of CEQA and is valid. (Pub. Resources Code, § 21167.3.) The Central Coast Water Board has reviewed and considered the environmental document and finds that the environmental document prepared by the City of Morgan Hill addresses the Project's water resource impacts. (Cal. Code Regs., tit. 14, § 15096, subd. (f).) The environmental document includes the mitigation monitoring and reporting program (MMRP) developed by the City of Morgan Hill for all mitigation measures that have been adopted for the Project to reduce potential significant impacts. (Pub. Resources Code, § 21081.6, subd. (a)(1); Cal. Code Regs., tit. 14, § 15091, subd. (d).)

B. Incorporation by Reference

Pursuant to CEQA, these Findings of Facts (Findings) support the issuance of this Order based on the Project FEIR, the application for this Order, and other supplemental documentation, including the Stormwater Control Plan for Hale Avenue Extension.

All CEQA project impacts, including those discussed in subsection C below, are analyzed in detail in the Project FEIR which is incorporated herein by reference.

Requirements under the purview of the Central Coast Water Board in the MMRP are incorporated herein by reference.

The Permittee's application for this Order, including all supplemental information provided, is incorporated herein by reference.

C. Findings

The FEIR describes the potential significant environmental effects to water resources. Having considered the whole of the record, the Central Coast Water Board makes the following findings:

1. Findings regarding impacts that will be avoided or mitigated to a less than significant level. (Pub. Resources Code, § 21081, subd. (a)(1); Cal. Code Regs., tit. 14, § 15091, subd. (a)(1).)

   Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

   <u>a.i. Potential Significant Impact:</u>
   Flooding could be exacerbated downstream of the Hale Avenue Extension during large storm events, and the increased rate and volume of stormwater runoff could result in downstream erosion and sedimentation.

a.ii. Facts in Support of Finding:
The project is required to comply with post-construction stormwater requirements and prepare and comply with a Stormwater Control Plan. The project shall ensure that post-project runoff not exceed pre-project flow rates for the two-year, 24-hour storm. The project has incorporated bioswales along the roadway extension to treat runoff, and detention basins to alleviate and manage runoff flow. In accordance with City of Morgan Hill storm drain design standards, the two detention basins must be sized to contain a 24-hour, 25-year storm.

D. Determination

The Central Coast Water Board has determined that the Project, when implemented in accordance with the MMRP and the conditions in this Order, will not result in any significant adverse water quality or supply impacts. (Cal. Code Regs., tit. 14, § 15096, subd. (h).)

APPENDIX D

U.S. ARMY CORPS OF ENGINEERS
PERMIT

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

December 23, 2019

Regulatory Division

Subject: File Number 2018-00441S

Mr. David Gittleson
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, California 95037

Dear Mr. Gittleson:

This correspondence is in reference to your submittal of February 22, 2019, concerning Department of the Army (DA) authorization to implement the Hale Avenue Extension Project, located between West Main Avenue and the intersection of Spring Avenue and Dewitt Avenue in the City of Morgan Hill, Santa Clara County, California (Lat: 37.122925°, Long: -121.658042°).

Based on a review of the information you submitted, your project qualifies for authorization under Department of the Army Regional General Permit (RGP) 18 – *Santa Clara Valley Habitat Plan Regional General Permit*, pursuant to Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*) (http://www.spn.usace.army.mil/Portals/68/docs/regulatory/RGP/RGP18_2016.pdf). Work within U.S. Army Corps of Engineers' (Corps) jurisdiction will include the construction of Hale Avenue over a 0.11-acre seasonal wetland depression, a 0.001-acre (17 linear feet) stormwater drainage feature, and a 0.01-acre (122 linear feet) drainage ditch. The wetland depression and stormwater drainage feature will be permanently filled, and the drainage ditch will be culverted underneath the new roadway. All work shall be completed in accordance with the plans and drawings entitled "USACE File #2018-00441S, Hale Avenue Extension Project, November 15, 2019, Figure 1 to 2," provided as Enclosure 1.

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

This authorization will remain valid until January 15, 2021, unless the RGP 18 is suspended, modified, or revoked. All work must be completed by this date and the associated reports forwarded within 45 days of project completion. Upon completion of the project and all associated mitigation requirements, you shall sign and return the enclosed Certification of Compliance, Enclosure 2, verifying that you have complied with the terms and conditions of the permit.

The project must be in compliance with the General and Special Conditions cited in RGP 18 for the authorization to remain valid. Non-compliance with any condition could result in the suspension, modification, or revocation of the authorization for your project, thereby requiring you to obtain a Nationwide or Individual Permit from the Corps. This RGP authorization does not obviate the need to obtain other State or local approvals required by law.

You shall comply with all terms and conditions set forth by the "Clean Water Act Section 401 Water Quality Certification and Order for the Hale Avenue Extension Project (Certification (WDID) No. 34318WQ04)," issued by the Central Coast Regional Water Quality Control Board on March 19, 2019 (Enclosure 3). You shall consider such conditions to be an integral part of the RGP authorization for your project.

Special Condition 1 of RGP 18 stipulates that project authorization under RGP 18 must comply with the mandatory terms and conditions of the United States Fish and Wildlife Service (USFWS) "Formal Consultation on the Regional General Permit (RGP) for the Santa Clara Valley Habitat Plan, Santa Clara County, California (U.S. Army Corps of Engineers (Corps) file number 2012-00302S)" (08ESMF00-2015-F-1169-2), dated October 16, 2015 (http://www.spn.usace.army.mil/Portals/68/docs/regulatory/BOs/RGP/RGP18_2015_FWS_BO.pdf), which relies on the provisions of the "Intra-Service Biological Opinion and Conference Opinion on the Issuance of a Section 10(a)(1)(B) Incidental Take Permit to the County of Santa Clara, City of San Jose, City of Morgan Hill, City of Gilroy, Santa Clara Valley Water District, and Santa Clara Valley Transportation Authority for the Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan" (81420-2009-F-0077), dated April 10, 2013. The Santa Clara Valley Habitat Agency, as the Implementing Entity for the Plan, conducted a review of the proposed project and confirmed the project's compliance with the Plan and the USFWS Biological Opinion.

Special Condition 5 of RGP 18 states that no activity is authorized under the RGP if the activity may affect historic properties until the requirements of Section 106 of the National Historic Preservation Act (NHPA), as amended, have been satisfied. The Corps initiated consultation with the State Historic Preservation Officer (SHPO) to address potential project related impacts to historic properties. By letter of November 14, 2019, cited in Enclosure 4, the

SHPO did not object to a finding of no historic properties affected for this undertaking. The requirements of Section 106 of the NHPA have therefore been satisfied.

To compensate for permanent impacts to 0.121 acre of wetlands and other waters, you were required to purchase no less than 0.121 acre of wetland credits from the Pajaro River Mitigation Bank. The Corps has received the executed Bill of Sale for the purchase of 0.15 acre of wetland credits at the Pajaro River Mitigation Bank for the Hale Avenue Extension Project. Therefore, your compensatory mitigation requirement has been fulfilled.

You may refer any questions on this matter to me at 415-503-6763 or by e-mail at naomi.a.schowalter@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. The Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: http://www.spn.usace.army.mil/Missions/Regulatory.aspx

Sincerely,

SCHOWALTER.NAOMI.ANN.1515584478

Digitally signed by SCHOWALTER.NAOMI.ANN.1515584478
Date: 2019.12.23 14:55:44 -08'00'

Naomi Schowalter
Senior Project Manager, Regulatory Division

Enclosures

Electronic Copy Furnished (w/ encls):

WRA, Inc., Elan Alford (alford@wra-ca.com)
Santa Clara Valley Habitat Agency, Gerry Haas (gerry.haas@scv-habitatagency.org)
Central Coast RWQCB, Mark Cassady (mark.cassady@waterboards.ca.gov)

Enclosure 1

U.S. Army Corps of Engineers
San Francisco District
Regulatory Division

USACE File #2018-00441S

Hale Avenue Extension Project

November 15, 2019 Figure 1 to 2

Figure 1. Study Area Location Map

N W E S

Proposed Hale Avenue Extension
Santa Clara County, California

0 2,000 4,000 Feet

wra
ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 3/3/2016
Map Prepared By: Fhourigan
Base Source: Esri Streaming - NAIP 2014
Data Source(s): WRA

Path: L:\Acad 2000 Files\21000\21059\GIS\ArcMap\Fig1_LocMap_20160303.mxd

Enclosure 2

Permittee: David Gittleson, City of Morgan Hill

File Number: 2018-00441S

Certification of Compliance
for
Regional General Permit 18

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Regional General Permit authorization."

_____ _____
(Permittee) (Date)

Return to:

Naomi Schowalter
U.S. Army, Corps of Engineers
San Francisco District
Regulatory Division, CESPN-R-S
450 Golden Gate Avenue
San Francisco, CA 94102

Enclosure 3

CALIFORNIA
Water Boards

GAVIN NEWSOM
GOVERNOR

JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Coast Regional Water Quality Control Board

March 19, 2019

VIA ELECTRONIC MAIL

David Gittleson
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
E-mail: David.Gittleson@Morganhill.ca.gov

Dear Mr. Gittleson:

RE: CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER FOR THE HALE AVENUE EXTENSION PROJECT (CERTIFICATION (WDID) NO. 34318WQ04)

Enclosed please find a Clean Water Act Section 401 Water Quality Certification (Order), authorized by the Central Coast Regional Water Quality Control Board Executive Officer. This Order is issued to the City of Morgan Hill for the Hale Avenue Extension Project (Project). Attachments A through E of the Enclosure are also part of the Order.

This Order is issued in response to an application submitted by the City of Morgan Hill for proposed Project discharges to waters of the state, to ensure that water quality standards for all waters of the state impacted by the Project are met. You may proceed with your Project according to the terms and conditions of the enclosed Order.

If you require further assistance, please contact Mark Cassady at (805) 549-3689 or via email at Mark.Cassady@waterboards.ca.gov, or Phil Hammer at (805) 549-3882. Please mention the above certification file number in all future correspondence pertaining to this project.

Sincerely,

Phil Hammer

Phillip Hammer
2019.03.19 11:58:45 -07'00'

for
John M. Robertson
Executive Officer
Central Coast Regional Water Quality Control Board

Enclosures (1): Certification (WDID) Order No. 34318WQ04 for Hale Avenue Extension

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER

Reg. Meas. ID:	425656
Place ID:	851708
Certification (WDID):	34318WQ04
USACOE No:	RGP-18

Effective Date: March 19, 2019

Program Type: Fill/Excavation

Project Type: Roads and Highways

Project: Hale Avenue Extension (Project)

Applicant: City of Morgan Hill

Applicant Contact:
David Gittleson
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
Phone: (408) 310-4642
Email: David.Gittleson@Morganhill.ca.gov

Applicant Agent:
Scott Yarger
Plant Biologist
WRA, Inc.
2169-G East Francisco Blvd.
San Rafael, CA 94901
Phone: (415) 524-7549
Email: yarger@wra-ca.com

Water Board Staff:
Mark Cassady
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906
Phone: (805) 549-3689
Email: Mark.Cassady@waterboards.ca.gov

Water Board Contact Person: If you have any questions, please call Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff listed above or (805) 549-3147 and ask to speak with the Water Quality Certification Program Manager.

I. Order

This Clean Water Act (CWA) section 401 Water Quality Certification action and Order (Order) is issued at the request of the City of Morgan Hill (hereinafter Permittee) for the Project. This Order is based on the information in the application and supplemental information submitted by the Permittee. The application was received on September 27, 2018. The application was deemed complete on November 8, 2018. Prior to receiving a complete application, Central Coast Water Board staff issued a notice of incomplete application and the Permittee completed responding to the request for application information on the following date (Table 1).

Table 1: Record of Notice(s) of Incomplete Application	
Date of Notice of Incomplete Application	Date all requested information was received
October 10, 2018	November 8, 2018

Central Coast Water Board staff requested additional information necessary to supplement the contents of the complete application and the Permittee completed responding to the request for supplemental information on the following date (Table 2).

Table 2: Record of Supplemental Application Information	
Date of initial request for supplemental information	Date all requested information was received
December 18, 2018	February 28, 2019

Additionally, Central Coast Water Board staff issued a Denial Without Prejudice on January 7, 2019.

II. Conditions

The Central Coast Water Board has independently reviewed the record of the Project to analyze impacts to water quality and designated beneficial uses within the watershed of the Project. In accordance with this Order, the Permittee may proceed with the Project under the following terms and conditions:

A. Authorization

Impacts to waters of the state shall not exceed quantities shown in Table 3.

Table 4: Required Project Compensatory Mitigation Quantity for Permanent Physical Loss of Area

Aquatic Resource Type	Mit. Type	Units	Method[4]					
			Est.	Re-est.	Reh.	Enh.	Pres.	Unknown
Wetland	MB	Acres	0.12					
		LF	-					

C. Project Implementation Conditions

1. All personnel who engage in construction activities or their oversight at the project site (superintendent, construction manager, foreman, crew, contractor, biological monitor, etc.) must attend trainings on the conditions of this Certification and how to perform their duties in compliance with those conditions. Every person shall attend an initial training within five working days of their start date at the project site. Trainings shall be conducted by a qualified individual with expertise in 401 Water Quality Certification conditions and compliance.

2. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize land disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.

3. Erosion and sediment control measures shall be on site prior to the start of construction and kept on site at all times so they are immediately available for installation in anticipation of rain events.

4. The Permittee shall implement and maintain an effective combination of erosion and sediment control measures (e.g., revegetation, biodegradable fiber rolls, biodegradable erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) to prevent erosion and capture sediment. The Permittee shall implement and maintain washout, trackout, dust control, and any other applicable source control BMPs.

5. Erosion and sediment control measures and other construction BMPs shall be implemented and maintained in accordance with all specifications governing their proper design, installation, operation, and maintenance.

6. To prevent unpermitted direct impacts, all areas of waters of the state that are not authorized for permanent and/or temporary impacts under this Certification shall be clearly delineated with flags, construction fencing, or other suitable visual aids prior to construction commencement.

[4] Methods: establishment (Est.), reestablishment (Re-est.), rehabilitation (Reh.), enhancement (Enh.), preservation (Pres.). Unknown applies to advance credits with an unknown method and or location.

work, dewatering and/or diversion. The In-Water Work, Dewatering, and/or Diversion Plan must include all information as specified in Attachment B. In-water work, dewatering and/or diversion shall not commence until the Permittee has obtained Central Coast Water Board staff approval of the In-Water Work, Dewatering, and/or Diversion Plan. Any in-water work, dewatering, and/or diversion must be implemented in compliance with approved In-Water Work, Dewatering, and/or Diversion Plan. All in-water work, dewatering, and/or diversion structures and equipment shall be removed immediately upon completion of the in-water work, dewatering, and/or diversion, and areas impacted by the structures and equipment restored as soon as possible.

15. All post-construction BMPs shall be implemented and functioning in accordance with the Stormwater Control Plan for Hale Avenue Extension prior to completion of the project.

16. All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the project.

D. General Compliance Conditions

1. Failure to comply with any condition of this Order shall constitute a violation of the Porter-Cologne Water Quality Control Act and the Clean Water Act. The Permittee and/or discharger may then be subject to administrative and/or civil liability pursuant to Water Code section 13385.

2. Permitted actions must not cause a violation of any applicable water quality standards, including impairment of designated beneficial uses for receiving waters as adopted in the Basin Plan by the Central Coast Water Board or any applicable State Water Board water quality control plan or policy. The source of any such discharge must be eliminated as soon as practicable.

3. In response to a suspected violation of any condition of this Order, the Central Coast Water Board may require the holder of this Order to furnish, under penalty of perjury, any technical or monitoring reports the Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The additional monitoring and reporting requirements ensure that permitted discharges and activities comport with any applicable effluent limitations, water quality standards, and/or other appropriate requirement of state law.

4. The Permittee must, at all times, fully comply with engineering plans, specifications, and technical reports submitted to support this Order; and all subsequent submittals required as part of this Order. The conditions within this Order and Attachments supersede conflicting provisions within Permittee submittals.

5. This Order and all of its conditions contained herein continue to have full force and effect regardless of the expiration or revocation of any federal license or permit issued for the Project. For purposes of Clean Water Act, section 401(d), this condition constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements of state law. This Order expires if Project construction does not begin within five years from the date of this Order.

F. Standard Conditions

1. This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330, and California Code of Regulations, title 23, chapter 28, Article 6 commencing with sections 3867-3869, inclusive. Additionally, the Central Coast Water Board reserves the right to suspend, cancel, or modify and reissue this Order, after providing notice to the Permittee, if the Central Coast Water Board determines that: the Project fails to comply with any of the conditions of this Order; or, when necessary to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) or federal Clean Water Act section 303 (33 U.S.C. § 1313). For purposes of Clean Water Act section 401(d), the condition constitutes a limitation necessary to assure compliance with water quality standards and appropriate requirements of state law.

2. This Order is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to subsection 3855(b) of chapter 28, title 23 of the California Code of Regulations, and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. This Order is conditioned upon total payment of any fee required under title 23 of the California Code of Regulations and owed by the Permittee.

4. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state and federal law. For purposes of Clean Water Act, section 401(d), the applicability of any state law authorizing remedies, penalties, processes, or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Order.

G. Water Quality and Project Site Monitoring

1. General: Take representative photos of the project, including all areas of permanent and temporary impact, prior to, during, and after project construction. If surface water is present, continuous visual surface water monitoring shall be conducted to detect accidental discharge of construction related pollutants (e.g. oil and grease, spills, turbidity plumes, or uncured concrete).

2. Accidental Discharges/Noncompliance: Upon occurrence of an accidental discharge of hazardous materials or a violation of compliance with a water quality standard, Central Coast Water Board staff may require water quality monitoring based on the discharge constituents and/or related water quality objectives and beneficial uses.

3. In-Water Work, Dewatering, and/or Diversions:For projects involving planned work in water, dewatering, and/or stream diversions, a water quality monitoring plan, as part of the In-Water Work, Dewatering, and/or Diversions Plan requirements set forth in

Permittee or an authorized representative. All reports and notifications shall be submitted electronically to **RB3_401Reporting@waterboards.ca.gov**.

1. Project Reporting
   a. Annual Reporting: The Permittee shall submit an Annual Report each year on May 31. Annual reporting shall continue until a Notice of Project Complete is issued to the Permittee.

2. Project Status Notifications
   a. Commencement of Construction: The Permittee shall submit a Commencement of Construction Report at least seven days prior to start of initial ground disturbance activities.
   b. Notice of Completion of Discharges: The Permittee shall submit a Notice of Completion of Discharges following completion of active Project construction activities, including any required restoration and permittee-responsible mitigation installation. This request shall be submitted to the Central Coast Water Board staff within 30 days following completion of all Project construction and discharge activities.
   c. Request for Notice of Project Complete: The Permittee shall submit a Request for Notice of Project Complete when all required construction, post-discharge, and mitigation monitoring is complete,[6] all mitigation success criteria have been achieved, and no further Project activity is planned. This request shall be submitted to Central Coast Water Board staff within 30 days following completion of all Project activities. Upon approval of the request, the Central Coast Water Board staff will issue a Notice of Project Complete to the Permittee.

3. Conditional Notifications and Reports: The following notifications and reports are required as appropriate.
   a. Compensatory Mitigation: The Permittee shall submit a copy of the fully executed agreement for the purchase of mitigation credits prior to the start of construction, as described in Section II.B.
   b. Accidental Discharges of Hazardous Materials[7]
      Following an accidental discharge of a reportable quantity of a hazardous material, sewage, or an unknown material, the following applies (Wat. Code, § 13271):
      i. As soon as (A) Permittee has knowledge of the discharge or noncompliance, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures then:
         - first call – 911 (to notify local response agency)
         - then call – Office of Emergency Services (OES) State Warning Center at: (800) 852-7550 or (916) 845-8911
         - Lastly follow the required OES procedures as set forth in:

[6] Completion of post-discharge monitoring shall be determined by Central Coast Water Board staff and shall be contingent on successful attainment of restoration and mitigation success criteria.

[7] "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. (Health & Saf. Code, § 25501.)

and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on. The Permittee and purchaser must sign and date the Report and provide the Report to the Central Coast Water Board at least 30 days prior to the transfer of ownership.

ii. Until such time as this Order has been modified to name the purchaser as the permittee, the Permittee shall continue to be responsible for all requirements set forth in this Order.

g. Transfer of Long-Term BMP Maintenance
If maintenance responsibility for post-construction BMPs is legally transferred, the Permittee must submit to the Central Coast Water Board a copy of such documentation and must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer or designer specifications. The Permittee must provide such notification to the Central Coast Water Board with a Transfer of Long-Term BMP Maintenance Report at least 10 days prior to the transfer of BMP maintenance responsibility.

III. Public Notice

The Central Coast Water Board provided public notice of the application pursuant to California Code of Regulations, title 23, section 3858 for at least 21 days starting 10/10/2018. The Central Coast Water Board did not receive any comments during the comment period.

IV. Project Information

A. Project Purpose

The purpose of the project is to construct a two-lane roadway between West Main Avenue and DeWitt/Spring Avenue as envisioned in the City's General Plan.

B. Project Description

Central Coast Water Board staff understands that the project includes the following activities:

- Construction of an approximately 4,500-foot extension of Hale Avenue from West Main Avenue in the north to the intersection of Spring Avenue and DeWitt Avenue in the south.
- Demolition or relocation of permanent structures within the right-of-way.
- Relocation of utilities.
- Placement of an existing drainage ditch in a culvert under the roadway, and filling of a seasonal wetland depression.
- Construction of two stormwater detention basins.

2200(a)(3), and was calculated as category A - Fill & Excavation Discharges (fee code 84) with the dredge and fee calculator.

VIII. Water Quality Certification

I hereby issue the Order for the Hale Avenue Extension, Certification No. 34318WQ04, certifying that as long as all of the conditions listed in this Order are met, any discharge from the referenced Project will comply with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards).

This discharge is also regulated pursuant to State Water Board Water Quality Order No. 2003-0017-DWQ which authorizes this Order to serve as Waste Discharge Requirements pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.).

Except insofar as may be modified by any preceding conditions, all Order actions are contingent on: (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the conditions of this Order and the attachments to this Order; and, (b) compliance with all applicable requirements of Statewide Water Quality Control Plans and Policies, the Regional Water Boards' Water Quality Control Plans and Policies.

Phillip Hammer
2019.03.19 11:59:28 -07'00'

for _____ March 19, 2019
John M. Robertson Date
Executive Officer
Central Coast Water Board

Receiving Waters

The following table shows the receiving waters associated with each impact and Permittee responsible mitigation site.

Table 1: Receiving Water(s) Information

Impact Site ID	Waterbody Name	Impacted Aquatic Resource Type	Water Board Hydrologic Units	Receiving Waters	Receiving Waters Beneficial Uses
1	Unnamed tributary to Little Llagas Creek	Stream Channel	305.30	Little Llagas Creek	MUN, AGR, GWR, REC-1, REC-2, WILD, WARM, COMM
2	Unnamed tributary to Little Llagas Creek	Wetland	305.30	Little Llagas Creek	MUN, AGR, GWR, REC-1, REC-2, WILD, WARM, COMM

Mitigation Information for Temporary and Permanent Impacts

The following table(s) show(s) individual mitigation information and locations for both temporary and permanent impacts.

Mitigation Bank Mitigation Site Information

Table 3 : Mitigation Bank

Mitigation Bank	Name:	Pajaro River Mitigation Bank
	Website:	https://www.wildlandsinc.com/banks/pajaro-river-mitigation-bank-wetl/
Contact Information	Name:	Julie Maddox
	Phone:	916-435-3555
	Email:	jmaddox@heronpacific.com
Mitigation Location	County:	San Benito
	Latitude:	36.977785
	Longitude:	-121.487473

Aquatic Resource Credit Type	Mitigation Method	Mitigation Quantity		
		Acres	Linear Feet	Number of Credits Purchased
Wetland	Establishment	0.12	-	0.12

Copies of this Form

In order to identify your project, it is necessary to include a Project specific copy of the Report and Notification Cover Sheet below with all reports and notifications: please retain for your records. A copy of the Cover Sheet is available for download at:
http://www.waterboards.ca.gov/centralcoast/water_issues/programs/401wqcert/index.shtml

Report Submittal Instructions

1. Check the box on the Report and Notification Cover Sheet next to the report or notification you are submitting.

   - **Part A (Annual Report):** This report must be submitted annually on May 31 of each year until a Notice of Project Complete is issued.

   - **Part B (Project Status Notifications):** Used to notify the Central Coast Water Board of the status of the Project schedule that may affect Project billing.

   - **Part C (Conditional Notifications and Reports):** Required on a case by case basis for accidental discharges of hazardous materials, violation of compliance with water quality standards, notification of in-water work, or other situations.

2. Sign the Report and Notification Cover Sheet and attach all information requested for the Report Type.

3. **Electronic Report Submittal Instructions:**
   - Submit signed Report and Notification Cover Sheet and required information via email to: **RB3_401Reporting@waterboards.ca.gov** and cc: Mark Cassady at Mark.Cassady@waterboards.ca.gov
   - Include in the subject line of the email:
     Subject: Project Name; Mark Cassady; Certification (WDID) No.: 34318WQ04; Report Title

Map/Photo Documentation Information

When submitting maps or photos, meet the following requirements.

1. **Map Format Information:**
   a. Maps must show the boundaries of all project areas and extent/type of aquatic resources impacted.
   b. Maps must include an accurate scale
   c. Preferred map formats of at least 1:24000 (1" = 2000') detail

2. **Photo-Documentation:** Include a unique identifier, date stamp, written description of photo details, and latitude/longitude (in decimal degrees) or map indicating location of photo. Successive photos shall be taken from the similar vantage points to compare pre/post construction and/or mitigation conditions.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name [1]	**Affiliation and Job Title**
Signature	**Date**

[1]STATEMENT OF AUTHORIZATION (include if authorization has changed since application was submitted)

I hereby authorize _____ to act in my behalf as my representative in the submittal of this report, and to furnish upon request, supplemental information in support of this submittal.

_____ Permittee's Signature

_____ Date

***This Report and Notification Cover Sheet must be signed by the Permittee or a duly authorized representative and included with all written submittals.**

	the monitoring period until the project is no longer causing excessive erosion, stream instability, or other water quality problems.

Part B – Project Status Notifications

	Commencement of Construction
Report Purpose	Notify Central Coast Water Board staff prior to the start of construction.
When to Submit	Must be received at least seven days prior to start of initial ground disturbance activities.
Report Contents	Report the following information: 1. Date of commencement of construction. 2. Anticipated date when discharges of fill or dredged material to waters of the state will occur. 3. Confirm work will not occur in waters in the wet season beginning October 31. 4. Project schedule milestones including a schedule for onsite compensatory mitigation, if applicable.

	Notice of Completion of Discharges
Report Purpose	Notify Central Coast Water Board staff that active Project construction and discharges, including any mitigation installation, is complete.
When to Submit	Must be received by Central Coast Water Board staff within 30 days following completion of all Project discharge, construction, and mitigation installation activities.
Report Contents	Report the following information: 1. Date of completion of all Project discharge, construction, and mitigation installation activities. 2. Status of storm water Notice of Termination(s), if applicable. 3. Status of post-construction storm water BMP installation. 4. Dates when post-construction monitoring for the Project will begin.

	Request for Notice of Project Complete
Report Purpose	Notify Central Coast Water Board staff that all required construction, post-discharge, and mitigation monitoring is complete, all mitigation success criteria have been achieved, and no further Project activity is planned.
When to Submit	Must be received by Central Coast Water Board staff within 30 days following completion of all Project activities, including achievement of all mitigation success criteria.
Report Contents	Report the following information: Part A: Mitigation Status for Temporary and Permanent Impacts 1. Date of executed purchase agreement for mitigation bank credits. 2.

Part C – Conditional Notifications and Reports

	Work Window Extension Request
Report Purpose	Request approval to work in waters beyond work window and into winter season.
When to Submit	Must be received at least 21 days prior to the planned winter season work date that is outside the Order's specified work window.
Report Contents	Report the following information: 1. Identify the dates when work will occur in waters during the winter season. 2. Describe the work proposed to be conducted in waters during the winter season. 3. Explain why the proposed work in waters must occur during the winter season. 4. Provide a Preparedness Plan for Rain and Water Body Flows that describes the steps the Permittee will take to stabilize the site and prevent the discharge of sediment and other pollutants prior to the start of a rain event. The Preparedness Plan for Rain and Water Body Flows shall include the following (Note: Rain Event Action Plans addressed in Storm Water Pollution Prevention Plans typically do not include sufficient information): a. Identification of measures that will be implemented to stabilize the site and water body, including locations. b. Identification of steps that will be taken to remove all construction equipment and materials from the water body prior to rain. c. Identification of weather triggers for implementation of the Preparedness Plan for Rain and Water Body Flows. d. The length of time needed to implement the Preparedness Plan for Rain and Water Body Flows. e. Confirmation materials and equipment needed to implement the Preparedness Plan for Rain and Water Body Flows will be located on site. f. Responsibilities of personnel to implement the Preparedness Plan for Rain and Water Body Flows, including weather monitoring and best management practice installation and maintenance.

	In-Water Work, Dewatering, and/or Diversion Plan
Report Purpose	Request approval of a final In-Water Work, Dewatering, and/or Diversion Plan.

potential for discharge of polluted groundwater to surface water, which must be addressed.

b. An inspection and assessment action plan the Permittee will follow to observe the condition of the system and assess the need to increase the capacity of the system, and measures the Permittee will implement to increase the capacity of the system, if warranted.
c. Actions that will be taken and measures that will be implemented to prevent erosion, scour, and/or sediment deposits that could impact natural bedding materials.
d. Descriptions and diagrams of the pumps, intakes, piping, and settlement tanks or basins (i.e., quantities, capacities, etc.) that will be used to convey water from the dewatering point to the treatment system and to the point of discharge.
e. A description of how the system will be installed and removed.
f. Design schematic in profile and plan views. Schematics should include:
    i. Date;
    ii. Engineer's Stamp (for dewatering systems that will be in place during the rainy season);
    iii. Intake design(s), capacity(ies), and location(s);
    iv. Pipe design(s), capacity(ies), and location(s);
    v. Settling tank design(s), capacity(ies), and location(s);
    vi. Discharge outlet design(s), capacity(ies), and location(s); and
    vii. Erosion, scour, and sediment BMPs to be installed at the discharge location.
g. A description of BMPs that will be implemented to prevent runoff or eroded sediments from being discharged to surrounding wetlands or surface waters in concentrations that adversely affect beneficial uses, including:
h. Prevention of erosion at each discharge point for the dewatering system (e.g., energy dissipation at each discharge hose to prevent erosion/scour).
i. Methods for matching the discharge velocity to natural flow rate or diminishing the flow rate below the natural rate to protect and prevent secondary erosion.
j. Confirmation that sandbags will not be used and that only bags filled with clean gravel will be used at or near a waterbody.
k. Confirmation that natural flow is maintained upstream and downstream of the project area.
l. A description of how the area will be restored.

7. If diversion will occur, a plan for diversion activities that includes.
    a. An inspection and assessment action plan the Permittee will follow to observe flow conditions upstream of the system and assess the need to increase the flow capacity of the system, and measures the Permittee will implement to increase the flow capacity of the system, if warranted.
    b. An analysis of historic rainfall and/or flow data in the watershed identifying the range of flow events (quantity and likelihood) that could occur during the period in which the system is in place. If no historical rainfall and/or flow data is available for the water body,

	i. Prevention of erosion at each discharge point for the diversion system (e.g., energy dissipation at each discharge hose to prevent erosion/scour). ii. Methods for matching the discharge velocity to natural flow rate or diminishing the flow rate below the natural rate to protect and prevent secondary erosion. k. Confirmation that sandbags will not be used and that only bags filled with clean gravel will be used at or near a waterbody. l. Confirmation that natural flow is maintained upstream and downstream of the project area. m. A description of how the area will be restored.

	Purchase Agreement for Mitigation Credits
Report Purpose	Demonstrates purchase of required mitigation credits.
When to Submit	Prior to the start of construction.
Report Contents	Provide a copy of the purchase agreement that includes type of mitigation credits and amount (size) purchased.

	Accidental Discharge of Hazardous Material Report
Report Purpose	Notifies Central Coast Water Board staff that an accidental discharge of hazardous material has occurred.
When to Submit	Within five working days following the date of an accidental discharge. Continue reporting as required by Central Coast Water Board staff.
Report Contents	Report the following information: 1. Include the Office of Emergency Services Incident/Release Assessment Form (http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf), a full description and map of the accidental discharge incident (i.e. location, time and date, source, discharge constituent and quantity, areal extent, and photo documentation). 2. If applicable, any sampling data, with a full description of the sampling methods including frequency/dates and times of sampling, equipment, and locations of sampling sites. 3. Locations and construction specifications of any barriers, including silt curtains or diverting structures, and any associated trenching or anchoring. 4. A description of actions the Permittee took to stop the discharge. 5. A description of actions the Permittee took to clean up or remove the discharge. 6. Photo documentation of the discharge locations after the discharge is cleaned up or removed.

	Violation of Compliance with Water Quality Standards Report
Report Purpose	Notifies Central Coast Water Board staff that a violation of compliance with water quality standards has occurred.

a.ii. Facts in Support of Finding:
The project is required to comply with post-construction stormwater requirements and prepare and comply with a Stormwater Control Plan. The project shall ensure that post-project runoff not exceed pre-project flow rates for the two-year, 24-hour storm. The project has incorporated bioswales along the roadway extension to treat runoff, and detention basins to alleviate and manage runoff flow. In accordance with City of Morgan Hill storm drain design standards, the two detention basins must be sized to contain a 24-hour, 25-year storm.

D. Determination

The Central Coast Water Board has determined that the Project, when implemented in accordance with the MMRP and the conditions in this Order, will not result in any significant adverse water quality or supply impacts. (Cal. Code Regs., tit. 14, § 15096, subd. (h).)

Enclosure 4

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Lisa Ann L. Mangat, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 14, 2019

In reply refer to: COE_2019_0607_003

Ms. .Naomi A. Showalter
Senior Regulatory Project Manager
Regulatory Division
U.S. Army Corps of Engineers
450 Golden Gate Avenue, Suite 0134
P.O. Box 36152
San Francisco, CA 94102-3404

Subject: Section 106 Consultation for the Hale Avenue Extension Project in Morgan Hills, Santa Clara County, California (Corps File No. 2018-00441S) – Finding of Effect

Dear Ms. Showalter:

The United States Army Corps of Engineers (COE) is continuing consultation with the California State Historic Preservation Officer (SHPO) for the above-named project pursuant to 36 CFR Part 800 (as amended 8-05-04), the regulations implementing Section 106 of the National Historic Preservation Act. The COE is proposing to issue a permit to the City of Morgan Hill (Applicant) to extend Hale Avenue from West Main Avenue south to Spring Avenue/Dewitt Avenue.

In previous correspondence, the SHPO objected to the COE's finding of no effect to historic properties due to inadequate identification efforts. The SHPO requested the COE to evaluate two properties for eligibility to the National Register of Historic Places (NRHP). In the current submittal, the COE provided documentation to support their determination that the circa 1945 PG&E Main Street Substation and the Main Street Drainage Ditch do not meet any of the NRHP criteria and thus are not historic properties.

The COE has proposed a finding of *"no effect on historic properties"* for this undertaking, and requested SHPO review and comment on their proposed finding of effect. After reviewing the submitted materials, the following comments are offered:

- Pursuant to 36 CFR 800.4(c)(2), the COE has determined the PG&E substation and the Drainage Ditch are not eligible for the National Register. **I concur.**

cc: (w/ enclosure)

Scott Yarger
WRA, Inc.
E-mail: yarger@wra-ca.com

Katerina Galacatos
U.S. Army Corps of Engineers
E-mail: Katerina.galacatos@usace.army.mil

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CWA Section 401 WQC Program
Division of Water Quality
State Water Resources Control Board
E-mail: Stateboard401@waterboards.ca.gov

Ashley Green
Central Coast Water Board
E-mail: Ashley.Green@waterboards.ca.gov

Mark Cassady
Central Coast Water Board
Email: Mark.Cassady@waterboards.ca.gov

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER

Reg. Meas. ID:	425656
Place ID:	851708
Certification (WDID):	34318WQ04
USACOE No:	RGP-18

Effective Date: March 19, 2019

Program Type: Fill/Excavation

Project Type: Roads and Highways

Project: Hale Avenue Extension (Project)

Applicant: City of Morgan Hill

Applicant Contact:
David Gittleson
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037
Phone: (408) 310-4642
Email: David.Gittleson@Morganhill.ca.gov

Applicant Agent:
Scott Yarger
Plant Biologist
WRA, Inc.
2169-G East Francisco Blvd.
San Rafael, CA 94901
Phone: (415) 524-7549
Email: yarger@wra-ca.com

Water Board Staff:
Mark Cassady
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906
Phone: (805) 549-3689
Email: Mark.Cassady@waterboards.ca.gov

Water Board Contact Person: If you have any questions, please call Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff listed above or (805) 549-3147 and ask to speak with the Water Quality Certification Program Manager.

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Table of Contents

I. Order 3

II. Conditions 3

III. Public Notice 13

IV. Project Information 13

V. California Environmental Quality Act (CEQA) 14

VI. Petitions for Reconsideration 14

VII. Fees Received 14

VIII. Water Quality Certification 15

Attachment A Receiving Waters, Impact, and Mitigation Information
Attachment B Report and Notification Requirements
Attachment C Project Maps
Attachment D Signatory Requirements
Attachment E CEQA Findings of Facts

I. Order

This Clean Water Act (CWA) section 401 Water Quality Certification action and Order (Order) is issued at the request of the City of Morgan Hill (hereinafter Permittee) for the Project. This Order is based on the information in the application and supplemental information submitted by the Permittee. The application was received on September 27, 2018. The application was deemed complete on November 8, 2018. Prior to receiving a complete application, Central Coast Water Board staff issued a notice of incomplete application and the Permittee completed responding to the request for application information on the following date (Table 1).

Table 1: Record of Notice(s) of Incomplete Application	
Date of Notice of Incomplete Application	Date all requested information was received
October 10, 2018	November 8, 2018

Central Coast Water Board staff requested additional information necessary to supplement the contents of the complete application and the Permittee completed responding to the request for supplemental information on the following date (Table 2).

Table 2: Record of Supplemental Application Information	
Date of initial request for supplemental information	Date all requested information was received
December 18, 2018	February 28, 2019

Additionally, Central Coast Water Board staff issued a Denial Without Prejudice on January 7, 2019.

II. Conditions

The Central Coast Water Board has independently reviewed the record of the Project to analyze impacts to water quality and designated beneficial uses within the watershed of the Project. In accordance with this Order, the Permittee may proceed with the Project under the following terms and conditions:

A. Authorization

Impacts to waters of the state shall not exceed quantities shown in Table 3.

Table 3: Total Project Fill/Excavation Quantity									
Aquatic Resource Type	**Temporary Impact[1]**			**Permanent Impact**					
				Physical Loss of Area			Degradation of Ecological Condition Only		
	Acres	CY[2]	LF	Acres	CY	LF	Acres	CY	LF
Lake									
Ocean/bay/ estuary									
Riparian Zone									
Stream Channel				0.01	9	114.5			
Vernal Pool									
Wetland				0.11	16	125			

B. Compensatory Mitigation Conditions for Permanent Impacts[3]

1. Purchase of Mitigation Credits by Permittee for Compensatory Mitigation
   a. A copy of the fully executed agreement for the purchase of mitigation credits shall be provided to the Central Coast Water Board prior to the start of construction.
   b. Permittee shall retain responsibility for providing the compensatory mitigation and long-term management until Central Coast Water Board staff has received documentation of the credit purchase and the transfer agreement between the Permittee and the seller of credits.

2. Total Required Compensatory Mitigation
   Total required Project compensatory mitigation information for permanent physical loss of area is summarized in Table 4.

[1] Includes only temporary direct impacts to waters of the state and does not include upland areas of temporary disturbance which could result in a discharge to waters of the state.

[2] Cubic Yards (CY); Linear Feet (LF)

[3] Compensatory Mitigation is for permanent physical loss and permanent ecological degradation of a water of the state.

(footnote continued on next page)

Table 4: Required Project Compensatory Mitigation Quantity for Permanent Physical Loss of Area								
Aquatic Resource Type	Mit. Type	Units	Method[4]					
			Est.	Re-est.	Reh.	Enh.	Pres.	Unknown
Wetland	MB	Acres	0.12					
		LF	-					

C. Project Implementation Conditions

1. All personnel who engage in construction activities or their oversight at the project site (superintendent, construction manager, foreman, crew, contractor, biological monitor, etc.) must attend trainings on the conditions of this Certification and how to perform their duties in compliance with those conditions. Every person shall attend an initial training within five working days of their start date at the project site. Trainings shall be conducted by a qualified individual with expertise in 401 Water Quality Certification conditions and compliance.

2. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize land disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.

3. Erosion and sediment control measures shall be on site prior to the start of construction and kept on site at all times so they are immediately available for installation in anticipation of rain events.

4. The Permittee shall implement and maintain an effective combination of erosion and sediment control measures (e.g., revegetation, biodegradable fiber rolls, biodegradable erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) to prevent erosion and capture sediment. The Permittee shall implement and maintain washout, trackout, dust control, and any other applicable source control BMPs.

5. Erosion and sediment control measures and other construction BMPs shall be implemented and maintained in accordance with all specifications governing their proper design, installation, operation, and maintenance.

6. To prevent unpermitted direct impacts, all areas of waters of the state that are not authorized for permanent and/or temporary impacts under this Certification shall be clearly delineated with flags, construction fencing, or other suitable visual aids prior to construction commencement.

[4] Methods: establishment (Est.), reestablishment (Re-est.), rehabilitation (Reh.), enhancement (Enh.), preservation (Pres.). Unknown applies to advance credits with an unknown method and or location.

7. Portions of the project that occur below top of creek banks or in other waters of the State shall be stabilized for the winter prior to October 31 of each year, either by completing construction of those portions of the project (including installation of permanent erosion control measures) or by implementing winterization stabilization measures capable of effectively stabilizing the area and preventing erosion under winter rain and flow conditions generated by the 10-year 24-hour storm event. No construction activities shall be conducted below top of creek banks or in other waters of the State during the winter period (October 31 – April 15), unless prior written approval has been obtained from Central Coast Water Board staff. Work Window Extension Requests to conduct construction activities below top of creek banks or in other waters of the State during the winter period shall be submitted to Central Coast Water Board staff at least 21 days prior to the planned winter period work date. Work Window Extension Requests shall include the information specified in Attachment B. If the Work Window Extension Request is approved, the Permittee shall implement the approved winter work as specified in the Central Coast Water Board staff approval and as described in the Work Window Extensions Request and any other documentation submitted by the Permittee while seeking the approval.

8. At any time of year, the Permittee shall not conduct construction activities below top of creek banks or in other waters of the State during rain events or on any day for which the National Weather Service has predicted a 25% or more chance of at least 0.10 inch rain in 24 hours (Predicted Rain Event). The Permittee shall install effective erosion control, sediment control, and other protective measures no later than the day prior to the Predicted Rain Event, and prior to the start of any rainfall. Construction activities below top of creek banks or in other waters of the State may resume after the rain has ceased, the National Weather Service predicts clear weather for at least 24 hours, and site conditions are dry enough to continue work without discharge of sediment or other pollutants from the project site.

9. Any material stockpiled that is not actively being used during construction shall be covered and surrounded with a linear sediment barrier.

10. The Permittee shall retain a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur.

11. The Permittee shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris at an approved site at least weekly.

12. All construction vehicles and equipment used on site shall be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials.

13. All vehicle fueling and maintenance activity shall occur at least 100 feet away from waterways and in designated staging areas, unless a requested exception on a case-by case basis granted by prior written approval has been obtained from Central Coast Water Board staff.

14. In-water work, dewatering, and/or stream diversion are not authorized based on the application. If the project requires in-water work, dewatering, and/or diversion, the Permittee shall submit a detailed In-Water Work, Dewatering, and/or Diversion Plan for Central Coast Water Board staff approval at least 30 days prior to any in-water

work, dewatering and/or diversion. The In-Water Work, Dewatering, and/or Diversion Plan must include all information as specified in Attachment B. In-water work, dewatering and/or diversion shall not commence until the Permittee has obtained Central Coast Water Board staff approval of the In-Water Work, Dewatering, and/or Diversion Plan. Any in-water work, dewatering, and/or diversion must be implemented in compliance with approved In-Water Work, Dewatering, and/or Diversion Plan. All in-water work, dewatering, and/or diversion structures and equipment shall be removed immediately upon completion of the in-water work, dewatering, and/or diversion, and areas impacted by the structures and equipment restored as soon as possible.

15. All post-construction BMPs shall be implemented and functioning in accordance with the Stormwater Control Plan for Hale Avenue Extension prior to completion of the project.

16. All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the project.

D. General Compliance Conditions

1. Failure to comply with any condition of this Order shall constitute a violation of the Porter-Cologne Water Quality Control Act and the Clean Water Act. The Permittee and/or discharger may then be subject to administrative and/or civil liability pursuant to Water Code section 13385.

2. Permitted actions must not cause a violation of any applicable water quality standards, including impairment of designated beneficial uses for receiving waters as adopted in the Basin Plan by the Central Coast Water Board or any applicable State Water Board water quality control plan or policy. The source of any such discharge must be eliminated as soon as practicable**.**

3. In response to a suspected violation of any condition of this Order, the Central Coast Water Board may require the holder of this Order to furnish, under penalty of perjury, any technical or monitoring reports the Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The additional monitoring and reporting requirements ensure that permitted discharges and activities comport with any applicable effluent limitations, water quality standards, and/or other appropriate requirement of state law.

4. The Permittee must, at all times, fully comply with engineering plans, specifications, and technical reports submitted to support this Order; and all subsequent submittals required as part of this Order. The conditions within this Order and Attachments supersede conflicting provisions within Permittee submittals.

5. This Order and all of its conditions contained herein continue to have full force and effect regardless of the expiration or revocation of any federal license or permit issued for the Project. For purposes of Clean Water Act, section 401(d), this condition constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements of state law. This Order expires if Project construction does not begin within five years from the date of this Order.

6. The Permittee shall adhere to all requirements in the mitigation monitoring and reporting program (MMRP) (Mitigation Monitoring and Reporting Program for Hale Avenue Extension and Santa Teresa Corridor Widening and Realignment, August 2017), which is incorporated herein by reference, and any additional measures as outlined in this Order and/or Attachment E, CEQA Findings of Fact.

7. Construction General Permit Requirement: The Permittee shall maintain compliance with conditions described in, and required by, NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ; NPDES No. CAS000002).

E. Administrative Conditions

1. Signatory requirements for all document submittals required by this Order are presented in Attachment D of this Order.

2. This Order does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, §§ 2050-2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531-1544). If a "take" will result from any act authorized under this Order held by the Permittee, the Permittee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Permittee is responsible for meeting all requirements of the applicable endangered species act for the Project authorized under this Order.

3. The Permittee shall grant Central Coast Water Board staff, or an authorized representative (including an authorized contractor acting as a Water Board representative), upon presentation of credentials and other documents as may be required by law, permission to:
   a. Enter upon the Project or compensatory mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records are kept.
   b. Have access to and copy any records that are kept and are relevant to the Project or the requirements of this Order.
   c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order.
   d. Sample or monitor for the purposes of assuring Order compliance.

4. A copy of this Order shall be provided to any consultants, contractors, and subcontractors working on the Project. Copies of this Order shall remain at the Project site for the duration of this Order. The Permittee shall be responsible for work conducted by its consultants, contractors, and any subcontractors.

5. A copy of this Order must be available at the Project site(s) during construction for review by site personnel and agencies. All personnel performing work on the Project shall be familiar with the content of this Order and its posted location at the Project site.

F. Standard Conditions

1. This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330, and California Code of Regulations, title 23, chapter 28, Article 6 commencing with sections 3867-3869, inclusive. Additionally, the Central Coast Water Board reserves the right to suspend, cancel, or modify and reissue this Order, after providing notice to the Permittee, if the Central Coast Water Board determines that: the Project fails to comply with any of the conditions of this Order; or, when necessary to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) or federal Clean Water Act section 303 (33 U.S.C. § 1313). For purposes of Clean Water Act section 401(d), the condition constitutes a limitation necessary to assure compliance with water quality standards and appropriate requirements of state law.

2. This Order is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to subsection 3855(b) of chapter 28, title 23 of the California Code of Regulations, and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. This Order is conditioned upon total payment of any fee required under title 23 of the California Code of Regulations and owed by the Permittee.

4. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state and federal law. For purposes of Clean Water Act, section 401(d), the applicability of any state law authorizing remedies, penalties, processes, or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Order.

G. Water Quality and Project Site Monitoring

1. General: Take representative photos of the project, including all areas of permanent and temporary impact, prior to, during, and after project construction. If surface water is present, continuous visual surface water monitoring shall be conducted to detect accidental discharge of construction related pollutants (e.g. oil and grease, spills, turbidity plumes, or uncured concrete).

2. Accidental Discharges/Noncompliance: Upon occurrence of an accidental discharge of hazardous materials or a violation of compliance with a water quality standard, Central Coast Water Board staff may require water quality monitoring based on the discharge constituents and/or related water quality objectives and beneficial uses.

3. In-Water Work, Dewatering, and/or Diversions:For projects involving planned work in water, dewatering, and/or stream diversions, a water quality monitoring plan, as part of the In-Water Work, Dewatering, and/or Diversions Plan requirements set forth in

section E.15, shall be submitted for Central Coast Water Board staff review and approval at least 30 days in advance of any in-water work, dewatering, and/or diversion. Water quality monitoring shall be conducted in accordance with the approved In-Water Work, Dewatering, and/or Diversions Plan. During planned in-water work, dewatering, and/or diversion, discharges to waters of the state shall conform to the following water quality goals in receiving waters at the point of discharge. If water quality goals are not achieved, the Permittee shall stop the discharge and implement corrective measures to achieve water quality goals.

a. Oil and Grease: No visible film on surface of water or on objects in the water.
b. Turbidity: When natural turbidity is between 0 and 50 NTU, increases shall not exceed 20 percent. When natural turbidity is between 50 and 100 NTU, increases shall not exceed 10 NTU. When natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.

Sampling shall be conducted in accordance with Table 5 sampling parameters and frequencies.[5]

Table 5: Sample Type and Frequency Requirements

Parameter	Unit of Measurement	Type of Sample	Minimum Frequency
Oil and Grease	N/A	Visual	Continuous
Turbidity	NTU	Grab	Every 4 hours

4. Post-Construction: Visually inspect the Project site during the rainy season for one year to ensure excessive erosion, stream instability, or other water quality pollution is not occurring in, upstream of, or downstream of the Project site as a result of the Project. If water quality pollution is occurring, contact the Central Coast Water Board staff member overseeing the Project within three working days. The Central Coast Water Board may require the submission of a Violation of Compliance with Water Quality Standards Report. Additional permits may be required to carry out any necessary site remediation.

H. Reporting and Notification Requirements

The following section details the reporting and notification types and timing of submittals. Requirements for the content of these reporting and notification types are detailed in Attachment B, including specifications for photo and map documentation during the Project. Written reports and notifications must be submitted using the Reporting and Notification Cover Sheet located in Attachment B, which must be signed by the

[5] Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant, the method shall be approved by Central Coast Water Board staff. Grab samples shall be taken between the surface and mid-depth and not be collected at the same time each day to get a complete representation of variations in the receiving water. A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring shall be maintained onsite.

Permittee or an authorized representative. All reports and notifications shall be submitted electronically to **RB3_401Reporting@waterboards.ca.gov**.

1. Project Reporting
   a. Annual Reporting: The Permittee shall submit an Annual Report each year on May 31. Annual reporting shall continue until a Notice of Project Complete is issued to the Permittee.

2. Project Status Notifications
   a. Commencement of Construction: The Permittee shall submit a Commencement of Construction Report at least seven days prior to start of initial ground disturbance activities.
   b. Notice of Completion of Discharges: The Permittee shall submit a Notice of Completion of Discharges following completion of active Project construction activities, including any required restoration and permittee-responsible mitigation installation. This request shall be submitted to the Central Coast Water Board staff within 30 days following completion of all Project construction and discharge activities.
   c. Request for Notice of Project Complete: The Permittee shall submit a Request for Notice of Project Complete when all required construction, post-discharge, and mitigation monitoring is complete,[6] all mitigation success criteria have been achieved, and no further Project activity is planned. This request shall be submitted to Central Coast Water Board staff within 30 days following completion of all Project activities. Upon approval of the request, the Central Coast Water Board staff will issue a Notice of Project Complete to the Permittee.

3. Conditional Notifications and Reports: The following notifications and reports are required as appropriate.
   a. Compensatory Mitigation: The Permittee shall submit a copy of the fully executed agreement for the purchase of mitigation credits prior to the start of construction, as described in Section II.B.
   b. Accidental Discharges of Hazardous Materials[7]
      Following an accidental discharge of a reportable quantity of a hazardous material, sewage, or an unknown material, the following applies (Wat. Code, § 13271):
      i. As soon as (A) Permittee has knowledge of the discharge or noncompliance, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures then:
         - first call – 911 (to notify local response agency)
         - then call – Office of Emergency Services (OES) State Warning Center at: (800) 852-7550 or (916) 845-8911
         - Lastly follow the required OES procedures as set forth in:

[6] Completion of post-discharge monitoring shall be determined by Central Coast Water Board staff and shall be contingent on successful attainment of restoration and mitigation success criteria.

[7] "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. (Health & Saf. Code, § 25501.)

http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf

ii. Following notification to OES, the Permittee shall notify Central Coast Water Board, as soon as practicable (ideally within 24 hours). Notification may be via telephone, e-mail, delivered written notice, or other verifiable means.

iii. Within five working days of notification to the Central Coast Water Board, the Permittee must submit an Accidental Discharge of Hazardous Material Report.

c. Violation of Compliance with Water Quality Standards: The Permittee shall notify the Central Coast Water Board within 24 hours of any event causing a violation of compliance with water quality standards. Notification may be via telephone, e-mail, delivered written notice, or other verifiable means.

i. Examples of noncompliance events include: spills to a water of the state, monitoring results indicating an exceedance of water quality standards, discharges causing a visible plume in a water of the state, and excessive erosion in a water of the state.

ii. This notification must be followed within three working days by submission of a Violation of Compliance with Water Quality Standards Report.

d. In-Water Work, Dewatering, or Diversions:

i. If the project requires in-water work, dewatering, and/or diversion, the Permittee shall submit a detailed In-Water Work, Dewatering, and/or Diversion Plan for Central Coast Water Board staff approval at least 30 days prior to any in-water work, dewatering and/or diversion. The In-Water Work, Dewatering, and/or Diversion Plan must include all information as specified in Attachment B.

e. Modifications to Project

Project modifications may require an amendment of this Order. The Permittee shall give 14-day advance notice to Central Coast Water Board staff if Project implementation as described in the application materials is altered in any way or by the imposition of subsequent permit conditions by any local, state or federal regulatory authority by submitting a Modifications to Project Report. The Permittee shall give 14-day advance notice to Central Coast Water Board staff of any Project modifications that will interfere with the Permittee's compliance with this Order. Proposed project modifications shall be described in a submitted Modifications to Project Report. The Permittee shall not implement modifications to the Project as it was described in the application materials without Central Coast Water Board staff approval and/or amendment of this Order.

f. Transfer of Property Ownership or Project Responsibility

This Order is not transferable in its entirety or in part to any person or organization except after notice to the Central Coast Water Board in accordance with the following terms:

i. The Permittee must notify the Central Coast Water Board of any change in ownership or interest in ownership of the Project area by submitting a Transfer of Property Ownership or Project Responsibility Report. The Report must include a written agreement between the existing and new responsible party containing a specific date for the transfer of this Order's responsibility

and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on. The Permittee and purchaser must sign and date the Report and provide the Report to the Central Coast Water Board at least 30 days prior to the transfer of ownership.

ii. Until such time as this Order has been modified to name the purchaser as the permittee, the Permittee shall continue to be responsible for all requirements set forth in this Order.

g. Transfer of Long-Term BMP Maintenance
If maintenance responsibility for post-construction BMPs is legally transferred, the Permittee must submit to the Central Coast Water Board a copy of such documentation and must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer or designer specifications. The Permittee must provide such notification to the Central Coast Water Board with a Transfer of Long-Term BMP Maintenance Report at least 10 days prior to the transfer of BMP maintenance responsibility.

III. Public Notice

The Central Coast Water Board provided public notice of the application pursuant to California Code of Regulations, title 23, section 3858 for at least 21 days starting 10/10/2018. The Central Coast Water Board did not receive any comments during the comment period.

IV. Project Information

A. Project Purpose

The purpose of the project is to construct a two-lane roadway between West Main Avenue and DeWitt/Spring Avenue as envisioned in the City's General Plan.

B. Project Description

Central Coast Water Board staff understands that the project includes the following activities:

- Construction of an approximately 4,500-foot extension of Hale Avenue from West Main Avenue in the north to the intersection of Spring Avenue and DeWitt Avenue in the south.
- Demolition or relocation of permanent structures within the right-of-way.
- Relocation of utilities.
- Placement of an existing drainage ditch in a culvert under the roadway, and filling of a seasonal wetland depression.
- Construction of two stormwater detention basins.

C. Project Location

The project is located in the City of Morgan Hill between West Main Avenue and the intersection of Spring Avenue and DeWitt Avenue. Map coordinates are Latitude -121.65753889, Longitude 37.12527778. A map showing the Project location is found in Attachment C of this Order.

D. Project Impact and Receiving Waters Information

The Project is located within the jurisdiction of the Central Coast Water Board. Receiving waters and groundwater potentially impacted by this Project are protected in accordance with the Water Quality Control Plan for the Central Coast Basin (Basin Plan) and other plans and policies which may be accessed online at: http://www.waterboards.ca.gov/plans_policies/. The Basin Plan includes water quality standards, which consist of existing and potential beneficial uses of waters of the state, water quality objectives to protect those uses, and the state and federal antidegradation policies.

Project impact and receiving waters information can be found in Attachment A. Table 1 of Attachment A lists the receiving waters and beneficial uses of waters of the state impacted by the Project. Individual impact location and quantity is shown in Table 2 of Attachment A.

E. Avoidance and Minimization

The eastern side of the alignment along the northern section of the project area will include a retaining/sound wall sited outside of the top of bank of Llagas Creek. Therefore, impacts to Llagas Creek were considered and avoided during the project design phase.

V. California Environmental Quality Act (CEQA)

On August 23, 2017, the City of Morgan Hill, as lead agency, certified an environmenal impact report (EIR) (State Clearinghouse (SCH) No. 2016052076) for the Project and filed a Notice of Determination (NOD) at the County of Santa Clara on August 29, 2017. Pursuant to CEQA, the Central Coast Water Board has made Findings of Facts (Findings) which support the issuance of this Order and are included in Attachment E.

VI. Petitions for Reconsideration

Any person aggrieved by this action may petition the State Water Resources Control Board (State Water Board) to reconsider this Order in accordance with California Code of Regulations, title 23, section 3867. A petition for reconsideration must be submitted in writing and received within 30 calendar days of the issuance of this Order.

VII. Fees Received

An application fee of $1,500 was received on October 1, 2018. An additional fee of $92 based on total Project impacts was received on March 18, 2019. The fee amount was determined as required by California Code of Regulations, title 23, sections 3833(b)(3) and

2200(a)(3), and was calculated as category A - Fill & Excavation Discharges (fee code 84) with the dredge and fee calculator.

VIII. Water Quality Certification

I hereby issue the Order for the Hale Avenue Extension, Certification No. 34318WQ04, certifying that as long as all of the conditions listed in this Order are met, any discharge from the referenced Project will comply with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards).

This discharge is also regulated pursuant to State Water Board Water Quality Order No. 2003-0017-DWQ which authorizes this Order to serve as Waste Discharge Requirements pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.).

Except insofar as may be modified by any preceding conditions, all Order actions are contingent on: (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the conditions of this Order and the attachments to this Order; and, (b) compliance with all applicable requirements of Statewide Water Quality Control Plans and Policies, the Regional Water Boards' Water Quality Control Plans and Policies.

for _____ March 19, 2019
John M. Robertson Date
Executive Officer
Central Coast Water Board

Receiving Waters

The following table shows the receiving waters associated with each impact and Permittee responsible mitigation site.

Table 1: Receiving Water(s) Information					
Impact Site ID	Waterbody Name	Impacted Aquatic Resource Type	Water Board Hydrologic Units	Receiving Waters	Receiving Waters Beneficial Uses
1	Unnamed tributary to Little Llagas Creek	Stream Channel	305.30	Little Llagas Creek	MUN, AGR, GWR, REC-1, REC-2, WILD, WARM, COMM
2	Unnamed tributary to Little Llagas Creek	Wetland	305.30	Little Llagas Creek	MUN, AGR, GWR, REC-1, REC-2, WILD, WARM, COMM

Individual Direct Impact Locations

The following table shows individual impact locations.

Table 2: Individual Direct Impact Information

Impact Site ID	Latitude	Longitude	Direct Impact Duration	Dredge			Fill/Excavation		
				Acres	Cubic Yards	Linear Feet	Acres	Cubic Yards	Linear Feet
1	37.12706111	-121.65833333	Temporary						
			Permanent				0.01	9	114.5
2	37.12216667	-121.6572000	Temporary						
			Permanent				0.11	16	125

Mitigation Information for Temporary and Permanent Impacts

The following table(s) show(s) individual mitigation information and locations for both temporary and permanent impacts.

Mitigation Bank Mitigation Site Information

Table 3 : Mitigation Bank

Mitigation Bank	Name:	Pajaro River Mitigation Bank
	Website:	https://www.wildlandsinc.com/banks/pajaro-river-mitigation-bank-wetl/
Contact Information	Name:	Julie Maddox
	Phone:	916-435-3555
	Email:	jmaddox@heronpacific.com
Mitigation Location	County:	San Benito
	Latitude:	36.977785
	Longitude:	-121.487473

Aquatic Resource Credit Type	Mitigation Method	Mitigation Quantity		
		Acres	Linear Feet	Number of Credits Purchased
Wetland	Establishment	0.12	-	0.12

Copies of this Form

In order to identify your project, it is necessary to include a Project specific copy of the Report and Notification Cover Sheet below with all reports and notifications: please retain for your records. A copy of the Cover Sheet is available for download at:
http://www.waterboards.ca.gov/centralcoast/water_issues/programs/401wqcert/index.shtml

Report Submittal Instructions

1. Check the box on the Report and Notification Cover Sheet next to the report or notification you are submitting.

- **Part A (Annual Report):** This report must be submitted annually on May 31 of each year until a Notice of Project Complete is issued.
- **Part B (Project Status Notifications):** Used to notify the Central Coast Water Board of the status of the Project schedule that may affect Project billing.
- **Part C (Conditional Notifications and Reports):** Required on a case by case basis for accidental discharges of hazardous materials, violation of compliance with water quality standards, notification of in-water work, or other situations.

2. Sign the Report and Notification Cover Sheet and attach all information requested for the Report Type.

3. Electronic Report Submittal Instructions:

- Submit signed Report and Notification Cover Sheet and required information via email to: **RB3_401Reporting@waterboards.ca.gov** and cc: Mark Cassady at Mark.Cassady@waterboards.ca.gov
- Include in the subject line of the email:
  Subject: Project Name; Mark Cassady; Certification (WDID) No.: 34318WQ04; Report Title

Map/Photo Documentation Information

When submitting maps or photos, meet the following requirements.

1. <u>Map Format Information:</u>

a. Maps must show the boundaries of all project areas and extent/type of aquatic resources impacted.
b. Maps must include an accurate scale
c. Preferred map formats of at least 1:24000 (1" = 2000') detail

2. <u>Photo-Documentation:</u> Include a unique identifier, date stamp, written description of photo details, and latitude/longitude (in decimal degrees) or map indicating location of photo. Successive photos shall be taken from the similar vantage points to compare pre/post construction and/or mitigation conditions.

REPORT AND NOTIFICATION COVER SHEET

Project Name (as found on Certification):	Hale Avenue Extension
Permittee:	City of Morgan Hill
Reg. Meas. ID:	425656
Place ID:	851708
Certification (WDID):	34318WQ04
Order Effective Date:	March 19, 2019

Report Type Submitted

Part A – Project Reporting
☐ **Annual Report**
Part B - Project Status Notifications
☐ **Commencement of Construction**
☐ **Notice of Completion of Discharges**
☐ **Request for Notice of Project Complete**
Part C - Conditional Notifications and Reports
☐ **Work Window Extension Request**
☐ **In-Water Work, Dewatering, or Diversion Plan**
☐ **Purchase Agreement for Mitigation Credits**
☐ **Accidental Discharge of Hazardous Material Report**
☐ **Violation of Compliance with Water Quality Standards Report**
☐ **Modifications to Project Report**
☐ **Transfer of Property Ownership Report**
☐ **Transfer of Long-Term BMP Maintenance Report**

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name [1]	**Affiliation and Job Title**
Signature	**Date**

[1]**STATEMENT OF AUTHORIZATION (include if authorization has changed since application was submitted)**

I hereby authorize _____ to act in my behalf as my representative in the submittal of this report, and to furnish upon request, supplemental information in support of this submittal.

_____ Permittee's Signature

_____ Date

***This Report and Notification Cover Sheet must be signed by the Permittee or a duly authorized representative and included with all written submittals.**

Part A – Project Reporting

	Annual Report
Report Purpose	Notify the Central Coast Water Board staff of Project status during construction and post-construction monitoring periods.
When to Submit	Annual reports shall be submitted each year on **May 31**. Annual reports shall continue until a Notice of Project Complete is issued to the Permittee.
Report Contents	The contents of the annual report shall include the topics indicated below for each project period. Required report contents are identified in Annual Report Topic below. • **Topic 1: Construction and Site Monitoring Summary**
Annual Report Topic	
Annual Report	**Construction and Site Monitoring Summary**
Report Contents	Report the following information: 1. The status of the project: construction not started, construction started, or construction complete. 2. The date of construction initiation, if applicable. 3. Date of executed purchase agreement for mitigation bank credits. 4. The date of construction completion, if applicable. 5. If project construction is complete: a. A summary of daily activities, monitoring and inspection observations, and problems incurred and actions taken; b. Status of permanent post-construction stormwater management BMPs, including photo documentation of all BMPs; c. Identification of when site personnel trainings occurred, description of the topics covered during trainings, and confirmation that every person that engaged in construction activities or their oversight at the project site was trained initially. d. A description of the results of the annual visual inspection of the project site and areas of waters of the State adjacent to project impact areas, including: i. Erosion conditions; ii. Stream stability conditions; iii. Water quality and beneficial use conditions; iv. Clearly identified photo-documentation of all areas of permanent and temporary impact, prior to and after project construction; and v. Clearly identified representative photo-documentation of other project areas, prior to and after project construction. vi. If the visual inspection monitoring period is over, but water quality problems persist, the Annual Report shall identify corrective measures to be undertaken, including extension of

	the monitoring period until the project is no longer causing excessive erosion, stream instability, or other water quality problems.

Part B – Project Status Notifications

	Commencement of Construction
Report Purpose	Notify Central Coast Water Board staff prior to the start of construction.
When to Submit	Must be received at least seven days prior to start of initial ground disturbance activities.
Report Contents	Report the following information: 1. Date of commencement of construction. 2. Anticipated date when discharges of fill or dredged material to waters of the state will occur. 3. Confirm work will not occur in waters in the wet season beginning October 31. 4. Project schedule milestones including a schedule for onsite compensatory mitigation, if applicable.

	Notice of Completion of Discharges
Report Purpose	Notify Central Coast Water Board staff that active Project construction and discharges, including any mitigation installation, is complete.
When to Submit	Must be received by Central Coast Water Board staff within 30 days following completion of all Project discharge, construction, and mitigation installation activities.
Report Contents	Report the following information: 1. Date of completion of all Project discharge, construction, and mitigation installation activities. 2. Status of storm water Notice of Termination(s), if applicable. 3. Status of post-construction storm water BMP installation. 4. Dates when post-construction monitoring for the Project will begin.

	Request for Notice of Project Complete
Report Purpose	Notify Central Coast Water Board staff that all required construction, post-discharge, and mitigation monitoring is complete, all mitigation success criteria have been achieved, and no further Project activity is planned.
When to Submit	Must be received by Central Coast Water Board staff within 30 days following completion of all Project activities, including achievement of all mitigation success criteria.
Report Contents	Report the following information: Part A: Mitigation Status for Temporary and Permanent Impacts 1. Date of executed purchase agreement for mitigation bank credits. 2.

	Part B: Project Site Monitoring 1. A description of the results of the annual visual inspection of the project site and areas of waters of the State adjacent to project impact areas, including: a. Erosion conditions; b. Stream stability conditions; c. Water quality and beneficial use conditions; d. Clearly identified photo-documentation of all areas of permanent and temporary impact, prior to and after project construction; and e. Clearly identified representative photo-documentation of other project areas, prior to and after project construction.

Part C – Conditional Notifications and Reports

	Work Window Extension Request
Report Purpose	Request approval to work in waters beyond work window and into winter season.
When to Submit	Must be received at least 21 days prior to the planned winter season work date that is outside the Order's specified work window.
Report Contents	Report the following information: 1. Identify the dates when work will occur in waters during the winter season. 2. Describe the work proposed to be conducted in waters during the winter season. 3. Explain why the proposed work in waters must occur during the winter season. 4. Provide a Preparedness Plan for Rain and Water Body Flows that describes the steps the Permittee will take to stabilize the site and prevent the discharge of sediment and other pollutants prior to the start of a rain event. The Preparedness Plan for Rain and Water Body Flows shall include the following (Note: Rain Event Action Plans addressed in Storm Water Pollution Prevention Plans typically do not include sufficient information): a. Identification of measures that will be implemented to stabilize the site and water body, including locations. b. Identification of steps that will be taken to remove all construction equipment and materials from the water body prior to rain. c. Identification of weather triggers for implementation of the Preparedness Plan for Rain and Water Body Flows. d. The length of time needed to implement the Preparedness Plan for Rain and Water Body Flows. e. Confirmation materials and equipment needed to implement the Preparedness Plan for Rain and Water Body Flows will be located on site. f. Responsibilities of personnel to implement the Preparedness Plan for Rain and Water Body Flows, including weather monitoring and best management practice installation and maintenance.

	In-Water Work, Dewatering, and/or Diversion Plan
Report Purpose	Request approval of a final In-Water Work, Dewatering, and/or Diversion Plan.

When to Submit	Must be received at least 30 days prior to commencement of in-water work, dewatering, and/or diversion activities.
Report Contents	Submit a final In-Water Work, Dewatering, and/or Diversions Plan that includes the following information: 1. The time period during which in-water work, dewatering, and/or diversion will occur; 2. A description of the water body at the location of the in-water work, dewatering, and/or diversion, with photographs. 3. A description of measures that will be implemented to maintain water body stability and protect water quality. 4. The time period the system will be in place and a plan for what will happen if the Permittee is unable to complete work and remove the system by the stop-work deadline. 5. A plan for water quality monitoring that includes: a. Provisions to conduct baseline monitoring to determine turbidity levels at the proposed project site. b. Provisions to report as required in Attachment B, “Weekly In-Water Work, Dewatering, and/or Diversion Monitoring and Maintenance Report.” c. Provisions for daily visual monitoring and record keeping that document in-water work, dewatering, and/or diversion activities, control measures used in the process, estimated volume of diversion/dewatering discharges, and visible water characteristics (e.g., visible turbidity, sedimentation, and/or erosion) during in-water work, dewatering, and/or diversion. d. Provisions that representative samples of receiving waters upstream and immediately downstream of in-water work, dewatering, and/or diversion will be collected and analyzed for turbidity daily while in-water work, dewatering, and/or diversion continues. e. Provisions that turbidity sample results from receiving waters will be compared to the following receiving water quality goals: where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTUs), increases shall not exceed 20 percent; where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent. f. Provisions for implementation of ongoing monitoring and corrective measures if monitoring results indicate exceedance of the criteria described above. g. Provisions for sampling of other parameters (e.g., temperature, pH, dissolved oxygen, settleable solids) as indicated in the Central Coast Water Board Basin Plan and as deemed appropriate by Central Coast Water Board staff. 6. If dewatering will occur, a plan for dewatering activities that includes: a. An assessment of the potential for the presence of groundwater contaminant plumes (use Geotracker on the State Water Resources Control Board website for an interactive map that identifies potential contamination sites). If present, there is the

	potential for discharge of polluted groundwater to surface water, which must be addressed.
	b. An inspection and assessment action plan the Permittee will follow to observe the condition of the system and assess the need to increase the capacity of the system, and measures the Permittee will implement to increase the capacity of the system, if warranted.
	c. Actions that will be taken and measures that will be implemented to prevent erosion, scour, and/or sediment deposits that could impact natural bedding materials.
	d. Descriptions and diagrams of the pumps, intakes, piping, and settlement tanks or basins (i.e., quantities, capacities, etc.) that will be used to convey water from the dewatering point to the treatment system and to the point of discharge.
	e. A description of how the system will be installed and removed.
	f. Design schematic in profile and plan views. Schematics should include:
	i. Date;
	ii. Engineer's Stamp (for dewatering systems that will be in place during the rainy season);
	iii. Intake design(s), capacity(ies), and location(s);
	iv. Pipe design(s), capacity(ies), and location(s);
	v. Settling tank design(s), capacity(ies), and location(s);
	vi. Discharge outlet design(s), capacity(ies), and location(s); and
	vii. Erosion, scour, and sediment BMPs to be installed at the discharge location.
	g. A description of BMPs that will be implemented to prevent runoff or eroded sediments from being discharged to surrounding wetlands or surface waters in concentrations that adversely affect beneficial uses, including:
	h. Prevention of erosion at each discharge point for the dewatering system (e.g., energy dissipation at each discharge hose to prevent erosion/scour).
	i. Methods for matching the discharge velocity to natural flow rate or diminishing the flow rate below the natural rate to protect and prevent secondary erosion.
	j. Confirmation that sandbags will not be used and that only bags filled with clean gravel will be used at or near a waterbody.
	k. Confirmation that natural flow is maintained upstream and downstream of the project area.
	l. A description of how the area will be restored.
	7. If diversion will occur, a plan for diversion activities that includes.
	a. An inspection and assessment action plan the Permittee will follow to observe flow conditions upstream of the system and assess the need to increase the flow capacity of the system, and measures the Permittee will implement to increase the flow capacity of the system, if warranted.
	b. An analysis of historic rainfall and/or flow data in the watershed identifying the range of flow events (quantity and likelihood) that could occur during the period in which the system is in place. If no historical rainfall and/or flow data is available for the water body,

	assess the channel morphology (i.e., low flow channel width, ordinary high water mark) to evaluate past historic flows) or use early winter storm data to extrapolate what the flows of an unanticipated summer storm event might be. c. The capacity of the proposed system, including an assessment of the capacity relative to the information generated through the analysis of historical rainfall, flow data, or channel morphology. d. A contingency plan describing what the Permittee will do should a flow event occur that exceeds the capacity of the system. The plan should address at least the following: i. Descriptions of the measures the Permittee will take (e.g., increase the capacity of the system, demobilize and stabilize the construction site and remove the system, etc.); ii. The length of time it will take the Permittee to enact the above measures; iii. The availability of a reliable weather forecast providing enough lead-time to enact the measures; and iv. Consideration of the implications of (i) rain upstream in the watershed (not just at the project site); (ii) the cumulative effect of a series of smaller events; and (iii) a description of how the Permittee will interpret the weather forecast to account for these implications. e. A water quality impact analysis that assesses the potential risks to water quality and channel stability if a flow event should occur that exceeds the capacity of the system. f. Actions that will be taken and measures that will be implemented to prevent erosion, scour, and/or sediment deposits that could impact natural bedding materials. g. A description of how the system will be installed and removed. The diversion intake removal plan should include an explanation of how the Permittee will control the build-up of bed load (if any) once the intake is removed, so that built-up sediment is not released into flows. h. Design schematic in profile and plan views. Schematics should include: i. Date; ii. Engineer's Stamp (for diversion systems that will be in place during the rainy season); iii. Intake design(s), capacity(ies), and location(s); iv. Discharge outlet design(s), capacity(ies), and location(s); and v. Erosion, scour, and sediment BMPs to be installed at the discharge location. i. Descriptions and diagrams of the upstream and downstream diversion dams, intakes, pipes, and discharge outlets (i.e., quantities, capacities, etc.) that will be used to convey water through the diversion system to the point of discharge. j. A description of BMPs that will be implemented to prevent ponding, runoff, and/or eroded sediments from being discharged to surrounding wetlands or surface waters in concentrations that adversely affect beneficial uses, including:

	i. Prevention of erosion at each discharge point for the diversion system (e.g., energy dissipation at each discharge hose to prevent erosion/scour). ii. Methods for matching the discharge velocity to natural flow rate or diminishing the flow rate below the natural rate to protect and prevent secondary erosion. k. Confirmation that sandbags will not be used and that only bags filled with clean gravel will be used at or near a waterbody. l. Confirmation that natural flow is maintained upstream and downstream of the project area. m. A description of how the area will be restored.

	Purchase Agreement for Mitigation Credits
Report Purpose	Demonstrates purchase of required mitigation credits.
When to Submit	Prior to the start of construction.
Report Contents	Provide a copy of the purchase agreement that includes type of mitigation credits and amount (size) purchased.

	Accidental Discharge of Hazardous Material Report
Report Purpose	Notifies Central Coast Water Board staff that an accidental discharge of hazardous material has occurred.
When to Submit	Within five working days following the date of an accidental discharge. Continue reporting as required by Central Coast Water Board staff.
Report Contents	Report the following information: 1. Include the Office of Emergency Services Incident/Release Assessment Form (http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf), a full description and map of the accidental discharge incident (i.e. location, time and date, source, discharge constituent and quantity, areal extent, and photo documentation). 2. If applicable, any sampling data, with a full description of the sampling methods including frequency/dates and times of sampling, equipment, and locations of sampling sites. 3. Locations and construction specifications of any barriers, including silt curtains or diverting structures, and any associated trenching or anchoring. 4. A description of actions the Permittee took to stop the discharge. 5. A description of actions the Permittee took to clean up or remove the discharge. 6. Photo documentation of the discharge locations after the discharge is cleaned up or removed.

	Violation of Compliance with Water Quality Standards Report
Report Purpose	Notifies Central Coast Water Board staff that a violation of compliance with water quality standards has occurred.

When to Submit	The Permittee shall report any event that causes a violation of water quality standards within three working days of the noncompliance event notification to Central Coast Water Board staff.
Report Contents	Report the following information: the cause of the noncompliance; the location of the noncompliance shown on a map; and the period of the noncompliance including exact dates and times. If the noncompliance has not been corrected, include: the anticipated time it is expected to be corrected; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and any monitoring results.

	Modifications to Project Report
Report Purpose	Notifies Central Coast Water Board staff if the Project, as described in the application materials, is proposed to be altered in any way.
When to Submit	No later than 14 days prior to proposed implementation of Project alterations.
Report Contents	Report the following information: A description and location of any proposed alterations to Project implementation. Identification of any proposed Project modifications that will interfere with the Permittee's compliance with this Order.

	Transfer of Property Ownership or Project Responsibility Report
Report Purpose	Notifies Central Coast Water Board staff of change in property ownership or Project responsibility.
When to Submit	At least 30 days prior to the date of transfer.
Report Contents	Provide a written agreement between the existing and new responsible party containing a specific date for the transfer of this Certification's responsibility and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on. The report shall be signed by both parties.

	Transfer of Long-Term BMP Maintenance Report
Report Purpose	Notifies Central Coast Water Board staff of transfer of long-term BMP maintenance responsibility.
When to Submit	At least 10 working days prior to the transfer of BMP maintenance responsibility.
Report Contents	Provide a copy of the legal document transferring maintenance responsibility of post-construction BMPs.

Location Map
Hale Avenue Extension
Legend
37.12527778, -121.65753889
Road Alignment
Morgan Hill
37.12527778, -121.65753889
El Toro Ct
Longview Dr
Heidi Dr
Crest Ave
Hale Ave
Warren Ave
Nob Hill Terrace
W 1st St
E 1st St
E 2nd St
E 3rd St
E 4th St
W 3rd St
E 5th St
Depot St
Peak Ave
Noble Ct
Alkire Ave
Torrey Ct
W Dunne Ave
Munro Way
La Selva Dr
Oak Park
Dewitt Ave
Chargin Dr
Barnell Ave
Manor
Ciolino Ave
Myrtle
Foothill Ct
Mathilda Ct
Spring Ave
Spring Hill Dr
Google Earth
© 2018 Google
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2000 ft

SIGNATORY REQUIREMENTS

All Documents Submitted In Compliance With This Order Shall Meet The Following Signatory Requirements:

1. All applications and reports submitted to the Central Coast Water Board must be signed and certified as follows:

   a) For a corporation, by a responsible corporate officer of at least the level of vice-president.
   b) For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
   c) For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
   d) For a LLC, by a managing member, chief executive officer, president, or principal.

2. A duly authorized representative of a person designated in items 1.a through 1.d above may sign documents if:

   a) The authorization is made in writing by a person described in items 1.a through 1.d above.
   b) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
   c) The written authorization is submitted to the Central Coast Water Board Staff Contact prior to submitting any documents listed in item 1 above.

3. Any person signing a document under this section shall make the following certification:

   "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

A. Environmental Review

On August 23, 2017, the City of Morgan Hill, as lead agency, certified a Final Environmental Impact Report (FEIR) (State Clearinghouse (SCH) No. 2016052076) for the Project and filed a Notice of Determination (NOD) at the County of Santa Clara on August 29, 2017. The Central Coast Water Board is a responsible agency under CEQA (Pub. Resources Code, § 21069) and in making its determinations and findings, must presume that the City of Morgan Hill's certified environmental document comports with the requirements of CEQA and is valid. (Pub. Resources Code, § 21167.3.) The Central Coast Water Board has reviewed and considered the environmental document and finds that the environmental document prepared by the City of Morgan Hill addresses the Project's water resource impacts. (Cal. Code Regs., tit. 14, § 15096, subd. (f).) The environmental document includes the mitigation monitoring and reporting program (MMRP) developed by the City of Morgan Hill for all mitigation measures that have been adopted for the Project to reduce potential significant impacts. (Pub. Resources Code, § 21081.6, subd. (a)(1); Cal. Code Regs., tit. 14, § 15091, subd. (d).)

B. Incorporation by Reference

Pursuant to CEQA, these Findings of Facts (Findings) support the issuance of this Order based on the Project FEIR, the application for this Order, and other supplemental documentation, including the Stormwater Control Plan for Hale Avenue Extension.

All CEQA project impacts, including those discussed in subsection C below, are analyzed in detail in the Project FEIR which is incorporated herein by reference.

Requirements under the purview of the Central Coast Water Board in the MMRP are incorporated herein by reference.

The Permittee's application for this Order, including all supplemental information provided, is incorporated herein by reference.

C. Findings

The FEIR describes the potential significant environmental effects to water resources. Having considered the whole of the record, the Central Coast Water Board makes the following findings:

1. Findings regarding impacts that will be avoided or mitigated to a less than significant level. (Pub. Resources Code, § 21081, subd. (a)(1); Cal. Code Regs., tit. 14, § 15091, subd. (a)(1).)

   Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

   <u>a.i. Potential Significant Impact:</u>
   Flooding could be exacerbated downstream of the Hale Avenue Extension during large storm events, and the increased rate and volume of stormwater runoff could result in downstream erosion and sedimentation.

a.ii. Facts in Support of Finding:
The project is required to comply with post-construction stormwater requirements and prepare and comply with a Stormwater Control Plan. The project shall ensure that post-project runoff not exceed pre-project flow rates for the two-year, 24-hour storm. The project has incorporated bioswales along the roadway extension to treat runoff, and detention basins to alleviate and manage runoff flow. In accordance with City of Morgan Hill storm drain design standards, the two detention basins must be sized to contain a 24-hour, 25-year storm.

D. Determination

The Central Coast Water Board has determined that the Project, when implemented in accordance with the MMRP and the conditions in this Order, will not result in any significant adverse water quality or supply impacts. (Cal. Code Regs., tit. 14, § 15096, subd. (h).)