



**CITY OF SAUSALITO
SAUSALITO, CALIFORNIA**

**CONTRACT DOCUMENTS AND SPECIFICATIONS
FOR
FERRY LANDSIDE IMPROVEMENT PROJECT**

JUNE 2024

PUBLIC WORKS DEPARTMENT
420 Litho Street
Sausalito, California 94965
(415) 289 – 4106

**Kevin McGowan, PE
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER**

Bid Opening: July 22, 2024

Contract Performance Time: 90 Calendar Days
Liquidated Damages: \$1,500 per Calendar Day



Location Map
City of Sausalito

TABLE OF CONTENTS

	<u>Page</u>
00 11 16 – NOTICE INVITING BIDS	5
00 21 13 – INSTRUCTIONS TO BIDDERS	9
ARTICLE 1. SECURING DOCUMENTS	9
ARTICLE 2. EXAMINATION OF SITE AND CONTRACT DOCUMENTS.....	9
ARTICLE 3. INTERPRETATION OF DRAWINGS AND DOCUMENTS	9
ARTICLE 4. PRE-BID CONFERENCE	10
ARTICLE 5. ADDENDA	10
ARTICLE 6. ALTERNATE BIDS	10
ARTICLE 7. COMPLETION OF BID FORMS	10
ARTICLE 8. MODIFICATIONS OF BIDS	11
ARTICLE 9. SUBCONTRACTORS.....	11
ARTICLE 10. LICENSING REQUIREMENTS.....	11
ARTICLE 11. BID GUARANTEE (BOND)	11
ARTICLE 12. IRAN CONTRACTING ACT OF 2010	12
ARTICLE 13. NONCOLLUSION DECLARATION.....	12
ARTICLE 14. PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION	12
ARTICLE 15. BIDDER INFORMATION AND EXPERIENCE FORM.....	12
ARTICLE 16. WORKERS' COMPENSATION CERTIFICATION.....	12
ARTICLE 17. CALIFORNIA AIR RESOURCES BOARD COMPLIANCE	13
ARTICLE 18. SIGNING OF BIDS	13
ARTICLE 19. SUBMISSION OF SEALED BIDS	13
ARTICLE 20. OPENING OF BIDS	14
ARTICLE 21. WITHDRAWAL OF BID.....	14
ARTICLE 22. BIDDERS INTERESTED IN MORE THAN ONE BID	14
ARTICLE 23. SUBSTITUTION OF SECURITY.....	14
ARTICLE 24. PREVAILING WAGES	15
ARTICLE 25. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS	15
ARTICLE 26. INSURANCE REQUIREMENTS	15
ARTICLE 27. PERFORMANCE BOND AND PAYMENT BOND REQUIREMENTS.....	15
ARTICLE 28. SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES	15
ARTICLE 29. PERMIT AND INSPECTION FEE ALLOWANCE	15
ARTICLE 30. FILING OF BID PROTESTS	16

TABLE OF CONTENTS

(Continued)

	<u>Page</u>
ARTICLE 31. BASIS OF AWARD; BALANCED BID	16
ARTICLE 32. AWARD PROCESS	16
ARTICLE 33. EXECUTION OF CONTRACT	17
ARTICLE 34. QUESTIONS.....	17
00 41 43 – BID FORMS	18
ARTICLE 1. INFORMATION ABOUT BIDDER	34
ARTICLE 2. LIST OF CURRENT PROJECTS (BACKLOG).....	37
ARTICLE 3. LIST OF COMPLETED PROJECTS – LAST THREE YEARS.....	38
ARTICLE 4. EXPERIENCE AND TECHNICAL QUALIFICATIONS QUESTIONNAIRE	39
ARTICLE 5. VERIFICATION AND EXECUTION.....	40
00 52 13 – CONTRACT	46
00 61 13 – BOND FORMS	50
00 72 13 – GENERAL CONDITIONS.....	59
ARTICLE 1. DEFINED TERMS	59
ARTICLE 2. CONTRACT DOCUMENTS	63
ARTICLE 3. PRECONSTRUCTION AND CONSTRUCTION COMMUNICATION.....	63
ARTICLE 4. CONTRACT DOCUMENTS: COPIES & MAINTENANCE.....	64
ARTICLE 5. EXAMINATION OF DRAWINGS, SPECIFICATIONS AND SITE OF WORK	64
ARTICLE 6. MOBILIZATION	64
ARTICLE 7. EXISTENCE OF UTILITIES AT THE WORK SITE.....	65
ARTICLE 8. CONTRACTOR	66
ARTICLE 9. SOILS INVESTIGATIONS	66
ARTICLE 10. CONTRACTOR'S SUPERVISION	67
ARTICLE 11. WORKERS	67
ARTICLE 12. INDEPENDENT CONTRACTORS.....	67
ARTICLE 13. SUBCONTRACTS	67
ARTICLE 14. VERIFICATION OF EMPLOYMENT ELIGIBILITY	68
ARTICLE 15. REQUESTS FOR SUBSTITUTION.....	68
ARTICLE 16. SHOP DRAWINGS	69
ARTICLE 17. SUBMITTALS	70
ARTICLE 18. MATERIALS	70
ARTICLE 19. PERMITS AND LICENSES.....	71

TABLE OF CONTENTS

(Continued)

	<u>Page</u>
ARTICLE 20. TRENCHES	71
ARTICLE 21. TRAFFIC CONTROL	72
ARTICLE 22. DIVERSION OF RECYCLABLE WASTE MATERIALS	73
ARTICLE 23. REMOVAL OF HAZARDOUS MATERIALS	73
ARTICLE 24. SANITARY FACILITIES	73
ARTICLE 25. AIR POLLUTION CONTROL	73
ARTICLE 26. LAYOUT AND FIELD ENGINEERING	74
ARTICLE 27. TESTS AND INSPECTIONS.....	74
ARTICLE 28. PROTECTION OF WORK AND PROPERTY.....	74
ARTICLE 29. CONTRACTOR'S MEANS AND METHODS.....	75
ARTICLE 30. COMPLIANCE WITH CALIFORNIA AIR RESOURCES BOARD REGULATIONS	75
ARTICLE 31. AUTHORIZED REPRESENTATIVES	75
ARTICLE 32. HOURS OF WORK.....	76
ARTICLE 33. PAYROLL RECORDS; LABOR COMPLIANCE	77
ARTICLE 34. PREVAILING RATES OF WAGES	78
ARTICLE 35. PUBLIC WORKS CONTRACTOR REGISTRATION	79
ARTICLE 36. EMPLOYMENT OF APPRENTICES	79
ARTICLE 37. NONDISCRIMINATION/EQUAL EMPLOYMENT OPPORTUNITY	79
ARTICLE 38. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS	80
ARTICLE 39. LABOR/EMPLOYMENT SAFETY	80
ARTICLE 40. INSURANCE.....	81
ARTICLE 41. FORM AND PROOF OF CARRIAGE OF INSURANCE	84
ARTICLE 42. TIME FOR COMPLETION AND LIQUIDATED DAMAGES	85
ARTICLE 43. COST BREAKDOWN AND PERIODIC ESTIMATES	86
ARTICLE 44. PROGRESS ESTIMATES AND PAYMENT	86
ARTICLE 45. SECURITIES FOR MONEY WITHHELD.....	88
ARTICLE 46. CHANGES AND EXTRA WORK.....	88
ARTICLE 47. FINAL ACCEPTANCE AND PAYMENT	102
ARTICLE 48. OCCUPANCY	103
ARTICLE 49. INDEMNIFICATION	103
ARTICLE 50. PROCEDURE FOR RESOLVING DISPUTES	104
ARTICLE 51. CITY'S RIGHT TO TERMINATE CONTRACT	108
ARTICLE 52. WARRANTY AND GUARANTEE OF WORK.....	111

TABLE OF CONTENTS
(Continued)

	<u>Page</u>
ARTICLE 53. DOCUMENT RETENTION & EXAMINATION	113
ARTICLE 54. SEPARATE CONTRACTS.....	113
ARTICLE 55. NOTICE AND SERVICE THEREOF	114
ARTICLE 56. NOTICE OF THIRD PARTY CLAIMS.....	114
ARTICLE 57. STATE LICENSE BOARD NOTICE	114
ARTICLE 58. INTEGRATION	115
ARTICLE 59. ASSIGNMENT OF CONTRACT.....	115
ARTICLE 60. CHANGE IN NAME AND NATURE OF CONTRACTOR'S LEGAL ENTITY	115
ARTICLE 61. ASSIGNMENT OF ANTITRUST ACTIONS.....	115
ARTICLE 62. PROHIBITED INTERESTS	115
ARTICLE 63. CONTROLLING LAW	116
ARTICLE 64. JURISDICTION; VENUE.....	116
ARTICLE 65. LAWS AND REGULATIONS.....	116
ARTICLE 66. PATENTS	116
ARTICLE 67. OWNERSHIP OF CONTRACT DOCUMENTS	116
ARTICLE 68. NOTICE OF TAXABLE POSSESSORY INTEREST	116
ARTICLE 69. SURVIVAL OF OBLIGATIONS	116
00 73 13 – SPECIAL CONDITIONS.....	118
FEDERAL TERMS AND CONDITIONS	121
01 00 00 – GENERAL REQUIREMENTS.....	173
TECHNICAL SPECIFICATIONS	192
EXHIBIT "A" CHANGE ORDER FORM.....	1

00 11 16 – NOTICE INVITING BIDS

NOTICE IS HEREBY GIVEN that the City of Sausalito (“City”) invites and will receive sealed Bids up to but not later than **2 p.m. on Monday, July 22, 2024** at the office of the City Hall, located at 420 Litho Street, Sausalito, CA 94965, for the furnishing to City of all labor, equipment, materials, tools, services, transportation, permits, utilities, and all other items necessary for **FERRY LANDSIDE IMPROVEMENT PROJECT** (the “Project”). At said time, Bids will be publicly opened and read aloud at 420 Litho Street, Sausalito, CA 94965. Bids received after said time shall be returned unopened. Bids shall be valid for a period of 90 calendar days after the Bid opening date.

The Project includes improvements to support the expansion of the existing concrete pedestrian plaza at the ferry dock, located near the intersection of Tracy Way and El Portal, and associated pedestrian walkability and bicycle circulation improvements. The work consists of, but is not limited to: new concrete flatwork at the pedestrian plaza; new curb, gutter, and sidewalk; new concrete ADA parking stalls; utility trenching and installation for domestic water, storm drainage improvements, and electrical conduit; relocation of solar-powered parking ticket machines; relocation of Sally Sanford water foundation; tree removal and tree planting; landscaping and irrigation; pavement grinding and use surfacing; minor striping, marking, and signage improvements; traffic control; water pollution control; demolition of existing hardscape and softscape surfaces to facilitate construction; and ancillary work as shown on the project plans. Construction will need to be staged to allow for continual vehicle access to and around the adjacent parking lot and to the Sausalito Yacht Club, and continual pedestrian access to and from the ferry dock.

Bids must be submitted on the City’s Bid Forms. Bidders may obtain a copy of the Contract Documents from the City of Sausalito website: <https://www.sausalito.gov/departments/public-works/bid-notices>. To the extent required by section 20103.7 of the Public Contract Code, upon request from a contractor plan room service, the City shall provide an electronic copy of the Contract Documents at no charge to the contractor plan room.

It is the responsibility of each prospective bidder to download and print all Bid Documents for review and to verify the completeness of Bid Documents before submitting a bid. Any Addenda will be posted on the City of Sausalito website: <https://www.sausalito.gov/departments/public-works/bid-notices>. It is the responsibility of each prospective bidder to check said website on a daily basis through the close of bids for any applicable addenda or updates. The City does not assume any liability or responsibility based on any defective or incomplete copying, excerpting, scanning, faxing, downloading or printing of the Bid Documents. Information on City of Sausalito’s website may change without notice to prospective bidders. The Contract Documents shall supersede any information posted or transmitted by City of Sausalito’s website.

Each Bid shall be accompanied by cash, a certified or cashier’s check, or Bid Bond secured from a surety company satisfactory to the City, the amount of which shall not be less than ten percent (10%) of the submitted Total Bid Price, made payable to City of Sausalito as bid security. The bid security shall be provided as a guarantee that within ten (10) working days after the City provides the successful bidder the Notice of Award, the successful Bidder will enter into a contract and provide the necessary bonds and certificates of insurance. The bid security will be declared forfeited if the successful Bidder fails to comply within said time. No interest will be paid on funds deposited with City.

A nonmandatory Pre-Bid Conference is scheduled for 2 p.m. on Thursday, July 11, 2024, to review the Project’s existing conditions at the following location: Sausalito City Hall, 420 Litho St., Sausalito, CA 94965. Representatives of the City and consulting engineers, if any, will be present.

Questions asked by Bidders at the Pre-Bid Conference not specifically addressed within the Contract Documents shall be answered in writing, and questions and responses will be posted in the same location where the solicitation documents are posted so that all potential bidders can find them.

The successful Bidder will be required to furnish a Faithful Performance Bond and a Labor and Material Payment Bond each in an amount equal to one hundred percent (100%) of the Contract Price. Each bond shall be in the forms set forth herein, shall be secured from a surety company that meets all State of California bonding requirements, as defined in California Code of Civil Procedure Section 995.120, and that is a California admitted surety insurer.

Pursuant to Section 22300 of the Public Contract Code of the State of California, the successful Bidder may substitute certain securities for funds withheld by City to ensure its performance under the contract.

Pursuant to Labor Code Section 1773, City has obtained the prevailing rate of per diem wages and the prevailing wage rate for holiday and overtime work applicable in Marin County from the Director of the Department of Industrial Relations for each craft, classification, or type of worker needed to execute this contract. A copy of these prevailing wage rates may be obtained via the internet at: www.dir.ca.gov/dlsr/

In addition, a copy of the prevailing rate of per diem wages is available at the City's the City's Department of Public Works and shall be made available to interested parties upon request. The successful bidder shall post a copy of the prevailing wage rates at each job site. It shall be mandatory upon the Bidder to whom the Contract is awarded, and upon any subcontractors, to comply with all Labor Code provisions, which include but are not limited to the payment of not less than the said specified prevailing wage rates to all workers employed by them in the execution of the Contract, employment of apprentices, hours of labor and debarment of contractors and subcontractors.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No Bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this Project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its Bid.

Minimum wage rates for this Project, as determined by the U.S. Secretary of Labor, are explained and set forth in the "S10.10 DAVIS-BACON ACT REQUIREMENTS" section and "Exhibit E - Davis-Bacon Act Wages" of the bid solicitation documents. If there is a difference between the minimum wage rates determined by the Secretary of Labor and the prevailing wage rates

determined by the State for similar classifications of labor, Contractor and its subcontractors shall pay no less than the higher wage rate.

Unless otherwise provided in the Instructions for Bidders, each Bidder shall be a licensed contractor pursuant to sections 7000 et seq. of the Business and Professions Code in the following classification(s) throughout the time it submits its Bid and for the duration of the contract: (A) General Engineering Contractor.

Substitution requests shall be made within 35 calendar days after the award of the contract. Pursuant to Public Contract Code Section 3400(b), the City may make findings designating that certain additional materials, methods or services by specific brand or trade name other than those listed in the Standard Specifications be used for the Project. Such findings, if any, as well as the materials, methods or services and their specific brand or trade names that must be used for the Project may be found in the Special Conditions.

The California Air Resources Board (“CARB”) implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulations (“Regulation”) which went into effect on January 1, 2024 and apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California. A copy of the Regulation is available at <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf>. Bidders are required to comply with all CARB and Regulation requirements, including, without limitation, all applicable sections of the Regulation, as codified in Title 13 of the California Code of Regulations section 2449 et seq. throughout the duration of the Project. Bidders must provide, with their Bid, copies of Bidder’s and all listed subcontractors’ most recent, valid Certificate of Reported Compliance (“CRC”) issued by CARB. Failure to provide valid CRCs as required herein may render the Bid non-responsive.

Due to the financial assistance from the U.S. Department of Transportation, this Contract is also subject to Buy America compliance. Bidders will be required to submit an executed Buy America Certificate (Attachment C of the “S10.02. BUY AMERICA REQUIREMENT” section of the bid solicitation documents). With regard to meeting the Buy America requirements, Bidders’ attention is directed to the FTA’s Dear Colleague letter dated September 16, 2016, located at <https://www.transit.dot.gov/regulations-and-guidance/buyamerica/fta-guidance-letter-buy-america-small-purchase-waivers>. In light of the FTA’s advice contained therein, with regard to the granting of Buy America waivers, the City of Sausalito will not award a contract to a Bidder that does not certify compliance with the Buy America requirements on the “Buy America Certificate” included in the Proposal.

The City of Sausalito hereby notifies all Bidders that it is the policy of the City of Sausalito to ensure nondiscrimination on the basis of race, color, national origin, or sex in the award and administration of contracts. Bidders are strongly encouraged to obtain Disadvantaged and Small Business Enterprise (DBE/SBE) participation on this Project. **Disadvantaged Business Enterprises (DBEs) are, by definition, considered to be SBEs, and are covered by the references to SBEs in this document.** In order to achieve such participation, the City of Sausalito has developed procedures to remove barriers to DBE participation in the bidding and award process and to assist DBEs to develop and compete successfully outside of the DBE Program. These procedures include the establishment of an SBE goal applicable to this contract. The City of Sausalito has evaluated subcontracting opportunities for this Contract and determined that such opportunities exist and has established an **SBE goal of 25.5%**. Bidders must meet the contract-specific SBE goal or demonstrate good faith efforts to do so. All bidders must document their efforts to achieve this goal by submitting the following attachments: *Prime Contractor and*

Subcontractor/Subconsultant/Supplier Report, SBE Goal Declaration; Small Business Enterprise Affidavit of Size, if applicable; and Good Faith Efforts Documentation. Bidders are encouraged to attend the pre-bid meeting to better understand the applicable DBE/SBE requirements. For DBE/SBE assistance, contact City of Sausalito's DPW Director and City Engineer, Kevin McGowan, kmcgowan@sausalito.gov, 415-289-4176.

City shall award the contract for the Project to the lowest responsive, responsible Bidder as determined by the City from the Base Bid. City reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process.

For further information, contact the Project Manager Sara Khorshidifard, at skhorshidifard@sausalito.gov, or 628-288-9914.

END OF NOTICE INVITING BIDS

00 21 13 – INSTRUCTIONS TO BIDDERS

ARTICLE 1. SECURING DOCUMENTS

Bids must be submitted to the City on the Bid Forms which are a part of the Bid Package for the Project. Bid and Contract Documents may be obtained from the City of Sausalito website: <https://www.sausalito.gov/departments/public-works/bid-notice> in the Notice Inviting Bids. Any charge for the Contract Documents is stated in the Notice Inviting Bids.

The City may also make the Contract Documents available for review at one or more plan rooms, as indicated in the Notice Inviting Bids. Please Note: Prospective Bidders who choose to review the Contract Documents at a plan room must contact the City to obtain the required Contract Documents if they decide to submit a bid for the Project.

Failure to acknowledge addenda may make a bid nonresponsive and not eligible for award of the contract.

ARTICLE 2. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

At its own expense and prior to submitting its Bid, each Bidder shall visit the site of the proposed work and fully acquaint itself with the conditions relating to the construction and labor required so that the Bidder may fully understand the work, including but not limited to difficulties and restrictions attending the execution of the work under the contract. Each Bidder shall carefully examine the Drawings, and shall read the Specifications, Contract, and all other documents referenced herein. Each Bidder shall also determine the local conditions which may in any way affect the performance of the work, including local tax structure, contractors' licensing requirements, availability of required insurance, the prevailing wages and other relevant cost factors, shall familiarize itself with all federal, state and local laws, ordinances, rules, regulations and codes affecting the performance of the work, including the cost of permits and licenses required for the work, and shall make such surveys and investigations, including investigations of subsurface or latent physical conditions at the site or where work is to be performed as may be required. Bidders are responsible for consulting the standards referenced in the Contract. The failure or omission of any Bidder to receive or examine any contract documents, forms, instruments, addenda, or other documents, or to visit the site and acquaint itself with conditions there existing shall in no way relieve any Bidder from any obligation with respect to its Bid or to the contract and no relief for error or omission will be given except as required under State law. The submission of a Bid shall be taken as conclusive evidence of compliance with this Article.

ARTICLE 3. INTERPRETATION OF DRAWINGS AND DOCUMENTS

Prospective Bidders unclear as to the true meaning of any part of the Drawings, Specifications or other proposed contract documents may submit to the Engineer of the City a written request for interpretation. The prospective Bidder submitting the request is responsible for prompt delivery. Interpretation of the Drawings, Specifications or other proposed contract documents will be made only by a written addendum duly issued and a copy of such addenda will be mailed or delivered to each prospective Bidder who has purchased a set of Drawings and Specifications. The City will not be responsible for any other explanation or interpretations of the proposed documents. If a Prospective Bidder becomes aware of any errors or omissions in any part of the Contract Documents, it is the obligation of the Prospective Bidder to promptly bring it to the attention of the City.

ARTICLE 4. PRE-BID CONFERENCE

A non-mandatory Pre-Bid Conference is scheduled for 2 p.m. on Thursday, July 11, 2024 to review the Project's existing conditions at the following location: Sausalito City Hall, 420 Litho St., Sausalito, CA 94965. Representatives of the City and consulting engineers, if any, will be present. Questions asked by Bidders at the Pre-Bid Conference not specifically addressed within the Contract Documents shall be answered in writing, and questions and responses will be posted in the same location where the solicitation documents are posted so that all potential bidders can find them.

ARTICLE 5. ADDENDA

The City reserves the right to revise the Contract Documents prior to the Bid opening date. Revisions, if any, shall be made by written Addenda. All Addenda issued by the City shall be included in the Bid and made part of the Contract Documents. Pursuant to Public Contract Code Section 4104.5, if the City issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of Bids, the City will extend the deadline for submission of Bids. The City may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid submission date. Each prospective Bidder shall provide City a name, address, email address, and facsimile number to which Addenda may be sent, as well as a telephone number by which the City can contact the Bidder. Copies of Addenda will be furnished by email, facsimile, first class mail, express mail or other proper means of delivery without charge to all parties who have obtained a copy of the Contract Documents and provided such current information. Please Note: Bidders are responsible for ensuring that they have received any and all Addenda. To this end, each Bidder should contact the Engineering Division to verify that it has received all Addenda issued, if any, prior to the Bid opening. The Bidder shall indicate the Addenda received prior to bidding in the space provided in the Bid Form. Failure to indicate all Addenda may be sufficient cause for rejecting the Bid.

ARTICLE 6. ALTERNATE BIDS

If alternate bid items are called for in the Contract Documents, the time required for completion of the alternate bid items has already been factored into the Contract duration and no additional Contract time will be awarded for any of the alternate bid items. The City may elect to include one or more of the alternate bid items, or to otherwise remove certain work from the Project scope of work. Accordingly, each bidder must ensure that each bid item contains a proportionate share of profit, overhead, and other costs or expenses which will be incurred by the bidder.

ARTICLE 7. COMPLETION OF BID FORMS

Bids shall only be prepared using copies of the Bid Forms which are included in the Contract Documents. The use of substitute Bid Forms other than clear and correct photocopies of those provided by the City will not be permitted. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable), and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make substitutions thereon. **USE OF BLACK OR BLUE INK, INDELIBLE PENCIL, OR A TYPEWRITER IS REQUIRED.** Deviations in the Bid Forms may result in the Bid being deemed non-responsive.

ARTICLE 8. MODIFICATIONS OF BIDS

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall not delete, modify, or supplement the printed matter on the Bid Forms, or make substitutions thereon. Oral, telephonic and electronic modifications will not be considered.

ARTICLE 9. SUBCONTRACTORS

Bidder shall set forth the name, address of the place of business, DIR public works contractor registration number unless exempt pursuant to Labor Code Sections 1725.5 and 1771.1, and contractor license number of each subcontractor who will perform work, labor, furnish materials or render services to the bidder on said contract and each subcontractor licensed by the State of California who, under subcontract to bidder, specially fabricates and installs a portion of the Work described in the Drawings and Specifications in an amount in excess of one half of one percent (0.5%) of the total bid price, and shall indicate the portion of the work to be done by such subcontractor in accordance with Public Contract Code Section 4104.

ARTICLE 10. LICENSING REQUIREMENTS

Pursuant to Business and Professions Code Section 7028.15 and Public Contract Code Section 3300, all bidders must possess proper licenses for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Business and Professions Code Section 7028.5, the City shall consider any bid submitted by a contractor not currently licensed in accordance with state law and pursuant to the requirements found in the Contract Documents to be nonresponsive, and the City shall reject the Bid. The City shall have the right to request, and Bidders shall provide within ten (10) calendar days, evidence satisfactory to the City of all valid license(s) currently held by that Bidder and each of the Bidder's subcontractors, before awarding the Contract.

Notwithstanding anything contained herein, if the Work involves federal funds, the Contractor shall be properly licensed by the time the Contract is awarded, pursuant to the provisions of Public Contract Code section 20103.5.

ARTICLE 11. BID GUARANTEE (BOND)

Each bid shall be accompanied by: (a) cash; (b) a certified or cashier's check made payable to City of Sausalito; or (c) a Bid Bond secured from a surety company satisfactory to the City, the amount of which shall not be less than ten percent (10%) of the Total Bid Price, made payable to City of Sausalito as bid security. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120. The bid security shall be provided as a guarantee that within ten (10) working days after the City provides the successful bidder the Notice of Award, the successful bidder will enter into a contract and provide the necessary bonds and certificates of insurance. The bid security will be declared forfeited if the successful bidder fails to comply within said time, and City may enter into a contract with the next lowest responsive responsible bidder, or may call for new bids. No interest shall be paid on funds deposited with the City. City will return the security accompanying the bids of all unsuccessful bidders no later than 60 calendar days after award of the contract.

ARTICLE 12. IRAN CONTRACTING ACT OF 2010

In accordance with Public Contract Code Section 2200 *et seq.*, the City requires that any person that submits a bid or proposal or otherwise proposes to enter into or renew a contract with the City with respect to goods or services of one million dollars (\$1,000,000) or more, certify at the time the bid is submitted or the contract is renewed, that the person is not identified on a list created pursuant to subdivision (b) of Public Contract Code Section 2203 as a person engaging in investment activities in Iran described in subdivision (a) of Public Contract Code Section 2202.5, or as a person described in subdivision (b) of Public Contract Code Section 2202.5, as applicable.

The form of such Iran Contracting Certificate is included with the bid package and must be signed and dated under penalty of perjury.

ARTICLE 13. NONCOLLUSION DECLARATION

Bidders on all public works contracts are required to submit a declaration of noncollusion with their bid. This form is included with the bid package and must be signed and dated under penalty of perjury.

ARTICLE 14. PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a contract, the bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project. To this end, Bidder shall sign and submit with its Bid the Public Works Contractor Registration Certification on the form provided, attesting to the facts contained therein. Failure to submit this form may render the bid non-responsive. In addition, each Bidder shall provide the registration number for each listed subcontractor in the space provided in the Designation of Subcontractors form.

ARTICLE 15. BIDDER INFORMATION AND EXPERIENCE FORM

Each Bidder shall complete the questionnaire provided herein and shall submit the questionnaire along with its Bid. Failure to provide all information requested within the questionnaire along with the Bid may cause the bid to be rejected as non-responsive. The City reserves the right to reject any Bid if an investigation of the information submitted does not satisfy the Engineer that the Bidder is qualified to properly carry out the terms of the contract.

ARTICLE 16. WORKERS' COMPENSATION CERTIFICATION

In accordance with the provisions of Labor Code Section 3700, Contractor shall secure the payment of compensation to its employees. Contractor shall sign and file with the City the following certificate prior to performing the work under this Contract:

I am aware of the provisions of Section 3700 of the Labor Code, 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 of this contract.

The form of such Workers' Compensation Certificate is included as part of this document.

ARTICLE 17. CALIFORNIA AIR RESOURCES BOARD COMPLIANCE

The City is a Public Works Awarding Body, as defined under Title 13 California Code of Regulations section 2449(c)(46). Accordingly, Bidders must submit, with their Bids, valid Certificates of Reported Compliance ("CRC") for the Bidder's fleet and for the fleet(s) of its listed subcontractors (including any applicable leased equipment or vehicles). Bidder must additionally complete and submit the Fleet Compliance Certification, included in the Bid Documents. Failure to provide a CRC for the Bidder, and for all listed subcontractors, or failure to complete the Fleet Compliance Certification, may render the Bid non-responsive.

ARTICLE 18. SIGNING OF BIDS

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or a Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

ARTICLE 19. SUBMISSION OF SEALED BIDS

Once the Bid and supporting documents have been completed and signed as set forth herein, they shall be placed, along with the Bid Guarantee and other required materials, in a sealed envelope, addressed and delivered or mailed, postage prepaid, to the Engineering Department of the City before the time and day set for the receipt of bids. The envelope shall bear the title of the work and the name of the bidder. No oral or telephonic bids will be considered. No forms transmitted via the internet, e-mail, facsimile, or any other electronic means will be considered unless specifically authorized by the City as provided herein. Bids received after the time and day set for the receipt of bids shall be returned to the bidder unopened. The envelope shall also contain the following in the lower left-hand corner thereof:

**Bid of _____
for the FERRY LANDSIDE IMPROVEMENT PROJECT**

Only where expressly permitted in the Notice Inviting Bids may bidders submit their bids via electronic transmission pursuant to Public Contract Code sections 1600 and 1601. Any acceptable method(s) of electronic transmission shall be stated in the Notice Inviting Bids. City may reject any bid not strictly complying with City's designated methods for delivery.

ARTICLE 20. OPENING OF BIDS

At the time and place set for the opening and reading of bids, or any time thereafter, each and every bid received prior to the time and day set for the receipt of bids will be publicly opened and read. The City will leave unopened any Bid received after the specified date and time, and any such unopened Bid will be returned to the bidder. It is the bidder's sole responsibility to ensure that its Bid is received as specified. Bids may be submitted earlier than the date(s) and time(s) indicated.

The public reading of each bid will include the following information:

- A. The name and business location of the bidder.
- B. The nature and amount of the bid security furnished by bidder.
- C. The bid amount.

Bidders or their representatives and other interested persons may be present at the opening of the bids. The City may, in its sole discretion, elect to postpone the opening of the submitted Bids. The City reserves the right to reject any or all Bids and to waive any informality or irregularity in any Bid.

ARTICLE 21. WITHDRAWAL OF BID

Any bid may be withdrawn either personally or by written request, incurring no penalty, at any time prior to the scheduled closing time for receipt of bids. Requests to withdraw bids shall be worded so as not to reveal the amount of the original bid. Withdrawn bids may be resubmitted until the time and day set for the receipt of bids, provided that resubmitted bids are in conformance with the instructions herein.

Bids may be withdrawn after bid opening only by providing written notice to City within five (5) working days of the bid opening and in compliance with Public Contract Code Section 5100 *et seq.*, or as otherwise may be allowed with the consent of the City.

ARTICLE 22. BIDDERS INTERESTED IN MORE THAN ONE BID

No Bidder shall be allowed to make, file or be interested in more than one bid for the same work unless alternate bids are specifically called for. A person, firm or corporation that has submitted a sub-proposal to a Bidder, or that has quoted prices of materials to a Bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders. No person, firm, corporation, or other entity may submit a sub-proposal to a Bidder, or quote prices of materials to a Bidder, when also submitting a prime Bid on the same Project.

ARTICLE 23. SUBSTITUTION OF SECURITY

The Contract Documents call for monthly progress payments based upon the percentage of the Work completed. The City will retain a percentage of each progress payment as provided by the Contract Documents. At the request and expense of the successful Bidder, the City will substitute securities for the amount so retained in accordance with Public Contract Code Section 22300.

ARTICLE 24. PREVAILING WAGES

The City has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract. These rates are available online at <http://www.dir.ca.gov>. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s).

ARTICLE 25. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code Sections 1777.1 or 1777.7. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

ARTICLE 26. INSURANCE REQUIREMENTS

Prior to commencing work, the successful bidder shall purchase and maintain insurance as set forth in the General Conditions.

ARTICLE 27. PERFORMANCE BOND AND PAYMENT BOND REQUIREMENTS

The successful bidder will be required to furnish a Labor and Material Payment Bond and a Faithful Performance Bond each in an amount equal to one hundred percent (100%) of the contract price. Each bond shall be secured from a surety company that meets all State of California bonding requirements, as defined in California Code of Civil Procedure Section 995.120 and is admitted by the State of California. Each bond shall be accompanied, upon the request of City, with all documents required by California Code of Civil Procedure Section 995.660 to the extent required by law. All bonding and insurance requirements shall be completed and submitted to City within ten (10) working days from the date the City provides the successful bidder with the Notice of Award.

ARTICLE 28. SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES

Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay for permits, licenses and fees required by the agencies with authority in the jurisdiction in which the Work will be located, unless otherwise expressly provided by the Contract Documents.

ARTICLE 29. PERMIT AND INSPECTION FEE ALLOWANCE

Notwithstanding anything contained herein, the Bid Form contains an allowance for the Contractor's cost of acquiring traffic control permits and for construction inspection fees that may be charged to the Contractor by the Agency of Jurisdiction. The allowance is included within the Bid Form to eliminate the need by bidders to research or estimate the costs of traffic control permits and construction inspection fees prior to submitting a bid. The allowance is specifically

intended to account for the costs of traffic control permits and construction inspection fees charged by the local Agency of Jurisdiction only. No other costs payable by Contractor to the Agency of Jurisdiction are included within the allowance.

ARTICLE 30. FILING OF BID PROTESTS

Bidders may file a “protest” of a Bid with the City’s Public Works Director. In order for a Bidder’s protest to be considered valid, the protest must:

- A. Be filed in writing within five (5) calendar days after the bid opening date;
- B. Clearly identify the specific irregularity or accusation;
- C. Clearly identify the specific City staff determination or recommendation being protested;
- D. Specify in detail the grounds for protest and the facts supporting the protest; and
- E. Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each of these requirements, the City may reject the protest without further review.

If the protest is timely and complies with the above requirements, the City’s Public Works Director, or other designated City staff member, shall review the protest, any response from the challenged Bidder(s), and all other relevant information. The Public Works Director will provide a written decision to the protestor.

The procedure and time limits set forth in this Article are mandatory and are the sole and exclusive remedy in the event of a Bid protest. Failure to comply with these procedures shall constitute a failure to exhaust administrative remedies and a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings.

ARTICLE 31. BASIS OF AWARD; BALANCED BID

The City shall award the Contract to the lowest responsible Bidder submitting a responsive Bid. The lowest Bid will be determined on the basis of the Base Bid.

The City may reject any Bid which, in its opinion when compared to other Bids received or to the City’s internal estimates, does not accurately reflect the cost to perform the Work. The City may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items.

ARTICLE 32. AWARD PROCESS

Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, the City may award the contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Performance Bond; (2) the Payment Bond; and (3) the required insurance certificates and endorsements. Once the City notifies the Bidder of the award, the Bidder will have ten (10) working days from the date of this notification to execute the Contract and supply the City with all of the required documents and certifications. Regardless of whether the Bidder supplies the required documents and certifications in a timely manner, the Contract

time will begin to run twenty (20) working days from the date of the notification. Once the City receives all of the properly drafted and executed documents and certifications from the Bidder, the City shall issue a Notice to Proceed to that Bidder.

ARTICLE 33. EXECUTION OF CONTRACT

As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The City may require appropriate evidence that the persons executing the Contract are duly empowered to do so. The Contract and bond forms to be executed by the successful Bidder are included within these Specifications and shall not be detached.

ARTICLE 34. QUESTIONS

Questions regarding this Notice Inviting Bids may be directed to project manager Sara Khorshidifard at 628-288-9914 or email at skhorshidifard@sausalito.gov. No other members of the City's staff or governing body should be contacted about this procurement during the bidding process. Any and all inquiries and comments regarding this Bid must be communicated in writing, unless otherwise instructed by the City. The City may, in its sole discretion, disqualify any Bidder who engages in any prohibited communications.

00 41 43 – BID FORMS

1.1 Bid.

Bids will be received at the City of Sausalito, 420 Litho Street, Sausalito, CA 94965, until **2 p.m. on Monday, July 22, 2024.**

NAME OF BIDDER: _____

The undersigned hereby declare that we have carefully examined the location of the proposed Work, and have read and examined the Contract Documents, including all plans, specifications, and all addenda, if any for the following Project:

FERRY LANDSIDE IMPROVEMENT PROJECT

We hereby propose to furnish all labor, materials, equipment, tools, transportation, and services, and to discharge all duties and obligations necessary and required to perform and complete the Project, as described and in strict conformity with the Drawings, and these Specifications for TOTAL BID PRICE indicated herein.

The undersigned acknowledges receipt, understanding, and full consideration of the following addenda to the Contract Documents:

Addenda No. _____

1. Attached is the required Bid Guarantee in the amount of not less than 10% of the Total Bid Price.
2. Attached is the completed Designation of Subcontractors form.
3. Attached is the fully executed Noncollusion Declaration form.
4. Attached is the completed Iran Contracting Act Certification form.
5. Attached is the completed Fleet Compliance Certification form.
6. Attached is the completed Public Works Contractor Registration Certification form.
7. Attached is the completed Contractor's Certificate Regarding Workers' Compensation form.
8. Attached is the completed Bidder Information and Experience form.
9. Attached in the Davis-Bacon Act Wages document.
10. Attached is the Fair Employment Practices Certificate form.
11. Attached is the Disqualification Questionnaire form.
12. Attached is the Buy America Certificate form.
13. Attached is the Equal Opportunity Certification form.
14. Attached is the Disclosure of Lobbying Activities form.
15. Attached is the Bidder's Statement of Qualifications and Business References form.
16. Attached is the SBE Goal Declaration from.
17. Attached is the Small Business Enterprise Affidavit of Size form.
18. Attached is the Good Faith Efforts Documentation form.
19. Attached is the DBE/SBE Confirmation of Participation in Contract form.
20. Attached is the Final Report-Utilization of Disadvantaged Business Enterprises (DBE) and First-Tier Subcontractors form.
21. Attached is the Prime Contractor and Subcontractor/Subconsultant/Supplier Report form.
22. Attached is the Monthly SBE Trucking Verification form.

A. BID SCHEDULE FOR BASE BID

NO.	ITEM DESCRIPTION	UNIT OF MEASURE	EST. QTY.	UNIT PRICE	ITEM COST
1.	MOBILIZATION, DEMOBILIZATION, AND FINAL CLEANUP	LS	1		
2.	TEMPORARY TRAFFIC CONTROL	LS	1		
3.	STORM WATER MANAGEMENT AND EROSION CONTROL	LS	1		
4.	DEMOLITION	SF	23,750		
5.	ASPHALT FULL DEPTH CONFORM	TON	180		
6.	ASPHALT CONCRETE WALKWAY	TON	45		
7.	TYPE "A" CURB & GUTTER	LF	650		
8.	TYPE "E" CURB	LF	90		
9.	PEDESTRIAN CONCRETE (EXPOSED AGGREGATE)	SF	13,985		
10.	CURB RAMP WITH DETECTABLE WARNING SURFACE (COLONIAL RED)	EA	8		
11.	CAST IN PLACE DETECTABLE WARNING SURFACE (COLONIAL RED)	EA	5		
12.	VEHICULAR CONCRETE	SF	1,955		
13.	4-INCH THERMOPLASTIC STRIPING	LF	250		
14.	6-IN THERMOPLASTIC STRIPING	LF	340		
15.	CONTINENTAL CROSSWALK	SF	2,285		
16.	PAVEMENT MARKINGS	EA	15		
17.	STRIPING PARKING STALL NUMBER	EA	7		
18.	REINSTALL EXISTING SIGN ON NEW POLE	EA	16		
19.	NEW SIGN ON NEW POLE	EA	10		
20.	SELF-SERVICE PAY STATION RELOCATION	EA	6		

21.	FOUNTAIN RELOCATION	LS	1		
22.	TYPE "A" CATCH BASIN	EA	1		
23.	TRENCH DRAIN	LS	1		
24.	12-INCH STORM DRAIN (HDPE)	EA	1		
25.	ADJUST UTILITY TO GRADE	EA	7		
26.	RESET NGS BENCHMARK	EA	1		
27.	RESET SURVEY MONUMENT	EA	1		
28.	BIORETENTION AREA	LS	1		
29.	BOLLARDS	EA	19		
30.	MISCELLANEOUS FURNISHINGS AND FENCING	LS	1		
31.	IRRIGATION	LS	1		
32.	PLANTING	LS	1		
33.	ELECTRICAL MANHOLE	EA	1		

TOTAL BID PRICE BASED ON BID SCHEDULE TOTAL OF UNIT PRICES FOR BASE BID	
\$ _____	_____
	Total Bid Price in Numbers
\$ _____	_____
	Total Bid Price in Written Form
In case of discrepancy between the written price and the numerical price, the written price shall prevail.	

B. BID SCHEDULE FOR BID ALTERNATIVE 1: WIDENED CONCRETE SIDEWALK AT HUMBOLDT AVENUE

NO.	ITEM DESCRIPTION	UNIT OF MEASURE	EST. QTY.	UNIT PRICE	ITEM COST
1.	DEMOLITION	SF	3,895		
2.	ASPHALT FULL DEPTH CONFORM	TON	40		
3.	ASPHALT CONCRETE WALKWAY (DEDUCT)	TON	45		
4.	TYPE "A" CURB & GUTTER	LF	240		
5.	PEDESTRIAN CONCRETE (EXPOSED AGGREGATE)	SF	3,100		
6.	CURB RAMP WITH DETECTABLE WARNING SURFACE (COLONIAL RED)	EA	2		
7.	ADJUST UTILITY TO GRADE	EA	2		
8.	REINSTALL EXISTING SIGN ON NEW POLE	EA	2		

<p>TOTAL BID PRICE BASED ON BID SCHEDULE TOTAL OF UNIT PRICES FOR BID ALTERNATIVE 1</p>	
\$	_____
	Total Bid Price in Numbers
\$	_____
	Total Bid Price in Written Form
<p>In case of discrepancy between the written price and the numerical price, the written price shall prevail.</p>	

C. BID SCHEDULE FOR BID ALTERNATIVE 2: GRAVELPAVE ON TRACY WAY

NO.	ITEM DESCRIPTION	UNIT OF MEASURE	EST. QTY.	UNIT PRICE	ITEM COST
1.	ASPHALT GRINDING	SF	5,100		
2.	PLACE AND COMPACT ASPHALT GRINDING	SF	5,100		
3.	GRAVELPAVE – TYPE 2	SF	5,100		
4.	GRAVEL FILL	CY	15		
5.	PEDESTRIAL CONCRETE (EXPOSED AGGREGATE)	SF	150		

<p>TOTAL BID PRICE BASED ON BID SCHEDULE TOTAL OF UNIT PRICES FOR BID ALTERNATIVE 2</p> <p>\$ _____ Total Bid Price in Numbers</p> <p>\$ _____ Total Bid Price in Written Form</p> <p>In case of discrepancy between the written price and the numerical price, the written price shall prevail.</p>

D. BID SCHEDULE FOR BID ALTERNATIVE 3: REPLACE STANDARD BOLLARDS WITH LIGHTED BOLLARDS

NO.	ITEM DESCRIPTION	UNIT OF MEASURE	EST. QTY.	UNIT PRICE	ITEM COST
1.	LIGHTED BOLLARDS	EA	19		
2.	BOLLARDS (DEDUCT)	EA	19		

<p>TOTAL BID PRICE BASED ON BID SCHEDULE TOTAL OF UNIT PRICES FOR BID ALTERNATIVE 3</p> <p style="margin-top: 20px;">\$ _____ Total Bid Price in Numbers</p> <p style="margin-top: 20px;">\$ _____ Total Bid Price in Written Form</p> <p style="margin-top: 20px;">In case of discrepancy between the written price and the numerical price, the written price shall prevail.</p>

E. BID SCHEDULE FOR BID ALTERNATIVE 4: EXCLUDE IMPROVEMENTS AT TRACY WAY

NO.	ITEM DESCRIPTION	UNIT OF MEASURE	EST. QTY.	UNIT PRICE	ITEM COST
1.	DEMOLITION (DEDUCT)				
2.	ASPHALT FULL DEPTH CONFORM (DEDUCT)				
3.	TYPE "A" CURB & GUTTER (DEDUCT)				
4.	TYPE "E" CURB (DEDUCT)				
5.	PEDESTRIAN CONCRETE (EXPOSED AGGREGATE) (DEDUCT)				
6.	CURB RAMP WITH DETECTABLE WARNING SURFACE (COLONIAL RED) (DEDUCT)				
7.	CAST IN PLACE DETECTABLE WARNING SURFACE (COLONIAL RED) (DEDUCT)				
8.	ADJUST UTILITY TO GRADE (DEDUCT)				
9.	NEW SIGN ON NEW POLE (DEDUCT)				

<p>TOTAL BID PRICE BASED ON BID SCHEDULE TOTAL OF UNIT PRICES FOR BID ALTERNATIVE 4</p>	
\$ _____	_____
	Total Bid Price in Numbers
\$ _____	_____
	Total Bid Price in Written Form
<p>In case of discrepancy between the written price and the numerical price, the written price shall prevail.</p>	

The costs for any Work shown or required in the Contract Documents, but not specifically identified as a line item are to be included in the related line items and no additional compensation shall be due to Contractor for the performance of the Work.

In case of discrepancy between the Unit Price and the Item Cost set forth for a unit basis item, the unit price shall prevail and shall be utilized as the basis for determining the lowest responsive, responsible Bidder. However, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Item Cost" column, then the amount set forth in the "Item Cost" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the Unit Price.

For purposes of evaluating Bids, the City will correct any apparent errors in the extension of unit prices and any apparent errors in the addition of lump sum and extended prices.

The estimated quantities for Unit Price items are for purposes of comparing Bids only and the City makes no representation that the actual quantities of work performed will not vary from the estimates. Final payment shall be determined by the Engineer from measured quantities of work performed based upon the Unit Price.

F. TOTAL BID PRICE:

TOTAL BID PRICE BASED ON BID SCHEDULE TOTAL OF UNIT PRICES FOR FERRY LANDSIDE IMPROVEMENT PROJECT	
\$ _____	Total Bid Price in Numbers
\$ _____	Total Bid Price in Written Form
In case of discrepancy between the written price and the numerical price, the written price shall prevail.	

The undersigned agrees that this Bid Form constitutes a firm offer to the City which cannot be withdrawn for the number of calendar days indicated in the Notice Inviting Bids from and after the Bid opening, or until a Contract for the Work is fully executed by the City and a third party, whichever is earlier.

If the Contract Documents specify Alternate Bid items, the following Alternate Bid amounts shall be added to or deducted from the Total Bid Price entered above (please check the appropriate box), in the City's sole discretion. The City can choose to include any, all, or none of the Alternate Bid items in the Work. If the City selects any of the Alternate Bid items, the corresponding Alternate Bid prices shall be added to or deducted from Base Bid Price for the Work. The City can award/select Alternate Bid items at any time(s).

ALTERNATE BIDS	BID PRICE (IN WRITTEN FORM)	BID PRICE (IN NUMBERS)
ALTERNATE #1 WIDENED CONCRETE SIDEWALK AT HUMBOLDT AVENUE <input checked="" type="checkbox"/> Add <input type="checkbox"/> Deduct		
ALTERNATE #2 GRAVELPAVE ON TRACY WAY <input checked="" type="checkbox"/> Add <input type="checkbox"/> Deduct		
ALTERNATE #3 REPLACE STANDARD BOLLARDS WITH LIGHTED BOLLARDS <input checked="" type="checkbox"/> Add <input type="checkbox"/> Deduct		
ALTERNATE #4 EXCLUDE IMPROVEMENTS AT TRACY WAY <input type="checkbox"/> Add <input checked="" type="checkbox"/> Deduct		

The successful bidder hereby agrees to sign the contract and furnish the necessary bonds and certificates of insurance within ten (10) working days after the City provides the successful bidder with the Notice of Award.

Upon receipt of the signed contract and other required documents, the contract will be executed by the City, after which the City will prepare a letter giving Contractor Notice to Proceed. The official starting date shall be the date of the Notice to Proceed, unless otherwise specified. The undersigned agrees to begin the Work within ten (10) working days of the date of the Notice to Proceed, unless otherwise specified.

The undersigned has examined the location of the proposed work and is familiar with the Drawings and Specifications and the local conditions at the place where work is to be done.

If awarded the contract, the undersigned agrees that there shall be paid by the undersigned and by all subcontractors to all laborers, workers and mechanics employed in the execution of such contract no less than the prevailing wage rate within Marin County for each craft, classification, or type of worker needed to complete the Work contemplated by this contract as established by the Director of the Department of Industrial Relations. A copy of the prevailing rate of per diem wages are on file at the City's Administration Office and shall be made available to interested parties upon request.

Enclosed find cash, bidder's bond, or cashier's or certified check No. _____ from the _____ Bank in the amount of _____, which is not less than ten percent (10%) of this bid, payable to City of Sausalito as bid security and which is

given as a guarantee that the undersigned will enter into a contract and provide the necessary bonds and certificates of insurance if awarded the Work.

The bidder furthermore agrees that in case of bidder's default in executing said contract and furnishing required bonds and certificates of insurance, the cash, bidder's bond, or cashier's or certified check accompanying this proposal and the money payable thereon shall become and shall remain the property of the City of Sausalito.

Bidder is an individual _____, or corporation _____, or partnership _____, organized under the laws of the State of _____.

Bidder confirms license(s) required by California State Contractor's License Law for the performance of the subject project are in full effect and proper order. The following are the Bidder's applicable license number(s), with their expiration date(s) and class of license(s):

If the Bidder is a joint venture, each member of the joint venture must include the required licensing information.

Sureties that will furnish the Faithful Performance Bond and the Labor and Material Payment Bond, in the form specified herein, in an amount equal to one hundred percent (100%) of the contract price within ten (10) working days from the date the City provides the successful bidder the Notice of Award. Sureties must meet all of the State of California bonding requirements, as defined in California Code of Civil Procedure Section 995.120 and must be authorized by the State of California.

The insurance company or companies to provide the insurance required in the contract documents must have a Financial Strength Rating of not less than "A-" and a Financial Size Category of not less than "Class VII" according to the latest Best Key Rating Guide. At the sole discretion of the City, the City may waive the Financial Strength Rating and the Financial Size Category classifications for Workers' Compensation insurance.

(signatures continued on next page)

I hereby certify under penalty of perjury under the laws of the State of California that all of the information submitted in connection with this Bid and all of the representations made herein are true and correct.

Executed at _____, on this ____ day of _____, _____.

(Bidders Name – Print or Type)

(Name and Title)

(Corporate Seal)

(Signature)

Names of individual members of firm or names and titles of all officers of corporation and their addresses are listed below:

Name _____ Title _____

Complete Address _____

Phone _____ FAX _____

Name _____ Title _____

Complete Address _____

Phone _____ FAX _____

Name _____ Title _____

Complete Address _____

Phone _____ FAX _____

Name _____ Title _____

Complete Address _____

Phone _____ FAX _____

1.2 Bid Bond

[Note: Not required when other form of Bidder's Security, e.g. cash, certified check or cashier's check, accompanies bid.]

The makers of this bond are, _____, as Principal, and _____, as Surety and are held and firmly bound unto the City of Sausalito, hereinafter called the City, in the penal sum of TEN PERCENT (10%) OF THE TOTAL BID PRICE of the Principal submitted to City for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying bid dated _____, 20 ____, for Ferry Landside Improvement Project.

If the Principal does not withdraw its Bid within the time specified in the Contract Documents; and if the Principal is awarded the Contract and provides all documents to the City as required by the Contract Documents; then this obligation shall be null and void. Otherwise, this bond will remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents shall in affect its obligation under this bond, and Surety does hereby waive notice of any such changes.

In the event a lawsuit is brought upon this bond by the City and judgment is recovered, the Surety shall pay all litigation expenses incurred by the City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and expenses.

By their signatures hereunder, Surety and Principal hereby confirm under penalty of perjury that surety is an admitted surety insurer authorized to do business in the State of California.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporation.

(Corporate Seal)

Contractor/ Principal

By _____

Title _____

(Corporate Seal)

Surety

By _____

Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title _____

Notary Acknowledgment

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 _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

Name(s) of Signer(s)

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

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- Individual
- Corporate Officer

 Title(s)

 Title or Type of Document

- Partner(s) Limited
- General

 Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

 Date of Document

Signer is representing:
 Name Of Person(s) Or Entity(ies)

 Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

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 _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who 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

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- Individual
- Corporate Officer

 Title(s)

 Title or Type of Document

- Partner(s) Limited
- General

 Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

 Date of Document

Signer is representing:
 Name Of Person(s) Or Entity(ies)

 Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

END OF BID BOND

1.3 List of Subcontractors

In compliance with the Subletting and Subcontracting Fair Practices Act Chapter 4 (commencing at Section 4100), Part 1, Division 2 of the Public Contract Code of the State of California and any amendments thereof, Bidder shall set forth below: (a) the name and the location of the place of business, (b) the California contractor license number, (c) the DIR public works contractor registration number unless exempt pursuant to Labor Code Sections 1725.5 and 1771.1, and (d) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the work or improvement to be performed under this Contract in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price. Notwithstanding the foregoing, if the work involves the construction of streets and highways, then the Bidder shall list each subcontractor who will perform work or labor or render service to the Bidder in or about the work in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If a Bidder fails to specify a subcontractor or if a contractor specifies more than one subcontractor for the same portion of work, then the Bidder shall be deemed to have agreed that it is fully qualified to perform that portion of work and that it shall perform that portion itself.

Work to be done by Subcontractor	Name of Subcontractor	Location of Business	CSLB Contractor License No.	DIR Registration Number	% of Work

Work to be done by Subcontractor	Name of Subcontractor	Location of Business	CSLB Contractor License No.	DIR Registration Number	% of Work

(Attach additional sheets if necessary)

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

1.4 Bidder Information and Experience Form

ARTICLE 1. INFORMATION ABOUT BIDDER

(Indicate not applicable (“N/A”) where appropriate.)

NOTE: Where Bidder is a joint venture, pages shall be duplicated and information provided for all parties to the joint venture.

1.0 Name of Bidder: _____

2.0 Type, if Entity: _____

3.0 Bidder Address: _____

Facsimile Number

Telephone Number

Email Address

4.0 How many years has Bidder’s organization been in business as a Contractor?

5.0 How many years has Bidder’s organization been in business under its present name? _____

5.1 Under what other or former names has Bidder’s organization operated? _____

6.0 If Bidder’s organization is a corporation, answer the following:

6.1 Date of Incorporation: _____

6.2 State of Incorporation: _____

6.3 President’s Name: _____

6.4 Vice-President’s Name(s): _____

6.5 Secretary’s Name: _____

6.6 Treasurer’s Name: _____

7.0 If an individual or a partnership, answer the following:

7.1 Date of Organization: _____

7.2 Name and address of all partners (state whether general or limited partnership):

8.0 If other than a corporation or partnership, describe organization and name principals:

9.0 List other states in which Bidder's organization is legally qualified to do business.

10.0 What type of work does the Bidder normally perform with its own forces?

11.0 Has Bidder ever failed to complete any work awarded to it? If so, note when, where, and why:

12.0 Within the last five years, has any officer or partner of Bidder's organization ever been an officer or partner of another organization when it failed to complete a contract? If so, attach a separate sheet of explanation:

13.0 List Trade References:

14.0 List Bank References (Bank and Branch Address):

15.0 Name of Bonding Company and Name and Address of Agent:

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

ARTICLE 4. EXPERIENCE AND TECHNICAL QUALIFICATIONS QUESTIONNAIRE

Personnel:

The Bidder shall identify the key personnel to be assigned to this project in a management, construction supervision or engineering capacity.

1. List each person's job title, name and percent of time to be allocated to this project:

2. Summarize each person's specialized education:

3. List each person's years of construction experience relevant to the project:

4. Summarize such experience:

Bidder agrees that personnel named in this Bid will remain on this Project until completion of all relevant Work, unless substituted by personnel of equivalent experience and qualifications approved in advance by the City.

Changes Occurring Since Prequalification

If any substantive changes have occurred since Bidder submitted its prequalification package for this Project, Bidder shall list them below. If none are listed, Bidder certifies that no substantive changes have occurred.

Additional Bidder's Statements:

If the Bidder feels that there is additional information which has not been included in the questionnaire above, and which would contribute to the qualification review, it may add that information in a statement here or on an attached sheet, appropriately marked:

ARTICLE 5. VERIFICATION AND EXECUTION

These Bid Forms shall be executed only by a duly authorized official of the Bidder:

I declare under penalty of perjury under the laws of the State of California that the foregoing information is true and correct:

Name of Bidder_____

Signature_____

Name_____

Title_____

Date_____

1.5 Non-Collusion Declaration

The undersigned declares:

I am the _____ of _____, the party making the foregoing Bid.

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

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

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

Name of Bidder _____

Signature _____

Name _____

Title _____

1.6 Iran Contracting Act Certification.
(Public Contract Code section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 *et seq.*) is true and correct:

The Contractor is not:

(1) identified on the current list of person and entities engaged in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or

(2) a financial instruction that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

The City has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the City will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.

Signature: _____

Printed Name: _____

Title: _____

Firm Name: _____

Date: _____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for three years.

1.7 Fleet Compliance Certification

Bidder hereby acknowledges that they have reviewed the California Air Resources Board's policies, rules and regulations and are familiar with the requirements of Title 13, California Code of Regulations, Division 3, Chapter 9, effective on January 1, 2024 (the "Regulation"). Bidder hereby certifies, subject to penalty for perjury, that the option checked below relating to the Bidder's fleet, and/or that of their subcontractor(s) ("Fleet") is true and correct:

- The Fleet is subject to the requirements of the Regulation, and the appropriate Certificate(s) of Reported Compliance have been attached hereto.
- The Fleet is exempt from the Regulation under section 2449.1(f)(2), and a signed description of the subject vehicles, and reasoning for exemption has been attached hereto.
- Bidder and/or their subcontractor is unable to procure R99 or R100 renewable diesel fuel as defined in the Regulation pursuant to section 2449.1(f)(3). Bidder shall keep detailed records describing the normal refueling methods, their attempts to procure renewable diesel fuel and proof that shows they were not able to procure renewable diesel (i.e. third party correspondence or vendor bids).
- The Fleet is exempt from the requirements of the Regulation pursuant to section 2449(i)(4) because this Project has been deemed an Emergency, as defined under section 2449(c)(18). Bidder shall only operate the exempted vehicles in the emergency situation and records of the exempted vehicles must be maintained, pursuant to section 2449(i)(4).
- The Fleet does not fall under the Regulation or are otherwise exempted and a detailed reasoning is attached hereto.

Name of Bidder: _____

Signature: _____

Name: _____

Title: _____

Date: _____

1.8 Public Works Contractor Registration Certification

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See <http://www.dir.ca.gov/Public-Works/PublicWorks.html> for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.¹

Name of Bidder: _____

DIR Registration Number: _____

DIR Registration Expiration: _____

Small Project Exemption: _____ Yes or _____ No

Unless Bidder is exempt pursuant to the small project exemption, Bidder further acknowledges:

1. Bidder shall maintain a current DIR registration for the duration of the project.
2. Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
3. Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

¹ If the Project is exempt from the contractor registration requirements pursuant to the small project exemption under Labor Code Sections 1725.5 and 1771.1, please mark "Yes" in response to "Small Project Exemption."

1.9 Contractor's Certificate Regarding Workers' Compensation.

I am aware of the provisions of section 3700 of the Labor Code 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 of this Contract.

Name of Bidder _____

Signature _____

Name _____

Title _____

Dated _____

00 52 13 – CONTRACT

This CONTRACT, No. _____ is made and entered into this ____ day of _____, _____, by and between City of Sausalito, sometimes hereinafter called "City," and _____, sometimes hereinafter called "Contractor."

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other as follows:

a. **SCOPE OF WORK.** The Contractor shall perform all Work within the time stipulated in the Contract, and shall provide all labor, materials, equipment, tools, utility services, and transportation to complete all of the Work required in strict compliance with the Contract Documents as specified in Section (e), below, for the following Project:

FERRY LANDSIDE IMPROVEMENT PROJECT

b. The Contractor and its surety shall be liable to the City for any damages arising as a result of the Contractor's failure to comply with this obligation.

c. **TIME FOR COMPLETION.** Time is of the essence in the performance of the Work. The Work shall be commenced on the date stated in the City's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within 90 calendar days from the commencement date stated in the Notice to Proceed. By its signature hereunder, Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.

d. **CONTRACT PRICE.** The City shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of _____ Dollars (\$ _____). Payment shall be made as set forth in the General Conditions.

e. **LIQUIDATED DAMAGES.** In accordance with Government Code section 53069.85, it is agreed that the Contractor will pay the City the sum set forth in Section 00 73 13, Article 1.11 for each and every calendar day of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated Damages and not as a penalty or forfeiture. In the event this is not paid, the Contractor agrees the City may deduct that amount from any money due or that may become due the Contractor under the Contract. This Article does not exclude recovery of other damages specified in the Contract Documents.

f. **COMPONENT PARTS OF THE CONTRACT.** The "Contract Documents" include the following:

- Notice Inviting Bids
- Instructions to Bidders
- Bid Form
- Bid Bond
- Designation of Subcontractors
- Information Required of Bidders

Non-Collusion Declaration Form
Iran Contracting Act Certification
Public Works Contractor Registration Certification
Performance Bond
Payment (Labor and Materials) Bond
General Conditions
Special Conditions
Technical Specifications
Addenda
Plans and Drawings
Standard Specifications for Public Works Construction "Greenbook", latest edition, Except Sections 1-9
Applicable Local Agency Standards and Specifications, as last revised
Applicable Federal Terms and Conditions
Approved and fully executed change orders
Any other documents contained in or incorporated into the Contract

The Contractor shall complete the Work in strict accordance with all of the Contract Documents.

All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. This Contract shall supersede any prior agreement of the parties.

g. **PROVISIONS REQUIRED BY LAW AND CONTRACTOR COMPLIANCE.** Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Work.

h. **INDEMNIFICATION.** Contractor shall provide indemnification and defense as set forth in the General Conditions.

i. **PREVAILING WAGES.** Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at the City's Administrative Office or may be obtained online at <http://www.dir.ca.gov> and which must be posted at the job site.

MINIMUM WAGE RATES FOR THIS PROJECT, AS DETERMINED BY THE U.S. SECRETARY OF LABOR, ARE SET FORTH IN THE "S10.10 DAVIS-BACON ACT REQUIREMENTS" SECTION AND "EXHIBIT E - DAVIS-BACON ACT WAGES." IF THERE IS A DIFFERENCE BETWEEN THE MINIMUM WAGE RATES DETERMINED BY THE SECRETARY OF LABOR AND THE PREVAILING WAGE RATES DETERMINED BY THE STATE FOR SIMILAR CLASSIFICATIONS OF LABOR, CONTRACTOR AND ITS SUBCONTRACTORS SHALL PAY NO LESS THAN THE HIGHER WAGE RATE.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF, this Contract has been duly executed by the above-named parties, on the day and year above written.

CITY OF SAUSALITO

[INSERT CONTRACTOR NAME]

Approved By:

Chris Zapata
City Manager

Signature

Name

Date

Title

Attested By:

Date

City Clerk

Approved As To Form:

City Attorney

**(CONTRACTOR'S SIGNATURE MUST BE
NOTARIZED AND CORPORATE
SEAL AFFIXED, IF APPLICABLE)**

END OF CONTRACT

00 61 13 – BOND FORMS

1.1 Performance Bond.

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Sausalito, (hereinafter referred to as "City") has awarded to _____, (hereinafter referred to as the "Contractor") an agreement for **Contract No. 03.01.001, Ferry Landside Improvement Project** (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the City in the sum of _____ DOLLARS, (\$_____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one (1) year guarantee of all materials and workmanship; and shall indemnify and save harmless the City, its officials, officers, employees, and authorized volunteers, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by City in enforcing such obligation.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of one (1) year after the acceptance of the work by City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the City from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the City's rights or the Contractor or Surety's obligations under

the Contract, law or equity, including, but not limited to, California Code of Civil Procedure Section 337.15.

Whenever Contractor shall be, and is declared by the City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the City's option:

- i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- ii. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.
- iii. Permit the City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the City may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the City, when declaring the Contractor in default, notifies Surety of the City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

The Surety, for value received, hereby stipulates and agrees that it does hereby waive to the furthest extent permitted by law any rights and defenses that otherwise are or may become available to Surety against City by reason of Sections 2819 and 2845, inclusive, of the Civil Code of the State of California.

By their signatures hereunder, Surety and Contractor hereby confirm under penalty of perjury that surety is an admitted surety insurer authorized to do business in the State of California.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

(Corporate Seal)

Contractor/ Principal

By _____

Title _____

(Corporate Seal)

Surety

By _____
Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title _____

The rate of premium on this bond is _____ per thousand. The total amount of premium charges is \$_____.
(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

(Name and Address of Surety)

(Name and Address of Agent or Representative for service of process in California, if different from above)

(Telephone number of Surety and Agent or Representative for service of process in California)

Notary Acknowledgment

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 _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who 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

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

- Individual
- Corporate Officer

 Title(s)

- Partner(s) Limited
- General

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Signer is representing:
 Name Of Person(s) Or Entity(ies)

DESCRIPTION OF ATTACHED DOCUMENT

 Title or Type of Document

 Number of Pages

 Date of Document

 Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

1.2 Payment Bond (Labor and Materials).

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the City of Sausalito (hereinafter designated as the "City"), by action taken or a resolution passed _____, 20____, has awarded to _____ hereinafter designated as the "Principal," a contract for the work described as follows: **Contract No. 03.01.001, Ferry Landside Improvement Project** (the "Project"); and

WHEREAS, said Principal is required to furnish a bond in connection with said contract; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto the City in the penal sum of _____ Dollars (\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Civil Code Section 9100, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Revenue and Taxation Code Section 18663, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants

otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or City and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Civil Code Section 9100, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

By their signatures hereunder, Surety and Principal hereby confirm under penalty of perjury that surety is an admitted surety insurer authorized to do business in the State of California.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

(Corporate Seal)

Contractor/ Principal

By _____

Title _____

(Corporate Seal)

Surety

By _____

Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title _____

Notary Acknowledgment

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 _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who 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

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- Individual
- Corporate Officer

 Title(s)

 Title or Type of Document

- Partner(s) Limited
- General

 Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

 Date of Document

Signer is representing:
 Name Of Person(s) Or Entity(ies)

 Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

00 72 13 – GENERAL CONDITIONS

ARTICLE 1. DEFINED TERMS

Whenever used in the Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined below, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

- A. Act of God – An earthquake of magnitude of 3.5 or higher on the Richter scale or a tidal wave.
- B. Addenda -- Written or graphic instruments issued prior to the submission of Bids which clarify, correct, or change the Contract Documents.
- C. Additional Work -- New or unforeseen work will be classified as “Additional Work” when the City’s Representative determines that it is not covered by the Contract.
- D. Applicable Laws -- The laws, statutes, ordinances, rules, codes, regulations, permits, and licenses of any kind, issued by local, state or federal governmental authorities or private authorities with jurisdiction (including utilities), to the extent they apply to the Work.
- E. Bid -- The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices and other terms for the Work to be performed.
- F. Bidder -- The individual or entity who submits a Bid directly to the City.
- G. Change Order (“CO”) -- A document that authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Contract, in accordance with the Contract Documents and in the form contained in the Contract Documents.
- H. Change Order Request (“COR”) -- A request made by the Contractor for an adjustment in the Contract Price and/or Contract Times as the result of a Contractor-claimed change to the Work. This term may also be referred to as a Change Order Proposal (“COP”), or Request for Change (“RFC”).
- I. City -- The City of Sausalito.
- J. City’s Representative -- The individual or entity as identified in the Special Conditions to act as the City’s Representative.
- K. Claim -- A demand or assertion by the City or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
- L. Contract -- The entire integrated written agreement between the City and Contractor concerning the Work. “Contract” may be used interchangeably with “Agreement” in the

Contract Documents. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral, and includes all Contract Documents.

- M. Contract Documents -- The documents listed in Section 00 52 13, Article 5. Some documents provided by the City to the Bidders and Contractor, including but not limited to reports and drawings of subsurface and physical conditions are not Contract Documents.
- N. Contract Price -- Amount to be paid by the City to the Contractor as full compensation for the performance of the Contract and completion of the Work, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs.
- O. Contract Times -- The number of days or the dates stated in the Contract Documents to: achieve defined Milestones, if any; and to complete the Work so that it is ready for final payment.
- P. Contractor -- The individual or entity with which the City has contracted for performance of the Work.
- Q. Contractor's Designated On-Site Representative -- The Contractor's Designated On-Site Representative will be as identified in Section 00 72 13, Article 3 and shall not be changed without prior written consent of the City.
- R. Daily Rate -- The Daily Rate stipulated in the Contract Documents as full compensation to the Contractor due to the City's unreasonable delay to the Project that was not contemplated by the parties.
- S. Day -- A calendar day of 24 hours measured from midnight to the next midnight.
- T. Defective Work -- Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referenced in the Contract Documents.
- U. Demobilization -- The complete dismantling and removal by the Contractor of all of the Contractor's temporary facilities, equipment, and personnel at the Site.
- V. Drawings -- That part of the Contract Documents prepared by of the Engineer of Record which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
- W. Effective Date of the Contract -- The date indicated in the Contract on which it becomes effective, but if no such date is indicated, it means the date on which the Contract is signed and delivered by the last of the two parties to sign and deliver.
- X. Engineer, whenever not qualified, shall mean the Public Works Director of the City, acting either directly or through properly authorized agents, such agents acting severally within the scope of the particular duties entrusted to them. On all questions concerning the acceptance of materials, machinery, the classifications of material, the

execution of work, conflicting interest of the contractors performing related work and the determination of costs, the decision of the Engineer, duly authorized by the City, shall be binding and final upon both parties.

- Y. Engineer of Record -- The individual, partnership, corporation, joint venture, or other legal entity named as such in Section 00 73 13, Article 1.1. or any succeeding entity designated by the City.
- Z. Green Book -- The current edition of the Standard Specifications for Public Works Construction.
- AA. Hazardous Waste -- The term "Hazardous Waste" shall have the meaning provided in Section 104 of the Solid Waste Disposal Act (42 U.S.C. § 6903) as amended from time to time or, 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 provisions of existing law, whichever is more restrictive.

BB. Holiday – The Holidays occur on:

New Year's Day - January 1
President's Day – Third Monday in February
Memorial Day - Last Monday in May
Juneteenth – June 19
Independence Day - July 4
Labor Day - First Monday in September
Veteran's Day - November 11
Thanksgiving Day - Fourth Thursday in November
Friday after Thanksgiving
Christmas Eve – December 24
Christmas Day - December 25
Day After Christmas – December 26
New Year's Eve – December 31

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both Holidays. If the Holiday should fall on a Sunday, Sunday and the following Monday are both Holidays.

- CC. Notice of Award -- The written notice by the City to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, the City will sign and deliver the Contract.
- DD. Notice of Completion -- The form which may be executed by the City and recorded by the county where the Project is located constituting final acceptance of the Project.
- EE. Notice to Proceed -- A written notice given by the City to Contractor fixing the date on which the Contractor may proceed with the Work and when Contract Times will commence to run.
- FF. Project -- The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

- GG. Recyclable Waste Materials -- Materials removed from the Site which are required to be diverted to a recycling center rather than an area landfill. Recyclable Waste Materials include asphalt, concrete, brick, concrete block, and rock.
- HH. Schedule of Submittals -- A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to facilitate scheduled performance of related construction activities.
- II. Shop Drawings -- All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
- JJ. Specifications -- That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
- KK. Stop Payment Notice -- A written notice as defined in Civil Code section 8044.
- LL. Subcontractor -- An individual or entity other than a Contractor having a contract with any other entity than the City for performance of any portion of the Work at the Site.
- MM. Submittal -- Written and graphic information and physical samples prepared and supplied by the Contractor demonstrating various portions of the Work.
- NN. Successful Bidder -- The Bidder submitting a responsive Bid to whom the City makes an award.
- OO. Supplier -- A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment used in the performance of the Work or to be incorporated in the Work.
- PP. Underground Facilities -- All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
- QQ. Unit Price Work -- Work to be paid for on the basis of unit prices as provided by the Contractor in its bid or as adjusted in accordance with the Contract Documents.
- RR. Warranty -- A written guarantee provided to the City by the Contractor that the Work will remain free of defects and suitable for its intended use for the period required by the Contract Documents or the longest period permitted by the law of this State, whichever is longer.
- SS. Work -- The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce

such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

ARTICLE 2. CONTRACT DOCUMENTS

- A. **Contract Documents.** The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all.
- B. **Interpretations.** The Contract Documents are intended to be fully cooperative and complementary. If the Contractor observes that any documents are in conflict, the Contractor shall promptly notify the Engineer in writing. In case of conflicts between the Contract Documents, the order of precedence shall be as follows:
1. Change Orders
 2. Addenda
 3. Special Conditions
 4. Technical Specifications
 5. Plans (Contract Drawings)
 6. Contract
 7. General Conditions
 8. Instructions to Bidders
 9. Notice Inviting Bids
 10. Contractor's Bid Forms
 11. Standard Specifications for Public Works Construction (Sections 1-9 Excluded)
 12. Applicable Local Agency Standards and Specifications
 13. Standard Drawings
 14. Reference Documents

With reference to the Drawings, the order of precedence shall be as follows:

1. Figures govern over scaled dimensions
 2. Detail drawings govern over general drawings
 3. Addenda or Change Order drawings govern over Contract Drawings
 4. Contract Drawings govern over Standard Drawings
 5. Contract Drawings govern over Shop Drawings
- C. **Conflicts in Contract Documents.** Notwithstanding the orders of precedence established above, in the event of conflicts, the higher standard, higher quality, and most expensive shall always apply.
- D. **Organization of Contract Documents.** Organization of the Contract Documents into divisions, sections, and articles, and arrangement of drawings shall not control the Contractor in dividing Project Work among subcontractors or in establishing the extent of Work to be performed by any trade.

ARTICLE 3. PRECONSTRUCTION AND CONSTRUCTION COMMUNICATION

Before any Work at the site is started, a conference attended by the City, Contractor, City's Representative, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to herein, procedures for

handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

At this conference the City and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

ARTICLE 4. CONTRACT DOCUMENTS

Bidders may obtain a copy of the Contract Documents from the City of Sausalito website: <https://www.sausalito.gov/departments/public-works/bid-notice>.

To the extent required by section 20103.7 of the Public Contract Code, upon request from a contractor plan room service, the City shall provide an electronic copy of the Contract Documents at no charge to the contractor plan room.

ARTICLE 5. EXAMINATION OF DRAWINGS, SPECIFICATIONS AND SITE OF WORK

- A. **Examination of Contract Documents.** Before commencing any portion of the Work, Contractor shall again carefully examine all applicable Contract Documents, the Project site, and other information given to Contractor as to materials and methods of construction and other Project requirements. Contractor shall immediately notify the Engineer of any potential error, inconsistency, ambiguity, conflict, or lack of detail or explanation. If Contractor performs, permits, or causes the performance of any Work which is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all resulting costs, including, without limitation, the cost of correction. In no case shall the Contractor or any subcontractor proceed with Work if uncertain as to the applicable requirements.
- B. **Additional Instructions.** After notification of any error, inconsistency, ambiguity, conflict, or lack of detail or explanation, the Engineer will provide any required additional instructions, by means of drawings or other written direction, necessary for proper execution of Work.
- C. **Quality of Parts, Construction and Finish.** All parts of the Work shall be of the best quality of their respective kinds and the Contractor must use all diligence to inform itself fully as to the required construction and finish.
- D. **Contractor's Variation from Contract Document Requirements.** If it is found that the Contractor has varied from the requirements of the Contract Documents including the requirement to comply with all applicable laws, ordinances, rules and regulations, the Engineer may at any time, before or after completion of the Work, order the improper Work removed, remade or replaced by the Contractor at the Contractor's expense.

ARTICLE 6. MOBILIZATION

- A. When a bid item is included in the Bid Form for mobilization, the costs of Work in advance of construction operations and not directly attributable to any specific bid item will be included in the progress estimate ("Initial Mobilization"). When no bid item is

provided for "Initial Mobilization," payment for such costs will be deemed to be included in the other items of the Work.

- B. Payment for Initial Mobilization based on the lump sum provided in the Bid Form, which shall constitute full compensation for all such Work. No payment for Initial Mobilization will be made until all of the listed items have been completed to the satisfaction of the Engineer. The scope of the Work included under Initial Mobilization shall include, but shall not be limited to, the following principal items:
1. Obtaining and paying for all bonds, insurance, and permits.
 2. Moving on to the Project site of all Contractor's plant and equipment required for the first month's operations.
 3. Installing temporary construction power, wiring, and lighting facilities, as applicable.
 4. Establishing fire protection system, as applicable.
 5. Developing and installing a construction water supply, if applicable.
 6. Providing and maintaining the field office trailers for the Contractor, if necessary, and the Engineer (if specified), complete, with all specified furnishings and utility services.
 7. Providing on-site sanitary facilities and potable water facilities as specified per Cal-OSHA and these Contract Documents.
 8. Furnishing, installing, and maintaining all storage buildings or sheds required for temporary storage of products, equipment, or materials that have not yet been installed in the Work. All such storage shall meet manufacturer's specified storage requirements, and the specific provisions of the specifications, including temperature and humidity control, if recommended by the manufacturer, and for all security.
 9. Arranging for and erection of Contractor's work and storage yard.
 10. Posting all OSHA required notices and establishment of safety programs per Cal-OSHA.
 11. Full-time presence of Contractor's superintendent at the job site as required herein.
 12. Submittal of Construction Schedule as required by the Contract Documents.

ARTICLE 7. EXISTENCE OF UTILITIES AT THE WORK SITE

- A. The City has endeavored to determine the existence of utilities at the Project site from the records of the owners of known utilities in the vicinity of the Project. The positions of these utilities as derived from such records are shown on the Plans.

- B. Unless indicated otherwise on the Plans and Specifications, no excavations were made to verify the locations shown for underground utilities. The service connections to these utilities are not shown on the Plans. Water service connections may be shown on the Plans showing general locations of such connections. It shall be the responsibility of the Contractor to determine the exact location of all service connections. The Contractor shall make its own investigations, including exploratory excavations, to determine the locations and type of service connections, prior to commencing Work which could result in damage to such utilities. The Contractor shall immediately notify the City in writing of any utility discovered in a different position than shown on the Plans or which is not shown on the Plans.
- C. If applicable, all water meters, water valves, fire hydrants, electrical utility vaults, telephone vaults, gas utility valves, and other subsurface structures shall be relocated or adjusted to final grade by the Contractor. Locations of existing utilities shown on the Plans are approximate and may not be complete. The Contractor shall be responsible for coordinating its Work with all utility companies during the construction of the Work.
- D. Notwithstanding the above, pursuant to section 4215 of the Government Code, the City has the responsibility to identify, with reasonable accuracy, main or trunkline facilities on the plans and specifications. In the event that main or trunkline utility facilities are not identified with reasonable accuracy in the plans and specifications made a part of the invitation for Bids, the City shall assume the responsibility for their timely removal, relocation, or protection.

ARTICLE 8. CONTRACTOR, EXCEPT IN AN EMERGENCY, SHALL CONTACT THE APPROPRIATE REGIONAL NOTIFICATION CENTER, CALIFORNIA UNDERGROUND SERVICE ALERT AT 811 OR 1-800-227-2600 OR ON-LINE AT WWW.DIGALERT.ORG AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING ANY EXCAVATION IF THE EXCAVATION WILL BE PERFORMED IN AN AREA WHICH IS KNOWN, OR REASONABLY SHOULD BE KNOWN, TO CONTAIN SUBSURFACE INSTALLATIONS OTHER THAN THE UNDERGROUND FACILITIES OWNED OR OPERATED BY THE CITY, AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER FROM THAT NOTIFICATION CENTER. NO EXCAVATION SHALL BE COMMENCED OR CARRIED OUT BY THE CONTRACTOR UNLESS SUCH AN INQUIRY IDENTIFICATION NUMBER HAS BEEN ASSIGNED TO THE CONTRACTOR OR ANY SUBCONTRACTOR OF THE CONTRACTOR AND THE CITY HAS BEEN GIVEN THE IDENTIFICATION NUMBER BY THE CONTRACTOR.

ARTICLE 9. SOILS INVESTIGATIONS

- A. Reports and Drawings. The Special Conditions identify:
 - 1. those reports known to the City of explorations and tests of subsurface conditions at or contiguous to the site; and
 - 2. those drawings known to the City of physical conditions relating to existing surface or subsurface structures at the site (except Underground Facilities).
- B. Limited Reliance by Contractor on Technical Data Authorized. Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings,

which were expressly not created or obtained to evaluate or assist in the evaluation of constructability, and are not Contract Documents. Contractor shall make its own interpretation of the “technical data” and shall be solely responsible for any such interpretations. Except for reliance on the accuracy of such “technical data,” Contractor may not rely upon or make any claim against the City, City’s Representative, or Engineer of Record, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including without limitation any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, conclusions and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

ARTICLE 10. CONTRACTOR’S SUPERVISION

Contractor shall continuously keep at the Project site, a competent and experienced full-time Project superintendent acceptable to the City. Superintendent must be able to proficiently speak, read and write in English and shall have the authority to make decisions on behalf of the Contractor. Contractor shall continuously provide efficient supervision of the Project.

ARTICLE 11. WORKERS

- A. Contractor shall at all times enforce strict discipline and good order among its employees. Contractor shall not employ on the Project any unfit person or any one not skilled in the Work assigned to him or her.
- B. Any person in the employ of the Contractor whom the City may deem incompetent or unfit shall be dismissed from the Work and shall not be employed on this Project.

ARTICLE 12. INDEPENDENT CONTRACTORS

Contractor shall be an independent contractor for the City and not an employee. Contractor understands and agrees that it and all of its employees shall not be considered officers, employees, or agents of City and are not entitled to benefits of any kind normally provided employees of City, including but not limited to, state unemployment compensation or workers’ compensation. Contractor assumes full responsibility for the acts and omissions of its employees or agents related to the Work.

ARTICLE 13. SUBCONTRACTS

- A. Contractor agrees to bind every subcontractor to the terms of the Contract Documents as far as such terms are applicable to subcontractor’s portion of the Work. Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by its subcontractors, as Contractor is for acts and omissions of persons directly employed by Contractor.

Nothing contained in these Contract Documents shall create any contractual relationship between any subcontractor and the City.

- B. The City reserves the right to accept all subcontractors. The City's acceptance of any subcontractor under this Contract shall not in any way relieve Contractor of its obligations in the Contract Documents.
- C. Prior to substituting any subcontractor listed in the Bid Forms, Contractor must comply with the requirements of the Subletting and Subcontracting Fair Practices Act pursuant to California Public Contract Code section 4100 et seq.

ARTICLE 14. VERIFICATION OF EMPLOYMENT ELIGIBILITY

By executing this Contract, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time, and shall require all subcontractors, sub-subcontractors and consultants to comply with the same. Each person executing this Contract on behalf of Contractor verifies that he or she is a duly authorized officer of Contractor and that any of the following shall be grounds for the City to terminate the Contract for cause: (1) failure of the Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for in this Article; (2) any misrepresentation or material omission concerning compliance with such requirements; or (3) failure to immediately remove from the Work any person found not to be in compliance with such requirements.

ARTICLE 15. REQUESTS FOR SUBSTITUTION

- A. For the purposes of this provision, the term "substitution" shall mean the substitution of any material, method or service substantially equal to or better in every respect to that indicated in the Standard Specifications or otherwise referenced herein.
- B. Pursuant to Public Contract Code section 3400(b), the City may make a finding that is described in the Notice Inviting Bids that designates certain products, things, or services by specific brand or trade name.
- C. Unless specifically designated in the Special Conditions, whenever any material, process, or article is indicated or specified by grade, patent, or proprietary name or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating the description of the material, process, or article desired and shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer for substitution any material, process, or article which may be substantially equal to or better in every respect to that so indicated or specified in the Contract Documents. However, the City has adopted uniform standards for certain materials, processes, and articles.
- D. The Contractor shall submit substitution requests, together with substantiating data, for substitution of any "or equal" material, process, or article no later than thirty-five (35) calendar days after award of Contract. Provisions regarding submission of substitution requests shall not in any way authorize an extension of time for the performance of this Contract. If a substitution request is rejected by the City, the

Contractor shall provide the material, method or service specified herein. The City shall not be responsible for any costs incurred by the Contractor associated with substitution requests. The burden of proof as to the equality of any material, process, or article shall rest with the Contractor. The Engineer has the complete and sole discretion to determine if a material, process, or article is substantially equal to or better than that specified and to approve or reject all substitution requests.

- E. Substantiating data as described above shall include, at a minimum, the following information:
 - 1. A signed affidavit from the Contractor stating that the material, process, or article proposed as a substitution is substantially equal to or better than that specified in every way except as may be listed on the affidavit.
 - 2. Illustrations, specifications, catalog cut sheets, and any other relevant data required to prove that the material, process, or article is substantially equal to or better than that specified.
 - 3. A statement of the cost implications of the substitution being requested, indicating whether and why the proposed substitution will reduce or increase the amount of the contract.
 - 4. Information detailing the durability and lifecycle costs of the proposed substitution.
- F. Failure to submit all the required substantiating data detailed above in a timely manner so that the substitution request can be adequately reviewed may result in rejection of the substitution request. The Engineer is not obligated to review multiple submittals related the same substitution request resulting from the Contractor's failure to initially submit a complete package.
- G. Time limitations within this Article shall be strictly complied with and in no case will an extension of time for completion of the contract be granted because of Contractor's failure to provide substitution requests at the time and in the manner described herein.
- H. The Contractor shall bear the costs of all City work associated with the review of substitution requests.
- I. If substitution requests approved by the Engineer require that Contractor furnish materials, methods or services more expensive than that specified, the increased costs shall be borne by Contractor.

ARTICLE 16. SHOP DRAWINGS

- A. Contractor shall check and verify all field measurements and shall submit with such promptness as to provide adequate time for review and cause no delay in its own Work or in that of any other contractor, subcontractor, or worker on the Project, six (6) copies of all shop drawings, calculations, schedules, and materials list, and all other provisions required by the Contract Documents. Contractor shall sign all submittals affirming that submittals have been reviewed and approved by Contractor prior to submission to Engineer. Each signed submittal shall affirm that the submittal meets all

the requirements of the Contract Documents except as specifically and clearly noted and listed on the transmittal letter of the submittal.

- B. Contractor shall make any corrections required by the Engineer, and file with the Engineer six (6) corrected copies each, and furnish such other copies as may be needed for completion of the Work. Engineer's acceptance of shop drawings shall not relieve Contractor from responsibility for deviations from the Contract Documents unless Contractor has, in writing, called Engineer's attention to such deviations at time of submission and has secured the Engineer's written acceptance. Engineer's acceptance of shop drawings shall not relieve Contractor from responsibility for errors in shop drawings.

ARTICLE 17. SUBMITTALS

- A. Contractor shall furnish to the Engineer for approval, prior to purchasing or commencing any Work, a log of all samples, material lists and certifications, mix designs, schedules, and other submittals, as required in the Contract Documents. The log shall indicate whether samples will be provided in accordance with other provisions of this Contract.
- B. Contractor will provide samples and submittals, together with catalogs and supporting data required by the Engineer, to the Engineer within a reasonable time period to provide for adequate review and avoid delays in the Work.
- C. These requirements shall not authorize any extension of time for performance of this Contract. Engineer will check and approve such samples, but only for conformance with design concept of work and for compliance with information given in the Contract Documents. Work shall be in accordance with approved samples and submittals.

ARTICLE 18. MATERIALS

- A. Except as otherwise specifically stated in the Contract Documents, Contractor shall provide and pay for all materials, labor, tools, equipment, lights, power, transportation, superintendence, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete this Contract within specified time.
- B. Unless otherwise specified, all materials shall be new and the best of their respective kinds and grades as noted and/or specified, and workmanship shall be of good quality.
- C. Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of the Work and shall be stored properly and protected as required by the Contract Documents. Contractor shall be entirely responsible for damage or loss by weather or other causes to materials or Work.
- D. No materials, supplies, or equipment for Work under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the Work and agrees upon completion of all work to deliver the Project, to the City free from any claims, liens, or charges.

- E. Materials shall be stored on the Project site in such manner so as not to interfere with any operations of the City or any independent contractor.
- F. Contractor shall verify all measurements, dimensions, elevations, and quantities before ordering any materials or performing any Work, and the City shall not be liable for Contractor's failure to do so. No additional compensation, over and above payment for the actual quantities at the prices set out in the Bid Form, will be allowed because of differences between actual measurements, dimension, elevations and quantities and those indicated on the Plans and in the Specifications. Any difference therein shall be submitted to the Engineer for consideration before proceeding with the Work.

ARTICLE 19. PERMITS AND LICENSES

- A. City will apply and pay for the review of necessary encroachment permits for Work within the public rights-of-way. Contractor shall obtain all other necessary permits and licenses for the construction of the Project, including encroachment permits, and shall pay all fees required by law and shall comply with all laws, ordinances, rules and regulations relating to the Work and to the preservation of public health and safety. Before acceptance of the Project, the Contractor shall submit all licenses, permits, certificates of inspection and required approvals to the City.
- B. The Bid Form contains an allowance for the Contractor's cost of acquiring traffic control permits and for construction inspection fees that may be charged to the Contractor by the Agency of Jurisdiction. The allowance is included within the Bid Form to eliminate the need by bidders to research or estimate the costs of traffic control permits and construction inspection fees prior to submitting a bid. The allowance is specifically intended to account for the costs of traffic control permits and construction inspection fees charged by the local Agency of Jurisdiction only. No other costs payable by Contractor to the Agency of Jurisdiction are included within the allowance. Payment by City to Contractor under the Permit and Inspection Allowance Bid Item shall be made based on actual cost receipts only and in accordance with the provisions of these specifications.

ARTICLE 20. TRENCHES

- A. **Trenches Five Feet or More in Depth.** Contractor shall submit to the Engineer at the preconstruction meeting, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from hazards of caving ground during the excavation of any trench or trenches five feet or more in depth. If such plan varies from shoring system standards established by the Construction Safety Orders of the California Code of Regulations, Department of Industrial Relations, the plan shall be prepared by a California registered civil or structural engineer. The plan shall not be less effective than the shoring, bracing, sloping, or other provisions of the Construction Safety Orders, as defined in the California Code of Regulations. The Contractor shall designate in writing the "competent person" as defined in Title 8, California Code of Regulations, who shall be present at the Work Site each day that trenching/excavation is in progress. The "competent person" shall prepare and provide daily trenching/excavation inspection reports to the Engineer. Contractor shall also submit a copy of its annual California Occupational Safety and Health Administration (Cal/OSHA) trench/excavation permit.

B. Excavations Deeper than Four Feet. If the Work involves excavating trenches or other excavations that extend deeper than four feet below the surface, Contractor shall promptly, and before the excavation is further disturbed, notify the City in writing of any of the following conditions:

1. Material that the Contractor believes may be material that is 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 provisions of existing law.
2. Subsurface or latent physical conditions at the site differing from those indicated.
3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract

The City shall promptly investigate the conditions, and if it finds that the conditions do so materially differ, 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, shall issue a change order under the procedures described in the Contract Documents.

In the event that a dispute arises between the City and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the parties.

ARTICLE 21. TRAFFIC CONTROL

- A. Traffic control plan(s) for the Work may be required by the Agency(s) of Jurisdiction. Traffic control plans, if required, shall be prepared at Contractor's expense, and traffic control shall be performed at Contractor's expense in accordance with the requirements of the Agency(s) of Jurisdiction. The Permit and Inspection Allowance included within the Bid Form includes the cost of required traffic control permit(s) and construction inspection by the Agency(s) of Jurisdiction only. The Permit and Inspection Allowance does not include costs for preparation of any required traffic control plans, implementation of any traffic control requirements or for any traffic signal services that may be required. Costs for traffic control plans, implementation of traffic control, or traffic signal services required by the Agency(s) of Jurisdiction shall be included in the Contractor's Bid.
- B. All warning signs and safety devices used by the Contractor to perform the Work shall conform to the requirements contained in the State of California, Department of Transportation's current edition of "Manual of Traffic Controls for Construction and Maintenance Work Zones" or to the requirements of the local agency. The Contractor shall also be responsible for all traffic control required by the agency having jurisdiction over the project on the intersecting streets. Contractor must submit a traffic control

plan to the agency having jurisdiction over the project for approval prior to starting work.

- C. The Contractor's representative on the site responsible for traffic control shall produce evidence that he/she has completed training acceptable to the California Department of Transportation for safety through construction zones. All of the streets in which the Work will occur shall remain open to traffic and one lane of traffic maintained at all times unless otherwise directed by the agency of jurisdiction. Businesses and residences adjacent to the Work shall be notified forty-eight (48) hours in advance of closing of driveways. The Contractor shall make every effort to minimize the amount of public parking temporarily eliminated due to construction in areas fronting businesses. No stockpiles of pipe or other material will be allowed in traveled right-of-ways after working hours unless otherwise approved by the Engineer.

ARTICLE 22. DIVERSION OF RECYCLABLE WASTE MATERIALS

In compliance with the applicable City's waste reduction and recycling efforts, Contractor shall divert all Recyclable Waste Materials to appropriate recycling centers as required for compliance with the local jurisdiction's waste diversion ordinances. Contractor will be required to submit weight tickets and written proof of diversion with its monthly progress payment requests. Contractor shall complete and execute any certification forms required by City or other applicable agencies to document Contractor's compliance with these diversion requirements. All costs incurred for these waste diversion efforts shall be the responsibility of the Contractor.

ARTICLE 23. REMOVAL OF HAZARDOUS MATERIALS

Should Contractor encounter material reasonably believed to be polychlorinated biphenyl (PCB) or other toxic wastes and hazardous materials which have not been rendered harmless at the Project site, the Contractor shall immediately stop work at the affected Project site and shall report the condition to the City in writing. The City shall contract for any services required to directly remove and/or abate PCBs and other toxic wastes and hazardous materials, if required by the Project site(s), and shall not require the Contractor to subcontract for such services. The Work in the affected area shall not thereafter be resumed except by written agreement of the City and Contractor.

ARTICLE 24. SANITARY FACILITIES

Contractor shall provide sanitary temporary toilet buildings and hand washing facilities for the use of all workers. All toilets and hand washing facilities shall comply with all applicable federal, state and local laws, codes, ordinances, and regulations. Toilets shall be kept supplied with toilet paper and shall have workable door fasteners. Toilets and hand washing facilities shall be serviced no less than once weekly and shall be present in a quantity of not less than 1 per 20 workers as required by Cal/OSHA regulations. The toilets and hand washing facilities shall be maintained in a sanitary condition at all times. Use of toilet and hand washing facilities in the Work under construction shall not be permitted. Any other Sanitary Facilities required by Cal/OSHA shall be the responsibility of the Contractor.

ARTICLE 25. AIR POLLUTION CONTROL

Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes.

All containers of paint, thinner, curing compound, solvent or liquid asphalt shall be labeled to indicate that the contents fully comply with the applicable material requirements.

ARTICLE 26. LAYOUT AND FIELD ENGINEERING

All field engineering required for laying out the Work and establishing grades for earthwork operations shall be furnished by the Contractor at its expense.

ARTICLE 27. TESTS AND INSPECTIONS

- A. If the Contract Documents, the Engineer, or any instructions, laws, ordinances, or public authority requires any part of the Work to be tested or Approved, Contractor shall provide the Engineer at least two (2) working days' notice of its readiness for observation or inspection. If inspection is by a public authority other than the City, Contractor shall promptly inform the City of the date fixed for such inspection. Required certificates of inspection (or similar) shall be secured by Contractor. Costs for City testing and City inspection shall be paid by the City. Costs of tests for Work found not to be in compliance shall be paid by the Contractor.
- B. If any Work is done or covered up without the required testing or approval, the Contractor shall uncover or deconstruct the Work, and the Work shall be redone after completion of the testing at the Contractor's cost in compliance with the Contract Documents.
- C. Where inspection and testing are to be conducted by an independent laboratory or agency, materials or samples of materials to be inspected or tested shall be selected by such laboratory or agency, or by the City, and not by Contractor. All tests or inspections of materials shall be made in accordance with the commonly recognized standards of national organizations.
- D. In advance of manufacture of materials to be supplied by Contractor which must be tested or inspected, Contractor shall notify the City so that the City may arrange for testing at the source of supply. Any materials which have not satisfactorily passed such testing and inspection shall not be incorporated into the Work.
- E. If the manufacture of materials to be inspected or tested will occur in a plant or location greater than sixty (60) miles from the City, the Contractor shall pay for any excessive or unusual costs associated with such testing or inspection, including but not limited to excessive travel time, standby time and required lodging.
- F. Reexamination of Work may be ordered by the City. If so ordered, Work must be uncovered or deconstructed by Contractor. If Work is found to be in accordance with the Contract Documents, the City shall pay the costs of reexamination and reconstruction. If such work is found not to be in accordance with the Contract Documents, Contractor shall pay all costs.

ARTICLE 28. PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall be responsible for all damages to persons or property that occurs as a result of the Work. Contractor shall be responsible for the proper care and protection of all materials delivered and Work performed until completion and final

Acceptance by the City. All Work shall be solely at the Contractor's risk. Contractor shall adequately protect adjacent property from settlement or loss of lateral support as necessary. Contractor shall comply with all applicable safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the Project site where Work is being performed. Contractor shall erect and properly maintain at all times, as required by field conditions and progress of work, all necessary safeguards, signs, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created in the course of construction.

- B. In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization from the Engineer, is hereby permitted to act to prevent such threatened loss or injury; and Contractor shall so act, without appeal, if so authorized or instructed by the Engineer or the City. Any compensation claimed by Contractor on account of emergency work shall be determined by and agreed upon by the City and the Contractor.

ARTICLE 29. CONTRACTOR'S MEANS AND METHODS

Contractor is solely responsible for the means and methods utilized to perform the Work. In no case shall the Contractor's means and methods deviate from commonly used industry standards.

ARTICLE 30. COMPLIANCE WITH CALIFORNIA AIR RESOURCES BOARD REGULATIONS

- A. Contractor shall comply, and shall ensure all subcontractors comply, with all applicable requirements of the most current version of the regulations imposed by California Air Resources Board ("CARB") including, without limitation, all applicable terms of Title 13, California Code of Regulations Division 3, Chapter 9 and all pending amendments ("Regulation").
- B. Throughout the Project, and for three (3) years thereafter, Contractor shall make available for inspection and copying any and all documents or information associated with Contractor's and its subcontractors' fleets including, without limitation, the Certificates of Reported Compliance ("CRCs"), fuel/refueling records, maintenance records, emissions records, and any other information the Contractor is required to produce, keep or maintain pursuant to the Regulation upon two (2) calendar days' notice from the City.
- C. Contractor shall be solely liable for any and all costs associated with compliance with the Regulation as well as for any and all penalties, fines, damages, or costs associated with any and all violations, or failures to comply with the Regulation. Contractor shall defend, indemnify and hold harmless the City, its officials, officers, employees and authorized volunteers free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Regulation.

ARTICLE 31. AUTHORIZED REPRESENTATIVES

The City shall designate representatives, who shall have the right to be present at the Project site at all times. The City may designate an inspector who shall have the right to observe all of the Contractor's Work. The inspector shall not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. Contractor shall provide safe and proper

facilities for such access.

ARTICLE 32. HOURS OF WORK

- A. As provided in Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, Contractor stipulates that eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract is limited and restricted to eight (8) hours during any one calendar day and 40 hours during any one calendar week, except as hereinafter provided. Notwithstanding the provisions herein above set forth, work performed by employees of Contractor in excess of eight (8) hours per day, and 40 hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.
- B. The Contractor and every subcontractor shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of the City and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California.
- C. The Contractor shall pay to the City a penalty of twenty-five dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.
- D. Any work necessary to be performed after regular working hours, or on Saturdays and Sundays or other holidays, shall be performed without additional expense to the City.
- E. City will provide inspection during normal working hours from 7:00 a.m. to 3:30 p.m. Monday through Friday. Inspection before or after this time will be charged to the Contractor as reimbursable inspection time. Inspections on weekends requires two days' notice for review and approval. Upon written request and approval the 8.5 hour working day may be changed to other limits subject to city/county ordinance.
- F. It shall be unlawful for any person to operate, permit, use, or cause to operate any of the following at the Project site, other than between the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, with no Work allowed on the City-observed holidays, unless otherwise approved by the City:
 - 1. Powered Vehicles
 - 2. Construction Equipment
 - 3. Loading and Unloading Vehicles
 - 4. Domestic Power Tools

ARTICLE 33. PAYROLL RECORDS; LABOR COMPLIANCE

- A. Pursuant to Labor Code section 1776, Contractor and all subcontractors shall maintain weekly certified payroll records, showing the names, addresses, Social Security numbers, work classifications, 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 by them in connection with the Work under this Contract. Contractor shall certify under penalty of perjury that records maintained and submitted by Contractor are true and accurate. Contractor shall also require subcontractor(s) to certify weekly payroll records under penalty of perjury.
- B. In accordance with Labor Code section 1771.4, the Contractor and each subcontractor shall furnish the certified payroll records directly to the Department of Industrial Relations ("DIR") on the specified interval and format prescribed by the DIR, which may include electronic submission. Contractor shall comply with all requirements and regulations from the DIR relating to labor compliance monitoring and enforcement. The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.
- C. Any stop orders issued by the Department of Industrial Relations against Contractor or any subcontractor that affect Contractor's performance of Work, including any delay, shall be Contractor's sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered Contractor caused delay subject to any applicable liquidated damages and shall not be compensable by the City. Contractor shall defend, indemnify and hold the City, its officials, officers, employees and agents free and harmless from any claim or liability arising out of stop orders issued by the Department of Industrial Relations against Contractor or any subcontractor.
- D. The payroll records described herein shall be certified and submitted by the Contractor at a time designated by the City. The Contractor shall also provide the following:
 - 1. A certified copy of the employee's payroll records shall be made available for inspection or furnished to such employee or his or her authorized representative on request.
 - 2. A certified copy of all payroll records described herein shall be made available for inspection or furnished upon request of the DIR.
- E. Unless submitted electronically, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement ("DLSE") of the DIR or shall contain the same information as the forms provided by the DLSE.
- F. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency, the City, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or performing the contract shall not be marked or obliterated.

- G. In the event of noncompliance with the requirements of this Article, the Contractor shall have ten (10) calendar days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Article. Should noncompliance still be evident after such 10-day period, the Contractor shall pay a penalty of one hundred dollars (\$100.00) to the City for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payment then due.
- H. The responsibility for compliance with this Article shall rest upon the Contractor.

ARTICLE 34. PREVAILING RATES OF WAGES

- A. The Contractor is aware of the requirements of Labor Code sections 1720 *et seq.* and 1770 *et seq.*, as well as California Code of Regulations, Title 8, Section 16000 *et seq.* (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on certain “public works” and “maintenance” projects. Since this Project involves an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov. In the alternative, the Contractor may view a copy of the prevailing rate of per diem wages which are on file at the City’s Administration Office and shall be made available to interested parties upon request. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification, or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor’s principal place of business and at the Project site. Contractor shall defend, indemnify and hold the City, its officials, officers, employees and authorized volunteers free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.
- B. The Contractor shall forfeit as a penalty to the City not more than Two Hundred Dollars (\$200.00), pursuant to Labor Code section 1775, for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate as determined by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed for any public work done under the Contract by it or by any subcontractor under it. The difference between such prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.
- C. Contractor shall post, at appropriate conspicuous points on the Project site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.

ARTICLE 35. PUBLIC WORKS CONTRACTOR REGISTRATION

Pursuant to Labor Code sections 1725.5 and 1771.1, the Contractor and its subcontractors must be registered with the Department of Industrial Relations prior to the execution of a contract to perform public works. By entering into this Contract, Contractor represents that it is aware of the registration requirement and is currently registered with the DIR. Contractor shall maintain a current registration for the duration of the Project. Contractor shall further include the requirements of Labor Code sections 1725.5 and 1771.1 in any subcontract and ensure that all subcontractors are registered at the time this Contract is entered into and maintain registration for the duration of the Project. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

ARTICLE 36. EMPLOYMENT OF APPRENTICES

- A. Contractor and all subcontractors shall comply with the requirements of Labor Code sections 1777.5 and 1777.6 in the employment of apprentices.
- B. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.
- C. Knowing violations of Labor Code section 1777.5 will result in forfeiture not to exceed one hundred dollars (\$100.00) for each calendar day of non-compliance pursuant to Labor Code section 1777.7.
- D. The responsibility for compliance with this Article shall rest upon the Contractor.

ARTICLE 37. NONDISCRIMINATION/EQUAL EMPLOYMENT OPPORTUNITY

Pursuant to Labor Code section 1735 and other applicable provisions of law, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law on this Project. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law.

Employment Eligibility; Contractor. By executing this Contract, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time. Such requirements and restrictions include, but are not limited to, examination and retention of documentation confirming the identity and immigration status of each employee of the Contractor. Contractor also verifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Contract, and shall not violate any such law at any time during the term of the Contract.

Contractor shall avoid any violation of any such law during the term of this Contract by participating in an electronic verification of work authorization program operated by the United States Department of Homeland Security, by participating in an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, or by some other legally acceptable method. Contractor shall maintain records of each such verification, and shall make them available to the City or its representatives for inspection and copy at any time during normal business hours. The City shall not be responsible for any costs or expenses related to Contractor's compliance with the requirements provided for or referred to herein.

Employment Eligibility; Subcontractors, Sub-subcontractors and Consultants. To the same extent and under the same conditions as Contractor, Contractor shall require all of its subcontractors, sub-subcontractors and consultants performing any part of the Work or of this Contract to make the same verifications and comply with all requirements and restrictions provided for herein.

Employment Eligibility; Failure to Comply. Each person executing this Contract on behalf of Contractor verifies that he or she is a duly authorized officer of Contractor, and understands that any of the following shall be grounds for the City to terminate the Contract for cause: (1) failure of Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for herein; (2) any misrepresentation or material omission concerning compliance with such requirements; or (3) failure to immediately remove from the Work any person found not to be in compliance with such requirements.

ARTICLE 38. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

Contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code section 1777.1 or 1777.7. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred subcontractor by a contractor on the project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

ARTICLE 39. LABOR/EMPLOYMENT SAFETY

The Contractor shall comply with all applicable laws and regulations of the federal, state, and local government, including Cal/OSHA requirements and requirements for verification of employees' legal right to work in the United States.

The Contractor shall maintain emergency first aid treatment for his employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4. The Contractor shall ensure the availability of emergency medical services for its employees in accordance with California Code of Regulations, Title 8, Section 1512.

The Contractor shall submit the Illness and Injury Prevention Program and a Project site specific safety program to the City prior to beginning Work at the Project site. Contractor shall maintain a confined space program that meets or exceeds the City Standards. Contractor shall adhere to the City's lock out tag out program.

ARTICLE 40. INSURANCE

The Contractor shall obtain, and at all times during performance of the Work of Contract, maintain all of the insurance described in this Article. Contractor shall not commence Work under this Contract until it has provided evidence satisfactory to the City that it has secured all insurance required hereunder. Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the City that the subcontractor has secured all insurance required under this Article. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Contract for cause. Contractor shall furnish City with original certificates of insurance and endorsements effective coverage required by this Contract on forms satisfactory to the City. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on forms acceptable to the City. All certificates and endorsements must be received and approved by the City before Work commences.

- A. **Additional Insureds; Waiver of Subrogation.** The City, its officials, officers, employees, agents and authorized volunteers shall be named as Additional Insureds on Contractor's All Risk policy and on Contractor's and its subcontractors' policies of Commercial General Liability and Automobile Liability insurance using, for Contractor's policy/ies of Commercial General Liability insurance, ISO CG forms 20 10 and 20 37 (or endorsements providing the exact same coverage, including completed operations), and, for subcontractors' policies of Commercial General Liability insurance, ISO CG form 20 38 (or endorsements providing the exact same coverage). Notwithstanding the minimum limits set forth in this Contract for any type of insurance coverage, all available insurance proceeds in excess of the specified minimum limits of coverage shall be available to the parties required to be named as Additional Insureds hereunder. Contractor and its insurance carriers shall provide a Waiver of Subrogation in favor of those parties.
- B. **Workers' Compensation Insurance.** The Contractor shall provide workers' compensation insurance for all of the employees engaged in Work under this Contract, on or at the Site, and, in case of any sublet Work, the Contractor shall require the subcontractor similarly to provide workers' compensation insurance for all the latter's employees as prescribed by State law. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the Contractor's insurance. In case any class of employees engaged in work under this Contract, on or at the Site, is not protected under the Workers' Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor is required to secure payment of compensation to his employees in accordance with the provisions of section 3700 of the Labor Code. The Contractor shall file with the City certificates of his insurance protecting workers. Company or companies providing insurance coverage shall be acceptable to the City, if in the form and coverage as set forth in the Contract Documents.
- C. **Employer's Liability Insurance.** Contractor shall provide Employer's Liability Insurance, including Occupational Disease, in the amount of at least one million dollars (\$1,000,000.00) per person per accident. Contractor shall provide City with a certificate of Employer's Liability Insurance. Such insurance shall comply with the provisions of the Contract Documents. The policy shall be endorsed, if applicable, to

provide a Borrowed Servant/Alternate Employer Endorsement and contain a Waiver of Subrogation in favor of the City.

- D. Commercial General Liability Insurance.** Contractor shall provide “occurrence” form Commercial General Liability insurance coverage at least as broad as the most current ISO CGL Form 00 01, including but not limited to, premises liability, contractual liability, products/completed operations, personal and advertising injury which may arise from or out of Contractor’s operations, use, and management of the Site, or the performance of its obligations hereunder. The policy shall not contain any exclusion contrary to this Contract including but not limited to endorsements or provisions limiting coverage for (1) contractual liability (including but not limited to ISO CG 24 26 or 21 39); or (2) cross-liability for claims or suits against one insured against another. Policy limits shall not be less than \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Defense costs shall be paid in addition to the limits.
1. Such policy shall comply with all the requirements of this Article. The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Contractor from liability in excess of such coverage, nor shall it limit Contractor’s indemnification obligations to the City, and shall not preclude the City from taking such other actions available to the City under other provisions of the Contract Documents or law.
 2. All general liability policies provided pursuant to the provisions of this Article shall comply with the provisions of the Contract Documents.
 3. All general liability policies shall be written to apply to all bodily injury, including death, property damage, personal injury, owned and non-owned equipment, blanket contractual liability, completed operations liability, explosion, collapse, under-ground excavation, removal of lateral support, and other covered loss, however occasioned, occurring during the policy term, and shall specifically insure the performance by Contractor of that part of the indemnification contained in these General Conditions relating to liability for injury to or death of persons and damage to property.
 4. If the coverage contains one or more aggregate limits, a minimum of 50% of any such aggregate limit must remain available at all times; if over 50% of any aggregate limit has been paid or reserved, the City may require additional coverage to be purchased by Contractor to restore the required limits. Contractor may combine primary, umbrella, and as broad as possible excess liability coverage to achieve the total limits indicated above. Any umbrella or excess liability policy shall include the additional insured endorsement described in the Contract Documents.
 5. All policies of general liability insurance shall permit and Contractor does hereby waive any right of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss.

E. **Automobile Liability Insurance.** Contractor shall provide “occurrence” form Automobile Liability Insurance at least as broad as ISO CA 00 01 (Any Auto) in the amount of, at least, one million dollars (\$1,000,000) per accident for bodily injury and property damage. Such insurance shall provide coverage with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by Contractor or for which Contractor is responsible, in a form and with insurance companies acceptable to the City. All policies of automobile insurance shall permit and Contractor does hereby waive any right of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss.

F. **Builder’s Risk [“All Risk”]**

1. It is the Contractor’s responsibility to maintain or cause to be maintained Builder’s Risk [“All Risk”] extended coverage insurance on all work, material, equipment, appliances, tools, and structures that are or will become part of the Work and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The City accepts no responsibility for the Work until the Work is formally accepted by the City. The Contractor shall provide a certificate evidencing this coverage before commencing performance of the Work.
2. The named insureds shall be Contractor, all Subcontractors of any tier (excluding those solely responsible for design work), suppliers, and City, its elected officials, officers, employees, agents and authorized volunteers, as their interests may appear. Contractor shall not be required to maintain property insurance for any portion of the Work following acceptance by City.
3. Policy shall be provided for replacement value on an “all risk” basis. There shall be no coinsurance penalty provision in any such policy. Policy must include: (1) coverage for any ensuing loss from faulty workmanship, nonconforming work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project; (4) transit coverage, including ocean marine coverage (unless insured by the supplier), with sub-limits sufficient to insure the full replacement value of any key equipment item; and (5) coverage with sub-limits sufficient to insure the full replacement value of any property or equipment stored either on or off the Site. Such insurance shall be on a form acceptable to City to ensure adequacy and sublimit.
4. In addition, the policy shall meet the following requirements:
 - a. Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the Contract.
 - b. Coverage shall include all materials stored on site and in transit.
 - c. Coverage shall include Contractor’s tools and equipment.

- d. Insurance shall include boiler, machinery and material hoist coverage.
- G. Contractor shall require all tiers of sub-contractors working under this Contract to provide the insurance required under this Article unless otherwise agreed to in writing by City. Contractor shall make certain that any and all subcontractors hired by Contractor are insured in accordance with this Contract. If any subcontractor's coverage does not comply with the foregoing provisions, Contractor shall indemnify and hold the City harmless from any damage, loss, cost, or expense, including attorneys' fees, incurred by the City as a result thereof.

ARTICLE 41. FORM AND PROOF OF CARRIAGE OF INSURANCE

- A. Any insurance carrier providing insurance coverage required by the Contract Documents shall be admitted to and authorized to do business in the State of California unless waived, in writing, by the City's Risk Manager. Carrier(s) shall have an A.M. Best rating of not less than an A:VII. Insurance deductibles or self-insured retentions must be declared by the Contractor. At the election of the City the Contractor shall either 1) reduce or eliminate such deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses. If umbrella or excess liability coverage is used to meet any required limit(s) specified herein, the Contractor shall provide a "follow form" endorsement satisfactory to the City indicating that such coverage is subject to the same terms and conditions as the underlying liability policy.
- B. Each insurance policy required by this Contract shall be endorsed to state that: (1) coverage shall not be suspended, voided, reduced or cancelled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City; and (2) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the City, its officials, officers, agents, employees, and volunteers.
- C. The Certificate(s) and policies of insurance shall contain or shall be endorsed to contain the covenant of the insurance carrier(s) that it shall provide no less than thirty (30) days written notice be given to the City prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the City may terminate the Contract or stop the Work in accordance with the Contract Documents, unless the City receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverage's set forth herein and the insurance required herein is in full force and effect. Contractor shall not take possession, or use the Site, or commence operations under this Contract until the City has been furnished original Certificate(s) of Insurance and certified original copies of endorsements or policies of insurance including all endorsements and any and all other attachments as required in this Article. The original endorsements for each policy and the Certificate of Insurance shall be signed by an individual authorized by the insurance carrier to do so on its behalf.

- D. The Certificate(s) of Insurance, policies and endorsements shall so covenant and shall be construed as primary, and the City's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.
- E. City reserves the right to adjust the monetary limits of insurance coverages during the term of this Contract including any extension thereof if, in the City's reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.
- F. Contractor shall report to the City, in addition to the Contractor's insurer, any and all insurance claims submitted by the Contractor in connection with the Work under this Contract.

ARTICLE 42. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- A. **Time for Completion/Liquidated Damages.** Time is of the essence in the completion of the Work. Work shall be commenced within ten (10) Days of the date stated in the City's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract Documents. The City is under no obligation to consider early completion of the Project; and the Contract completion date shall not be amended by the City's receipt or acceptance of the Contractor's proposed earlier completion date. Furthermore, Contractor shall not, under any circumstances, receive additional compensation from the City (including but not limited to indirect, general, administrative or other forms of overhead costs) for the period between the time of earlier completion proposed by the Contractor and the Contract completion date. If the Work is not completed as stated in the Contract Documents, it is understood that the City will suffer damage. In accordance with Government Code section 53069.85, being impractical and infeasible to determine the amount of actual damage, it is agreed that Contractor shall pay to the City as fixed and liquidated damages, and not as a penalty, the sum stipulated in the Contract for each calendar day of delay until the Work is fully completed. Contractor and its surety shall be liable for any liquidated damages. Any money due or to become due the Contractor may be retained to cover liquidated damages.
- B. **Inclement Weather.** Contractor shall abide by the Engineer's determination of what constitutes inclement weather. Time extensions for inclement weather shall only be granted when the Work stopped during inclement weather is on the critical path of the Project schedule.
- C. **Extension of Time.** Contractor shall not be charged liquidated damages because of any delays in completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of Contractor (or its subcontractors or suppliers). Contractor shall within five (5) Days of identifying any such delay notify the City in writing of causes of delay. The City shall ascertain the facts and extent of delay and grant extension of time for completing the Work when, in its judgment, the facts justify such an extension. Time extensions to the Project shall be requested by the Contractor as they occur and without delay. No delay claims shall be permitted unless the event or occurrence delays the completion of the Project beyond the Contract completion date.

- D. **No Damages for Reasonable Delay.** The City's liability to Contractor for delays for which the City is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the City be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs. Damages caused by unreasonable City delay, including delays caused by items that are the responsibility of the City pursuant to Government Code section 4215, shall be based on actual costs only, no proportions or formulas shall be used to calculate any delay damages.

ARTICLE 43. COST BREAKDOWN AND PERIODIC ESTIMATES

Contractor shall furnish on forms Approved by the City:

- A. Within ten (10) Days of Notice to Proceed with the Contract, a detailed estimate giving a complete breakdown of the Contract price, if the Contract amount is a lump sum.
- B. A monthly itemized estimate of Work done for the purpose of making progress payments. In order for the City to consider and evaluate each progress payment application, the Contractor shall submit a detailed measurement of Work performed and a progress estimate of the value thereof before the tenth (10th) Day of the following month.
- C. Contractor shall submit, with each of its payment requests, an adjusted list of actual quantities, verified by the Engineer, for unit price items listed, if any, in the Bid Form.
- D. Following the City's Acceptance of the Work, the Contractor shall submit to the City a written statement of the final quantities of unit price items for inclusion in the final payment request.
- E. The City shall have the right to adjust any estimate of quantity and to subsequently correct any error made in any estimate for payment.

Contractor shall certify under penalty of perjury, that all cost breakdowns and periodic estimates accurately reflect the Work on the Project.

ARTICLE 44. PROGRESS ESTIMATES AND PAYMENT

- A. By the tenth (10th) Day of the following calendar month, Contractor shall submit to Engineer a payment request which shall set forth in detail the value of the Work done for the period beginning with the date work was first commenced and ending on the end of the calendar month for which the payment request is prepared. Contractor shall include any amount earned for authorized extra work. From the total thus computed, a deduction shall be made in the amount of five percent (5%) for retention, except where the City has adopted a finding that the Work done under the Contract is substantially complex, and then the amount withheld as retention shall be the percentage specified in the Notice Inviting Bids. From the remainder a further deduction may be made in accordance with Section B below. The amount computed, less the amount withheld for retention and any amounts withheld as set forth below, shall be the amount of the Contractor's payment request.

- B. The City may withhold a sufficient amount or amounts of any payment or payments otherwise due to Contractor, as in his judgment may be necessary to cover:
1. Payments which may be past due and payable for just claims against Contractor or any subcontractors for labor or materials furnished in and about the performance of work on the Project under this Contract.
 2. Defective work not remedied.
 3. Failure of Contractor to make proper payments to his subcontractor or for material or labor.
 4. Completion of the Contract if there is a reasonable doubt that the Work can be completed for balance then unpaid.
 5. Damage to another contractor or a third party.
 6. Amounts which may be due the City for claims against Contractor.
 7. Failure of Contractor to keep the record ("as-built") drawings up to date.
 8. Failure to provide update on construction schedule as required herein.
 9. Site cleanup.
 10. Failure to comply with Contract Documents.
 11. Liquidated damages.
 12. Legally permitted penalties.
- C. The City may apply such withheld amount or amounts to payment of such claims or obligations at its discretion with the exception of subsections (B)(1), (3), and (5) of this Article, which must be retained or applied in accordance with applicable law. In so doing, the City shall be deemed the agent of Contractor and any payment so made by the City shall be considered as a payment made under contract by the City to Contractor and the City shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. The City will render Contractor a proper accounting of such funds disbursed on behalf of Contractor.
- D. Upon receipt, the Engineer shall review the payment request to determine whether it is undisputed and suitable for payment. If the payment request is determined to be unsuitable for payment, it shall be returned to Contractor as soon as practicable but not later than seven (7) Days after receipt, accompanied by a document setting forth in writing the reasons why the payment request is not proper. The City shall make the progress payment within 30 calendar days after the receipt of an undisputed and properly submitted payment request from Contractor, provided that a release of liens and claims has been received from the Contractor pursuant to Civil Code section 8132. The number of days available to the City to make a payment without incurring interest

pursuant to this paragraph shall be reduced by the number of days by which the Engineer exceeds the seven (7) Day requirement.

- E. A payment request shall be considered properly executed if funds are available for payment of the payment request and payment is not delayed due to an audit inquiry by the financial officer of the City.

ARTICLE 45. SECURITIES FOR MONEY WITHHELD

Pursuant to section 22300 of the Public Contract Code of the State of California, Contractor may request the City to make retention payments directly to an escrow agent or may substitute securities for any money withheld by the City to ensure performance under the contract. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the City or with a state or federally chartered bank as the escrow agent who shall return such securities to Contractor upon satisfactory completion of the contract. Deposit of securities with an escrow agent shall be subject to a written agreement substantially in the form provided in section 22300 of the Public Contract Code.

ARTICLE 46. CHANGES AND EXTRA WORK.

A. Contract Change Orders.

1. The City, without invalidating the Contract, may order changes in the Work consisting of additions, deletions or other revisions, and the Contract Price and Contract Time shall be adjusted accordingly. Except as otherwise provided herein, all such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including any adjustment in the Contract Price or the Contract Time, and the full and final settlement of all costs (direct, indirect and overhead) related to the Work authorized by the Change Order.
2. Contractor shall promptly execute changes in the Work as directed in writing by the City even when the parties have not reached agreement on whether the change increases the scope of Work or affects the Contract Price or Contract Time. All claims for additional compensation to the Contractor shall be presented in writing. No claim will be considered after the Work in question has been done unless a written Change Order has been issued or a timely written notice of claim has been made by Contractor.
3. Whenever any change is made as provided for herein, such change shall be considered and treated as though originally included in the Contract, and shall be subject to all terms, conditions, and provisions of the original Contract.
4. Contractor shall not be entitled to claim or bring suit for damages, whether for loss of profits or otherwise, on account of any decrease or omission of any item or portion of Work to be done.
5. No dispute, disagreement, or failure of the parties to reach agreement on the terms of the Change Order shall relieve the Contractor from the obligation to proceed

with performance of the work, including Additional Work, promptly and expeditiously.

6. Contractor shall make available to the City any of the Contractor's documents related to the Project immediately upon request of the City, as set forth in Article 52.
7. Any alterations, extensions of time, Additional Work, or any other changes may be made without securing consent of the Contractor's surety or sureties.

B. Contract Price Change.

1. Process for Determining Adjustments in Contract Price.

- a. Owner Initiated Change. The Contractor must submit a complete cost proposal, including any change in the Contract Price or Contract Time, within seven (7) Days after receipt of a scope of a proposed change order initiated by the City, unless the City requests that proposals be submitted in less than seven (7) Days.
- b. Contractor Initiated Change. The Contractor must give written notice of a proposed change order required for compliance with the Contract Documents within seven (7) Days of discovery of the facts giving rise to the proposed change order.
- c. Whenever possible, any changes to the Contract amount shall be in a lump sum mutually agreed to by the Contractor and the City.
- d. Price quotations from the Contractor shall be accompanied by sufficiently detailed supporting documentation to permit verification by the City, including but not limited to estimates and quotations from subcontractors or material suppliers, as the City may reasonably request. Contractor shall certify the accuracy of all Change Order Requests under penalty of perjury.
- e. If the Contractor fails to submit a complete cost proposal within the seven (7) Day period (or as requested), the City has the right to order the Contractor in writing to commence the Work immediately on a time and materials basis and/or issue a lump sum change to the Contract Price and/or Contract Time in accordance with the City's estimate. If the change is issued based on the City's estimate, the Contractor will waive its right to dispute the action unless within fifteen (15) Days following completion of the added/deleted work, the Contractor presents written proof that the City's estimate was in error.

2. Unit Price Change Orders.

- a. When the actual quantity of a Unit Price item varies from the Bid Form, compensation for the change in quantity will be calculated by multiplying the actual quantity by the Unit Price. This calculation may result in either an additive or deductive Final Change Order pursuant to the Contract Documents.

- b. No Mark up for Overhead and Profit. Because the Contract Unit Prices provided in the Bid Form include Overhead and Profit as determined by Contractor at the time of Bid submission, no mark up or deduction for Overhead and Profit will be included in Unit Price Change Orders.
 - c. Bid items included on the Bid Form may be deducted from the Work in their entirety without any negotiated extra costs.
 - d. Contractor acknowledges that unit quantities are estimates and agrees that the estimated unit quantities listed on the Bid Form will be adjusted to reflect the actual unit quantities which may result in an adjustment to the Contract Unit Prices. Such an adjustment will be made by execution of a final additive or deductive Change Order following Contractor's completion of the Work. Upon notification, Contractor's failure to respond within seven (7) Days will result in City's issuance of a unit quantity adjustment to the Contract Unit Prices and/or Contract Time in accordance with the Contract Documents.
 - e. The City or Contractor may make a Claim for an adjustment in the Unit Price in accordance with the Contract Documents if:
 - i. the quantity of any item of Unit Price Work performed by Contractor differs by twenty-five percent (25%) or more from the estimated quantity of such item indicated in the Contract; and
 - ii. there is no corresponding adjustment with respect to any other item of Work; and
 - iii. Contractor believes that Contractor is entitled to an increase in Unit Price as a result of having incurred additional expense or the City believes that the City is entitled to a decrease in Unit Price and the parties are unable to agree as to the amount of any such increase or decrease..
3. Lump Sum Change Orders. Contractor shall incorporate the provisions of this Section into all agreements with Subcontractors. Compensation for Lump Sum Change Orders shall be limited to expenditures necessitated specifically by the Additional Work, and shall be according to the following:
- a. Overview. The Contractor will submit a properly itemized Lump Sum Change Order Proposal covering the Additional Work and/or the work to be deleted. This proposal will be itemized for the various components of the Additional Work and segregated by labor, material, and equipment in a detailed format satisfactory to the City. The City will require itemized change orders on all change order proposals from the Contractor, subcontractors, and sub-subcontractors regardless of tier. Details to be submitted will include detailed line item estimates showing detailed materials quantity take-offs, material prices by item and related labor hour pricing information and extensions (by line item or by drawing as applicable).
 - b. Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft or type of worker at the time the Additional Work is done, plus

employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessment or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the Additional Work cost will not be permitted unless the Contractor establishes the necessity for such new classifications. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

Estimated labor hours must only include hours for those workmen and working foremen directly involved in performing the change order work. Supervision above the level of working foremen (such as general foremen, superintendent, project manager, etc.) is considered to be included in the markup percentages as outlined below. Note that no separate allowances for warranty expense will be allowed as a direct cost of a change order. Costs attributed to warranty expenses will be considered to be covered by the markup.

- c. Labor Burden. Labor burden allowable in change orders shall be defined as employer's net actual cost of payroll taxes (FICA, Medicare, SUTA, FUTA), net actual cost for employer's cost of union benefits (or other usual and customary fringe benefits if the employees are not union employees), and net actual cost to employer for worker's compensation insurance taking into consideration adjustments for experience modifiers, premium discounts, dividends, rebates, expense constants, assigned risk pool costs, net cost reductions due to policies with deductibles for self-insured losses, assigned risk rebates, etc. Contractor shall reduce their standard payroll tax percentages to properly reflect the effective cost reduction due to the estimated impact of the annual maximum wages subject to payroll taxes. An estimated percentage for labor burden may be used for pricing change orders. However, the percentage used for labor burden to price change orders will be examined at the conclusion of the Project and an adjustment to the approved change orders will be processed if it is determined that the actual labor burden percentage should have been more or less than the estimated percentage used.
- d. Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available in the quantities involved, plus sales tax, freight, and delivery. Materials costs shall be based upon supplier or manufacturer's invoice. If invoices or other satisfactory evidence of cost are not furnished within fifteen (15) Days of delivery, then the City shall determine the materials cost, at its sole discretion. Estimated material change order costs shall reflect the Contractor's reasonably anticipated net actual cost for the purchase of the material needed for the change order work. Estimated material costs shall reflect cost reductions available to the Contractor due to "non-cash" discounts, trade discounts, free material credits, and/or volume rebates. "Cash" discounts (i.e., prompt payment discounts of 2% or less) available on material purchased for change order work shall be credited to the City if the Contractor is provided the City funds in time for Contractor to take advantage of any such "cash" discounts. The portion of any "cash" discounts greater than 2% will not be considered "non-cash" discount for purposes of this provision. Price quotations from material suppliers must be itemized with unit

prices for each specific item to be purchased. "Lot pricing" quotations will not be considered sufficient substantiating detail.

- e. Tool and Equipment Use. Costs for the use of small tools, which are tools that have a replacement value of \$1,000 or less, shall be considered included in the Overhead and Profit mark-ups established below. Allowable change order estimated costs may include appropriate amounts for rental of major equipment specifically needed to perform the change order work (defined as tools and equipment with an individual purchase cost of more than \$750). For Contractor owned equipment, the "bare" equipment rental rates allowed to be used for pricing change order proposals shall be 75% of the monthly rate listed in the most current publication of The AED Green Book divided by 176 to arrive at a maximum hourly rate to be applied to the hours the equipment is used performing the change order work. Further, for Contractor owned equipment, the aggregate equipment rent charges for any single piece of equipment used in all change order work shall be limited to 50% of the fair market value of the piece of equipment when the first change order is priced involving usage of the piece of equipment. Fuel necessary to operate the equipment will be considered as a separate direct cost associated with the change order work.
- f. Maximum Markup Percentage Allowable on Self-Performed Work. With respect to pricing change orders, the maximum markup percentage to be paid to any Contractor or subcontractor (regardless of tier) on self-performed work shall be a single markup percentage not-to-exceed fifteen percent (15%) of the net direct cost of (1) direct labor and allowable labor burden costs applicable to the change in the Work; (2) the net cost of material and installed equipment incorporated into the change in the Work, and (3) net rental cost of major equipment and related fuel costs necessary to complete the change in the Work. The markup computed using the above formula shall be considered to be allocated 2/3 to cover applicable overhead costs directly attributable to the field overhead costs related to processing, supervising and performing, the change order work, and the remaining 1/3 to cover home office overhead costs and profit
- g. Maximum Markup Percentages Allowable on Work Performed by Lower Tier Subcontractors. With respect to pricing the portion of change order proposals involving Work performed by lower tier contractors, the maximum markup percentage allowable to the Contractor or subcontractor supervising the lower tier subcontractor's work shall not exceed five percent (5%) of the net of all approved change order work performed by all subcontractors combined for any particular change order proposal. The markup computed using the above formula shall be considered to be allocated 2/3 to cover applicable overhead costs directly attributable to the field overhead costs related to processing, supervising and performing the change order work, and the remaining 1/3 to cover home office overhead costs and profit.
- h. No Markup on Bonds and Liability Insurance Costs. Change order cost adjustments due to increases or decreases in bond or insurance costs (if applicable) shall not be subject to any markup.

- i. Direct and Indirect Costs Covered by Markup Percentages. As a further clarification, the agreed upon markup percentage set forth above is intended to cover the Contractor's profit and all indirect costs associated with the change order work. Items intended to be covered by the markup percentage include, but are not limited to: home office expenses, branch office and field office overhead expense of any kind, project management, superintendents, general foremen, estimating, engineering, coordinating, expediting, purchasing, detailing, legal, accounting, data processing or other administrative expenses, shop drawings, permits, auto insurance and umbrella insurance, pick-up truck costs, and warranty expense costs. The cost for the use of small tools is also to be considered covered by the markup percentage established above. Small tools shall be defined as tools and equipment (power or non-power) with an individual purchase cost of less than \$750.
 - j. Deduct Change Orders and Net Deduct Changes. The application of the markup percentages referenced above will apply to both additive and deductive change orders. In the case of a deductive change order, the credit will be computed by applying the sliding scale percentages as outlined above so that a deductive change order would be computed in the same manner as an additive change order. In those instances where a change involves both additive and deductive work, the additions and deductions will be netted and the markup percentage adjustments will be applied to the net amount.
 - k. Contingency. In no event will any lump sum or percentage amounts for "contingency" be allowed to be added as a separate line item in change order estimates. Unknowns attributable to labor hours will be accounted for when estimating labor hours anticipated performing the work. Unknowns attributable to material scrap and waste will be estimated as part of material costs.
 - l. Insurance and Bonds. In the event the Contractor has been required to furnish insurance and/or bonds as part of the base contract price, a final contract change order will be processed to account for the Contractor's net increase or decrease in insurance costs and/or bond premium costs associated with change orders to Contractor's base Contract Price.
4. Time and Materials Change Orders.
- a. General. The term Time and Materials means the sum of all costs reasonably and necessarily incurred and paid by Contractor for labor, materials, and equipment in the proper performance of Additional Work. Except as otherwise may be agreed to in writing by the City, such costs shall be in amounts no higher than those prevailing in the locality of the Project, and shall include only the following items.
 - b. Timely and Final Documentation.
 - i. T&M Daily Sheets. Contractor must submit timesheets, materials invoices, records of equipment hours, and records of rental equipment hours to the City's Representative for an approval signature **each day** Additional Work is performed. Failure to get the City's Representative's approval signature

each Day shall result in a waiver of Contractor's right to claim these costs. The City's Representative's signature on time sheets only serves as verification that the Work was performed and is not indicative of City's agreement to Contractor's entitlement to the cost.

- ii. T&M Daily Summary Sheets. All documentation of incurred costs ("T&M Daily Summary Sheets") shall be submitted by Contractor within **three (3) Days** of incurring the cost for labor, material, equipment, and special services as Additional Work is performed. Contractor's actual costs shall be presented in a summary table in an electronic spreadsheet file by labor, material, equipment, and special services. Each T&M Daily Summary Sheet shall include Contractor's actual costs incurred for the Additional Work performed that day and a cumulative total of Contractor's actual costs incurred for the Additional Work. Contractor's failure to provide a T&M Daily Summary Sheet showing a total cost summary within three (3) Days but within five (5) Days of performance of the Work will result in the Contractor's otherwise allowable overhead and profit being reduced by 50% for that portion of Additional Work which was not documented in a timely manner. Contractor's failure to submit the T&M Daily Summary Sheet within five (5) Days of performance of the Work will result in a total waiver of Contractor's right to claim these costs.
- iii. T&M Total Cost Summary Sheet. Contractor shall submit a T&M Total Cost Summary Sheet, which shall include total actual costs, within **seven (7) Days** following completion of City approved Additional Work. Contractor's total actual cost shall be presented in a summary table in an electronic spreadsheet file by labor, material, equipment, and special services. Contractor's failure to submit the T&M Total Cost Summary Sheet within seven (7) Days of completion of the Additional Work will result in Contractor's waiver for any reimbursement of any costs associated with the T&M Summary Sheets or the performance of the Additional Work.
- c. Labor. The Contractor will be paid the cost of labor for the workers used in the actual and direct performance of the Work. The cost of labor will be the sum of the actual wages paid (which shall include any employer payments to or on behalf of the workers for health and welfare, pension, vacation, and similar purposes) substantiated by timesheets and certified payroll for wages prevailing for each craft or type of workers performing the Additional Work at the time the Additional Work is done, and the labor surcharge set forth in the Department of Transportation publication entitled *Labor Surcharge and Equipment Rental Rates*, which is in effect on the date upon which the Work is accomplished and which is a part of the Contract. The labor surcharge shall constitute full compensation for all payments imposed by Federal, State, or local laws and for all other payments made to, or on behalf of, the workers, other than actual wages.
 - i. Equipment Operator Exception. Labor costs for equipment operators and helpers shall be paid only when such costs are not included in the invoice for equipment rental.

- ii. Foreman Exception. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to the Additional Work shall be paid. Indirect labor costs, including, without limitation, the superintendent, project manager, and other labor identified in the Contract Documents will be considered Overhead.
- d. Materials. The cost of materials reported shall be itemized at invoice or lowest current price at which materials are locally available and delivered to the Project site in the quantities involved, plus the cost of sales tax, freight, delivery, and storage.
 - i. Trade discounts available to the purchaser shall be credited to the City notwithstanding the fact that such discounts may not have been taken by Contractor.
 - ii. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the City's Representative.
 - iii. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on Additional Work items or the current wholesale price for such materials delivered to the Project site, whichever price is lower.
 - iv. If, in the opinion of the City's Representative, the cost of materials is excessive, or Contractor does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the total quantity concerned delivered to the Project site less trade discounts.
 - v. The City reserves the right to furnish materials for the Additional Work and no Claim shall be allowed by Contractor for costs of such materials or Indirect Costs or profit on City furnished materials.
- e. Equipment.
 - i. Rental Time. The rental time to be paid for equipment on the Project site shall be the time the equipment is in productive operation on the Additional Work being performed and, in addition, shall include the time required to move the equipment to the location of the Additional Work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except that moving time will not be paid if the equipment is used on other than the Additional Work, even though located at the site of the Additional Work.
 - (a) Rental Time Not Allowed. Rental time will not be allowed while equipment is inoperative due to breakdowns.
 - (b) Computation Method. The following shall be used in computing the rental time of equipment on the Project site.

- (i) When hourly rates are paid, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
 - (ii) When daily rates are paid, any part of a day less than 4 hours operation shall be considered to be 1/2-day of operation, and any part of an hour in excess of 4 hours will be considered one day of operation.
- ii. Rental Rates. Contractor will be paid for the use of equipment at the lesser of (i) the actual rental rate, or (ii) the rental rate listed for that equipment in the California Department of Transportation publication entitled *Labor Surcharge and Equipment Rental Rates*, which is in effect on the date upon which the Contract was executed. Such rental rates will be used to compute payments for equipment whether the equipment is under Contractor's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment shall be the rate (i.e., daily, monthly) resulting in the least total cost to the City for the total period of use. If it is deemed necessary by Contractor to use equipment not listed in the publication, an equitable rental rate for the equipment will be established by the City's Representative. Contractor may furnish cost data which might assist the City's Representative in the establishment of the rental rate.
- iii. Contractor-Owned Equipment.
 - (a) For Contractor-owned equipment, the allowed equipment rental rate will be limited to the monthly equipment rental rate using a utilization rate of 173 hours per month.
 - (b) For Contractor-owned equipment, the rental time to be paid for equipment on the Site shall be the time the equipment is in productive operation, unless, in the instance of standby time, the equipment could be actively used by Contractor on another project, then City shall pay for the entirety of the time the equipment is on Site. It shall be Contractor's burden to demonstrate to the City that the equipment could be actively used on another project.
- iv. All equipment shall, in the opinion of the City's Representative, be in good working condition and suitable for the purpose for which the equipment is to be used.
- v. Before construction equipment is used on the Additional Work, Contractor shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the City's Representative, in duplicate, a description of the equipment and its identifying number and the scheduled Additional Work activities planned.

- vi. Unless otherwise specified, manufacturer's rating and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.
- f. Special Services. Special work or services are defined as that Additional Work characterized by extraordinary complexity, sophistication, or innovation or a combination of the foregoing attributes which are unique to the construction industry.
 - i. Invoices for Special Services. When the City's Representative and Contractor determine that a special service is required which cannot be performed by the forces of Contractor or those of any of its Subcontractors, the special service may be performed by an entity especially skilled in the Additional Work. Invoices for special services based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs, after validation of market values by the City's Representative.
 - ii. Discount and Allowance. All invoices for special services will be adjusted by deducting all trade discounts offered or available, whether the discounts were taken or not. In lieu of Overhead and Profit specified herein, a total allowance not to exceed fifteen percent (15%) for Overhead and Profit will be added to invoices for Special Services.
 - iii. When the City determines, in its sole discretion, that competitive bidding is necessary for certain special services, Contractor shall solicit competitive bids for those special services.
- g. Excluded Costs. The term Time and Material shall not include any of the following costs or any other home or field office overhead costs, all of which are to be considered administrative costs covered by Contractor's allowance for Overhead and Profit.
 - i. Overhead Cost. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, timekeepers, clerks, and other personnel employed by Contractor whether at the Site or in Contractor's principal office or any branch office, material yard, or shop for general administration of the Additional Work;
 - ii. Office Expenses. Expenses of Contractor's principal and branch offices;
 - iii. Capital Expenses. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Additional Work and charges against Contractor for delinquent payments;
 - iv. Negligence. Costs due to the negligence of Contractor or any Subcontractor or Supplier, or anyone directly or indirectly employed by any

of them or for whose acts any of them may be liable, including without limitation the correction of Defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property;

- v. Other. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in the Contract Documents;
 - vi. Small Tools. Cost of small tools valued at less than \$1,000 and that remain the property of Contractor;
 - vii. Administrative Costs. Costs associated with the preparation of Change Orders (whether or not ultimately authorized), cost estimates, or the preparation or filing of Claims;
 - viii. Anticipated Lost Profits. Expenses of Contractor associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings, or unpaid retention;
 - ix. Home Office Overhead. Costs derived from the computation of a "home office overhead" rate by application of the *Eichleay, Allegheny*, burden fluctuation, or other similar methods;
 - x. Special Consultants and Attorneys. Costs of special consultants or attorneys, whether or not in the direct employ of Contractor, employed for services specifically related to the resolution of a Claim, dispute, or other matter arising out of or relating to the performance of the Additional Work.
- h. Overhead, Profit and Other Charges. The mark-up for overhead (including supervision) and profit on work added to the Contract shall be according to the following:
- i. "Net Cost" is defined as consisting of costs of labor, materials, and tools and equipment only excluding overhead and profit. The costs of applicable insurance and bond premium will be reimbursed to the Contractor and subcontractors at cost only, without mark-up. Contractor shall provide City with documentation of the costs, including, but not limited to, payroll records, invoices, and such other information as City may reasonably request.
 - ii. For Work performed by the Contractor's forces, the added cost for overhead and profit shall not exceed fifteen percent (15%) of the Net Cost of the Work.
 - iii. For Work performed by a subcontractor, the added cost for overhead and profit shall not exceed fifteen percent (15%) of the subcontractor's Net Cost of the Work to which the Contractor may add five percent (5%) of the subcontractor's Net Cost.
 - iv. For Work performed by a sub-subcontractor, the added cost for overhead and profit shall not exceed fifteen percent (15%) of the sub-subcontractor's

Net Cost for Work to which the subcontractor and general contractor may each add an additional five percent (5%) of the Net Cost of the lower tier subcontractor.

- v. No additional mark-up will be allowed for lower tier subcontractors, and in no case shall the added cost for overhead and profit payable by City exceed twenty-five percent (25%) of the Net Cost as defined herein, of the party that performs the Work.
5. All of the following costs are included in the markups for overhead and profit described above, and Contractor shall not receive any additional compensation for: Submittals, drawings, field drawings, Shop Drawings, including submissions of drawings; field inspection; General Superintendence; General administration and preparation of cost proposals, schedule analysis, Change Orders, and other supporting documentation; computer services; reproduction services; Salaries of project engineer, superintendent, timekeeper, storekeeper, and secretaries; Janitorial services; Small tools, incidentals and consumables; Temporary On-Site facilities (Offices, Telephones, High Speed Internet Access, Plumbing, Electrical Power, Lighting; Platforms, Fencing, Water), Jobsite and Home office overhead or other expenses; vehicles and fuel used for work otherwise included in the Contract Documents; Surveying; Estimating; Protection of Work; Handling and disposal fees; Final Cleanup; Other Incidental Work; Related Warranties; insurance and bond premiums.
6. For added or deducted Work by subcontractors, the Contractor shall furnish to the City the subcontractor's signed detailed record of the cost of labor, material and equipment, including the subcontractor markup for overhead and profit. The same requirement shall apply to sub-subcontractors
7. For added or deducted work furnished by a vendor or supplier, the Contractor shall furnish to the City a detailed record of the cost to the Contractor, signed by such vendor or supplier.
8. Any change in the Work involving both additions and deletions shall indicate a net total cost, including subcontracts and materials. Allowance for overhead and profit, as specified herein, shall be applied if the net total cost is an increase in the Contract Price; overhead and profit allowances shall not be applied if the net total cost is a deduction to the Contract Price. The estimated cost of deductions shall be based on labor and material prices on the date the Contract was executed.
9. Contractor shall not reserve a right to assert impact costs, extended job site costs, extended overhead, constructive acceleration and/or actual acceleration beyond what is stated in the Change Order for Work. No claims shall be allowed for impact, extended overhead costs, constructive acceleration and/or actual acceleration due to a multiplicity of changes and/or clarifications. The Contractor may not change or modify the City's change order form in an attempt to reserve additional rights.
10. If the City disagrees with the proposal submitted by Contractor, it will notify the Contractor and the City will provide its opinion of the appropriate price and/or time extension. If the Contractor agrees with the City, a Change Order will be issued

by the City. If no agreement can be reached, the City shall have the right to issue a unilateral Change Order setting forth its determination of the reasonable additions or savings in costs and time attributable to the extra or deleted work. Such determination shall become final and binding if the Contractor fails to submit a claim in writing to the City within fifteen (15) Days of the issuance of the unilateral Change Order, disputing the terms of the unilateral Change Order, and providing such supporting documentation for its position as the City may require.

C. Change of Contract Times.

1. The Contract Times may only be changed by a Change Order.
2. All changes in the Contract Price and/or adjustments to the Contract Times related to each change shall be included in Contractor's COR pursuant to this Article. No cost or time will be allowed for cumulative effects of multiple changes. All Change Orders must state that the Contract Time is not changed or is either increased or decreased by a specific number of days. Failure to include a change to time shall waive any change to the time unless the parties mutually agree in writing to postpone a determination of the change to time resulting from the Change Order.
3. Notice of the amount of the request for adjustment in the Contract Times with supporting data shall be delivered within seven (7) Days after such start of occurrence, unless City's Representative allows an additional period of time to ascertain more accurate data in support of the request. No extension of time or additional compensation shall be given for a delay if the Contractor failed to give notice in the manner and within the time prescribed.
4. City may elect, at City's sole discretion, to grant an extension in Contract Times, without Contractor's request, because of delays or other factors.
5. Use of Float and Critical Path.
 - a. Float is for the benefit of the Project. Float shall not be considered for the exclusive use or benefit of either the City or the Contractor.
 - b. Contractor shall not be entitled to compensation, and City will not compensate Contractor, for delays which impact early completion. Any difference in time between the Contractor's early completion and the Contract Time shall be considered a part of the Project float.
6. Contractor's entitlement to an extension of the Contract Times is limited to a City-caused extension of the critical path, reduced by the Contractor's concurrent delays, and established by a proper time impact analysis. No time extension shall be allowed unless, and then only to the extent that, the City-caused delay extends the critical path beyond the previously approved Contract Time. If approved, the increase in time required to complete the Work shall be added to the Contract Time.
 - a. Contractor shall not be entitled to an adjustment in the Contract Price or Contract Times for delays within the control of Contractor. Delays attributable

to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

- b. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, pandemic, abnormal weather conditions (as determined by the City), Acts of God, acts or failures to act of utility owners not under the control of City, or other causes not the fault of and beyond control of City and Contractor, then Contractor shall be entitled to an time extension when the Work stopped is on the critical path. Such a non-compensable adjustment shall be Contractor's sole and exclusive remedy for such delays. Contractor must submit a timely request in accordance with the requirements of this Article.
 - c. Utility-Related Delays.
 - i. Contractor shall immediately notify in writing the utility owner and City's Representative of its construction schedule and any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities. Requests for extensions of time arising out of utility relocation or repair delays shall be filed in accordance with this Article.
 - ii. Contractor shall not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, as noted in the Contract Documents or by the Underground Service Alert survey.
7. Content for Requests for Contract Extension. Contractor's justification for entitlement shall be clear and complete citing specific Contract Document references and reasons on which Contractor's entitlement is based. At a minimum, each request for a time extension must include:
- a. Each request for an extension of Contract Time must identify the impacting event, in narrative form, providing a description of the delay event and sufficient justification as to why the Contractor is entitled to a time extension. Contractor must demonstrate that the delay arises from unforeseeable causes beyond the control and without the fault or negligence of both Contractor and any Subcontractors or Suppliers, or any other persons or organizations employed by any of them or for whose acts any of them may be liable, and that such causes in fact lead to performance or completion of the Work, or specified part in question, beyond the corresponding Contract Times, despite Contractor's reasonable and diligent actions to guard against those effects.
 - b. Each request for an extension of Contract Time must include a time impact analysis in CPM format, using the Contemporaneous Impacted As-Planned Schedule Analysis to calculate the impact of the delay event.
8. No Damages for Reasonable Delay.

- a. City's liability to Contractor for delays for which City is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall City be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs.
 - b. Damages caused by unreasonable City delay that impact the critical path, including delays caused by items that are the responsibility of the City pursuant to Government Code section 4215, shall be compensated at the Daily Rate established in the Special Conditions. No other calculations, proportions or formulas shall be used to calculate any delay damages.
 - c. City and City's Representative, and the officers, members, partners, employees, agents, consultants, or subcontractors of each of them, shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
9. Contractor's failure, neglect, or refusal to comply with the requirements of the Contract Documents, or any portion thereof, shall bar Contractor's request for extensions of the Contract Times. Such failure, neglect, or refusal prejudices City's and City's Representative's ability to recognize and mitigate delay, and such failure, neglect, or refusal prevent the timely analysis of requests for extensions of Contract Times, and whether such extensions may be warranted. Contractor hereby waives all rights to extensions of Contract Times due to delays or accelerations that result from or occur during periods of time for which Contractor fails, neglects, or refuses to fully comply with the requirements of this Article.

ARTICLE 47. FINAL ACCEPTANCE AND PAYMENT

- A. The acceptance of the Work on behalf of the City will be made by the Engineer. Such acceptance by the City shall not constitute a waiver of defects. When the Work has been accepted there shall be paid to Contractor a sum equal to the contract price less any amounts previously paid Contractor and less any amounts withheld by the City from Contractor under the terms of the contract. The final five percent (5%), or the percentage specified in the notice inviting bids where the City has adopted a finding of substantially complete, shall not become due and payable until five (5) calendar days shall have elapsed after the expiration of the period within which all claims may be filed under the provisions of Civil Code section 9356. If the Contractor has placed securities with the City as described herein, the Contractor shall be paid a sum equal to one hundred percent (100%) of the contract price less any amounts due the City under the terms of the Contract.
- B. Unless Contractor advises the City in writing prior to acceptance of the final five percent (5%) or the percentage specified in the notice inviting bids where the City has adopted a finding of substantially complete, or the return of securities held as described herein, said acceptance shall operate as a release to the City of all claims and all liability to Contractor for all things done or furnished in connection with this work

and for every act of negligence of the City and for all other claims relating to or arising out of this work. If Contractor advises the City in writing prior to acceptance of final payment or return of the securities that there is a dispute regarding the amount due the Contractor, the City may pay the undisputed amount contingent upon the Contractor furnishing a release of all undisputed claims against the City with the disputed claims in stated amounts being specifically excluded by Contractor from the operation of the release. No payments, however, final or otherwise, shall operate to release Contractor or its sureties from the Faithful Performance Bond, Labor and Material Payment Bond, or from any other obligation under this contract.

- C. In case of suspension of the contract any unpaid balance shall be and become the sole and absolute property of the City to the extent necessary to repay the City any excess in the cost of the Work above the contract price.
- D. Final payment shall be made no later than 60 days after the date of acceptance of the Work by the City or the date of occupation, beneficial use and enjoyment of the Work by the City including any operation only for testing, start-up or commissioning accompanied by cessation of labor on the Work, provided that a release of liens and claims has been received from the Contractor pursuant to Civil Code section 8136. In the event of a dispute between the City and the Contractor, the City may withhold from the final payment an amount not to exceed 150% of the disputed amount.
- E. Within ten (10) calendar days from the time that all or any portion of the retention proceeds are received by Contractor, Contractor shall pay each of its subcontractors from whom retention has been withheld each subcontractor's share of the retention received. However, if a retention payment received by Contractor is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor if the payment is consistent with the terms of the subcontract.

ARTICLE 48. OCCUPANCY

The City reserves the right to occupy or utilize any portion of the Work at any time before completion, and such occupancy or use shall not constitute acceptance of any part of Work covered by this Contract. This use shall not relieve the Contractor of its responsibilities under the Contract.

ARTICLE 49. INDEMNIFICATION

To the fullest extent permitted by law, Contractor shall immediately defend (with counsel of the City's choosing), indemnify and hold harmless the City, officials, officers, agents, employees, and representatives, and each of them from and against:

- A. Any and all claims, demands, causes of action, costs, expenses, injuries, losses or liabilities, in law or in equity, of every kind or nature whatsoever, but not limited to, injury to or death, including wrongful death, of any person, and damages to or destruction of property of any person, arising out of, related to, or in any manner directly or indirectly connected with the Work or this Contract, including claims made by subcontractors for nonpayment, including without limitation the payment of all consequential damages and attorney's fees and other related costs and expenses,

however caused, regardless of whether the allegations are false, fraudulent, or groundless, and regardless of any negligence of the City or its officers, employees, or authorized volunteers (including passive negligence), except the sole negligence or willful misconduct or active negligence of the City or its officials, officers, employees, or authorized volunteers.

- B. Contractor's defense and indemnity obligation herein includes, but is not limited to damages, fines, penalties, attorney's fees and costs arising from claims under the Americans with Disabilities Act (ADA) or other federal or state disability access or discrimination laws arising from Contractor's Work during the course of construction of the improvements or after the Work is complete, as the result of defects or negligence in Contractor's construction of the improvements.
- C. Any and all actions, proceedings, damages, costs, expenses, fines, penalties or liabilities, in law or equity, of every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor;
- D. Any and all losses, expenses, damages (including damages to the Work itself), attorney's fees, and other costs, including all costs of defense which any of them may incur with respect to the failure, neglect, or refusal of Contractor to faithfully perform the Work and all of Contractor's obligations under the agreement. Such costs, expenses, and damages shall include all costs, including attorney's fees, incurred by the indemnified parties in any lawsuit to which they are a party.

Contractor shall immediately defend, at Contractor's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the City, its officials, officers, agents, employees and representatives. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the City, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse the City, its officials, officers, agents, employees and representatives for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code section 2782.

ARTICLE 50. PROCEDURE FOR RESOLVING DISPUTES

Contractor shall timely comply with all notices and requests for changes to the Contract Time or Contract Price, including but not limited to all requirements of Article 44, Changes and Extra Work, as a prerequisite to filing any claim governed by this Article. The failure to timely submit a notice of delay or notice of change, or to timely request a change to the Contract Price or Contract Time, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.

- A. **Intent.** Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of \$375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Article is to implement Sections 20104 et seq.

and Section 9204 of the California Public Contract Code. This Article shall be construed to be consistent with said statutes.

- B. Claims.** For purposes of this Article, "Claim" means a separate demand by the Contractor, after a change order duly requested in accordance with Article 44 "Changes and Extra Work" has been denied by the City, for (A) a time extension, (B) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract, or (C) an amount the payment of which is disputed by the City. Claims governed by this Article may not be filed unless and until the Contractor completes all procedures for giving notice of delay or change and for the requesting of a time extension or change order, including but not necessarily limited to the procedures contained in Article 44, Changes and Extra Work, and Contractor's request for a change has been denied in whole or in part. Claims governed by this Article must be filed no later than the date of final payment. The claim shall be submitted in writing to the City and shall include on its first page the following in 16 point capital font: "THIS IS A CLAIM." Furthermore, the claim shall include the documents necessary to substantiate the claim. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims, including all requirements pertaining to compensation or payment for extra Work, disputed Work, and/or changed conditions. Failure to follow such contractual requirements shall bar any claims or subsequent lawsuits for compensation or payment thereon.
- C. Supporting Documentation.** The Contractor shall submit all claims in the following format:
1. Summary of claim merit and price, reference Contract Document provisions pursuant to which the claim is made
 2. List of documents relating to claim:
 - a. Specifications
 - b. Drawings
 - c. Clarifications (Requests for Information)
 - d. Schedules
 - e. Other
 3. Chronology of events and correspondence
 4. Analysis of claim merit
 5. Analysis of claim cost
 6. Time impact analysis in CPM format
 7. If Contractor's claim is based in whole or in part on an allegation of errors or omissions in the Drawings or Specifications for the Project, Contractor shall

provide a summary of the percentage of the claim subject to design errors or omissions and shall obtain a certificate of merit in support of the claim of design errors and omissions.

- D. City's Response.** Upon receipt of a claim pursuant to this Article, City shall conduct a reasonable review of the claim and, within a period not to exceed 45 Days, shall provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the City issues its written statement.
1. If the City needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the City's governing body does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the City shall have up to three Days following the next duly publicly noticed meeting of the City's governing body after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.
 2. Within 30 Days of receipt of a claim, the City may request in writing additional documentation supporting the claim or relating to defenses or claims the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of City and the Contractor. The City's written response to the claim, as further documented, shall be submitted to the Contractor within 30 Days (if the claim is less than \$15,000, within 15 Days) after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.
- E. Meet and Confer.** If the Contractor disputes the City's written response, or the City fails to respond within the time prescribed, the Contractor may so notify the City, in writing, either within 15 Days of receipt of the City's response or within 15 Days of the City's failure to respond within the time prescribed, respectively, and demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, the City shall schedule a meet and confer conference within 30 Days for settlement of the dispute.
- F. Mediation.** Within 10 business Days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the City shall provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 Days after the City issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the City and the Contractor sharing the associated costs equally. The City and Contractor shall mutually agree to a mediator within 10 business Days after the disputed portion of the claim has been identified in writing, unless the parties agree to select a mediator at a later time.

1. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.
 2. For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.
 3. Unless otherwise agreed to by the City and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced.
 4. The mediation shall be held no earlier than the date the Contractor completes the Work or the date that the Contractor last performs Work, whichever is earlier. All unresolved claims shall be considered jointly in a single mediation, unless a new unrelated claim arises after mediation is completed.
- G. **Procedures After Mediation.** If following the mediation, the claim or any portion remains in dispute, the Contractor must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code prior to initiating litigation. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.
- H. **Civil Actions.** The following procedures are established for all civil actions filed to resolve claims of \$375,000 or less:
1. Within 60 Days, but no earlier than 30 Days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties or unless mediation was held prior to commencement of the action in accordance with Public Contract Code section 9204 and the terms of this Contract. The mediation process shall provide for the selection within 15 Days by both parties of a disinterested third person as mediator, shall be commenced within 30 Days of the submittal, and shall be concluded within 15 Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.
 2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title

3 of Part 3 of the Code of Civil Procedure, (A) arbitrators shall, when possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

- I. **Government Code Claims.** In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra Work, disputed Work, construction claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code Sections 900, et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra Work, disputed Work, construction claims, and/or changed conditions have been followed by Contractor. If no such Government Code claim is submitted, or if the prerequisite contractual requirements are not satisfied, no action against the City may be filed. **A Government Code claim must be filed no earlier than the date the Work is completed or the date the Contractor last performs Work on the Project, whichever occurs first. A Government Code claim shall be inclusive of all unresolved claims unless a new unrelated claim arises after the Government Code claim is submitted.**

- J. **Non-Waiver.** The City's failure to respond to a claim from the Contractor within the time periods described in this Article or to otherwise meet the time requirements of this Article shall result in the claim being deemed rejected in its entirety.

ARTICLE 51. CITY'S RIGHT TO TERMINATE CONTRACT

A. Termination for Cause by the City:

- 1. In the sole estimation of the City, if the Contractor refuses or fails to prosecute the Work or any separable part thereof with such diligence as will insure its completion within the time specified by the Contract Documents, or any extension thereof, or fails to complete such Work within such time, or if the Contractor should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or the Contractor or any of its subcontractors should violate any of the provisions of this Contract, the City may serve written notice upon the Contractor and its Surety of the City's intention to terminate this Contract. This notice of intent to terminate shall contain the reasons for such intention to terminate this Contract, and a statement to the effect that the Contractor's right to perform this Contract shall cease and terminate upon the expiration of ten (10) calendar days unless such violations have ceased and arrangements satisfactory to the City have been made for correction of said violations.

- 2. In the event that the City serves such written notice of termination upon the Contractor and the Surety, the Surety shall have the right to take over and perform the Contract. If the Surety does not: (1) give the City written notice of Surety's intention to take over and commence performance of the Contract within 15 calendar days of the City's service of said notice of intent to terminate upon Surety;

and (2) actually commence performance of the Contract within 30 calendar days of the City's service of said notice upon Surety; then the City may take over the Work and prosecute the same to completion by separate contract or by any other method it may deem advisable for the account and at the expense of the Contractor.

3. In the event that the City elects to obtain an alternative performance of the Contract as specified above: (1) the City may, without liability for so doing, take possession of and utilize in completion of the Work such materials, appliances, plants and other property belonging to the Contractor that are on the site and reasonably necessary for such completion (A special lien to secure the claims of the City in the event of such suspension is hereby created against any property of Contractor taken into the possession of the City under the terms hereof and such lien may be enforced by sale of such property under the direction of the City without notice to Contractor. The proceeds of the sale after deducting all expenses thereof and connected therewith shall be credited to Contractor. If the net credits shall be in excess of the claims of the City against Contractor, the balance will be paid to Contractor or Contractor's legal representatives.); and (2) Surety shall be liable to the City for any cost or other damage to the City necessitated by the City securing an alternate performance pursuant to this Article.

B. Termination for Convenience by the City:

1. The City may terminate performance of the Work called for by the Contract Documents in whole or, from time to time, in part, if the City determines that a termination is in the City's interest.
2. The Contractor shall terminate all or any part of the Work upon delivery to the Contractor of a Notice of Termination specifying that the termination is for the convenience of the City, the extent of termination, and the Effective Date of such termination.
3. After receipt of Notice of Termination, and except as directed by the City's Representative, the Contractor shall, regardless of any delay in determining or adjusting any amounts due under this Termination for Convenience clause, immediately proceed with the following obligations:
 - a. Stop Work as specified in the Notice.
 - b. Complete any Work specified in the Notice of Termination in a least cost/shortest time manner while still maintaining the quality called for under the Contract Documents.
 - c. Leave the property upon which the Contractor was working and upon which the facility (or facilities) forming the basis of the Contract Document is situated in a safe and sanitary manner such that it does not pose any threat to the public health or safety.
 - d. Terminate all subcontracts to the extent that they relate to the portions of the Work terminated.

- e. Place no further subcontracts or orders, except as necessary to complete the continued portion of the Contract.
 - f. Submit to the City's Representative, within ten (10) calendar days from the Effective Date of the Notice of Termination, all of the usual documentation called for by the Contract Documents to substantiate all costs incurred by the Contractor for labor, materials and equipment through the Effective Date of the Notice of Termination. Any documentation substantiating costs incurred by the Contractor solely as a result of the City's exercise of its right to terminate this Contract pursuant to this clause, which costs the contractor is authorized under the Contract documents to incur, shall: (1) be submitted to and received by the Engineer no later than 30 calendar days after the Effective Date of the Notice of Termination; (2) describe the costs incurred with particularity; and (3) be conspicuously identified as "Termination Costs occasioned by the City's Termination for Convenience."
4. Termination of the Contract shall not relieve Surety of its obligation for any just claims arising out of or relating to the Work performed.
5. In the event that the City exercises its right to terminate this Contract pursuant to this clause, the City shall pay the Contractor, upon the Contractor's submission of the documentation required by this clause and other applicable provisions of the Contract Documents, the following amounts:
- a. All actual reimbursable costs incurred according to the provisions of this Contract.
 - b. A reasonable allowance for profit on the cost of the Work performed, provided Contractor establishes to the satisfaction of the City's Representative that it is reasonably probable that Contractor would have made a profit had the Contract been completed and provided further, that the profit allowed shall in no event exceed fifteen (15%) percent of the costs.
 - c. A reasonable allowance for Contractor's administrative costs in determining the amount payable due to termination of the Contract under this Article.
- C. Notwithstanding any other provision of this Article, when immediate action is necessary to protect life and safety or to reduce significant exposure or liability, the City may immediately order Contractor to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of the City or the Contract is terminated.
- D. City shall not be liable for any costs other than the charges or portions thereof which are specified herein. Contractor shall not be entitled to payment for unperformed Work including, without limitation, any overhead and profit on the portion of the Work that is terminated and shall not be entitled to damages or compensation of any kind or nature for termination of Work.

ARTICLE 52. WARRANTY AND GUARANTEE OF WORK

- A. Contractor hereby warrants that materials and Work shall be completed in conformance with the Contract Documents and that the materials and Work provided will fulfill the requirements of this Warranty. Contractor hereby agrees to repair or replace, at the discretion of the City, any or all Work that may prove to be defective in its workmanship, materials furnished, methods of installation or fail to conform to the Contract Document requirements together with any other Work which may be damaged or displaced by such defect(s) within a period of one (1) year from the date of the Notice of Completion of the Project without any expense whatever to the City, ordinary wear and tear and unusual abuse and neglect excepted. Contractor shall be required to promptly repair or replace defective equipment or materials, at Contractor's option. All costs associated with such corrective actions and testing, including the removal, replacement, and reinstatement of equipment and materials necessary to gain access, shall be the sole responsibility of the Contractor.
- B. For any Work so corrected, Contractor's obligation hereunder to correct defective Work shall be reinstated for an additional one (1) year period, commencing with the date of acceptance of such corrected Work. The reinstatement of the one (1) year warranty shall apply only to that portion of work that was corrected. Contractor shall perform such tests as City may require to verify that any corrective actions, including, without limitation, redesign, repairs, and replacements comply with the requirements of the Contract. In the event of Contractor's failure to comply with the above-mentioned conditions within ten (10) calendar days after being notified in writing of required repairs, to the reasonable satisfaction of the City, the City shall have the right to correct and replace any defective or non-conforming Work and any work damaged by such work or the replacement or correction thereof at Contractor's sole expense. Contractor shall be obligated to fully reimburse the City for any expenses incurred hereunder immediately upon demand.
- C. In addition to the warranty set forth in this Article, Contractor shall obtain for City all warranties that would be given in normal commercial practice and assign to City any and all manufacturer's or installer's warranties for equipment or materials not manufactured by Contractor and provided as part of the Work, to the extent that such third-party warranties are assignable and extend beyond the warranty period set forth in this Article. Contractor shall furnish the City with all warranty and guarantee documents prior to final Acceptance of the Project by the City as required.
- D. When specifically indicated in the Contract Documents or when directed by the Engineer, the City may furnish materials or products to the Contractor for installation. In the event any act or failure to act by Contractor shall cause a warranty applicable to any materials or products purchased by the City for installation by the Contractor to be voided or reduced, Contractor shall indemnify City from and against any cost, expense, or other liability arising therefrom, and shall be responsible to the City for the cost of any repairs, replacement or other costs that would have been covered by the warranty but for such act or failure to act by Contractor.
- E. The Contractor shall remedy at its expense any damage to City-owned or controlled real or personal property.

- F. The City shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. The Contractor shall within ten (10) calendar days after being notified commence and perform with due diligence all necessary Work. If the Contractor fails to promptly remedy any defect, or damage; the City shall have the right to replace, repair or otherwise remedy the defect, or damage at the Contractor's expense.
- G. In the event of any emergency constituting an immediate hazard to health, safety, property, or licensees, when caused by Work of the Contractor not in accordance with the Contract requirements, the City may undertake at Contractor's expense, and without prior notice, all Work necessary to correct such condition.
- H. Acceptance of Defective Work.
1. If, instead of requiring correction or removal and replacement of Defective Work, the City prefers to accept it, City may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to City's evaluation of and determination to accept such Defective Work and for the diminished value of the Work.
 2. If any acceptance of defective work occurs prior to release of the Project Retention, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and City shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work and all costs incurred by City.
 3. If the Project Retention is held in an escrow account as permitted by the Contract Documents, Contractor will promptly alert the escrow holder, in writing, of the amount of Retention to be paid to City.
 4. If the acceptance of Defective Work occurs after release of the Project Retention, an appropriate amount will be paid by Contractor to City.
- I. City May Correct Defective Work.
1. If Contractor fails within a reasonable time after written notice from City's Representative to correct Defective Work, or to remove and replace rejected Work as required by City, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, City may, after seven (7) Days' written notice to Contractor, correct, or remedy any such deficiency.
 2. In connection with such corrective or remedial action, City may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which City has paid Contractor but which are stored elsewhere. Contractor shall allow City and City's

Representative, and the agents, employees, other contractors, and consultants of each of them, access to the Site to enable City to exercise the rights and remedies to correct the Defective Work.

3. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by City correcting the Defective Work will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions into the Contract Documents with respect to the Work; and City shall be entitled to an appropriate decrease in the Contract Price.
 4. Such claims, costs, losses and damages will include, but not be limited to, all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Defective Work.
 5. If the Change Order is executed after all payments under the Contract have been paid by City and the Project Retention is held in an escrow account as permitted by the Contract Documents, Contractor will promptly alert the escrow holder, in writing, of the amount of Retention to be paid to City.
 6. If the Change Order is executed after release of the Project Retention, an appropriate amount will be paid by Contractor to City.
 7. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to City correcting Defective work.
- J. Nothing in the Warranty or in the Contract Documents shall be construed to limit the rights and remedies available to City at law or in equity, including, but not limited to, Code of Civil Procedure section 337.15.

ARTICLE 53. DOCUMENT RETENTION & EXAMINATION

- A. In accordance with Government Code section 8546.7, records of both the City and the Contractor shall be subject to examination and audit by the State Auditor General for a period of three (3) years after final payment.
- B. Contractor shall make available to the City any of the Contractor's other documents related to the Project immediately upon request of the City.
- C. In addition to the State Auditor rights above, the City shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy and completeness of the cost or pricing data at no additional cost to the City, for a period of four (4) years after final payment.

ARTICLE 54. SEPARATE CONTRACTS

- A. The City reserves the right to let other contracts in connection with this Work or on the Project site. Contractor shall permit other contractors reasonable access and storage

of their materials and execution of their work and shall properly connect and coordinate its Work with theirs.

- B. To ensure proper execution of its subsequent Work, Contractor shall immediately inspect work already in place and shall at once report to the Engineer any problems with the Work in place or discrepancies with the Contract Documents.
- C. Contractor shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by the City in prosecution of the Project to the end that Contractor may perform this Contract in the light of such other contracts, if any. Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy at site of the Project. Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the Project. If simultaneous execution of any contract for the Project is likely to cause interference with performance of some other contract or contracts, the Engineer shall decide which Contractor shall cease Work temporarily and which contractor shall continue or whether work can be coordinated so that contractors may proceed simultaneously. The City shall not be responsible for any damages suffered or for extra costs incurred by Contractor resulting directly or indirectly from award, performance, or attempted performance of any other contract or contracts on the Project site.

ARTICLE 55. NOTICE AND SERVICE THEREOF

All notices shall be in writing and either served by personal delivery or mailed to the other party as designated in the Bid Forms. Written notice to the Contractor shall be addressed to Contractor's principal place of business unless Contractor designates another address in writing for service of notice. Notice to City shall be addressed to the City as designated in the Notice Inviting Bids unless City designates another address in writing for service of notice. Notice shall be effective upon receipt or five (5) calendar days after being sent by first class mail, whichever is earlier. Notice given by facsimile shall not be effective unless acknowledged in writing by the receiving party.

ARTICLE 56. NOTICE OF THIRD PARTY CLAIMS

Pursuant to Public Contract Code section 9201, the City shall provide the Contractor with timely notification of the receipt of any third-party claims relating to the Contract. The City is entitled to recover reasonable costs incurred in providing such notification.

ARTICLE 57. STATE LICENSE BOARD NOTICE

Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

ARTICLE 58. INTEGRATION

- A. **Oral Modifications Ineffective.** No oral order, objection, direction, claim or notice by any party or person shall affect or modify any of the terms or obligations contained in the Contract Documents.
- B. **Contract Documents Represent Entire Contract.** The Contract Documents represent the entire agreement of the City and Contractor.

ARTICLE 59. ASSIGNMENT OF CONTRACT

Contractor shall not assign, transfer, convey, sublet or otherwise dispose of the rights or title of interest of any or all of this contract without the prior written consent of the City. Any assignment or change of Contractor's name of legal entity without the written consent of the City shall be void. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or Material supplied for performance of Work called for under the Contract Documents in favor of all persons, firms, or corporations rendering such services or supplying such Materials to the extent that claims are filed pursuant to the Civil Code, the Code of Civil Procedure or the Government Code.

ARTICLE 60. CHANGE IN NAME AND NATURE OF CONTRACTOR'S LEGAL ENTITY

Should a change be contemplated in the name or nature of the Contractor's legal entity, the Contractor shall first notify the City in order that proper steps may be taken to have the change reflected on the Contract and all related documents. No change of Contractor's name or nature will affect City's rights under the Contract, including but not limited to the bonds.

ARTICLE 61. ASSIGNMENT OF ANTITRUST ACTIONS

Pursuant to Public Contract Code section 7103.5, in entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, Contractor or subcontractor offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC, 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 the purchase of goods, services, or materials pursuant to this contract or any subcontract. This assignment shall be made and become effective at the time the City tenders final payment to the Contractor, without further acknowledgment by the parties.

ARTICLE 62. PROHIBITED INTERESTS

No City official or representative who is authorized in such capacity and on behalf of the City to negotiate, supervise, make, accept, or approve, or to take part in negotiating, supervising, making, accepting or approving any engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the project, shall be or become directly or indirectly interested financially in the Contract.

ARTICLE 63. CONTROLLING LAW

Notwithstanding any subcontract or other contract with any subcontractor, supplier, or other person or organization performing any part of the Work, this Contract shall be governed by the law of the State of California excluding any choice of law provisions.

ARTICLE 64. JURISDICTION; VENUE

Contractor and any subcontractor, supplier, or other person or organization performing any part of the Work agrees that any action or suits at law or in equity arising out of or related to the bidding, award, or performance of the Work shall be maintained in the Superior Court of Marin County, California, and expressly consent to the jurisdiction of said court, regardless of residence or domicile, and agree that said court shall be a proper venue for any such action.

ARTICLE 65. LAWS AND REGULATIONS

- A. Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on conduct of work as indicated and specified. If Contractor observes that drawings and specifications are at variance therewith, it shall promptly notify the Engineer in writing and any necessary changes shall be adjusted as provided for in this Contract for changes in work. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, it shall bear all costs arising therefrom.
- B. Contractor shall be responsible for familiarity with the Americans with Disabilities Act ("ADA") (42 U.S.C. § 12101 et seq.). The Work will be performed in compliance with ADA regulations.

ARTICLE 66. PATENTS

Contractor shall hold and save the City, officials, officers, employees, and authorized volunteers harmless from liability of any nature or kind of claim therefrom including costs and expenses for or on account of any patented or unpatented invention, article or appliance manufactured, furnished or used by Contractor in the performance of this contract.

ARTICLE 67. OWNERSHIP OF CONTRACT DOCUMENTS

All Contract Documents furnished by the City are City property. They are not to be used by Contractor or any subcontractor on other work nor shall Contractor claim any right to such documents. With exception of one complete set of Contract Documents, all documents shall be returned to the City on request at completion of the Work.

ARTICLE 68. NOTICE OF TAXABLE POSSESSORY INTEREST

In accordance with Revenue and Taxation Code section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Contractor will be responsible.

ARTICLE 69. SURVIVAL OF OBLIGATIONS

All representations, indemnifications, warranties, and guarantees made in, required by, or given

in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

END OF GENERAL CONDITIONS

00 73 13 – SPECIAL CONDITIONS

1.1 Engineer of Record.

- A. For purposes of this Project, the Engineer of Record or Engineer shall be: Kevin McGowan, Email: kmcgowan@sausalito.gov.

1.2 Location of the Project.

- A. The Project is located near the intersection of Tracy Way and El Portal, Sausalito, CA.
- B. The general location of the Project is shown on the map on the cover page of this document.

1.3 Shared Cost Savings for Reductions in Contract Price; Value Engineering. Should the cost of construction be less than the agreed upon Contract Price, then the savings shall be shared between the Contractor and the City. The Contractor shall receive twenty-five percent (25%) of any reductions realized in the Contract Price, and the City shall receive the remaining seventy-five percent (75%) of the savings.

1.4 Status of the Project Area and Rights-of-Way.

- A. City, at its expense, will provide all rights-of-way or permits, or both, covering the crossing of private property and public and private rights-of-way necessary for the permanent Work; provided, however, Contractor shall, at its expense, obtain any bonds or insurance policies or pay any fees and enter into any agreements required by a controlling authority, e.g., Caltrans or Union Pacific Railroad Company, before Contractor enters upon any property or right-of-way under the jurisdiction of any such controlling authority for the purpose of performing Work.
- B. City has acquired or is negotiating to acquire any rights-of-way, or both, necessary for the permanent Work.
- C. If such permits are required, all operations of Contractor shall conform to the restrictions, regulations, and requirements set forth in said permits, copies of which will be included in the Contract Documents.
- D. Contractor may be required, as a condition for receiving final payment, to obtain, and provide City's Representative with copies of, executed damage releases from the owners of public and private property whose property has been damaged by the Work. The damage releases will be on a form provided by City.
- E. Contractor shall, also, as a condition for receiving final payment, obtain, and provide City's Representative with copies of, executed damage releases from the owners of certain public and private property or areas which have been crossed by the Work or otherwise affected by the Work. The damage releases will be on a form provided by City.

1.5 Site Data.

[NOT USED.]

1.6 Pre-Purchased or Pre-Negotiated Material.

[NOT USED.]

1.7 Designation of City's Representative.

A. Unless otherwise modified by City, City's Representative shall be its DPW Director and Engineer Kevin McGowan.

1.8 Modification of Hours of Work.

[NOT USED.]

1.9 Project Retention

In accordance with Public Contract Code § 7201, City will withhold 5% of each progress payment as retention on the Project.

1.10 Reverse Liquidated Damages Due to Unreasonable City Delay.

A. In compliance with the provisions of California Public Contract Code § 7102, the Contractor will be compensated for damages incurred due to delays in completing the Work due solely to the fault of the City, where such delay is unreasonable under the circumstances and not contemplated by the parties and such delay is not the result of Additional Work. The Contractor and City agree that determining actual damages is impracticable and extremely difficult. As such, the Contractor shall be entitled to the appropriate time extension and to payment of liquidated damages in the sum of **\$1,500** per Day of delay in excess of the time specified for the Completion of the Work. Such amount shall constitute the only payment allowed and shall necessarily include all overhead (direct or indirect), all profit, all administrative costs, all bond costs, all labor, materials, equipment and rental costs, and any other costs, expenses and fees incurred or sustained as a result of such delay. The Contractor expressly agrees to be limited solely to the liquidated damages for all such delays as defined in this subsection.

1.11 Liquidated Damages Due to Contractor Delay.

A. Time is of the essence. Should Contractor fail to complete all or any part of the Work within the time specified in the Contract Documents, City will suffer damage, the amount of which is difficult, if not impossible, to ascertain and, pursuant to the authority of Government Code section 53069.85, City shall therefore be entitled to **\$1,500** per Day as liquidated damages for each Day or part thereof that actual completion extends beyond the time specified.

B. Liquidated damages may be deducted from progress payments due Contractor, Project retention or may be collected directly from Contractor, or from Contractor's

surety. These provisions for liquidated damages shall not prevent City, in case of Contractor's default, from terminating the Contractor.

1.12 Utility Outages – Notices to Residents.

- A. Should Contractor's operations require interruption of any utility service, Contractor shall notify City at least ten (10) Days prior to the scheduled outage. Contractor will notify all impacted residents on a form provided by City at least seven (7) Days prior to the scheduled outage.
- B. Contractor shall be responsible for providing, at its cost, any temporary utility or facilities necessitated by the utility outage.

1.13 Schedule Constraints.

NOT USED.

1.14 Noise Restrictions

NOT USED.

1.15 Safety Programs.

[NOT USED.

1.16 Coordination with Other Contractors.

NOT USED.

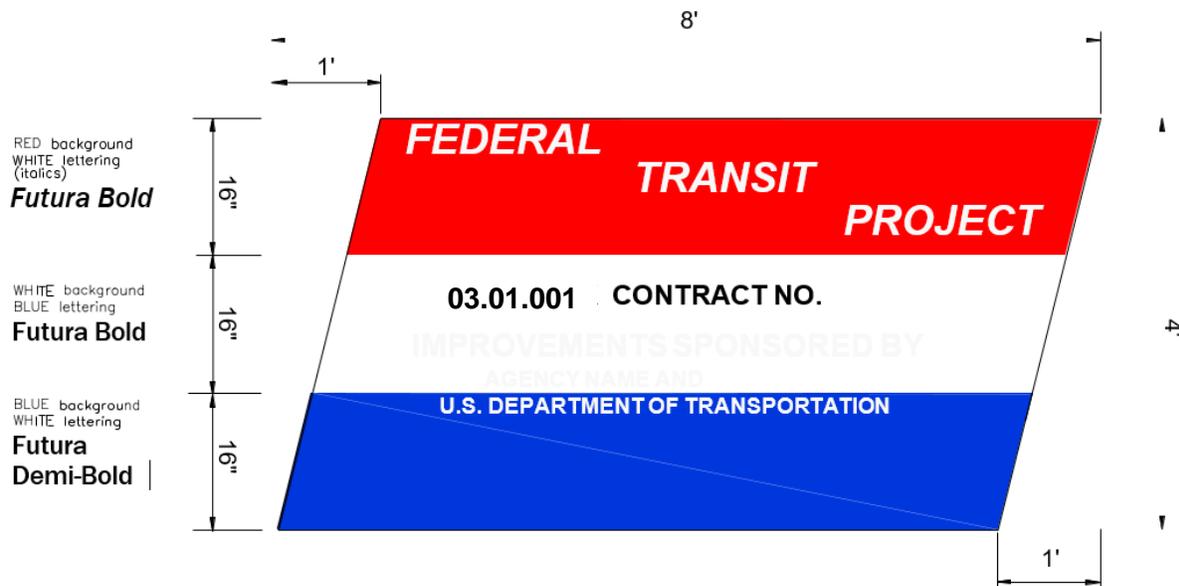
FEDERAL TERMS AND CONDITIONS

1.17 Federal Requirements for FTA-Funded Construction Contracts

A. Due to the financial assistance from the U.S. Department of Transportation, the following Special Provisions must be followed.

S4.07 PROJECT SIGN. A Project sign shall be erected for the Project at a location approved by the Engineer for maximum public identification of the Project and shall be securely installed and maintained in good condition until completion of the Project. Upon Project completion, the sign shall be removed by Contractor.

The sign shall be cut from a standard 4' x 8' waterproof plywood sheet (½-inch thick minimum) or other suitable material and shall meet the design standards shown in the attached sign drawing on Page SP 4-4. The size may be varied to meet special or local requirements, subject to the approval of the Engineer, but proportions shall be maintained. No information shall be included on the Project sign except that shown in the attached sign drawing. Payment for furnishing, installing, maintaining, and removing the Project sign shall be included in the bid item *Mobilization*.



ECONOMIC SANCTION. On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law. As a recipient of state and federal funds, the District is prohibited from contracting with individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the District determine Contractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The District shall provide Contractor advance written notice of such termination, allowing Contractor at least 30 calendar days to provide a response. Termination shall be at the sole discretion of the District.

S10.01 FLY AMERICA REQUIREMENTS. The Contractor agrees to comply with 49 U.S.C. 40118 (the “Fly America Act”) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their Contractors are required to use U.S. flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property to the extent such service is available, unless travel by foreign air carrier is a matter of necessity as defined by the Fly America Act. The Contractor must submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and must, in any event, provide a certificate of compliance with the Fly America requirements, if used. The Contractor agrees to include the requirements of this Section in all subcontracts that may involve international air transportation.

S10.02 BUY AMERICA REQUIREMENTS. The Contractor agrees to comply with 49 U.S.C. 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR § 661.7. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 CFR § 661.11. All bidders or proposers must submit the appropriate Buy America certification to the City of Sausalito with their bids or proposals, except those subject to a general waiver. Proposals that are not accompanied by a completed Buy America certification will be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors. With regard to meeting the Buy America requirements, Bidders' attention is directed to the FTA's Dear Colleague letter dated September, 16, 2016, located at <https://www.transit.dot.gov/regulations-and-guidance/buy-america/fta-guidance-letter-buy-america-small-purchase-waivers>. In light of the FTA's advice contained therein, with regard to the granting of Buy America waivers, the City of Sausalito will not award a contract to a Bidder that does not certify compliance with the Buy America requirements on the “Buy America Certificate” included in the Proposal.

The Contractor agrees that it has reviewed all bid specifications and furthermore agrees that if it fails to comply with 49 U.S.C. 5323(j) and 49 CFR § 661 after certifying compliance with the same, any fines, sanctions, penalties, or other costs, including but not limited to the repayment of grant funds to the FTA imposed on the City of Sausalito arising out of such failure will be paid by the Contractor. Contractor will also be solely responsible for all costs and delays (including critical path delays) related to any required corrective actions.

The Contractor is responsible for ensuring that all lower tier contractors and subcontractors comply with this clause.

S10.03 CARGO PREFERENCE REQUIREMENTS. The Contractor agrees: (a) to use privately owned United States Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Contract by ocean vessels to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels; (b) to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United

States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the City of Sausalito (through the Contractor in the case of a subcontractor's bill-of-lading); and (c) to include these requirements in all subcontracts issued pursuant to this Contract when the subcontract may involve the transport of equipment, Material, or commodities by ocean vessel.

S10.04 SEISMIC SAFETY. Contractor agrees that any new building or additions to an existing building will be designed and constructed in accordance with the standards for seismic safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. Contractor also agrees to ensure that all Work performed under this Contract, including Work performed by a subcontractor, is in compliance with the standards required by the Seismic Safety Regulations and with the certification of compliance issued on the Project.

S10.05 ENERGY CONSERVATION. The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency, which are contained in the state energy conservation plan issued in compliance with the Federal Energy Policy and Conservation Act, 42 U.S.C. § 6321 *et seq.*

S10.06 CLEAN WATER AND AIR REQUIREMENTS. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 *et seq.*, and the Clean Air Act, as amended, 42 U.S.C. 7401 *et seq.* The Contractor agrees to report each violation to the CITY OF SAUSALITO and understands and agrees that the City of Sausalito will, in turn, report each violation as required to assure notification to the FTA and the appropriate EPA regional office. The Contractor also agrees to include these requirements in each subcontract exceeding

\$150,000 financed in part or in whole with federal assistance provided by the FTA.

S10.07 LOBBYING. Contractor shall file the certification required by 49 CFR Part 20, "New Restrictions on Lobbying." Contractor shall certify that it will not and has not used Federally appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Contractor shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures shall be forwarded to the City of Sausalito. Contractor shall ensure that all of its subcontractors/subconsultants under this Contract shall certify the same. The City of Sausalito is responsible for keeping the certification of the Contractor, who is in turn responsible for keeping the certification forms of subcontractors/subconsultants. The Bidder shall complete Standard Form SF-LLL, "Disclosure of Lobbying Activities," which is included with the Bid Documents, including instructions for completion.

S10.08 ACCESS TO RECORDS AND REPORTS. Contractor must provide all authorized representatives of the City of Sausalito, the FTA Administrator, the State Auditor and the

Comptroller General of the United States access to any books, documents, papers and records of the Contractor which are related to performance of this Contract for the purposes of making audits, copies, examinations, excerpts and transcriptions. Contractor also agrees to retain and maintain, and will require its subcontractors to retain and maintain, all books, records, accounts and reports related to this Contract for a period of not less than three years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case Contractor agrees to maintain the same until the City of Sausalito, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

S10.09 FEDERAL CHANGES. Contractor must at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement (Form FTA MA (29) dated February 7, 2022) between the City of Sausalito and the FTA, as they may be amended or promulgated from time to time during the term of this Contract. Contractor's failure to so comply constitutes a material breach of this Contract.

S10.10 DAVIS-BACON ACT REQUIREMENTS

A. Minimum wages

1. All laborers and mechanics employed or working upon the site of any qualifying construction work under the Contract (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section I (b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Subsection A.4 of this Section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided that the employer's payroll records accurately set forth the time spent in each

classification in which such work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph A.4 of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

2. Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

3. If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account asset for the meeting of obligations under the plan or program.

4. (a) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

5. If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

6. In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting

officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

7. The wage rate (including fringe benefits where appropriate) determined pursuant to Subsections A.4.(b) or (c) of this Section, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

8. The Department of Labor Davis Bacon wages can be found here: <https://sam.gov/content/wage-determinations>. The required wages are included in the "Exhibit E - Davis-Bacon Act Wages" attachment to this bid solicitation and must be followed.

B. Withholding

1. The City of Sausalito shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the Contract, the City of Sausalito may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

C. Payrolls and basic records

1. Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section I (b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic

include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

2. (a) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the City of Sausalito for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the City of Sausalito if the agency is a party to the contract, but the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information to be provided under §5.5(a)(3)(ii) of Regulations, 29 CFR Part 5, the appropriate information is being maintained under §5.5(a)(3)(i) of Regulations, 29 CFR Part 5, and that such information is correct and complete;

- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (C)(2)(b) of this Section.

(d) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

3. The Contractor or subcontractor shall make the records required under paragraph C.1. of this Section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

D. Apprentices and trainees

1. Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated

above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journey hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

2. Trainees - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees

at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

3. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

- E. Compliance with Copeland Act requirements - The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this Contract.
- F. Subcontracts - The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for the compliance by any subcontractor or lower subcontractor with all the contract clauses in 29 CFR 5.5.
- G. Contract termination: Debarment - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.
- H. Compliance with Davis-Bacon and Related Act requirements - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this Contract.
- I. Disputes Concerning Labor Standards - Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
- J. Certification of eligibility
 - 1. By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - 2. No part of this Contract shall be subcontracted to person or firm ineligible for an award of a government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - 3. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

S10.11 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT. In accordance with the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701- 3708), as supplemented by the United States Department of Labor regulations at 29 C.F.R. part 5, the following requirements apply to all laborers and mechanics employed by the Contractor or subcontractor in the performance of any part of the work under the Contract, including watchmen, guards, and workers performing services in connection with dredging or rock excavation. (40 U.S.C.A. § 3701)

A. Overtime Requirements – Neither the Contractor nor its subcontractors may permit any laborer or mechanic in any workweek in which he or she is employed on such work under this Contract to work in excess of forty (40) hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

B. Violation, Liability for Unpaid Wages, Liquidated Damages – In the event of any violation of the clause set forth in paragraph A of this Section, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph A of this Section in the sum of \$10.00 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty (40) hours without payment of the overtime wages required by the clause set forth in paragraph A of this Section.

C. Withholding for Unpaid Wages and Liquidated Damages – City of Sausalito shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from any moneys payable on account of work performed by Contractor under any such contract on any other Federal contract with Contractor or any other federally assisted contract subject to Contract Work Hours and Safety Standards Act, which is held by Contractor, such sums as may be Determined to be necessary to satisfy any liabilities of Contractor or subcontractor For unpaid wages and liquidated damages as provided in the clause set forth in paragraph B of this section.

D. Subcontracts – The Contractor shall insert in any subcontract the clauses set forth in this Section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this Section.

E. Payrolls and Basic Records – Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name,

address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and shall also maintain records that show the costs anticipated or the actual cost incurred in providing such benefits. Should the Contractor employ apprentices or trainees under approved programs, it shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

F. Occupational Safety and Health Act – The Contractor agrees to comply with Section 107 of the Contract Work Hours and Safety Standards Act, 40 U.S.C. Section 333, and applicable DOL regulations, “Safety and Health Regulations for Construction”, 29 CFR Part 1926. Among other things, the Contractor agrees that it will not require any laborer or mechanic to work in unsanitary, hazardous, or dangerous surroundings or working conditions.

The Contractor also agrees to include the requirements of this Subsection F in each subcontract. The term “subcontract” under this Subsection is considered to refer to a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. A person who undertakes to perform a portion of a contract involving the furnishing of supplies or materials will be considered a “subcontractor” under this Section if the work in question involves the performance of construction work and is to be performed: (1) directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials that will become an integral part of the construction is a “subcontractor” if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a “subcontractor.” The requirements of this Section do not apply to contracts or subcontracts for the purchase of supplies or materials or articles normally available on the open market.

S10.12 NO GOVERNMENT OBLIGATION TO THIRD PARTIES. The City of Sausalito and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and will not be subject to any obligations or liabilities to the

City of Sausalito, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor/subconsultant who will be subject to its provisions.

S10.13 PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS

A. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 *et seq.* and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying Contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying Contract or the FTA assisted project for which this Contract is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

B. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. Chapter 53, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5353(l) on the Contractor, to the extent the Federal Government deems appropriate.

C. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses will not be modified, except to identify the subcontractor/subconsultant who will be subject to the provisions.

S10.14 CIVIL RIGHTS REQUIREMENTS

A. Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex (including sexual orientation and gender identity), age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

B. Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying Contract:

1. Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR Chapter 60, (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect activities undertaken in the performance of the Contract. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
2. Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
3. Disabilities - In accordance with Title I of the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101, *et seq.* (ADA) the Contractor agrees to comply with the ADA, and agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

S10.15 INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS.

The preceding provisions include, in part, certain terms and conditions required by U.S. DOT, whether or not expressly set forth in the preceding provisions. All contractual

provisions required by the U.S. DOT, as set forth in FTA Circular 4220.1F, dated March 18, 2013, as may be amended, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any the City of Sausalito requests which would cause the CITY OF SAUSALITO to be in violation of the FTA terms and conditions.

S10.16 RECYCLED PRODUCTS. The Contractor agrees to provide a preference for those products and services that conserve natural resources, protect the environment, and are energy efficient by complying with and facilitating compliance with Section 6002 of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6962, and U.S. Environmental Protection Agency (U.S. EPA), "Comprehensive Procurement Guideline for Products Containing Recovered Materials," 40 C.F.R. part247.

S10.17 CERTIFICATION REGARDING DEBARMENT AND SUSPENSION. This contract is a covered transaction subject to the requirements of 2 CFR Part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)" and 2 CFR Part 1200, U.S. DOT regulations, "Nonprocurement Suspension and Debarment." These provisions apply to each contract at any tier of \$25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract amount), and to each contract at any tier that must be approved by an FTA official irrespective of the contract amount. As such, the Contractor is required to verify that its principals, affiliates, and subcontractors are eligible to participate in this federally funded contract and are not presently declared by any Federal department or agency to be: (a) Debarred from participation in any federally assisted Award; (b) Suspended from participation in any federally assisted Award; (c) Proposed for debarment from participation in any federally assisted Award; (d) Declared ineligible to participate in any federally assisted Award; (e) Voluntarily excluded from participation in any federally assisted Award; or (f) Disqualified from participation in ay federally assisted Award.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the City of Sausalito. If it is later determined by the City of Sausalito that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the City of Sausalito, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. Part 180, subpart C, as supplemented by 2.

S10.18. SAFE OPERATION OF MOTOR VEHICLES. The Contractor is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company-rented vehicles, or personally operated vehicles. The terms "company-owned" and "company- leased" refer to vehicles owned or leased either by the Contractor or the City of Sausalito. The Contractor agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an

electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this Contract.

S10.19 VETERANS PREFERENCE. To the extent practicable, the Contractor agrees that it and its subcontractors:

A. Will give a hiring preference to veterans, as defined in 5 U.S.C. § 2108, who have the requisite skills and abilities to perform the construction work required under a third party contract in connection with a capital project supported with funds appropriated or made available for 49 U.S.C. chapter 53, and

B. Will not be required to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee.

S10.20 NOTIFICATION REGARDING FALSE CLAIMS, FRAUD, WASTE, ABUSE, AND OTHER LEGAL MATTERS.

A. The Contractor agrees to promptly notify the FTA Chief Counsel and the FTA Regional Counsel for Region IX if it has knowledge of (i) any current or prospective legal matter that may affect the Federal Government, including but not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason, or (ii) any matters that may affect the Federal Government, including but not limited to, the Federal Government's interests in the Federal Award supporting this Agreement, this Agreement and any amendments thereto, or the Federal Government's administration or enforcement of federal laws, regulations, and requirements.

The Contractor further agrees to promptly notify the FTA Chief Counsel, the FTA Regional Counsel for FTA Region IX, and the U.S. DOT Office of Inspector General if it has knowledge of potential fraud, waste, or abuse occurring on a Project receiving assistance from FTA, including but not limited to knowledge that a person has or may have (i) submitted a false claim under the False Claims Act, 31 U.S.C. § 3729, et seq., or (ii) committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bid rigging, misappropriation or embezzlement, bribery, gratuity, or similar misconduct involving federal assistance.

The Contractor further agrees to promptly notify the City of Sausalito of any matter described above that relates to this Agreement or any other federally assisted agreement between the Contractor and the City of Sausalito. "Knowledge," as used in this section, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the Contractor's possession.

"Promptly," as used in this section, means to refer information without delay and without change.

B. The Contractor agrees to include the above clause in all subcontracts entered into for the performance of this Agreement. It is further agreed that the above clause shall not be modified, except to identify the subcontractor/subconsultant who will be subject to its provisions.

S10.21 ACCESSIBILITY. The Contractor agrees to comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), as amended, 42 USC § 12101 et seq.; section 504 of the Rehabilitation Act of 1973, as amended; 29 USC § 794; 49 USC § 5301(6); 49 CFR Parts 27, 37, 38, and 39 and any implementing requirements and regulations FTA may issue. These regulations provide that no handicapped individual, solely by reason of his or her handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity included in or resulting from this Agreement.

S11.00 DIVERSITY PROGRAM FOR CONTRACTS

A. Due to the financial assistance from the U.S. Department of Transportation, the following Special Provisions must be followed.

The City of Sausalito, recipient of federal financial assistance from the Federal Transit Administration (FTA) is committed to and has adopted a Diversity Program for Contracts in accordance with federal regulations 49C.F.R. Part 26, issued by the U. S. Department of Transportation (U.S. DOT).

It is the policy of the City of Sausalito to ensure nondiscrimination in the award and administration of all contracts and to create a level playing field on which Disadvantaged Business Enterprises (DBEs) can compete fairly for contracts and subcontracts relating to the City of Sausalito 's construction, procurement and professional services activities. To this end, the City of Sausalito has developed procedures to remove barriers to DBE participation in the bidding and award process and to assist DBEs to develop and compete successfully outside of the DBE Program. These procedures include the establishment of a Small Business Enterprise (SBE) Element of the City of Sausalito's Diversity Program for Contracts. In connection with the performance of this contract, the Contractor will cooperate with the City of Sausalito in meeting these commitments and objectives. The City of Sausalito reserves the right to require the Contractor to provide additional DBE/SBE information.

Pursuant to 49 C.F.R. §26.13, and as a material term of any agreement with the City of Sausalito, the Contractor hereby makes the following assurance and agrees to include this assurance in any agreements it makes with Subcontractors in the performance of this Contract:

The Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 C.F.R. Part 26 in the award and administration of U.S. DOT-assisted contracts. Further, the Contractor agrees to comply with all provisions prohibiting discrimination on the basis of race, color, or national origin of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d et seq., and with U.S. DOT regulations, *Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act*, 49 C.F.R. Part 21. The Contractor shall

obtain the same assurances from its joint venture partners, subcontractors, and subconsultants by including this assurance in all subcontracts entered into under this Contract. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the City of Sausalito deems appropriate, which may include, but is not limited to withholding monthly progress payments, assessing sanctions, liquidated damages, and/or disqualifying the contractor from future bidding as non-responsible.

By submitting a bid, the Contractor is deemed to have made the foregoing assurances and to be bound by its terms.

For DBE/SBE questions or assistance, contact City of Sausalito's DPW Director and City Engineer, Kevin McGowan, kmcgowan@sausalito.gov, 415-289-4176.

S11.01 DIVERSITY PROGRAM FOR CONTRACTS. In connection with the performance of this contract, the Bidder will cooperate with the City of Sausalito in meeting the commitments and objectives outlined in the General Conditions and Special Provisions.

S11.02 SBE ELIGIBILITY

A. Definition of Small Business Enterprise

1. To participate as an eligible small Business in programs administered by City of Sausalito, a firm must meet both of the following requirements:

- a. A firm (including affiliates) must be an existing small Business as defined by Small Business Administration (SBA) regulations, 13 CFR Part 121, for the appropriate type(s) of work that a firm performs. The firm must hold one of the acceptable certifications listed in Section B below.
- b. Even if a firm meets the above requirement, the firm's (including affiliates') average annual gross receipts over the previous three years cannot exceed a maximum cap of \$30.72 million (or as adjusted for inflation by the Secretary of U.S. DOT). SBA size standards vary by industry, and for certain industries may be higher than the \$30.72 million cap. For example, the SBA size standard for a general construction contractor is \$45 million. If a general construction contractor's average annual gross receipts over the previous three years is \$40 million, while it is below \$45 million and meets the SBA size standard, it would be ineligible to participate as a small business for City of Sausalito purposes as it exceeds \$30.72 million.

For information on SBA size standards, visit:

<https://www.sba.gov/document/support-table-size-standards>

Affiliates are defined in SBA regulations 13 CFR Part 121.103.

B. Acceptable Comparable Small Business Enterprise Certifications

City of Sausalito will accept the SBE certifications performed by other agencies, provided that the size standards described in Section A.1.a. and A.1.b. above are

met. If a firm is certified in one or more of the following programs, and meets City of Sausalito size standards, the firm is automatically deemed a small Business for City of Sausalito purposes. The term “SBE” will be used collectively for qualified DBEs, SBEs, WBEs, MBEs and other approved certifications. As indicated below, City of Sausalito may require an affidavit of size for each SBE prime contractor or subcontractor that is not certified as a DBE. Certifications from self-certification programs are not acceptable. City of Sausalito may request and review financial data provided by SBE firms on a case- by-case basis to confirm eligibility.

Firms must be certified as of the time of bid submittal.

1. **Disadvantaged Business Enterprise (DBE) certification** pursuant to U.S. Department of Transportation regulations, 49 C.F.R. Part 26. This includes DBE certifications performed by the California Unified Certification Program (CUCP) or by the Unified Certification Program of any other state, provided the firm is listed in the CUCP DBE Directory.
2. **State Minority Business Enterprise (SMBE) State Women Business Enterprise (SWBE) certification by the State of California** or by any other state provided that their certification complies with Sections A.1.a. and A.1.b. above. In addition to copies of SMBE/SWBE certifications, bidders certified out-of-state must submit an affidavit of size for each SMBE/SWBE prime contractor or SMBE/SWBE subcontractor/supplier at the time of bid submittal.
3. **Small Business (SB) certification by the California Department of General Services (DGS)** provided that the firm’s certification complies with Section A.1.a. and A.1.b. above. In addition to copies of SB certifications, bidders must submit an affidavit of size for each SB prime contractor or subcontractor/supplier at the time of bid submittal.
4. **Microbusiness (MB) certification by the California Department of General Services** for ALL industries provided that the firm’s certification complies with Section A.1.a. and A.1.b. above. In addition to copies of (MB) certification, bidders must submit an affidavit of size for each (MB) prime contractor and subcontractor/supplier at the time of bid submittal.
5. **Small Business for the Purpose of Public Works (SB-PW) certification by the California Department of General Services** provided that the firm’s certification complies with Section A.1.a. and A.1.b. above. In addition to copies of SB-PW certification, bidders must submit an affidavit of size for each SB-PW prime contractor or subcontractor/supplier at the time of bid submittal.
6. **SBA 8(a) by the Small Business Administration** provided that the firm’s certification complies with Section A.1.a. and A.1.b. above. In addition to copies of SBA 8(a) certifications, bidders must submit an affidavit of size for each SBA 8(a) prime contractor or SBA 8(a) subcontractor/supplier at the time of bid submittal.
7. **SBE/MBE/WBE certification from other state, county, or local government-certifying agency** provided that the firm’s certification complies with Sections A.1.a. and A.1.b. above. In addition to copies of certifications, bidders must submit an affidavit of size for each certified prime contractor or subcontractor/supplier at the time of bid submittal.

S11.03 SBE GOAL

Triennial Overall and Project Overall Goals for DBE Participation. The City of Sausalito has adopted the Golden Gate Bridge, Highway & Transportation District's (District's) Diversity Program for Contracts for FTA-assisted contracts. Overall and project overall goals for DBE participation in City of Sausalito FTA-assisted contracts are established by the District's Board of Directors every three years on a federal fiscal year basis. These overall goals reflect the availability of ready, willing and able DBEs that would be expected to participate in City of Sausalito contracts absent the effects of discrimination. The overall goals are calculated as a percentage of the total amount of FTA funds that the District expects to expend on contracts that will be awarded over a three-fiscal year period or for an entire project and are non-binding. The City of Sausalito intends to assist the District in meet these overall goals through a combination of measures including, but not limited to, implementing procedures in the bidding and award process to remove barriers to DBE participation, providing outreach to DBEs, providing technical assistance and, in some cases, establishing contract-specific SBE goals for particular contracts with subcontracting opportunities.

This contract will be assisted by FTA funds. The Overall Triennial DBE goal for Federal Fiscal Year 2024-2025 is 1.4% for FTA-assisted contracts.

SBE Participation Goal for the Performance of this Contract

Bidders are advised that City of Sausalito has analyzed the data regarding the portions of work that could be subcontracted out to small Businesses and whether SBEs are available to perform those types of work. **A contract-specific SBE goal of 25.5% has been established for this contract.** Subcontracting opportunities include, but are not limited to, landscaping, striping and pavement marking, electrical, and traffic control. Bidders are provided this information to facilitate consideration of SBEs for subcontracting opportunities.

A responsive bidder is one who either **meets the SBE goal** or **demonstrates adequate Good Faith Efforts (GFEs) to meet the goal.** An adequate GFE means that the bidder must show that it took all necessary and reasonable steps to achieve an SBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the SBE goal.

As further described below, Bidders are required to document their activities in the solicitation and selection of subcontractors/suppliers to ensure that this process is carried out in a nondiscriminatory manner.

Available Small Business Resources.

The following resources do not, in any way, prequalify the certified firms with respect to licensing, bondability, competence, or financial responsibility. The DBE Program Office also maintains a resource list of organizations that promote small Business participation in contracts, which will be provided upon request. Assistance can be provided by contacting City of Sausalito's DPW Director and City Engineer, Kevin McGowan, kmcgowan@sausalito.gov, 415-289-4176.

Listings of certified DBEs are available from the California Unified Certification Program DBE Directory at:

<https://californiaucp.dbesystem.com/>

For listings of certified California State Minority Business Enterprise (SMBE) and State Women Business Enterprise (SWBE):

<https://dot.ca.gov/programs/civil-rights/dbe-search>

For listings of certified Small Business (SB), Micro Business (MB), and Small Business for the Purpose of Public Works (SB-PW) certified by the California Department of General Services (DGS):

<https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx>

For listings of certified SBA 8(a) firms certified by the Small Business Administration:

http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm

For all other SBE/MBE/WBE certifications from other state, county, or local government-certifying agencies, refer to related websites and databases.

Bidders are encouraged to use services offered by financial institutions owned and controlled by socially and economically disadvantaged individuals. To obtain a list of these financial institutions, please contact City of Sausalito's DPW Director and City Engineer, Kevin McGowan, kmcgowan@sausalito.gov, 415-289-4176.

S11.04 BIDDER DOCUMENTATION FOR SUBCONTRACTORS AND SUPPLIERS.

City of Sausalito shall award contracts to the lowest responsible bidder as required by the California Public Contracts Code Sections 20914 and 20916, where applicable. For such contracts, a bidder that fails to demonstrate that it achieved the contract-specific SBE goal and fails to demonstrate that it made sufficient good faith efforts to do so shall not be deemed "responsive" and, therefore, shall be ineligible for award of the contract. The bidder will include the following in its bid:

- A. SBE Goal Declaration.** In a form, **Attachment G**, provided by City of Sausalito, notifying City of Sausalito of bidder's SBE goal attainment.
- B. Prime Contractor and Subcontractor/Subconsultant/Supplier Report.** In the Exhibit D, Attachment L, of the bid solicitation provided by City of Sausalito, identifying all subbids it received. Bidders are required to furnish information on this form in accordance with the provisions of §§4100- 4114, inclusive, of the Public Contract Code of the State of California and City of Sausalito's subbid reporting requirements.

Bidders are cautioned that, where applicable, the California Fair Subletting and Subcontracting Act, Public Contract Code 4100, generally prohibits substitution of subcontractors or adding subcontractors after bid opening. Names of the First Tier subcontractors, including SBEs, whose bids were accepted and listed on the *Prime Contractor and Subcontractor/Subconsultant/ Supplier Report (Report)*, shall be consistent, where applicable, with the names on the *List of Subcontractors* submitted with the bid pursuant to the California Fair Subletting and Subcontracting Act. In the event that the information provided on the *Prime Contractor and Subcontractor/ Subconsultant/Supplier Report*, Exhibit D, **Attachment L**, conflicts with the information

provided on the *List of Subcontractors* form, **Attachment E**, the information provided on the *List of Subcontractors* form shall prevail. City of Sausalito reserves the right to require Bidders to complete an improperly completed Report and/or provide City of Sausalito with any additional requested information.

- C. Good Faith Efforts Documentation.** Each Bidder shall provide, in a form, **Attachment I**, provided by City of Sausalito, a description of the steps taken to identify and select the small Business subcontractors and suppliers proposed to be included in this work.

Proof of SBE Certification. Each Bidder is required to submit a copy of its SBE certification, if applicable, and copies of certifications of SBE firms from whom it accepted bids/quotes. Where applicable, bidders **must** also submit a *Small Business Enterprise Affidavit of Size*, **Attachment H**, for all SBE firms (prime and subcontractors) excluding DBE firms.

S11.05 DETERMINING THE AMOUNT OF SBE PARTICIPATION. Pursuant to 49 C.F.R. §26.55, SBE participation includes that portion of the Contract Work actually performed by a certified SBE with its own forces. An SBE may participate as a prime contractor, subcontractor, joint venture partner, or vendor or supplier of materials or services required by Contract. An SBE's participation can only be counted if it performs a commercially useful function on Contract as defined in 49 C.F.R. §26.55(c). An SBE performs a commercially useful function when it actually performs, manages, and supervises a portion of the Work involved. An SBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of SBE participation. There is a rebuttable presumption that if the SBE is not responsible for at least thirty percent (30%) of the Work with its own forces, or subcontracts a greater portion of the Work than the normal industry standard, it is not performing a commercially useful function. An SBE trucking company performs a commercially useful function if it is responsible for the overall management and supervision of the transportation services involved and uses at least one (1) fully licensed, insured, and operational truck it owns, and operates using drivers it employs on the Contract.

Contractor shall determine the amount of SBE participation for each SBE performing Work on Contract in terms of both the total value of the Work in dollars and the percentage of the total Contract bid amount. Contractor shall also determine the total amount of SBE participation for entire Contract. Contractor shall count SBE participation according to the following guidelines and in accordance with 49 C.F.R. §26.55:

- A. SBE Prime Contractor.** Count the entire dollar amount of the Work performed or services provided by the SBE's own forces, including the cost of materials and supplies obtained for the Work and the reasonable fees and commissions charged for the services. Do not count any work subcontracted to another firm as SBE participation by the SBE Prime Contractor.
- B. SBE Subcontractor.** Count the entire amount of the Work performed or services provided by the SBE's own forces, including the cost of materials and supplies obtained for the Work, except for materials and supplies purchased or leased from the Prime Contractor, and reasonable fees and commissions charged for the services. Do not count any work subcontracted by an SBE subcontractor to another firm as SBE participation by said SBE subcontractor. If the Work has been

subcontracted to another SBE, it will be counted as SBE participation for that other SBE.

- C. SBE Joint Venture Partner.** Count the portion of the Work that is performed solely by the SBE's forces or, if the Work is not clearly delineated between the SBE and the joint venture partner, count the portion of the Work equal to the SBE's percentage of ownership interest in the joint venture.
- D. SBE Manufacturer.** Count one hundred percent (100%) of the costs of materials and supplies obtained from an SBE manufacturer that operates or maintains a factory or establishment that produces the materials and supplies on the premises. This applies whether the SBE is a prime contractor or subcontractor.
- E. SBE Regular Dealer.** Count sixty percent (60%) of the costs of materials and supplies obtained from an SBE regular dealer that owns, operates or maintains a store or warehouse or other establishment in which the materials and supplies are regularly brought, kept in stock and sold or leased to the public in the usual course of Business, except regular dealers of bulk items such as petroleum, cement and gravel, who own and operate distribution equipment in lieu of maintaining a place of Business. This applies whether an SBE is a prime contractor or subcontractor.
- F. DBE Distributor.** Count 40% for the cost of materials for DBE distributors permitted to drop-ship from manufacturers, only if DBE firm has a distributorship agreement or assumes all responsibility for the materials after point of origin.
- G. Other SBEs.** Count the entire amount of fees or commissions charged for assistance in procuring or delivering materials and supplies when purchased from an SBE that is not a manufacturer or regular dealer, provided the fees are reasonable and not excessive when compared to fees charged for similar services. Do not count the cost of the materials and supplies.
- H. SBE Trucking Company.** Count the entire amount of the transportation services provided by an SBE trucking company that performs the Work using trucks it owns, insures, and operates with drivers it employs on Contract.

Count the entire amount of the transportation services provided by an SBE trucking company that performs the Work using trucks it leases from another SBE, including an owner-operator who is certified as an SBE, provided that it is responsible for the overall management and supervision of the service and that it uses at least one (1) truck that it owns, insures and operates with its own employees on Contract.

Count the entire amount of fees and commissions charged for providing the management and supervision of transportation services using trucks it leases from a non-SBE trucking company, including owner-operator, provided that it is responsible for the overall management and supervision of the service and that it uses SBE-owned trucks or leased trucks with SBE employee drivers.

Count the entire amount of hauling services provided an SBE leases trucks without drivers from a non-SBE truck leasing company but uses its own employees as drivers.

A lease must indicate that the SBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with consent

of the SBE, so long as the lease gives the SBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the SBE.

S11.06 RECOMMENDATION FOR AWARD OF CONTRACT

- B. Evaluation of Bids.** City of Sausalito's DBE Program Office shall review all the information submitted by Bidders in accordance with Contract Documents to determine a recommendation regarding compliance with the SBE requirements for award of contract to the lowest responsible Bidder. Bidder shall cooperate with the DBE Program Office if a request for additional information is made during this evaluation process.

If the amount of SBE participation does not meet the contract-specific goal, the DBE Program Office shall review the good faith efforts documentation submitted by the Bidder. The DBE Program Office shall determine whether the Bidder has performed the quality, quantity and intensity of efforts that demonstrates a reasonably active and aggressive attempt to meet the contract-specific goal in accordance with 49 C.F.R. Part 26, Appendix A. All Bidders must submit *Good Faith Efforts Documentation, Attachment I*.

- C. Bidder's Right to Reconsideration.** In the event that the DBE Program Office determines that the apparent low Bidder has not complied with the SBE requirements, including meeting the SBE goal, the DBE Program Office will notify Bidder in writing. The notification shall include the reasons for the determination and that Bidder has the right to submit further written documentation or appear before the Review Committee for reconsideration prior to the time that a recommendation for award of contract is presented to the City of Sausalito's City Council, as applicable.

Within two (2) working days of being informed by City of Sausalito that it is not responsive/responsible because it has not met the contract-specific goal and has not documented sufficient good faith efforts, a Bidder may request administrative reconsideration. Bidder should make this request in writing to the following reconsideration official: Kevin McGowan, Director of Public Works and City Engineer of the City of Sausalito, Telephone Number (415) 289-4176; Email Address: kmcgowan@sausalito.gov.

The Review Committee will only consider documentation of good faith efforts made prior to the bid due date, the DBE Program Office's original good faith efforts determination, and any other written materials the Bidder has submitted to the Review Committee, in accordance with this section, to determine whether the Bidder has performed the quality, quantity, and intensity of efforts that demonstrates a reasonably active and aggressive attempt to meet the contract-specific goal in accordance with 49C.F.R. Part 26, Appendix A.

The Review Committee shall provide the Bidder with a written decision on reconsideration, explaining the basis for its determination. In the event that the Review Committee finds that the Bidder has not met the contract-specific goal and has not demonstrated sufficient good faith efforts, the DBE Program Office will deem said Bidder not responsive and evaluate the Bidder submitting the next lowest bid. The

result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation or Federal Transit Administration.

S11.07 CONTRACT COMPLIANCE

A Termination and Replacement of Subcontractor/Subconsultants/Suppliers.

A Contractor may not terminate an SBE subcontractor listed in response to Section S11.04, *Bidder Documentation for Subcontractors and Suppliers*, of this Section (or an approved replacement SBE firm) without prior written City of Sausalito consent. This includes, but is not limited to, instances in which a Contractor seeks to perform work or supply materials originally designated for an SBE subcontractor/supplier with its own forces or those of an affiliate, a non-SBE firm, or with another SBE firm. Contractor shall notify the City of Sausalito in writing of any request to replace or terminate an SBE subcontractor and provide appropriate documentation substantiating the replacement or termination.

Contractor must make good faith efforts to replace an original SBE subcontractor with a small Business concern. Any replacement of an SBE on this contract is subject to the written approval of the City of Sausalito. Unless the City of Sausalito's consent is provided, Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed SBE.

City of Sausalito may provide such written consent only if it agrees, for reasons stated in City of Sausalito's concurrence document, that Contractor has good cause to terminate or replace the SBE firm. For purposes of this paragraph, good cause includes the following circumstances:

- The listed SBE subcontractor fails or refuses to execute a written contract based on plans and specifications for the contract;
- The listed SBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the SBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of Contractor;
- The listed SBE subcontractor fails or refuses to meet Contractor's reasonable, nondiscriminatory bond requirements;
- The listed SBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- The listed SBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law or SBE does not have a valid license under Contractors License Law;
- Contractor has determined that the listed SBE subcontractor is not a responsible Contractor;
- The listed SBE subcontractor voluntarily withdraws from the project and provides to Contractor written notice of its withdrawal;
- The listed SBE is ineligible to receive SBE credit for the type of work required;
- An SBE owner dies or becomes disabled with the result that the listed SBE contractor is unable to complete its work on the contract;

- Other documented good cause that you determine compels the termination of the SBE subcontractor. Provided, that good cause does not exist if Contractor seeks to terminate an SBE it relied upon to obtain the contract so that Contractor can self- perform the work for which the SBE contractor was engaged or so that Contractor can replace another SBE or non-SBE contractor after contract award.

Contractor must use the following procedures to request the termination of an SBE or portion of an SBE's work.

Before transmitting to City of Sausalito Contractor's request to terminate and/or replace an SBE subcontractor, Contractor must send written notice to the SBE subcontractor, with a copy to City of Sausalito, of intent to use other forces or material sources and include one or more justifiable reasons listed above. Contractor's written notice to the SBE must request the SBE provide any responses within five (5) Business days to both the Contractor and City of Sausalito by either acknowledging their agreement or documenting their reasoning as to why the use of other forces or sources of materials should not occur. If required in a particular case as a matter of public necessity (e.g., safety), Contractor may provide a response period shorter than five (5) Business days.

1. If the SBE does not respond within five (5) Business days, Contractor may move forward with the request as if the SBE had agreed to the Contractor's written notice.
2. Submit Contractor's SBE termination request by written letter to the City of Sausalito and include one or more above listed justifiable reasons along with supporting documentation, Contractor's written notice to the SBE regarding the request, including proof of transmission and tracking documentation of Contractor's written notice, and the SBE's response to Contractor's written notice, if received. If written response from the SBE was not provided, provide a statement to that effect.

After receiving the City of Sausalito's written authorization of SBE termination request, Contractor must obtain the CITY OF SAUSALITO's written agreement for SBE replacement. Contractor is required to find or demonstrate adequate good faith efforts, in accordance with Title 49 C.F.R., Part 26.53, to find qualified SBE replacement firms to perform at least the same amount of work under the contract as the SBE that was terminated, to the extent needed to meet the SBE goal the City of Sausalito established for this Contract

Contractor must use the following procedures to request the City of Sausalito's authorization for the replacement of an SBE.

1. Submit a request to replace an SBE with other forces or material sources in writing to the City of Sausalito which must include:
 - a. Description of remaining uncommitted work items made available for replacement SBE solicitation and participation.
 - b. The proposed SBE replacement firm's Business information, the

work they have agreed to perform, and the following:

- Quote for bid item work and description of work to be performed.
- Proposed subcontract agreement and written confirmation of agreement to perform on the Contract.

If Contractor has not identified an SBE replacement firm, submit documentation of the Contractor's GFE to use SBE replacement firms within 7 days of City of Sausalito's authorization to terminate the SBE. The Contractor may request the City of Sausalito's approval to extend this submittal period to a total of 14 Business days. Submit documentation of actions taken to find an SBE replacement firm, such as:

- Search results of certified SBEs available to perform the original SBE work identified and/or other work the Contractor had intended to self-perform, to the extent needed to meet the SBE contract goal.
- Solicitations of SBEs for performance of work identified.
- Correspondence with interested SBEs that may have included contract details and requirements.
- Negotiation efforts with SBEs that reflect why an agreement was not reached.
- If an SBE's quote was rejected, provide Contractor's reasoning for the rejection, such as why the SBE was unqualified for the work, or why the price quote was unreasonable or excessive.
- Copies of each SBE's and non-SBE's price quotes for work identified, as the City of Sausalito may contact the firms to verify solicitation efforts and determine if the SBE quotes are substantially higher.
- Additional documentation that supports the Contractor's GFE.

The City of Sausalito shall provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated. Failure by the Contractor to carry out the requirements of Title 49 C.F.R. Part 26.53, to find qualified SBE replacement firms to perform the work to the extent needed to meet the SBE commitment is a material breach of the contract and may result in the termination of the contract or such other remedy as the City of Sausalito deems appropriate.

In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or replacements for DBE firms put forward by offerors in negotiated procurements.

Contractor must promptly provide to the City of Sausalito a copy of all SBE subcontracts upon City of Sausalito request. All subcontractor contracts with SBEs to supply labor or materials require that the subcontract and all lower-tier subcontractors be performed in accordance with 49 C.F.R. Part 26.

B SBE Certification Status. If an SBE subcontractor is decertified during the life of the Project, the decertified subcontractor shall notify Contractor in writing of the date of

decertification. If a subcontractor becomes a certified SBE during the life of the Project, the subcontractor shall notify Contractor in writing with the date of certification. Contractor shall furnish the written documentation to the Project Manager.

- C. Commercially Useful Function.** An SBE must perform a Commercially Useful Function (CUF) under 49 C.F.R. 26.55 when performing work or supplying materials listed on *Prime Contractor and Subcontractor/Subconsultant/Supplier Report*. The SBE value of work will only count toward the SBE goal if the SBE performs a CUF. To perform a CUF, the SBE must also be responsible with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the materials itself. To determine whether an SBE is performing a CUF, evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing, and other relevant factors.

Contractor must evaluate at the beginning of the SBEs work and continue to monitor the performance of a CUF for the duration of the project. Contractor must provide written notification to the District at least 15 days in advance of each SBE's initial performance of work or supplying materials. The notification must include the SBE's name, work the SBE will perform, the location, date, and time of where their work will take place. Contractor must notify the District immediately if it is believed that the SBE may not be performing a CUF.

The City of Sausalito shall perform a CUF for each SBE performing work or supplying materials on the Contract. District may request records and documents to complete the CUF. If the City of Sausalito determines that a listed SBE is not performing a CUF in performance of their SBE committed work, the Contractor must immediately suspend performance of the noncompliant portion of the work. City of Sausalito may deny payment of the noncompliant portion of the work and will request the Contractor to submit a Corrective Action Plan (CAP) to the City of Sausalito within five (5) business days of the noncompliant CUF determination. The CAP must identify how the Contractor will correct the noncompliance findings for the remaining portion of the SBE's work. City of Sausalito will review the CAP in conjunction with the Contractor's review. Contractor must implement the CAP within five (5) days of City of Sausalito approval. City of Sausalito will authorize the prior noncompliant portion of work for the SBE's committed work. If the CAP cannot be accomplished to ensure the SBE performs a CUF, Contractor may have good cause to request termination of the SBE.

Prompt Payment to Subcontractors. Contractor shall pay any subcontractor approved by CITY OF SAUSALITO for Work that has been satisfactorily performed no later than seven (7) days from the date of Contractor's receipt of progress payments by City of Sausalito, unless otherwise agreed to in writing. The payment cannot be delayed because of disagreements on other contracts.

- D.** City of Sausalito shall hold retainage from Contractor and shall make prompt and regular incremental acceptances of portions of the Contract Work, as determined by City of Sausalito, and pay retainage to Contractor based on these acceptances. Contractor or subcontractor shall return all monies withheld in retention from all subcontractors within seven (7) days after receiving payment for Work satisfactorily completed and accepted, including incremental acceptance of portions of the

Contract Work by City of Sausalito. Any delay or postponement of payment may take place only for good cause and with City of Sausalito's prior written approval.

Any violation of these provisions shall subject the violating Contractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the California Business and Professions Code and Section 10262 of the California Public Contract Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to Contractor or subcontractor in the event of a dispute involving late payment, or nonpayment by Contractor, or deficient subcontractor's performance, or noncompliance by a subcontractor. This clause applies to both SBE and non- SBE subcontractors.

In the event Contractor does not make progress payments or release retentions to the subcontractors in accordance with the time periods in this Section, Contractor will be subject to a charge of two percent (2%) per month on the untimely or improperly withheld payment.

Monthly Prompt Payment Requirements. Contractor shall maintain records of all SBE participation in the performance of Contract, including subcontracts entered into with certified SBEs and all materials purchased from certified SBEs. It is the Contractor's responsibility to maintain records and documents for three (3) years following the performance of the contract. These records will be made available for inspection upon request by any authorized representative of the City of Sausalito. This reporting requirement is also extended to any certified SBE subcontractor/subconsultant.

- E.** City of Sausalito staff will monitor paperwork and onsite performance of SBE contracts to make sure that SBEs are actually performing the work with its own forces. Contractor will certify this activity in writing.

The contractor must report payments to all subcontractors, subconsultants, suppliers, manufacturers, and truckers (referred to collectively as "Subcontractors") using the "**Exhibit F - Monthly Prompt Payment Report**" worksheet included in the contract documents of the bid solicitation package. The City of Sausalito tracks DBE/SBE participation and record City of Sausalito payments made to the Contractor and subsequent prompt payments made by the Contractor to its subcontractors, including non- DBE/SBE subcontractors. The Contractor shall provide all specified information for all subcontractors for all tiers.

For assistance, please contact City of Sausalito's DPW project manager, Sara Khorshidifard, email address: skhorshidifard@sausalito.gov, phone number: 628-288-9914.

The Contractor shall complete the *Monthly SBE Trucking Verification* of the "**Exhibit H - Monthly SBE Tracking Verification**" form provided as part of the bid solicitation documents by the City of Sausalito, within fifteen (15) calendar days from the date of Contractor's receipt of progress payments, if applicable. The completed Monthly SBE Trucking Verification shall provide the amount paid to SBE trucking companies and shall indicate if a lease arrangement exists. The SBE who leases trucks from a non-SBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. It shall also show the truck number, owner's name, California

Highway Patrol CA number, and if applicable, the SBE certification number of the owner of the truck for all trucks used during that month.

If the Contractor fails to comply with the monthly electronic reporting requirements within the time periods required in this section and has not received written approval for an extension, the Contractor agrees to pay a sum of fifty dollars (\$50) each day the monthly reporting is late as liquidated damages. The amount of liquidated damages is not a penalty and covers reasonable damages that the City of Sausalito will sustain and which are impractical to determine in advance. The City of Sausalito may deduct the amount of liquidated damages from monies due to the Contractor.

Upon the completion of services under this contract, Contractor shall submit with its final invoice a *Final Report – Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontractors* (Final Report) of the “**Exhibit G - Final Utilization Form**” form provided as part of the bid solicitation documents. **Final payment will not be processed until all payments to subcontractors have been reported and approved by the City of Sausalito.**

- F. Administrative Remedies.** In the event Contractor fails to comply with the SBE requirements of this Contract in any way, City of Sausalito reserves the right to implement administrative remedies that may include, but are not limited to, withholding of progress payments and contract retentions, imposition of liquidated damages, and termination of Contract in whole or in part.

FAIR EMPLOYMENT PRACTICES CERTIFICATE

In connection with the performance of work under this Contract, the Contractor agrees as follows:

1. The Contractor will not willfully discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, or sexual orientation, as defined in Government Code Section 12926. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religious creed, ancestry, national origin, sexual orientation, marital status, physical disability, mental disability, genetic information, age, gender, gender identity, or medical condition as defined in Government Code Section 12926. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this Fair Employment Practices section.
2. The Contractor will send to each labor union or representative of worker with which he has a collective bargaining agreement or other contract or understanding, a notice, advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
3. The Contractor will permit access to his records of employment, employment advertisements, application forms, and other pertinent data records by the Fair Employment and Housing Commission, the awarding authority or any other appropriate agency of the State of California designated by the awarding authority for the purposes of investigation to ascertain compliance with the Fair Employment Practices section of this Contract.
4. A finding of willful violation of the Fair Employment Practices section of this Contract or of the Fair Employment and Housing Act, Government Code Sections 12900 *et. seq.*, shall be regarded by the awarding authority as a basis for determining the Contractor to be not a "responsible Bidder" as to future contracts for which such Contractor may submit bids, for revoking the Contractor's prequalification rating, if any, and for refusing to establish, re-establish or renew a prequalification rating for the Contractor. The awarding authority shall deem a finding of willful violation of the Fair Employment and Housing Act to have occurred upon receipt of written notice from the Fair Employment and Housing Commission that it has investigated and determined that the Contractor has violated the Fair Employment and Housing Act and has issued an order under Government Code Section 12970 or obtained an injunction under Government Code Section 12973. Upon receipt of such written notice from the Department of Fair Employment and Housing, the awarding authority shall notify the Contractor that unless he demonstrates to the satisfaction of the awarding authority within a stated period that the violation has been corrected, his prequalification rating will be revoked at the expiration of such period.
5. The Contractor agrees that, should the awarding authority determine that the Contractor has not complied with the Fair Employment Practices section of this Contract, then pursuant to Labor Code Sections 1735 and 1775, the Contractor shall, as a penalty to the awarding authority, forfeit for each calendar day, or portion thereof, for each person who was denied employment as a result of such non-compliance, the penalties provided in the Labor Code for violation of prevailing wage rates. Such monies may be recovered from the Contractor. The awarding authority may deduct any such damages from any monies due the Contractor.
6. Nothing contained in the Fair Employment Practices section shall be construed in any manner or fashion so as to prevent the awarding authority from pursuing any other remedies that may be available at law.
7. The Contractor will include the provisions of the foregoing Paragraphs 1 through 6 in every first-tier subcontract, if any, so that such provisions will be binding upon each such subcontractor.
8. Statements and Payrolls. The Contractor shall maintain his records in conformance with the requirements in the Specification and the following provisions:
 - a. The submissions by the Contractor of payrolls, or copies thereof, is required. Each Contractor and subcontractor shall preserve his weekly payroll records for a period of three years from the date of completion of this Contract.
 - b. The payroll records shall contain the name, address, and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.
 - c. The Contractor shall make his payroll records available at the project site for inspection by CITY

OF SAUSALITO and shall permit CITY OF SAUSALITO to interview employees during working hours on the job.
 The following certification is to be executed by every Bidder and enclosed and forwarded in a sealed envelope containing the bid. The person signing the certification shall state his address and official capacity.

FAIR EMPLOYMENT PRACTICES CERTIFICATION

TO THE CITY OF SAUSALITO:

The undersigned, in submitting a bid for performing the following work by contract, hereby certifies that Bidder will meet the above standards of affirmative compliance with the Fair Employment and Housing Act, Government Code Section 12900, *et. seq.*

_____		_____	
DATE		PRODUCT AND SERVICES	
_____		_____	
ADDRESS		(TYPE)	BIDDING COMPANY
_____		_____	
ADDRESS	NUMBER &	SIGNATURE	
STREET		_____	
_____		_____	
CITY	STATE	(TYPE)	NAME OF SIGNER
CODE	ZIP	_____	
_____		_____	
TELEPHONE		(TYPE)	TITLE

DISQUALIFICATION QUESTIONNAIRE

Has Bidder, any officer of Bidder, or any employee of Bidder who has a proprietary interest in Bidder ever been disqualified, removed, or otherwise prevented from bidding on or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

Note: This questionnaire constitutes as a part of the Proposal, and Bidder's signature on the signature portion of this Proposal shall constitute signature of this questionnaire.

BUY AMERICA CERTIFICATE
(Steel, Iron or Manufactured Products)

SELECT AND COMPLETE ONLY ONE OF THE FOLLOWING CERTIFICATIONS:*

Certificate of Compliance with Buy America Requirements

Bidder or Offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR Part 661.

Date

Signature

Company

Name

Title

Certificate of Non-Compliance with Buy America Requirements

Bidder or Offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.

Date

Signature

Company

Name

Title

*Bidders' attention is directed to Section S10.02, Buy America Requirements, of the Special Provisions.

EQUAL OPPORTUNITY CERTIFICATION

Bidder, _____, proposed subcontractor,

_____, hereby certifies that he has not participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by Bidders and proposed subcontractors only in connection with contracts and subcontracts that are subject to the equal opportunity clause. Contracts and subcontracts exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Note: Bidder's execution on the signature portion of this Proposal shall also constitute an endorsement and execution of those certifications that are a part of this Proposal.

EXHIBIT 10-Q DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. Report Type: <input type="checkbox"/> a. initial <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity Prime _____ Subawardee _____ Tier _____, if known _____ Congressional AGENCY NAME, if known _____	5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime: Congressional AGENCY NAME, if known _____	
6. Federal Department/Agency: _____	7. Federal Program Name/Description: CFDA Number, if applicable _____	
8. Federal Action Number, if known: _____	9. Award Amount, if known: _____	
10. Name and Address of Lobby Entity (If individual, last name, first name, MI) _____	11. Individuals Performing Services (including address if different from No. 10) (last name, first name, MI) _____	
(attach Continuation Sheet(s) if necessary)		
12. Amount of Payment (check all that apply) \$ _____ actual _____ planned _____	14. Type of Payment (check all that apply) <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other, specify _____	
13. Form of Payment (check all that apply): <input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature _____ Value _____		
15. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 12: (attach Continuation Sheet(s) if necessary)		
16. Continuation Sheet(s) attached: Yes No		
17. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		
	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____	

Federal Use Only:

Authorized for Local Reproduction
 Standard Form - LLL Standard Form LLL Rev. 04-28-06
 Distribution: Orig- Local Agency Project Files

INSTRUCTIONS FOR COMPLETING Attachment L DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether sub awardee or prime federal recipient at the initiation or receipt of covered federal action or a material change to previous filing pursuant to title 31 U.S.C. Section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer or employee of Congress or an employee of a Member of Congress in connection with a covered federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered federal action for which lobbying activity is or has been secured to influence, the outcome of a covered federal action.
 2. Identify the status of the covered federal action.
 3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered federal action.
 4. Enter the full name, address, city, state, and zip code of the reporting entity. Include Congressional CITY OF SAUSALITO if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the sub awardee, e.g., the first sub awardee of the prime is the first tier. Subawards include but are not limited to: subcontracts, subgrants, and contract awards under grants.
 5. If the organization filing the report in Item 4 checks "Sub awardee" then enter the full name, address, city, state, and zip code of the prime federal recipient. Include Congressional CITY OF SAUSALITO, if known.
 6. Enter the name of the federal agency making the award or loan commitment. Include at least one organization level below City of Sausalito, if known. For example, Department of Transportation, United States Coast Guard.
 7. Enter the federal program name or description for the covered federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
 8. Enter the most appropriate federal identifying number available for the federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant, or loan award number, the application/proposal control number assigned by the federal agency). Include prefixes, e.g., "RFP-DE-90-001."
 9. For a covered federal action where there has been an award or loan commitment by the Federal agency, enter the federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
 10. Enter the full name, address, city, state, and zip code of the lobbying entity engaged by the reporting entity identified in Item 4 to influence the covered federal action.
 11. Enter the full names of the individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name and Middle Initial (MI).
 12. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (Item 4) to the lobbying entity (Item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
 13. Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
 14. Check all boxes that apply. If other, specify nature.
 15. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with federal officials. Identify the federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
 16. Check whether or not a continuation sheet(s) is attached.
 17. The certifying official shall sign and date the form, and print his/her name title and telephone number.
- Public reporting burden for this collection of information is estimated to average 30-minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503. SF- LLL-Instructions Rev. 06-04

Page 2
May 8, 2013

**CITY OF SAUSALITO
 BIDDER'S STATEMENT OF QUALIFICATIONS AND BUSINESS
 REFERENCES**

Name of Bidder

Address of Principal Office

1. Are you an individual____, a partnership____, a corporation____, an LLC
 _____ or a joint venture__?

(Check as applicable)

If a partnership, list names and addresses of partners; if a corporation, list names of officers and directors and State of incorporation; if a joint venture, list names and addresses of venturers and if any venturer is a corporation, partnership or joint venture; list the same information for each such corporation, partnership and joint venture.

2. Are you licensed as a Contractor to do business in California?
 _____ License No. _____ Classification(s)
 _____ DIR Registration No. _____

For the following questions, if a joint venture, give information for each of the venturers by name. Attach additional sheets if necessary.

3. How many years has your organization been in business as a Contractor under your present business name? _____

4. How many years of experience has your organization had in construction work similar to the work you are interested in bidding?

(a) As a general Contractor? _____

(b) As a subcontractor? _____

5a. Show **all** the projects your organization has completed during at least the last five (5) years in the following tabulation: For joint venture work, show the sponsoring individual or company. The information provided must show a minimum experience of three (3) similar pavement and parking lot rehabilitation work projects in scope and size, and three (3) public works projects in the past five (5) years. **For subcontractors, if any, also provide information demonstrating that each subcontractor has a minimum experience of three similar projects in scope and size, and one (1) public works project in the past five (5) years.**

Year	Type of Work	Value of Work	Location	For Whom
------	--------------	---------------	----------	----------

5b. The solar electric system subcontractor (if any and if such work is not performed by Contractor) qualification shall comply with the Special Provisions Section S7.07 to be qualified for this Project.

Solar Electric System subcontractor:

Name:

Address:

Contact Person: _____ Tel: _____
Provide at least three (3) completed projects within the last five (5) years.

Year	Value of Work	Location	Reference name and telephone
------	---------------	----------	------------------------------

6. Have you or your organization, or any officer or partner thereof, failed to complete a contract? If so, give details.

7. In what other lines of business are you financially interested?

8. Name the persons with whom you have been associated in business as partners or business associates in each of the last five (5) years.

9. Give information below about the construction experience of the principal individuals of your present organization, including those individuals to be in responsible charge of this Project.

Individual's Name	Present Position or Office	Years of Construction Experience	Type of Work	In What Capacity
-------------------	----------------------------	----------------------------------	--------------	------------------

10. Give information below about all your contract work underway or for which you are committed.

Type of Work	Location	Value	Percent Complete	Scheduled Completion Date	For Whom Performed
--------------	----------	-------	------------------	---------------------------	--------------------

11. References: Give only engineers, architects, or owners, including public bodies, for whom you have done work.

Name	Address	Telephone	Email	Business
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12. Reference is hereby made to the following bank or banks as to the financial responsibility of the Bidder:

(a) Name of Bank: _____
Address: Street _____
City and State _____ Telephone _____
Officer Familiar with Bidder's Account: _____

(b) Name of Bank: _____
Address: Street _____
City and State _____ Telephone _____
Officer Familiar with Bidder's Account: _____

(c) Name of Bank: _____
Address: Street _____
City and State _____ Telephone _____
Officer Familiar with Bidder's Account: _____

13. Reference is hereby made to the following surety company or companies as to the financial responsibility and general reliability of the Bidder:

(a) Name of Surety Company _____
Name of Local Agent(if different) _____
Local Address: Street _____
City and State _____ Telephone _____
Officer Familiar with Bidder's Account: _____

(b) Name of Local Surety Company
Name of Local Agent (if different)

Local Address: Street _____ City and State _____

Bidder's Account: _____

Telephone
Officer Familiar with

14. Is any litigation pending against your organization?
_____ If so, give details.

The undersigned Bidder represents and warrants that the foregoing information is true and accurate to the best of his knowledge and the undersigned intends that the CITY OF SAUSALITO rely thereon in awarding the attached Contract.

Signature _____ of _____ Bidder

Dated _____, 2024

SBE GOAL DECLARATION

Prime Contractor

03.01.001 and Ferry Landside Improvement Project

Contract Number and Name

a) Check one or more that apply:

_____ The Bidder/Proposer is a certified SBE in accordance with CITY OF SAUSALITO standards. A copy of our Certification (and, if required, Affidavit of Size) is enclosed.

_____ The Bidder/Proposer commits to subcontract at least _____% of its Total Bid Price with one or more certified SBEs for a Commercially Useful Function in the performance of the Contract.

_____ The Bidder/Proposer has NOT met the contract SBE goal and is not itself a certified SBE.

All Bidders must submit documentation of a verifiable Good Faith Effort with their Bid Proposal.

Signature

Date

Documents to Be Included with Bid with SBE Goal

	Invitation for Bid
SBE Goal Declaration	X
List of Subcontractors	X
Prime Contractor and Subcontractor/Subconsultant/Supplier Report	X
List of SBEs	X
Copies of SBE Certifications	X
Small Business Enterprise Affidavit of Size (as required; see list of acceptable certifications)	X
Good Faith Efforts Documentation	X

GOOD FAITH EFFORTS DOCUMENTATION

Instructions: Bidder must document Good Faith Efforts to meet the contract-specific SBE goal of 25.5%, even if the Bidder has met the goal. This form protects the Bidder’s eligibility for award of the contract if the City of Sausalito determines that the Bidder failed to meet the goal for various reasons, e.g., a DBE/SBE firm was not certified at bid opening, or the Bidder made a mathematical error.

Contract # and Name: Contract No. 03.01.001 and Ferry Landside Improvement Project
Bidder’s Name: _____
Address: _____
Phone: _____ Fax: _____
Owner or Contact Person: _____ Title: _____
E-mail: _____

Bidder must provide a narrative description of steps taken to obtain SBE participation, including the following elements: (Please attach additional sheets as necessary.)

- A. *A Company representative attended the pre-bid meeting.* Yes ___ No ___
- B. *Soliciting SBEs to participate through all reasonable and available means within sufficient time to allow the SBEs to respond to the solicitation.*

List the names and dates of each publication in which a request for SBE participation for this project was placed by the bidder (**attach copies of advertisements**).

<u>Publications</u>	<u>Dates of Advertisements</u>
_____	_____
_____	_____
_____	_____
_____	_____

- C. *Selecting portions of the work that are economically feasible for SBEs.*

List items of work which the bidder made available to SBEs, including, where appropriate, any breaking down of the contract work items (including those items normally performed by the bidder with its own forces) into economically feasible units to facilitate SBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate SBE participation was made available to SBEs.

<u>Items of Work</u>	<u>Breakdown of Items</u>
_____	_____
_____	_____

Good Faith Efforts Documentation
Page 2 of 3

- D. *Providing adequate information about plans, specifications and requirements in a timely manner to SBEs.*

List the names and dates of written notices sent to certified SBEs soliciting sub-bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the SBEs were interested (**attach copies of written notices, solicitations, telephone records, fax confirmations, etc.**)

Names of SBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates

- E. *Negotiating in good faith with SBEs.*

- F. *Not Rejecting SBEs as an unqualified firm without sound business reasons.*

List names of rejected SBEs and the reasons for the bidder's rejection of the SBEs and the firms selected for that work (attach copies of quotes from the firms involved):

Names of Rejected SBEs	Reasons for Rejection	Names of Selected Firms

G. *Making efforts to assist SBEs in obtaining required bonding, lines of credit, or insurance.*

H. *Making efforts to assist SBEs in obtaining necessary equipment, supplies or materials.*

I. *Effectively using the services of available minority/women community organizations; contractors groups; and local, state and federal assistance offices.*

List the names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using SBEs (**attach copies of requests to agencies, organizations or groups and any responses received, i.e., lists, Internet page download, etc.**).

Names of Agency/Organization/Group	Method/Date of Contact	Results
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

J. *Describe any other steps that the bidder used to solicit and select its SBEs.*

The undersigned certifies that the above narrative description is true and accurate, and may be relied upon by the City of Sausalito in evaluating the bidder's compliance with the solicitation requirements.

_____ Signature of Owner or Authorized Representative	_____ Title	_____ Date
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DBE/SBE CONFIRMATION OF PARTICIPATION IN CONTRACT

This form is to be completed by each DBE/SBE owner whose sub-bid was accepted. Please make additional copies of form as necessary.

As a condition to the award of **Contract No. 03.01.001, Ferry Landside Improvement Project**
Contract # and Name

I, _____, do hereby confirm that
Name of DBE/SBE Owner

_____ will be
Name of DBE/SBE Firm

performing/providing the following services:

_____.

The above services will be provided to _____
Name of Prime Contractor

for the agreed upon dollar amount of \$ _____.

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

Signature

Date

INSTRUCTIONS – FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES (DBE) AND FIRST-TIER SUBCONTRACTORS

1. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
2. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
3. **Local Agency** - Enter the name of the local or regional agency that is funding the contract.
4. **Contract Acceptance Date** - Enter the date the contract was accepted by the Local Agency.
5. **Contractor/Consultant** - Enter the contractor/consultant's firm name.
6. **Business Address** - Enter the contractor/consultant's business address.
7. **Final Contract Amount** - Enter the total final amount for the contract.
8. **Contract Item Number** - Enter contract item for work, services, or materials supplied provided. Not applicable for consultant contracts.
9. **Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials provided. Indicate all work to be performed by DBEs including work performed by the prime contractor/consultant's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
10. **Company Name and Business Address** - Enter the name, address, and phone number of all subcontracted contractors/consultants. Also, enter the prime contractor/consultant's name and phone number, if the prime is a DBE.
11. **DBE Certification Number** - Enter the DBE's Certification Identification Number. Leave blank if subcontractor is not a DBE.
12. **Contract Payments** - Enter the subcontracted dollar amount of the work performed or service provided. Include the prime contractor/consultant if the prime is a DBE. If the materials or supplies are obtained from a DBE manufacturer, count 100% of the cost of the materials or supplies toward DBE goals. If the materials or supplies are purchased from a DBE regular dealer/supplier, count 60% of the cost of the materials or supplies toward DBE goals. The Non-DBE column is used to enter the dollar value of work performed by firms that are not certified DBE or for work after a DBE becomes decertified.
13. **Date Work Completed** - Enter the date the subcontractor/subconsultant's item work was completed.
14. **Date of Final Payment** - Enter the date when the prime contractor/consultant made the final payment to the subcontractor/subconsultant for the portion of work listed as being completed.
15. **Original DBE Commitment Amount** - Enter the "Total Claimed DBE Participation Dollars" from ~~ES~~ ~~hG~~ bid # 10-O2 for the contract.
16. **Total** - Enter the sum of the "Contract Payments" Non-DBE and DBE columns.
17. **Contractor/Consultant Representative's Signature** - The person completing the form on behalf of the contractor/consultant's firm must sign their name.
18. **Contractor/Consultant Representative's Name** - Enter the name of the person preparing and signing the form.
19. **Phone** - Enter the area code and telephone number of the person signing the form.
20. **Date** - Enter the date the form is signed by the contractor's preparer.
21. **Local Agency Representative's Signature** - A Local Agency Representative must sign their name to certify that the contracting records and on-site performance of the DBE(s) has been monitored.
22. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative signing the form.
23. **Phone** - Enter the area code and telephone number of the person signing the form.
24. **Date** - Enter the date the form is signed by the Local Agency Representative.

MONTHLY PROMPT PAYMENT CERTIFICATION REPORT

Section 7108.5 of the California Business and Professions Code (CBPC) requires a prime contractor or subcontractor (i.e. builders) to pay any subcontractor not later than seven (7) days after receipt of each progress payment received or final retention payment. Section 3321 of the California Civil Code (CCC) requires prime design professionals (prime consultants directly in contract with a public agency) to pay any subcontractor not later than fifteen (15) days after receipt of each progress payment or final retention payment. The payment cannot be delayed because of disagreements on other contracts. Any delay or postponement of payment among the parties may take place only for good cause with the agency's prior written approval. This requirement applies to both DBE and non-DBE subcontractors.

1. CONTRACT INFORMATION

(1) Prime Contractor/Consultant	(2) Local Agency	(3) Federal Project Number	(4) Local Contract Number	(5) Total Contract Award Amt (\$)	(6) Total DBE Commitment Amt (\$)	(7) DBE Commitment (%)	(8) DBE Contract Goal (%)	(9) Reporting Period (MM/YYYY)

2. PAYMENT INFORMATION

(10) Subcontractor/Subconsultant Name	(11) DBE Cert. Number	(12) Subcontract Type	(13) Date Payment Received by Prime	(14) Date of Prime Payment to Sub	(15) Amount of Payment (\$)	(16) Amount Paid To Sub to Date (\$)	(17) Total Committed to This Subcontractor (\$)	(18) Promptly Paid? (Y/N)	(19) Incremental Retainage Paid? (Y/N)	(20) Comments or Reason for Non-Payment/Non-Prompt Payment, including Payment of incremental Retainage *
Totals:					\$0	\$0	\$0			

List all first-tier subcontractors/subconsultants, whether or not the firms were originally listed in Exhibit 10-Q2 or 15-G as a DBE commitment. If the actual DBE utilization was different than that approved at the time of award, provide comments in box (20). All payments reported, including payments to contractor/consultant, are for the date listed.
 * Only reasons based on dispute on subcontractor or supplier noncompliance may be accepted.

3. CERTIFICATION

<p>The prime contractor or consultant hereby certifies that the foregoing Prompt Payment Certification Form is true and correct.</p> <p>_____ (21) Prime Contractor Manager's Signature</p> <p>_____ (25) Prime Contractor Manager's Name</p> <p>_____ (22) Date</p> <p>_____ (26) Phone</p>	<p>Local Agency certifies that all information in this form is complete and verified.</p> <p>_____ (23) Local Agency Representative's Signature</p> <p>_____ (27) Local Agency Representative's Name</p> <p>_____ (24) Date</p> <p>_____ (28) Phone</p>
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*The interactive MPP worksheet is additionally provided as the "Exhibit F – Monthly Prompt Payment Report" of the bid solicitation documents.

END OF SPECIAL CONDITIONS

01 00 00 – GENERAL REQUIREMENTS

PART 1 -- GENERAL

1.1 DESCRIPTION

- A. The City is not expecting the contractor to provide construction staking.

1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.1 LAYOUT OF WORK AND QUANTITY SURVEYS

- A. General. The City and/or the Engineer of Record provide one set of construction stakes for establishing lines and grades required for the Work. Construction stakes will be provided in general accordance with chapter 12, "Construction Surveys," of Caltrans Surveys Manual. Contractor shall perform all necessary surveys to compute quantities of Work performed.

Contractor shall submit a clear, detailed and complete staking requests in writing to the City a minimum of three (3) working days prior use of construction stakes.

Any additional layout beyond the stakes provided by the City will be considered supplemental layout and is the sole responsibility of the Contractor. Before beginning any layout work or construction activity, the Contractor shall check and verify primary control and construction stakes and shall advise the City Representative of any discrepancies.

Any undue destruction of stakes by the Contractor shall constitute cause to hold the Contractor liable for the cost of re-staking, said cost to be paid for by the Contractor and will be reimbursed to the City by deductive change order.

- B. Quantity surveys. The Contractor shall perform such surveys and computations as are necessary to determine quantities of Work performed or placed during each progress payment period, and shall perform all surveys necessary for the City Representative to determine final quantities of Work in place. The City Representative will determine final quantities based upon the survey data provided by the Contractor, and the design lines and grades. If requested by the City Representative, the Contractor shall provide an electronic copy of data used for quantity computations.

All surveys performed for measurement of final quantities of Work and material shall be subject to approval of City's Representative. Unless waived by City's Representative in each specific case, quantity surveys made by the Contractor shall be made in the presence of City's Representative.

C. Contractor Provided Surveying

1. Accuracy. Degree of accuracy shall be an order high enough to satisfy tolerances specified for the Work and the following:

(a) Right-of-way and alignment of tangents and curves shall be within 0.1 foot.

(b) Structure points shall be set within 0.01 foot, except where operational function of the special features or installation of metalwork and equipment require closer tolerances. When formwork has been placed and is ready for concrete, the Contractor shall check the formwork for conformance with the drawings and to ensure that the forms are sufficiently within the tolerance limits for the completed work.

(c) Cross-section points shall be located within 0.1 foot, horizontally and vertically.

(d) Aerial Mapping shall meet National Mapping Standards for 1-foot contour intervals.

D. Records. Survey data shall be recorded in accordance with recognized professional surveying standards. Original field notes, computations, and other surveying data shall be recorded on electronic data collectors or in standard field books and must be of sufficient quality to enable the Contractor to prepare accurate record drawings as required by the Contract Documents.

E. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required for surveys for supplemental layout or quantity surveys shall be included in the Schedule of Pay Items for items of work requiring the surveys. No additional compensation shall be made to the Contractor for this Work.

3.2 SCHEDULE

A. Estimated Schedule. Within 14 Days after the issuance of the Notice to Proceed, Contractor shall prepare a Project schedule and shall submit this to the Engineer for Approval. The receipt or Approval of any schedules by the Engineer or the City shall not in any way relieve the Contractor of its obligations under the Contract Documents. The Contractor is fully responsible to determine and provide for any and all staffing and resources at levels which allow for good quality and timely completion of the Project. Contractor's failure to incorporate all elements of Work required for the performance of the Contract or any inaccuracy in the schedule shall not excuse the Contractor from performing all Work required for a completed Project within the specified Contract time period. If the required schedule is not received by the time the first payment under the Contract is due, Contractor shall not be paid until the schedule is received, reviewed and accepted by the Engineer.

B. Schedule Contents. The schedule shall indicate the beginning and completion dates of all phases of construction; critical path for all critical, sequential time related activities; and "float time" for all "slack" or "gaps" in the non-critical activities. The schedule shall clearly identify all staffing and other resources which in the Contractor's judgment are needed to complete the Project within the time specified for completion. The overall Project Schedule duration shall be within the Contract time.

- C. Schedule Updates. Contractor shall continuously update its construction schedule. Contractor shall submit an updated and accurate construction schedule to the Engineer monthly when requested to do so by Engineer. Contractor shall also submit schedules showing a three week detailed look-ahead at bi-weekly meetings conducted with the City. The Engineer may withhold progress payments or other amounts due under the Contract Documents if Contractor fails to submit an updated and accurate construction schedule.

3.3 TEMPORARY FIELD OFFICE

NOT USED.

3.4 PROTECTION OF WORK AND PROPERTY

- A. All traffic detector loops, fences, walls, culverts, property line monuments, or other obstructions (except property line monuments within five (5) feet of the centerline of the mains) which are removed, damaged, or destroyed in the course of the Work, shall be replaced or repaired to the original condition. If Contractor provides the City with reasonable notice of the need for such repair or replacement, it shall be performed by the City. If the Contractor fails to provide the City with reasonable notice, the repair or replacement shall be performed by and at the expense of the Contractor to the satisfaction of the City, whether or not those obstructions have been shown on the Plans, unless otherwise stated herein. It is then the Contractor's responsibility to employ at its expense a Licensed Land Surveyor to restore all property line monuments located more than five (5) feet from the centerline of the mains, which are destroyed or obliterated. Property line monuments located within five (5) feet of the centerline of the mains will be replaced by the City at no expense to the Contractor, provided the City is notified at least 48 hours before the property line monuments are damaged.
- B. Contractor shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions.
- C. Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, and other adjoining property and structures, and to avoid damage thereto, and Contractor shall repair any damage thereto caused by the Work operations. Contractor shall:
 - 1. Enclose the working area with a substantial barricade, and arrange work to cause minimum amount of inconvenience and danger to the public.
 - 2. Provide substantial barricades around any shrubs or trees indicated to be preserved.
 - 3. Deliver materials to the Project site over a route designated by the Engineer.
 - 4. Provide any and all dust control required and follow the Applicable air quality regulations as appropriate. If the Contractor does not comply, the City shall have the immediate authority to provide dust control and deduct the cost from payments to the Contractor.

5. Confine Contractor's apparatus, the storage of materials, and the operations of its workers to limits required by law, ordinances, permits, or directions of the Engineer. Contractor shall not unreasonably encumber the Project site with its materials.
 6. Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by a civil engineer or land surveyor acceptable to the City, at no cost to the City.
 7. Ensure that existing facilities, fences and other structures are all adequately protected and that, upon completion of all Work, all facilities that may have been damaged are restored to a condition acceptable to the City.
 8. Preserve and protect from injury all buildings, pole lines and all direction, warning and mileage signs that have been placed within the right-of-way.
 9. At the completion of work each day, leave the Project site in a clean, safe condition.
 10. Comply with any stage construction and traffic control plans. Access to residences and businesses shall be maintained at all times, unless otherwise permitted in writing by the City.
- D. These precautionary measures will apply continuously and not be limited to normal working hours. Full compensation for the Work involved in the preservation of life, safety and property as above specified shall be considered as included in the prices paid for the various contract items of Work, and no additional allowance will be made therefore.
- E. Should damage to persons or property occur as a result of the Work, Contractor shall be responsible for proper investigation, documentation, including video or photography, to adequately memorialize and make a record of what transpired. The City shall be entitled to inspect and copy any such documentation, video, or photographs.

3.5 SITE CONDITIONS SURVEYS

A. Work Included.

Contractor shall conduct thorough pre-construction and post-construction site condition surveys of the entire project area. Site Conditions surveys shall include written documentation of the conditions found, as well as photographs and video recordings of the area within at least 80 feet of any construction area and staging area. The written notes, photographs, and video shall be suitable for forensic purposes to resolve any damage claims that may arise as a result of construction.

B. Submittals.

1. Written documentation of site condition survey at pre-construction and post-construction.

2. Photographs as described herein of pre-construction and post-construction conditions.
3. Video recordings as described herein of pre-construction and post-construction conditions.
4. Submittals shall be made within three days of the surveys. All post-construction data shall be submitted prior to the final project inspection.

C. Site Condition Written Documentation.

Written documentation shall include the time, date, and conditions under which the site survey was made. The documentation shall note the condition of structures, pavement, sidewalks, utilities, fences, and etc. within the work areas.

D. Photographs.

1. General – Contractor shall take enough photographs during each site survey to provide a record of conditions existing prior to construction and conditions after construction. Pre-construction photographs shall be taken prior to any construction or mobilization of equipment, but not more than one week prior to actual start of work. The pre-construction photographs may be staged at different times to match the progression of the Work.
2. The photographs shall document existing damage to public and private facilities, both prior to and after construction. Conditions to be documented include, but are not limited to: sidewalk cracks, broken curbs, separated property walls, improvements within public right-of-ways, access roads used, utility covers and markings, signs, pavement striping, pavement, unique or unusual conditions, adjacent driveways, landscaping, survey markers, and any feature directed by the Engineer. Private property that is adjacent to the public right-of-way shall be documented to the extent visible from the public right-of-way.
3. Photographs shall include items to indicate scale, as needed. In particular, scales or other items shall be laid next to close ups of structural cracks and other damaged areas being recorded. Scaling shall also be used to document elevation differences, as needed.
4. One set of color prints shall be submitted. Additional sets shall be available for reviewing in settling any construction disputes. A set of photos shall also be furnished in electronic format. The resolution shall be at least equal to 7 megapixels. All photos shall be documented as to time and date taken, photographer, project number, location, and orientation. Documentation shall include a brief description of objects photographed.

E. Video Recording.

1. Video recordings shall document the conditions of the entire area affected by construction, as well as nearby structures and facilities. The general documentation requirements for videos are the same as for photographs. Video recorders shall accurately and continuously record the time and date.

2. Video recordings shall include an audio portion made simultaneously during the videoing. The audio recording shall describe the location, time, orientation, and objects being recorded. Special commentary shall be provided for unusual conditions or damage noted.
3. Video equipment shall be capable of producing high resolution images and shall have zoom capabilities.
4. Video recordings shall provide an overall picture of the sites and shall provide detailed images of damaged areas. Video shall extend to the maximum height of structures.
5. The Engineer shall have the right to reject any audio video recordings submitted with unintelligible audio, uncontrolled pan or zoom, or of poor quality. Video recordings shall be repeated when rejected.
6. Video recordings shall be submitted with labels indicating the project, date, recorder, and other pertinent information. Recordings shall be submitted on standard DVDs in a standard format.

F. Timing.

Contractor shall provide written notice of the time scheduled for the site conditions survey and the place it is to begin. Contractor shall obtain the Engineer's concurrence prior to beginning the condition survey. The Engineer reserves the right to cancel the survey due to weather conditions or other problems. Videoing shall be done during times of good visibility and no videoing or photography shall be done during periods of visible precipitation or when standing water obscures pavement. Contractor shall provide the Engineer with an opportunity to have a representative present when taking the photos and provide guidance during photographing.

G. Site Surveyor.

The site condition surveyor(s) shall be experienced in construction and potential damage concerns. The site condition surveyor(s) shall be familiar with the photography and video equipment being used.

H. Field Quality Control.

Prior to submitting videos and photographs, the Contractor shall spot check the photos and videos in the field to insure they accurately reflect the actual conditions and to insure they are correctly labeled.

I. Soils Compaction Testing.

1. All soils compaction testing will be done by a licensed geotechnical engineer furnished by the City. Soils compaction testing will be done for all footings and foundations prior to placement of rebar or concrete.
2. For pipeline construction, soil compaction testing will be done at 100-foot intervals at the bottom of the trench prior to placement of pipe bedding; at the top of the pipe

bedding above the pipe; every two vertical feet of trench backfill; at the top of the trench backfill, which should be the bottom of the pavement section; and at the top of the aggregate base prior to pavement construction.

3.6 SUBMITTAL REQUIREMENTS FOR MANUALS AND RECORD DRAWINGS

A. General. The Contractor shall furnish all materials and perform all Work required for furnishing submittals to City in accordance with Contract Documents.

B. Technical Manuals.

1. The Contractor shall submit technical operation and maintenance information for each item of mechanical, electrical and instrumentation equipment in an organized manner in the Technical Manual. It shall be written so that it can be used and understood by City's operation and maintenance staff.

2. The Technical Manual shall be subdivided first by specification section number; second, by equipment item; and last, by "Category." "Categories" shall conform to the following (as applicable):

(a) Category 1 - Equipment Summary:

(1) Summary: A summary table shall indicate the equipment name, equipment number, and process area in which the equipment is installed.

(b) Category 2 - Operational Procedures:

(1) Procedures: Manufacturer-recommended procedures on the following shall be included in Part 2:

a. Installation

b. Adjustment

c. Startup

d. Location of controls, special tools, equipment required, or related instrumentation needed for operation

e. Operation procedures

f. Load changes

g. Calibration

h. Shutdown

i. Troubleshooting

j. Disassembly

k. Reassembly

- I. Realignment
 - m. Testing to determine performance efficiency
 - n. Tabulation of proper settings for all pressure relief valves, low and high pressure switches, and other protection devices
 - o. List of all electrical relay settings including alarm and contact settings
- (c) Category 3 - Preventive Maintenance Procedures:
- (1) Procedures: Preventive maintenance procedures shall include all manufacturer-recommended procedures to be performed on a periodic basis, both by removing and replacing the equipment or component, and by leaving the equipment in place.
 - (2) Schedules: Recommended frequency of preventive maintenance procedures shall be included. Lubrication schedules, including lubricant SAE grade, type, and temperature ranges, shall be covered.
- (d) Category 4 - Parts List:
- (1) Parts List: A complete parts list shall be furnished, including a generic description and manufacturer's identification number for each part. Addresses and telephone numbers of the nearest supplier and parts warehouse shall be included.
 - (2) Drawings: Cross-sectional or exploded view drawings shall accompany the parts list.
- (e) Category 5 - Wiring Diagrams:
- (1) Diagrams: Part 5 shall include complete internal and connection wiring diagrams for electrical equipment items.
- (f) Category 6 - Shop Drawings:
- (1) Drawings: This part shall include approved shop or fabrication drawings, complete with dimensions.
- (g) Category 7 - Safety:
- (1) Procedures: This part describes the safety precautions to be taken when operating and maintaining the equipment or working near it.
- (h) Category 8 - Documentation:
- (1) All equipment warranties, affidavits, and certifications required by the Technical Specifications shall be placed in this part.

3. The Contractor shall furnish to City six (6) identical Technical Manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard binder.
- C. Spare Parts List - The Contractor shall furnish to City six (6) identical sets of spare parts information for all mechanical, electrical, and instrumentation equipment. The spare parts list shall include the current list price of each spare part. The spare parts list shall include those spare parts which each manufacturer recommends be maintained by City in inventory. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to assist City in ordering. The Contractor shall cross-reference all spare parts lists to the equipment numbers designated in the Contract Documents. The spare parts lists shall be bound in standard size, 3-ring binder.
- D. Record Drawings
1. The Contractor shall maintain one record set of Drawings at the Site. On these, it shall mark all Project conditions, locations, configurations, and any other changes or deviations which may vary from the information represented in the original Contract Documents, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to fully indicate the Work as actually constructed. These master record drawings of the as-built conditions, including all revisions made necessary by Addenda and Change Orders shall be maintained up-to-date during the progress of the Project. Red ink shall be used for alterations and notes. Notes shall identify relevant Change Orders by number and date.
 2. For all Projects involving the installation of any pipeline, Contractor shall survey and record the top of the pipe at a minimum of every 100 linear feet, and at each bend, recording both the horizontal and vertical locations.
 3. Record drawings shall be accessible to City's Representative at all times during the construction period. Failure on the Contractor's part to keep record drawings current could result in withholding partial payment.
 4. Upon Completion of the Project and as a condition of final acceptance, the Contractor shall finalize and deliver a complete set of Record Drawings to City's Representative. The information submitted by the Contractor will be assumed to be correct, and the Contractor shall be responsible for, and liable to City, for the accuracy of such information, and for any errors or omissions which may or may not appear on the Record Drawings.
- E. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete the Manuals and Record Drawings shall be included in Contractor's bid and distributed in the Schedule of Pay. No additional compensation shall be made to the Contractor for this Work.

3.7 MATERIALS

A. Materials to be Furnished by the Contractor

1. Inspection of Materials. Materials furnished by the Contractor which will become a part of the Project shall be subject to inspection at any one or more of the following locations, as determined by City's Representative: at the place of production or manufacture, at the shipping point, or at the site of the Work. To allow sufficient time to provide for inspection, the Contractor shall submit to City's Representative, at the time of issuance, copies of purchase orders or other written instrument confirming procurement of the materials, including drawings and other pertinent information, covering materials on which inspection will be made.
2. No later than fourteen (14) Days prior to manufacture of material, Contractor shall inform City's Representative, in writing, the date the material is to be manufactured.
3. Contractors Obligations. The inspection of materials at any of the locations specified above or the waiving of the inspection thereof shall not impact whether the materials and equipment conform to the Contract Documents. Contractor will not be relieved from furnishing materials meeting the requirements of the Contract Documents due to City's inspection or lack of inspection of the equipment or materials. Acceptance of any materials will be made only after materials are installed in the Project.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to accommodate City's testing efforts, including any travel required by Contractor's forces, shall be included in Contractor's bid and distributed in the Schedule of Pay Items related to the materials requiring testing. No additional compensation shall be made to the Contractor for this Work.

3.8 LOCAL CONDITIONS AND REQUIREMENTS

A. Access to Work and Haul Routes

1. General. All work on the rights-of-way necessary for access to the Site shall be performed by the Contractor.
2. Access, Damage, Restoration. The Contractor shall make his own investigation of the condition of available public or private roads and of clearances, restrictions, bridge-load limits, permit or bond requirements, and other limitations that affect or may affect transportation and ingress or egress at the Site. Claims for changes in Contract Price or Contract Times arising out of the unavailability of transportation facilities or limitations thereon shall not be considered by City.
3. The Contractor shall maintain and repair any damage arising out of Contractor's operations to all roads used during construction of the Project, and upon completion of all Work, but prior to final acceptance, the roads shall be restored to their original condition. Prior to using any road for access to the Site, the

Contractor shall conduct a photograph and/or video survey of the roadway with a copy submitted to City's Representative.

4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.
- B. Power. Contractor shall provide at its own expense all necessary power required for operations under the contract. The Contractor shall provide and maintain in good order such modern equipment and installations as shall be adequate in the opinion of the Engineer to perform in a safe and satisfactory manner the Work required by the contract.
- C. Construction Water.
1. Construction water shall not be used for purposes other than those required to satisfactorily complete the contract.
 2. All connections to the City's water system used for the purposes of obtaining construction water shall utilize a temporary construction meter and backflow prevention device supplied by the City. The City-furnished backflow prevention device shall be tested immediately after installation and the construction meter and backflow prevention device shall not be placed into service until the backflow prevention device passes such tests. Backflow prevention device testing shall be performed in accordance with applicable standards, and test results shall be provided to the Engineer. If the temporary construction meter and backflow prevention device are moved to alternate location(s) during construction, the backflow prevention device shall again be tested as described above immediately after re-installation.
 3. For each temporary construction meter requested by the Contractor for the performance of work under this contract, an amount equivalent to the deposit requirement for temporary construction meters listed in the current approved version of the City's Policies and Procedures Manual shall be withheld from the final contract payment until the temporary construction meters are returned.
- D. Operation of Existing Water Facilities
1. The Contractor shall not operate any of the existing water systems, including pumps, motors, and hydrants, but shall contact the City two (2) working days in advance with a list and location of the water system facilities that will require operating, opening, stopping, or closure by the City.
 2. At the option of the Engineer, the Contractor may be permitted to operate valves for the purpose of making connections to existing mains. The City will perform all notification to existing customers regarding temporary loss of service.
 3. Contractor shall submit a request on City's standard form for any shut-down of existing water facilities.

E. Construction at Existing Utilities

1. General. Where the Work to be performed crosses or otherwise interferes with water, sewer, gas, or oil pipelines; buried cable; or other public or private utilities, the Contractor shall perform construction in such a manner so that no damage will result to either public or private utilities. It shall be the responsibility of the Contractor to determine the actual locations of, and make accommodations to maintain, all utilities.
2. Permission, Notice and Liability. Before any utility is taken out of service, permission shall be obtained by the Contractor from the owner. The owner, any impacted resident or business owner and the City Representative will be advised of the nature and duration of the utility outage as well as the Contractor's plan for providing temporary utilities if required by the owner. The Contractor shall be liable for all damage which may result from its failure to maintain utilities during the progress of the Work, and the Contractor shall indemnify City as required by the Contract Documents from all claims arising out of or connected with damage to utilities encountered during construction; damages resulting from disruption of service; and injury to persons or damage to property resulting from the negligent, accidental, or intentional breaching of utilities.
3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

F. Traffic Control

1. General. Contractor shall abide by traffic control plans approved by the appropriate jurisdiction.
2. Protections. Roads subject to interference by the Work shall be kept open or suitable temporary passages through the Work shall be provided and maintained by the Contractor. The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient flasher lights, flag persons, danger signals, and signs, and shall take all necessary precautions for the protection of the Work and the safety of the public. No construction work along public or private roads may proceed until the Contractor has proper barricades, flasher lights, flag persons, signals, and signs in place at the construction site.
3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

G. Cleaning Up

1. Contractor at all times shall keep premises free from debris such as waste, rubbish, and excess materials and equipment. Contractor shall not store debris under, in, or about the premises. Contractor shall also clean all asphalt and concrete areas

to the degree necessary to remove oil, grease, fuel, or other stains caused by Contractor operations or equipment. The use of water, resulting in mud on streets, will not be permitted as substitute for sweeping or other methods. Dust control may require having a water truck onsite for the duration of the project, and/or use of temporary hoses and pipelines to convey water.

2. Contractor shall fully clean up the site at the completion of the Work. If the Contractor fails to immediately clean up at the completion of the Work, the City may do so and the cost of such clean up shall be charged back to the Contractor.

3.9 ENVIRONMENTAL QUALITY PROTECTION

A. Environmental Conditions

1. Contractor must comply with all applicable environmental laws, Project conditions, and constraints, including, but not limited to:

Bay Conservation and Development Commission (BCDC) Permit
California Environmental Quality Act (CEQA) Notice of Exemption

2. City has considered these Environmental Conditions when determining the Contract Times and no additional time or compensation will be added to the Contract due to these Conditions.

B. Landscape and Vegetation Preservation

1. General. The Contractor shall exercise care to preserve the natural landscape and vegetation, and shall conduct operations so as to prevent unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the Work.
2. Damage and Restoration. Movement of crews and equipment within the rights-of-way and over routes provided for access to the Work shall be performed in a manner to prevent damage to property. When no longer required, construction roads shall be restored to original contours.
3. Upon completion of the Work, and following removal of construction facilities and required cleanup, land used for construction purposes and not required for the completed installation shall be scarified and regraded, as required, so that all surfaces are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

C. Protected Species

1. General. If, in the performance of the Work, evidence of the possible occurrence of any Federally listed threatened or endangered plant or animal is discovered,

the Contractor shall notify the City Representative immediately, giving the location and nature of the findings. Written confirmation of the evidence, location and nature of the findings shall be forwarded to City within 2 Days.

2. Procedures. The Contractor shall immediately cease all construction activities in the immediate area of the discovery to the extent necessary to protect the endangered plant or animal.

If directed by the City Representative, Contractor will refrain from working in the immediate area, suspend the Work in its entirety, or alter its performance to ensure full compliance with all applicable permits, laws and regulations. Any City directed changes to the Work as a result of a siting will be pursuant to the Contract Documents.

3. False Siting. Any costs or delays incurred by City or the Contractor due to unreasonable or false notification of an endangered plant or animal will be borne by the Contractor.
4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

D. Preservation of Historical and Archeological Resources

1. General. If, in the performance of the Work, Contractor should unearth cultural resources (for example, human remains, animal bones, stone tools, artifacts and/or midden deposits) through excavation, grading, watering or other means, the Contractor notify the Construction/Archeological Monitor and/or the City Representative immediately, giving the location and nature of the findings. Written confirmation of the evidence, location and nature of the findings shall be forwarded to the Construction/Archeological Monitor and/or City within 2 Days.
2. Procedures. The Contractor shall immediately cease all construction activities in the immediate area of the discovery to the extent necessary to protect the cultural resource.

If directed by the City Representative, Contractor will refrain from working in the immediate area, suspend the Work in its entirety, or re-sequence and/or alter its performance to ensure full compliance with all applicable permits, laws and regulations. Should the presence of cultural resources be confirmed, the Contractor will assist the City Representative and the Construction/Archeological Monitor in the preparation and implementation of a data recovery plan. The Contractor shall provide such cooperation and assistance as may be necessary to preserve the cultural resources for removal or other disposition. Any City directed changes to the Work as a result of the cultural resource will be pursuant to the Contract Documents.

3. Contractor's Liability. Should Contractor, without permission, injure, destroy, excavate, appropriate, or remove any cultural resource on or adjacent to the Site, it

will be subject to disciplinary action, arrest and penalty under applicable law. The Contractor shall be principally responsible for all costs of mitigation and/or restoration of cultural resources related to the unauthorized actions identified above. Contractor shall be required to pay for unauthorized damage and mitigation costs to cultural resources (historical and archeological resources) as a result of unauthorized activities that damage cultural resources and shall indemnify City pursuant to the Contract Documents.

4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

E. Dust and Pollution Control

1. Contractor shall provide all necessary material, equipment and labor to prevent and control the emission of dust and any other potential pollutant on site.
2. Contractor shall not discharge into the atmosphere from any source smoke, dust or other air contaminants in violation of the law, rules, and regulations of the governing agency.
3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

F. Fugitive Dust

NOT USED.

G. Management of Storm, Surface and Other Waters

1. Storm water, surface water, groundwater, and nuisance, or other waters may be encountered at various times during construction of the Project. Federal and State laws require the City and its contractors to manage such waters pursuant to the requirements of California State Water Resources Control Board Order Number 2009-0009-DWQ, the Federal Clean Water Act, and the California Porter Cologne Water Quality Control Act. Contractor acknowledges that it has investigated the risk arising from such waters in conjunction with the Project, and assumes any and all risks and liabilities arising therefrom.
2. The Contractor shall perform all construction operations in such a manner as to comply, and ensure all subcontractors to comply, with all applicable Federal, State, and local laws, orders, and regulations concerning the control and abatement of water pollution; and all terms and conditions of any applicable permits issued for the Project. In the event there is a conflict between Federal, State, and local laws, regulations, and requirements, the most stringent shall apply.
3. Contractor violations. If noncompliance should occur, the Contractor shall report this to the City Representative immediately, with the specific information submitted

in writing within 2 Days. Consistent violations of applicable Federal, State, or local laws, orders, regulations, or Water Quality Standards may result in City stopping all site activity until compliance is ensured. The Contractor shall not be entitled to any change in Contract Price or Contract Times, claim for damage, or additional compensation by reason of such a work stoppage. Corrective measures required to bring activities into compliance shall be at the Contractor's expense.

4. Compliance with Construction General Storm water Permit. Contractor shall be required to comply with all aspects of the State Water Resources Control Board (State Board) Water Quality Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity (Permit) for all projects that involve construction on or disturbance of one acre or more of land or which are part of a larger common area of development.
 - (a) Contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the Project site based on the appropriate Risk Level requirements, and draft and coordinate submittal of all Permit related documents with City's Legally Responsible Person and/or Authorized Signatory as those terms are defined in the Permit. The Contractor shall submit the SWPPP to the City Representative for review not less than fifteen (15) Days prior to the start of on- site construction work. City will file the Notice of Intent and pay the filing fee.
 - (b) The SWPPP shall be developed by a Qualified SWPPP Developer and implemented by a Qualified SWPPP Practitioner as those terms are defined in the Permit and shall include industry standard requirements for water quality control including but not be limited to the following:
 - (1) Sediment and erosion control measures to manage sediment and erosion including vegetative practices, structural control, silt fences, straw dikes, sediment controls or operator controls as appropriate. Storm water management measures shall be instituted as required, including velocity dissipaters, and solid waste controls shall address controls for building materials and offsite tracking of sediment.
 - (2) Wastewater and storm water management controls to divert offsite surface flows around the Project site and to divert surface flows within the Project area away from areas of open earth or stockpiles of building and other materials. Wastewater from general construction activities, such as drain water collection, aggregate processing, concrete batching, drilling, grouting, or other construction operations, shall not enter flowing or dry watercourses without having met the authorized non-storm water discharge requirements listed in State Board Water Quality Order No. 2009-0009-DWQ, Section III.C., including proper notification to the Regional Water Board.
 - (3) Pollution prevention measures including methods of dewatering, unwatering, excavating, or stockpiling earth and rock materials which include prevention measures to control silting and erosion, and which will intercept and settle any runoff of sediment-laden waters.

- (4) Turbidity prevention measures for prevention of excess turbidity including, but are not restricted to, intercepting ditches, settling ponds, gravel filter entrapment dikes, flocculating processes, recirculation, combinations thereof, or other approved methods that are not harmful to aquatic life. All such wastewaters discharged into surface waters, shall contain the least concentration of settleable material possible, and shall meet all conditions of section 402, the National Pollutant Discharge Elimination System (NPDES) permit.
 - (5) Overall construction site management measures to address changes at the Project site as the Project moves through different phases and changes that account for rainy and dry season management practices.
 - (6) Pollution control measures and construction activity methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, or other pollutants or wastes, into streams, flowing or dry watercourses, lakes, wetlands, reservoirs, or underground water sources. Such pollutants and wastes include, but are not restricted to: refuse, garbage, cement, sanitary waste, industrial waste, hazardous materials, radioactive substances, oil and other petroleum products, aggregate processing, tailings, mineral salts, and thermal pollution.
 - (7) Control measures for stockpiled or deposited materials prohibiting the stockpile or deposit of excavated materials, or other construction materials, near or on stream banks, lake shorelines, or other watercourse perimeters where they can be washed away by high water or storm runoff, or can, in any way, encroach upon the watercourse.
 - (8) Develop and implement a Rain Event Action Plan (REAP), if required, that must be designed and implemented to protect all exposed portions of the site 48 hours prior to any likely precipitation event.
 - (9) Monitoring, reporting and record keeping, as necessary to achieve compliance with applicable Permit requirements, including but not limited to annual reports and rain event reports.
- (c) Before any Permit related documents, including the SWPPP, rain event reports, or annual reports may be submitted to the State Board or implemented on the Project site, they must first be reviewed and approved by City.
 - (d) City retains the right to procure and maintain coverage under the Permit for the Project site if the Contractor fails to draft a SWPPP or other Permit related document, or fails to proceed in a manner that is satisfactory to City. City reserves the right to implement its own SWPPP at the Project site, and hire additional contractors to maintain compliance. Whether Contractor has adequately maintained compliance with the Permit shall be City's sole determination. In the event that Contractor has failed or is unable to maintain compliance with the Permit, any costs or fines incurred by City in implementing a SWPPP, or otherwise maintaining compliance with the Construction General Permit shall be paid by the Contractor.
 - (e) Failure to implement the SWPPP or otherwise comply with the Permit is a violation of federal and state law. Contractor hereby agrees to indemnify City as

required by the Contract Documents for any noncompliance or alleged noncompliance with the Permit arising out of or in connection with the Project, except for liability resulting from the sole established negligence, willful misconduct or active negligence of City. City may seek damages from Contractor for delay in completing the Contract in accordance with the Contract Documents, caused by Contractor's failure to comply with the Permit.

5. In addition to compliance with the Permit, Contractor shall comply with the lawful requirements of any applicable municipality, district, drainage district, flood control district, and other local agencies regarding discharges of storm water, surface water, groundwater or other nuisance waters off of the Project site.
6. Oil storage tanks management.
 - (a) Storage tank placement. All oil or other petroleum product (hereinafter referred to collectively as oil) storage tanks shall be placed at least 20 feet from streams, flowing or dry watercourses, lakes, wetlands, reservoirs, and any other water source.
 - (b) Storage area dikes. Storage areas shall be diked at least 12 inches high or graded and sloped to permit safe containment of leaks and spills equal to the capacity of all tanks and/or containers located within each area, plus a sufficient amount of freeboard to contain the 25-year rainstorm.
 - (c) Diked area barriers. Diked areas shall have an impermeable barrier at least 10 mils thick. Areas used for refueling operations shall have an impermeable liner at least 10 mils thick buried under 2 to 4 inches of soil.
 - (d) Spill Prevention Control and Countermeasure Plan (SPCC). Where the location of a construction site is such that oil from an accidental spillage could reasonably be expected to enter into or upon the navigable waters of the United States or adjoining shorelines, and the aggregate storage of oil at the site is over 1,320 gallons or a single container has a capacity in excess of 660 gallons, the Contractor shall prepare an SPCC Plan. The Contractor shall submit the SPCC Plan to the Engineer at least 30 days prior to delivery or storage of oil at the site. The Plan must have been reviewed and certified by a registered professional engineer in accordance with 40 C.F.R., part 112
7. Underground tank prohibition. The Contractor shall not use underground storage tanks.
8. Construction safety standards. The Contractor shall comply with the sanitation and potable water requirements of Section 7 of United States Bureau of Reclamation's publication "Reclamation Safety And Health Standards."
9. Other Permits.
 - (a) Other permits applicable to the Project are listed in the Special Conditions. The Contractor shall obtain all other necessary licenses and permits.

- (b) Monitoring. The Contractor is required to conduct monitoring in order to meet the requirements of the permits, which may include sampling, testing and inspections.
 - (c) Recordkeeping. The Contractor shall retain all records and data required by the permits for the time specified in the contract.
10. Cost. Except as specified herein, the cost of complying with this section shall be included in the Schedule of Pay Items for work which necessitate the water pollution prevention measures required by this paragraph.

END OF GENERAL REQUIREMENTS

TECHNICAL SPECIFICATIONS

SECTION 01 00 25

MEASUREMENT AND PAYMENT

Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the Work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.

BID ITEM NO. 1 - MOBILIZATION, DEMOBILIZATION, AND FINAL CLEANUP

Payment for **Mobilization, Demobilization and Final Cleanup** will be made in two (2) equal payments at the **lump sum** allowance in the Bid Schedule, which price shall constitute full compensation for all such work. The scope of work for mobilization shall include, but not limited to, obtaining all bonds, insurance and permits, moving onto the site of all plant and equipment, submittal and approval of a schedule of values for lump sum items, and obtaining approval for all shop drawings and materials for signal equipment. Payment for demobilization and final cleanup shall occur when all required items per the Contract are fulfilled and the site is free of equipment and clean and ready for use by the public. T No measurement shall be made for this item.

BID ITEM NO. 2 - TEMPORARY TRAFFIC CONTROL

Full compensation for furnishing, placing, maintaining, and removing the **Temporary Traffic Control** will be paid for at the contract **lump sum** price, which price shall include furnishing all labor, materials, tools, equipment and incidentals for doing all work involved in furnishing traffic control system required for direction of public vehicular and pedestrian traffic through or around the work, including preparation and implementation of the traffic control plans, pedestrian routing plans, maintaining access to businesses, noticing, temporary facilities including temporary lighting, traffic control equipment, flaggers, signs, striping, walkways, plates, barriers, and temporary pavement marker tabs, and all other pedestrian and vehicular traffic control requirements as required or specified in these Construction Details, and no additional allowances will be made therefor. No measurement shall be made for this item.

BID ITEM NO. 3 – STORM WATER MANAGEMENT AND EROSION CONTROL

Full compensation for **Storm Water Management and Erosion Control** shall be paid for at the contract **lump sum**, which shall include full compensation for conforming to the provisions in this section, furnishing all labor, materials, tools, equipment, and any other work involved in Erosion Control including but not limited to, implementation and maintenance of all stormwater,

sediment, and erosion control measures, following Best Management Practices, and all incidentals necessary to control stormwater pollution, sedimentation, and erosion, and no additional compensation will be made therefor. No measurement shall be made for this item.

BID ITEM NO. 4 – DEMOLITION

Full compensation for **Demolition** will be measured and paid for at the contract unit price per **square foot** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing all work involved in the removal of existing concrete sidewalk, pedestrian ramps and driveways, removal of existing roadway down to subgrade including but not limited to saw cutting, removal of concrete, removal of asphalt concrete, removal of existing concrete curb and gutter, removal of sign and fence elements and foundations, sand and base rock, excavation, stockpiling removed materials, grinding of pavement striping, removal of benches, receptacles, and other appurtenances, removal and safe storage of items to be salvaged, including but not limited to signs, hauling and disposal of removed materials, and cleaning of materials, as specified in these Construction Details and as shown on the Plans, and no additional allowances will be made therefor.

BID ITEM NO. 5 – ASPHALT FULL DEPTH CONFORM

Full compensation for **Asphalt Full Depth Conform** shall be paid for at the contract price per **ton** which shall include full compensation for furnishing all labor, materials, tack coats, tools, equipment, for installing an asphalt concrete plug and conform and as shown on the Plans, and no additional allowances will be made therefor.

BID ITEM NO. 6 – ASPHALT CONCRETE WALKWAY

Full compensation for **Asphalt Concrete Walkway** shall be paid for at the contract price per **ton** which shall include full compensation for furnishing all labor, materials, tack coats, tools, equipment, for installing an asphalt berm and compacted asphalt walkway as shown on the Plans, and no additional allowances will be made therefor.

BID ITEM NO. 7 – TYPE “A” CURB & GUTTER

Full compensation for **Type “A” Curb and Gutter** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing curb and gutter complete in place, including sawcutting, subgrade preparation, aggregate base placement and compaction, formwork, expansion joints, scoring, and all incidentals, as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 8 – TYPE “E” CURB

Full compensation for **Type “E” Curb** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing vertical retaining curbs complete in place, including sawcutting, subgrade preparation, aggregate base placement and compaction, formwork, expansion joints, scoring, curing, and all incidentals, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 9 – PEDESTRIAN CONCRETE (EXPOSED AGGREGATE)

Full compensation for **Pedestrian Concrete (Exposed Aggregate)** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing the concrete flatwork complete in place, including setting and verification of grade, subgrade preparation; placing and compacted aggregate base, placing and finishing concrete, expansion joints, scoring, exposed aggregate finish, and all incidentals, as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 10 – CURB RAMP WITH DETECTABLE WARNING SURFACE (COLONIAL RED)

Full compensation for **Curb Ramp with Detectable Warning Surface (Colonial Red)** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing curb ramps including setting and verification of grade, furnishing and placing concrete, installing truncated dome detectable warning surface, expansion joints and broom finish and all other incidentals, as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor. The work limits for Minor Concrete (Curb Ramp) shall include all concrete work up to the sidewalk border. Sidewalk area outside of the ramp will be paid for under Pedestrian Concrete (Exposed Aggregate).

BID ITEM NO. 11 – CAST IN PLACE DETECTABLE WARNING SURFACE (COLONIAL RED)

Full compensation for **Cast In Place Detectable Warning Surface (Colonial Red)** shall be paid for at the contract unit price per **each**, which price shall include full compensation of installation of the truncated dome panels at existing curb ramps where grading modifications are not proposed, including, but not limited to site preparation and site clean-up, sawcutting, excavation removal, base rock, wet setting of truncated domes (3'x5') with minimum 4-inch concrete band, and all other labor, materials, tools, equipment and incidentals and all other work required to complete work in place as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 12 – VEHICULAR CONCRETE

Full compensation for **Vehicular Concrete** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing all plant, labor, materials, tools and equipment and doing all the work involved in constructing concrete complete in place, including setting and verification of grade, demolition, saw cutting, excavation for placement of aggregate base, subgrade preparation, dowels to existing concrete, reinforcing bars and wire mesh where required; furnish and place concrete pad and curb, expansion joints, scoring, broom finish, protection from vandalism, and all other work required to complete work in place as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 13 – 4-INCH THERMOPLASTIC STRIPING

Full compensation for **4-Inch Thermoplastic Striping** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of thermoplastic pavement markings, throughout the project limits, including surface preparation, layout, markings as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 14 – 6-INCH THERMOPLASTIC STRIPING

Full compensation for **6-Inch Thermoplastic Striping** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of thermoplastic pavement markings, throughout the project limits, including surface preparation, layout, markings as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 15 – CONTINENTAL CROSSWALK

Full compensation for **Continental Crosswalk** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of thermoplastic pavement markings, throughout the project limits, including surface preparation, layout, markings as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 16 – PAVEMENT MARKINGS

Full compensation for **Pavement Markings** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of thermoplastic pavement markings, throughout the project limits, including surface preparation, layout, markings as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 17 – STRIPING PARKING STALL NUMBER

Full compensation for **Striping Parking Stall Number** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of thermoplastic pavement markings, throughout the project limits, including surface preparation, layout, markings as shown on the Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 18 – REINSTALL EXISTING SIGN ON NEW POLE

Full compensation for **Reinstall Existing Sign on New Pole** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor,

materials, tools, equipment and other incidentals necessary for removing existing signs and posts and reinstalling said signs and posts in a new foundation, throughout the project limits, as shown on the Plans and Marin County Uniform Construction Standards Plans, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 19 – NEW SIGN ON NEW POLE

Full compensation for **New Sign on New Pole** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for installing new signs and posts, throughout the project limits, as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 20 – SELF-SERVICE PAY STATION RELOCATION

Full compensation for **Self-Service Pay Station Relocation** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and reinstallation of the salvaged self-service pay station devices, including removal and salvage of the existing devices, cutting of concrete anchor bolts and removal of foundation elements as needed to facilitate the proposed improvements, new foundation and anchor bolts, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 21 – FOUNTAIN RELOCATION

Full compensation for **Fountain Reconstruction** will be measured and paid for at the contract unit price per **lump sum**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete removal and reinstallation of the fountain, including utility disconnection and reconnection, new water supply piping, excavation, subgrade preparation, aggregate base placement and compaction, testing and disinfection, complete in place as shown on the Plans and no additional allowances will be made therefor. No measurement shall be made for this item.

BID ITEM NO. 22 – TYPE “A” CATCH BASIN

Full compensation for **Type “A” Catch Basin** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing a new storm drain inlet, layout, potholing, excavation, bedding, backfill, and placement, connection of new and existing pipes, demolition, frames and grating . as required at the location shown on the plans, complete in place and functioning system and any other work required for the catch basin, throughout the project limits, as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 23 – TRENCH DRAIN

Full compensation for **Trench Drain** will be measured and paid for at the contract unit price per **lump sum**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing a trench drain channel and grade, including layout, potholing, excavation, pipe bedding, compaction, backfill,

connections as required at the location shown as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 24 – 12-INCH STORM DRAIN (HDPE)

Full compensation for **12-Inch Storm Drain (HDPE)** will be measured and paid for at the contract unit price per **linear foot**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing a 12-in storm drain pipe including layout, potholing, excavation, pipe bedding, compaction, backfill, connections to new and existing catch basins and storm pipe, asphalt/ concrete restoration as required at the location shown as shown on the Plans and Marin County Uniform Construction Standards, and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 25 – ADJUST UTILITY TO GRADE

Full compensation for **Adjust Utility to Grade** will be measured and paid for at the contract unit price per **each** and shall include full compensation for furnishing all labor, materials, tools, equipment, excavation, backfill, concrete, grade rings, debris platforms, asphalt or concrete pavement and mortar for the completion of adjusting all utility valve boxes, utility vaults, survey monument boxes, manholes and other utility structures to grade throughout the project limits, and all other related work per the Contract Documents.

BID ITEM NO. 26 – RESET NGS BENCHMARK

Full compensation for **Reset NGS Benchmark** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of benchmark well and brass disk, including coordination with the City's Land Surveyor, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 27 – RESET SURVEY MONUMENT

Full compensation for **Reset Survey Monument** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing, labor, materials, tools, equipment and other incidentals necessary for the complete layout and installation of benchmark well and brass disk, including coordination with the City's Land Surveyor, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 28 – BIORETENTION AREA

Full compensation for **Bioretention Area** will be measured and paid for at the contract unit price per **lump sum**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing bioretention area and planting, including subdrains, area drain, soil media, mulch, and planting as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 29 – BOLLARDS

Full compensation for **Bollards** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing bollards including layout, foundation, procurement and installation in accordance with the manufacturer's recommendations and as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 30 – MISCELLANEOUS FURNISHINGS AND FENCING

Full compensation for **Miscellaneous Furnishings and Fencings** will be paid for at the contract unit price per **lump sum**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing permanent fencing, bike racks, waste receptacles, and tree grates, including layout, foundation and mounting elements, procurement and installation in accordance with the manufacturer's recommendations and as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 31 – IRRIGATION

Full compensation for **Irrigation** will be paid for at the contract unit price per **lump sum**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing the irrigation tubing, emitters, main lines, controllers, backflow devices, testing and set-up as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 32 – PLANTING

Full compensation for **Planting** will be paid for at the contract unit price per **lump sum**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing all permanent vegetation, plantings, and trees, including soil testing, soil amendments and/or imported planting soil, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. 33 – ELECTRICAL MANHOLE

Full compensation for **Electrical Manhole** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing the electrical manhole vault, including structure, rim, cover, excavation, bedding, and backfill, as shown on the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. A2.1 – ASPHALT GRINDING

Full compensation for **Asphalt Grinding** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in grinding down the crown of the roadway on Tracy Way and stockpiling grindings in accordance with the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. A2.2 – PLACE AND COMPACT ASPHALT GRINDING

Full compensation for **Place and Compact Asphalt Grinding** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in placing asphalt grindings on Tracy Way and compacting grindings to create a flat, firm, and unyielding subgrade surface in accordance with the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. A2.3 – GRAVELPAVE – TYPE 2

Full compensation for **GravelPave – Type 2** will be measured and paid for at the contract unit price per **square foot**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in procuring and placing the GravelPave – Type 2 fabric in accordance with manufacturer’s guidance, the Plans and specified in these Construction Details, and no additional allowances will be made therefor.

BID ITEM NO. A2.4 – GRAVEL FILL

Full compensation for **Gravel Fill** shall be paid for at the contract price per **cubic yard** which shall include full compensation for furnishing all labor, materials to procure, haul, place, and compact gravel within the GravelPave – Type 2 fabric in accordance with the GravelPave manufacturer’s recommendations and as shown on the Plans, and no additional allowances will be made therefor.

BID ITEM NO. A3.1 – LIGHTED BOLLARDS

Full compensation for **Lighted Bollards** will be measured and paid for at the contract unit price per **each**, which price shall include full compensation for furnishing and installing all labor, materials, tools, and equipment, and doing all work involved in installing bollards including layout, foundation, power source connection, conduit and wiring, pull boxes, testing and start-up, and installation in accordance with the manufacturer’s recommendations and specified in these Construction Details, and no additional allowances will be made therefor.

END OF SECTION

SECTION 01 50 50

EROSION CONTROL

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The Contractor shall provide all materials, labor and equipment necessary to complete all work as specified herein, including but not limited to the following:
 - 1. Install all temporary erosion control devices per Plans and Specifications, and as directed by the Engineer.
 - 2. On-going maintenance of all stormwater, sediment, and erosion control measures
- B. All other labor and materials reasonably incidental to the satisfactory completion of the work, including cleanup of the site.

1.2 RELATED SECTIONS

- A. Section 01 10 00, Supplemental General Requirements

1.3 RELATED DOCUMENTS

- A. Caltrans Standard Specifications, 2015
 - 1. Section 21, Erosion Control

1.4 SITE CONDITION

- A. It is the responsibility of the Contractor to visit the site to determine existing conditions including access to the site, the nature and extent of existing improvements upon adjacent public and private property, the nature of materials to be encountered, and other factors that may affect the work of this section.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All products shall be delivered to the site in manufacturer's unopened standard containers bearing original labels showing quantity, analysis and name of manufacturer.
- B. All materials shall be stored in designated areas and in such a manner as to protect them from weather or other conditions that might damage or impair the effectiveness of the product.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All products shall be in conformance with the Specifications listed below. Any changes to products to be used shall be approved, in writing, by the City or Engineer prior to job site delivery.

PART 3 - EXECUTION

3.1 SOIL PREPARATION

- A. No soil amendments shall be required except as noted on the Plans.
- B. Verification: Contractor shall verify:
 - 1. That all areas to receive erosion control treatments are free of vegetation and other objectionable material.
 - 2. That grades are final for permanently treated areas and within reasonable standard for temporary treatments.
 - 3. That all sloped areas are uniformly compacted: wherever possible, the surface compaction of the top 1 foot shall be 85% or less.

3.2 FINAL INSPECTION AND ACCEPTANCE

- A. Final inspection will be conducted upon completion of maintenance, replacements and corrective work. Five (5) days' notice shall be given. If project improvements, corrective work, and maintenance have not been performed as specified and to the satisfaction of the City, maintenance shall continue at Contractor's expense until such time as work has been successfully completed.

3.3 CLEAN-UP

- A. Erosion control work areas shall be maintained in a neat and orderly condition. Keep paved area free of erosion treatment, soil, and other debris.
- B. Contractor is responsible for washing or otherwise cleaning excess material off all areas not intended to receive treatment.
- C. Debris: Clean up and remove erosion control associated materials and debris from project site before Final Acceptance.

END OF SECTION

SECTION 02 21 13

MONUMENTS

PART 1 GENERAL

1.1 MONUMENT PRESERVATION

- A. The Contractor shall notify the Engineer seventy-two (72) hours prior to performing any work affecting a survey monument. The Contractor shall bear the expense of replacing any monument that may be disturbed without the direction of the Engineer.
- B. It is the responsibility of the Contractor to save and protect any existing survey monuments, which are not identified for removal and replacement on the project plans. In the event that disturbance or destruction of a survey/benchmark monument is imminent, regardless of whether removal and replacement is indicated on the project plans, the Contractor shall contact the Engineer at least seventy-two (72) hours in advance.
- C. Adjustments to monuments well structure may need to be done that include modifying the monument well structure below the grinding plane and raising to the finish grade, including all excavation, backfill, and temporary and permanent repair to the surrounding asphalt concrete surface.

1.2 ADJUSTING TO GRADE MONUMENT LID

- A. After the pavement is reconstructed, for monuments that are protected in place, the monument ring and cover must be adjusted so that there will not be any perceptible difference in elevation between the finished pavement surface and the cover. Monument Covers must be adjusted to grade in accordance with Marin Uniform Construction Standards, as shown on the plans and as directed by the Engineer.

1.3 RESET MONUMENT

- A. The resetting of the existing monuments shall be performed at the direction of the Engineer and shall be performed in the presence of the Engineer. The Contractor shall notify the Engineer at least seventy-two (72) hours prior to construction of monuments to set the straddlers for the new monuments. The Engineer will set up to four straddle nails or equivalent to control the location of the new monument. The Contractor shall set the monument in accordance with Uniform Construction Standard Dwg. No. 300. The Engineer will provide the "center punch" upon completion of the new monument construction and file appropriate documentation with the Marin County Surveyor's office.
- B. Adjustments to monuments may need to be done that include modifying the monument well structure below the grinding plane and raising to the finish grade,

including all excavation (including removing and reconstructing concrete anchor block, if such exists), backfill, and temporary and permanent repair to the surrounding asphalt concrete surface.

- C. If the specified notice is not given to the Engineer and/or the survey monument is disturbed or destroyed, the Engineer will have the original position of the survey monument re-established by a licensed surveyor and the associated land surveying costs will be at the Contractor's sole expense and will be deducted from the Contractor's pay letter.

PART 2 SUBMITTALS -NOT USED-

PART 3 MATERIALS -NOT USED-

PART 4 CONSTRUCTION

- A. Installation of city monuments shall be in accordance with the County of Marin Uniform Construction Standards.

PART 5 QUALITY CONTROL -NOT USED-

END OF SECTION

SECTION 02 21 14

BENCHMARKS

PART 1 GENERAL

1.1 BENCHMARK PRESERVATION

- A. The Contractor shall notify the Engineer seventy-two (72) hours prior to performing any work affecting a survey monument. The Contractor shall bear the expense of replacing any monument that may be disturbed without the direction of the Engineer.
- B. It is the responsibility of the Contractor to save and protect any existing survey monuments, which are not identified for removal and replacement on the project plans. In the event that disturbance or destruction of a survey/benchmark monument is imminent, regardless of whether removal and replacement is indicated on the project plans, the Contractor shall contact the Engineer at least seventy-two (72) hours in advance.
- C. Adjustments to monuments well structure may need to be done that include modifying the monument well structure below the grinding plane and raising to the finish grade, including all excavation, backfill, and temporary and permanent repair to the surrounding asphalt concrete surface.

1.2 RESET BENCHMARK

- A. The resetting of the existing benchmark shall be performed at the direction of the Engineer and shall be performed in the presence of the Engineer. The Contractor shall notify the Engineer at least seventy-two (72) hours prior to construction of the Benchmark to set the control points for layout of the new monuments. The Contractor shall set the benchmark in accordance with National Geodetic Survey "Benchmark Reset Procedures" guidelines. The Engineer will survey the location of the new Benchmark and will notify National Oceanic and Atmospheric Administration of the new benchmark information.
- B. Adjustments to monuments may need to be done that include modifying the benchmark well structure below the grinding plane and raising to the finish grade, including all excavation (including removing and reconstructing concrete anchor block, if such exists), backfill, and temporary and permanent repair to the surrounding asphalt concrete surface.
- C. If the specified notice is not given to the Engineer and/or the survey benchmark is disturbed or destroyed, the Engineer will have a new benchmark re-established by a licensed surveyor and the associated costs will be at the Contractor's sole expense and will be deducted from the Contractor's pay letter.

PART 2 SUBMITTALS -NOT USED-

PART 3 MATERIALS -NOT USED-

PART 4 CONSTRUCTION

A. Installation of NGS benchmarks shall be in accordance with the National Geodetic Survey "Benchmark Reset Procedures" guidelines.

PART 5 QUALITY CONTROL -NOT USED-

END OF SECTION

SECTION 02 40 00

DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

Removing above-grade site improvements within limits indicated.

Disconnecting, capping or sealing, and removing site utilities.

Disposing of objectionable material.

1.2 RELATED SECTIONS

Section 31 10 00 – Site Clearing.

Section 31 20 00 – Earth Moving.

1.3 DEFINITIONS

ANSI: American National Standards Institute.

CAL-OSHA: California Occupational Safety and Health Administration.

1.4 SUBMITTALS

Follow Submittal procedure outlined in Section 01 10 00 – Supplemental General Requirements.

1.5 PROJECT CONDITIONS

Except for materials indicated to be stockpiled or to remain the City's property, cleared materials are the Contractor's property. Remove cleared materials from site and dispose of in a lawful manner.

Salvable Improvements: Carefully remove items indicated to be salvaged and store where indicated on plans or where designated by the City. Avoid damaging materials designated for salvage.

Unidentified Materials: If unidentified materials are discovered, including hazardous materials that will require additional removal other than is required by the Contract Documents, immediately report the discovery to the City. If necessary, the City will arrange for any testing or analysis of the discovered materials and will provide instructions regarding the removal and disposal of the unidentified materials.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

Material shall be approved by the City Engineer prior to placement of backfill excavations resulting from demolition operations with on-site or import materials

PART 3 EXECUTION

3.1 PREPARATION

Protect and maintain benchmarks and survey control points during construction.

Protect existing site improvements to remain during construction.

3.2 RESTORATION

Restore damaged improvements to their original condition, as acceptable to the City.

3.3 UTILITIES

Locate, identify, disconnect, and seal or cap off utilities indicated to be removed or abandoned.

Arrange to shut off indicated utilities with utility companies or verify that utilities have been shut off.

Existing Utilities: Do not interrupt utilities serving facilities occupied by City or others unless authorized in writing by the City, and then only after arranging to provide temporary utility services according to requirements indicated.

Coordinate utility interruptions with utility company affected.

Do not proceed with utility interruptions without the permission of the City and utility company affected. Notify City and utility company affected two working days prior to utility interruptions.

Excavate and remove underground utilities that are indicated to be removed.

Securely closed ends of abandoned piping with tight fitting plug or wall of concrete minimum 6-inches thick. Cut and cap of existing water main shall be per the City of Palo Alto Standard Detail WD-27.

3.5 SITE IMPROVEMENTS

A. Remove existing above, and below, grade improvements as indicated and as necessary to facilitate new construction.

- B. Remove slabs, paving, curbs, and gutters, as indicated. Where concrete slabs, curb, gutter and asphalt pavements are designated to be removed, remove bases and subbase to surface of underlying, undisturbed soil.
- C. Unless the existing full-depth joints coincide with line of pavement demolition, neatly saw-cut to full depth the length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
- D. Remove driveways, curbs, gutters and sidewalks by saw cutting to full depth. If saw cut falls within 30-inches of a construction joint, expansions joint, score mark or edge, remove material to joint, mark or edge.
- E. Remove and dispose of indicated furnishings, including benches, receptacles, and other appearances, including removal of foundation elements as applicable. Cut anchor bolts flush with existing finish grade surface to remain.

3.6 DISPOSAL

Remove surplus obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off the City's property.

END OF SECTION

GENERAL ELECTRICAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This specification shall apply to all phases of work hereinafter specified, shown on drawings, or as required to provide a complete installation of electrical systems for this project. Work required under this specification is not limited to just the Electrical drawings. Refer to Civil and Landscape drawings as well as all other drawings applicable to this project, which designate the scope of work to be accomplished. The intent of the Drawings and Specifications is to provide a complete and operable electrical system that includes all documents that are a part of the Contract.
1. Work Included: Furnish labor, material, services, and skilled supervision necessary for the construction, erection, installation, connections, testing, and adjustment of all circuits and electrical equipment specified herein, or shown or noted on Drawings, and its delivery to the Owner complete in all respects ready for use.
 2. The electrical Work includes installation or connection of certain materials and equipment furnished by others. Verify installation details, installation, and rough-in locations from the actual equipment or from the equipment shop drawings.
- B. Electrical Drawings: Electrical Drawings are diagrammatic, and are intended to convey the scope of work, indicating intended general arrangement of equipment, conduit, and outlets. Follow Drawings in laying out Work and verify spaces for installation of materials and equipment based on actual dimensions of equipment furnished.

1.2 QUALITY ASSURANCE

- A. Design, manufacture, testing, and method of installation of all apparatus and materials furnished under requirements of these specifications shall conform to latest publications or standard rules of the following:
1. Institute of Electrical and Electronic Engineers - IEEE
 2. National Electrical Manufacturers' Association - NEMA
 3. Underwriter's Laboratories, Inc. - UL
 4. National Fire Protection Association - NFPA
 5. Federal Specifications - Fed. Spec.
 6. American Society for Testing and Materials - ASTM
 7. American National Standards Institute - ANSI
 8. National Electrical Code - NEC
 9. National Electrical Safety Code - NESC
 10. Insulated Cable Engineers Association - ICEA
 11. American Institute of Steel Construction - AISC
 12. State and Municipal Codes in Force in The Specific Project Area

13. Occupational Safety and Health Administration (OSHA)
 14. Electronics Industries Association/Telecommunications Industry Association (EIA/TIA)
 15. California Electrical Code (where adopted)
 16. Local Authority Having Jurisdiction (AHJ)
 17. Published Electrical Standards and Codes (as applicable).
- B. Perform Work in accordance with the California Electrical Code, applicable building ordinances, and other applicable codes, hereinafter referred to as the "Code." The Contractor shall comply with the Code including local amendments and interpretations without added cost to the Owner. Where Contract Documents exceed minimum requirements, the Contract Documents take precedence. Where code conflicts occur, the most stringent shall apply unless variance is approved.
1. Comply with all requirements for permits, licenses, fees, and codes. The Contractor, at Contractor's expense, shall obtain all permits, licenses, fees, special service costs, inspections and arrangements required for Work under this contract, unless otherwise specified.
 2. Comply with requirements of the applicable utility companies serving this Project. Make all arrangements with utility companies for proper coordination of Work.

1.3 GENERAL REQUIREMENTS

- A. Guarantee: Furnish a written guarantee for a period of one-year from date of acceptance.
- B. Wherever a discrepancy in quantity or size of conduit, wire, equipment, devices, circuit breakers, etc., (all materials), arises on the Drawings and/or in the Specifications, the Contractor shall be responsible for providing and installing all material and services required by the strictest condition noted on Drawings and/or in Specifications to ensure complete and operable systems as required by the Owner and Engineer.
- C. All Core Cutting, Drilling, and Patching:
1. For the installation of work under this Section, the aforementioned shall be performed under this Section of the Specifications and the Concrete section of the Specifications.
 2. No holes will be allowed in any structural members without the written approval of the Project's Structural Engineer.
 3. For penetrations of concrete slabs or concrete footings, the work shall be as directed in the Concrete Section of Specifications.
 4. The Contractor shall be responsible for patching and repairing surfaces where he is required to penetrate for work under this contract. Penetrations shall be sealed to meet the rated integrity of the surface required to be patched and repaired. The patched surface shall be painted or finished to match the existing surface.
- D. Verifying Drawings and Job Conditions:

1. The Contractor shall examine all Drawings and Specifications in a manner to be fully cognizant of all work required under this Section.
 2. The Contractor shall visit the site and verify existing conditions. Where existing conditions differ from Drawings, adjustment(s) shall be made and allowances included for all necessary equipment to complete all parts of the Drawings and Specifications.
- E. Shop Drawings/Submittals:
1. Shop Drawings/Submittals, unless required otherwise by general project specifications or instructions to bidders, shall be submitted in electronic format (PDF) to include a Letter of Transmittal (PDF), which shall give a list of the drawings submitted with dates and/or system(s) components contained within the submittal. Drawings and material cut sheets shall be complete in every respect and edited/marked to indicate specific items being provided. Printed/Hard copies are not acceptable.
 2. The shop drawings/submittals shall be marked with the name of the project, numbered consecutively, and bear the approval of the Contractor as evidence that the Contractor has checked the drawings. Any drawings submitted without this approval will be returned to the Contractor for resubmittal.
 3. If the shop drawings show variations from the requirements of the Contract because of standard shop practice or other reasons, the Contractor shall make specific mention of such variations in the Contractor's letter of transmittal. If the substitution is accepted, the Contractor shall be responsible for proper adjustment that may be caused by the substitution. Samples shall be submitted when requested.
 4. Only products listed as "Equal" within the contract documents, along with formally approved "Substitutions" will be reviewed. Products not conforming to these items will not be reviewed and will be returned to the Contractor for re-submittal.
 5. Shop drawings shall be submitted on the following, but not limited to:
 - a. Lighting fixtures, lamps and ballasts.
 - b. Wiring Devices.
 - c. Lighting control products/dimming system products.
 - d. Pull boxes and underground vaults.
 - e. Terminal cabinets.
 - f. All other products called out on drawings that call for shop drawing submittal.

1.4 WORK IN COOPERATION WITH OTHER TRADES

- A. Examine the Drawings and Specifications and determine the work to be performed by the electrical, mechanical, and other trades. Provide the type and quantity of electrical materials and equipment necessary to place this work in proper operation, completely wired, tested and ready for use. This shall include all conduit, wire, disconnects, relays, and other devices for the required operation sequence of all electrical, mechanical, and other systems or equipment.

- B. Provide a conduit-only system for low voltage wiring required for control of mechanical and plumbing equipment described in this or other parts of the Contract Documents. Install all control housings, conduits, and backboxes required for installing conduit to the controls.
- C. Install separate conduits between each heating, ventilating and air conditioning sensing device and its control panel and/or control motor. Before installing any conduit for heating, ventilating, and air conditioning control wiring, verify the exact requirements from the control diagrams provided with the equipment manufacturer's shop drawings.

1.5 TESTING AND ADJUSTMENT

- A. Upon completion of all electrical work, the Contractor shall test all circuits, switches, light fixtures, lighting control and dimming systems including distributed systems, UPSs, generators, SPDs, lighting inverters, transfer switches, motors, circuit breakers, motor starter(s) and their auxiliary circuits and any other electrical items to ensure perfect operation of all electrical equipment.
- B. Equipment and parts in need of correction, and discovered during such testing, shall be immediately repaired or replaced with all new equipment and that part of the system shall then be retested. All such replacement or repair shall be done at no additional cost to the Owner.
- C. All circuit(s) shall be tested for continuity and circuit integrity. Adjustments shall be made for circuits not complying with testing criteria.
- D. All test reports, including copies of any required Energy Code Acceptance Forms (e.g. CA Title 24 Acceptance for Code Compliance Forms) should be submitted to the Engineer at completion of project.
- E. Component Tests:
 - 1. Grounding systems, for resistance to earth. Provide additional grounding electrodes, if separately derived system ground resistance exceeds 25 ohms.
 - 2. Prior to energizing equipment, check the insulation resistance of feeders sized larger than #2 AWG with a 1000 volt DC "Megger". Minimum insulation resistance values shall not be less than 50 mega ohms.
- F. Functional tests:
 - 1. Perform all tests suggested by the equipment manufacturers.
 - 2. Verify that everything installed as part of the scope of work functions properly. Verify that any work performed did not adversely affect existing systems or equipment (e.g., that after removing a device from a branch circuit that the remaining existing branch circuit continuity was maintained).

1.6 IDENTIFICATION

- A. Install nameplates on electrical equipment including:

1. Circuit breakers, disconnect switches and starters whether provided under this division or some other.
 2. Where it is not obvious which piece of equipment is powered from a particular disconnect switch, provide nameplates for both disconnect switch and the powered equipment.
- B. Describe item, control function, or sequence of operation on each nameplate.
- C. Fabricate nameplates of laminated phenolic plastic, black front and back with white core for normal power equipment and signal. Provide red front and back with white core for emergency power equipment and fire alarm. Bevel edges. Engrave through outer layer to produce white letters and numerals. For control pilot devices, engraved metallic plates, filled with enamel, are acceptable. Fasten nameplates to equipment with no. 4 Phillips, round head, cadmium steel, self-tapping screws. Use 1/8-inch letters on circuit breakers, switches, and other control devices, and 1/4-inch letters on panelboards, switchboards, and other major electrical equipment. Submit label designations as part of corresponding equipment submittal.
- D. Equipment identification is to indicate the following:
1. Equipment ID abbreviation.
 2. Voltage, Phase and Wires.
 3. Power source.

1.7 FINAL INSPECTION AND ACCEPTANCE

- A. After all requirements of the Specifications and/or the Drawings have been fully completed, representatives of the Owner will inspect the work. Contractor shall provide competent personnel to demonstrate the operation of any item or system to the full satisfaction of each representative.
- B. Final acceptance of the work will be made by the Owner after receipt of approval and recommendation of acceptance from each representative.

1.8 RECORD DRAWINGS

- A. Drawings of Record: The Contractor shall provide, and keep up to date, a complete record set of drawings. These shall be corrected daily and show every change from the original Drawings. This set of prints shall be kept on the job site and shall be used only as a record set. This shall not be construed as authorization for the Contractor to make changes in the layout without definite instruction in each case. Upon completion of the work, a set of reproducible Contract Drawings shall be obtained from the General Contractor and all changes as noted on the record set of prints shall be incorporated thereon with black ink in a neat, legible, understandable, and professional manner. Refer to the Supplementary General Conditions for complete requirements.

1.9 MAINTENANCE, SERVICING, INSTRUCTION MANUALS AND WIRING DIAGRAMS

- A. Prior to final acceptance of the job, the Electrical Contractor shall furnish to the Owner at least four (4) copies of operating and maintenance and servicing instructions, as well as four (4) complete wiring diagrams for the following items or equipment:
 - 1. Lighting control systems/dimming systems.
 - 2. Transformers.
- B. All wiring diagrams shall specifically cover the system supplied. Typical drawings will not be accepted. Four (4) copies shall be presented to the Owner.

1.10 INTERRUPTION OF SERVICES/SERVICE SHUTDOWN

- A. Any interruption of electrical services, electrical circuits, electrical feeders, signal systems, communication systems, fire alarm systems, etc., required to perform work shall meet the specific prior-approval requirements of the Owner. Such work shall be scheduled with the Owner to be performed at the Owner's convenience.
- B. Interruptions/outages of any of the Owner's systems and services mentioned above shall be scheduled to occur during other than the Owner's normal business hours. Any overtime costs shall be borne by the Contractor.
- C. See drawings for any additional requirements regarding outages, interruption and any temporary services required.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Materials and Equipment: All electrical materials and equipment, including custom-made equipment, shall be new and shall be listed by Underwriter's Laboratories (UL) and bear their label or be listed and certified by a Nationally Recognized Testing Lab (NRTL) that is also recognized by the local Authority-Having-Jurisdiction (AHJ).

2.2 RACEWAYS

- A. Galvanized Rigid Conduit (GRC) shall be full weight threaded type steel. Steel conduit shall be protected by overall zinc coating to inside and outside surfaces, applied by the hot dip, metallizing, or sherardizing process.
- B. Intermediate Metal Conduit (IMC) shall be hot-dipped galvanized in accordance with UL 1242, and meet Federal Specification WWC-581 (latest revision).
- C. Electrical Metallic Tubing (EMT) shall be zinc-coated steel with baked enamel or plastic finish on inside surfaces except as noted below. EMT shall be dipped in a chromic acid bath to chemically form a corrosion-resistant protective coating of zinc chromate over galvanized surface.

- D. Flexible metal conduit shall be constructed of aluminum or hot-dipped galvanized steel strips wound spirally with interlocking edges to provide greatest flexibility with maximum strength. Interior surfaces shall be smooth and offer minimum drag to pulling in conductors. Used only as directed in writing by the Engineer.
- E. Liquid-tight conduit (Seal-Tite) shall be galvanized steel flexible conduit as above except with moisture and oil-proof jacket, pre-cut lengths and factory-installed fittings. For outdoor installations and motor connections only unless otherwise noted on drawings.
- F. Non-metallic Conduit:
 - 1. Polyvinyl chloride (PVC) rigid conduit, Schedule 40, Type II for underground installation only with solvent welded joints, conforming to UL requirements, listed for exposed and direct burial application.
 - 2. Conduit and fittings shall be produced by the same manufacturer.
- G. Fire-rated MC Cable:
 - 1. 2-hour fire-rated, polymer insulated 600V MC cable listed and conforming to UL 2196 and UL 1569 requirements for installation as an Electrical Circuit Protective System for use in complying with NEC, or CEC where adopted, Articles 695 and 700. Where adopted, cable sheath shall be suitable for use as a NEC or CEC equipment grounding conductor, and shall be listed for use in wet locations to 90 degrees C (Raychem or equal).
 - 2. Cable connectors shall be brass MC connectors.

2.3 FITTINGS

- A. Condulet type fittings shall be smooth inside and out, taper threaded with integral insulating bushing and of the shapes, sizes and types required to facilitate installation or removal of wires and cables from the conduit and tubing system. These fittings shall be of metal, smooth inside and out, thoroughly galvanized, and sherardized cadmium plated.
- B. Metallic condulet covers shall have the same finish as the fitting and shall be provided for the opening of each fitting where conductors do not pass through the cover.
- C. Connector, coupling, locknut, bushings, and caps used with rigid conduit shall be steel, threaded and thoroughly galvanized. Bushings shall be insulated.
- D. Unless otherwise noted, all interior EMT fittings, connectors and couplings installed in concealed locations, areas not considered to be wet or damp locations by the AHJ, or areas not subject to physical damage, shall be steel, zinc or cadmium plated, threadless, compression, steel locking ring type with insulated throat. Where suitable for use, steel set screw fittings are allowed for trade sizes of 2" and smaller. Insulated throat is not required for fittings, connectors, and couplings 1" and smaller.
- E. All interior and exterior EMT fittings, connectors, and couplings, 2" and smaller, installed in exposed or concealed locations that are considered by the AHJ to be

wet or damp locations, shall be raintight-listed, steel, zinc or cadmium plated, threadless, compression, steel locking ring type with insulated throat. If raintight-listed, EMT fittings, connectors and couplings are unavailable for a given trade size or if conduit is installed in an area subject to damage - provide rigid metallic or intermediate metallic conduits, fittings, connectors, and couplings as required.

- F. Flexible steel conduit connectors shall be a malleable iron clamp or squeeze type or steel twist-in type with insulated throat. The finish shall be zinc or cadmium plating.

2.4 OUTLET, PULL, AND JUNCTION BOXES

- A. Construction: Deep drawn or fabricated interlocked flat pieces with welded tabs, electrogalvanized sheet steel with electrogalvanized hardware. Do not use sectional or gangable boxes.
- B. Size: Accommodate the required number and sizes of conduits, wires, splices, and devices, but not smaller than the size indicated or specified.
- C. Plaster ring: Provide flush with wall or ceiling finish, except where otherwise indicated or specified.
- D. Device boxes: For single switches and receptacles, provide boxes not less than 4 inches square by 1-1/2 inches deep. For 2 devices, provide boxes not less than 4-11/16 inches square by 1-1/2 inches deep.
- E. Telecommunications boxes: No less than 4-11/16 inches square by 2-1/8 inches deep.
- F. Special mounting: In cabinets, tile, concrete block, brick, stone, wood or similar material, provide rectangular boxes with square corners and straight sides. For single devices, provide boxes 4 inches high by 2-1/2 inches wide by 3-3/8 inches deep. For 2 or more devices, provide multi-gang, non-sectional box with tile or masonry ring.
- G. Lighting fixtures: 4 inches octagon by 2-1/8 inches deep, minimum. Fit boxes for surface or pendant mounted fixtures with 3/8 inch malleable iron fixture stud.
- H. Wet or damp locations, cast metal:
 - 1. Box: Malleable iron.
 - 2. Cover: Gasketed, weatherproof, malleable iron, with stainless steel screws.
 - 3. Hubs: Threaded.
 - 4. Lugs (cast mounting) manufacturers:
 - a. Crouse-hinds: Type FD or FD, or equal
 - b. Appleton: Type FS or FD, or equal

2.5 PULL AND JUNCTION BOXES OVER 300 CUBIC INCHES

- A. General: For all pull and junction boxes over 300 cubic inches, provide code gauge, sheet steel boxes which meet NEMA 1 standards for panelboard and terminal cabinet box construction, with screw type covers.
- B. Ground lug: Weld, before finish is applied, a grounding pad drilled for two bolted grounding lugs or two ground studs on the box interior.
- C. Finish: Apply rust inhibiting prime coat and 2 coats of baked enamel, standard factory gray.
- D. Hardware: Cadmium plated steel screws.

2.6 PRECAST CONCRETE BOXES

- A. Provide high-density reinforced concrete pull and junction boxes with H-20 traffic rating. Boxes shall have end and side knockouts and be as manufactured by Christy, Brooks, or approved equal. Fabricate boxes with non-settling shoulders to facilitate maintaining grade during backfilling. Unless noted otherwise, provide galvanized steel checker plate covers with hold-down bolts, identified as follows:

System	Identification
Power - 100 volts to 600 volts	ELECTRICAL
Less than 100 volts applicable	TEL, CABLE, FIRE ALARM, etc. as applicable

2.7 SUPPORTING DEVICES

- A. Conduit supports:
 - 1. Wet locations:
 - a. One hole galvanized malleable iron strap with galvanized malleable or cast iron clamp back, Oz/Gedney type 14-G.
 - 2. Dry locations:
 - a. Galvanized steel straps, Oz/Gedney type 5-S and 14-S, T & B, Appleton or equal.
 - 3. Plumbers perforated strap is not acceptable.
 - 4. Hanger rod, 3/8 inch, minimum galvanized all thread rod or as detailed for specific use.
- B. Anchor methods:
 - 1. Hollow masonry: Toggle bolts or spider type expansion anchors.
 - 2. Solid masonry: Malleable iron expansion anchors or preset inserts.
 - 3. Metal surfaces: Machine screws, bolts, or welded studs.
 - 4. Wood surfaces: Wood screws, lag bolts.
 - 5. Concrete surfaces: Self-drilling anchors or powder driven studs.
 - 6. Raceway and fixtures shall not be supported solely from gypsum board ceilings.

2.8 CONDUCTORS – WIRE AND CABLE

- A. All conductors shall be copper. Provide stranded conductor for #10 AWG and larger or when making flexible connections to vibrating machinery. Use compression "fork" type connectors or transition to solid conductors when connecting to switches, receptacles, etc.
- B. Type THHN/THWN-2 thermoplastic, 600V, UL approved, dry and wet locations rated at 90 degrees Celsius, for conductors of all sizes from #12 AWG up to and including 1000 kcmil. RHH/RHW insulation is allowed only to provide an Electrical Circuit Protective System to comply with NEC, or CEC where adopted, Articles 695 and 700.
- C. Wire and cable shall be factory color-coded by integral pigmentation with a separate color for each phase and neutral. Each system shall be color-coded and it shall be maintained throughout.
- D. System Conductor Color Coding:
 - 1. Power 120/208V
 - a. Phase A = Black
 - b. Phase B = Red
 - c. Phase C = Blue
 - d. Neutral = White
 - 2. Power 120/240V
 - a. Phase A = Black
 - b. Phase B = Red
 - c. Phase C = Orange
 - d. Neutral = White
 - 3. Power 277/480V
 - a. Phase A = Brown
 - b. Phase B = Orange
 - c. Phase C = Yellow
 - d. Neutral = Gray
 - 4. Ground Conductors: Green
 - 5. Isolated Ground Conductors: Green with continuous yellow stripe
- E. All color-coding for #12 through #6 AWG conductor shall be as identified above. Conductors #4 AWG and larger shall be identified by utilizing phase tape at each termination.
- F. No conductors carrying 120V or more shall be smaller than #12 AWG.
- G. Aluminum conductors shall not be used.
- H. Wire-pulling compounds used as lubricants in installing conductors in raceways shall only be "Polywater J". No oil, grease, graphite, or similar substances may be used. Pulling of #1/0 or larger conductors shall be done with an approved cable

pull machine. Other methods; e.g. using vehicles or block and tackle to install conductors are not acceptable.

2.9 WIRE CONNECTIONS

- A. Connect wire to binding post screw, stud, bolt, or bus as follows:
 - 1. #10 AWG and smaller conductors, compression type, nylon, self-insulated grip spade lugs, T & B "Sta-Kon", 3m Scotchlok MNG, Panduit "Pan Term", or equal.
 - 2. #8 AWG to #750 MCM copper conductors, solderless copper lug type connectors, with hex head or Allen type compression set screws with configuration to suit application, T & B "Locktite", Burndy "GA", O-Z type "XL" or "XLH", or equal. Use two screw lugs for wire #4/0 and larger.
- B. Wire splice:
 - 1. #10 AWG and smaller conductors, twist on solderless, insulated spring connectors, 3M "Scotchloks", T & B "Piggys" or equal.
- C. Size, install and tighten wire terminal and splice connectors in accordance with manufacturer's recommendations.

2.10 TAPE

- A. Wire splices: vinyl plastic electrical tape, 8.5 mil and 4.0 mil, scotch 33.
- B. Conduit wrapping: 10 mil vinyl wrapping tape, minnesota mining and manufacturing company (3m) scotchwrap 50, plymouth 4611, or equal.

2.11 WIRING ACCESSORIES

- A. Identify conductors with self-adhesive vinyl cloth markers, sized to fit the conductor insulation, with machine printed black marking, W.H. Brady, Thomas and Betts, or equal.
- B. Wire ties:
 - 1. Nylon, adjustable, and self-locking.

2.12 WIRING DEVICES

- A. Provide UL listed wiring devices for the voltage and current ratings specified. Devices shall be UL listed as Fed. Spec. Compliant and bear the UL Fed. Spec. Logo, with means for back and side wiring, white, ivory, or color to match existing area. Provide grounding type receptacles unless otherwise noted.
- B. Identify each device with panelboard and circuit number, i.e., "A-15" indicated panel "A" circuit breaker "15". Provide clear P-touch labels with black lettering for indoor wiring devices; phenolic laminated engraved labels for all outdoors installations.

- C. For outdoor wiring devices, provide lockable, hinged metal cover suitable for wet locations, while-in-use, Taymac #MX3200, or equal.
- D. Provide receptacles other than 120 volt single and duplex as indicated.
- E. Listed manufacturers establish a standard of quality. Substitutions will be considered in accordance with this specification.
- F. Key switches: equivalent to listed switches, activated with removable key.
- G. Wall plates: type 302 stainless steel, satin finish, minimum 0.040 inch thick, single or multiple gang.

2.13 LIGHTING FIXTURES

- A. General: Provide fixtures as indicated, factory wired, ready for field connection.
- B. Provide fixtures UL approved for installation against low density ceilings where applicable. Do not use spacers.

2.14 LED LUMINAIRES

- A. Components: UL 8750 recognized or listed as applicable.
- B. Tested in accordance with IES LM-79 and IES LM-80.
- C. LED estimated useful life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.
- D. 75 CRI minimum outdoor lighting, 90 CRI minimum indoor.
- E. Kelvin temperature as specified.

2.15 LIGHTING CONTROL DEVICES

- A. Provide lighting control devices (e.g., automatic time switch control device, motion sensor, occupant-sensor, photosensor, automatic daylighting control device) that meet the state of California, Title 24, State Building Standards, Part 6, California Energy Code, current edition, and that have been certified to the commission.
- B. Provide dimmers that are compatible with the provided LED drivers.

2.16 PEDESTAL TYPE DISTRIBUTION AND CONTROL CABINETS

- A. Circuit breakers
 - 1. Provide circuit breakers for miscellaneous branch circuits with frame sizes and ratings as shown on the plans.
 - 2. Bolt-on, thermal magnetic, molded case, with inverse time current overload, and instantaneous magnetic trips, trip-free, and trip-indicating.

All poles of multi-pole device shall operate simultaneously during open, close, and trip operations. Provide circuit breakers indicated with the following ratings:

PART 3 EXECUTION

3.1 RACEWAY SYSTEMS

- A. Install all wiring in raceways. Install raceway systems, including conduits, hangers, hooks, and support channels parallel or perpendicular to structural members. Coordinate location of raceway systems with other divisions prior to commencing installation.
- B. Rigid steel conduit: suitable for use in all locations. For underground installations tape wrap conduit completely with tape suitable for underground installations, double lap of Calpico 10 mil or equal.
- C. Liquid tight flexible metal conduit: suitable for connection of equipment in damp or wet locations.
- D. PVC conduit: suitable for use underground, with a minimum of 18 inches of cover. Fabricate field bends with an approved thermal bender and jig. For underground emergency systems encase conduit in concrete, minimum of 2" all around. Maintain separation between conduits using plastic spacers specifically designed for the purpose.
- E. Clean and mandrel all under floor/ground raceways before wire is installed.
- F. Conduit supports:
 - 1. Support all conduits at intervals not to exceed 10 feet.
 - 2. Support individual conduits with conduit hangers or clamp back and nest back, if required for entrance into the equipment.
 - 3. Support multiple conduits, 2 or more in parallel, with framing channel and pipe clamps.
 - 4. Cut ends of framing channel installed outdoors or in wet locations shall be painted with zinc rich paint.
- G. Conduit bends:
 - 1. Electrical conduits: provide no more than (3) 90 degree conduit bends or the equivalent number of smaller radius bends in any conduit run between boxes or equipment.
 - 2. Telecommunications conduits: provide no more than (2) 90 degree bends or the equivalent number of smaller radius bend in any conduit run between boxes or stub, with radius 10 times the diameter of the conduit.
 - 3. Length of run: 400 feet maximum, less 100 feet for each equivalent 90 degree bend.
 - 4. Fabricate bends and offsets with a hickey or conduit bender designed specifically for use with the type of conduit to be bent, or use factory made bend.
 - 5. Radius of underground bends: minimum 10 times conduit radius.

3.2 BOXES AND CABINETS

- A. Place outlet boxes in a location as close to that shown on the plans as possible. Coordinate location of boxes with other divisions.
- B. Attach surface boxes with:
 - 1. Steel or malleable iron expansion anchors in concrete or solid masonry.
 - 2. Wood screws in wood.
 - 3. Toggle bolts in hollow walls or masonry.
 - 4. Machine screws, bolts, or welded studs in steel.
- C. For all surface mounted boxes or cabinets mounted in wet or damp locations provide weatherproof enclosures and at least 1/4 inch air space between box and mounting surface, per CEC 312.2.

3.3 INSULATED CONDUCTORS AND CABLES

- A. Exercise extreme care when pulling conductors and cable into conduits to avoid kinking, twisting, nicking, or scratching of the insulation or the placement of extreme stress on the conductors or cable. When required, utilize UL approved pulling compounds to assist in pulling conductors.
- B. Color code conductors by phase sequence A-B-C when looking into the front of the equipment from left-to-right, top to bottom or front-to-back. Provide conductors with the appropriate phase color or mark conductors with a minimum of 6 inches of phase tape on ends connected to terminals. Phase code conductors as listed:

VOLTAGE	PHASE A	PHASE B	PHASE C	NEUTRAL	GROUND
120/208	BLACK	RED	BLUE	WHITE	GREEN
120/240	BLACK	RED	ORANGE	WHITE	GREEN
277/480	BROWN	ORANGE	YELLOW	GRAY	GREEN

- C. Identify each conductor with its respective circuit number at each box or terminal.
- D. Connections:
 - 1. Utilize twist-on solderless connectors for splicing receptacle and lighting circuits #10 AWG wire size and smaller.
 - 2. Splices and taps will not be permitted for other than receptacle and lighting circuits, or for wire larger than #10.
 - 3. Terminate conductors at motors with bolted connections, insulated with plastic tape.

3.4 WIRING DEVICES

- A. Connect wiring devices to circuits indicated using side or back wiring terminals.
- B. Connect green grounding pigtail from receptacles to outlet box with screw.
- C. Install wiring devices flush with the device plate fronts.

- D. Align plates plumb with wall, and cover opening, without use of "jumbo" plates.
- E. Install receptacles with grounding terminal up.

3.5 GROUNDING

- A. Permanently and effectively ground all raceway systems, supports, cabinets, switchboards, control equipment, motor frames, lighting fixtures and other utilization apparatus.
- B. Provide a ground wire in each conduit carrying circuits operating at 100 volts or higher bonded at each end to equipment. Size as shown on the drawings or per CEC.
- C. Compression connectors shall be unplated copper, manufactured by Burndy, or approved equal, designed specifically for the intended connection.
- D. Exothermic weld-type connectors shall be 'Cadweld' manufactured by Erico Products, or approved equal, designed specifically for the intended connection.
- E. Mechanical connectors shall not be used.

3.6 ELECTRICAL WORK FOR EQUIPMENT

- A. Provide all connections to equipment requiring electrical supply.

3.7 LIGHTING FIXTURES

- A. Install lighting fixtures complete with lamps, ready for operation.
- B. Secure fixtures to the structure with brackets, flanges, and other mounting hardware suited for the fixtures and type of installation.
- C. Clean lighting fixtures prior to final acceptance.

3.8 LIGHTING CONTROL DEVICES

- A. Install in accordance with the manufacturer's instructions and the state of California, Title 24, state building standards, part 6, California Energy Code, latest edition.
- B. Program system for proper operation and per owner's representative schedule of operation, maintaining compliance with Title 24.
- C. Instruct owner's representative personnel in reprogramming and scheduling and maintenance of devices and lighting control panel.

END OF SECTION

SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal of existing trees and vegetation
- B. Clearing vegetation, debris, trash and other materials within limits indicated
- C. Grubbing of vegetation within limits indicated
- D. Stripping of topsoil within limits indicated
- E. Removing above-grade site improvements within limits indicated
- F. Disconnecting, capping or sealing, and abandoning site utilities in place
- G. Disconnecting, capping or sealing, and removing site utilities
- H. Disposing of objectionable material

1.2 RELATED SECTIONS

- A. Section 31 10 01, Plant Protection
- B. Section 31 20 00, Earth Moving
- C. Section 32 12 16, Asphalt Paving
- D. Section 32 13 13, Concrete Pavement

1.3 RELATED DOCUMENTS

- A. ANSI A300: Industry Standards for Tree Care Practices

1.4 DEFINITIONS

- A. ANSI: American National Standards Institute
- B. CAL-OSHA: California Occupational Safety and Health Administration
- C. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of weeds, roots, and other deleterious materials.

1.5 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.

1.6 QUALITY ASSURANCE

- A. Do not remove or prune trees without first securing a permit from the appropriate agency.
- B. Prune to the standards of ANSI A300.

1.7 PROJECT CONDITIONS

- A. Except for materials indicated to be stockpiled or to remain the City's property, cleared materials are the Contractor's property. Remove cleared materials from site and dispose of in lawful manner.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store where indicated on plans or where designated by the Engineer. Avoid damaging materials designated for salvage.
- C. Unidentified Materials;
 - 1. If unidentified materials are discovered, including hazardous materials that will require additional removal other than is required by the Contract Documents, immediately report the discovery to the Engineer.
 - 2. If necessary, the Engineer will arrange for any testing or analysis of the discovered materials and will provide instructions regarding the removal and disposal of the unidentified materials.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Backfill excavations resulting from demolition operations with on-site or import materials conforming to engineered fill defined in Section 31 20 00, Earth Moving.

PART 3 EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points during construction.
- B. Locate and clearly flag trees and vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain during construction.

3.2 TREE REMOVAL

- A. Remove trees designated for removal prior to the construction of new improvements in the vicinity:
 - 1. When demolishing trees indicated to be removed within areas for new pavement or hardscape, remove tree, stump to a depth of two (2) feet below finish grade, and all roots located in the top twelve (12) inches of soil. Remove wood chips created from grinding process down to remaining stump then refill void and re-compact to 80% relative compaction. Use import soil as indicated in specifications for this purpose. Import soil and compaction in future paved areas shall be in accordance with Section 32 12 16, Asphalt Paving and Section 32 13 13, Concrete Pavement.
 - 2. When demolishing trees indicated to be removed within new landscaped areas, removal shall be done in one of the following ways:
 - a. For trees located in accessible areas, remove tree and grind stump to four (4) inches below finish grade. Backfill the void and re-compact to 80% relative compaction. Use import soil as indicated in specifications for this purpose. Do not remove existing roots.
 - b. For trees located in inaccessible areas, cut stump flush with finish grade, and cover with 3 inches of bark mulch. Do not grind the stump and do not remove existing roots.
- B. Perform tree removal work in a safe and proper manner, adhering to CAL-OSHA tree work protection standards and ANSI A300 Standards.
- C. All trees to be demolished shall be removed in such a way as to not damage branches, trunks, or root systems of adjacent trees.

3.3 RESTORATION

- A. Restore damaged improvements to their original condition, as acceptable to the Engineer.
- B. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, as directed by the Engineer.
 - 1. Employ a qualified arborist, licensed in jurisdiction where the Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
 - 2. Replace trees that cannot be repaired and restored to full-growth status, as determined by the Engineer.

3.4 UTILITIES

- A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed or abandoned.
- B. Arrange to shut off indicated utilities with utility companies or verify that utilities have been shut off.

- C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Engineer or others unless authorized in writing by the Engineer, and then only after arranging to provide temporary utility services according to requirements indicated.
- D. Coordinate utility interruptions with utility company affected.
- E. Do not proceed with utility interruptions without the permission of the Engineer and utility company affected. Notify Engineer and utility company affected two working days prior to utility interruptions.
- F. Excavate and remove underground utilities that are indicated to be removed.
- G. Fill abandoned piping with cement slurry.
- H. Securely close ends of abandoned piping with tight fitting plug or cement slurry minimum 6 inches thick.

3.5 CLEARING AND GRUBBING

- A. Areas to be graded shall be cleared of existing vegetation, rubbish, existing structures, and debris.
- B. Remove obstructions, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots.
- C. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
- D. Use only hand methods for grubbing within drip line of remaining trees.

3.6 SITE STRIPPING

- A. Strippings and spoils shall be disposed at an off-site location.
- B. Remove vegetation before stripping soil.
- C. Surface soils that contain organic matter should be stripped. In general, the depth of required stripping will be relatively shallow (i.e. less than 2 inches); deeper stripping and grubbing may be required to remove isolated concentrations of organic matter or roots.
- D. Remove trash, debris, weeds, roots, and other waste materials.
- E. Stockpile soil materials designated to remain on site at a location approved by the Engineer at a location away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
- F. Do not stockpile soil within drip line of remaining trees.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

3.8 BACKFILL

- A. Place and compact material in excavations and depressions remaining after site clearing in accordance with Section 31 20 00, Earth Moving.

3.9 DISPOSAL

- A. Remove surplus soil material, unsuitable soil, obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off the Owner's property.

END OF SECTION

SECTION 31 10 01

PLANT PROTECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preserve and protect existing trees, shrubs, and other plant materials to remain, including protecting plants on adjoining properties during site preparation work and construction.
- B. Provide tree and shrub pruning and removal in accordance with these Specifications if required by the Contract Documents.
- C. Layout and review of utility and irrigation trenches that occur in the Tree Protection Root Zone.

1.2 RELATED SECTIONS

- A. Section 31 10 00, Site Clearing
- B. Section 31 20 00, Earthwork
- C. Section 32 84 00, Irrigation
- D. Section 32 90 00, Planting

1.3 QUALITY ASSURANCE

Reference Standards:

- 1. Ordinances and Regulations: All local, municipal, and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes, regulations, or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard than is required by the above-mentioned codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.
 - 2. International Society of Arboriculture, Guide for Plant Appraisal, latest version.
- B. Pre-installation Conference:
- 1. Conduct conference at the project site. Contractor shall review and identify with the Owner's Representative the limits of Work and extent of plant materials and other improvements to be protected. Notify Owner's Representative of discrepancies between existing conditions and Drawings before proceeding with Work.
 - 2. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

- a. Tree-service firm's personnel, and equipment needed.
 - b. Arborist's responsibilities.
 - c. Quality-control program.
 - d. Coordination of Work and equipment movement with the locations of protection zones.
 - e. Trenching by hand or with air spade within protection zones.
- C. At the Owner's discretion, an Arborist may represent the Owner to review the work of the Contractor in regard to plant protection. Arborist Qualifications: ISA Certified Arborist licensed to work in the State of California.
- D. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

1.4 PROJECT CONDITIONS

- A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work.
- B. Nuisances: Keep dirt, dust, noise and other objectionable nuisances to a minimum. Use temporary enclosures, coverings and sprinkling, and combinations thereof, as necessary to limit dust to lowest practicable level, except do not use water to the extent that it causes flooding or contaminated run-off.
- C. Traffic: Conduct work to ensure minimum interference with vehicular and pedestrian traffic, and to permit unencumbered access to site and adjacent properties.
- 1. Do not close or obstruct streets, sidewalks, alleys, or other public passageways without permission from authorities having jurisdiction.
 - 2. If required by governing authorities, provide alternate routes around closed and obstructed traffic ways.
- D. The following practices are prohibited within protection zones:
- 1. Storage of construction materials, debris, or excavated material.
 - 2. Moving or parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- E. Do not direct vehicle or equipment exhaust toward protection zones.
- F. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

1.5 DEFINITIONS

- A. Diameter at breast height (DBH): diameter of a trunk as measured at a height 54 inches above the ground line.
- B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and as identified on the drawings or otherwise by a certified arborist.
- D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.
- E. Structural Root Zone: A circular area with the tree trunk at the center and a radius equal to 3 times the diameter of the tree trunk measured at breast height (4.5 feet above ground line). This zone, where most of the structural roots exist, is based upon tree failure research conducted by E.T. Smiley at the Bartlett Tree Research Laboratory. Any structural (buttress) root, which has been severed or is rotten within this zone, can no longer provide adequate support to the tree and must be considered missing.
- F. Dripline: The area of the ground directly beneath the vertical projection (shadow) of the tree's foliage canopy.

1.6 SUBMITTALS

- A. Product Data: For each type of product.
- B. Soil Analysis Report:
 - 1. Provide soil analysis report for any top soil to be removed and stockpiled for reuse as planting soil. Soils analysis report to be performed by Wallace Laboratories LLC (310-615-0116), a certified soil analysis laboratory, and include agricultural suitability analysis and recommendations for amending the soil. Subsoil will not be approved as planting soil.
- C. Samples: For each type of the following:
 - 1. Organic Mulch: 1-quart of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
 - 2. Planting Soil: 1-quart of soil; in sealed plastic bags; for soils to be used within the protection zones.
- D. Shop Drawings:
 - 1. Include plans and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones. Indicate extent of trenching by hand or with air spade within protection zones.
 - 2. Protection-Zone Signage
- E. Qualification Data: For arborist and tree service firm.

- F. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- G. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- H. Survey of Existing Conditions: Provide to Owner a Survey of Existing Conditions. Record existing conditions, including underground utilities, etc. on As Built Drawings by use of field measurements and preconstruction photographs. Make permanent record of measurements, materials, and construction details required to make exact reproduction.
- I. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
 - 1. Species and size of tree.
 - 2. Location on site plan. Include unique identifier for each.
 - 3. Reason for pruning.
 - 4. Description of pruning to be performed.
 - 5. Description of maintenance following pruning.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Backfill Soil: Approved planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.
- B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
 - 1. Type: Wood and bark chips
 - 2. Size Range: ½'-2"
 - 3. Color: Natural Brown.
- C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements:
 - 1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch- diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- OD line posts, and 2-7/8-inch- OD corner and pull posts; with 1-5/8-inch- OD top and bottom rails; with tie wires, hog ring ties, and other accessories for a complete fence system.
 - a. Height: 72 inches
 - 2. Gates: Swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones.
- D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes pre-punched and reinforced; legibly printed with nonfading lettering and as follows:

1. Text: "Tree Protection Zone. No Heavy Equipment."
 2. Lettering: 3-inch- high minimum, black characters on white background.
- E. Tree Branch & Trunk Protection: for branches trunks exposed to, or at risk of exposure to impact by construction equipment.
1. 2x lumber
 2. 1/2"-wide steel straps

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas in which work is to be performed. Report in writing to the Owner's Representative all prevailing conditions that will adversely affect the existing plant materials to remain. Do not proceed with work until a solution acceptable to the Owner's Representative has been arrived at.
- B. Survey of Existing Conditions: Record existing conditions, including underground utilities, etc. by use of measured drawings and preconstruction photographs.
- C. Starting work constitutes acceptance of the existing conditions and the Contractor shall then, at his expense, be responsible for correcting all unsatisfactory and defective work encountered.

3.2 PREPARATION

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain and/or be relocated. Tie a 1-inch blue vinyl tape around each tree trunk at 54 inches above the ground.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.
- D. Apply 4-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.
- E. Install and maintain temporary fencing and other required protective devices and exclude construction activities from tree/shrub zones except as supervised by the Arborist / Owner's Representative.
- F. If tree/plant protection zones cannot be protected with fencing, a four-inch layer of mulch with minimum 1.25-inch-thick, metal strap linked plywood shielding shall be maintained in the tree/shrub zone where heavy equipment will be operated.

3.3 PROTECTION ZONES

- A. Protect trees and shrubs against cutting, breaking, skinning and bruising of bark; permit no traffic or stockpiling within drip line.
- B. Do not change earth surface within drip line of trees and shrubs except as approved in writing by the Owner.
- C. Do not park vehicles or store materials, supplies, and construction equipment within Tree Protection Zone.
- D. Verify details of protection-zone fencing before retaining last option in "Protection-Zone Fencing" Paragraph below.
- E. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
 - 1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.
 - 2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect. Post may be steel driven type, or self-supporting type.
 - 3. Access Gates: Install where required; adjust to operate smoothly, easily, and quietly; free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction throughout entire
- F. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect. Install one sign spaced approximately every 20 feet on protection-zone fencing, with signs each facing a different direction.
- G. Where tree branches & trunks are exposed to, or at risk of exposure to impact by construction equipment, secure 2x lumber radially around tree branches and/or trunk to prevent damage. Secure lumber with steel strapping.
- H. Maintain protection zones free of weeds and trash.
- I. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete, and equipment has been removed from the site.
 - 1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
 - 2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION & TRENCHING

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.
- B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use
- C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.
- D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

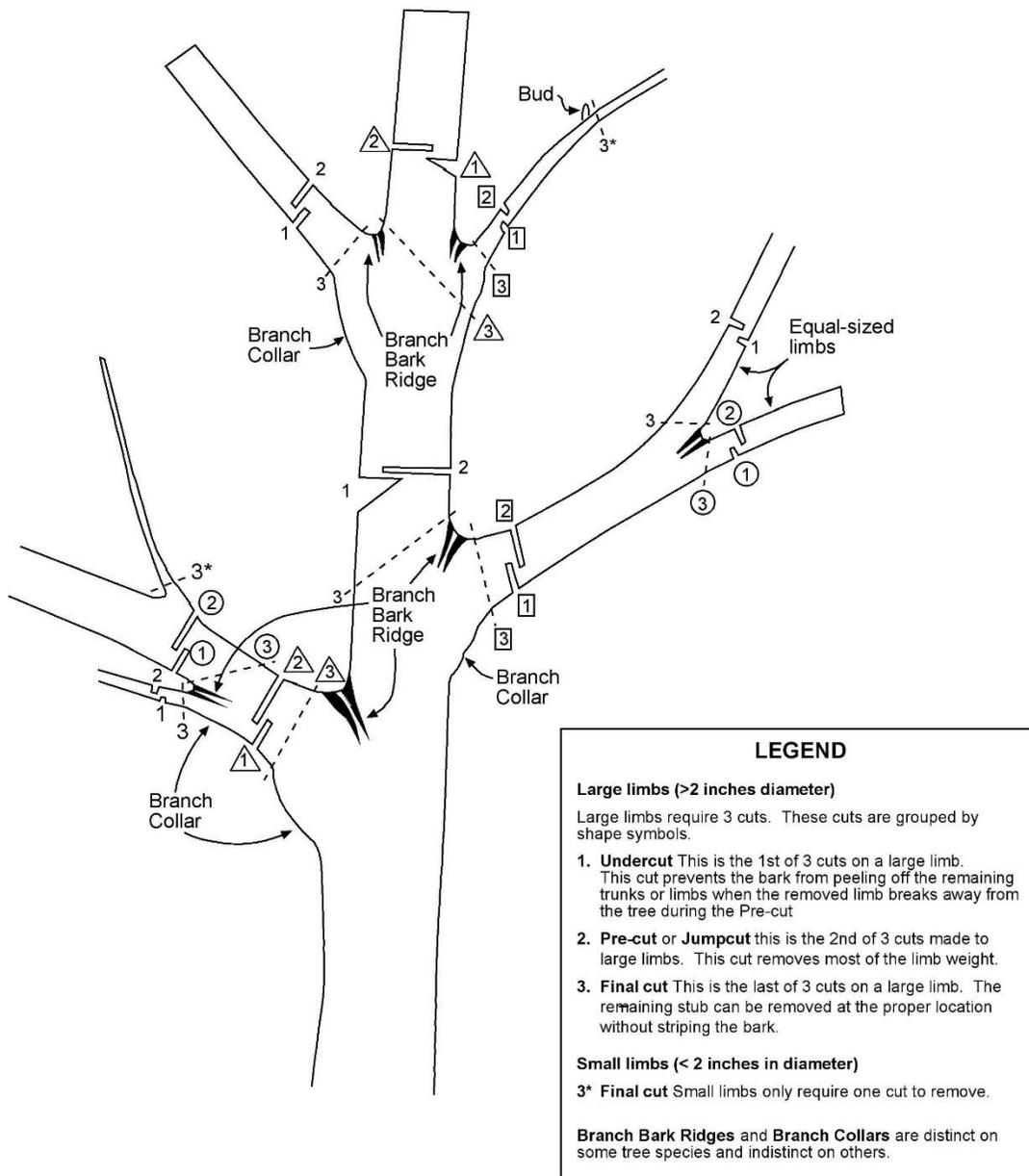
- A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as approved by certified arborist.
 - 1. Generally cutting of roots two inches or greater shall be avoided. Roots one inch and greater in diameter that must be cut shall be cut cleanly and obliquely with the cut surface facing down.
 - 2. Exposed and pruned roots shall be covered with light well-drained soil backfill and mulch over. The area shall be kept moist. Retain applicable subparagraphs below.
 - 3. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 - 4. Cut Ends: Do not paint cut root ends.
 - 5. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 - 6. Cover exposed roots with burlap and water regularly.
 - 7. Backfill as soon as possible according to requirements in Section 312000 "Earth Moving."
- B. Root Pruning at Edge of Protection Zone: Prune tree roots 6 inches outside of the protection zone by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.6 AIR SPADING

- A. Air spading, or hand removal of soil or tunneling is required for excavation in the Tree Protection Zone of any trees for the installation of infrastructure where roots 2 inches in diameter and larger are encountered. The “critical root zone” is defined as any area around a tree in which a two-inch diameter root is encountered. The Arborist / Owner’s Representative shall define the critical root zone and the Contractor shall excavate using a pneumatic excavator (AIR-SPADE or equivalent) as follows:
- B. Trenching for utility lines or other infrastructure may be done mechanically outside the Tree Protection Zone. As the equipment operator approaches the canopy radius, or for certain species up to 1.5 times the canopy radius out from the base of the tree (Oaks, Poplars, Redwoods, etc.) the operator shall be assisted by a spotter who shall inspect the excavation for roots. If a root of two inches diameter is encountered the spotter shall halt mechanical excavation and pneumatic excavation shall proceed. If no other two inch or greater diameter root is encountered in an excavation of two feet forward and two feet deep, the single two-inch root may be cleanly cut proximal to (on the tree side of) any fracture or torn bark. Mechanical excavation may continue until a two-inch diameter root is encountered, and the pneumatic excavation, exploration is then repeated.
- C. The Contractor shall control dust and the spread of soils excavated. The air-spade operator shall moisten the soil to field capacity and to a minimum probe depth of 2.5 feet with a watering needle (hydro-spear) 48 hours prior to pneumatic excavation. The spread of excavated soil shall be contained to the area adjacent to the trench path with upright plywood sheeting.
- D. These specifications shall not be considered operating instructions or a requirement to use a specific pneumatic excavation product. It is the responsibility of the Contractor to read and understand the pneumatic excavator operation instructions and safety procedures (including the proper and safe use of air compressor, hoses, excavation tools, etc.) prior to operations.

3.7 TREE PRUNING

- A. Obtain specific instruction from Arborist / Owner's Representative for pruning of trees, shrubs, roots or disturbance of soil within spread of tree branches. The Contractor shall utilize protection measures as outlined by Arborist / Owner's Representative, which may include directional drilling, or hand clearing to expose the roots.



- B. Provide periodic watering for all planting within Contract limit and any adjacent areas affected by the work. Maintain moisture to a minimum 6" depth, minimum.
- C. Using an approved pruning saw, provide selective tree limb pruning as accepted by the Landscape Architect if branches interfere with new construction. Limb diameter shall be limited to 5" diameter and shall be pruned just outside the branch collar in accordance with American National Standards Institute, (ANSI 300) and International Society of Arboriculture, (ISA) standards.
- D. Approved branches to be shortened must be cut just above a fork with another living branch which is plus or minus 1/2 the diameter of the removed branch as

shown in the pruning figure herein. Branches to be removed which exceed 2" in diameter shall be severed with a 3-step cut to prevent bark peeling. Final cuts must not injure the branch collar or branch bark ridge of the remaining branches and trunk.

- E. Prune branches that are affected by temporary and permanent construction.
 - 1. Prune to remove only injured, broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
 - 2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
 - 3. Pruning Standards: Prune trees according to ANSI A300 (Part 1)
- F. Unless otherwise directed by arborist and acceptable to Architect, do not cut tree leaders.
- G. Cut branches with sharp pruning instruments; do not break or chop.
- H. Do not paint or apply sealants to wounds.
- I. Provide subsequent maintenance pruning during Contract period as recommended by arborist.
- J. Chip removed branches and stockpile in areas approved by Landscape Architect.

3.8 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
 - 1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
- C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- D. Minor Fill within Protection Zone: Where existing grade is 6inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.9 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.10 TREE & PLANT REMOVAL & REPLACEMENT

- A. Field Verification: Before removing non-designated trees, shrubs, stumps, bushes, vines, rubbish, undergrowth and deadwood as shown on the Drawings and as specified, obtain verification from Owner's Representative.
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Architect.
 - 1. Submit details of proposed pruning and repairs.
 - 2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
 - 3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
- C. Backfill and compact areas excavated and open pits and holes resulting from removal operations. Comply with requirements herein and as specified in Earthwork, Section 02300 for backfill materials, compaction, and installation methods.
- D. Remove all stumps and roots in their entirety. Tree trunks shall be removed minimum depth of 2 1/2 feet below existing grade or finish grade, whichever is deeper. Stump grinding is an acceptable method of removal of roots and stumps of trees and shrubs; however, the chip contaminated soil shall be replaced with approved clean planting soil in planting areas and with approved clean fill soil in all other areas.
- E. Backfill and compact voids excavated and open pits and holes resulting from removal operations. Comply with Earthwork Specification for backfill materials, compaction and installation methods. Unless required otherwise, in planting areas backfill holes with clean approved planting soil compacted to 90% relative compaction to a minus 12 inches below finish grade and 85% relative compaction for the top 12 inches, except as required elsewhere to a greater degree by Civil or Structural Engineer. In non-planting areas backfill holes with approved fill soil compacted to 95% relative compaction.
- F. Remove and replace trees indicated to remain that are more than 25% dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
- G. Plant Replacement: Contractor shall replace trees cut or severely damaged due to the Contractor's work as follows:
 - 1. An ISA Certified Arborist may be retained by the Owner to determine the condition of trees in question as to their ability to survive in a healthy condition and in their original shape, or a pruned aesthetically pleasing shape acceptable to the Owner. Comply with recommendations to rehabilitate as recommended by the Arborist, or to replace in accordance with the requirements below.

2. Trees size shall be determined by Diameter at Breast Height (DBH). Replacement of trees and shrubs shall also include providing acceptable plant installation, automatic irrigation system and a minimum maintenance period of 120 days. If plant(s) is not acceptably maintained and is not healthy and thriving at the end of the 120-day maintenance period, the Contractor shall continue the maintenance work until such time that healthy tree(s) and/or shrub(s) is achieved.
 3. Replace any damaged planting in kind using "specimen" plants as follows and at no cost to Owner:
 - a. Trees up to 3" DBH: Replace with 36" box size.
 - b. Trees 3" to 6" DBH: Replace with 72" box size.
 - c. Trees 6" to 12" DBH: Replace with 84" box size.
 - d. Trees 12" DBH and larger: Tree value shall be determined by Arborist using Council of Tree and Landscape Appraisers (CTLA) method. Replace damaged tree with largest available nursery boxed tree and cash difference between value of damaged tree and nursery stock replacement cost.
 - e. Shrubs: Replace with 15-gallon can size.
 4. Plant and maintain new trees as specified.
- H. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 3-inch uniform thickness to remain.
- I. Soil Aeration: Where directed by arborist, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch- diameter holes a minimum of 12 inches (300 mm) deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.

3.11 CLEANUP AND DISPOSAL

- A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.
- B. Clean excess soil may be distributed on site as accepted by Owner's Representative, if it does not adversely affect specified finish grades or percolation of water into planting soil.
- C. Upon completion of work under this Section, remove all tools, equipment and temporary protections, enclosures, and structures.

END OF SECTION

SECTION 31 20 00

EARTH MOVING

PART 1 GENERAL

1.1 SECTION INCLUDES

Excavation and/or embankment from existing ground to subgrade, including roadways, driveways, parking areas, concrete walkways and any other site improvements called for on the Plans.

1.2 SECTION EXCLUDES

Earthwork related to underground utility installation shall be performed in accordance with Sections 31 21 00, Utility Trenching and Backfill.

1.3 RELATED SECTIONS

Section 01 10 00, Supplemental General Requirements

Section 01 50 50, Erosion Control

Section 31 10 00, Site Clearing

1.4 RELATED DOCUMENTS

A. ASTM

1. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
2. D1586, Method for Penetration Tests and Split-Barrel Sampling of Soils
3. D2487, Classification of Soils for Engineering Purposes
4. D3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
5. D4318. Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils
6. E329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
7. E548, Guide for General Criteria Used for Evaluating Laboratory Competence

B. California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 18, Soils and Foundations, and Chapter 33, Safeguards During Construction

C. Caltrans Standard Specifications

1. Section 17, General
2. Section 19, Earthwork

D. CAL/OSHA, Title 8.

1.5 DEFINITIONS

- A. Excavation: Removal of material encountered above subgrade elevations.
 - Authorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions as shown on plans or authorized by the City Engineer.
 - Unauthorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions without authorization by the City Engineer. Unauthorized excavation shall be without additional compensation.
- B. Geotechnical Testing Agency: An independent testing agency qualified according to ASTM E329 to conduct soil materials and rock definition testing, as documented according to ASTM D3740 and ASTM E548.
- C. Fill: Soil materials approved by the City Engineer and used to raise existing grades.
- D. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material $\frac{3}{4}$ cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D1586, exceeds a standard penetration resistance of 100 blows/2 inches.
- E. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials.
- F. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of weeds, roots, and other deleterious materials.
- G. Unsuitable Material: Any soil material that is not suitable for a specific use on the Project. The City Engineer will determine if a soil material is unsuitable.
- H. Relative Compaction: In-place dry density of soil expressed as percentage of maximum dry density of same materials, as determined by laboratory test procedure ASTM D1557.
- I. Utilities: onsite underground pipes, conduits, ducts and cables.

1.6 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Samples:
 - 1. If required by the City Engineer, provide 20 pound samples, sealed in airtight containers, tagged with source locations and suppliers of each proposed soil material from on-site or borrow sources, 72 hours prior to use. Do not import materials to the Project without written approval of the City Engineer.

2. Provide materials from same source throughout work. Change of source requires approval of the City Engineer.
- C. Classification according to ASTM D2487 of each onsite or borrow soil material proposed for fill and backfill.
 1. Laboratory compaction curve in conformance with ASTM D1557 for each onsite or borrow soil material proposed for fill and backfill.

1.7 QUALITY ASSURANCE

- A. Provide an independent testing agency qualified according to ASTM E329 to conduct soil materials and rock definition testing, as documented according to ASTM D3740 and ASTM E548.
- B. Conform all work and materials to the recommendations or requirements in the project plans and meet the approval of the City Engineer.
- C. Conform all work in accordance with Caltrans Standard Specification Section 17, General and Section 19, Earthwork.
- D. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D1557.
- E. Perform excavation, filling, compaction and related earthwork under the observation of the City Engineer. Materials placed without approval of the City Engineer will be presumed to be defective and, at the discretion of the City Engineer, shall be removed and replaced at no cost to the City. Notify the City Engineer at least 24 hours prior to commencement of earthwork and at least 48 hours prior to testing.
- F. The City Engineer will perform observations and tests required to enable him to form an opinion of the acceptability of the Project earthwork. Correct earthwork that, in the opinion of the City Engineer, does not meet the requirements of these Technical Specifications and the City Report.
- G. Upon completion of the construction work, certify that all compacted fills and foundations are in place at the correct locations, and have been constructed in accordance with sound construction practice. In addition, certify that the materials used are of the types, quality and quantity required by these Technical Specifications and the City Report. The Contractor shall be responsible for the stability of all fills and backfills constructed by his forces and shall replace portions that in the opinion of the Engineer have been displaced or are otherwise unsatisfactory due to the Contractor's operations.
- H. Finish subgrade tolerance at completion of grading:

Building and paved areas:	±0.05 feet
Other areas:	±0.10 feet

1.8 PROJECT CONDITIONS

- A. Promptly notify the Engineer of surface or subsurface conditions differing from those disclosed in the Plans. First notify the Engineer verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents and disclosed in the Plans will be allowed unless the Contractor has notified the Engineer in writing of differing conditions prior to the Contractor starting work on affected items.
- B. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- C. Prevent erosion of freshly-graded areas during construction and until such time as permanent drainage and erosion control measures have been installed in accordance with Section 01 50 50, Erosion Control.
- D. Temporarily stock-pile fill material in an orderly and safe manner and in a location approved by the Engineer.
- E. Environmental Requirements: When unfavorable weather conditions necessitate interrupting earthwork operation, areas shall be prepared by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion. After interruption, compaction specified in last layer shall be re-established before resuming work.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

General: On-site soils are considered suitable for use as fill provided the materials are placed in accordance with Caltrans Standard Specification Section 19. Expansive soils shall not be used as select structural fill, or used as backfill for trenches located within hardscape areas.

Imported fill soils, if required, should be predominantly granular in nature, and should be free of organics, debris, or rocks over 3 inches in size, and shall be approved by the Engineer before importing to the site. Imported non-expansive soils shall have a Plasticity Index less than 15 as determined by ASTM D4318, an R-value of at least 20, and fines content between 15 and 65 percent. Import fill shall be considered non-hazardous per Department of Toxic Substances Control guidelines (DTSC, 2017) and non-corrosive per Caltrans Corrosion Guidelines (Caltrans, 2015).

PART 3 EXECUTION

3.1 GENERAL

- A. Perform work in accordance with Caltrans Standard Specification Section 19, Earthwork, as modified by the Contract Documents.

- B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.
- C. The use of explosives will not be permitted.
- D. Grading and earthwork operations shall be observed by the Engineer for conformance with the project plans/specifications. This work includes site preparation, selection of satisfactory materials, and placement and compaction of the subgrades and fills. Sufficient notification prior to commencement of earthwork is essential to make certain that the work will be properly observed.

3.2 CONTROL OF WATER AND DEWATERING

- A. Excavations shall be dewatered in accordance with

Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage to the satisfaction of the Engineer and the Owner until backfilling is completed.

- B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding the site and surrounding area. Provide dewatering equipment necessary to drain and keep excavations and site free from water.
- C. Dewater during backfilling operation so that groundwater is maintained a least 1 foot below level of compaction effort.
- D. Obtain the Engineer's approval for proposed control of water and dewatering methods.
- E. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.
- F. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations.
- G. Maintain dewatering system in place until dewatering is no longer required.

3.3 WET WEATHER CONDITIONS

- A. Do not prepare subgrade, place or compact soil materials if subgrade or materials are above optimum moisture content.
- B. If the Engineer allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the Engineer.

3.4 BRACING AND SHORING

- A. Conform to California and Federal OSHA requirements.

- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the Engineer, submit details and calculations to the Engineer. The Engineer may forward the submittal to the Geotechnical Engineer, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the Engineer.
- D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the position or operation of the facility being constructed or adjacent utilities and facilities.

3.5 TOPSOIL STRIPPING

- A. Remove topsoil in accordance with Section 31 10 00, Site Clearing.

3.6 EXCAVATION

- A. Excavate earth and rock to lines and grades shown on plans and to the neat dimensions indicated on the plans, required herein or as required to satisfactorily compact backfill.
- B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.
- C. Excavation through buried concrete and other unknown obstructions will require specialized techniques for demolition and removal.
- D. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.
- E. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements.

3.7 GRADING

- A. Uniformly grade the Project to the elevations shown on plans
- B. Finish ditches, gutters and swales to the sections, lines and grades indicated and to permit proper surface drainage.
- C. Round tops and bottoms of slopes as indicated or to blend with existing contours.

3.8 SUBGRADE PREPARATION

- A. Subgrade Preparation: Prior to backfilling depressions created by the removal of old foundations and utility lines, scarify the bottom of the excavation to an approximate depth of 8 inches and uniformly moisture condition the scarified surfaces to a moisture content that is at least 2 percent over optimum. Compact the scarified surfaces to a minimum of 90 percent relative compaction at above optimum moisture content.
- B. Over-excavate any remaining soft (pumping) areas down to firm soil and backfill the area.
- C. Subgrade shall be maintained in a moist, but not wet, condition by periodically sprinkling water prior to the placement of additional fill or installation of roads. Subgrade that has been permitted to dry out and loosen or develop desiccation cracking should be scarified, moisture conditioned, and re-compacted as recommended above.
- D. Install underground utilities and service connections prior to final preparation of subgrade and placement of base materials for final surface facilities. Extend services so that final surface facilities are not disturbed when service connections are made.
- E. Prepare subgrades under the structural section of paved areas, curbs, gutters, walks, structures, other surface facilities and areas to receive structural fill.
- F. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.
- G. Obtain the City Engineer's approval of subgrades prior to placing pavement structural section.

3.9 FILL PLACEMENT AND COMPACTION

- A. Place fill in uniformly moisture conditioned and compacted lifts not exceeding 8 inches in loose thickness. Each lift should be thoroughly moisture conditioned and compacted to 90 percent before successive fill layers are placed.
- B. In order to achieve satisfactory compaction in the subgrade and fill soils, it may be necessary to adjust the soil moisture content at the time of soil compaction per City Engineer's recommendations. This may require that water be added and thoroughly mixed into any soils which are too dry or that scarification and aeration be performed in any soils which are too wet.
- C. Obtain the City Engineer's approval of surface to receive structural fill prior to placement of structural fill material.
- D. Place structural fill on prepared subgrade.

- E. Do not drop fill on structures. Do not backfill around, against or upon concrete or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.
- F. Do not compact by ponding, flooding or jetting.
- G. Perform compaction using rollers, pneumatic or vibratory compactors or other equipment and mechanical methods approved by the City Engineer.
- H. Compaction requirements (unless specified otherwise by the City Engineer):
 - Compact structural fills less than 5 feet thick to 90 percent compaction.
 - Compact structural fill 5 feet thick or greater to 95 percent compaction.
 - Compact the upper 6 inches of subgrade soils beneath pavements, curbs and gutters to 95 percent compaction. Extend compaction 5 feet beyond pavement edges unless specified otherwise by the City Engineer.
 - Compact the upper 6 inches of subgrade soils under walks, structures and areas to receive structural fill to 90 percent compaction.

3.10 DISPOSAL

- A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

END OF SECTION

SECTION 31 21 00

UTILITY TRENCHING AND BACKFILL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Excavation, bedding, and backfill for underground storm drain, electrical conduit, communication conduit, etc., and associated structures.
- B. Provide labor, material, equipment, and services necessary to complete the backfilling and compacting as necessary for this project. Section includes, but is not limited to:
 - 1. Select Backfill Material
 - 2. Aggregate Base
 - 3. Detectable Tape
 - 4. Trench Excavation
 - 5. Pipe Bedding
 - 6. Trench Backfill
 - 7. Trench Surfacing

1.2 RELATED SECTIONS

- A. Section 31 10 00 – Site Clearing
- B. Section 33 41 00 – Storm Utility Drainage Piping

1.3 RELATED DOCUMENTS

- A. ASTM
 - 1. D1557, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
- B. Caltrans Standard Specifications, 2015
 - 1. Section 19, Earthwork
 - 2. Section 26, Aggregate Bases
- C. CAL/OSHA, Title 8

1.4 DEFINITIONS

- A. AC: Asphalt Concrete
- B. ASTM: American Society for Testing and Materials
- C. Base: The layer placed between the subgrade and surface pavement in a paving system.
- D. Bedding: Material from bottom of trench to bottom of pipe

- E. DIP: Ductile Iron Pipe
- F. Excavation: Consists of the removal of material encountered to subgrade elevations
- G. Backfill: Material from bottom of pipe to subgrade
- H. PCC: Portland Cement Concrete
- I. RCP: Reinforced Concrete Pipe
- J. Relative Compaction: In-place dry density of soil expressed as percentage of maximum dry density of same materials, as determined by laboratory test procedure ASTM D1557.
- K. Springline of Pipe: Imaginary line on surface of pipe at a vertical distance of $\frac{1}{2}$ the outside diameter measured from the top or bottom of the pipe.
- L. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below base.
- M. Trench Excavation: Removal of material encountered above subgrade elevations and within horizontal trench dimensions.
 - 1. Authorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions as shown on plans or authorized by the I Engineer.
 - 2. Unauthorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions without authorization by the Engineer. Unauthorized excavation shall be without additional compensation.
- N. Utility Structures:
 - 1. Storm drainage manholes, catch basins, drop inlets, curb inlets, vaults, etc.
 - 2. Electrical manholes, pull boxes, vaults, etc.

1.5 SUBMITTALS

- A. Follow submittal procedures outlined in Section 01 10 00 – Supplemental General Requirements.
- B. Test Reports: Submit the following report for import material directly to the Owner from the Contractor's testing services:
 - 1. Compaction test reports for aggregate base.

1.6 QUALITY ASSURANCE

- A. Conform all work and materials to the approval of the Engineer.
- B. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the

maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

- C. The Contractor will perform observations and tests required to enable him to form an opinion of the acceptability of the trench backfill. Correct the trench backfill that, in the opinion of the Engineer, does not meet the requirements of these Technical Specifications.
- D. Soil Testing:
 - 1. Contractor to engage a geotechnical testing agency, to include compaction testing and for quality control testing during fill operations.
 - 2. Test results will be submitted to the Owner/Engineer

1.7 PROJECT CONDITIONS

- A. Promptly notify the Owner of surface or subsurface conditions differing from those disclosed in the Contract Documents. First notify the Owner verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents will be allowed unless Contractor has notified the Owner in writing of differing conditions prior to contractor starting work on affected items.
- B. Barricade open excavations and post with warning lights.
 - 1. Operate warning lights and barricades as required.
 - 2. Protect structures, utilities, sidewalks, pavements, and other facilities immediately adjacent to excavations, from damages caused by settlement, lateral movement, undermining, washout, and other hazards.
 - 3. Protect open, trenches, and utility structure excavations with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- C. Stockpile on-site and imported backfill material temporarily in an orderly and safe manner.
- D. Provide dust and noise control in conformance with Section 01 10 00 Supplemental General Requirements.
- E. Environmental Requirements:
 - 1. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the District.
 - 2. Protect existing streams, ditches and storm drain inlets during work on this project.
- F. Protection of Subgrade: Do not allow equipment to pump or rut subgrade, stripped areas, footing excavations, or other areas prepared for project.
- G. Transport all excess soils materials by legally approved methods to disposal areas.
 - 1. Coordinate with the Engineer.
 - 2. Any additional fill requirements shall be the responsibility of the Contractor.

1.8 EXISTING UTILITIES

- A. Locate existing underground utilities in the areas of work. For utilities that are to remain in place, provide adequate means of protection during excavation operations.
 - 1. Locating of existing underground utilities shall include but not be limited to pot-holing prior to the start of construction.
- B. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult Owner and/or utility agency immediately for directions.
 - 1. Cooperate with the Owner and public and private utility companies in keeping their respective services and facilities in operation.
 - 2. Repair damaged utilities to the satisfaction of the agency with jurisdiction.
- C. Do not interrupt existing utilities serving facilities occupied and used by the Owner or others, except when permitted in writing by the Owner and then only after acceptable temporary utility services have been provided.

PART 2 PRODUCTS

2.1 GENERAL

- A. Import materials will be subject to approval of the Engineer.
- B. For approval of imported fill material, notify the Owner at least 7 days in advance of intention to import material.

2.2 PIPE BEDDING AND BACKFILL

- A. ASTM D2321, Class IA, IB or II.
 - 1. Clean and free of clay, silt or organic matter.
- B. Class 2 Aggregate Base: In accordance with Section 26 of Caltrans Standard Specifications, $\frac{3}{4}$ inch maximum.
- C. Sand: In accordance with Section 19-3.02F of Caltrans Standard Specifications.
- D. Backfill: Shall be gravel, free of clay or organic matter and shall conform to the following gradation:

Sieve Size	Percentage Passing
1 inch	100
$\frac{3}{4}$ inch	90 – 100
No. 4	35 – 60
No. 200	2 - 9

2.3 WARNING TAPE

- A. Polyethylene plastic and metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and

identification of buried utility lines. Provide tape on rolls, 3 inch minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

1. Warning Tape Color Codes
 - a. Red: Electric
 - b. Orange: Telephone and Other Communications
 - c. Blue: Water Systems
2. Warning Tape for Metallic Piping: Acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of tape shall be 0.003 inch. Tape shall have a minimum strength of 1500 psi lengthwise, and 1250 psi crosswise, with a maximum 350 percent elongation.
3. Detectable Warning Tape for Non-Metallic Piping: Polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of the tape shall be 0.004 inch. Tape shall have a minimum strength of 1500 psi lengthwise and 1250 psi crosswise. Tape shall be manufactured with integral wires, foil backing, or other means of enabling detection by a metal detector when tape is buried up to 3 feet deep. Encase metallic element of the tape in a protective jacket or provide with other means of corrosion protection.

2.4 DETECTION WIRE FOR NON-METALLIC PIPING

- A. Detection wire shall be insulated single strand, solid copper with a minimum of 12 AWG.

2.5 CONCRETE STRUCTURE BEDDING AND BACKFILL

- A. Precast Structures: Same materials to the same heights as specified for pipe bedding and backfill, or other material approved by the Engineer.
- B. Poured-in-Place Structures:
 1. Bedding: Bedding shall meet the approval of the Engineer. In general, bedding is required to be Class II Aggregate Base or Sand.

PART 3 EXECUTION

3.1 GENERAL

- A. Comply with the recommendations of the I Engineer.
- B. Protect existing trees to remain. No grading is permitted under the drip line of protected trees.

- C. Excavations for appurtenant structures, such as, but not limited to, manholes, transition structures, junction structure, vaults, valve boxes, catch basins, thrust blocks, and boring pits, shall be deemed to be in the category of trench excavation.
- D. Unless otherwise indicated in the Plans, all excavation for pipelines shall be open cut.
- E. Prior to commencement of work, become thoroughly familiar with site conditions.
- F. In the event discrepancies are found, immediately notify the Owner in writing, indicating the nature and extent of differing conditions.
- G. Backfill excavations as promptly as work permits.
- H. Do not place backfill until rubbish and deleterious materials have been removed and areas have been approved by the Owner.
- I. Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.
- J. In excavations, use satisfactory excavated or borrow material.
- K. Under grassed areas, use satisfactory excavated or borrow material.

3.2 SITE PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, which are to remain, from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the Owner.

3.3 EXISTING UTILITIES

- A. Identify the location of existing utilities.
 1. Prior to trenching, the Contractor shall excavate at locations specifically indicated on the Plans, if any, and where new lines cross other utilities of uncertain depth and determine the elevation of the utility in question to ensure that the new line will clear the potential obstruction.
 2. The Contractor shall contact Underground Service Alert (USA) at 1-800-227-2600 for assistance in locating existing utilities.
 3. If, after the excavation, a crossing utility does present an obstruction, then the line and grade of the new line will be adjusted as directed by the Owner to clear the utility.
- B. Protect all existing utilities to remain in operation.

- C. Movement of construction machinery and equipment over existing pipes and utilities during construction shall be at Contractor's risk.
- D. Excavation made with power-driven equipment is not permitted within 2 feet of any known utility or subsurface structure.
 - 1. Use hand or light equipment for excavating immediately adjacent to known utilities or for excavations exposing a utility or buried structure.
 - 2. Start hand or light equipment excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured.
 - 3. Support uncovered lines or other existing work affected by excavation until approval for backfill is obtained.
 - 4. Report damage of utility line or subsurface structures immediately to the Owner.
- E. Backfill trenches resulting from utility removal in lifts of 8 inches maximum.

3.4 TRENCH EXCAVATION

- A. General
 - 1. Excavation shall include removal of all water and materials that interfere with construction. The Contractor shall remove any water which may be encountered in the trench by pumping or other methods during the pipe laying, bedding and backfill operations. Material shall be sufficiently dry to permit approved jointing.
 - 2. Excavation shall include the construction and maintenance of bridges required for vehicular and pedestrian traffic, support for adjoining utilities.
 - 3. The Contractor shall be responsible to safely direct vehicular and pedestrian traffic through or around his/her work area at all times.
 - 4. The Contractor shall relocate, reconstruct, replace or repair, at his/her own expense, all improvements which are in the line of construction or which may be damaged, removed, disrupted or otherwise disturbed by the Contractor.
- B. Existing Paving and Concrete:
 - 1. Existing pavement over trench shall be sawcut, removed, and hauled away from the job. Existing pavement shall be neatly sawcut along the limits of excavations.
 - 2. Existing concrete over the trench shall be sawcut to a full depth in straight lines, at a minimum distance of 12 inches beyond the edge of the trench, either parallel to the curb or a right angles to the alignment of the sidewalk.
 - 3. Boards or other suitable material shall be placed under equipment outrigging to prevent damage to paved surfaces.
- C. Trench Width:
 - 1. The maximum allowable trench widths at the top of the all pipe materials outside diameter of barrel pipe plus 18 inches. shall be as follows:
 - a. The maximum trench width shall be inclusive of all shoring.

- b. If the maximum trench width is exceeded, the State's representative may direct the Contractor to encase or cradle the pipe in concrete at no additional charge.
- 2. For pipes 3 inch diameter and larger, the free working space on each side of the pipe barrel shall not be less than 6 inches.
- D. Excavation Width at Springline of Pipe:
 - 1. Up to a nominal pipe diameter of 24 inches: Minimum of twice the outside pipe diameter, or as otherwise allowed or required by the Engineer.
- E. Open Trench:
 - 1. The maximum length of open trench shall be 300 feet or the distance necessary to accommodate the amount of pipe installed in a single day, whichever is greater. No trench shall be left open at the end of the day.
 - 2. Provisions for trench crossings and free access shall be made at all street crossings, driveways, water gate valves, and fire hydrants.
 - 3. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.
 - 4. Excavation Depth for Bedding: Minimum of 6 inches below bottom of pipe or as otherwise allowed or required by the Engineer, except that bedding is not required for nominal pipe diameters of 2 inches or less.
 - 5. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.
 - 6. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.
 - 7. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.
- F. Excavated Material:
 - 1. All excavated material not required for backfill shall be immediately removed and properly disposed of in a legal manner by the Contractor.
 - 2. Material excavated in streets and roadways shall be laid alongside the trench no closer than 2 feet from the trench edge and kept trimmed to minimize inconvenience to public traffic.
 - 3. Provisions shall be made whereby all storm and wastewater can flow uninterrupted in gutters or drainage channels.

3.5 CONTROL OF WATER AND DEWATERING

- A. Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage to the satisfaction of the Engineer and the Owner until backfilling is completed.

- B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.
- C. Reroute surface water runoff away from open trenches and excavations. Do not allow water to accumulate in trenches and excavations.
- D. Maintain dewatering system in place until dewatering is no longer required.

3.6 BRACING AND SHORING

- A. Conform to California and Federal OSHA requirements.
- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the pipes and appurtenances being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the Owner, submit details and calculations to the Owner. The Owner may forward the submittal to the Geotechnical Engineer, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations in trench section or around structures shall precede a response to the submittal by the Owner.
- D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the line, grade, or backfill compaction or operation of the utility being installed or adjacent utilities and facilities.

3.7 PIPE BEDDING

- A. Obtain approval of bedding material from the Engineer.
- B. Accurately shape bedding material to the line and grade called for on the Plans. Carefully place and compact bedding material to the elevation of the bottom of the pipe in layers not exceeding 8 inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the Plans or by the Geotechnical Engineer. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Engineer. Jetting or ponding of bedding material will not be permitted.
- C. Stabilization of Trench Bottom: When the trench bottom is unstable due to wet or spongy foundation, trench bottom shall be stabilized with gravel or crushed rock. The State's inspector will determine the suitability of the trench bottom and the amount of gravel or crushed rock needed to stabilize a soft foundation. Soft material shall be removed and replaced with gravel or crushed rock as necessary.

- D. Placement of Bedding Material: The trench bottom shall be cleaned to remove all loose native material prior to placing select backfill material. Sufficient select backfill material shall be placed in trench and tamped to bring trench bottom up to grade of the bottom of pipe. The relative compaction of tamped material shall be not less than 90 percent. It is the intention of these requirements to provide uniform bearing under the full length of pipe to a minimum width of 60 percent of the external diameter.

3.8 BACKFILLING

- A. Initial Backfill:
1. Obtain approval of backfill material from Engineer.
 2. Bring initial backfill up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Carefully place and compact initial backfill material to an elevation of 12 inches above the top of the pipe in layers not exceeding 8 inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the Plans or by the I Engineer. Compact by pneumatic tampers or other mechanical means approved by the Engineer. Jetting or ponding of initial backfill material will not be permitted.
- B. Pipe Detection: In trenches containing pressurized plastic pipes, tracer wire shall be placed directly above the pipe and shall be connected to all valves, existing exposed tracer wires, and other appurtenances as appropriate.
- C. Installation of Tracer Wire:
1. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe.
 2. Attach wire to top of pipe in such manner that it will not be displaced during construction operations.
 3. Form a mechanically and electrically continuous line throughout the pipeline, extending to the nearest valve or other pipeline appurtenance. Extend the wire up the outside of the valve box/riser and cut a hole that is 8 inches from the top, extend a 12 inch wire lead to the inside of the box. At other pipeline appurtenances, terminate the 12 inch wire lead inside the enclosure.
 4. Splice wire with a splicing device consisting of and electro-tin plated seamless copper sleeve conductor. Install as recommended by the manufacturer. Wrap splices and damaged insulation with electrician's tape.
- D. Installation of Warning Tape
1. Install tape approximately 1 foot above and along the centerline of the pipe.
 2. Where tape is not continuous lap tape ends a minimum of 2 feet.
- E. Subsequent Backfill:
1. Above the level of initial backfill, the trench shall be backfilled with non-expansive native material from trench excavation or with imported select backfill material (Contractor's option). Subsequent backfill shall be free of

- vegetable matter, stones or lumps exceeding 3 inches in greatest dimension, and other unsatisfactory material.
2. Bring subsequent backfill to subgrade or finish grade as indicated. Carefully place and compact subsequent backfill material to the proper elevation in layers not exceeding 8 inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction, except that the upper 36 inches in areas subject to vehicular traffic shall be compacted to at least 95% relative compaction, unless specified otherwise on the Plans or by the Engineer. Compact by pneumatic tampers or other mechanical means approved by the
 3. Engineer. Jetting or ponding of subsequent backfill material will not be permitted.
- F. Do not use compaction equipment or methods that produce horizontal or vertical earth pressures that may cause excessive pipe displacement or damage the pipe. Jetting of trench backfill is not permitted.
- G. Utility backfill shall be inspected and tested by a Geotechnical Engineer, obtained by the Contractor, during placement. Backfill not compacted in accordance with these specifications shall be re-compacted or removed as necessary and replaced to meet the specified requirements, to the satisfaction of the Engineer and the Owner prior to proceeding with the Project.
- H. Compaction testing shall be in accordance with California Test Method ASTM D1556 or D1557.

3.9 CLEANUP

- A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the Owner.

END OF SECTION

SECTION 32 11 00

PAVEMENT BASE COURSE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base

1.2 RELATED SECTIONS

- A. Section 01 10 00, Supplemental General Requirements
- B. Section 01 50 50, Erosion Control
- C. Section 31 20 00, Earth Moving

1.3 RELATED DOCUMENTS

- A. ASTM:
 - 1. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 2. D3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
 - 3. E329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
 - 4. E548, Guide for General Criteria Used for Evaluating Laboratory Competence
- B. Caltrans Standard Specifications
 - 1. Section 24, Stabilized Soils
 - 2. Section 26, Aggregate Bases

1.4 DEFINITIONS

- A. Geotechnical Testing Agency: An independent testing agency qualified according to ASTM E329 to conduct soil materials and rock definition testing, as documented according to ASTM D3740 and ASTM E548.
- B. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material $\frac{3}{4}$ cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D1586, exceeds a standard penetration resistance of 100 blows/2 inches.
- C. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials. Perform work in accordance with Section 31 20 00, Earth Moving.

1.5 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Submit material certificates signed by the material producer and the Contractor, certifying that that each material item complies with, or exceeds the specified requirements.

1.6 QUALITY ASSURANCE

- A. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D1557.
- B. Perform installation of base materials under the observation of the City Engineer. Materials placed without approval of the City Engineer will be presumed to be defective and, at the discretion of the City Engineer, shall be removed and replaced at no cost to the City. Notify the City Engineer at least 24 hours prior to commencement of base material installation and at least 48 hours prior to testing.
- C. Do not project the finish surface of aggregate subbase above the design subgrade.
- D. Finish grade tolerance at completion of base installation: +0.05 feet

1.7 PROJECT CONDITIONS

- A. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- B. Temporarily stockpile material in an orderly and safe manner and in a location approved by the City.
- C. Provide dust and noise control in accordance with Section 01 10 00, Supplemental General Requirements.

PART 2 PRODUCTS

2.1 AGGREGATE BASE

- A. Material: Class 2, 1 ½ inch maximum in accordance with Caltrans Standard Specification Section 26, Aggregate Bases.

PART 3 EXECUTION

3.1 GENERAL

- A. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.

3.2 WET WEATHER CONDITIONS

- A. Do not place or compact subgrade if above optimum moisture content.
- B. If the City Engineer allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the City Engineer.

3.3 AGGREGATE BASE

- A. Watering, Spreading and Compacting: In accordance with Caltrans Standard Specification Section 26-1.03D, Spreading and 26-1.03E, Compacting.

3.4 DISPOSAL

- A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the City.

END OF SECTION

SECTION 32 12 16

ASPHALT PAVING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hot Mix Asphalt for Asphalt Berms, Asphalt Walkway, and Asphalt Conforms
- B. Tack coat
- C. Hot Mix Asphalt Paving
- D. Adjusting manholes, valves, monument covers and other structures to grade

1.2 RELATED SECTIONS

- A. Section 01 10 00, Supplemental General Requirements
- B. Section 31 20 00, Earth Moving
- C. Section 32 11 00, Pavement Base Course

1.3 RELATED DOCUMENTS

- A. ASTM
 - 1. D979: Standard Practice for Sampling Bituminous Paving Mixtures
 - 2. D1188: Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
 - 3. D2041: Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
 - 4. D2726: Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
 - 5. D2950: Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
 - 6. D3549: Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
- B. Caltrans Standard Specifications
 - 1. Section 39: Asphalt Concrete
 - 2. Section 92: Asphalt Binder
 - 3. Section 94: Asphaltic Emulsions

1.4 DEFINITIONS

- A. ASTM: American Society for Testing Materials.
- B. Caltrans: State of California, Department of Transportation

1.5 QUALITY ASSURANCE

- A. Testing Agency: Owner's Representative will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.
 - 1. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
- B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- C. Thickness of hot mix asphalt: In-place compacted thickness of asphalt courses will be determined according to ASTM D3549.
- D. Surface Smoothness: Finished surface of each asphalt course will be tested for compliance with smoothness tolerances.
- E. In-Place Density: Samples of uncompacted paving mixtures and compacted pavement will be secured by testing agency according to ASTM D979.
 - 1. Reference maximum theoretical density will be determined by averaging results from 4 samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D2041, and compacted according to job-mix specifications.
 - 2. In-place density of compacted pavement may be determined by testing core samples according to ASTM D1188 or ASTM D2726.
 - a. One core sample may be taken for every 1000 square yard or less of installed pavement, but in no case will fewer than 3 cores be taken.
 - b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D2950 and correlated with ASTM D1188 or ASTM D2726.

1.6 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Job-Mix Designs: Certificates signed by manufacturers certifying that each hot mix asphalt mix complies with requirements.
- C. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations:
 - 1. Tack Coat: Minimum surface temperature of 60 F at application.
 - 2. Asphalt Base Course: Minimum surface temperature of 40 F and rising at application.
 - 3. Asphalt Surface Course: Minimum surface temperature of 60 F at application.

PART 2 PRODUCTS

2.1 Hot Mix asphalt

- A. Type A In accordance with Caltrans Standard Specifications Section 39-2, Hot Mix Asphalt.
- B. Hot Mix Asphalt Materials:
 - 1. Asphalt Binder: Grade PG 64-10 in accordance with Caltrans Standard Specification Section 92, Asphalt Binders.
 - 2. Tack Coat: Grade SS1 in accordance with Caltrans Standard Specification Section 94, Asphaltic Emulsions.
- C. Aggregates: 1 inch max gradation for virgin aggregate and recycled asphalt pavement (RAP) in accordance with to Caltrans Standard Specification Section 39-2.02, Type A Hot Mix Asphalt.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
- C. If necessary, perform subgrade preparation or remediation in accordance with Section 31 20 00, Earth Moving.
- D. Notify Owner in writing of any unsatisfactory conditions. Do not begin paving until these conditions have been satisfactorily corrected.

3.2 PAVEMENT GRINDING

- A. Clean existing paving surface of loose or deleterious material immediately before pavement grinding.
- B. Grind conforms as indicated.

3.3 SURFACE PREPARATION FOR AGGREGATE BASE MATERIALS

- A. General: Immediately before placing asphalt materials remove loose and deleterious material from substrate surfaces and ensure that prepared subgrade is ready to receive paving in accordance with Caltrans Standard Specification Section 39-2.01C(3)(b) and in accordance with Section 32 11 00, Pavement Base Course.
- B. Tack Coat: Apply uniformly and at specified rates between HMA layers, to vertical surfaces of curbs, gutters and construction joints, and to existing pavement,

including planed surfaces, in accordance with Caltrans Standard Specification Section 39-2.01C(3)(f).

1. Allow tack coat to cure undisturbed before paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.4 SURFACE PREPARATION FOR PAVEMENT AT HOT MIX ASPHALT OVERLAYS

- A. Pavement Irregularities: Level with hot mix asphalt, Type A, ½ inch max aggregate.
- B. Clean surface of all material, such as leaves, dirt, sand, gravel, water and vegetation prior to applying binder of paving asphalt to existing surface.

3.5 HOT MIX ASPHALT SPREADING AND COMPACTING EQUIPMENT

- A. Provide spreading and compacting equipment in accordance with Caltrans Standard Specification Section 39-2.01C(2).

3.6 HOT MIX ASPHALT PLACEMENT

- A. Place, spread and compact hot mix asphalt to required grade, cross section, and thickness in accordance with Caltrans Standard Specification Sections 39-2.01C (2), 39-2.01C(3), and 39-2.01C(8).
- B. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.7 JOINTS

- A. Construct joints to ensure continuous bond between adjoining paving sections in accordance with Caltrans Standard Specification Sections 39-2.01C(4)
 1. Construct joints free of depressions with same texture and smoothness as other sections of asphalt course.
 2. Clean contact surfaces and apply tack coat.
 3. Offset longitudinal joints in successive courses a minimum of 6 inches.
 4. Offset transverse joints in successive courses a minimum of 24 inches.
 5. Compact joints as soon as hot mix asphalt will bear roller weight without excessive displacement.

3.8 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact in accordance with Caltrans Standard Specification Sections 39-2.01C (2).
- B. Compaction Requirements: Average Density to be 92 percent of reference maximum theoretical density according to ASTM D2041, but not less than 90 percent nor greater than 96 percent.

- C. Finish Rolling: Finish roll paved surfaces to remove roller marks while asphalt is still warm.
- D. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- E. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh asphalt. Compact by rolling to specified density and surface smoothness.
- F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.9 HOT MIX ASPHALT BERMS

- A. Construction: Place over compacted surfaces in accordance with Caltrans Standard Specification Section 39-2.01C(9). Apply a light tack coat prior to construction, unless pavement surface is still tacky and free of dust.
- B. Shape: Place hot mix asphalt to curb cross section indicated.

3.10 ADJUSTING MANHOLES, VALVES, MONUMENT COVERS AND OTHER STRUCTURES TO GRADE

- A. Remove pavement, using vertical cuts, as needed to remove frame and provide for concrete collar. Do not damage adjacent pavement.
 - 1. Circular Covers: Cut circle with radius 6 inches larger than cover and concentric with cover.
 - 2. Rectangular Covers: Cut rectangle 6 inches larger than cover on all sides.
- B. Install grade rings or blocking as needed to raise cover to finish grade.
- C. Pour concrete collar:
 - 1. Bottom of Collar: Top of existing collar or 6 inches below top of proposed collar, whichever is at a higher elevation.
 - 2. Top of Collar: Bottom of existing asphalt pavement.
 - 3. Apply tack coat to all exposed surfaces.
 - 4. Fill excavation with hot mix asphalt and, while still hot, compact flush with adjacent surface.

3.11 INSTALLATION TOLERANCES

- A. Hot Mix Asphalt Pavement:
 - 1. Course thickness and surface smoothness shall be in accordance with Caltrans Standard Specification Section 39-2.01A(4)(i)(iii)
 - 2. Total Thickness: Not less than indicated.
- B. Trench Patch:

1. Compacted surface: Within 0.01 foot of adjacent pavement.
 2. Do not create ponding.
- C. Adjust Covers:
1. Compacted surface: Up to 0.01 foot higher, and no lower, than adjacent pavement.
 2. Do not create ponding.

END OF SECTION

SECTION 32 13 12

LANDSCAPE CONCRETE

PART 1 GENERAL.

1.1 SECTION INCLUDES

- A. Portland cement concrete for plaza flatwork, sidewalks, and footings for posts and structures.

1.2 RELATED SECTIONS

- A. Section 31 20 00, Earthwork

1.3 QUALITY ASSURANCE

A. Reference and Standards

Perform work in accordance with all applicable laws, codes and regulations required by the City of Sausalito.

1. Reference to "Standard Specifications" shall mean the current Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.
2. The American Concrete Institute (ACI): "Manual of Concrete Practice," Parts 1, 2 and 3.
3. The American Concrete Institute (ACI): "Recommended Practice for Concrete Formwork" (ACI 347R)
4. The American Concrete Institute (ACI): "Hot Weather Concreting", 305R-99
5. The American Concrete Institute (ACI): Guide for Concrete Slab construction, 302.1R-07
6. The American Concrete Institute (ACI): "Standard Specification for Cold Weather Concreting, 306.1-90 (R2002)
7. United States Voluntary Product Standard for Construction & Industrial Plywood (PS 1-95).
8. American Plywood Association's "Guide to Plywood Grades" (APA).
9. West Coast Lumber Inspection Bureau's "Standard Grading Rules No. 17" (WCLIB)
10. Concrete Reinforcing Steel Institute (CRSI): "Manual of Standard Practice" and "Recommended Practice for Placing Reinforcing Bars".
11. American Welding Society: AWS A5.1 and AWS D1.1 and D1.2.
12. Americans with Disabilities Act (ADA), Federal ADA/State of California Title 24 Standards.
13. California Code of Regulations, Title 24, 2010 Edition, also known as California Building Code (CBC).

B. Stipulations

1. Finish Surface Tolerance: 1/4-inch maximum variation in 10 feet.
2. At no point shall paving surface fail to drain.

Finish Concrete Surface Slip Resistance: Shall have a minimum slip resistance coefficient of 0.65 on concrete pavement with less than 5% slope and 0.8 on concrete pavement with more than 5% slope.

3. Walls retaining soil that retain 18 inches or more of soil shall receive Dampproofing per Caltrans Standard Specifications, Section 54.
4. Contractor shall pour adjacent slabs in a way that does not impact finish quality or construction (expansion) joint dimensional stability.

C. Testing and Inspection, per Section 01 45 00.

D. Conform to ACI 306, Section 5.13 during hot weather and cold weather.

E. Requirements of ACI 318 shall govern work, materials and equipment related to this Section; specifications herein set minimum results required, and references to procedures are intended to establish minimal guides.

F. The Contractor shall be responsible for quality of concrete in place and shall bear burden of proof that concrete meets minimum requirements. Contractor shall confirm that site soils do not contain elevated levels of sulfate that would require sulfate resistant concrete as outlined in ACI 306. If the site soils contain elevated levels of sulfate, it is the Contractor's responsibility to request mixes that meet the requirements.

G. Placing of concrete by means of pumping will be an acceptable method of placement providing that the Contractor can demonstrate that:

1. Specified concrete strengths will be met.
2. Equipment has a record of satisfactory performance under similar conditions and using a similar mix.
3. Trial batches have been successfully made.

H. Installer Qualifications: Concrete work shall be by firm with 5 years' experience with work of similar scope and quality.

I. Formwork Design Criteria: Formwork shall conform to ACI 347-04 and CBC.

1. Formwork:
 - a. Shall prevent leakage or washing out of cement mortar.
 - b. Shall resist spread, shifting, and settling.
 - c. Shall reproduce accurately required lines, grades and surfaces within tolerances specified.
2. Safety: The Contractor shall be responsible for adequate strength and safety of all formwork including falsework and shoring.
3. Formwork allowable tolerances: Formwork shall produce concrete within tolerance limits recommended in ACI 347-04, unless otherwise noted.

1.4 TESTS

A. The Owner will select a qualified testing laboratory to take samples for testing during the course of the work as considered necessary. Costs for such tests will be paid by the Owner. Contractor shall cooperate in arranging tests and shall be

responsible for notifying the designated laboratory in sufficient time to allow taking of samples at time of pour.

- B. Should tests show that concrete is below specified strength, Contractor shall remove all such concrete, as directed by the Owner. Full cost of removal of low strength concrete, its replacement with concrete of proper specified strength and testing, shall be borne by Contractor.

1.5 COORDINATION

- A. Coordinate items of other trades. Contractor shall be responsible for the proper installation of all accessories embedded in the concrete and for the provision of holes, openings, etc., necessary to the execution of the work of the trades.

1.6 SUBMITTALS

- A. Samples of all materials under this Division shall be supplied for testing as requested by the Owner.
- B. Material certificates in lieu of material laboratory test reports when permitted by Engineer. Material certificates shall be signed by the manufacturer and Contractor certifying that each material item complies with or exceeds requirements. Provide certification from admixture manufacturers that chloride content complies with requirements.
- C. Submit color additive manufacturer's color chart and sample chip(s), indicate color additive number, and required dosage rate.
- D. Submit two full-scale mock-up (minimum 4' by 4') sample panels of all concrete finishes and color. The samples shall include curing compound if any is to be used, and include an expansion joint and a score joint, as indicated on the Drawings. Approved samples shall be kept at the job site to serve as a prerequisite for all finishes until acceptance of the Work.
- E. Submit one-pint samples of aggregate for exposed aggregate finished concrete paving in color range as specified.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Supply ready mixed concrete throughout. Batch, mix and transport in accordance with ASTM C-94, "Specifications for Ready Mixed Concrete."
- B. Mix and deliver concrete in quantities that will permit immediate use only.
- C. Indiscriminate addition of water for any reason will be cause for rejection of the load.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Cement and aggregates shall have proven history of successful use with one another. Sources of cement and aggregate shall remain unchanged throughout work.
- B. Mixes:
1. Ready-mixed concrete shall meet requirements of ASTM C94.
 2. The Contractor shall perform tests or assemble the necessary data indicating conformance with specifications.
 3. For each mix, submit data showing that proposed mix will attain the required strength in accordance with requirements of Caltrans Standard Specifications, Section 90.
 4. Instruct Laboratory to base mix design on use of materials specified and approved by the Owner's Representative.
 5. Mix design shall include compression strength test reports per CBC Section 1905A.6.3.
 6. Insure mix designs will produce concrete to strengths specified and of uniform density without segregation.
 7. If mix yield exceeds 1-cubic yard, modify mix design to no more than one cubic yard, without changing cement content.
 8. Introduction of calcium chloride will not be permitted.
 9. Mix design shall be in accordance with CBC Section 1905A.3.
- C. Concrete Types (See Drawings for any other miscellaneous items not listed below):

TYPE	28-DAY STRENGTH	AGGREGATE SIZE	FINISH COLOR	&	COMMENTS
Slab on grade	3,000	1" X #4	See Drawings		

2.2 FORMWORK MATERIALS

- A. Curbs may be formed with approved metal form systems.
- B. Chamfer Strips: Meadow-Burke Concrete Accessories, PVC type CSF ½-inch or as otherwise shown, all exposed corners.
- C. Form Release Agent: Must not stain or otherwise adversely affect architectural concrete surfaces. "Nox-Crete Form Coating"; Industrial Synthetics Corp.'s "Synthex"; or equal.
- D. Form Ties: Burke "Penta-Tie," or equal, cone and rod type with 1-inch break-back.

2.3 REINFORCING MATERIALS

- A. New, free of rust, Billet steel bars: Current ASTM designation A615.
- B. Bar Reinforcement: ASTM A615.
 - 1. #3 and smaller: Grade 40.
 - 2. #4 and larger: Grade 60.
 - 3. Tie wire: #6 minimum, black and annealed.
- C. Bar Reinforcement recycled content shall be a minimum of 75% recycled post-consumer steel.
- D. Wire Fabric Reinforcement: ASTM A185. Size (6" by 6" / W1.4 By W1.4 (#10 ga. by #10 ga.)
- E. All reinforcing steel, bolts anchors, sleeves, etc. shall be securely anchored in place before concrete is placed. All reinforcing details, fabrication and installation shall conform to ACI Standard 315, latest edition, except as noted. Stagger all splices where practical and not otherwise detailed. Minimum concrete protection for reinforcement shall be as follows unless otherwise noted:
 - 1. 3" clearance where concrete is placed against the earth.
 - 2. 2" clearance where concrete is exposed to earth or weather but placed in forms.
- F. Accessories: Metal and plaster spacers, supports, ties, etc. as required for spacing, assembling and supporting reinforcing in place. Legs of accessories to be of type that will rest on forms without embedding into forms. Galvanized metal items where exposed to moisture, or use other approved non-corrodible, non-staining supports.

2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C150, Type II, except if water or soil is high in sulfates use Type V Portland Cement as described above under Quality Assurance. Use one brand of cement throughout project.
- B. Fly Ash: ASTM C618, Class Type C or Type F. Can use with pozzolan, ground granulated blast furnace slag and silica fume.
- C. Aggregates: ASTM C33, materials from established sources with proven history of successful use in producing concrete with minimum shrinkage.
- D. Water: Clear and potable, free from deleterious impurities.
- E. Admixtures:
 - 1. Admixtures are optional; however, a water reducer or plasticizing admixture shall be included in the concrete mix and it must be compatible with color pigments where color pigments are required. Any proposed admixture shall comply with ASTM C494.

2. Where more than one admixture is proposed, include statement from admixture manufacturer indicating that admixtures proposed for use are compatible, such that desirable effects of each admixture will be realized.
3. Accelerating admixtures and admixtures containing more than 0.05 percent chloride ions are not permitted. If an accelerator is used, it shall be a non-chloride accelerator.
4. Liquid admixtures shall be considered part of the total water.

2.5 CONCRETE MIXES

- A. Concrete mixes shall be approved and shall be in accordance with Caltrans Standard Specifications Section 90. Unless otherwise noted, mix shall contain not less than 590 pounds of cementitious material per cubic yard (Class "2", 3,000 psi,) Type II Portland cement and a maximum aggregate blend of 1" by #4.
- B. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast furnace slag, and silica fume as needed to reduce the amount of Portland cement by 15 to 40 percent. Limit by percentage of weight of cementitious materials other than Portland cement in concrete mix.
- C. Lampblack: As supplied by batch plant for plain non-colored concrete work. Concrete for non-colored pavements shall be darkened by the addition of lampblack at the mixer. The proportion of lampblack or other approved colorant shall be that required to properly darken the concrete to reduce glare, and shall be subject to the approval of the Owner's Representative. Provide $\frac{3}{4}$ pound of lampblack per cubic yard of concrete unless required otherwise.

2.6 ANCILLARY MATERIALS

- A. Aggregate Base: Crushed aggregate, R-78 minimum, 3/4-inch maximum, conforming to Standard Specification 26.1.02A, Class 2.
- B. Expansion Joint Material
- C. Fiber Expansion Joint: A non-extruding resilient filler, saturated with high quality bituminous materials having preserving characteristics. Conform to ASTM-D1751-04.
- D. Dampproofing: Per CALTRANS Standard Specifications, Section 54.
- E. Curing Materials for non-colored Concrete:
 1. Waterproof Paper: ASTM C171, Type 1.1.1.1, regular. Same as Sisalkraft Division of St. Regis Paper Co.'s "Orange Label", or equivalent.
 2. Impervious sheeting: 4 mil white polyethylene laminated to 10 oz. Burlap, ASTM C171, Type 1.1.3, fungus-resistant.
 3. Curing Compound: ASTM C309. Product: Sealtight 1100 Clear-Series by WR Meadows, Burke Azua Resin Cure by Edocol, or equal that will not discolor concrete or affect bonding of other finishes applied thereafter, and which restricts loss of water to not more than 0.500 grams per sq.

centimeter of surface when tested per ASTM C156, "Test Method for Water Retention by Concrete Curing Materials."

- F. Grout: Premixed high strength non-shrink grout requiring only addition of water at the site. Burke's "Non-Ferrous, Non-Shrink Grout"; Master Builders "Masterflow 928 Grout", or equal.
- G. Patching Mortar: Mix in proportions by volume of one part cement to two parts fine sand.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Install all concrete work true to line and grade as indicated on the drawings.
- B. Correct irregularities to the satisfaction of the Owner's Representative.
- C. Plain non-colored, exposed concrete shall contain lampblack, approximately 3/4 pound of lampblack per cubic yard, as accepted by Owner's Representative.
- D. The intent of the Grading Drawings is to provide positive drainage and to maintain slopes on walkways as required by the Americans with Disabilities act and California Title 24 throughout the project site. Notify the Owner's Representative immediately of any discrepancies between the Drawings and actual field conditions and/or conflicts between the design and Code requirements.

3.2 PREPARATION

- A. Examine subgrades and installation conditions. Do not start concrete work until unsatisfactory conditions are corrected.
- B. Provide subgrade preparation and the base material installation complete, including clearing, grading, excavation, filling and dewatering. Take every precaution to obtain a subgrade of uniform bearing power compacted to a minimum of 95% relative compaction as determined by the ASTM D1557 laboratory test procedure and in Sections 19 and 20 of the Caltrans Standard Specifications.
- C. Subgrade shall be kept moist and shall not be allowed to dry out before placement of concrete. Place no material on muddy subgrade. Remove un-compactable material and replace with clean fill and compact as required.
- D. Aggregate base, where indicated, shall be placed and compacted in conformance with Caltrans Standard Specifications 26-1.04 and 26-1.05.
- E. Obtain approval of subgrade from Owner's Representative prior to placing steel and concrete.

3.3 FORMS

- A. Forms shall be constructed in accordance with ACI 318, Section 6.1 and shall be of sufficient strength and sufficiently tight to prevent visible distortion or leakage of mortar and fines.
- B. Curb and pavement edge forms shall extend full depth of concrete and shall be coordinated with installation of planting root barriers where required. Curves shall be formed with flexible metal or wood made up of thin laminations. Curve forms shall extend one stake space straight beyond tangent point. Where curbs and pavement are adjacent to areas to receive root barriers, provide smooth uniform edges. Remove any excess concrete as required to allow installation of root barriers without gaps between curbs and/or pavement and barriers
- C. Maintain forms within the following tolerances.
 - 1. Top of Form: Plus or minus 1/8 inch in 10 feet and no abrupt variations; at required elevation to plus 3/8 inch.
 - 2. Face of Form: Plus or minus 1/4 inch in 10 feet longitudinal and no abrupt variations; perpendicular to surface plus or minus 1/8 inch.
- D. Form Ties: Align form ties as accepted by Owner's Representative. Obtain approval of form work from Owner's Representative prior to placing concrete.
- E. Forms may be reused upon cleaning and coating with parting compound to ensure separation from concrete without damage.
- F. After concrete is placed, the following minimum times shall elapse before removal of forms.
 - 1. Footing sides: 24 hours.
 - 2. Curbs: 1 hour

3.4 REINFORCEMENT

- A. All concrete footings, walls, grade-beams shall be steel reinforced unless specifically noted to be "not reinforced." If no reinforcement is shown, reinforce in same manner as that shown in similar places or as accepted by Owner's Representative.
- B. Fabricate and place reinforcement as indicated on the Drawings and in accordance with ACI "Detailing Manual" SP-66. No reinforcement shall be placed prior to distribution of the approved shop drawings.
- C. Secure reinforcement in position by suitable supports and by wiring at intersections with tie wire. Supports shall be of sufficient number and strength to resist crushing or displacement under full load. Metal shall not extend to surface of concrete.

D. At time of placing concrete, reinforcing shall be free of excessive rust, mill scale, or other bond reducing matter. Immediately before placing concrete, check and adjust position, support and anchorage.

3.5 CLEANING, PATCHING AND DEFECTIVE WORK

A. Where concrete is under strength, out of line, level or plumb, or shows objectionable cracks, honeycombing, rock pockets, voids, spalling, exposed reinforcement, signs of freezing, mismatched color, or is otherwise defective, and, in the Owner's Representative's judgment, these defects impair proper strength or appearance of the work, the Owner's Representative will require its removal and replacement at the Contractor's expense.

B. Immediately after stripping and before concrete is thoroughly dry, patch minor defects, form-tie holes, honeycombed areas, etc., with patching mortar colored and textured to match concrete. Remove ledges and bulges.

C. Compact mortar into place and neatly file defective surfaces to produce level, true planes. After initial set, dress surfaces of patches mechanically or manually to obtain same texture as surrounding surfaces.

D. Rock Pockets:

1. Cut out to full solid surface and form key.
2. Thoroughly wet before casting mortar.
3. Where the Owner's Representative deems rock pocket too large for satisfactory mortar patching as described, cut out defective section to solid surface, and replace.

E. Cleaning:

1. Insure removal of bituminous materials, form release agents, bond breakers, curing compounds, if permitted and other materials employed in work of concreting that would otherwise prevent proper application of sealants, liquid waterproofing, and other delayed finishes and treatments.
2. Where cleaning is required, take care not to damage surrounding surfaces or leave residue from cleaning agents.

3.6 MIXING AND PLACING CONCRETE

A. Conform to applicable requirements set forth in Caltrans Standard Specifications Section 51-1.09 and Section 90.

3.7 JOINTS AND GROOVES IN FLAT WORK

A. Plane of joints shall be perpendicular to surface. Where new pavements join existing, joints shall align.

B. Sawn Contraction Joints:

1. General: Provide where shown. Saw cut straight, true, and uniform, 1/8 - inch wide and not less than 1/4 of slab thickness in depth, unless otherwise noted. Cut with a power saw fitted with an abrasive or diamond blade.

2. Commence saw cutting operations after concrete has cured long enough to resist damage by the saw cutting operations and early enough to avoid random contraction cracks.
3. Contractor shall coordinate form removal and sequencing of adjacent concrete placement to minimize unnecessary saw cutting of adjacent surfaces.
4. Contractor shall plan for the use of varying types of saw cutting apparatus to provide acceptable finishes in areas limited in accessibility.
5. Fill saw cut over-runs and inadvertent saw cutting of adjacent surfaces with cement mortar to match color and finish of sawn pavement.
6. If the joint pattern is not shown, provide joints not exceeding 6 feet in either direction and located to conform to column centerlines, wall corners, etc. as accepted by Owner's Representative.

C. Expansion Joints in Flat Work: Provided at the location and intervals as shown on the drawings, and at all locations where concrete paving abuts buildings, curbs, walls, columns, or other structures, and not more than 16 feet on center. Specified and shown joint material shall be placed with top edge 1/8" below the paved surface and shall be securely held in place to prevent movement. Joint and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression. All edges shall be struck before and after brooming.

3.8 FINISHING

A. Flatwork and Curbs

1. Surface Finishes

B. Washed Exposed Aggregate Finish:

1. Place concrete using specified aggregate/concrete mix, screed tamp and bull float to desired elevation. A compatible water-reducing retarding admixture may be added in warm weather if desired. Apply surface retardant as soon as screeding and floating is complete.
2. If concrete is pumped into forms, lightly top seed surface of concrete with additional 3/8" size aggregate as required to match approved sample.
3. Cover slab with acceptable curing cover to prevent drying out. If fog cure is employed, start no sooner than recommended by retardant manufacturer.
4. Check retarded surface at regular intervals to determine optimum time for removing retarded surface mortar.
5. Broom and wash aggregate surface to remove mortar to its optimum (approximately 1/8" to 1/16" at surface stone depth) to match sample.
6. After aggregate is exposed, proceed with proper curing.

3.9 CURING

A. Cure non-colored exposed concrete in accordance with Caltrans Standard Specifications Section 90-7.

- B. When applying Curing Compound, apply after initial set of fresh concrete when bleed water has evaporated from surface using a “Hudson-type” airless sprayer in accordance with manufacturer’s specifications.
- C. Only water or curing compounds which impart no permanent color or gloss shall be used for curing concrete.

END OF SECTION

SECTION 32 13 13
CONCRETE PAVEMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Portland cement concrete for curb ramps, accessible parking stalls, and driveways
- B. Furnishing, placing, spreading, compacting and shaping portland cement concrete pavement with undoweled transverse weakened plane joints, for vehicular traffic.
- C. Form construction and use in placing portland cement concrete pavement.
- D. Joints for portland cement concrete pavement.
- E. Finishing portland cement concrete pavement.
- F. Curing and protecting portland cement concrete pavement.

1.2 RELATED SECTIONS

- A. Section 01 10 00, Supplemental General Requirements
- B. Section 31 20 00, Earth Moving
- C. Section 32 11 00, Pavement Base Course
- D. Section 32 13 12, Landscape Concrete

1.3 RELATED DOCUMENTS

- A. AASHTO Standard Specifications
 - 1. T132: Standard Method of Test for Tensile Strength of Hydraulic Cement Mortars
- B. ASTM Standards
 - 1. D36: Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)
 - 2. A615: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - 3. A706: Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
 - 4. A775: Standard Specification for Epoxy Coated Steel Reinforcing Bars.
 - 5. A934: Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
 - 6. A996: Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
 - 7. C94: Standard Specification for Ready-Mixed Concrete

8. C603: Standard Test Method for Extrusion Rate and Application Life of Elastomeric Sealants
9. C639: Standard Test Method for Rheological (Flow) Properties of Elastomeric Sealants
10. C661: Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer
11. C679: ASTM C679-15 Standard Test Method for Tack-Free Time of Elastomeric Sealants
12. C719: Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)
13. C793: Standard Test Method for Effects of Laboratory Accelerated Weathering on Elastomeric Joint Sealants
14. C881: Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
15. D412: Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
16. D1640: Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings
17. D2628: Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements.
18. D2835: Standard Specification for Lubricant for Installation of Preformed Compression Seals in Concrete Pavements.
19. D3963: Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars.
20. D6690: Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

- C. Caltrans Standard Specifications
1. Section 10, General
 2. Section 40, Concrete Pavement
 3. Section 52, Reinforcement
 4. Section 95, Epoxy
 5. Section 90: Concrete

- D. Caltrans Standard Plans:
1. Plan P1: Jointed Plan Concrete Pavement – New Construction
 2. Plan P10: Concrete Pavement Dowel Bar Details

1.4 DEFINITIONS

- A. AASHTO: American Association of State Highway and Transportation Officials
- B. ASTM: American Society for Testing and Materials
- C. Caltrans: State of California, Department of Transportation

1.5 QUALITY ASSURANCE

- A. Testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.

- B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C94 requirements for production facilities and equipment.
- C. Installer Qualification: An experienced installer who has completed pavement work similar in material, design and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.

1.6 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental–Supplemental General Requirements.
- B. Concrete Mix Design: Have all concrete mixes designed by a testing laboratory and approved by the City. Conform all mixes to the applicable building code requirement, regardless of other minimum requirements listed herein or on the drawings. Submit mix designs for review before use. Show proportions and specific gravities of cement, fine and coarse aggregate, and water and gradation of combined aggregates.

1.7 PORTLAND CEMENT CONCRETE

- A. In accordance with Caltrans Standard Specification Section 40, Concrete Pavement
- B. Lampblack: As supplied by batch plant for plain non-colored concrete work. Concrete for non-colored pavements shall be darkened by the addition of lampblack at the mixer. The proportion of lampblack or other approved colorant shall be that required to properly darken the concrete to reduce glare, and shall be subject to the approval of the Owner's Representative. Provide $\frac{3}{4}$ pound of lampblack per cubic yard of concrete unless required otherwise.

1.8 BASE MATERIAL

- A. In accordance with Section 32 11 00, Pavement Base Course.

1.9 TIE BARS

- A. Deformed reinforcing steel bars conforming to the requirements of ASTM Designation A615, Grade 40 or 60
- B. Epoxy-coat in accordance with Caltrans Standard Specification Section 52-2.02, Epoxy-Coated Reinforcement, except bars must comply with ASTM A706; ASTM A996; or ASTM A615, Grade 40 or 60.
- C. Do not bend tie bars.

1.10 EPOXY

- A. Bond tie bars to existing concrete with epoxy resin in accordance with Caltrans Standard Specification Section 95-1.02D, Epoxy Adhesive for Bonding Freshly Mixed Concrete to Hardened Concrete.

1.11 PREFORMED COMPRESSION JOINT SEALANT

- A. Material: ASTM Designation: D2628.
 - 1. Number of cells: 5 or 6.
 - 2. Lubricant Adhesive: ASTM Designation D2835.
 - 3. Install compression seals along with lubricant adhesive according to the manufacturer's recommendations. Submit manufacturer's recommendations to the Engineer`.
- B. Accompany each lot of compression seal and lubricant adhesive by a Certificate of Compliance, storage instructions and precautionary instructions for use. Also submit the manufacturer's data sheet with installation instructions and recommended model or type of preformed compression seal for the joint size and depth as shown on the Plans. Show evidence that the selected seal is being compressed at level between 20 and 50 percent at all times for the joint width and depth shown on the Plans.

1.12 BACKER RODS

- A. Provide backer rods that have a diameter prior to placement at least 25 percent greater than the width of the saw cut after sawing and are expanded, crosslinked, closed-cell polyethylene foam that is compatible with the joint sealant so that no bond, adverse reaction occurs between the rod and sealant. In no case use a hot pour sealant that will melt the backer rod. Submit a manufacturer's data sheet verifying that the backer rod is compatible with the sealant to be used.

PART 2 EXECUTION

2.1 SUBGRADE

- A. Prepare subgrade in accordance with Caltrans Standard Specification Section 40-1.03F, Placing Concrete.

2.2 PLACING

- A. Prepare concrete in accordance with Caltrans Standard Specification Section 40-1.03F, Placing Concrete.

2.3 SPREADING COMPACTING AND SHAPING

- A. Conform to the following:
 - 1. Stationary Side Form Construction: In accordance with Caltrans Standard Specification Section 40-1.03F(4), Stationary Side-Form Construction.

2. Slip Form Construction: In accordance with Caltrans Standard Specification Section 40-1.03F(4), Slip Form Construction.

2.4 INSTALLING TIE BARS

- A. Install at longitudinal contact joints, longitudinal weakened plane joints, and transverse contact joints as shown on the Plans. In no case, shall any consecutive width of new portland cement concrete pavement tied together with tie bars exceed 50 feet. In no case shall tie bars be used at a joint where portland cement concrete and asphalt concrete pavements abut.
- B. Tie bars shall be installed at longitudinal joints by one of the 3 following methods:
 1. Drilling and bonding in conformance with the details shown on the Plans. Provide a two-component, epoxy-resin, conforming to the requirements of ASTM Designation: C881, Type V. Grade 3 (Non-Sagging), Class shall be as follows:

<u>Temperature of Concrete</u>	<u>Required Class of Epoxy Resin</u>
Lower than 40° F	A
40° F through 60° F	B
Above 60° F	C

2. Provide, at least 7 days prior to start of work, a Certificate of compliance and a copy of the manufacturer's recommended installation procedure. The drilled holes shall be cleaned in accordance with the epoxy manufacturer's instructions and shall be dry at the time of placing the epoxy and tie bars. Immediately after inserting the tie bars into the epoxy, the tie bars shall be supported as necessary to prevent movement during the curing and shall remain undisturbed until the epoxy has cured a minimum time as specified by the manufacturer. Tie bars that are improperly bonded, as determined by the Engineer, will be rejected. If rejected, adjacent new holes shall be drilled, as directed by the Engineer, and new tie bars shall be placed and securely bonded to the concrete. All work necessary to correct improperly bonded tie bars shall be performed at the Contractor's expense.
3. Insert the tie bars into the plastic slip-formed concrete before finishing the concrete. Inserted tie bars shall have full contact between the bar and the concrete. When tie bars are inserted through the pavement surface, the concrete over the tie bars shall be reworked and refinished to such an extent that there is no evidence on the surface of the completed pavement that there has been any insertion performed. Any loose tie bars shall be replaced by drilling and grouting into place with epoxy as described in method 1 above at the Contractor's expense.
4. By using threaded dowel splice couplers fabricated from deformed bar reinforcement material, free of external welding or machining. Threaded dowel splice couplers shall be accompanied by a Certificate of Compliance and installation instructions. Installation of threaded dowel splice couplers shall conform to the requirements of the manufacturer's recommendations.

2.5 JOINTS

- A. Construct joints in accordance with Caltrans Standard Specification Section 40-1.03B, Joints, except that tie bars shall be as specified under Part 1, Materials.
 - 1. Construction Joints: In accordance with Caltrans Standard Specification Section 40-1.03B(2), Construction Joints.
 - a. Construct a construction joint at the end of each day's work, or where concrete placement is interrupted for more than 30 minutes, to coincide with the next weakened plane joint location.
 - b. If sufficient concrete has not been mixed to form a slab to match the next contraction joint, when an interruption occurs, the excess concrete shall be removed and disposed of back to the last preceding joint. The cost of removing and disposing of any excess concrete shall be at the Contractor's expense. Any excess material shall become the property of the Contractor and shall be properly disposed of.
 - c. A metal or wooden bulkhead (header) shall be used to form the joint. The bulkhead shall be designed to accommodate the installation of tie bars.
 - 2. Contraction Joints: In accordance with Caltrans Standard Specification Section 40-1.03B (3), Contraction Joints, except that the insert method of forming joints in pavement shall not be used.

2.6 FINISHING

- A. Finish concrete in accordance with Caltrans Standard Specification Section 40-1.03H, Finishing.

2.7 CURING

- A. Cure concrete in accordance with Caltrans Standard Specification Section 40-1.03I, Curing.

2.8 SEALING JOINTS

- A. Liquid Joint Sealant Installation.
 - 1. The joint sealant detail for transverse and longitudinal joints, as shown on the Plans, shall apply only to weakened plane joints. Construct weakened plane joints by the sawing method. Should grinding or grooving be required over or adjacent to any joint after sealant has been placed, completely remove the joint material and disposed of, and replace at the Contractor's expense. Recess sealant below the final finished surface as shown on the Plans.
 - 2. At the Contractor's option, transverse weakened plane joints shall be either Type DSC or Type SSC as shown on the Plans. Longitudinal weakened plane joints shall be Type SSC only as shown on the Plans.
 - 3. Seven days after the concrete pavement placement and not more than 4 hours before placing backer rods and joint sealant materials, clean the joint walls by the dry sand blast method and other means as necessary to

completely remove from the joint all objectionable material such as soil, asphalt, curing compound, paint and rust. After cleaning the joint, remove all traces of sand, dust and loose material from and near the joint for a distance along the pavement surfaces of at least 2 inch on each side of the joint by the use of a vacuum device. Remove surface moisture at the joints by means of compressed air or moderate hot compressed air or other means approved means. Do not use drying procedures that leave a residue or film on the joint wall. Sandblasting equipment shall have a maximum nozzle diameter size of $1/4 \pm 1/32$ inches and a minimum pressure of 90-psi.

4. Install backer rod as shown on the Plans. Provide an expanded, closed-cell polyethylene foam backer rod that is compatible with the joint sealant so that no bond or adverse reaction occurs between the rod and sealant. Install backer rod when the temperature of the portland cement concrete pavement is above the dew point of the air and when the air temperature is 40°F or above. Install backer rod when the joints to be sealed have been properly patched, cleaned and dried. Do not use a method of placing backer rod that leave a residue or film on the joint walls.
5. Immediately after placement of the backer rod, place the joint sealant in the clean, dry, prepared joints as shown on the Plans. Apply the joint sealant by a mechanical device with a nozzle shaped to fit inside the joint to introduce the sealant from inside the joint. Apply adequate pressure to the sealant to ensure that the sealant material is extruded evenly and that full continuous contact is made with the joint walls. After application of the sealant recess the surface of the sealant as shown on the Plans.
6. Any failure of the joint material in either adhesion or cohesion of the material will be cause for rejection of the joint. Conform the finished surface of joint sealant to the dimensions and allowable tolerances shown on the Plans. Rejected joint materials or joint material whose finished surface does not conform to the dimensions shown on the Plans shall be repaired or replaced, at the Contractor's expense, with joint material that conforms to the requirements.
7. After each joint is sealed, remove all surplus joint sealer on the pavement surface. Traffic shall not be permitted over the sealed joints until the sealant is tack free and set sufficiently to prevent embedment of roadway debris into the sealant.

B. Preformed Compression Joint Seal Installation

1. The compression seal alternative joint detail for transverse and longitudinal joints, as shown on the Plans, shall apply only to weakened plane joints. Construct weakened plane joints by the sawing method. Should grinding or grooving be required over or adjacent to any joint after the compression seal has been placed, completely remove the joint materials and disposed of, and replace at the Contractor's expense. Compression seal shall be recessed below the final finished surface as shown on the Plans.
2. At the Contractor's option, transverse weakened plane joints shall be either Type DSC or Type SSC as shown on the Plans. Longitudinal weakened plane joints shall be Type SSC only as shown on the Plans.

3. Seven days after the concrete pavement placement and not more than 4 hours before placing preformed compression joint seals, clean the joint walls by the dry sand blast method and other means as necessary to completely remove from the joint all objectionable material such as soil, asphalt, curing compound, paint and rust. After cleaning the joint, remove all traces of sand, dust and loose material from and near the joint for a distance along the pavement surfaces of at least 50 mm on each side of the joint by the use of a vacuum device. Remove surface moisture at the joints by means of compressed air or moderate hot compressed air or other means. Do not use drying procedures that leave a residue or film on the joint wall. Sandblasting equipment shall have a maximum nozzle diameter size of $1/4 \pm 1/32$ inches and a minimum pressure of 90 psi.

2.9 PROTECTING CONCRETE PAVEMENT

- A. Protect pavement in accordance with Caltrans Standard Specification Section 40-1.03J Protecting Concrete Pavement.

END OF SECTION

SECTION 32 13 75

CONCRETE CURBS AND GUTTERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Portland cement concrete curbs and gutters.

1.2 RELATED SECTIONS

- A. Section 31 20 00, Earth Moving
- B. Section 32 11 00, Pavement Base Course
- C. Section 32 13 13, Concrete Pavement
- D. Section 32 13 12, Landscape Concrete

1.3 RELATED DOCUMENTS

- A. American society for Testing and Materials (ASTM)
 - 1. A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
 - 2. D1751 – Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)
- B. Caltrans Standard Specifications
 - 1. Section 73: Concrete Curbs and Sidewalks
 - 2. Section 90: Concrete

1.4 DEFINITIONS

- A. ASTM: American Society for Testing Materials
- B. ACI: American Concrete Institute

1.5 SUBMITTALS

- A. Submittal procedures shall be as outlined in Section 01 10 00 – Supplemental General Requirements.
- B. Concrete Mix Design: Have all concrete mixes designed by a testing laboratory and approved by the City. Conform all mixes to the applicable building code requirement, regardless of other minimum requirements listed herein or on the drawings. Submit mix designs for review before use. Show proportions and specific gravities of cement, fine and coarse aggregate, and water and gradation of combined aggregates.

1.6 QUALITY ASSURANCE

- A. Concrete shall be subject to quality assurance in accordance with Section 90 of the Caltrans Standard Specifications.
- B. Certifications:
 - 1. Provide City at the time of delivery with certificates of compliance signed by both Contractor and Supplier containing the following statements:
 - a. Materials contained comply with the requirements of the Contract Documents in all respects.
 - b. Proportions and mixing comply with the design mix approved by the Consulting Engineer. Design mix shall have been field tested in accordance with the herein requirements of the Caltrans Standard Specifications and produces the required compressive strength under like conditions.
 - 2. Settlement of type and amount of any admixtures.
 - 3. Provide City, at time of delivery, with certified delivery ticket stating volume of concrete delivered and time of mixing, or time of load-out in case of transit mixers.
- C. Conform to the applicable provisions of Sections 51, 73 and 90 of the Caltrans Standard Specification and these Technical Specifications.
 - 1. Conform construction of Portland cement concrete surface improvements (including curbs, gutters, medians, valley gutters, walks) to the requirements of Section 73 of the Caltrans Standard Specifications unless otherwise required in these Technical Specifications or shown on the Plans.
 - 2. Construct "V" ditches in accordance with Section 72-5 of the Caltrans Standard Specifications; except that finishing shall be in accordance with Standard Specification Section 73, or as otherwise required in these Technical Specifications or shown on the Plans.

1.7 DESIGNATION

- A. General: Whenever the 28 day compressive strength is designated herein or on the Plans is 3,600 psi or greater, the concrete shall consider to be designated by compressive strength. The 28 day compressive strength shown herein or on the plans which are less than 3,600 psi are shown for design information only and are not considered a requirement for acceptance of the concrete. Whenever the concrete is designated by class or as minor concrete herein or on the Plans, the concrete shall contain the cement per cubic yard shown in Section 90-2 of the Caltrans Standard Specifications.
- B. Unless specified otherwise herein or on the Plans, Portland cement concrete for curbs, gutters, sidewalks and their appurtenances such as island paving, curb ramps and driveways, shall be minor concrete as specified in Section 90-2 of the Caltrans Standard Specifications.

PART 2 PRODUCTS

2.1 PORTLAND CEMENT CONCRETE

- A. Unless specified otherwise herein or on the Plans, Portland cement concrete for items in this section shall be Minor Concrete as specified in Section 90-2 of the Caltrans Standard Specifications.
- B. Design mix to produce normal-weight concrete consisting of Portland cement, aggregate, water-reducing or high-range water-reducing admixture (superplasticizer), air-entraining admixture, and water to produce the following properties:
 - 1. Compressive Strength:
 - a. Typical: 3000 psi, minimum at 28 days, unless otherwise indicated.
 - b. Curbs & Gutters: 3500 psi, minimum at 28 days.
 - 2. Slump Limit: 8 inches minimum for concrete containing high-range water-reducing admixture (superplasticizer, limited to flatwork only); 4 inches for other concrete.
 - 3. Water/Cement Ratio: 0.5
- C. Lampblack: As supplied by batch plant for plain non-colored concrete work. Concrete for non-colored pavements shall be darkened by the addition of lampblack at the mixer. The proportion of lampblack or other approved colorant shall be that required to properly darken the concrete to reduce glare, and shall be subject to the approval of the Owner's Representative. Provide $\frac{3}{4}$ pound of lampblack per cubic yard of concrete unless required otherwise.
 - 1.

2.2 CURBS AND GUTTERS FORMS

- A. Use flexible spring-steel forms or laminated boards to form radius bends. Tolerance: Not to deviate more than 1/4 inch in 10 feet in grade and alignment.

2.3 EXPANSION JOINT MATERIAL

- A. Material for expansion joints in Portland cement concrete improvements shall be pre-molded expansion joint fillers conforming to the requirements of ASTM Designation D1751. Expansion joint material shall be shaped to fit the cross section of the concrete prior to being placed. Suppliers certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site.
- B. Unless noted otherwise herein or on the Plans expansion joint thickness shall be as follows:
 - 1. Curbs, Curb Ramps, Island Paving, Driveways and Gutter Depressions: $\frac{1}{4}$ inch

2.4 REINFORCEMENT AND DOWELS

- A. Comply with requirements of Section 32 13 18, Cement and Concrete for Exterior Improvements.

PART 3 EXECUTION

3.1 GENERAL

- A. Form, place and finish concrete curbs and gutters in conformance with the applicable requirements of Section 73 of the Caltrans Standard Specifications as modified herein.
- B. Construct new concrete curb, curb and gutter and valley gutters against existing asphalt concrete by removing a minimum of 12 inches of the asphalt concrete to allow placement of curb or gutter forms. Patch pavement with a 6 inch deep lift of asphalt concrete after gutter form is removed.

3.2 SUBGRADE

- A. Conform to Section 73-1.03B of Caltrans Standard Specifications.

3.3 PLACING CONCRETE FORMS

- A. Form concrete improvements with a smooth and true upper edge. Side of the form with a smooth finish shall be placed next to concrete. Construct forms rigid enough to withstand the pressure of the fresh concrete to be placed without any distortion.
- B. Thoroughly clean all forms prior to placement and coat forms with an approved form oil in sufficient quantity to prevent adherence of concrete prior to placing concrete.
- C. Carefully set forms to the alignment and grade established and conform to the required dimensions. Rigidly hold forms in place by stakes set at satisfactory intervals. Provide sufficient clamps, spreaders and braces to insure the rigidity of the forms.
- D. Provide forms for back and face of curbs, lip of gutters and edge of walks, or other surface slabs that are equal to the full depth of the concrete as shown, noted or called for on the Plans. On curves and curb returns provide composite forms made from benders or thin planks of sufficient ply to ensure rigidity of the form.

3.4 PLACING PORTLAND CEMENT CONCRETE

- A. Thoroughly wet subgrade when concrete is placed directly on soil. Remove all standing water prior to placing concrete.
- B. Do not place concrete until the subgrade and the forms have been approved.

- C. Convey concrete from mixer to final location as rapidly as possible by methods that prevent separation of the ingredients. Deposit concrete as nearly as possible in final position to avoid re-handling.
- D. Place and solidify concrete in forms without segregation by means of mechanical vibration or by other means as approved by the City. Continue vibration until the material is sufficiently consolidated and absent of all voids without causing segregation of material. The use of vibrators for extensive shifting of fresh concrete will not be permitted.
- E. Concrete in certain locations may be pumped into place upon prior approval by the City. When this procedure requires redesign of the mix, such redesign shall be submitted for approval in the same manner as herein specified for approval of design mixes.

3.5 EXPANSION JOINTS

- A. Construct expansion joints incorporating pre-molded joint fillers at twenty (20) foot intervals in all concrete curbs, gutters, median/island paving, driveway approaches and at the ends of all returns. At each expansion joint install one-half inch by twelve inch smooth slip dowels in the positions shown or noted on the detail drawings.
- B. Orient slip dowels at right angles to the expansion joint and hold firmly in place during the construction process by means of appropriate chairs.

3.6 WEAKENED PLANE JOINTS

- A. Construct weakened plane joints in concrete curbs, gutters, median/island paving and valley gutters between expansion joints at ten (10) foot intervals throughout, or as otherwise indicated. Depth of joint score depth to be one-fourth (25%) the thickness of the concrete.
- B. Orient slip dowels at right angles to the expansion joint and hold firmly in place during the construction process by means of appropriate chairs.
- C. Grooved Joints: Form weakened plane joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of weakened plane joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

3.7 FINISHING CONCRETE

- A. Finish curb and gutter in conformance with the applicable requirements of Section 73 of the Caltrans Standard Specifications as modified herein.
- B. Where monolithic curb, gutter and sidewalk is specified, separate concrete pours will not be allowed.
- C. Provide a broom finish to all horizontal surfaces perpendicular to the path of travel on surfaces used by pedestrians:

1. Sloped Less than 6%: Provide a medium salt (medium broom) finish by drawing a soft bristle broom across concrete surface, perpendicular to line of traffic, to provide a uniform fine line texture.
2. Surfaces Sloped Greater than 6%: Provide a slip resistant (heavy broom finish) by striating surface 1/16 inch to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

3.8 FORM REMOVAL

- A. Remove forms without damage to the concrete. Remove all shores and braces below the ground surface, before backfilling.
- B. Do not backfill against concrete until the concrete has developed sufficient strength to prevent damage.
- C. Leave edge forms in place at least 24 hours after pouring.

3.9 CONNECTING TO EXISTING CONCRETE IMPROVEMENTS

- A. New curb or gutter is to connect to existing improvements to remain by saw cutting to existing sound concrete at the nearest score line, expansion joint or control joint. Drill and insert ½ inch diameter by 12 inch long dowels at 48 inches on center into existing improvements. Install pre-molded expansion joint filler at the matching joint.
- B. A cold joint to the existing curb is not acceptable.

3.10 FIELD QUALITY CONTROL

- A. Conform the finish grade at top of curb, flow line of gutter, and the finish cross section of concrete improvements to the design grades and cross sections.
- B. Variation of concrete improvements from design grade and cross section as shown or called for on the plans shall not exceed the tolerances established in Section 73 of the Caltrans Standard Specifications.

3.11 RESTORATION OF EXISTING IMPROVEMENTS

- A. Replace in kind all pavement or other improvements removed or damaged due to the installation of concrete improvements.
- B. Remove, landscaping or plantings damaged or disturbed due to the installation of concrete improvements. Replace in kind.

END OF SECTION

SECTION 32 17 23

PAVEMENT MARKINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal of existing traffic stripes and pavement markers
- B. Cleaning and sweeping of streets before application of traffic stripes and pavement markings
- C. Materials and application for traffic stripes and pavement markings
- D. Materials and application for pavement markers

1.2 RELATED SECTIONS

- A. Section 01 10 00, Supplemental General Requirements
- B. Section 32 13 12, Landscape Concrete

1.3 RELATED DOCUMENTS

- A. Caltrans Standard Specifications
 - 1. Section 78, Incidental Construction
 - 2. Section 81, Miscellaneous Traffic Control Devices
 - 3. Section 84, Markings
- B. Caltrans Standard Plans, 2015
 - 1. Plan A20A through A20D: Pavement Markers and Traffic Lines, Typical Details
 - 2. Plan A24A and A24B: Pavement Markings Arrows
 - 3. Plan A24C: Pavement Markings, Symbols and Numerals
 - 4. Plan A24D: Pavement Markings, Words
 - 5. Plan A24E: Pavement Markings, Words, Limit and Yield Lines
 - 6. Plan A24F: Pavement Markings, Crosswalks
- C. California Manual on Uniform Traffic Control Devices

1.4 SUBMITTALS

- A. Submit product data for each of the following in accordance with Section 01 10 00, Supplemental General Requirements:
 - 1. Traffic paint
 - 2. Pavement markers and adhesives

1.5 QUALITY ASSURANCE

- A. Deliver certificates showing conformance with this specification to the Engineer with each shipment of materials and equipment to the Project site.
- B. Provide proper facilities for handling and storage of products to prevent damage. Where necessary, stack products off ground on level platform, fully protected from weather.

1.6 PROJECT CONDITIONS

- A. Do not apply traffic striping or pavement markings to the pavement until after approval to proceed has been given by the Engineer.
- B. Thoroughly cure new asphalt concrete and Portland cement concrete before application of stripes, markings or markers.

PART 2 PRODUCTS

2.1 THERMOPLASTIC STRIPES AND MARKING

- A. Thermoplastic striping and marking materials shall be in accordance with Caltrans Standard Specifications Sections 84-2.02 and 84-2.02B, unless noted otherwise herein or on the Plans.
- B. Glass Beads shall be in accordance with Caltrans Standard Specification Section 84-2.02D, Glass Beads, unless noted otherwise herein or on the Plans.
- C. Thermoplastic stripes and markings shall have a minimum skid friction value of BPN 35.

2.2 PAINTED STRIPES AND MARKINGS

- A. Painted striping and marking materials shall be in accordance with Caltrans Standard Specifications Sections 84-2.02 and 84-2.02C, unless noted otherwise herein or on the Plans.
- B. Glass Beads shall be in accordance with Caltrans Standard Specification Section 84-2.02D, Glass Beads, unless noted otherwise herein or on the Plans.

2.3 TRAFFIC CONTROL SIGNS

- A. General: Traffic control signs shall be in accordance with Caltrans Standard Specification Section 82-1, Signs and Markers.
- B. Sign Panels shall be in accordance with Caltrans Standard Specification Section 82-2, Sign Panels. Conform type (regulatory or warning), size, shape and pattern to the State of California, Department of Transportation, Traffic Manual, edition in effect at the date of the Plans.

- C. Posts:
 - 1. Metal Posts shall be in accordance with Caltrans Standard Specification Section 82-3.02B, Metal Posts.
 - 2. Wood Posts shall be in accordance with Caltrans Standard Specification Section 82-3.02C, Wood Posts.
- D. Mounting Hardware shall be in accordance with Caltrans Standard Specification 82-3.02E, Sign Panel Fastening and Mounting Hardware, unless otherwise specified.
- E. Post Foundations: Conform to Caltrans Standard Plans.

2.4 SIGNS

- A. Conform to manufacturer, style, size, and shape shown on the Plans.

PART 3 EXECUTION

3.1 REMOVAL OF TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

- A. Where grinding is used for the removal of thermoplastic traffic stripes and pavement markings; remove the residue by means of a vacuum attachment to the grinding machine. Do not allow the residue to flow across or be left on, the pavement.
- B. Where markings are to be removed by grinding, the removed area shall be approximately rectangular so that no imprint of the removed marking remains on the pavement.
- C. Contractor will be responsible for repairing any damage to the pavement during removal of pavement markers. Damage to the pavement, resulting from removal of pavement markers, shall be considered as any depression more than 1/4-inch deep.

3.2 TEMPORARY PAVEMENT MARKERS

- A. If permanent pavement markers cannot be installed immediately, and the street or road is to be placed in service, install short term, temporary pavement markers on the new pavement prior to opening the street or road to traffic.
- B. Place markers, at a minimum, of 24 feet on centers, or as required by the governmental agency having jurisdiction, in the appropriate colors to delineate centerlines and travel lanes on multi-lane roadways.

3.3 THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS

- A. Apply in conformance with the manufacturer's instructions and the applicable requirements Caltrans Standard Specification Section 84-2.03, Construction, and Caltrans Standard Plans A20A through A20D, and A24A through A24E.

3.4 PAINTED TRAFFIC STRIPES AND PAVEMENT MARKINGS

- A. Apply in conformance with the manufacturer's instructions and the applicable requirements of Caltrans Standard Specification Section 84-3.03, 3.04 and 3.05 and Caltrans Standard Plans A20A through A20D, and A24A through A24F.

3.5 TRAFFIC CONTROL SIGNS

- A. Install in accordance with Caltrans Standard Specification Sections 82-2.03 and 82-3.03, Caltrans Standard Plan RS1, the applicable requirements of the State of California Department of Transportation Maintenance Manual and the details shown on the Plans. The horizontal locations shown on Caltrans Standard Plan RS1 shall not be applicable, the horizontal location shall be as shown on the Plans.
- B. Portland cement concrete for post foundations shall be of the configuration shown on the Plans.
- C. After erection, damage to traffic sign faces shall be touched up or the sign replaced.

3.6 SIGNS

- A. Install in accordance with the manufacturer's instructions and as shown on the Plans.
- B. Horizontal location shall be as shown on the Plans.
- C. Portland cement concrete for post foundations shall be of the configuration shown on the Plans.

3.7 PROTECTION

- A. Protect the newly installed traffic stripes and pavement markings from damage until the material has cured.
- B. Replace any traffic stripes or pavement markings or markers broken, misaligned or otherwise disturbed prior to opening roadway to traffic.

3.8 RESTORATION OF EXISTING IMPROVEMENTS

- A. Existing signs striping or other markings removed or damaged due to the installation of new facilities shall be replaced in kind.
- B. Existing landscaping or planting removed, damaged or disturbed due to the installation of traffic control signs or street name signs shall be replaced in kind.

END OF SECTION

SECTION 32 17 26

DETECTABLE WARNING SURFACING

PART 1 GENERAL

1 SECTION INCLUDES

D. Furnishing and placing cast-in-place detectable warning tile surfacing

2 RELATED SECTIONS

aSection 32 13 13, Concrete Pavement

3 SUBMITTALS

aProduct Data: For each type of product, showing edge condition, truncated-dome pattern, texture, color, and cross section.

bMaintenance Data: For tactile warning surfacing, to include in maintenance manuals.

4 WARRANTY

aSpecial Warranty: Manufacturer agrees to repair or replace components of tactile warning surfaces that fail in materials or workmanship within specified warranty period.

- 1 Failures include, but are not limited to, the following:
 - 1 Deterioration of finishes beyond normal weathering and wear.
 - 2 Separation or delamination of materials and components.

- 2 Warranty Period: Five years from date of Substantial Completion.

PART 2 PRODUCTS

1 DETECTABLE WARNING SURFACE

aCast-in-Place Detectable Warning Tiles: Accessible truncated-dome detectable warning tiles configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.

- 1 ADA Solutions cast-in-place or approved equal
- 2 Material: Cast-fiber-reinforced polymer concrete tile.
- 3 Color: Colonial Red
- 4 Shapes and Sizes:
 - 1 See plans.

- 5 Dome Spacing and Configuration: 2.3 to 2.4-inch spacing, in square pattern per the California Building Code.

- 6 Mounting:

- 1 Permanently embedded detectable warning tile wet-set into freshly poured concrete.

PART 3 EXECUTION

1 EXAMINATION

a Verify that pavement is in suitable condition to begin installation according to manufacturer's written instructions. Verify that installation of tactile warning surfacing will comply with accessibility requirements upon completion.

b Proceed with installation only after unsatisfactory conditions have been corrected.

2 INSTALLATION OF DETECTABLE WARNING SURFACE

a Cast-in Place Detectable Warning Tiles:

- 1 Concrete Paving Installation: Comply with installation requirements in Section 32 13 13, Concrete Pavement. Mix, place, and finish concrete to conditions complying with detectable warning tile manufacturer's written requirements for satisfactory embedment of tile.
- 2 Set each detectable warning tile accurately and firmly in place and completely seat tile back and embedments in wet concrete by tamping or vibrating. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
- 3 Set surface of tile flush with surrounding concrete and adjacent tiles, with variations between tiles and between concrete and tiles not exceeding plus or minus 1/8 inch (3 mm) from flush.
- 4 Protect exposed surfaces of installed tiles from contact with wet concrete. Complete finishing of concrete paving surrounding tiles. Remove concrete from tile surfaces.
- 5 Clean tiles using methods recommended in writing by manufacturer.

3 CLEANING AND PROTECTION

a Remove and replace tactile warning surfacing that is broken or damaged or does not comply with requirements in this Section. Remove in complete sections from joint to joint unless otherwise approved by Architect. Replace using tactile warning surfacing installation methods acceptable to Architect.

b Protect tactile warning surfacing from damage and maintain free of stains, discoloration, dirt, and other foreign material.

END OF SECTION

SECTION 32 33 00

SITE FURNISHINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Furnish and install all site furnishings shown on drawings and specified in accordance with the manufacturer's instructions and as shown on the drawings and as specified.

1.2 RELATED SECTIONS

- 1. Section 32 13 12, Site Concrete

1.3 REFERENCES

- A. Perform work in accordance with all applicable laws, codes and regulations required by the City and the State of California.
- B. Manufacturer's Instructions:
 - Where required in the Specifications that materials, products, processes, equipment or the like to be installed or applied in accordance with manufacturer's instructions, directions or specifications, or words to this effect, it shall be constructed to mean that said application or installation shall be in strict accordance with printed instructions furnished by the manufacturer of the material for use under conditions similar to those at the job site.
- 2. All site furnishings shall be anchored or otherwise secured to prevent movement, unless stated otherwise. Provide concrete footings, corrosion resistant clips, etc. as accepted by the Owner's Representative.
- C. Reference Standards:
 - State of California, Business and Transportation Agency, Department of Transportation: "Standard Specifications."
 - Manufacturers' specifications and recommendations.

1.4 COORDINATION

- A. Coordinate items of other trades. Contractor shall be responsible for the proper installation of all accessories embedded in concrete and for the provision of connections, holes, openings, etc., necessary to the execution of the work of the trades.

1.5 SUBMITTALS

- A. Trash Receptacles, including required leveling spacers.
- B. Bike Racks

- C. Tree Grates
- D. Bollards

PART 2 - MATERIALS

2.1 TRASH RECEPTACLES

- A. Model: CG32-PS (Waste, Recycling, Compost), color Forest Green to match existing Sausalito standard. Manufacturer –BEARSAVER/SECURR, PO Box 1438 Guasti, CA 91734, 909-212-5379.

2.2 BIKE RACK

- A. Model: 696C Vroom Bicycle Rack Large, Casting in Ground, powder-coated aluminum, RAL 7026 Granite Grey; manufacturer: Vestre, 663 San Juan Avenue, Los Angeles, CA 90291, (212-634-9658).

2.3 TREE GRATES

- A. Model: ADA-M6058, with two (2) holes for tree stakes, 100% recycled gray iron, 60" x 60," RAL 7026 Granite Grey; contractor to submit shop drawings. Manufacturer: Ironsmith, 41-701 Corporate Way #3 Palm Desert, CA 92260, (800-338-4766).

2.4 BOLLARDS

- A. Model: 99 622 Non-Illuminated System Bollard Tube, 7 ½" diameter with B79817 Anchorage Kit, RAL 7026 Granite Grey; manufacturer: Bega, 1000 BEGA Way, Carpinteria, CA 93013, (805-684-0533).
- B. Model: 71 127 Non -Illuminated Cap, 7 ½" diameter, RAL 7026 Granite Grey; manufacturer: Bega, 1000 BEGA Way, Carpinteria, CA 93013, (805-684-0533).

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION

- A. Install manufactured items in accordance with the manufacturer's instruction and as shown in the drawings and as specified herein.
- B. Perform all work in accordance with all applicable laws, codes and regulations required by the State of California and the City of Sausalito.
- C. Set all work true and square, plumb, and level. Remove and replace any wood that splits during or after erection until acceptance. Keep nailing neatly lined up.
- D. Fabricate wood in as long pieces as practical unless otherwise indicated. End joints shall occur at supports. Keep all work clean, accurately cut, closely fitted

and set to the required lines and levels. Blunt exposed edges by sanding or with plane.

- E. Place washer under the head and nut of bolts where same bear on wood, except head of carriage bolt. Drill bolt holes same diameter as bolt.
- F. Size bolts to fit flush with nuts. Countersink nuts and bolts as detailed.
- G. Hammers with scored faces shall not be used in nailing.
- H. Supply all miscellaneous metal units and install as specified herein under the Sections entitled "Miscellaneous Metalwork" and "Galvanizing." Hot-dip galvanize all metal fastenings, angles, etc., after complete fabrication.
- I. Galvanized metal that is cut, damaged, or modified after fabrication shall be immediately painted with Zinc-rich paint to prevent rusting.
- J. Touch up paint any damaged surfaces to match original finish as accepted by Owner's Representative.
- K. Set site furniture, level. Provide spacers under furniture to level as specified herein and acceptable to Owner's Representative
- L. Transport, store and handle precast units and manufactured items in a manner to avoid hairline cracks, staining or other damage. Store units free of the ground and protected from mud or rain splashes. Cover units, secure covers firmly, and protect the units from dust, dirt or other staining material.

3.2 TRASH RECEPTACLES

Install level and in accordance with the manufacturer's instruction and as shown. Provide spacers under receptacles to level as specified and acceptable to Owner's Representative.

3.3 BIKE RACKS

- A. Install in accordance with the manufacturer's instruction and as shown.

3.4 TREE GRATES

- A. Install in accordance with the manufacturer's instruction and as shown.

3.5 BOLLARDS

- A. Install in accordance with the manufacturer's instruction and as shown.

END OF SECTION

SECTION 32 84 00

IRRIGATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. The work in this section consists of furnishing, layout and installing an irrigation system complete, including certification of irrigation system installation as required by the State of California Model Water Ordinance described herein.

1.2 RELATED SECTIONS

- A. Section 31 20 00, Earthwork
- B. Section 32 90 00, Planting

1.3 CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE REQUIREMENTS

- A. Contractor shall be familiar with and follow the State of California Model Water Ordinance, California Code of Regulations, Title 23 Waters, Division 2, Department of Water Resources, Chapter 2.7. Also, the Contractor is responsible to follow all local water ordinances.
 - 1. Pursuant to the requirements of the California Model Water Efficient Landscape Ordinance, the Contractor shall submit a Certification of Installation to the Local Jurisdiction /water purveyor as described in the construction documents and these specifications. Certification shall at a minimum include the following documents:
 - PART 1. Project Information Sheet
 - PART 2. Certification of Installation according to the landscape documentation package.
 - PART 3. Irrigation Scheduling and Controller Programming
 - PART 4. Schedule of Landscape and Irrigation
 - PART 5. Landscape Irrigation Audit Report
 - PART 6. Soil Management/Analysis Report with verifying implementation, see Planting Specification for analysis requirements.

1.4 QUALITY ASSURANCE

- A. Manufacturer's Specifications: Follow manufacturer's current printed specifications and drawings in all cases where the manufacturers of articles used in the Contract furnish directions covering points not specified or shown in the drawings.
- B. Ordinances and Regulations: All local, municipal, and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes,

regulations, or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard, or larger size than is required by the above codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.

- C. References, Codes and Standards:
1. State of California Model Water Efficient Landscape Ordinance
 2. California Environmental Quality Act (CEQA)
 3. Water Use Classification of Landscape Species (WUCOLS IV).
 4. American Society of Irrigation Consultants (ASIC) Design Guidelines.
 5. California Landscape Standards, California Landscape Contractors Association, (CLCA) Sacramento, California.
 6. CAL-OSHA, Title 8, Subchapter 4-Construction Safety Orders and Subchapter 7-General Industry Safety Orders.
 7. California Electric Code.
 8. California Plumbing Code (UPC) published by the Association of Western Plumbing Officials.
 9. NFPA 24, Section 10.4, Depth of Cover.
 10. Underwriters Laboratories (UL): Electrical wiring, controls, motors and devices, UL listed and so labeled.
 11. American Society of Testing Materials (ASTM).
- D. Furnish without extra charge any additional material and labor when required by the compliance with all above mentioned codes and regulations, though the work be not mentioned in these specifications or shown on the drawings.
- E. Experience: Assign a full-time employee to the job as supervisor for the duration of the Contract with a certified landscape technician, irrigation certification through CLCA or minimum of four (4) years of experience in landscape irrigation installation.
- F. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner acceptable to the Owner's Representative.
- G. Explanation of Drawings:
1. Due to the scale of the Drawings, it is not possible to indicate all piping offsets, fittings, sleeves, etc., which may be required. Carefully investigate the conditions affected all of the work and plan accordingly and furnish all required fittings. Install system in such a manner to avoid conflicts with planting, utilities, and architectural features.
 2. Do not install the irrigation system as shown on the Drawings when it is obvious in the field that obstructions, grade differences or discrepancies in arc dimensions exist that might not have been considered in engineering. Bring such obstruction or differences to the attention of the Owner's Representative. Notify and coordinate irrigation Work with applicable contractors for location and installation of piping and sleeves through or

under walls, pavement, and structures. In the event this notification is not given, the Contractor shall assume full responsibility for any revision necessary.

- H. Trench Interference with Tree Root Systems:
 - 1. Prior to trenching, layout main and lateral line locations within Drip Line of trees and review locations with Owner's Representative. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by Owner's Representative.
 - 2. Mechanical Trenching is not allowed within dripline of existing trees to be protected except as approved by Landscape Architect
- I. Coordinate plant locations with emitter locations.
 - 1. Adjust plant locations in relation to the subsurface emitters as required to ensure that the plant roots receive the proper amount of water for it to thrive.
 - 2. Coordinate planting and irrigation and provide hand watering of emitter irrigated and drip irrigated areas as required to maintain moist root zones until end of plant establishment period.

1.5 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The Drawings show, if applicable, existing above and below grade structures and utilities that are known to the Owner. Locate known existing installations before proceeding with construction operations that may cause damage to such installations. Existing installations shall be kept in service where possible and damage to them shall be repaired with no adjustment of Contract Sum. Verify with Owner if As Built drawings are available.
- B. If other structures or utilities are encountered, request Owner's Representative to provide direction on how to proceed with the Work. If a structure or utility is damaged, take appropriate action to ensure the safety of persons and property.
- C. Verify location of existing irrigation systems to be removed and/or replaced. Maintain any existing systems as required by the Drawings and Specifications, including temporary retention of systems necessary to maintain existing on site and adjacent planting.

1.6 SUBMITTALS

- A. Materials List:
 - 1. Submit required copies of the cut sheets and a complete list of materials proposed for installation, along with any proposed substitutions clearly identified and obtain the Owner Representative's written approval thereof before proceeding. Use only accepted materials and items of equipment.
 - 2. List all materials by manufacturer's name and model number.
 - 3. Submit to Local Water Purveyor with copy to the Owner Certification of Installation as required by the State of California Model Water Ordinance.
- B. Substitutions:

1. If the Contractor desires to substitute a product, he shall list each item and note it as a "substitution" and provide the following information:
 - A. Descriptive information describing its similarities to the specified product.
 2. If the product is approved and, in the opinion of the Owner's Representative, the substituted product does not perform as well as the specified product, the Contractor shall replace it with the specified product at no additional cost to the Owner.
- C. Operations and Maintenance Manuals:
1. Prior to the final acceptance of the irrigation system, furnish three (3) individually bound Operation and Maintenance Manuals to the Owner's Representative for use by the Owner. The manuals shall contain complete enlarged drawings, diagrams and spare parts lists of all equipment installed showing manufacturer's name and address. In addition, each Service Manual shall contain the following:
 - A. Index sheet indicating the Contractor's name, address and phone number.
 - B. Copy of the Landscape Irrigation Audit
 - C. Copy of the 12-month irrigation schedule and estimate of annual water consumption
 - D. Copies of equipment warranties and certificates.
 - E. List of equipment with names, addresses and telephone numbers of all local manufacturer representatives.
 - F. Complete operating and maintenance instructions in sufficient detail to permit operating personnel to understand, operate and maintain all equipment.
 - G. Parts list of all equipment such as controllers, valves, solenoids and heads.
- D. As-Built Drawings:
1. Dimension the location of the following items from two (2) permanent points of reference such as building corners, sidewalks, road intersections, etc.:
 - A. Connection to existing water lines/meter.
 - B. Connection to electrical power.
 - C. Gate valves.
 - D. Routing of irrigation pressure lines (a dimension at least every 100 feet and as required to identify all changes in direction and location).
 - E. Remote control valves.
 - F. Routing of control valves.
 - G. Quick coupling valves.
 - H. All sleeve locations.
 - I. Routing of all control wiring.
 - J. Include all invert elevations below 12".
 2. Deliver a reproducible As-Built Drawing to the Landscape Architect or Owner's Representative within seven (7) working days before the date of

final review. Delivery of the record drawings shall not relieve the Contractor of the responsibility of furnishing required information in the future.

- E. Controller Plan:
 - 1. Provide one Irrigation Diagram plan in each controller housing. The plan shall show the area controlled by each valve in different colors and for orientation, any major permanent structure such as buildings and roads.
 - 2. Charts to be waterproof and hermetically sealed between two pieces of transparent 10 mil thick plastic and installed in each controller on the door as accepted by the Owner's Representative no later than the time of the coverage test of the irrigation system.

- F. Maintenance Material - supply the following tools to the Owner:
 - 1. Three (3) sets of specialized tools required for removing, disassembling and adjusting each type of irrigation, valve or other equipment supplied on this project.
 - 2. Two (2) keys for each type of equipment enclosure.
 - 3. Two (2) keys for each type of automatic controller.
 - 4. Two (2) keys for each type of valve (including square type key for valves larger than 2")
 - 5. Two (2) quick-coupler keys and matching hose swivels for each type of quick-coupling valve installed.
 - 6. All lock keys shall be keyed alike.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Furnish and deliver materials in manufacturer's packaging, bearing original legible labeling.

- B. The Contractor is cautioned to exercise care in handling, loading, unloading, and storing PVC pipe and fittings. All PVC pipe shall be transported in a vehicle which allows the length of the pipe to lie flat so as not to subject it to undue bending or concentrated external load at any point. Any section of pipe that has been dented, cracked, or otherwise damaged shall be discarded and, if installed, shall be replaced with new piping.

1.8 SEQUENCING AND SCHEDULING

- A. Acceptance: Do not install main line trenching prior to acceptance by Owner's Representative of rough grades completed under another Section.

- B. Coordination: Coordinate with the work of other sections to insure the following sequence of events:
 - 1. Sleeves and Conduits: Installation of all sleeves and conduits to be located under paving and through walls prior to placement of those materials.
 - 2. Bubbler Heads: Install after placement of tree, but prior to backfill with planter soil mix.
 - 3. On-Structure Equipment: Install piping and risers after waterproofing is accepted.

4. Irrigation Head in Pots: Install riser and seal the penetration of the pot prior to backfill of pot with drainage materials and planter soil mix.
5. Coordinate work schedule with Owner to avoid disruption of landscape maintenance of existing landscaping.
6. Install piping prior to soil preparation (planting soil amendment installation).

1.9 WARRANTY

- A. In addition to manufacturer's guarantees and warranties, work shall be warranted for one (1) year from date of final acceptance against defects in material, equipment, and workmanship. Warranty shall also cover repair of damage to any part of the premises resulting from leaks or other defects in materials, equipment and workmanship to the satisfaction of the Owner.
- B. Include a copy of the warranty form in the Operation and Maintenance Manual.

1.10 OPERATION

- A. Routine: Inspect and adjust all spray heads and control valves including raising or lowering of spray head heights to accommodate plant growth and weather conditions.
- B. Controller: Inspect regularly for power interruption and reset clock as required. Adjust station timing to accommodate changes in plant growth and weather conditions.
- C. System Failure: Perform all repairs within one (1) operating period. Replacements to match removed products and materials in all respects. Report promptly all damage not resulting from Contractor's operations. Repair all damage caused by Contractor at no expense to Owner.
- D. Climate Change: Set and program automatic controllers in response to seasonal requirements and requirements of newly planted materials.

PART 2 - PRODUCTS

2.1 PIPE

- A. Pressure Main Line Pipe and Fittings: All PVC fittings shall bear the manufacturer's trademark name, material designation, size, applicable I.P.S. schedule and NSF seal of approval.
- B. All main line pipe shall be solvent welded and shall be schedule 40 unless shown otherwise on the Drawings.
 1. PVC Pressure Rated Pipe: ASTM D2241 NSF approved Type I, Grade I, solvent welded PVC with an appropriate standard dimension ratio (S.D.R.).
 2. PVC Scheduled Pipe: ASTM D1785 NSF approved, Type I,
 3. Grade I, solvent welded PVC.
 4. PVC Solvent-weld Fittings: ASTM D2466 Schedule 40, 1-2, II-I NSF approved.

5. Solvent Cement and Primer for PVC solvent-weld pipe and fittings: Type and installation methods prescribed by the manufacturer.
 6. Connections between Main Lines and RCVs: Schedule 80 PVC (threaded both ends) nipples and fittings unless required otherwise by local jurisdiction.
 7. Valves 2-inch and larger shall be flanged only.
 8. Copper pipe shall be Type K or Red Brass where threaded joints are required and Type L otherwise.
- C. All lateral line pipe shall be solvent welded and shall be schedule 40 unless shown otherwise on the Drawings.

2.2 CONDUITS & SLEEVES

- A. Sleeving shall be Schedule 40 PVC pipe sleeves and a minimum of two times the aggregate diameter of all pipes contained within the sleeve. Provide vertical sweep for all electrical conduit on each side of hardscape and terminate ends at 12" minimum depth and 12" from hardscape surface.

2.3 BACKFLOW PREVENTION DEVICE – REUSE EXISTING

- A. As required by Code and as shown on Drawings. Verify with Owner if Anti-freeze Jacket is required and provide as required.
- B. Riser assemblies from main line burial depth to backflow preventers shall be Schedule 40 brass pipe.
- C. All metallic pipe and fittings installed below grade shall be painted with two coats of Koppers #50 Bitumastic, or approved equal. Pipes may be wrapped with an approved asphaltic tape in lieu of the liquid-applied coating.

2.4 BACKFLOW PREVENTION DEVICE ENCLOSURE

- A. "Smooth Touch" enclosure without sharp edges, by Strong Box, available from V.I.T., Escondido, CA (800) 729-1314 or equal. Coordinate size of enclosure with plumbing for minimum clearance and size. Enclosure to include concrete footing with hasp and staple to receive padlock. Padlock N.I.C.

2.5 CONTROLLERS(S):

- A. Wall-mounted if located in Visitor Information Enclosure. Otherwise pedestal-mounted irrigation controller, as shown on drawings, and with the following minimum requirements.
- B. Shall be weather – based and be compatible with rain shut off sensor.
- C. Shall be user-friendly. The controller must have a minimum 20-character readout display describing actions or options, or a full visible panel of buttons, dials, or switches that control all different functions separately.

- D. Shall have the ability to start a programmed sequence of valves a minimum of 5 times a day per program.
- E. Shall have ability to easily and quickly change watering schedules due to change in weather.
- F. Provide portable hand-held remote device compatible with controller and capable of operating all control valves.
- G. Provide rain shut off device as manufactured by Control System manufacturer capable of shutting off all control valves. Locate in a location exposed to rain and hardwire to controller.

2.6 CONTROLLER GROUND

- A. Provide each pedestal controller with its own ground rod. Separate the ground rods by a minimum of eight feet. The ground rod shall be an eight foot long by 5/8" diameter U.L. approved copper clad rod or as recommended by controller manufacturer. Install no more than 6" of the ground rod above finish grade. Connect #8 gauge wire with a U.L. approved ground rod clamp to rod and back to ground screw at base of controller with appropriate connector. Make this wire as short as possible, avoiding any kinks or bending. Install within pedestal housing base unless otherwise noted.
- B. Provide each irrigation controller with its own independent low voltage common ground wire.

2.7 CONTROLLER ENCLOSURES

- A. Type: Use one of the following (unless noted otherwise on the Drawings). Verify correct equipment to fit the specified equipment:
 1. Stainless steel, NEMA Type 3 rated, with back panel, padlocking hasp and padlock Rain Bird, Le Meur, "Strong Box" or approved equal. See Detail for pedestal construction.
 2. Rain Bird, "Non-Central" Controller Assemblies
 - A. LXMM – ESP – LXM Cabinet, Powder Coated Steel
 - B. LXMPED – ESP-LXM Pedestal, Powder Coated Steel
 3. from Rain Bird Services Corporations "Package Systems" for "Central Control" projects. Available from Rain Bird Services Corporation (RBSC) (888) 444-5756.
 4. Le Meur, (714) 822-5100.
 5. "Strong Box" available from John Deere, (800) 347-4272.

2.8 MASTER CONTROL VALVE

- A. Master control valve shall be a 24 VAC, industrial type, solenoid control valve, Griswold 2000 series or equal. Valve shall be equipped with spring loaded packless diaphragm, cast iron body and bronze trim. The valve shall be of the normally open type and shall be equipped with four-prong (cross) flow control. Valve shall be slow closing without chatter settings or adjustment. Valve shall have

a mechanical self-purging internal control system with tapered, serrated, scrubbing rod through diaphragm for positive, variable port opening and cleaning. No solenoid port screens. Valve solenoid shall be corrosion-proof, molded in epoxy to form one integral unit with no connection shunts and shall be 24 VAC, 3 watt maximum.

2.9 FLOW SENSORS

- A. Compatible with controller and as recommended by controller manufacturer.

2.10 ISOLATION VALVE

- A. Valves 3 inches and smaller: 125 lb. WSP bronze gate valve with screw-in bonnet, non-rising stem and solid wedge disc, NIBCO T-113 K, or approved equal. Valves shall be line size.
- B. Valves larger than 2": shall have square nut stem and o-ring connections for key operation.

2.11 QUICK COUPLER VALVES

- A. Quick coupler valves shall be as listed on the Drawings with 10" diameter black box and black lid similar to isolation valve box described below.

2.12 BOX FOR ISOLATION & QVALVE & QUICK COUPLER VALVES

- A. 10" diameter black plastic, Ametek, Brooks, Christy, Rain Bird with bolt down black lid marked "irrigation," or accepted equal. Avoid locating valve in paved areas. Provide H/20 Loading concrete box with bolt-down concrete lid if valve is located in paved area. Obtain location approval by Owner's Representative.

2.13 REMOTE CONTROL VALVE: AS SHOWN ON DRAWINGS AND WITH THE FOLLOWING MINIMUM REQUIREMENTS:

- A. Remote control valves shall be those normally manufactured for irrigation systems and shall have a slow, consistent speed of closure through entire closing operation, including last portion. To ensure this, the effective diaphragm working area/valve seating opening ratio must be a minimum 3 to 1.
- B. Shall be mechanically self-cleaning to help prevent diaphragm or solenoid port plugging. To ensure this, the flush rod should be tapered to vary the size of the port opening as the diaphragm raises and lowers, thus allowing trapped material to escape. Rod is to be finished with a serrated surface to help scrub trapped material out. Screens not acceptable.
- C. Shall have removable valve seat so valve can be repaired without removal from irrigation line.
- D. Shall have ability to operate manually without the use of wrenches or special keys.

- E. Shall have one-piece solenoid that attaches directly to valve without shunts or clips that can be lost.
- F. Shall have cross top handle to adjust maximum travel of diaphragm to allow "tuning" of valve and closure.

2.14 BOX FOR REMOTE CONTROL VALVE

- A. Rectangular black plastic valve box - Ametek, Carson, Christy, Rain Bird or accepted equal with non-hinged bolt down. Box body shall have knock outs. Do not saw cut body. The minimum size box is as shown on Drawings. Increase box size as required to fit. Valve box lids are to indicate the controller letter and station number of valve as accepted by Owner's Representative. Also refer herein to required polyurethane tag at valve solenoid control wire under Control Wires. Locate the identification in center of the lid. Provide separate box for each valve. Provide H/20 Loading concrete boxes with bolt-down concrete lids for all valves that occur in paved areas.

2.15 DECODERS

- A. Controller shall interface with decoders, each capable of controlling 1, 2, 4 or 6 remote control valves. Provide a sensor decoder for flow sensor(s) on two wire path.
- B. Wire connections from decoder output to solenoid shall be 14AWG. Wire distance from decoder output to solenoid under normal conditions shall not exceed 150 feet. Install in valve box secured and with bottom of decoder facing up.
- C. Contractor shall indicate associated valve numbers on manufacturer provided label on decoder with permanent marker.

2.16 CONTROL WIRES

- A. 14AWG for two-wire cable path shall be twisted and jacketed Paige P7072D wire, or approved equal within Sch. 40 PVC 1.25 inch conduit. Coated wire shall not be accepted as an equal. Acceptable equal products must consist of two separately PE jacketed wire twisted inside of a PE jacket.
- B. Contractor shall install 14AWG wire cable for wire path length up to 10,000 feet, and 12AWG wire cable for wire path length up to 15,000 feet.
- C. Wire jacket colors shall be such to facilitate the identification of various wire path zones: provide chart for wire type, color and associated valves
- D. The controller shall provide a minimum of three, two-wire paths per output module. Contractor shall not connect any two wire path from one output module to another output module.

- E. Wire connection from decoder output to solenoid shall be colored to match the associated decoder output station color; red and blue colored wires shall not be used for connection between decoder output and solenoid.

2.17 WIRE SPLICES

- A. Provide polyurethane tag at valve solenoid control wire that shows the controller number and station number. Also refer to valve box lid identification
- B. All connections and splices in the red/blue two wire path must be made with 3M DBR/Y-6 waterproof connectors installed per manufacturer's instructions in valve box with open end of connector facing down.

2.18 SPRAY HEADS

- A. Pop-up as shown on drawings and with the following minimum requirements:
- B. Shall have approximately 30 psi water pressure coming out of nozzle to prevent "fogging" or misting. Shall have pressure-compensating devices.
- C. Shall have ability to prevent low head drainage. Use heads with integral check valves.
- D. EXAMPLE – Rain Bird 1800 Spray Body with SAM -PRS Series
- E. Shall not have spray blocked by turf or shrubbery

2.19 SWING JOINTS

- A. Bubblers: Use Dura, Lasco, Rain Bird or equal pre-assembled swing joints with O-rings.

2.20 QUICK COUPLING VALVE

- A. Dura 1-inch 1-A2-1-11-18 pre-assembled swing joint with O-rings and Dura quick lock to receive stabilizing rod.

2.21 TREE BUBBLERS

- A. As shown on drawings

2.22 IN-LINE DRIP IRRIGATION

- A. As specified herein and as shown on the drawings and in accordance with manufacturer's recommendations. Provide all miscellaneous valves, filters fittings etc. required for a complete, operable system including the following:
 - 1. Rain Bird XFD/XFS/XFCV with "Copper Shield" technology. Drip system in accordance with "RainBird Xerigation Low-Volume Landscape Irrigation

Design Manual” and as shown on the drawings as required for a complete working system.

2. Pop-up operation indicator
3. Air/vacuum relief valves
4. Flush valves

B. Drip Valve Assembly: Size valve box large enough and deep enough to contain assembly and allow convenient access and easy removal of filter screen. Position filter pointed down, approximately 45 degrees.

C. Pressure regulator: Size regulator in accordance with flow rate. Do not over size. Use factory pre-set regulator at 30 PSI.

2.23 Y-STRAINER

A. “Y”-Strainer upstream of remote-control valves, Brass, 100 mesh.

2.24 RCV IDENTIFICATION TAGS

A. Plastic or brass tags with valve number, approximately 2” by 2” with number imprinted, as accepted by Owner.

2.25 MISCELLANEOUS INSTALLATION MATERIALS

A. Solvent Cement and Primers for Solvent-weld Joints: Make and type approved by manufacturer(s) of pipe and fittings. Maintain cement proper consistency throughout use.

B. Pipe and Joint Compound: Permatex: Do not use on irrigation inlet port.

2.26 MISCELLANEOUS EQUIPMENT/ACCESSORIES

A. Sleeves and Conduits: See Drawings.

B. Key(s) for Quick-Coupling Valves:
1. Type: Same manufacturer as Quick-Coupling Valve.

2.27 OTHER EQUIPMENT: AS SHOWN ON DRAWINGS AND REQUIRED FOR A FULLY FUNCTIONAL IRRIGATION SYSTEM.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Sleeves and Conduits: Verify that all installed sleeving and conduits are undisturbed and are free of defects or errors introduced by the work of other sections.

- B. Water Meter/Water Pressure: Test and verify that existing water pressure is the minimum pressure at maximum system g.p.m. to operate the irrigation system as indicated on the drawings.
- C. Stub-outs: Verify that all stub-outs to be provided under another contract are correctly sized, located and installed as noted on Drawings.
- D. Notification: Submit written notification to Owner's Representative within ten (10) working days of above inspections describing all acceptable and non-acceptable site conditions.

3.2 CONNECTIONS TO SERVICES

- A. Provide and coordinate connection of irrigation controller to electrical power source.

3.3 INSTALLATION

- A. Install irrigation system components in accordance with this Section, with the Drawings, with the manufacturer's recommendations, and with established industry standards. The Contractor shall do nothing that may jeopardize any manufacturer warranty.
- B. Automatic Controller:
 - 1. General: Install with lock box cutoff switch per local code and manufacturer's current printed specifications. Provide each controller with its own independent low voltage common ground wire.
 - 2. Connection to Valves: Connect remote control valves to controller in clockwise sequence to correspond with station setting beginning with Stations 1, 2, 3, etc.
 - 3. Labeling: Affix controller letter (i.e., "A") on inside of controller cabinet door with minimum of one inch (1") high permanent letter.
 - 4. Irrigation Diagram: Affix a non-fading, waterproof copy of irrigation diagram to cabinet door below controller name. Irrigation diagram to be sealed between two plastic sheets, 20 mil. minimum thickness. Use a legible reduced copy of the Record Drawing for the irrigation diagram clearly showing all valves operated by the controller, station, number, valve size, and type of planting irrigated. Color code area operated by each valve.
- C. Control Wiring:
 - 1. General: Install control two wire in Sch 40 PVC conduit in common trenches with irrigation mains and laterals wherever possible. Lay to the bottom side of pipe line. Provide looped slack at valves.
 - 2. Extra Length: Provide 36 inches (36") extra wire at each remote control valve splice to facilitate the removal of the remote control bonnet to finish grade without cutting wires.
 - 3. All connections and splices in the red/blue two wire path must be made with 3M DBR/Y-6 waterproof connectors installed per manufacturer's instructions in valve box with open end of connector facing down.

4. Any splices in the two wire path not associated with a decoder shall be housed in separate valve boxes with 36 inches loop of slack wire.
 5. Contractor shall indicate two wire path directions in permanent marker within 6 inches of two wire splice on wire jacket or conduit.
 - A. Incoming wire shall be marked 'controller' on wire jacket or conduit.
 - B. Each outgoing two wire path shall be marked with connected valves on wire jacket.
 6. Contractor shall ensure all connections to be watertight with no electrical leakage to ground or shorting between conductors.
 7. Detection Wire: Install a bare #12 copper wire or greater on top of the PVC supply line for the purpose of possible future mine detection search.
- D. Grounding
1. All grounding and installation of equipment specified shall be installed in compliance with the manufacturer's recommendations and in accordance with local, state, and federal requirements.
 2. Both the controller and the decoders shall be grounded to ground rods or plates with less than 10 OHMS resistance.
 3. Irrigation controller and pad shall not fall within the sphere of influence of a ground rod or plate.
 4. At a minimum earth ground shall be connected at the first decoder of each wire path leaving the controller, and every twelve valve/decoder or 1,000 feet of two wire run (whichever is shorter), and at the last valve/decoder in any wire run exceeding 50 feet from main wire path.
- E. Rain Shutoff Switch:
1. Install switch in area not affected by irrigation or rain shadow. Provide wires in rigid conduit as accepted by Owner's Representative.
- F. Excavating and Trenching:
1. Prior to trenching, layout main and lateral line locations within Drip Line of trees and review locations with Owner's Representative. Relocate any lines that may interfere with existing root systems to avoid or reduce damage to root systems as accepted by Owner's Representative.
 2. Dig trenches wide enough to allow a minimum of three inches (3") between parallel pipe lines. Provide a minimum cover from finish grade as follows:
 - A. 24-inches Deep: Over pipe on pressure side of irrigation control valve, control wires and quick-coupling valves.
 - B. 36-inches Deep: Over all pipe and pipe sleeves under roadways, parking lots, entrance to parking lots and Fire-Access Lanes per NFPA 24, Section 10.4.4.
 - C. 18-inches Deep: Over pipe on non-pressure side of irrigation control valve.
 - D. Direct Burial PVC Piping Under Pavement: Provide a minimum of 4 inches of sand backfill on all sides and 24 inches cover to bottom of paving.
- G. Conduits and Sleeves:

1. Coordination: Provide conduits and sleeves and coordinate installation with other trades.
 2. Extent: Install conduits and sleeves where control wires and pipes pass under paving or through walls as shown on Drawings. Extend twelve inches (12") beyond edges of paving and walls and cap ends until ready for use.
- H. Pipeline Assembly:
1. Install pipe and fittings in accordance with manufacturer's current printed Specifications.
 2. Clean all pipes and fittings of dirt, scale and moisture before assembly.
 3. Solvent-welded Joints for PVC Pipes:
 4. Solvents: Use solvents and methods specified by pipe manufacturer.
 5. Curing Period: Minimum of one (1) hour before applying any external stress on the piping and at least 24 hours before placing the joint under water pressure.
 6. Threaded Joints for Plastic Pipes:
 7. Use Permatex on all threaded PVC fittings except spray heads and quick coupler valve ACME threads.
 8. Joining: Use strap-type friction wrench only. Do not use metal-jawed wrench. Assemble finger tight plus one or two turns.
- I. Laying of Pipe:
1. Bedding On-grade: Remove from trench all rocks or clods. Bed pipe in at least 2 inches of soil excavated from trench. Backfill on all sides of piping to provide a uniform bearing.
 2. Snaking: Snake pipe from side to side of trench bottom to allow for expansion and contraction. Minimum allowance for snaking is one (1) additional foot per 100 ft. of pipe.
 3. Moisture Restrictions: Do not lay PVC pipe when there is water in the trench. Do not assemble PVC pipe unless the pipe is dry.
- J. Closing of Pipe and Flushing of Lines
1. Capping: Cap or plug all openings as soon as lines have been installed to prevent entrance of materials that would obstruct the pipe. Leave in place until removal is necessary for completion of installation.
- K. Detection Wire and Warning Tape
1. Install a bare # 12 copper wire or greater on top of the PVC supply line for the purpose of possible future mine detection search.
- L. Control Valves:
1. Install in valve boxes where shown on Drawings and group together where practical. Install box flush with finish grade, not necessarily level. If valve occurs in drainage swale, relocate out of drainage swale as approved by Owner's Representative.
 2. Where two or more valves are installed adjacent to each other, provide at least six inches (6") separation. Align boxes in a row, perpendicular with pavement edge.

3. Permanently mark valve box lid with 2" black valve number and controller letter or with numbered metal tag inside box as approved by Owner's Representative.
 4. Refer to control wiring for required spare wire in each valve box.
- M. Install "Y"-Strainer upstream of remote-control valves at backflow preventer with two pressure gauges, one upstream and one downstream of each strainer/filter.
- N. RCV Identification Tags:
1. Install in remote control valve box as recommended by manufacturer and as accepted by Owner's Representative.
- O. Pop-up Spray Heads
1. Place all irrigation heads in planting areas with top of heads set to finish grade or top of mulch as required.
 2. Place part-circle pop-up heads two inches (2") from edge of and flush with top of adjacent walks, header boards, curbs and mowing bands or paved areas and 12 inches (12") from building foundations at time of installation.
- P. Bubblers:
1. Coordinate installation with planting contractor to insure timely and proper placement of heads at new planting.
- Q. In-Line Drip Irrigation
1. Coordinate plant locations with emitter locations. Refer to QUALITY ASSURANCE herein.
 2. Coordinate hand watering of emitter irrigated and drip irrigated areas. Refer to QUALITY ASSURANCE herein.
 3. Coordinate emitter spacing with planting types and plant spacing as accepted by Landscape Architect. Install emitters at uniform 18 inches on center maximum and 2 to 4 inches deep, except where emitter spacing and depth is shown otherwise.
 4. Adjust spacing on slopes to prevent over watering at base of slopes.
 5. Install system in accordance with manufacturer's recommendations and as shown on the Drawings as required for a complete working system.
 6. Provide air/vacuum relief valves at all high points on systems.
 7. Provide filter as shown and as recommended by emitter manufacturer.
 8. Tape pipe ends during installation and do not allow dirt or debris to enter pipe.
 9. Use emitter line with the specified emitter flow rate and emitter spacing. Assemble dripper line to allow water to flow continuously and directly, with no dead ends or dead-end loops between control valve and flush valve.
 10. Use fittings at sharp bends and do not allow dripper line to kink.
 11. Install emitter line around perimeter of planter not more than 3 inches off edge for ground cover, 18 inches maximum for shrub planting.
 12. Adjust alternate rows so emitters are spaced in a triangular pattern.
 13. Collect water from multiple dripper lines and convey the water to automatic line flush valve.

14. Install flush valve at end(s) of collector laterals so that entire system will flush and be free of dirt and debris.
15. Flush valves shall be open when water is turned on for the first time and after a break in the main or lateral lines. Extend collector lateral as required and locate flush valve at convenient accessible location.
16. Flush the systems weekly through the first month of the maintenance period.
17. Thoroughly saturate soil prior to planting. Provide additional surface watering as required to keep plant root systems moist during planting establishment period.

3.4 MISCELLANEOUS EQUIPMENT

- A. Install miscellaneous equipment with concrete footings, brackets, etc., as required and as recommended by the manufacturer.

3.5 FIELD QUALITY CONTROL

- A. Testing of Irrigation System:
 1. Make hydrostatic tests with risers capped when welded PVC joints have cured at least 24 hours. Center load piping with backfill to prevent pipe from moving under pressure. Keep all couplings and fittings exposed.
 2. Install two (2) pressure gauges at opposite ends of main line system. Pump system up to a minimum of 125 psi the day preceding the scheduled test and verify that pressure is holding. Inspect system early following day and immediately notify Owner's Representative if the test confirmation must be postponed.
 3. Apply continuous static water pressure of 125 psi in accordance with Caltrans Standard Specifications Section 20-2, except after a drop in pressure (5 psi maximum), then the pressure must stabilize and remain stable for a one (1) hour minimum period before acceptance of the test.
 4. Leaks detected during tests shall be repaired and test repeated until system passes tests at no additional cost to Owner.
- B. Irrigation Audit Report with Certificate of Completion
 1. Per the requirements of the California Model Water Efficient Landscape Ordinance, the Contractor shall perform an irrigation audit and provide a report with certificate of completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule. Irrigation audits shall be conducted by a CLIA Certified landscape Irrigation Auditor by the Irrigation Association. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
- C. Adjustment of the System:
 1. Flush and adjust all irrigation heads for optimum performance and to prevent overspray onto walks, roadways and buildings. Adjust the arc and radius as applicable.

2. Include as a part of the work any nozzle changes or arc adjustments necessary due to daytime windy conditions during grass establishment period. After grass has been established and watering can be performed during calm early morning or evening hours, make any required adjustments to nozzles and arcs.
3. Set all irrigation heads perpendicular to finished grades unless otherwise noted on the drawings.
4. When the landscape irrigation system is completed and before planting, perform a coverage test in the presence of the Owner's Representative to determine if the water coverage for planting areas is adequate.
5. Test controllers individually in the presence of the Owner's Representative and the Landscape Architect. Demonstrate that all control valves operate electronically. Provide vehicles and radio equipment as necessary to expedite this process.
6. Demonstrate to Owner's Representative that irrigation scheduling programmed into controller is adequate for plant requirements without causing runoff, and that scheduling capacities of controller are utilized.

3.6 IRRIGATION SCHEDULING AND CONTROLLER PROGRAMMING

- A. Per the requirements of the California Model Water Efficient Landscape Ordinance All irrigation schedules and programs shall be developed, managed and evaluated to utilize the minimum amount of water required to maintain plant health.
- B. Irrigation controller Scheduling and Programming Parameters to be conducted by a CLCA Certified Irrigation manager and submitted to the local agency as part of the Certificate of Completion.
- C. Parameters used to set the automatic controller shall be developed for each of the following:
 1. Plant establishment period
 2. Established landscape period
 3. Temporary irrigated area (if applicable)
- D. Each irrigation schedule shall consider for each station all of the following that apply:
 1. Irrigation interval (days between irrigation)
 2. Irrigation run times (hours or minutes per irrigation event to avoid runoff)
 3. Number of cycle starts required for each irrigation event to avoid runoff
 4. Amount of applied water scheduled to be applied on a monthly basis
 5. Application rate setting
 6. Root depth setting
 7. Plant type setting
 8. Soil type
 9. Slope factor setting
 10. Shade factor setting
 11. Irrigation uniformity or efficiency setting

- E. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (CIMIS or soil moisture sensor data).

3.7 BACKFILL AND COMPACTING

- A. General: After the system is operating and required tests and reviews have been made, backfill excavations and trenches with clean soil, free of debris.
- B. Backfill for All Trenches: Regardless of the type of pipe covered, compact to minimum 95% density under pavements and 85% under planted areas.
- C. Finishing: Dress off areas to finish grades. Re-dress any areas which subsequently settle.
- D. Owner's testing agency will test backfill compaction in areas under paving.

3.8 MAINTENANCE

- A. The entire irrigation system shall be under fully automatic operation for a period of 2 days prior to any planting.
- B. The Owner's Representative reserves the right to waive or shorten the operation period.
- C. Maintain/repair system for full duration of plant maintenance period.

3.9 REVIEWS PRIOR TO ACCEPTANCE

- A. Notify the Owner's Representative in advance for the following reviews, according to the time indicated:
 - 1. Supply line pressure test and control wire installation - 72 hours.
 - 2. Coverage and controller test - 72 hours.
 - 3. Final review - 7 days.
- B. No reviews will commence without record drawings, without completing previously noted corrections, or without preparing the system for review.

3.10 FINAL REVIEW AND CLEANUP

- A. Operate each system in its entirety for the Owner's Representative at time of final review. Any items deemed not acceptable by the Owner's Representative shall be reworked to the complete satisfaction of the Owner's Representative.
- B. Provide evidence to the Owner's Representative that the Owner has received all accessories and equipment as required before final review can occur.
- C. Final acceptance and start of warranty period will occur no earlier than the end of the plant maintenance period.

- D. For time of final review, Contractor shall arrange a meeting with the Owner's maintenance personnel to demonstrate the operation of the irrigation systems automatically in order to verify acceptance and to familiarize the maintenance personnel with the system and recommended programming.

END OF SECTION

SECTION 32 90 00

PLANTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Provide planting work and planting maintenance complete as shown on the drawings and as specified including staking and layout of the landscaping, including soil sampling as required by the State of California Model Water Ordinance.

1.2 RELATED SECTIONS

- A. Section 31 10 00, Site Clearing
- B. Section 31 10 01, Plant Protection
- C. Section 31 20 00, Earthwork
- D. Section 32 84 00, Irrigation

1.3 QUALITY ASSURANCE

- A. Reference Standards:
 - 1. All local, municipal and state laws, codes and regulations relating to all portions of this work are to be incorporated as part of these Specifications. These specifications shall not be construed to conflict with any of the above codes, regulations or requirements. The Specifications and Drawings shall take precedence when they call for materials, workmanship or construction of a better quality or higher standard than required by the above mentioned codes and regulations. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.
 - 2. State of California Model Water Ordinance
 - 3. Bay Area Stormwater Management Agencies Association (BASMAA) Regional Biotreatment Soil Specifications.
 - 4. Public utility agency having jurisdiction over the project work.
 - 5. "American Standards for Nursery Stock," American Association of Nurseryman, 230 Southern Building, Washington, D.C. 20005.
 - 6. International Society of Arboriculture, Guide for Plant Appraisal, latest version.
 - 7. US Composting Council Compost Analysis Program (CAP)
 - 8. US Composting Council (USCC) Seal of Testing Assurance (STA) program.
 - 9. Test Methods for the Evaluation of Composting and Compost (TMECC)
 - 10. Manufacturer's recommendations.
- B. Qualifications:
 - 1. Experience: Assign a full-time employee to the job as foreperson for the duration of the Contract who is certified landscape technician, certification through CLCA or minimum of five (5) years' experience in landscape installation and maintenance supervision, with experience or training in turf

management, entomology, pest control, soils, fertilizers and plant identification

2. Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work necessary to complete the tasks described herein in a competent, efficient manner acceptable to the Owner.

C. Requirement

1. Site Visit: At beginning of work, visit and walk the site with the Owner's Representative to clarify scope of work and understand existing project/site conditions.
2. Supervision: The foreperson shall directly supervise the work force at all times and be present during the entire installation. Notify Owner's Representative of all changes in supervision.
3. Identification: Provide proper identification at all times for landscape maintenance firm's vehicles and a labor force uniformly dressed in a manner satisfactory to Owner's Representative.
4. Protect all existing and new plants from construction activities, deer & rodents: Contractor shall be responsible for protection of all planting per Part 3.

D. Plant Material Standards:

1. Quality and Size of Plants: Conform to the State of California Grading Code of Nursery Stock, No. 1 grade. Use only nursery-grown stock which is free from insect pests and diseases.
2. Comply with federal and state laws requiring inspection for plant diseases and infestations, including Phytophthora. Submit inspection certificates required by law with each shipment of plants, and deliver certificates to the Owner. Obtain clearance from the County Agricultural Commissioner as required by law, before planting plants delivered from outside the County in which planted.

E. Soils & Amendment Testing

1. All soils & amendments to be tested for suitability by one of the following accredited soil testing laboratories (or approved equal). Components of the test shall include all major nutrients, pH, salinity, boron, sodium, micronutrients, copper, zinc, manganese and iron, adsorption rate, organic content and texture. The laboratory report shall include recommendations for adjusting fertilizer and amendment quantities.

Lucchesi Plant & Soil Consulting

Los Gatos, CA (408) 337-2575

Waypoint Analytical, Inc.

4741 E. Hunter Ave, Suite A, Anaheim, CA 92807; (717) 282-8777

Control Laboratories

42 Hangar Way, Watsonville, CA 95076; (831) 724-5422

Perry Laboratory

424 Airport Boulevard , Watsonville, CA 95076; (831) 722-7606

Wallace Laboratories, LLC

365 Coral Circle, El Segundo, CA 02345; (310) 615-0016

2. Upon approval of the laboratory's report by the Landscape Architect, the recommendations in the report shall become a part of the Specifications and the soil preparation procedures, quantities of soil amendment, fertilizer and other additives shall be adjusted to conform with the report at no additional cost to the owner. Note that there is a minimum quantity of organic amendment specified elsewhere in this specification section.
3. Significant issues with soil quality will require soil to be retested in the locations identified on Soil Analysis Plan, prior to proceeding with plant installation, to ensure that the recommendations in the report have been followed and the In-Situ Topsoil is horticulturally suitable as described in Part 2.

1.4 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms. Subsoil is defined as either existing site soil located below the topsoil prior to construction activities, or select fill used for rough grading during construction. Subsoil cannot be considered for use as planting soil.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.
- D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; and free of weeds, roots, toxic materials, or other non-soil materials.
- E. Planting Soil: Approved existing topsoil or imported planting soil, meeting the requirements herein. Subsoil cannot be considered for use as planting soil.

1.5 SUBMITTALS

- A. The following shall be submitted to the landscape architect for approval prior to the installation of landscape materials and products.
 1. Manufacturer's Technical data sheets for fertilizers, and all other products and materials listed herein.

2. Manufacturer's technical data sheets for amendments. Reports to be dated no more than 3 months prior to soil preparation.
 3. 1-pint samples of imported soils, organic amendments/compost, mulches, and cobbles.
- B. Submit planting soil and organic amendment laboratory reports a minimum of 3 weeks prior to beginning soil prep. See below for required soil analysis reports.
- C. Required Soil Analysis Reports. Reports to be dated no more than 3 months prior to soil preparation.
1. Soil Analysis Plan: Contractor to submit annotated plan showing confirmed locations of all required soil tests. Each location is to be identified with a unique label.
 2. Existing Planting Soil Analysis: After approval of the Soil Analysis Plan, rough grading, and topsoil placement, contractor to obtain 3 representative samples of in situ topsoil taken from approved site locations at depth of 4" to 6" below finish grade and submit to an accredited soils testing laboratory for "horticultural suitability" analysis, including particle size, infiltration rate, and evaluation of physical and chemical properties of soil and recommendations for adding amendments and fertilizers to the soil.
 3. Subsoil Analysis: In addition to the above required soil samples, contractor to obtain one representative sample of any subgrade soil that is to receive a layer of imported planting soil over it. The laboratory report shall include the soil's infiltration rate, total combined silt and clay content for determining the total allowable combined silt and clay content of the imported planting soil specified herein.
 4. Imported Planting Soil Analysis: Contractor to submit a "horticultural suitability" analysis report from an accredited soils testing laboratory, including particle size, infiltration rate, and evaluation of physical and chemical properties of soil and recommendations for adding amendments and fertilizers to the soil. Soil to conform to requirements in Part 2.
 5. Amended Planting Soil Analysis: Significant issues with soil quality will require soil to be retested in the locations identified on Soil Analysis Plan, prior to proceeding with plant installation, to ensure that the recommendations in the report have been followed and the final Planting Soil is horticulturally suitable as described in Part 2.
- D. The Contractor is responsible to follow all local water ordinances and make available to the local agency the soil analysis report and verification of its implementation as required.
- E. Delivery Receipts upon request by Owner, provide delivery receipts for quantities of soil & amendments delivered to the site.
- F. Representative photos of trees with measuring pole and plant species (unless trees or plants previously tagged at nursery by landscape architect). Identified and dated photos of trees and plants to be the trees and plants delivered to site and not a stock photograph.

- G. Entire plant quantity delivered to the site. Plants to be reviewed prior to installation during a single site visit.

1.6 WARRANTY AND REPLACEMENT

- A. Maintenance Period: See Part 3.
- B. Warrant the work against weed growth for a period of four (4) months after application of Pre-Emergence Weed Killer.
- C. Warrant all plants to be in a healthy, thriving condition until the end of the maintenance period, and deciduous trees, shrubs and vines beyond that time until active growth is evident.
- D. Replace all dead and damaged plants and plants not in a vigorous condition immediately upon discovery and as directed by the Owner's Representative and at no cost to the owner. Install replacement plants before the final acceptance of the maintenance period in the size specified.
- E. Warrant all products, prepared soils and plant material installed and maintained by contractor against defects for a period of one year after final acceptance of the maintenance period.

PART 2 - PRODUCTS

2.1 SUBSOIL

- A. Submit soil analysis report from an approved soils laboratory for approval by the Landscape Architect. Refer to Part 1 for soil testing requirements.

2.2 EXISTING PLANTING SOIL (ON-GRADE):

- A. Existing Planting Soil is defined as on-site topsoil that is either to be removed and stockpiled for reuse or to remain in place during construction. Satisfactory planting soil shall be free of subsoil, clay, lumps, stones, and other objects over 4" in diameter, and without weeds, roots, and other objectionable material. The soil shall be fertile, friable, natural, productive soil containing a normal amount of humus, and shall be capable of sustaining healthy plant life. Soil shall not be infested with nematodes or with other noxious animal life or toxic substances. Soil shall be obtained from well-drained, arable land, and shall be of an even texture. Soil shall not be taken from areas on which are growing any noxious weeds such as morning glory, equisetum, or Bermuda grass, etc.
- B. If herbicide contamination is suspected then a radish/ryegrass growth trial must be performed. Consult with Landscape Architect prior to decision to test or not.
- C. Amended Planting Soils are to conform with the following target levels. Elements are expressed as mg/kg dry soil or mg/l for saturation extract.

pH value	6.5-7.9,		iron	4-15	mg/kg
lime	none	present	manganese	0.6-3.0	mg/kg
salinity (ECe)	0.5-3	milli-mho/cm	zinc	1-3	mg/kg
chloride	<150	ppm	copper	0.2-3.0	mg/kg
nitrate	20-30	ppm	boron	0.2-0.5	mg/kg
SAR	<3		magnesium	25-100	mg/kg
phosphorus	8-20	mg/kg	sodium	<200	mg/kg
potassium	60-180	mg/kg	sulfur	25-100	mg/kg

- D. If sufficient on-site surface topsoil is not available, contractor to provide imported planting soil as specified below. Placement of dissimilar soils shall be coordinated with irrigation zones by the contractor to maintain separate valves for dissimilar soils.
- E. Submit soil analysis report from an approved soils laboratory for approval by the Landscape Architect. Refer to Part 1 for soil testing requirements.

2.3 IMPORTED PLANTING SOIL (ON-GRADE):

- A. Imported planting soil shall be screened and shall be free of subsoil, heavy or stiff clay, rocks, gravel, brush, roots, weeds, noxious seeds, sticks, trash, and other deleterious substances.
- B. Imported Planting Soils are to conform with the following target levels. Elements are expressed as mg/kg dry soil or mg/l for saturation extract.

pH value	6.5-7.9,		iron	4-15	mg/kg
lime	none	present	manganese	0.6-3.0	mg/kg
salinity (ECe)	0.5-3	milli-mho/cm	zinc	1-3	mg/kg
chloride	<150	ppm	copper	0.2-3.0	mg/kg
nitrate	20-30	ppm	boron	0.2-0.5	mg/kg
SAR	<3		magnesium	25-100	mg/kg
phosphorus	8-20	mg/kg	sodium	<200	mg/kg
potassium	60-180	mg/kg	sulfur	25-100	mg/kg

- C. The silt and clay content of Imported Planting Soil shall not exceed that of the existing soil it is to be placed over. Except where otherwise required, it shall be a "Sandy Loam" as classified in accordance with USDA Standards with a combined total of between 25% to 40% Clay and Silt.
- D. Submit soil analysis report from an approved soils laboratory for approval by the Landscape Architect. Refer to Part 1 for soil testing requirements.
- E. Following approval of the sample, provide a one-half cubic yard sample, which shall be stored at the site of work for comparison with sample and subsequent

loads of soil. The comparison sample shall be protected by a cover until the installation of all soil has been completed and accepted.

2.4 ORGANIC AMENDMENT FOR PLANTING SOILS (ON-GRADE):

A. Ground Redwood or Ground Fir Bark with the following properties:

<u>Percent Passing</u>	<u>Sieve Designation</u>	
100	9.51 mm	3/8"
50-60	6.35 mm	1/4"
20-40	4.76 mm	No. 4
0-20	2.38 mm	No. 8 8 mesh

<u>Redwood Sawdust</u>		
Dry bulk density, lbs. per cu. yd.	260-280	
Nitrogen stabilized - dry weight basis	0.4%	minimum
Salinity (ECe):	4.0	maximum
Organic Content:	90%	minimum
Reaction (pH):	4.0	minimum

<u>Ground Fir and/or Pine Bark</u>		
Dry bulk density, lbs. per cu. yd.	350	minimum
Nitrogen stabilized - dry weight basis,	0.5%	minimum
Salinity (ECe):	4.0	maximum
Organic Content:	90%	minimum
Reaction (pH):	4.0 minimum	

B. Submit sample, product’s technical data sheet, and analysis report from an approved soils laboratory for approval by the Landscape Architect. The analysis report should include compliance to the specifications above and directions for product use.

2.5 PLANTS

- A. Plant the variety, quantity and size indicated on drawings. The total quantities indicated on the drawings are considered approximate and furnished for convenience only. Contractor shall perform plant quantity calculations and provide all plants shown on the drawings.
- B. Measure trees and shrubs with branches in normal position. Height and spread dimensions indicated refer to the main body of the plant, and not from branch tip to tip.
- C. Take precautions to ensure that the plants will arrive at the site in proper condition for successful growth. Protect plants in transit from windburn and sunburn. Protect and maintain plants on site by proper storage and watering.
- D. Install healthy, shapely and well rooted plants with no evidence of having been root-bound, restricted or deformed.

- E. Tag plants of the type or name indicated and in accordance with the standard practice recommended by the American Association of Nurserymen.
- F. Substitutions will not be permitted, except as follows:
 - 1. If proof is submitted to the Landscape Architect that any plant specified is not obtainable, a proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price.
 - 2. Substantiate and submit proof of plant availability in writing to the Landscape Architect within 10 days after the effective date of Notice to Proceed.
- G. Tree Form
 - 1. Trees shall have a symmetrical form as typical for the species/cultivar and growth form.
 - 2. Central Leader for Single Trunk Trees: Trees shall have a single, relatively straight central leader and tapered trunk, free of co-dominant stems and vigorous, upright branches that compete with the central leader. Preferably, the central leader should not have been headed; however, in cases where the original leader has been removed, an upright branch at least ½ the diameter of the original leader just below the pruning point shall be present.
 - 3. Potential Main Branches: Branches shall be evenly distributed radially around and appropriately spaced vertically along the trunk, forming a generally symmetrical crown typical for the species.
 - 4. Headed temporary branches should be distributed around and along the trunk as noted above and shall be no greater than 3/8" diameter, and no greater than ½ diameter of the trunk at point of attachment.
- H. Tree Trunk
 - 1. Trunk diameter and taper shall be sufficient so that the tree will remain vertical without the support of a nursery stake.
 - 2. Trunk shall be free of wounds (except properly-made pruning cuts), sunburned areas, conks (fungal fruiting-bodies), wood cracks, bleeding areas, signs of boring insects, galls, cankers and/or lesions.
 - 3. Tree trunk diameter at 6" above the soil surface shall be within the diameter range shown for each container size below, except where shown otherwise:

<u>Container</u>	<u>Trunk Diameter</u>	<u>Soil level from Container Top</u>
5 gallon	0.5" to 0.75"	1.25 to 2"
15 gallon	0.75" to 1.0"	1.75 to 2.75"
24" Box	1.5" to 2.5"	2.25 to 3"
36" Box	>2.5"	2.25 to 3"
60" Box	>2.5"	3-6"
 - 4. Tree trunks shall be undamaged and uncut with all old abrasions and cuts completely callused over. Do not prune plants prior to delivery.
- I. Tree Roots

1. Trunk root collar (root crown) and large roots shall be free of circling and/or kinked roots. Contractor may be required to remove soil near the root collar in order to verify that circling and/or kinked roots are not present.
2. The tree shall be well rooted in the container. When the trunk is lifted the trunk and root system shall move as one and the rootball shall remain intact.
3. The top-most roots or root collar shall be within 1" above or below the soil surface. The soil level in the container shall be within the limits shown in above table.
4. The rootball periphery shall be free of large circling and bottom-matted roots.
5. On grafted or budded trees, there shall be no suckers from the root stock.

2.6 FERTILIZERS

A. General Landscape Fertilizers

Commercial fertilizer, pelleted or granular form, conform to the requirements of Chapter 7, Article 2, of the Agricultural Code of the State of California for fertilizing materials as follows:

1. Type A:
6% Nitrogen, 20% Phosphorus Acid and 20% Potash, (6-20-20)
2. Type B:
21 gram planting tablets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Agriform or 10gm BestPacks packets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Best Fertilizer Co.
3. Type C (Maintenance Fertilizer)
Complete fertilizer 21% Nitrogen, 7% Phosphoric Acid and 14% Potash (21-7-14).
4. If commercial fertilizer having the above analysis is not obtainable, other similar commercial fertilizer may be used providing it meets the approval of the Landscape Architect.

2.7 IRON OR FERROUS SULFATE: DRY FORM.

- A. Essential 20% Ferrous (Iron) Sulfate. A soluble product that can be broadcast or incorporated. Analysis of 20% Iron, 18% Sulfur.

2.8 EROSION CONTROL NETTING

- A. New, with a uniform, open plain-weave, flame-retardant mesh. The mesh shall be natural brown-tan and made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Furnish jute mesh in rolled strips to meet the following requirements:
1. Width: 48 inches, with a tolerance of one-inch wider or narrower.
 2. Not less than 78 warp ends per width.
 3. Not less than 41 weft ends per yard.

2.9 ROOT BARRIER

- A. UB 18-2 as manufactured by Deep Root Corporation (800) 458-7668, Root Solutions, Inc. (800) 554-0914, or equal. Install a minimum of 6 panels/12 linear feet centered on each tree, where tree is within 8 feet of sidewalk, paving, or utilities.

2.10 TREE STAKES

- A. Lodge pole pine logs, clean, smooth, un-treated.
- B. Unless otherwise shown on drawings, provide two-inch (2") diameter by eight feet (8') long for trees less than 8' high and 1" caliper.
- C. Unless otherwise shown on drawings, provide three-inch (3") diameter by eight to ten feet (8' - 10') long for trees greater than 8' high and 1" caliper.
- D. 2" O.D. Lodge pole tree stakes, painted black

2.11 TREE TIES

- A. Unless otherwise shown on drawings, provide rubber strap, 24-inch minimum length without sharp edges adjacent to trunk, V.I.T. cinch-tie, Dublin, CA, (818)882-9530, or approved equal.
- B. Black corded rubber tree ties w/ clips by greensleeves.com
- C. Biodegradable VStrap webbing by Treestrap.

2.12 MULCH

- A. Organic Mulch:
 - 1. Fir tree or pine tree bark, dark in color; 3/4-inch to 1-inch size.
 - 2. Decorative Fir bark, dark in color; Medium 1/2-inch to 1-1/2-inch size.
 - 3. Walk-On Bark; Coarsely shredded White Fir, Red Fir or Pine bark.
 - 4. Redwood Bark; Single grind (Coarse) Coast Redwood Bark (Gorilla Hair)
 - 5. Redwood Bark; Double grind (Fine) Coast Redwood Bark
 - 6. Cedar mulch by American Soil and Stone
 - 7. Forest floor bark mulch by American Soil and Stone

PART 3 - EXECUTION

3.1 PLANT PROTECTION AND REPLACEMENT

- A. Inspect and protect all existing and new plants and trees against damage from construction activities, erosion, trespass, insects, rodents, deer, disease, etc. and provide proper safeguards, including trapping of rodent and applying protective sprays and fencing to discourage deer browsing. Maintain and keep all temporary barriers erected to prevent trespass.

- B. Repair all damaged planted areas. Replace plants immediately upon discovery of damage or loss.

3.2 LIME TREATED SOIL

- A. If site work includes Lime Treatment of the subsoil, the Contractor shall remove full depth of treated soil beyond 12" from structure(s) and replace with approved planting soil.
- B. Following removal of lime treated material, scarify subgrade to a minimum depth of 6 inches and test for drainage.
- C. Test subgrade in all planting areas for drainage by flooding with minimum 4-inch depth of water puddle and verify complete absorption of standing water within two hours. If standing water is still present after two hours, provide perforated pipe and drain rock "French Drain" system in bottom of non-draining planters and connect to storm drainage system, as accepted by Owner's Representative prior to backfilling with approved planting soil.

3.3 GENERAL PREPARATION OF PLANTING SOIL

- A. Submit soil analysis report of amended soils from an approved soils laboratory for approval by the Landscape Architect. Refer to Part 1 for soil testing requirements.
- B. All planting soils to be amended as specified in soil laboratory analysis report(s).
- C. Provide a minimum of 12" depth of amended planting soil in all planting areas, or more where shown or specified otherwise. Install soil in maximum 12" lifts. Compact each lift prior to installing subsequent lifts.
- D. Thoroughly wet down the planting areas to settle the soil and confirm irrigation coverage and operation. Allow soil to dry so as to be workable as described herein.
- E. After the rototill work, float areas to a smooth, uniform grade as indicated on the drawings. Slope all planting areas to drain. Roll, scarify, rake and level as necessary to obtain true, even planting surfaces. Remove rocks, sticks and debris 2 inches or larger in shrub and ground cover areas. Secure approval of the grade by the Landscape Architect before any planting.
- F. Prior to planting, soil shall be loose and friable to a minimum depth of [12"] with a relative maximum compaction of 85%. Rip and scarify any overly compacted and re-compacted planting areas (in two directions full depth of compacted soil) prior to planting.
- G. Water settling, puddling, and jetting of soil and backfill materials as a compaction method is not acceptable.
- H. Prior to planting, soil shall be moist, but not so moist that it sticks to a hand shovel. Do not work planting soil in a wet or muddy condition or dump or spread in areas where subgrade is not in proper condition.

- I. Provide planting soil as a final lift in all planting areas within and adjacent to paved areas and other construction where native site soil has been covered by engineered fill and/or base rock. Unless otherwise shown or specified, finish grade in planting islands shall be crowned with a minimum 2% pitch to drain.
- J. Finish Grade: Hold finish grade and/or mulch surface in planting areas 1/2-inch below adjacent pavement surfaces, tops of curbs, manholes, etc. The subgrade of the mulch in mulched planting areas shall be a minus 2 inches at a distance of 12 to 18 inch from the edge of pavement. Drag finish grade to a smooth, even surface. Grade to form all swales and berms. Pitch grade with uniform slope to catch basins, streets, curb, etc., to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas that shall be uniformly sloped between finish elevations. Slope surface away from walls so water will not stand against walls or buildings. Control surface water to avoid damage to adjoining properties or to finished work on the site. Take required remedial measures to prevent erosion of freshly graded areas.
- K. Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.

3.4 PREPARATION OF IN-SITU PLANTING SOIL

- A. In-Situ Planting Soil is defined as top soil left in its original place and undisturbed during construction activities which is to receive new planting
- B. Except within tree driplines, rip all planting areas in two directions full depth to a minimum of 12" into undisturbed native subsoil prior to amending. Scarification of any planting area which cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper percolation/drainage.
- C. Inspect planting areas and remove all base rock and other foreign material. Verify placement of planting soil within dripline of trees with Owner's Representative.
- D. Test depth of loose soil with hand shovel in presence of Owner's Representative in several locations as directed.
- E. After acceptance of the planting condition, uniformly mix and amend soil with required fertilizers, nutrients, etc. per specifications herein and recommendations given in soils reports.
- F. In the case of a contradiction between the quantity of organic amendment required by the soils laboratory analysis and the specified quantity below, the greater of the two quantities shall take precedence. Spread organic amendment, iron and Type A fertilizer evenly over installed and rough graded on-site topsoil in all planting areas including ground cover and shrub areas at the following rates:
 - 1. Organic Amendment: 6 cubic yards per 1,000 square feet
 - 2. Fertilizer: Type A (6-20-20) at 20 lbs. per 1,000 square feet.
 - 3. Iron Sulfate: 10 lbs. per 1,000 square feet

- G. Rototill above additives into soil 8-12" inches deep. Keep iron sulfate off pavement and other surfaces to prevent rust staining. Correct all rust damage to work.
- H. Final planting soil shall have a pH range of 6.5 to 7.5.

3.5 PREPARATION OF IMPORTED PLANTING SOIL (ON-GRADE)

- A. Uniformly distribute and spread Subsoil or select fill in planting areas to achieve rough grading and compact to a maximum of 85% relative compaction.
- B. Except within tree driplines, rip all planting areas in two directions full depth to a minimum of 12" into undisturbed native subsoil prior to backfilling. Scarification of any planting area which cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper percolation/drainage.
- C. Thoroughly water-settle subsoil to required subgrade prior to installing Top Soil.
- D. Prior to placing planting soil secure the Owner's Representatives acceptance of the planting areas subgrade condition. Test depth of loose soil with hand shovel in presence of Owner's Representative in several locations as directed.
- E. After acceptance of the planting areas subgrade condition, uniformly distribute and spread planting soil backfill over scarified subgrade in planting areas as specified.
- F. Mix and amend soil with required fertilizers, nutrients, etc. per specifications herein and recommendations given in soils reports.

3.6 ROOT BARRIER

- A. Install in continuous sheet parallel and adjacent to curb or pavement edge as required on drawings and in accordance with manufacturer's recommendations. Set top of barrier approximately 1/2-inch above finished soil surface to allow concealment with mulch, as accepted by Owner's Representative

3.7 EROSION CONTROL NETTING

- A. Verify finished grades and provide Jute Mesh and single grind Redwood bark mulch on all slopes 3:1 and steeper as accepted by the Owner's Representative. Install jute mesh loosely up and down the slope in accordance with manufacturer's specifications and as follows. Fit the soil surface contour and hold in place with 12-inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at 18- to 24-inch spacing. Jute mesh strips shall overlap along all edges at least 6 inches. Ends of side strips shall be buried into the soil at least 6 inches. Drive staples along edges to securely anchor mesh to ground.

3.8 TREE AND SHRUB PLANTING

- A. Mark tree and shrub locations on site using stakes, gypsum or similar approved

means and secure location approval by the Landscape Architect before plant holes are dug. Adjust location as required prior to planting.

B. Review location of plants in relationship to irrigation heads and adjust location(s) that interfere with the function of the spray heads. Adjust locations as required to ensure that the plant roots receive the proper amount of water in order for the plants to thrive.

C. Square Tree Pits

1. Drilled tree pits shall be modified to a square pattern with pit walls scarified to promote root penetration.

D. Excavate tree, shrub and vine pits as follows:

	<u>Width</u>	<u>Depth</u>
Boxed Trees	Box + 24"	Box depth
Canned Trees (15 gc)	Can + 18"	Can depth
Canned Shrubs/Vines (1- 5 gc)	Can + 12"	Can depth

E. Test drainage of plant beds and tree pits by filling with water (minimum 6"). The retention of water in planting beds and plant pits for more than two (2) hours shall be brought to the attention of the Landscape Architect. If rock, underground construction work, tree roots, poor drainage, or other obstructions are encountered in the excavation of plant pits, alternate locations may be selected by Landscape Architect.

F. Break and loosen the sides and bottom of tree pits to ensure root penetration and water test hole for drainage as required above.

G. Excavate plant hole or tree pit keeping excavated planting soil layer on the surface when backfilling around the plant. Carefully set plants as detailed without damaging the rootball. Superficially cut edge roots vertically on three sides. Remove bottom of plant boxes before planting. Remove sides of boxes after positioning the plant and partially backfilling.

H. Set plants in backfill with top of the rootball 1 inch above finished grade of adjacent soil. Backfill remainder of hole and soak thoroughly by jetting with a hose and pipe section. Water backfill until saturated the full depth of the hole.

I. Backfill plant holes with mix as specified, free from rocks, clods or lumpy material. Backfill native soil free of soil amendments under rootball and foot tamp to prevent settlement. Backfill remainder of the hole with soil mix and place plant tablets or packets (Type B fertilizer) 3 inches below finish grade and 1/2-inch from roots at the following rates:

1 gallon can plant	-	1 tablet or packet
5 gallon can plant	-	3 tablets or packet
15 gallon can plant	-	6 tablets or packet
24-inch box plant	-	6 tablets or packet
36-inch box plant	-	8 tablets or packet

- J. Except for acid loving plants (Azaleas, Rhododendrons, Ferns, Camellias, etc.), use a soil mix of 2 parts soil from the hole, and 1 part amendment with iron added at the following rates:
- | | | |
|----------------------|---|---------------|
| 1 gallon can plants | - | iron, 1/4 cup |
| 5 gallon can plants | - | iron, 1/3 cup |
| 15 gallon can plants | - | iron, 1/2 cup |
| 24" box and larger | - | iron, 1 cup |
1. Mix the iron, amendment and soil thoroughly for use in the top 8 inches of backfill around plants. For acid loving plants, mixture to be 1/2 soil from the hole and 1/2 amendment.
- K. Remove any soil from top of plant rootballs and secure Landscape Architect's approval of rootball height prior to mulching.
- L. After approval of rootball height, install mulch as required below.
- M. Stake and/or guy trees as detailed. Drive stake(s) until solid (at least 12" beyond bottom of rootball) and remove excess stake protruding above top tree tie to prevent rubbing against branches. Avoid driving stakes through rootball. If subgrade does not accept stakes to a stable degree, delete stakes and guy the trees as specified herein and as detailed. Locate tree ties to avoid contact with tree branches. Locate top tie at tree flex point.
- N. Build watering basin berms around trees and shrubs to drain through rootball. Water backfill until saturated the full depth of the hole.

3.9 GROUND COVER PLANTING

- A. Plant in neat, straight, parallel and staggered rows as indicated on plan. Plant first row one-half required ground cover spacing behind adjacent curbs, structures, or other plant bed limits. Plant ground cover to edge of water basins of adjacent trees and shrubs.

3.10 MULCH

- A. Mulch all tree, shrub and ground cover areas with organic mulch to a 3-inch depth, except mulch to 2-inch depth where planting with ground cover plants from flats.
- B. Hold bark mulch away from base (trunk) of plant 4" or as directed by the Landscape Architect.
- C. Individual trees and/or shrubs planted in non-irrigated areas shall, at minimum, receive bark mulch over their watering basin and berm.
- D. Install rock mulch to depth as detailed, minimum 2-inches for full coverage of soil surface, whichever is greater.

3.11 WATERING

- A. Water all trees, shrubs and ground cover immediately after planting. Apply water

to all plants as often and in sufficient amount as conditions may require to keep the plants in a healthy vigorous growing condition until completion of the Contract. Provide supplemental hand watering of trees and shrubs, as required, to maintain a moist root zones throughout plant establishment period.

3.12 PRE-MAINTENANCE PERIOD REVIEW AND APPROVAL OF PLANTING

- A. Maintain plants from time of delivery to site until final acceptance of landscape installation.
- B. Receive approval of the installed planting prior to commencement of planting establishment maintenance period. Notify the Landscape Architect or Owner's Representative a minimum of seven (7) days prior to requested review. Before the review, complete the following:
 - 1. Complete all construction work.
 - 2. Present all planted areas neat and clean with all weeds removed and all plants installed and appearing healthy.
 - 3. Plumb all trees and tree and shrub supports.
 - 4. No partial approvals will be given.

3.13 PLANTING ESTABLISHMENT MAINTENANCE

- A. General Requirements
 - 1. Maintenance Period: The planting establishment maintenance period required shall be 90 calendar days after all planting and irrigation is complete and as approved by Owner's representative. A longer period may be required if the plant material is not acceptably maintained during the maintenance period. The start of the maintenance period to be confirmed by Owner's representative. Contractor to notify landscape architect of start and end dates of maintenance period. The maintenance period may be suspended at any time upon written notice to the Contractor that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Owner Representative.
 - 2. Planting establishment maintenance immediately follows, coincides with, and is continuous with the planting operations, and continues after all planting is complete and accepted; or longer where necessary to establish acceptable stands of thriving plants.
 - 3. Protect all areas against damage, including erosion, trespass, insects, rodents, disease, etc. and provide proper safeguards. Maintain and keep all temporary barriers erected to prevent trespass.
 - 4. Keep all walks and paved areas clean. Keep the site clear of debris resulting from construction or maintenance activities.
 - 5. Repair all damaged planted areas, and replace plants immediately upon discovery of damage or loss.
 - 6. Check irrigation systems at each watering; adjust coverage and clean heads immediately. Adjust timing of controller to prevent flooding.

7. Maintain adequate moisture depth in soil to ensure vigorous growth. Check rootball of trees and shrubs independent of surrounding soils and hand water as required.
 8. Keep contract areas free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the Contractor of the responsibility of keeping areas free of weeds at all times.
- B. Tree and Plant Maintenance
1. Maintain during the entire establishment period by regular watering, cultivating, weeding, repair of stakes and ties, and spraying for insect pests. Prune when requested by the Landscape Architect.
 2. Keep watering basins in good condition and weed-free at all times.
 3. Replace all damaged, unhealthy or dead trees, shrubs, grasses, vines and ground covers with new stock immediately; size as indicated on the drawings.
- C. Fertilizing:
1. Upon approval and after submitting fertilizer delivery tags, maintenance fertilization shall begin 30 days after planting is complete. Fertilize all ground cover areas by broad-casting Type C (21-7-14) fertilizer at the rate of 5 lbs. per 1,000 square feet evenly throughout. Reapply every forty-five (45) days until acceptable.
 2. Early spring and fall substitute a complete fertilizer such as 15-15-15 applied at the rate of 6 lbs. per 1,000 square feet, to help insure continuing adequate phosphorus and potassium.
 3. Observe plant's color, and if a soil pH imbalance is suspected, take soil samples and obtain laboratory analysis for confirmation. Take necessary action recommended in laboratory analysis such as top dressing with soil sulfur, leaching soil, etc.

3.14 FINAL PLANTING REVIEW AND ACCEPTANCE

- A. At the conclusion of the Maintenance Period, schedule a final review with the Owner, the Owner's maintenance person, and/or the Landscape Architect. On such date, all project improvements and all corrective work shall have been completed. If all project improvements and corrective work are not completed, continue the planting establishment maintenance period at no additional cost to the Owner until all work has been completed. This condition will be waived by the Owner under such circumstances wherein the Owner has granted an extension of time to permit the completion of a particular portion of the work beyond the time of completion set forth in the Agreement.
- B. Submit written notice requesting review at least 10 days before the anticipated review.
- C. Prior to review, weed and restore all planted areas, plumb trees and tree supports, clear the site of all debris and present in a neat, orderly manner.

END OF SECTION

SECTION 33 41 00

STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Site storm drainage system

1.2 RELATED SECTIONS

- A. Section 31 21 00, Utility Trenching and Backfill

1.3 RELATED DOCUMENTS

- A. ASTM
 - 1. C923: Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals
- B. AASHTO
 - 1. M294: Standard Specification for Corrugated HDPE Pipe
- C. Caltrans Standard Specifications
 - 1. Section 51, Concrete Structures
 - 2. Section 70, Miscellaneous Drainage Facilities
- D. Cities and County of Marin Uniform Construction Standards
 - 1. Standard 225

1.4 DEFINITIONS

- A. AASHTO: American Association of State Highway and Transportation Officials
- B. ASTM: American Society for Testing Materials
- C. AWWA: American Water Works Association
- D. HDPE: High-density polyethylene
- E. NPS: Nominal pipe size

1.5 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Product data for the following:
 - 1. Piping materials and fittings
 - 2. Trench drain systems

3. Joint sealants
 4. Precast concrete catch basins, inlets, curb inlets, junction structures and area drains, including frames and grates
- C. Shop drawings: Include plans, elevations, details and attachments for the following:
1. Precast concrete inlets, frames and covers

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Storage
1. Piping: Inspect materials delivered to site for damage; store with minimum of handling. Store materials on site in enclosures or under protective coverings. Store plastic piping and jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.
 2. Metal Items: Check upon arrival; identify and segregate as to types, functions, and sizes. Store off the ground in a manner affording easy accessibility and not causing excessive rusting or coating with grease or other objectionable materials.
- B. Handling
1. Handle pipe, fittings, and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition. When handling lined pipe, take special care not to damage linings of pipe and fittings; if lining is damaged, make satisfactory repairs. Carry, do not drag, pipe to trench.
 2. Handle precast concrete pipe, manholes and other precast structures according to manufacturer's written instructions.
 3. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS (HDPE): 12 INCH THROUGH 48 INCH

- A. Pipe shall be in accordance to AASHTO M294. Type S, smooth interior and corrugated exterior.
- B. Bell and spigot joints
- C. Bell and Spigot Joint Gasket: Elastomeric seal, ASTM F477
- D. Couplings: AASHTO M252, corrugated band type, engage a minimum of 4 corrugations, 2 on each side of pipe joint

2.2 CURB INLETS, CATCH BASINS, DROP INLETS, JUNCTION STRUCTURES, AREA DRAINS, ETC.

- A. General: Size, shape, configuration, depth, etc. of structure and frame, grate, or cover shall be as indicated.

- B. Precast Structure: Cities and County of Marin Uniform Construction Standard
 - 1. Type "A"
 - 2. Rate for AASHTO H20 loading in traffic areas.
- C. Frames, Grates and Covers: Cities and County of Marin Uniform Construction Standard
 - 1. Type "A"
 - 2. Galvanize steel frames, grates and covers
 - 3. Grates and covers shall be non-rocking
 - 4. Rate for AASHTO H20 loading in traffic areas

2.3 JOINT SEALANT FOR Precast STRUCTURES AND MANHOLES

- A. Mortar: Caltrans Standard Specification Section 51-1.02F
 - 1. Use to seal around pipes at connections to structures and manholes. Also use to seal joints between precast sections of structures and manholes.
- B. Gaskets: Preformed flexible rubber or plastic gasket
 - 1. Rubber Gaskets: ASTM C443
 - 2. Plastic Gaskets: Federal Specification SS-S-00210 (GSA-FSS), Type I, Rope Form; or alternate standard which may exist. Acceptable material is "Ram-Nek," as manufactured by Henry Company, or approved equal.

2.4 TRENCH DRAIN

- A. General: Modular system of precast, cast iron trench drain sections, stainless steel grates, and appurtenances; designed so grates fit into channel recesses without rocking or rattling. Include number of units required to form total length required.
- B. Include the following components:
 - 1. Channel Sections: Precast modular units, Evergrate or Approved Equal
 - 2. Frame and Grate: Stainless steel grade and pentagon security bolt, Continuum style.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer's instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-2.03 for reinforced concrete pipe, Caltrans Standard Specification Section 66-1.03 for corrugated metal pipe, and chapter 11.3.3 of AWWA M41 for cast iron and ductile iron pipe.
- B. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.
- C. Excavation, Bedding, Backfill, and Compaction: Section 31 21 00, Utility Trenching and Backfill

- D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with the manufacturer's recommendations.
- E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout its entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.
- F. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.
- G. Closure: Close open ends of pipes and appurtenance at the end of each day's work or when work is not in progress.

3.2 INSTALLATION OF CURB INLETS, CATCH BASINS, DROP INLETS, JUNCTION STRUCTURES, AREA DRAINS, ETC. AND MANHOLES

- A. Excavation, Bedding, Backfill, and Compaction: Section 31 21 00, Utility Trenching and Backfill
- B. Precast Structures: Install as indicated.
 1. Seal all joints and pipe entrances and exits.
 2. Place concrete in bottom and shape to convey flows as indicated.

3.3 TRENCH DRAIN INSTALLATION

- A. Excavation, Bedding, Backfill, and Compaction: Section 31 21 00, Utility Trenching and Backfill
- B. Install: As indicated and in accordance with the manufacturer's instructions.

3.4 PIPELINE FLUSHING

- A. Newly constructed storm drain pipes shall be flushed with water to clean. A metal screen shall be used to collect and remove any rock, silt and other debris that is flushed out during cleaning.

3.5 DEFLECTION TESTING

- A. Upon completion of work, perform a deflection test on entire length of installed plastic pipeline. Completed work includes superimposed loads adjacent to and over the pipeline, such as compacted backfill and earthwork, and does not include paving, concrete curbs and gutters, sidewalks, walkways, and landscaping.
- B. Under external loads, deflection of pipe in the installed pipeline shall not exceed 4.5 percent of the average inside diameter of pipe.
- C. Determine whether the allowable deflection has been exceeded by use of a pull-through device or a deflection-measuring device.
- D. Pull-Through Device:
 - 1. Provide a spherical, spheroidal, or elliptical ball, a cylinder, or circular sections fused to a common shaft.
 - A. Circular sections shall be so spaced on the shaft that distance from external faces of front and back sections will equal or exceed diameter of the circular section.
 - B. Pull-through device may also be of a design approved by the Uni-Bell Plastic Pipe Association, provided that the device meets the applicable requirements specified in this paragraph, including those for diameter of the device.
 - 2. Ball, cylinder, or circular sections shall conform to the following:
 - A. A diameter, or minor diameter as applicable, of 95 percent of the average inside diameter of the pipe; tolerance of plus 0.5 percent will be permitted.
 - B. A homogeneous material throughout, with a density greater than 1.0 as related to water at 39.2 degrees F, and a surface Brinell hardness of not less than 150.
 - C. Center bored and through bolted with a ¼ inch minimum diameter steel shaft having a yield strength of not less than 70,000 pounds per square inch, with eyes or loops at each end for attaching pulling cables.
 - D. Each eye or loop shall be suitably backed with a flange or heavy washer such that a pull exerted on opposite end of shaft will produce compression throughout remote end.
 - 3. Pull-Through Device:
 - A. Pass the pull-through device through each run of pipe, either by pulling it through or flushing it through with water.
 - B. If the device fails to pass freely through a pipe run, replace pipe which has the excessive deflection and completely retest in same manner and under same conditions as specified.
- E. Deflection measuring Device:

1. Sensitive to 1.0 percent of the diameter of the pipe being tested and accurate to 1.0 percent of the indicated dimension.
 2. Obtain approval of deflection measuring device prior to use.
- F. Deflection Measuring Device Procedure:
1. Measure deflections through each run of installed pipe.
 2. If deflection readings in excess of 4.5 percent of average inside diameter of pipe are obtained, retest pipe by a run from the opposite direction.
 3. If retest continues to show a deflection in excess of 4.5 percent of average inside diameter of pipe, remove pipe which has excessive deflections, replace with new pipe, and completely retest in same manner and under same conditions.
- G. Warranty Period Test: Pipe found to have a deflection of greater than 5 percent of average inside diameter when deflection test is performed just prior to end of 1 year warranty period shall be replaced with new pipe and tested as specified for leakage and deflection.

3.6 CLEANING

- A. Thoroughly clean storm drain lines, manholes, catch basins, field inlets, culverts, and similar structures, of dirt, debris, and obstructions of any kind.

END OF SECTION

SECTION 33 42 00
BIORETENTION AREAS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Bioretention and biofiltration areas for storm water treatment, including treatment media, subdrains, and inlet structures.

1.2 RELATED SECTIONS

- A. Section 31 00 00 – Site Clearing
- B. Section 31 20 00 – Earth Moving
- C. Section 31 21 00 – Utility Trenching and Backfill
- D. Section 32 84 00 – Irrigation
- E. Section 32 90 00 - Planting
- F. Section 33 41 00 – Storm Utility Drainage Piping

1.3 RELATED DOCUMENTS

- A. AASHTO
 - 1. M288: Standard Specification for Geotextiles Used for Subsurface Drainage Purposes
- B. D1785: Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 180Caltrans Standard Specifications
 - 1. Section 70, Miscellaneous Drainage Facilities

1.4 DEFINITIONS

- A. AASHTO: American Association of State Highway and Transportation Officials
- B. ASTM: American Society for Testing Materials
- C. PVC: Polyvinyl Chloride

1.5 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Product data for the following:
 - 1. Soil Mix

2. Permeable drain rock
3. Geotextile fabrics
4. Area drains

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Storage
 1. Piping: Inspect materials delivered to site for damage; store with minimum of handling. Store materials on site in enclosures or under protective coverings. Store plastic piping and jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.
- B. Handling
 1. Handle pipe, fittings, and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition. When handling lined pipe, take special care not to damage linings of pipe and fittings; if lining is damaged, make satisfactory repairs. Carry, do not drag, pipe to trench.
 2. Handle precast structures according to manufacturer's written instructions.
 3. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.1 AREA DRAINS

- A. Grate and Riser: Area drain shall be as manufactured by Nyloplast or approved equal. Riser shall be constructed of 6-inch PVC SDR 35 piping per paragraph 2.1(A) of this section and connected to area drain by a gasket joint. Riser shall be vertical except as otherwise noted in the plans. Riser may include a reducer if necessary to make connection to the storm drain line.
- B. Elevation and Grading: Area Drain rim elevation shall be set and area around area drain shall be graded to drain away from any adjacent structures, walks, or roadways and towards area drain.

2.2 BIORETENTION TREATMENT SOIL

- A. Soil Mix:
 1. Biotreatment soil median in conformance with the Bay Area Stormwater Management Agencies Association (BASMSS) standards
 - A. Soil mix shall consist of 60-percent to 70-percent sand and 30-percent to 40-percent compost
 - B. Soil mix shall have a tested infiltration rate of a minimum of 5 inches per hour
- B. Drainage Fill Material:
 1. Permeable Material: Conform to Section 68-2.02F(3) of Caltrans Standard Specifications, Class 2.

- C. Geosynthetics: Non-woven needle-punched geotextile, manufactured for subsurface drainage, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with the following properties determined according to AASHTO M288
 - 1. Survivability Class: 1
 - 2. Apparent Opening Size: No. 70 sieve maximum
 - 3. Permittivity: 0.5 per second, minimum

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces and areas for suitable conditions where subdrainage systems are to be installed.
- B. Install only after unsatisfactory conditions have been corrected.

3.2 BIORETENTION AREAS

- A. The Contractor shall excavate bioretention areas to the elevations and dimensions specified on the plans. Level surface of area of top of treatment soil shown on the plans shall govern actual length and width dimensions if shown on the plans. In-situ soils shall not be further compacted.
- B. Direct the use of heavy equipment and construction traffic around rain gardens so as to avoid compaction, to the extent possible.
- C. After initial site grading, the Contractor shall provide temporary protection from curb cuts and other potential inflow entrances so that runoff drainage does not enter the rain gardens during construction and installation.
 - 1. Bioretention areas may be used as sediment settling facilities during mass excavation and commensurate construction activities.
 - 2. Prior to commencing work in rain gardens, the Contractor shall remove and properly dispose of all accumulated sediments.
- D. Excavated soils shall be placed with stockpiled fill and properly disposed and stabilized by the Contractor.
- E. Subdrain installation:
 - 1. Subdrain shall be installed as indicated on the plans at an elevation within the drain rock layer shown on the construction details and connected to the overflow or outfall structure at the invert elevation shown on the plans.
 - 2. For connections of the perforated drain pipes to storm drainage structures, appropriately sized holes shall be cut in the structures at the correct invert elevation specified by the Project Designer or authorized representative. The connections shall be sealed sediment-tight and secured in place with mortar or other approved joint sealant compatible with subdrain pipe materials.

3. Drain rock layer shall be approved Class II Permeable Material. Crushed rock or aggregate base cannot be used within the treatment area, in, around or under the drain rock layer.
 4. Care shall be exercised to prevent natural or fill soils from intermixing with the drain rock surrounding the underdrain. All contaminated drain rock shall be removed and replaced with uncontaminated Class II permeable material.
 5. Attach subdrain piping to overflow structure.
 6. Install cleanouts at the ends of the subdrains. Install screw-on end caps set flush with the finished top of treatment soil.
- F. Overflow drain structure:
1. Install overflow structure at the elevation and location specified on the plans. Attach subdrain piping to overflow structure. Attach solid pipe from overflow structure outfall storm drain system at elevation and slope indicated on the plans.
 2. Rim elevation of overflow structure must be set above the elevation of the top of treatment soil by the amount indicated on the plans, typically 6 inches. Contractor shall verify that the rim elevation of the overflow structure is also a minimum of 2 inches below the lowest elevation of the treatment area perimeter so that storm flows will reach the overflow rim before the top of the treatment area perimeter.
 3. The overflow structure shall have an open bottom filled with drain rock if indicated on the plans. This should be installed where the overflow structure has a sump condition (subdrains lower than the outfall invert elevation). The overflow structure shall be installed such that the bottom of the structure is set a minimum of 6-inches below the undisturbed bottom of the treatment area. Drain rock in the overflow sump shall be installed up to the invert of the lowest pipe connected to the structure.
- G. Filter media soil backfill
1. Filter soil of the approved specification shall be installed to the elevation indicated on the plans. Care should be taken to ensure that the soil is not compacted and that no equipment is driven on the backfill. Walking on the backfill should be limited to what is absolutely necessary.
- H. Planting soil, plantings, and mulch shall be installed per the plans. Non-floating bark / mulch shall be used, if indicated, to prevent removal of material and clogging of the overflow.
- I. Testing of the treatment area should be conducted once the filter media is installed and all storm drain piping is connected. The area should allow an infiltration rate well above 5 inches/ hour to ensure that the treatment area will continue to function at 5 inches/ hour over the lifetime of the treatment area.

3.3 INSTALLATION AREA DRAINS

- A. Excavation, Bedding, Backfill, and Compaction: Section 31 23 33 - Trenching and Backfill

- B. Precast Structures: Install as indicated.
 - 1. Seal all joints and pipe entrances and exits.
 - 2. Place concrete in bottom and shape to convey flows as indicated.

3.4 PIPELINE FLUSHING

- A. Newly constructed storm drain pipes shall be flushed with water to clean. A metal screen shall be used to collect and remove any rock, silt and other debris that is flushed out during cleaning.

3.5 CLEANING

- A. Thoroughly clean storm drain lines, manholes, catch basins, field inlets, culverts, and similar structures, of dirt, debris, and obstructions of any kind.
- B. Subdrain Piping:
 - 1. Clear interior of installed piping and structures of dirt and other superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed. Place plugs in ends of uncompleted pipe at end of each day or when work stops.

END OF SECTION

**EXHIBIT "A"
CHANGE ORDER FORM**

City of Sausalito

*420 Litho Street
Sausalito, California 94965*

Contract Change Order #

Project:	Change Order No.:
	Orig. Contract Amt.: \$ _____ Days
Contract No.: 0301001-000	
Contractor:	Prev. Appvd. Changes: \$ _____ Days
Owner: City of Sausalito	This Change: \$ _____ Days
	Revised Contract Amt.: \$ _____ Days

This Change Order covers changes to the subject contract as described herein. The Contractor shall construct, furnish equipment and materials, and perform all work as necessary or required to complete the Change Order items for a lump sum price agreed upon between the Contractor and City of Sausalito, otherwise referred to as Owner.

Item No.	Description of Changes	Increase/ (Decrease) in Contract Amount	Contract Time Extension, Days
1			
2			
	Totals	\$	

This Contract Change Order consists of **2 pages** and any exhibits attached to this Contract Change Order shall not be part of the Contract Change Order unless specifically initialed by or on behalf of both the Contractor and the City of Sausalito.

Contract Change Order # _____ Page 1 of 2

