

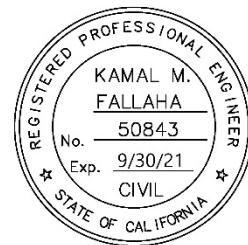


CITY OF EAST PALO ALTO  
CALIFORNIA

# CONTRACT DOCUMENTS AND SPECIFICATIONS

## FOR CONSTRUCTION OF THE BAY ROAD IMPROVEMENTS PHASE II/III PROJECT

FOR USE WITH THE 2010 STANDARD SPECIFICATIONS AND STANDARD PLANS, OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AND THE LABOR SURCHARGE AND EQUIPMENT RENTAL RATES IN EFFECT ON THE DATE THE WORK IS ACCOMPLISHED.



**FEDERAL-AID PROJECT NO. HPLUL-5438 (011)**

**BID OPENING DATE: November 12, 2019**

**CITY CONTRACT NO. CIP-ST-05A-13**

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**City of East Palo Alto  
Public Works Department**

**NOTICE IS HEREBY GIVEN** that sealed bids will be received by the City of East Palo Alto herein referred to as “City,” at the Office of the City Clerk of the City of East Palo Alto, 2415 University Avenue, East Palo Alto, CA. 94303, until **November 12, 2019**, for furnishing all labor, material, tax, transportation, equipment, and services necessary for: **BAY ROAD IMPROVEMENTS PHASE II/III PROJECT, EPA Project No. CIP-ST-05A-13**. Bids will be opened and tabulated by or on behalf of the City Clerk immediately after receipt of bids at the specified date and time above. Any bids received after the time specified shall be returned unopened.

Deliver bids to: East Palo Alto City Hall – City Clerk’s Office, 2415 University Avenue, East Palo Alto, CA. 94303. If you choose to send your Bid Proposal via an overnight or express service, it must be marked on the outside: **BAY ROAD IMPROVEMENTS PHASE II/III PROJECT, EPA Project No. CIP-ST-05A-13 – deliver immediately to the City Clerk’s Office, per the bid date specified above.**

**A non-mandatory Pre-Bid Meeting will be held on October 17, 2019 at 10:30 a.m. at the Cooley Landing Education Center, 2100 Bay Road, East Palo Alto, CA 94303**

This project shall be conducted in accordance with the plans, specifications and other contract documents, all of which may be examined at the Public Works Department, Engineering Division at 1960 Tate Street, East Palo Alto, CA 94303, Phone: (650) 853-3100. Bidders are required for familiarizing themselves with the project site in accordance with Article 5 – Bidder’s Representations of Section 00200 – Instructions to Bidders.

In accordance with the plans and specifications and other bid documents, the work generally consists of the construction of: Project will add complete street improvements, new sidewalks, crosswalks, new street lights and pedestrian lights, landscaping, bioretention facilities, and bus passenger shelters to Bay Road. The project will additionally repair the base structure and resurface Bay Road and install drainage and utility improvements. New striping will delineate vehicle travel lanes and bicycles lanes to create a multi modal street that meets current design and safety standards for vehicle, bicycle and pedestrian travel. All improvements will be constructed within the existing Bay Road right-of-way (ROW) as indicated on the contract plans entitles, “**BAY ROAD IMPROVEMENTS PHASE II/III PROJECT**” plans dated **October 8, 2018** (approval date).

The Project will be financed in whole or in part by the State and Federal funds.

**DBE goal for this project is 13%.**

Plans and specifications may be obtained for electronic download from the City website, <http://www.cityofepa.org/Bids.aspx>. Bidders will be required to complete a form prior to download of the plans. Hard copies are available for a non-refundable payment of \$300.

All communications relative to the day-to-day administration of this work shall be directed to Humza Javed, (650) 853-3130, email: [hjaved@cityofepa.org](mailto:hjaved@cityofepa.org).

THIS PROJECT IS SUBJECT TO THE "BUY AMERICA" PROVISIONS OF THE SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982 AS AMENDED BY THE INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991.

The contractor shall possess a Class A license from Contract award through Contract acceptance. The Contractor's attention is directed to Public Contract Code § 10164.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

The successful bidder shall furnish a payment bond, a labor and materials bond and a performance bond.

The City of East Palo Alto hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at City of East Palo Alto address and available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov>. Addenda to incorporate the Federal minimum wage rates will be issued to holders of "Contract Documents and Specifications" books. Future effective general prevailing wage rates which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

The U.S. Department of Transportation (DOT) provides a toll-free "hotline" service to report bid rigging activities. Bid rigging activities can be reported 24 hours 7 days a week. Telephone No. 1-800-424-9071. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report these activities. The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

CITY OF EAST PALO ALTO

DIRECTOR OF PUBLIC WORKS: *Kamal Fallaha*

DATED: 8/29/19

## SECTION 1. SPECIFICATIONS AND PLANS

The work embraced herein shall be done in accordance with the Standard Specifications dated 2010, and the Standard Plans dated 2010, of the Department of Transportation insofar as the same may apply and these special provisions.

In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

In case of conflict between Standard Specifications, Special Provisions, and City Contract Documents & Specifications, the following shall take precedence:

1. Contract Documents & Specifications
2. East Palo Alto Standard Drawings and Specifications
3. Caltrans 2010 Standard Specifications and Standard Plans

### Definitions and Terms

As used herein, unless the context otherwise requires, the following terms have the following meanings:

City or East Palo Alto - The City of East Palo Alto, a municipal corporation of the State of California.

Contractor - The person, firm, or corporation with whom the contract is made with the City.

Contract and Contract Documents - Everything contained in the bound volume and any and all other written instruments and drawings of every kind and nature attached to or made a part hereof, by reference or by operation of law; such as, but not limited to, Notice to Contractors, Instructions to Bidders, Proposal, Bonds, Specifications, General Conditions, Special Conditions, Drawings, and the Agreement which is prepared for execution by the City and the Contractor, and which is itself a part of the Contract Documents as above defined, and which by this reference and by reference made in such form of agreement includes all other "Contract Documents" the same as though they were set out in full therein, also, any and all supplemental written agreements, orders, or addenda amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner.

Department of Transportation - The City Council of the City of East Palo Alto, State of California.

Drawings - The contract plans entitled, "**BAY ROAD IMPROVEMENTS PHASE II/III PROJECT**", 10/8/2018

Engineer - The City Engineer of the City of East Palo Alto, State of California, acting directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Laboratory - The established laboratory of the Materials and Research Department of the Department of Transportation of the State of California or laboratories authorized by the Engineer to test materials and work involved in the contract.

State - The City of East Palo Alto.

State Highway Engineer - The City Engineer of the City of East Palo Alto, State of California.

Standard Specifications - The 2010 edition of the Standard Specifications of the State of California, Business, Transportation and Housing Agency, Department of Transportation. Any reference therein to the State of California or a State agency, office, or officer shall be interpreted to refer to the City or its corresponding agency, office, or officer acting under this contract.

Transportation Building – Sacramento - City Hall, City of East Palo Alto, State of California.

Work or Project - Everything required to be furnished or performed under the contract documents as above defined.

## **SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS**

### **2-1.01 GENERAL**

The bidder's attention is directed to the provisions in Section 2, "Bidding", of the Standard Specifications for the requirements and conditions which the bidder must observe in the preparation of the proposal form and the submission of the bid.

The bidder's attention is directed to Section 2-1.33C, "Subcontractor List," of the Standard Specifications. A sheet for listing the subcontractors is included in the Proposal.

The form of Bidder's Bond mentioned in the last paragraph in Section 2-1.34, "Bidder's Security", of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Noncollusion Affidavit.

The contractor, sub recipient 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 CFR part 26 in the award and administration of DOT assisted contracts. 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 recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

**This project is funded by multiple funding sources as reference in these specifications. Contractor shall comply with all requirements.**

### **2-1.01A FEDERAL LOBBYING RESTRICTIONS**

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier subrecipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Proposal. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Proposal. Signing the Proposal shall constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding \$100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or
- (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or
- (3) A change in the officer(s), employees(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

### **2-1.02 DISADVANTAGED BUSINESS ENTERPRISE (DBE).**

This project is subject to Part 26, Title 49, Code of Federal Regulations entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." The Regulations in their entirety are incorporated herein by this reference.

Bidders shall be fully informed respecting the requirements of the Regulations and the DOT's Disadvantaged Business Enterprise (DBE) program developed pursuant to the Regulations; particular attention is directed to the following matters:

- A. A DBE must be a small business concern as defined pursuant to Section 3 of U.S. Small Business Act and relevant regulations promulgated pursuant thereto;
- B. A DBE may participate as a prime contractor, subcontractor, joint venture partner with a prime or subcontractor, vendor of material or supplies, or as a trucking company;
- C. A DBE bidder, not bidding as a joint venture with a non-DBE, will be required to document one or a combination of the following:
  - 1. The bidder will meet the goal by performing work with its own forces.
  - 2. The bidder will meet the goal through work performed by DBE subcontractors, suppliers or trucking companies.
  - 3. The bidder, prior to bidding, made adequate good faith efforts to meet the goal.
- D. A DBE joint venture partner must be responsible for specific contract items of work, or portions thereof. Responsibility means actually performing, managing and supervising the work with its own forces. The DBE joint venture partner must share in the capital contribution, control, management, risks and profits of the joint venture. The DBE joint venturer must submit the joint venture agreement with the proposal or the DBE Information form required in the Section entitled "Submission of DBE Information" of these special provisions;
- E. A DBE must perform a commercially useful function, i.e., must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work;
- F. DBEs must be certified by either the California Department of Transportation, or by a participating agency which certifies in conformance with Title 49, Code of Federal Regulations, Part 26, as of the date of bid opening. It is the Contractor's responsibility to verify that DBEs are certified. Listings of certified DBEs are available from the following sources:
  - 1. The Department's DBE Directory, which is published quarterly. This Directory may be obtained from the Department of Transportation, Materiel Operations Branch, Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815, Telephone: (916) 445-3520;
  - 2. The Department's Electronic Information Bulletin Board Service, which is accessible by modem and is updated weekly. The Bulletin Board may be accessed by first contacting the Department's Business Enterprise Program at Telephone: (916) 227-8937 and obtaining a user identification and password;
  - 3. The Department's web site at <http://www.dot.ca.gov/hq/bep/index.htm>;
- G. Credit for materials or supplies purchased from DBEs will be as follows:
  - 1. If the materials or supplies are obtained from a DBE manufacturer, 100 percent of the cost of the materials or supplies will count toward the DBE goal. A DBE manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.
  - 2. If the materials or supplies are purchased from a DBE regular dealer, 60 percent of the cost of the materials or supplies will count toward the DBE goal. A DBE regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel,



- cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph G.2. if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not DBE regular dealers within the meaning of this paragraph G.2.
3. Credit for materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

H. Credit for DBE trucking companies will be as follows:

1. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting the DBE goal;
  2. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract;
  3. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs;
  4. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract;
  5. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE;
  6. For the purposes of this paragraph H, a lease must indicate that the DBE 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 the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.
- I. Noncompliance by the Contractor with the requirements of the regulations constitutes a breach of this contract and may result in termination of the contract or other appropriate remedy for a breach of this contract;
- J. Bidders are encouraged to use services offered by financial institutions owned and controlled by DBEs.

**2-1.02A DBE GOAL FOR THIS PROJECT**

The City has established the following goal for Disadvantaged Business Enterprise (DBE) participation for this project:

**Disadvantaged Business Enterprise (DBE): 13%**

Caltrans has engaged the services of a contractor to provide supportive services to contractors and subcontractors to assist in obtaining DBE participation on federally funded construction projects. Bidders and potential subcontractors should check the Caltrans website at <http://www.dot.ca.gov/hq/bep> to verify the current availability of this service.

**2-1.02B SUBMISSION OF DBE INFORMATION**

The required DBE information shall be submitted on the 15-G *Local Agency Bidder DBE Commitment (Construction Contracts)* form included in the Proposal. If the complete DBE information is not submitted with the bid, the DBE Information form shall be removed from the documents prior to submitting the bid and shall be provided as outlined below.

It is the bidder's responsibility to make enough work available to DBEs and to select those portions of the work or material needs consistent with the available DBEs to meet the goal for DBE participation or to provide information to establish that, prior to bidding, the bidder made adequate good faith efforts to do so.

If DBE information is not submitted with the bid, the apparent successful bidder (low bidder), the second low bidder and the third low bidder shall submit DBE information to the City of East Palo Alto, 2415 University Avenue, East Palo Alto, CA. 94303 so the information is received by the City of East Palo Alto no later than 4:00 p.m. on the fourth day, not including Saturdays, Sundays and legal holidays, following bid opening. DBE information sent by U.S. Postal Service certified mail with return receipt and certificate of mailing and mailed on or before the third day, not including Saturdays, Sundays and legal holidays, following bid opening will be accepted even if it is received after the fourth day following bid opening. Failure to submit the required DBE information by the time specified will be grounds for finding the bid or proposal nonresponsive. Other bidders need not submit DBE information unless requested to do so by the City of East Palo Alto.

The bidder's DBE information shall establish that good faith efforts to meet the DBE goal have been made. To establish good faith efforts, the bidder shall demonstrate that the goal will be met or that, prior to bidding, adequate good faith efforts to meet the goal were made.

Bidders are cautioned that even though their submittal indicates they will meet the stated DBE goal, their submittal should also include their adequate good faith efforts information along with their DBE goal information to protect their eligibility for award of the contract in the event the City, in its review, finds that the goal has not been met.

The bidder's DBE information shall include the names, addresses and phone numbers of DBE firms that will participate, with a complete description of work or supplies to be provided by each, the dollar value of each DBE transaction, and a written confirmation from the DBE that it is participating in the contract. A copy of the DBE's quote will serve as written confirmation that the DBE is participating in the contract. When 100 percent of a contract item of work is not to be performed or furnished by a DBE, a description of the exact portion of that work to be performed or furnished by that DBE shall be included in the DBE information, including the planned location of that work. The work that a DBE prime contractor has committed to performing with its own forces as well as the work that it has committed to be performed by DBE subcontractors, suppliers and trucking companies will count toward the goal.

The information necessary to establish the bidder's adequate good faith efforts to meet the DBE goal should include:

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder.
- B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested.
- C. The items of work which the bidder made available to DBE firms, 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 DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to meet the DBE goal was made available to DBE firms.
- D. The names, addresses and phone numbers of rejected DBE firms, the firms selected for that work, and the reasons for the bidder's choice.
- E. Efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs.
- F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate.
- G. The names of agencies contacted to provide assistance in contacting, recruiting and using DBE firms.
- H. Any additional data to support a demonstration of good faith efforts.

Use each DBE subcontractor as listed on Exhibit 12-B *Bidder's List of Subcontractors (DBE and Non-DBE)* and Exhibit 15-G *Local Agency Bidder DBE Commitment (Construction Contracts)* form unless you receive authorization for a substitution.

The City requests the Contractor to:

1. Notify the Engineer of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work
3. Maintain records including:
  - Name and business address of each 1<sup>st</sup>-tier subcontractor
  - Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
  - Date of payment and total amount paid to each business

If you are a DBE contractor, include the date of work performed by your own forces and the corresponding value of the work.

Before the 15th of each month, submit a Monthly DBE Trucking Verification form.

If a DBE is decertified before completing its work, the DBE must notify you in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you in writing of the certification date. Submit the notifications. On work completion, complete a Disadvantaged Business Enterprises (DBE) Certification Status Change, Exhibit 17-O, form. Submit the form within 30 days of contract acceptance.

Upon work completion, complete Exhibit 17-F *Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors*. Submit it within 90 days of contract acceptance. The Agency will withhold \$10,000 until the form is submitted. The Agency releases the withhold upon submission of the completed form.

DBEs must perform work or supply materials as listed in the Exhibit 15-G *Local Agency Bidder DBE Commitment (Construction Contracts)* form, included in the Bid.

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or obtain materials from other sources without authorization from the Agency.

The City of East Palo Alto authorizes a request to use other forces or sources of materials if bidder shows any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. You stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet your bond requirements.
3. Work requires a contractor's license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.

11. Agency determines other documented good cause.

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 days to respond to your notice and advise you and the Agency of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. One or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBEs to you regarding the request

If a listed DBE is terminated or substituted, you must make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the same amount of work as the original DBE under the contract to the extent needed to meet the DBE goal.

The substitute DBE must be certified as a DBE at the time of request for substitution.

Unless the Agency authorizes (1) a request to use other forces or sources of materials or (2) a good faith effort for a substitution of a terminated DBE, the Agency does not pay for work listed on the Exhibit 15-G *Local Agency Bidder DBE Commitment (Construction Contracts)* form unless it is performed or supplied by the listed DBE or an authorized substitute.

#### **2-1.02C FEDERAL TRAINEE PROGRAM**

Contractor shall provide 7 trainees as specified in the CalTrans Local Assistant Procedure Manual Chapter 12.

#### **2-1.02D INSTRUCTIONS TO BIDDERS**

##### **2-1.02D(1) Examination of Plans, Specifications and Site Of Work**

The bidder is required to examine carefully the site of the work, the proposed plans and specifications. Bidder shall satisfy himself as to the character, quality and quantities of work to be performed, materials to be furnished, and as to the requirements of these specifications and special conditions. The plans for the work show conditions as they are believed to exist, but it is not to be inferred that all of the conditions shown thereon are actually existent nor shall the City or any of its officers be liable for any loss sustained by the Contractor as a result of any variance between conditions as shown on the plans and the actual conditions revealed during the progress of the work or otherwise. The submission of this proposal shall be prima facie evidence that the bidder has made such an examination.

Any information shown on the plans as to the soil or material or tests of existing materials, is for the purpose of design and preparation of bid proposal. The information is not guaranteed, and no claims for extra work or damages will be considered if it is found during construction that the actual soil or material conditions vary from those indicated.

##### **2-1.02D(2) Approximate Estimate**

The quantities given in the proposal and contract are approximate only, being given as a basis for the comparison of bids. The City's Department of Public Works does not, expressly or by implication, warrant that the actual amount of work will correspond therewith, and reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary and advisable by the City Engineer.

##### **2-1.02D(3) Interpretation of Drawings and Documents**

If any bidder should find discrepancies in, or omissions from, the drawings, specifications or other proposed contract documents, or if he should be in doubt as to the true meaning of any part thereof, he shall at once make a written request to the Engineer for correction, clarification, or interpretation of the point or points in question. The person submitting such request shall be responsible for its prompt delivery.

In the event that the Engineer receives such a request, and it should be found that certain essential information is not clearly and fully set forth, or if the Engineer discovers errors, omissions or points requiring clarification in the drawings or documents, a written addendum will be mailed to each person to whom a set of contract documents has been delivered. The City will not be responsible for any instructions, explanations or interpretations of the documents presented to bidders in any manner other than written addendum.

**2-1.02D(4) Addenda**

The effect of all addenda to the contract documents shall be considered in the bid, and said addenda shall be made a part of the contract documents and shall be returned with them. Before submitting his bid, each bidder shall inform himself as to whether or not any addenda have been issued, and failure to cover in his bid any such addenda issued, may render his bid incomplete and result in its rejection.

**2-1.02D(5) Quality Assurance**

The City of East Palo Alto uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract.

You may examine the records and reports of tests the City of East Palo Alto performs if they are available at the job site.

Schedule work to allow time for the QAP.

**2-1.02D(6) Bidders Interested In More Than One Bid**

No person, firm or corporation shall be allowed to make, file or to be interested in more than one bid for the same work unless s are called for. A person, firm or corporation who has submitted a subproposal to a bidder, or who has quoted prices on materials to a bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other bidders or from submitting a bid in his own behalf.

**2-1.02D(7) Withdrawal of Proposal**

Any bid may be withdrawn at any time prior to the time fixed in the public notice for the opening of bids and only by written request to the City Engineer. The request shall be executed by the bidder or his duly authorized representative.

**2-1.02D(8) Public Opening of Proposal**

Proposals will be opened and read publicly at the time and place indicated in the "Notice to Contractors". Bidders or their authorized agents are invited to be present.

**2-1.02D(9) Relief of Bidders**

Attention is directed to the provisions of Public Contract Code Sections 10200 to 10205, inclusive (State Contract Act), concerning relief of bidders and in particular to the requirement therein, that if the bidder claims a mistake was made in his bid, the bidder shall give the City of East Palo Alto written notice, within five (5) days after the opening of the bids, of the alleged mistake, specifying in the notice in detail how the mistake occurred.

**2-1.02D(10) Disqualification of Bidders**

More than one proposal from an individual, firm, partnership, corporation, or combination thereof under the same or different names will not be considered. Reasonable grounds for believing that any individual, firm, partnership, corporation, or combination thereof is interested in more than one proposal for the work contemplated may cause the rejection of all proposals in which such individual, firm, partnership, corporation, or combination thereof is interested. If there is reason for believing that collusion exists among the bidders, any or all proposals may be rejected. Proposals in which the prices are obviously unbalanced may be rejected.

**2-1.02D(11) Previous Disqualification, Removal or Other Prevention of Bidding**

A bid may be rejected on the basis of a bidder, any principal of such bidder, or any employee of such bidder who has a proprietary interest in such a bidder, having been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local project because of a violation of law or a safety regulation.

**2-1.02D(12) Proposals**

Bids to receive consideration shall be made in accordance with the following instructions:

- a) Bids shall be made only upon the forms attached to and forming a part of the specifications; all bid items shall be properly filled out.

- b) All prices and notations must be in ink or typewritten. No erasures will be permitted. Mistakes may be crossed out and correction typed or written in with ink adjacent thereto, and must be initialed in ink by the person or persons signing the bid.
- c) Bids shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered unless called for. No oral, telegraphic, or telephonic proposals or modifications will be considered.
- d) The City may require any bidder to furnish a statement of his experience, financial responsibility, technical ability, equipment and references, properly and fully filled out.
- e) Each bidder shall list his proposed subcontractors on the form accompanying the proposal, in accordance with the provisions of the specifications.
- f) Each bidder must accompany his bid with either a cashier's check drawn upon some responsible bank, or a check drawn upon such bank properly certified, or an approved corporate surety bond payable to the City of East Palo Alto for a sum not less than ten (10%) percent of the total sum of bid, which check or bond, and monies represented thereby, shall be held by the City as guarantee that the bidder, if awarded the contract, will in good faith enter into a contract and furnish the required bonds. The bidder agrees that in case of his refusal or failure to execute said contract and give said bonds within the time required by these documents, such check and bond and the money represented thereby shall remain the property of the City, and if the bidder shall fail to execute said contract, said surety will pay to the City the damages which the City may suffer by reason of such failure, not exceeding the sum of ten (10%) percent of the amount of the bid. A bid received and not accompanied by such cashier's check, certified check or approved bond, may be rejected.
- g) Bids shall be delivered to the City office specified in the "Notice to Contractors" on or before the day and hour set for the opening of bids. Bids shall be enclosed in a sealed envelope and shall bear the title of the work and name of the bidder.
- h) Bids may be withdrawn by the bidder prior to but not after the time fixed for opening of bids.

**2-1.02D(12) Federal Participation Disclosure**

This project will be partially funded with Federal funds from the United States Department of Commerce, Economic Development Administration and therefore is subject to the Federal laws and regulations associated with that program.

### **SECTION 3. AWARD AND EXECUTION OF CONTRACT**

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution", of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of contract.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed and who has met the goal for DBE participation or has demonstrated, to the satisfaction of the City, adequate good faith efforts to do so. Meeting the goal for DBE participation or demonstrating to the satisfaction of the City, adequate good faith efforts to do so is a condition for being eligible for award of contract.

#### **3-1.01 OPENING OF BIDS**

Bids will be opened and read at the time and place set in the "Notice to Contractors" in the City Clerk's Office at 2415 University Avenue, East Palo Alto, California 94303. Bidders or their representatives and other interested persons, are invited to be present at the opening of bids.

#### **3-1.02 AWARD OR REJECTION OF BIDS**

The contract may be awarded to the lowest responsible and responsive bidder whose proposal complies with these and all other contract documents.

The City reserves the right to review bids for a period of time not to exceed thirty (30) calendar days after sealed bids have been opened, before formally awarding contract or rejecting bids. The City also reserves the right to reject any or all bids, and to waive any informality or technicality in bids received and any requirement of these specifications as to bidding procedure.

#### **3-1.03 EXECUTION OF CONTRACT**

The bidder to whom award is made shall execute a written contract with the City of East Palo Alto and furnish good and approved bonds specified by the City within five (5) days after submission or mailing to him of a form of contract for execution, unless an extension of time is granted to the bidder in writing. The contract shall be made in the form adopted by the City. If the bidder to whom the award is made fails to enter into the contract as herein provided, award may be annulled, and an award may be made to the lowest responsible bidder and such bidder shall fulfill every stipulation embraced herein as if he were the party to whom the first award was made. A corporation to which an award is made shall furnish evidence of its corporate existence and evidence that the officer signing the contract and bonds for the corporation is duly authorized to do so.

#### **3-1.04 FAILURE TO EXECUTE CONTRACT**

Failure of the lowest responsible bidder, the second lowest responsible bidder, or the third lowest responsible bidder to execute the contract and file acceptable bonds as provided herein within ten (10) days, not including Sundays and legal holidays, after such bidder has received notice that the contract has been awarded to him shall be just cause for the forfeiture of the proposal guarantee. The successful bidder may file with the Department of Public Works a written notice, signed by the bidder or his authorized representative, specifying that the bidder will refuse to execute the contract if presented to him. The filing of such notice shall have the same force and effect as the failure of the bidder to execute the contract and furnish acceptable bonds within the time hereinbefore prescribed.

#### **3-1.05 CONTRACT BONDS**

The successful bidder, simultaneously with the execution of the agreement, shall furnish a labor and materials bond, faithful performance bond, and payment bond, each in an amount equal to one hundred (100%) percent of the contract price, plus any increases authorized by the City, as hereinafter more particularly specified. Surety companies, to be acceptable to the City, must be authorized to do business in the State of California.

#### **3-1.06 RETURN OF PROPOSAL GUARANTEES**

Within ten (10) days after the award of the contract to the lowest responsible bidder, the Department of Public Works will return the proposal guarantees, other than bidders' bonds, accompanying such of the proposals as are not to be further considered in making the award. Retained proposal guarantees will be held until the contract has been

finally executed, after which all proposal guarantees, except bidders' bonds and any guarantees which have been forfeited, will be returned to the respective bidders whose proposals they accompany.

### **3-1.07 BID PROTESTS**

Any city project for which competitive bidding is required may be subject to a bid protest. Grounds for bid protest shall be limited to computation errors, or violations of local, state, or federal law relating to the determination of low bidder. Any person or entity that submitted a bid on a City public project may file a bid protest. Bid protests, signed by the bidder or his authorized representative, must be submitted in writing to the City Engineer. Bid protests must be submitted by 5:00 PM 10 days after bid opening. Any bid protests received after this time will be rejected ultimately. Bid protests must identify the ground for the protest and must state all factual and legal grounds for the protest. An individual or entity may not submit more than one bid protest for a project. Bid protests must include copies of all documentation forming the basis for the protest. Bid protests must be signed by the person submitted the protest.

The City reserves the right to review bids as specified in section 3-1.02 of the specifications.



## **SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES**

Attention is directed to the provisions in Section 8-1.04, "Start of Job Site Activities" of the Standard Specifications and these special provisions.

It is anticipated that the contract will be awarded by **December 2019**. Time of completion shall be:

**280 Working Days**

from the date a "Notice to Proceed" is issued to the Contractor by the City.

All construction work adjacent to school sites must be completed during the summer while schools are in recess and before the commencement of a new school year.

### **4-1.01 ASSIGNMENT OF CONTRACT**

No assignment by the Contractor of the contract shall be made for any purpose without the written consent of the City and the sureties; provided, however, that the Contractor may make an assignment of any sums of money due or to become due under this contract as collateral for financial purposes in connection with the contract.

Any such assignment shall contain a clause in the instrument of assignment to the effect that it is agreed that the funds to be paid the assignee under the assignment are subject to all liens or claims of any kind whatsoever authorized by law, whether prior or subsequent, for services rendered or materials supplied for the performance of the work called for in the contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

### **4-1.02 PRECONSTRUCTION CONFERENCE**

Prior to the issuance of the Notice to Proceed, a preconstruction conference will be held at the office of the City Engineer for the purpose of discussing with the Contractor the scope of work, Contract Drawings, Specifications, existing conditions, materials to be ordered, equipment to be used, and all essential matters pertaining to the prosecution of and the satisfactory completion of the project as required. The Contractor's representatives at this conference shall include all major superintendents for the work and may include major subcontractors.

### **4-1.03 LIQUIDATED DAMAGES**

It is agreed by the parties to the Contract that failure to complete the work or any part thereof in the time agreed upon in the Contract, or within such extra time as may have been allowed for delays or extensions granted as provided in the Contract, damage will be sustained by the City of East Palo Alto and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the City will sustain in the event of and by reason of such delay, and it is therefore agreed that the Contractor will pay to the City of East Palo Alto the sum of ***\$3,000 per day for each and every calendar day***, including Saturdays, Sundays and holidays, that the Contract remains uncompleted after the date required for completion; and it is agreed that said amounts will be deducted from any moneys due or that may become due the Contractor under the contract.

It is further agreed that in case the work called for under the contract is not finished and completed in all parts and requirements within the number of working days specified, the City Engineer shall have the right to increase the number of working days or not, as he may deem best to serve the interest of the City, and if he decides to increase said number of working days, City shall further have the right to charge to the Contractor, his heirs assigns, or sureties and to deduct from the final payment for the work all or any part, as he may deem proper, of the actual cost of engineering, inspection, superintendent, and other overhead expenses which are directly chargeable to the contract, and which accrue during the period of such extension, except that cost of final surveys and preparation of final estimate shall not be included in such charges.

The Contractor will be granted an extension of time and will not be assessed with liquidated damages or the cost of engineering and inspection for any portion of the delay in completion of the work beyond the time named in the special provisions for the completion of the work caused by acts of God or of the public enemy, fire, floods, tidal waves, earthquakes, epidemics, quarantine restrictions, strikes, labor dispute, shortage of materials and freight,

embargoes, provided that the Contractor shall notify the City Engineer in writing of the causes of delay within 5 days from the beginning of any such delay. The City Engineer shall ascertain the facts and the extent of the delay, and his findings thereon shall be final and conclusive.

#### **4-1.04 MEASUREMENTS**

Before ordering any materials or doing any work, the Contractor shall verify all measurements, dimensions, elevations and quantities. No extra charge or compensation over and above payment for the actual quantities of the various items of work at the respective bid prices therefore will be allowed on account of difference between actual measurements, dimensions, elevations and quantities, and those indicated on the drawings, and in the specifications, and difference thereto shall be submitted to the Engineer for consideration before proceeding with the work.

The quantities noted in the schedules of the proposal are estimates for comparing bids only.

#### **4-1.05 CONTRACTOR'S SCHEDULE OF WORK**

When required by the Engineer, and before beginning work on the site, the Contractor shall submit to the Engineer his proposed schedule of work under the contract. This schedule shall show the probable dates of commencement and completion of the various sections and features of the work; the starting point or points, and the direction in which the work will progress. **The critical path shall be clearly shown.** Failure to submit at any time a proper and adequate schedule as specified shall be adequate reason alone to delay approval of any partial payments until such required schedule is submitted and accepted.

The Contractor shall provide a three (3) week look-ahead schedule to the Engineer by Friday of each week showing in detail the location of scheduled work and any other relevant project activities.

Construction shall conform to this schedule or such modification as may be approved by the Engineer in writing.

**At the eastern end of the project, the contractor shall not work within 656 feet of salt marsh between January 31<sup>st</sup> and September 1<sup>st</sup> to minimize impacts to the California Clapper Rail. The Contractor shall comply with the US Fish and Wildlife Service Biological Opinion attached as Attachment A and the Buffer Map in Attachment B.**

Where the Contractor is to furnish major items or equipment or materials, the schedule shall include the proposed dates of manufacture and shipment of these items, and the names and locations of factories or other sources from which said items are to be obtained.

When required by the Engineer, the Contractor shall submit a breakdown of costs to be used for preparing periodic estimates which breakdown must meet with the approval of the Engineer.

#### **4-1.06 PROSECUTION AND COMPLETION OF WORK**

The Contractor shall at all times during the continuance of the contract, prosecute the work with such forces and equipment as in the opinion of the Engineer, are sufficient to complete the different portions of the work in the order required and within the specified time and to secure a satisfactory quality of work.

In the event any delay is caused the Contractor by strikes or other causes beyond his control, or by specific orders of the Engineer to stop work, or by performance of changes or extra work ordered by the Engineer, or by failure of the City to provide material when and if provided for in the specifications, or necessary rights of way or site for installation, such delay shall be cause for the granting of an extension of time for a period equivalent to the delay.

To obtain extension of time the Contractor shall, prior to the expiration of the contract period as established in the contract or as subsequently extended, make written application therefore to the Engineer, stating the cause of the delay. Upon the recommendation of the Engineer, and the approval of the City Manager, the Council shall, if it finds the delay to have been of the nature described above, grant by resolution such extension of time as may be equitable under the circumstances.

No extension of time shall relieve the sureties of any obligations under their bonds.

#### **4-1.07 FEDERAL HINDRANCE**

In entering into this contract, it is clearly understood by both parties hereto that conditions subsequently may rise resulting from, connected with, or growing out of any war, in which the United States may be engaged, or any national emergency or conditions created directly or indirectly by or for national defense, and which are entirely beyond the control of either party, in accordance with its terms and conditions.

It is therefore mutually understood and agreed, nothing herein contained to the contrary notwithstanding, that in the event the Contractor shall be prevented from performing the contract or any part thereof by reason of the conditions above stated, the following procedure shall govern.

The Contractor shall in writing, notify the City of his inability to perform, stating in full the reasons therefor and the probable duration of such inability, if required; he shall also submit proof or evidence in support of his claim of inability to perform.

If it shall appear to the satisfaction of the City Council that the cause of inability to perform arose after the contract was entered into and is beyond the control of the Contractor, the City, pursuant to resolution of the City Council may:

- (a) If lawfully within its power, remove the cause which prevents performance; or
- (b) Suspend this contract until the cause of inability to perform is removed; or
- (c) With the consent of the Contractor, renegotiate or amend this contract by extending the time of performance or by making changes in the character of the work, or in the materials or equipment required in order to enable performance of the contract; or
- (d) Waive performance of that part of the contract which is impossible, or supply substitute materials for those unavailable. Where this remedy is resorted to, the payment due the Contractor shall be diminished to the extent of the work not required to be performed or materials not required to be supplied, based so far as practicable upon unit prices bid.

If none of the foregoing procedures are adopted by resolution of the City Council within thirty (30) days after the City is satisfied and so finds that the Contractor is unable to perform for the reasons above stated, then either party hereto may, without incurring any liability, elect to declare this contract terminated upon the ground of impossibility of performance. Upon such termination, the Contractor shall be entitled to proportionate compensation at the contract rate for such portion of the contract as may have been performed.

#### **4-1.08 SUSPENSION OF CONTRACT**

If the Contractor fails to begin the delivery of the material, or to commence work as provided in the contract, or fails to make delivery of material promptly as ordered, or to maintain the rate of delivery of material or progress of the work in such manner as in the opinion of the Engineer will insure full compliance with the contract within the time limit, or if in the opinion of the Engineer, the Contractor is not carrying out the provisions of the contract in their true intent and meaning, a written notice will be served on him to provide within a specified time for a satisfactory compliance with the contract, and if he neglects or refuses to comply with such notice, the Engineer may with the written consent of the City Manager and consent of the City Council evidenced by resolution, suspend the operation of all or any part of the contract, or the Engineer may in his discretion after such notice, at the expense and for the account of the Contractor, perform any part of the work, or purchase any or all of the materials included in the contract or required for the completion thereof, without suspending the contract.

Upon suspension of the contract by the Engineer, he may, at his discretion take possession of all or any part of the machinery, tools, appliances, materials and supplies used in the work covered by the contract or that have been delivered by or on account of the Contractor for the use in connection therewith, and the same may be used either directly by the City or by other parties for it, in the completion of the work suspended; or the City may employ other parties to perform the work or may substitute other machinery or material or purchase the materials contracted for in such manner as it may deem proper or hire such force and buy such machinery, tools, appliances, materials and supplies at the Contractor's expense as may be necessary for the proper conduct and completion of the work. Any cost to the City in excess of the contract price arising from the suspension of the contract, or from work performed

or purchases made by the City either before or after suspension, and required on account of the failure of the Contractor to comply with his contract or other orders of the Engineer issued in pursuance thereof will be charged to the Contractor and his sureties, who shall be liable therefor.

A special lien to secure the claims of the City in the event of suspension of the contract is hereby created against any property of the Contractor taken into the possession of the City under the terms hereof, and such lien may be enforced by a sale of such property under the direction of the Council, and the proceeds of the sale, after deducting all expenses thereof, and connected therewith, shall be entitled to the Contractor. If the net credits shall be in excess of the claims of the City against the Contractor, the balance will be paid to the Contractor or his legal representatives.

If, in the opinion of the Engineer, an emergency exists for the furnishing of certain material or the performance of certain work in order to insure compliance with the terms of the contract and if the Contractor fails to furnish such material or to perform such work within a reasonable time fixed by written notice from the Engineer to the Contractor, then the Engineer shall have the power to furnish such material or to perform such work at the expense of the Contractor and his sureties who shall be liable therefore.

In the determination of a question whether there has been such noncompliance with the contract as to warrant its suspension or the furnishing of material or the performance of work by the City as herein provided, the decision of the Engineer, when approved by the City Manager and by the Council evidenced by resolution, shall be final and binding upon both parties. Suspension of the contract or any part thereof, shall operate only to terminate the right of the Contractor to proceed with the work covered by the contract or the suspended portions thereof. The provisions of the contract permitting the City to make changes and to make proper adjustment of accounts to cover any increase or decrease of cost on account of such changes, and other stipulations of the contract except those giving the Contractor the right to proceed with work on the items covered by the suspension shall be and remain in full force and effect after such suspension and until the contract shall have been completed and final payment or final adjustment of account made.

The Contractor shall not make any disposition of the plant, machinery, tools, appliance, supplies or material used on or in connection with the work, either by sale, conveyance or encumbrance, inconsistent with the special lien of the City expressly created by this contract.

#### **4-1.09 SITE MEETINGS**

The Contractor and subcontractor shall schedule meetings with the Engineer at the work site weekly. Minutes for the weekly meetings will be prepared by the Engineer and will be considered accurate unless the Engineer is notified to the contrary in writing three (3) days after receipt of the minutes.

## **SECTION 5. GENERAL**

### **5-1.01 LABOR NONDISCRIMINATION.**

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

#### **NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)**

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.02I(2), "Nondiscrimination", of the Standard Specifications, which is applicable to all nonexempt state contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt state construction contracts and subcontracts of \$5,000 or more.

### **5-1.02 PREVAILING WAGE.**

Attention is directed to Section 7-1.02K(1), "Wages", of the Standard Specifications.

The general prevailing wage rates determined by the Director of Industrial Relations, for the county or counties in which the work is to be done, are available at the City of East Palo Alto, 1960 Tate Street, East Palo Alto, CA, 94303. These wage rates are included in the Contract for the project. Changes, if any, to the general prevailing wage rates will be available at the same location. Wage rates are also available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov>.

### **5-1.03 BUY AMERICA REQUIREMENTS.**

Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a), and the regulations adopted pursuant thereto. In conformance with the law and regulations, all manufacturing processes for steel and iron materials furnished for incorporation into the work on this project shall occur in the United States; with the exception that pig iron and processed, pelletized and reduced iron ore manufactured outside of the United States may be used in the domestic manufacturing process for such steel and iron materials. The application of coatings, such as epoxy coating, galvanizing, painting, and other coating that protects or enhances the value of steel or iron materials shall be considered a manufacturing process subject to the "Buy America" requirements.

A Certificate of Compliance, conforming to the provisions in Section 6-3.05E, "Certificates of Compliance", of the Standard Specifications, shall be furnished for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall specifically certify that all manufacturing processes for the materials occurred in the United States, except for the above exceptions.

The requirements imposed by the law and regulations do not prevent a minimal use of foreign steel and iron materials if the total combined cost of the materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or \$2,500, whichever is greater. The Contractor shall furnish the Engineer acceptable documentation of the quantity and value of the foreign steel and iron prior to incorporating the materials into the work.

### **5-1.04 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES.**

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

#### **5-1.05 SUBCONTRACTOR AND DBE RECORDS**

The Contractor shall maintain records showing the name and business address of each first-tier subcontractor. The records shall also show the name and business address of every DBE subcontractor, DBE vendor of materials and DBE trucking company, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all of these firms. DBE prime contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

Upon completion of the contract, a summary of these records shall be prepared on "Final Report-Utilization of Disadvantaged Business Enterprises (DBE), First Tier Subcontractors" Form CEM-2402(F) and certified correct by the Contractor or the Contractor's authorized representative, and shall be furnished to the Engineer. The form shall be furnished to the Engineer within 90 days from the date of contract acceptance. The amount of \$10,000 will be withheld from payment until a satisfactory form is submitted.

Prior to the fifteenth of each month, the Contractor shall submit documentation to the Engineer showing the amount paid to DBE trucking companies listed in the Contractor's DBE information. This monthly documentation shall indicate the portion of the revenue paid to DBE trucking companies which is claimed toward DBE participation. The Contractor shall also obtain and submit documentation to the Engineer showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The records must confirm that the amount of credit claimed toward DBE participation conforms with Section 2-1.02 of these special provisions.

The Contractor shall also obtain and submit documentation to the Engineer showing the truck number, owner's name, California Highway Patrol CA number, and if applicable, the DBE certification number of the owner of the truck for all trucks used during that month for which DBE participation will be claimed. This documentation shall be submitted on "Monthly DBE Trucking Verification" Form CEM-2404(F).

#### **5-1.06 DBE CERTIFICATION STATUS**

If a DBE subcontractor is decertified during the life of the project, the decertified subcontractor shall notify the Contractor in writing with the date of decertification. If a subcontractor becomes a certified DBE during the life of the project, the subcontractor shall notify the Contractor in writing with the date of certification. The Contractor shall furnish the written documentation to the Engineer.

Upon completion of the contract, "Disadvantaged Business Enterprises (DBE) Certification Status Change" Form CEM-2403(F) indicating the DBEs' existing certification status shall be signed and certified correct by the Contractor. The certified form shall be furnished to the Engineer within 90 days from the date of contract acceptance.

#### **5-1.07 PERFORMANCE OF DBE SUBCONTRACTORS AND SUPPLIERS**

The DBEs listed by the Contractor in response to the provisions in Section 2-1.02B, "Submission of DBE Information," and Section 3, "Award and Execution of Contract," of these special provisions, which are determined by the City/County to be certified DBEs, shall perform the work and supply the materials for which they are listed, unless the Contractor has received prior written authorization to perform the work with other forces or to obtain the materials from other sources.

Authorization to use other forces or sources of materials may be requested for the following reasons:

- A. The listed DBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract, when such written contract, based upon the general terms, conditions, plans and specifications for the project, or on the terms of such subcontractor's or supplier's written bid, is presented by the Contractor.
- B. The listed DBE becomes bankrupt or insolvent.
- C. The listed DBE fails or refuses to perform the subcontract or furnish the listed materials.
- D. The Contractor stipulated that a bond was a condition of executing a subcontract and the listed DBE subcontractor fails or refuses to meet the bond requirements of the Contractor.
- E. The work performed by the listed subcontractor is substantially unsatisfactory and is not in substantial conformance with the plans and specifications, or the subcontractor is substantially delaying or disrupting the progress of the work.

F. It would be in the best interest of the City/County.

The Contractor shall not be entitled to any payment for such work or material unless it is performed or supplied by the listed DBE or by other forces (including those of the Contractor) pursuant to prior written authorization of the Engineer.

#### **5-1.08 SUBCONTRACTING**

Attention is directed to the provisions in Section 5-1.13, "Subcontracting", and Section 2, "Bidding," and Section 3, "Contract Award and Execution," of the Standard Specifications and these special provisions.

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at <http://www.dir.ca.gov/dlse/debar.html>.

Each subcontract and any lower tier subcontract that may in turn be made shall include the "Required Contract Provisions Federal-Aid Construction Contracts" in Section 14 of these special provisions.

This requirement shall be enforced as follows:

- A. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

In conformance with the Federal DBE regulations Sections 26.53(f)(1) and 26.53(f)(2) Part 26, Title 49 CFR:

- A. The Contractor shall not terminate for convenience a DBE subcontractor listed in response to Section 2-1.02B, "Submission of DBE Information," and then perform that work with its own forces, or those of an affiliate without the written consent of the Department, and
- B. If a DBE subcontractor is terminated or fails to complete its work for any reason, the Contractor will be required to make good faith efforts to substitute another DBE subcontractor for the original DBE subcontractor, to the extent needed to meet the contract goal.  
The requirement in Section 2-1.02, "Disadvantaged Business Enterprise (DBE)," of these special provisions that DBEs must be certified on the date bids are opened does not apply to DBE substitutions after award of the contract.

#### **5-1.09 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS**

A prime contractor or subcontractor shall pay any subcontractor not later than 10 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 10 days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days of receipt of each payment may take place only for good cause and with the agency's prior written approval. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE prime contractors and subcontractors.

#### **5-1.10 PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS**

The agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The prime contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Federal law (49CFR26.29)

requires that any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE prime contractors and subcontractors.

#### **5-1.11 PAYMENTS**

Attention is directed to Section 9-1.16, "Progress Payments", and Section 9-1.17, "Payment After Contract Acceptance", of the Standard Specifications and these special provisions.

The City of East Palo Alto shall retain five percent (5%) of the estimated value of the work done and five percent (5%) of the value of materials so estimated to have been furnished and delivered and unused or furnished and stored as aforesaid as part security for the fulfillment of the Contract by the Contractor. In no event shall the City of East Palo Alto withhold less than five percent (5%) of the total contract price until final completion and acceptance of the project.

No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

#### **5-2.01 CONTRACTOR'S BONDS**

The Contractor shall furnish a Labor and Materials Bond, prior to complete execution of the Contract by the City, in an amount not less than one hundred (100%) percent of estimated contract price, to be paid to the City of East Palo Alto conditioned upon the payments by said Contractor for all materials, services, supplies and transportation furnished in the performance of the work contracted to be done by the terms of said contract, and for any work or labor of any kind done thereon.

The Contractor shall also furnish a Faithful Performance Bond, prior to complete execution of the Contract by the City, in an amount not less than one hundred (100%) percent of the estimated contract price, to be paid to the City, conditioned upon the faithful performance by the Contractor of all covenants and stipulations in the contract.

The contractor shall furnish a Payment Bond, prior to complete execution of the Contract by the City, in an amount not less than one hundred percent (100%) of estimated contract price, to be paid to the City of East Palo Alto conditioned upon the payments by said Contractor for payment of claims of laborers, mechanics, or materials employed in the performance of the work contracted to be done by the terms of said contract.

In the event that Contractor fails to perform any obligation on its part to be performed hereunder, Contractor agrees to pay all costs and expenses incurred by City in security performance of such obligation and if suit be brought by City to enforce this agreement, Contractor agrees to pay costs of suit and reasonable attorney's fees to be fixed by the Court.

If, during the continuance of the contract, any of the sureties, in the opinion of the City Council evidenced by resolution, are or become irresponsible, the City Council may require additional sufficient sureties, which the Contractor shall furnish to the satisfaction of said Council, within ten (10) days after notice, and in default thereof, the contract may be suspended by the City Council evidenced by resolution, and the materials may be purchased or the work completed as elsewhere provided in these specifications.

#### **5-2.02 CONTRACTOR'S FINANCIAL OBLIGATIONS**

The Contractor shall make prompt payments for all labor, materials, and services furnished to or for him in accordance with the contract requirements.

#### **5-2.03 INSURANCE**

Contractual Liability Insurance: Contractor's General Liability insurance shall include contractual liability coverage at least as broad as the unmodified ISO CG 00 01 CGL policy. Contractor shall provide thirty (30) days' notice, in writing, to the City, at 2415 University Avenue, East Palo Alto, CA 94303, of any pending cancellation of the policy. Contractor shall notify City of any pending change to the policy that would result in noncompliance with the



requirements of this Agreement. All certificates shall be filed with the City.

**Worker's Compensation and Employer's Liability Insurance:** Contractor shall have in effect during the entire life of this Agreement Worker's Compensation and Employer's Liability Insurance providing full statutory coverage. In signing this Agreement, Contractor makes the following certification, required by Section 18161 of the California Labor Code: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this Agreement".

**Waiver of Subrogation:** Contractor hereby agrees to waiver rights of subrogation which any insurer of Contractor may require from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. The workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

**Commercial General Liability Insurance:** Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$25,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

**Automobile Insurance:** Coverage at least as broad as Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than **\$10,000,000** per accident for bodily injury and property damage.

**Builder's Risk (Course of Construction):** Contractor shall maintain insurance utilizing an "All Risk" (Special Perils) coverage form, with limits no less than **\$8,600,000** or the construction value and no coinsurance penalty provisions.

**Completed Operation Coverage:** Contractor shall maintain insurance as required by this Agreement to the fullest amount allowed by law and shall maintain insurance and Additional Insured Endorsements for a minimum of five (5) years following the completion of this project. In the event contractor fails to obtain or maintain completed operations coverage as required by this Agreement, the City at its sole discretion may purchase the coverage required and the cost will be paid by Contractor.

**Broader Insurance Coverage:** In the event that Contractor maintains broader coverage and/or higher limits than the City's minimum requirements, the City shall be entitled to the broader coverage and/or the higher limits available to the Contractor. The limits of insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the City before the City's own insurance shall be called upon to protect it as a named insured.

**Additional Insureds:** The City of East Palo Alto, its subsidiary agencies, directors, officers, employees, agents, independent contractors and volunteers shall be named as additional insured on any such policies of comprehensive general and automobile liability insurance with coverage at least as broad as ISO CG 20 10 and CG 20 37.

**Primary Insurance Coverage:** Except for professional liability and worker's compensation insurance, the policies shall also contain a provision that the insurance afforded thereby to the City, its subsidiary agencies, and their directors, officers, employees, agents, independent contractors and volunteers shall be primary insurance to the full limits of liability of the policy, and that if the City, its subsidiary agencies and their directors, officers, employees, agents, independent contractors and volunteers have other insurance against a loss covered by a policy, such other insurance shall be excess insurance only. Contractor shall provide endorsement at least as broad as ISO CG 20 01 04 13.

**Breach:** In the event of the breach of any provision of this section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, City, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and

suspend all further work pursuant to this Agreement.

Surety Bonds: Contractor shall provide the following Surety Bonds: bid bond, performance bond, payment bond, and maintenance bond.

**The City of East Palo Alto, its subsidiary agencies, directors, officers, employees, agents, independent contractors and volunteers shall be named as additional insured** on any such policies of comprehensive general and automobile liability insurance. Except for professional liability and worker's compensation insurance, the policies shall also contain a provision that the insurance afforded thereby to the City, its subsidiary agencies, and their directors, officers, employees, agents, independent contractors and volunteers shall be primary insurance to the full limits of liability of the policy, and that if the City, its subsidiary agencies and their directors, officers, employees, agents, independent contractors and volunteers have other insurance against a loss covered by a policy, such other insurance shall be excess insurance only.

In the event of the breach of any provision of this section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, City, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work pursuant to this Agreement.

Prior to the execution of this Agreement, any deductibles or self-insured retentions must be declared to and approved by City.

Proof of all such insurance shall be given by filing certificates of such insurance with the City Engineer prior to signing of the contract by the City.

#### **5-2.04 COMPLIANCE WITH LAWS**

The Contractor shall conduct the work in compliance with all laws and regulations of the United States Government, the State of California, the County of San Mateo, and the City, limiting or controlling the work in any manner.

#### **5-2.05 APPRENTICESHIP STANDARDS**

Attention is directed to the provisions in Sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him.

Section 1777.5, as amended, requires the Contractor or subcontractor employing tradesmen in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen that will be used in the performance of the contract. The ratio of apprentices to journeymen in such cases shall not be less than one to five except:

- A. When unemployment in the area of coverage by the joint apprenticeship committee has exceeded an average of 15% in the 90 days prior to the request for certification, or
- B. When the number of apprentices in training in the area exceeds a ratio of one to five, or
- C. When the trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis statewide or locally, or
- D. When assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his life or the life, safety, or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.

The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

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.

#### **5-2.06 DISCRIMINATION**

No discrimination shall be made in the employment of persons upon public works because of the race, color, national origin or ancestry, or religion of such persons and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.

#### **5-2.07 PATENTS**

The Contractor shall hold and save the City, its officers, agents, servants and employees harmless from liability of any nature or kind or any claim therefor, including costs and expenses for or on account of any patented invention, article, or appliance included in the material or supplies furnished under this contract, and should the Contractor, his agents, servants, employees, or any of them be enjoined from furnishing or using any invention, article, material, or appliance supplied or required to be supplied or used under this contract, the Contractor shall promptly substitute other articles, materials, or appliances, in lieu thereof, of equal efficiency, quality, finish, suitability and market value and satisfactory in all respects to the Engineer. Or in the event that the Engineer elects, in lieu of such substitution, to have supplied and to retain and use any such invention, article, material or appliances may by this contract be required to be supplied, in that event the Contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary to enable the City, its officers, agents, servants, and employees, or any of them, to use such invention, article, material or appliance without being disturbed or in any way interfered with by any proceeding in law or equity on account thereof. Should the Contractor neglect or refuse promptly to make the substitution hereinbefore required or to pay such royalties and secure such licenses as may be necessary and requisite for the purpose aforesaid, then in that event the Engineer shall have the right to make such substitution, or the City may pay such royalties and secure such licenses and charge the cost thereof against any money due the Contractor from the City, or recover the amount hereof from him and his sureties, notwithstanding final payment under this contract may have been made.

The provisions of this paragraph don't apply to articles which the Contractor is required to manufacture or furnish in accordance with detail drawings furnished by the City included in this Contract. They shall apply, however, where such drawings and the specifications cover only the type of device without restriction as to details.

#### **5-2.08 SUBCONTRACTORS**

No subcontractor will be recognized as such by the City, and all persons engaged by the Contractor in work of furnishing labor, materials, and equipment or any one or more of them, will be considered as employees of the Contractor, except regarding insurance as provided elsewhere herein.

The Contractor shall list in the sheet provided herein, the name, place of business and certification (MBE, WBE, DBE), if any, of each subcontractor who will perform work of labor, or render service to the Contractor in or about the construction of the work or improvement, in an amount in excess of one-half of one (.5%) percent of the Contractor's total bid, and shall also list the portion of the work which will be done by such subcontractor.

If the Contractor fails to list a subcontractor for any portion of the work to be performed under the contract, in excess of one-half of one (.5%) percent of the Contractor's bid, then the Contractor shall perform that portion of the work himself.

The Contractor shall not substitute any person or subcontractor in place of the sub-contractor designated in the original bid; nor shall he permit any such subcontract to be assigned or transferred or allow it to be performed by anyone other than the original sub-contractor listed in the bid; nor shall he sublet or subcontract any portion of the work in excess of one-half of one (.5%) percent of the Contractor's total bid which was not listed in the original bid, except as provided hereafter.

The City may consent to the substitution of another subcontractor when, the subcontractor named in the bid, after having a reasonable opportunity to do so, fails or refuses to execute a written contract, based upon these contract documents and the terms of the named subcontractor's bid is presented to him by the Contractor.

The City may permit subletting or subcontracting of any portion of the work in excess of one-half of one (.5%) percent to the Contractor's total bid when no subcontractor was designated in the original bid, in cases of public emergency or necessity, after a finding reduced to writing by the engineer, setting forth facts constituting the emergency or necessity and evidence by resolution of the Council.

In general, it is the intention that not more than fifty (50%) percent of work shall be subcontracted. The listing of more than fifty (50%) percent may cause a rejection of the bid, if in the opinion of the City, such extensive subcontracting is undesirable. The subcontract shall contain a reference to the agreement between the City and the principal contractor and the terms of that agreement and all parts thereof shall be made a part of such sub-contract insofar as applicable to the work covered thereby. All work or material furnished by a subcontractor shall be guaranteed by the Contractor and the City will hold the Contractor responsible therefore.

#### **5-2.09 PLANS, SPECIFICATIONS, AND WORK**

The plans together with the specifications attached hereto, will govern the work to be done. Anything mentioned in these specifications and not shown on the plans and detail drawings or shown on the Plans and detail drawings and not mentioned in these specifications shall be of like effect as though shown or mentioned in both.

The Engineer may furnish from time to time such detail drawings, plans, profiles and information as he may consider necessary for the Contractor's guidance, unless otherwise provided in the proposal, agreement or detail specifications. In cases where the contract work or any portion thereof is to be performed in accordance with drawings, specifications, lists of data submitted by the Contractor and approved by the Engineer, such approved drawings, etc., shall become portions of the Plans and Specifications as regards the specific matters to which such approval applies. The Contractor shall be solely responsible for the correctness of the measurements and other essential information submitted by him and for the correlation of the various portions and features of the work which are or may be affected by such measurements and information.

Any change required by the Engineer in the drawings, etc. submitted for approval by the Contractor, shall be considered as necessary in order to comply with the requirements of the plans and specifications, and shall not be the basis of any claim for extra compensation over and above the bid price for the work, except where changes involving the extra work are expressly authorized and ordered in accordance with the section of these specifications relating to changes and extra work.

A copy of the plans and specifications shall be kept upon the work at all times during its progress, and access thereto shall at all times be accorded the Engineer.

The Contractor shall, for the price bid, furnish all supervision, labor, materials, transportation and equipment necessary to execute the work in every respect in a thorough, workmanlike manner in accordance with the plans, profiles and specifications, and to the satisfaction of the Engineer. All work shall, during its progress and until its completion, conform to the lines, elevations and grades shown on said plans and profiles.

#### **5-2.10A CHANGED CONDITIONS**

##### ***a. Differing Site Conditions***

1. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.
2. Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for

the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.

3. No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.
4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work. (This provision may be omitted by the Local Agency, at their option.)

***b. Suspensions of Work Ordered by the Engineer***

1. If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
2. Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.
4. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

***c. Significant Changes in the Character of Work***

1. The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.
2. If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.
3. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.
4. The term "significant change" shall be construed to apply only to the following circumstances:
  - When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
  - When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original

contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

#### **5-2.10B CHANGES AND EXTRA WORK**

The City reserves the right to require changes or extra work and the Contractor shall perform such changes or extra work upon written authorization and specifications as to the amount and method of compensation as hereafter provided.

(a) What constitutes a "change" or "extra work"?

1. A variation of 25% or less between estimated and actual quantities of work or material required to construct a project in accordance with the plans and specifications as they exist at the time the bids are opened, does not constitute a change or extra work; does not require additional authorization, and the said quantities shall be paid for at the unit or lump sum prices established in the bid.
2. A variation between definite quantities of work or material specified in the plans and specifications as they exist at the time bids are opened and upon which quantities or unit prices are bid and the quantities required under revised or modified plans and specifications is a change.
3. The furnishing of material or performance of work which unit prices have been bid on the basis of estimated quantities, but which materials or work is required to be done under revised or modified plans and specifications, is a change.
4. Revisions or modifications of the plans and specifications such as, but not limited to, those affecting designs or materials, installation or construction, shapes, dimensions or locations or changes.
5. Supplying work or material for which no unit prices have been bid and which are not included in the plans and specifications as they exist at the time bids are opened but which are required under revised or modified plans and specifications is extra work.

(b) Contractor shall not be entitled to any additional compensation for change or extra work unless the same has been authorized in writing (hereafter referred to as "Change Order" or "Order for Extra Work") which describes the change or extra work to be done and the amount and method of compensation therefore hereafter provided. No Change Order or Order for Extra Work shall be valid unless dated and signed by the Contractor (or by his agent previously authorized in a writing delivered to City to execute said Change Order or Order for Extra Work), the authorized representative of City and City Engineer as hereafter provided.

(c) Amount and Method of Compensation

1. When a variation is made in quantities of work or materials specified in the bid upon which unit prices were bid, compensation therefore shall be at the unit prices so bid.
2. When a variation is made for which no bid items were specified, compensation therefore shall be at unit prices or lump sum agreed to by the parties.
3. In the event that unit prices or a lump sum cannot be agreed to, then compensation shall be computed on a "cost plus" basis as follows:

(d) Cost Plus

1. Cost plus will be the direct costs paid for labor, materials and equipment used in performing the extra work determined as provided in the following sub-paragraph I, "Labor," sub-paragraph II, "Materials," and sub-paragraph III, "Equipment Rental."

To the total of the direct costs completed as provided in sub-paragraphs I, II and III, there will be added a markup of 10% to the cost of labor and 10% to the cost of materials and to the cost of equipment rental.

The above markups shall constitute full compensation for all overhead costs which shall be deemed to include' all items of expense not specifically designated as cost or equipment rental in sub-paragraphs I, II, and III. The total payment made as provided above shall be deemed to be the actual cost of such work and shall constitute full compensation therefore.

#### I. Labor

The Contractor will be paid the cost of labor for the workmen (including foremen when authorized by the Engineer), used in the actual and direct performance of the work. The cost of labor, whether the employer is the Contractor, subcontractor, or other forces, will be the sum of the following:

- (a) Actual Wages - The actual paid shall include any employer payments to or on behalf of the workmen for health and welfare, pension, vacation, and similar purposes.
- (b) Labor Surcharge - To the Actual Wages, as defined in I(a), will be added a 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. Said labor surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workmen, other than actual wages as defined in I(a) and subsistence and travel allowances specified in I(e).
- (c) Subsistence and Travel Allowance - The actual subsistence and travel allowance paid to such workmen.

#### II. Materials:

Material charges must be supported by suppliers' original invoices marked "Paid" with the suppliers' name, with the name or initials of the individual receipting the invoice.

Cash and trade discounts allowed by the suppliers must be deducted from the invoice amount.

Invoices in turn must be supported by original delivery tickets showing receipt of materials and signatures of Contractor's representative.

In the case of materials withdrawn from the Contractor's own stock, a typed list of such materials shall be presented on the Contractor's bill head or letterhead, showing:

- Quantities
- Units (each, pound, dozen, etc.)
- Description of articles
- Unit cost (including applicable sales tax)
- Amount

All charges for such materials shall be supported by Contractor's receipted delivery tickets approved by the Engineer.

#### III. Equipment Rental

The Contractor will be paid for the use of equipment at the rental rates listed for such equipment 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, regardless of ownership and any rental or

other agreement, if such may exist, for the use of such equipment entered into by the Contractor. If it is deemed necessary by the Engineer to use equipment not listed in the said publication, a suitable rental rate for such equipment will be established by the Engineer. The Contractor may furnish any cost data which might assist the Engineer in the establishment of such rental rate.

The rental rates paid as above provided shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.

Operators of rented equipment will be paid for as provided in I "Labor."

1. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$150 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor.
2. The amount, but not the price, of all changes or extra work performed shall be entered upon report sheets, furnished by the Engineer, and signed by both parties, which daily reports shall thereafter be considered the true record of extra work done.
3. All claims of the Contractor for compensation for changes or extra work shall be made in the form of itemized invoices in triplicate and shall be presented together with the data set forth below within thirty (30) days after the close of the calendar month during which the extra work or material covered by such claim is alleged to have been furnished.

The Contractor shall permit an examination by the auditor of the City of East Palo Alto of all accounts, bills and vouchers relating to the extra work and claims and shall be paid in the course of business only to the extent that expenditures are provable by the Contractor.

(a) Authorization by City

1. Except as hereafter provided, all change orders or orders for extra work must be approved by the City Council.
2. Provided, however, City Engineer, with permission of the City Manager shall be authorized to approve a change order or order for extra work without the necessity of obtaining approval of the City Council when the individual change or extra work does not exceed a cost of Five Thousand Dollars (\$5,000).

(b) Payment for changes and extra work shall be made at the same time and in the same manner provided for payment of other work in these specifications, unless otherwise authorized by the City Council.

(c) Changes and extra work may be made by the City without notice to the Contractor's sureties, and shall not relieve the sureties of any obligation under their bonds.

#### **5-2.11 CONTAMINATED SOIL AND GROUNDWATER MANAGEMENT PLAN**

The Contractor shall manage contaminated soil and groundwater in accordance with the project "Updated Soil and Groundwater Management Plan" prepared by Ninyo & Moore, in September 2018. See Attachment C. The Contractor shall submit a plan to show compliance with contaminated soil and groundwater issues. This plan shall be submitted to the City for review and approval.

#### **5-2.12 CHARACTER OF WORKMEN**

None but skilled foremen and workmen shall be employed on work requiring special qualifications, and when required by the Engineer, the Contractor shall take the necessary action to remove from the work any person who is in the opinion of the Engineer, disorderly, dangerous, insubordinate, incompetent or otherwise objectionable. Such removal shall not be the basis of any claim for compensation of damages against the City or any of its officers.



### **5-2.13 EIGHT-HOUR DAY**

The Contractor agrees that neither he nor any subcontractor doing work or performing labor pursuant to the terms of this contract shall require or permit any laborer, workman or mechanic to labor more than eight (8) hours during any one calendar day in violation of the provisions of Section 1810 and following of the Labor Code of the State of California. The Contractor shall forfeit as a penalty to the City, twenty-five dollars (\$25.00) for each calendar day in which such laborer, workman, or mechanic employed by him or by any subcontractor, for each calendar day in which such laborer, workman or mechanic is required or permitted to labor more than eight (8) hours during any one calendar day in violation with the provisions of Section 1811 of the Labor Code of the State of California, except as provided for under Section 1815 of the Labor Code.

### **5-2.14 REPORTS**

The Contractor shall keep or cause to be kept an accurate record showing the names and occupations of all laborers, workmen, or mechanics employed by him or by any subcontractor under him in connection with the work and also showing the actual hours worked and actual wages paid to each of such workers, which record shall be open at all reasonable hours to the inspection of the Engineer and to the Chief of the Division of Labor Law Enforcement of the Department of Industrial Relations, his deputies and agents.

All of the foregoing is in accordance with the provisions of Section 1776 of the Labor Code of the State of California.

### **5-2.15 RIGHT-OF-WAY**

The right-of-way for work to be constructed under this contract will be provided by the City.

### **5-2.16 CARE AND CUSTODY OF WORK**

The Contractor shall have full care and custody of the work until completion and acceptance by Resolution of the City Council and he shall be responsible for all damage to existing improvements during the time the work is in his care and custody.

### **5-2.17 ACCIDENT PREVENTION BARRICADES, SAFETY MEASURES, DETOURS, AND LANE CLOSURES**

The Contractor shall provide for the protection of persons and property and he shall observe the safety provisions of applicable laws, building and construction codes and safety regulations. Attention is directed to Section 7-1.04, "Public Safety", of the Standard Specifications.

The Contractor shall take all necessary measures to protect the work and prevent accidents during the construction. He shall provide and maintain sufficient night lights, barricades, guards, temporary sidewalks, temporary bridges, danger signals, watchmen and necessary appliances and safeguards to properly safeguard life and property. He shall also protect all excavation, equipment and materials with barricades and danger signals so that the public will not be endangered. He shall maintain temporary detours, if required by the Engineer, and keep same in usable condition.

The Contractor shall promptly provide necessary bridges across excavations for ingress and egress to places of business or residences and shall promptly remove surplus materials from the immediate vicinity of places of business. The Contractor shall be particularly careful in providing barricades and signalmen on any of the work that is constructed along or in highways or City streets. Free access shall be provided at all times to all fire hydrants unless otherwise authorized by the Engineer. Alternate cross streets shall be kept open at all times.

In the event that conditions hazardous to public safety exist as a result of the Contractor's operations, either directly or indirectly and the contractor has not provided adequate barricades, lights and other protective measures, the City may place such barricades, and lights and take such measures as are deemed necessary by the City. The Contractor will be charged for such services performed by the City and the amount of such, charge may be deducted from any sums due to the Contractor under the contract. The Contractor shall provide sufficient additional barricades and lights of his own to take care of the conditions mentioned above, at the earliest possible time, and shall notify the City Engineer of the fact that he has done so, and shall return forthwith the City's barricades and lights, and any other protective measures as directed. The Contractor shall observe requirements set forth in the latest edition of the California Manual of Uniform Traffic Control Devices (CA MUTCD).

The Contractor shall prepare and submit a traffic control plan for every location of work, conforming to the latest edition of the California MUTCD and the California Department of Transportation Standard Plans. The traffic control plans shall be submitted to and approved by the Engineer prior to mobilizing any of the sites. Revise the traffic control plan only as necessary, with the Engineer's approval.

The traffic control plan must include a detailed plan, including detours if necessary, for maintaining bicycle and pedestrian access through and past all work locations at all times. The designated pedestrian and/or bicycle paths shall be continuous, with street crossings clearly delineated.

Lane closures and work that interferes with traffic shall be limited to the hours of 9 a.m. and 3 p.m. on weekdays. Lane closures shall not be permitted on Saturday, Sunday, or legal holidays except by the express written permission of the Engineer. A minimum of one (1) uninterrupted lane of traffic not less than 10 feet wide must be open for use by traffic in each direction of travel unless otherwise approved by the Engineer in writing.

#### **5-2.18 PRESERVATION OF MONUMENTS**

The Contractor shall not disturb any monuments or stakes without permission of the Engineer, and he shall bear the expense of locating, surveying and resetting any monuments or stakes which may be disturbed without permission.

All official survey monuments or benchmarks shall be carefully preserved. If a monument is anticipated to be disturbed, its location and elevation shall be referenced to at least four short ties (set iron pipes) and two copies of the field notes showing the ties shall be presented to the Engineer. A Surveyor registered in the State of California shall remark the monuments after construction is complete.

In cases of accidental damage or displacement of the monuments where, in the opinion of the Engineer, new concrete monuments are required, two copies of the field notes showing the new locations, ties and elevations shall be furnished to the Engineer. New monuments shall be of a type and quality in accordance with San Mateo County standard drawings and shall be placed in a manner consistent with good and recognized engineering and surveying practices in accordance with State of California regulations. Replacement of monuments shall be paid for at the Contractor's sole expense. Contractor's surveyor shall file maps and records with the County Surveyor.

#### **5-2.19 DATUM PLANE AND MEASUREMENT**

All distances and elevations shown on the plans, profiles or other drawings are in feet and decimal fractions thereof. All measurements on the plans are horizontal measurements unless otherwise shown.

#### **5-2.20 INSPECTION**

All materials furnished and work done under this contract will be subject to rigid inspection. The Contractor shall notify the Engineer forty-eight (48) hours in advance of any work to be done, in order that inspection may be provided, and shall prosecute the work only in the presence of an inspector. Work done in the absence of an inspector, without said written permission, shall be subject to rejection.

The Engineer shall have access at all times to all parts of the shop or plant where material under his inspection is being manufactured.

When required, the Contractor shall notify the Engineer in sufficient time in advance of the manufacture or production of materials to be supplied under this contract, in order that the City may arrange for mill or factory inspection and testing of same. Any materials shipped by the Contractor from the factory prior to having satisfactorily passed such testing and inspection by the City's representative, or prior to the receipt of notice from said representative that said materials have satisfactorily passed such testing and inspection, or that such testing and inspection will not be required, shall not be used in the work.

The Contractor shall also furnish to the City in triplicate, certified copies of all factory and mill test reports when required by the Engineer.

#### **5-2.21 DEFECTIVE WORK-NOTICE TO CONTRACTOR**

If, in the opinion of the Engineer, work is not being done in accordance with the plans and specifications, written notice shall be given to the Contractor or his authorized agent. Written notice to any foremen or agent in charge of any portion of the work in the absence of the Contractor, shall be considered as notice to the Contractor.

Work which is defective in its construction or deficient in any of the requirements of these specifications, will not be considered as accepted in consequence of the failure of any employee of the City or inspector connected with the work, to point out said defects or deficiency during construction. The Contractor shall correct any imperfect work whenever discovered. If he refuses or neglects to replace defective work, it may be replaced by the City, after notice to the Contractor and his sureties, at the expense of the Contractor and the Contractor and his sureties shall be liable therefore.

#### **5-2.22 EXISTING UTILITIES, IMPROVEMENTS AND OBSTRUCTIONS**

Whenever any pole, structure, pipe, culvert, conduit, cable or other obstruction, either above or below ground surface within the area to be utilized by the Contractor in the performance of the work thereunder is, or may be affected by the Contractor's operations, the Contractor shall preserve the same intact, or he shall make arrangements with the owner of same for its protection, support, alteration or removal and reinstallation, as may be required by the conditions encountered.

The Contractor shall notify in advance and cooperate with each owner of poles, structures, pipes, culverts, conduits, cables, or other improvements which may be encountered or affected in any way by the work under this contract.

Where public utility mains or services are altered or removed and reinstalled either to avoid interference with the work under this contract or for the convenience of the Contractor, such alteration, removal and reinstallation shall be performed by the appropriate agency having jurisdiction thereof and the cost thereof shall be borne as the following paragraphs provide.

Whenever feasible the Contractor shall uncover sewer mains and laterals, telephone, cable television and electric conduits, water mains and gas mains at least two hundred (200) feet in advance of trenching operations to permit grade changes should such changes be required.

Unless otherwise specifically provided in these contract documents, all costs of protecting, supporting, altering, removing and reinstalling pipes, poles, structures, trees and other obstructions, shall be borne by the Contractor except:

- (a) Where a City-owned subsurface obstruction is encountered which is not shown on the contract drawings.
- (b) Where it is necessary to remove or alter obstructions which are maintained under a City franchise, ordinance, contract, permit or other agreement by the terms which the obstruction is required to be moved or adjusted, or whatever, at the expense of the owner or person responsible therefor.
- (c) Where the water mains, service pipes, conduits and cables interfere with the work under this contract and in accordance with the plans and specifications and as ordered by the Engineer.

This provision shall not apply to cases where such facilities are altered or removed and reinstalled for the Contractor's convenience only.

Except as otherwise expressly provided herein, the Contractor shall not be entitled to any additional compensation due to the presence of, or interference, delays or expense caused by obstructions, or the removal and/or replacement of obstructions where such removal and/or replacement is required for proper completion of the work hereunder.

Where the work requires the removal of, or damage to, existing pavement, sidewalk, curb, lawn, shrubbery, trees, hedges, gardens, drives, walls, fences, buildings, or other improvements, the Contractor shall take precautions to limit said removal or damage to the least practicable amount and he shall at his own cost replace or restore said improvements to as near their original location and condition as is reasonably possible, except as otherwise provided. Great care shall be exercised in placing and compacting backfill in areas where improvements are to be placed upon said backfill.

Trees shall not be removed without the express permission of the Engineer. Damage to or excessive trimming of trees in the street right of way shall be avoided. Branches or roots greater than 2 inches in diameter shall only be cut with approval by the City Engineer.

#### **5-2.23 LOSS OR DAMAGE**

The Contractor shall be held responsible for, and be required to make good at his own expense, all damage to persons or property caused by himself or his subcontractors, agents, or the employees of either of them during the progress of the work and until its final acceptance.

All loss or damage arising from any unforeseen difficulties which may be encountered in the prosecution of the work or from any action of the elements prior to the acceptance of the work or from any act or omission not authorized by these specifications on the part of the Contractor or any agency or person employed by him shall be sustained by the Contractor.

The Contractor shall hold the City, its officers and employees, harmless from any loss arising out of injury to persons or damage to property resulting directly or indirectly from the performance of the work under this contract, including the defense of any action arising therefrom.

The Engineer may order the Contractor to suspend any work that may be subject to damage by climatic conditions or natural phenomena. When delay is caused by an order to suspend work given on account of such conditions which, in the opinion of the Engineer could have been reasonably foreseen, the Contractor will not be entitled to any extra compensation on account of such order.

#### **5-2.24 CLEANING UP**

The Contractor shall remove from the vicinity of the completed work all plants, buildings, rubbish, unused materials, concrete forms, etc., used in or resulting from the construction operations, and shall leave the job site in a clean and neat condition.

#### **5-2.25 GUARANTEE**

All work shall be guaranteed by the Contractor for a period of one (1) year from the date of acceptance of the work by resolution of the City Council, against defective workmanship and materials furnished by the Contractor. The Contractor shall promptly replace or repair in a manner satisfactory to the Engineer, any such defective work, after notice to do so from the Engineer and upon the Contractor's failure to make such replacement or repairs promptly, the City may perform this work and the Contractor and his sureties shall be liable for the cost thereof.

#### **5-2.26 ACCEPTANCE AND PAYMENT**

The acceptance of the work on behalf of the City shall be made by the City Council upon the recommendation of the head of the department under whose jurisdiction the work was performed and the approval of the City Manager. Such acceptance shall not constitute a waiver of guarantee by the City. When the work has been accepted, there shall be paid to the Contractor a sum equal to ninety-five (95%) percent of the contract price. The final five (5%) percent shall not become due and payable until a release of all claims against the City of East Palo Alto by virtue of this contract has been executed by the Contractor and until five (5) days shall have elapsed after the expiration of the period in which liens may be filed under the provisions of Title 15, Part 4, Division 3 of the Civil Code of the State of California.

If periodic payments are to be made, they shall be made as provided for in the Special Conditions.

Payment at the contract price shall include full compensation to the Contractor for all labor, materials (except as otherwise expressly provided herein), equipment, use and expense required for or incidental to the completion of the work in accordance with the drawings and specifications and to the satisfaction of the Engineer.

In case of suspension of the contract, any unpaid balance shall be and become the sole and absolute property of the City of East Palo Alto to the extent necessary to repay to the City any excess in the cost of the work above the contract price.

#### **5-2.27 TESTING AND MATERIALS**

The City may require the testing of materials by a competent testing laboratory of its selection or by other means. The cost of the materials to be tested, delivered to the point of testing, shall be borne by the City.

#### **5-2.28 TRENCHES AND EXCAVATIONS**

Attention is called to the "Construction Safety Orders," "Trench Construction Safety Orders," and "General Safety Order" of the California State Department of Industrial Safety. The Contractor shall provide himself with copies of these rules and orders, which may be obtained at the State Office, San Francisco, California.

Any public works contract of a local public entity which involves digging trenches or other excavations that extend deeper than four feet below the surface shall contain a clause which provides the following:

- (a) That the contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any:
  - 1. Material that the contractor believes may be classified as 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.
- (b) That the public entity shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.
- (c) That, in the event that a dispute arises between the public entity and the contractor 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. The 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 contracting parties.

#### **5-2.29 INTERPRETATION OF PLANS AND SPECIFICATIONS**

Should questions or doubt as to the true meaning of any part of the plans and specifications arise during the fulfillment of the contract, the Contractor shall make a written request to the Engineer for correction, clarification or interpretation of the point or points in question. The Engineer, upon receipt of such request, shall give to the Contractor in writing, an addendum correcting, clarifying or interpreting the point or points in question, which addendum shall be final and binding and become a part of the contract.

#### **5-2.30 WATER POLLUTION CONTROL**

The Contractor shall ensure all construction activities conform to the San Mateo County Stormwater Pollution Prevention Program. The Contractor shall also comply with all Federal, State, and Local regulations as set by the National Pollutant Discharge Elimination System (NPDES) and required to implement all applicable Best Management Practices (BMP's).

Water pollution control shall conform to the provisions of Section 13, "Water Pollution Control", of the Standard Specifications. Acceptable Best Management Practices (BMP's) shall be implemented as part of the water pollution control program.

#### **5-2.31 QUANTITY UNITS, PAYMENTS AND MEASUREMENT**

The quantity units, such as tons, square feet, cubic yards, and other units listed in the proposal shall be the basis for payment. All work to be paid for at the contract price per unit of measurement will be measured by the Engineer in accordance with United States standard measures.

The Contractor shall accept the compensation as provided by the contract unit prices and by measurement and/or contract lump sum prices as full payment for furnishing all labor, materials, equipment and incidentals to perform all work shown on the plans and specified herein, and for all expense, loss, damage, or risk of every description connected with the prosecution of the work.

#### **5-2.32 PERMITS AND LICENSES**

The Contractor shall procure all permits and licenses, pay all charges, fees and taxes, and give all notices necessary and incident to the due and lawful prosecution of the work. The Environmental Quality Act (Public Resources Code, Section 2100 to 21176, inclusive) may be applicable to permits, licenses and other authorizations which the Contractor must obtain from local agencies in connection with performing the work of the contract. The Contractor shall comply with the provisions of said statutes in obtaining such permits, licenses and other authorizations and they shall be obtained in sufficient time to prevent delays to the work.

#### **5-2.33 OBSTRUCTIONS AND COOPERATION**

Existing utility facilities may require rearrangement during construction. The Contractor shall cooperate with forces engaged in such work and shall conduct his operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by such other forces. Whenever necessary, the work of the Contractor shall be coordinated with the rearrangement of utility facilities and the Contractor shall make arrangements with the owners of such other facilities for the construction of the work.

#### **5-2.34 HOURS OF CONSTRUCTION**

Contractor operations shall be limited to the hours of 7:30 a.m. to 4:30 p.m., Monday through Friday, unless otherwise approved in advance, in writing by the City Engineer.

#### **5-2.35 PAYMENTS WITHHELD**

The City may withhold sufficient monies from any sum otherwise due the Contractor pursuant to this Agreement, to protect the City against loss on account of:

- (a) Repair or replacement of base, and/or conduits or other structures, on or near the work, damaged by reason of the Contractor's operations due to hauling materials or moving heavy equipment.
- (b) Defective work not corrected.
- (c) Claims filed or reasonable evidence indicating probable filing of claims.
- (d) Failure of the Contractor to make payments properly to the subcontractors for material and labor.
- (e) A reasonable doubt that the contract can be completed for the balance then unpaid.
- (f) Damage to another Contractor.

Payment of the amounts withheld shall be made upon determination by the City that the withholding of such amounts is no longer necessary.

#### **5-2.36 STOP NOTICES**

The City of East Palo Alto, by and through the City Engineer, may at its option and at any time retain any amounts due the Contractor, sums sufficient to cover claims filed pursuant to Section 3179 et seq. of the Civil Code.

#### **5-2.37 AS BUILT PLANS**

The Contractor shall maintain an "As Built" plan during the demolition for submittal, including, but not limited to, the following:

Location of curb, gutter, sidewalk and bulbouts.

Location of textured crosswalks.  
Location of signing and striping.  
Elevations

#### **5-2.38 WORKING DAYS**

A working day is defined as any day, except Saturdays, Sundays and legal holidays and days on which the Contractor is specifically required by the special provisions to suspend construction operations and except days on which the Contractor is prevented by inclement weather or conditions resulting immediately there from adverse to the current controlling operation or operations, as determined by the Engineer, from proceeding with at least 75% of the normal force engaged on such operation or operations for at least 60% of the total daily time being currently spent on the controlling operation or operations.

Should the Contractor prepare to begin work at the regular starting time in the morning of any day on which inclement weather, or the conditions resulting from the weather, or the condition of the work, prevents the work from beginning at the usual starting time and the crew is dismissed as a result thereof and the Contractor does not proceed with at least 75% of the normal labor and equipment force engaged in the current controlling operation or operations for at least 60% of the total daily time being currently spent on the controlling operation or operations, the Contractor will not be charged for a working day even though the major portion of the day could be considered to be suitable for such construction operations.

The current controlling operation or operations is to be construed to include any feature of the work considered at the time by the Engineer and the Contractor, which, if delayed, will delay the time of completion of the Contract.

The Engineer will furnish the Contractor a weekly statement showing the number of working days charged to the Contract for the proceeding week the number of working days of time extensions being considered or approved, the number of working days originally specified for the completion of the Contract and the number of working days remaining to complete the Contract and the extended date for completion. The Contractor will be allowed 15 days from the issuance of the weekly statement of working days in which to file a written protest setting forth in what respects he differs from the Engineer, otherwise the decision of the Engineer shall be deemed to have been accepted by the Contractor as correct.

#### **5-2.39 PERIODIC PAYMENTS**

The Contractor shall submit an invoice at the beginning of each calendar month for ninety-five (95) percent of the value of the work performed up to the last day of the previous calendar month, less the aggregate of previous payments, based on accepted unit prices in the bid proposal and on monthly estimates prepared by the Engineer. This invoice shall be paid within thirty (30) working days after receipt of the invoice by the City. Quantities used in computing partial payments shall be considered as estimates only and shall be subject to revision in following estimates. Work completed as estimates shall be an estimate only and no inaccuracy or error in said estimate shall operate to release the Contractor or any bondsman from damages arising from such work or from the enforcement of each and every provision of this Contract, and the City shall have the right subsequently to correct any error made in any estimate for payment. Materials delivered but not incorporated or installed in the work, will not be included in progress estimates and/or payments. The Contractor shall not be entitled to receive any monthly payments under this section of the specifications so long as any lawful or proper direction concerning the work or any portion thereof, given by the Engineer, shall remain uncomplished with.

Pursuant to the provisions of Government code §4590, and at the request and expense of the Contractor, securities equivalent to the amount withheld by City to ensure performance under a Contract shall be deposited with City and with a State or Federally chartered bank as escrow agent who shall pay such monies to the Contractor upon satisfactory completion of the Contract. Eligible securities shall include those listed in Government Code §16430 or bank or savings and loan certificates for deposit.

#### **5-2.40 CONTRACT DOCUMENTS**

The Contract Documents shall consist of the contract signed by the City and the Contractor, including any and all exhibits attached thereto, as well as any change orders, addenda, general conditions, technical specifications, referenced standards, special provisions, and contract drawings.

If contractor discovers conflicts, errors, omissions or discrepancies between Contract Documents, he shall immediately notify the Engineer in writing and request resolution of conflict. Work affected by conflicts, errors, omissions, or discrepancies and performed prior to resolution of conflict shall be at Contractor's risk and expense.

Conflicts between Contract Documents will be resolved by the Engineer based on the following order of precedence:

1. Change Orders
2. Addenda
3. General Conditions
4. Technical Specifications
5. Referenced Standards
6. Contract Drawings

Submit proposed contract document revisions to Engineer for review. Accurately show or describe revisions on Drawings. Work affected by proposed revision performed prior to approval of revision shall be at Contractor's risk and expense.

#### **5-2.41 AIR POLLUTION CONTROL**

Air pollution control shall conform to the provisions of Section 14-9, "Air Quality", of the Standard Specifications.

#### **5-2.42 SOUND CONTROL**

Sound control shall conform to the provisions in Section 14-8, "Noise and Vibration", of the Standard Specifications.

#### **5-2.43 RECYCLING OF MATERIALS**

The Contractor shall recycle or divert demolition and construction debris from the landfill and submit records thereof to the City Engineer in tonnage or other measurements that can be converted to tonnage. The Contractor's attention is directed to California AB 939.

#### **5-2.44 SPECIAL PROVISIONS PAYMENT**

Full compensation for conforming to the Special Provisions, not otherwise provided for, shall be considered as included in prices paid for the various Contract items of work involved and no additional compensation will be allowed therefore.



**SECTION 6. (BLANK)**

**SECTION 7. (BLANK)**

## **SECTION 8. MATERIALS**

### **8-1.01 MATERIALS AND SAMPLES**

All materials shall be of specified quality and fully equal to samples, where samples are required. The Contractor shall furnish to the Engineer for test, whenever requested and free of charge, samples of all materials proposed to be used in the work. He shall also submit any required detailed drawings to be used in the work. He shall also submit any required detailed drawings of articles or equipment for City approval. Rejected materials must be immediately removed from the site of the work by the Contractor and shall not be brought again upon the work.

### **8-1.02 MATERIALS FURNISHED BY THE CITY**

No materials will be furnished by the City of East Palo Alto to the Contractor on this contract.

### **8-1.03 WATER**

Where the work under these specifications can be supplied with non-potable water from, the Contractor shall provide at his own cost, the required supply of water from other sources approved by the Engineer.

## **SECTION 9. DESCRIPTION OF WORK**

Project will add new sidewalks, crosswalks, new street lights and pedestrian lights, landscaping, and bus passenger shelters to Bay Road. The project will additionally repair the base structure and resurface Bay Road and install drainage improvements. New striping will delineate vehicle travel lanes and bicycles lanes to create a multi modal street that meets current design and safety standards for vehicle, bicycle and pedestrian travel. All improvements will be constructed within the existing Bay Road right-of-way (ROW), as indicated on the contract plans entitled, **“BAY ROAD IMPROVEMENTS PHASE II/III PROJECT”** structural and road plans dated October 8, 2018 (approval date).

## **SECTION 10. TECHNICAL SPECIFICATIONS AND CONSTRUCTION DETAILS**

### **10-1 MOBILIZATION**

#### **BID ITEM NO. 1: MOBILIZATION**

##### **10-1.01 GENERAL**

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; project signage and fliers to alert property owners; establishment of sanitation facilities; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site; compliance with the BCDC permit; final cleanup and removal of all equipment.

##### **10-1.02 MEASUREMENT AND PAYMENT**

Payment for Mobilization shall conform to the provisions in Section 9-1.16D "Mobilization" of the Standard Specifications. The contract lump sum price for Mobilization shall include full compensation for demobilization, notification of property owners, and furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in mobilization, demobilization, notifications, and incidentals as specified herein, and no additional compensation will be allowed therefor. The Contract lump sum price for Mobilization shall not exceed five (5) percent of the total project Contract price.

### **10-2 WATER POLLUTION CONTROL INCLUDING PREPARING SWPPP**

#### **BID ITEM NO. 2: WATER POLLUTION CONTROL INCLUDING PREPARING SWPPP**

##### **10-2.01 GENERAL**

Unless otherwise shown or specified, all materials and methods shall conform to Section 5-2.30 "Water Pollution Control" of the General Provisions and Section 13 "Water Pollution Control" of the Standard Specifications as they reasonably apply to this work, except for measurement and payment requirements.

The Contractor shall prevent spillage when hauling on or adjacent to any public street or highway. In the event a spill occurs, the Contractor shall remove all spillage and sweep, wash or otherwise clean such street or highway.

The Contractor shall take all precautions needed to prevent a dust nuisance to adjacent public and private properties and to prevent erosion and transportation of soil to adjacent properties due to work under this contract. Any damage so caused by the Contractor's work under this contract shall be corrected or repaired by the Contractor at no cost to the City. In the event the Contractor fails to take such precautions or make such corrections or repairs promptly, the City may take such steps as he may deem necessary and deduct the cost of the same from the monies due to the Contractor. The Contractor QSD/P shall prepare the SWPPP, perform necessary sampling, and reporting.

The job site shall be kept neat and clear at all times, with all public streets and walkways swept clean at the end of each working day, and all materials neatly stored. Upon completion of the work under this Section, remove immediately all surplus materials, rubbish and equipment associated with or used in the performance of this work. Failure to perform such cleanup operations within 48 hours of notice by the City shall be considered adequate grounds for having the work done by others at this subcontractor's expense.

The Contractor shall submit a Water Pollution Control Plan per Section 13, "Water Pollution Control," of the California Department of Transportation, Standard Specifications, 2010 for review and approval by the Engineer. The Contractor shall also prepare the SWPPP, complete the information in SMARTS and perform all appropriate sampling, testing, and reporting.

##### **10-2.02 MEASUREMENT AND PAYMENT**

The lump sum price for Water Pollution Control including Preparing SWPPP shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Water Pollution Control, and related incidental work.

Progress payments for the lump sum item for Water Pollution Control including Preparing SWPPP shall be determined based on the percentage of the bid item work completed as determined by the Engineer at the time the progress payment is prepared.

### **10-3 CONSTRUCTION STAKING**

#### **BID ITEM 3 CONSTRUCTION STAKING**

##### **10-3.01 GENERAL**

Unless otherwise stated in the Special Provisions, the Contractor shall provide, preserve, and replace if necessary, all of the necessary construction stakes required for the construction of the project.

The Contractor shall provide all surveys required conducting and control the work and all survey shall be under the control of an independent land surveyor licensed in the State of California. The Contractor shall be fully responsible for layout and horizontal and vertical control of the construction of the project, including setting of line and grade stakes.

Prior to starting any construction, the Contractor shall submit to the Engineer for approval the frequency, information, and format of survey stakes and other construction control and the horizontal and vertical control to be used for the project. Immediately upon completion of the work, the Contractor shall submit to the Engineer copies of all survey and field notes.

As a final grade check, all curb and gutter placed shall be water tested upon stripping of forms.

The Contractor shall replace at the Contractor's sole expense and at no cost to the City, any survey marking or stakes that are disturbed or destroyed.

If in the opinion of the Engineer, it is necessary to bring independent surveyors on the job site to adequately control the work, the cost of the independent surveys will be deducted from the progress payment due to the Contractor.

##### **10-3.02 MEASUREMENT AND PAYMENT**

The contract lump sum price for providing Construction Staking shall include full compensation for furnishing all equipment, materials, personnel necessary for construction staking and no additional compensation will be allowed therefore.

### **10-4 TRAFFIC CONTROL AND CONSTRUCTION AREA SIGNS**

#### **BID ITEM 4, TRAFFIC CONTROL**

#### **BID ITEM 5, CONSTRUCTION AREA SIGNS**

##### **10-4.01 GENERAL**

Attention is directed to Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety," and 12 "Temporary Traffic Control", of the Standard Specifications and these special provisions. The first paragraph of Section 12-1.03, "Flagging Costs," shall not apply. In connection with said sections, it is understood that all lights, signs barricades, flagmen or other necessary devices shall be furnished and maintained by the Contractor at his own expense.

Construction area signs shall be furnished, installed, maintained, relocated, repositioned, and removed, when no longer required, in accordance with the provisions in the section 12 "Temporary Traffic Control", of the Standard Specifications and these special provisions.

"No Parking" signs shall be posted a minimum of 72 hours in advance of the parking restriction. The date and time of parking restrictions shall be clearly posted on "No Parking" signs. Contractor shall monitor and keep current all sign postings and sign removals to coincide with actual construction operations.

During trench installation and restoration, the Contractor shall furnish and place sufficient barricades at all cross streets to protect new surfaces from traffic until sufficiently cooled or set as well as placing "Detour" signs as

necessary to clearly delineate detour routes for all impassable intersections. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners and the motoring public. Convenient access to any driveways, houses and buildings along the line of work shall be maintained at all times. A right of entry to be obtained from the businesses during construction of driveways.

Whenever the Contractor's operations create a condition hazardous to traffic, or to the public, the Contractor shall take the necessary precautions and provide adequate means to protect those who must pass through or over the work. If the Contractor shall appear to be neglectful or negligent in providing such warning or protective measures, the Engineer may direct attention to the existence of a hazard, and require that necessary barricades, warning signs, lights or flagmen be installed by the Contractor. Any action by the Engineer as provided herein shall not relieve the Contractor from responsibility for public safety.

**Working hours shall be from 7:30 am to 4:30 pm with the following restrictions on lane closure requirements:**

Restrictions on lane closure requirements are as follows:

On Bay Road between Clarke Avenue/Illinois Street and Pulgas Avenue Intersections

A minimum of one (1) uninterrupted lane of traffic not less than 12 ft wide must be open for use by traffic in each direction of travel at all times.

On Bay Road between Pulgas Avenue Intersection and Cooley landing Entrance, on Pulgas Avenue between Bay Road and Runnymede Street Intersection (One-Way Control)

A minimum of one (1) uninterrupted lane of traffic not less than 12 ft wide must be provide during working hours. Contractor must furnish flagmen for the purpose of expediting safe passage of public traffic through one-way traffic control. Upon completion of work on a lane, and during any time the Contractor's operations are shut down by breakdown, or other causes, and during any period when work is not permitted in traffic lanes, the Contractor's equipment shall be immediately and entirely withdrawn from the traveled way, and public traffic shall be allowed the use of a minimum of two traffic lanes.

All vehicles exceeding 12,000 pounds gross weight hauling materials to the job sites shall follow established truck route streets to the closest point of the job site unless directed otherwise by the Engineer.

The Contractor shall designate a person, in writing, to be responsible for managing traffic control operations and public safety.

The Contractor shall submit a traffic control plan at least 15 working days prior to start of construction for review by the Engineer that conforms to all requirements of these specifications. No work affected by lane closures, detours, and parking prohibitions shall begin until written permission is received from the Engineer.

The traffic control plan submittals shall be site-specific, tailored to the project, and shall be accompanied by a "Sequence of Operations and Staging Plan" that is coherent with all construction and staging activities. These plans shall show what areas will be open to public traffic during non-working hours and the associated traffic control devices required for safety. At a minimum, the plans shall be designed to consider the various phases of construction with their respective staging areas. Multiple traffic control and staging plans addressing the various phases shall be submitted for review and approval of the City Engineer prior to implementation. The plans should show access for all residences and businesses whenever possible throughout the duration of the project.

Notification to residents shall be done a minimum of 48 hours in advance of work that will interrupt use of their driveways. Access to existing businesses shall be provided at all times unless approved by the City.

Traffic control plans and construction area signs shall conform to the latest edition of the California Manual of Uniform Traffic Control Devices (CA-MUTCD).

#### **10-4.02 PUBLIC NOTIFICATION**

General Notifications - The Contractor shall be required to notify and cooperate with the public, transit companies, local law enforcement agencies, local fire districts, local utility companies, refuse collectors, schools, post office and any other persons or agencies who may be affected by this project at least two (2) weeks prior to construction. Other notifications may be required during project construction as outlined below.

Notifications will be provided by the Contractor relating to, but not limited to, the following items:

General information  
Traffic delays and alternate routes  
Tree removals  
Driveway closures  
Temporary relocation of bus stops  
Adjustment of utilities  
Closure of turn lanes

Before the Contractor begins any work, all residents and businesses on each street affected by the work that are within 500 feet of the work and all residents or businesses that have only access to their property through the project work shall be notified in writing, at least 72 hours in advance. This notification will provide general information about the project, approximate range of dates on when construction will take place, time of work, Contractor's name and 24-hour contact phone number and any other pertinent information for residents. A typical construction notification form is attached. The Contractor shall provide the Engineer a copy of the proposed written notification for review 72 hours prior to delivery.

Failure to comply with the notification requirement will result in a stop work order. No additional working days will be granted due to a stop work order, which arises because of the negligence of Contractor in following the notification requirements. The Contractor shall maintain an updated and chronological record at the job site of all written notifications along with a list of recipients. Such records shall be made available upon request by the Engineer.

**No work shall take place prior to the required notification, re-notification, or coordination work with affected property and facilities owners and utility agencies.**

#### **10-4.03 PEDESTRIAN AND BICYCLE ACCESS**

The Contractor shall submit to the Engineer for approval a detailed plan for maintaining safe pedestrian and bicycle access through and past the site at all times. The designated pedestrian and/or bicycle paths shall be continuous, ADA compliant, solid surface material, and a minimum of four (4) feet wide and street crossings, where required and approved, shall be clearly marked and delineated.

The Contractor is responsible to provide and maintain whatever barricades, fencing, railings, signs, lights, or any other materials necessary to ensure the safety of pedestrians, bicyclists, and vehicular traffic.

The provisions in this section will not relieve the Contractor from the responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety", of the State Standard Specifications.

Should the Contractor fail to provide, be neglectful or negligent in furnishing and maintaining warning and protective facilities as herein required, the Engineer may call upon others to furnish and maintain such facilities and charge the Contractor. Therefore, the City will deduct the cost thereof from progress payments due to Contractor in the amounts that are incurred by the City.

Full compensation for complying with Section 10-4, Traffic Control and Construction Area Signs, shall be considered as included in the contract lump sum price paid for "Traffic Control and Construction Area Signs" and



no separate payment will be made therefore. Daily penalties for not complying with this section will be deducted from this item of work.

#### **10-4.04 MEASUREMENT AND PAYMENT**

The contract lump sum price for Traffic Control shall include full compensation for furnishing all labor, materials, tools, equipment, public information, and incidentals necessary to perform the full scope of work as described above, as shown on the plans, as specified herein and as directed by the Engineer including all necessary construction phasing, staging and traffic controls.

The contract lump sum price for Construction Area Signs shall include full compensation for providing Construction Area Signs and furnishing all labor, material, equipment, tools, and incidentals necessary to perform the work as described above, as shown on the plans, as specified herein and as directed by the Engineer.

Payments for the lump sum item for Traffic Control shall be determined based on the percentage of the bid item work completed as determined by the Engineer at the time the progress payment is prepared.

### **10-5 HAZARDOUS, SOIL AND GROUNDWATER HANDLING**

#### **BID ITEM 6, HAZARDOUS SOIL AND GROUNDWATER HANDLING**

##### **10-5.01 GENERAL**

The site contains contaminated soil. Soil and groundwater removed from the trenching and excavation operations shall be handled in accordance with the Section 5-2.11 "Soil and Groundwater Management Plan" of the general special provisions. DISPOSAL FOR ALL CONTAMINATED MATERIAL SHALL BE INCLUDED IN THIS BID ITEM. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY INCLUDING DISPOSAL OF MATERIAL AT AN ACCEPTABLE FACILITY. The Contractor shall submit a plan to show compliance with contaminated soil and groundwater issues. This plan shall be submitted to the City for review and approval.

##### **10-5.02 MEASUREMENT OF WORK**

The contract lump sum price for soil and groundwater management shall include full compensation for handling and disposing of contaminated soil and ground water including furnishing all labor, material, equipment, tools, and incidentals necessary to perform the full scope of work as described above, as described in the Updated Soil and Groundwater Management Plan. No separate payment shall be made for compliance with these provisions.

Payments for the lump sum item for soil and groundwater management shall be determined based on the percentage of the bid item work completed as determined by the Engineer at the time the progress payment is prepared.

### **10-6 CLEARING AND GRUBBING**

#### **BID ITEM 7, CLEARING AND GRUBBING**

#### **BID ITEM 8, REMOVE EUCALYPTUS TREE**

##### **10-6.01 GENERAL**

Clearing and Grubbing shall conform to the provisions in Section 16 "Clearing and Grubbing," of the Standard Specifications and these special provisions.

The work shall consists of removing all objectionable material within the limits of work shown on the plans and as directed by the Engineer. The contractor shall remove all pavement, concrete, curb and gutter, trees, old railroad tracks, bollards, and any other facilities or items as shown on the plans or as directed by the Engineer, which are in the area of work and will not be incorporated in the final project. Vegetation shall be cleared and grubbed only within the City right of way and other specified areas. All trees, shrubbery, or other plants where indicated in the plans or directed by the Engineer shall be removed. Tree Stumps and roots shall be removed to a minimum of 18 inches below grade and chemically treated to prevent re-growth. Resulting voids shall be backfilled and compacted per applicable sections of these specifications. Contractor shall remove trees in advance of the construction of permanent improvements.

#### **10-6.02 MEASUREMENT AND PAYMENT**

Clearing and Grubbing shall be paid as lump sum. The contract price for clearing and grubbing shall include full compensation for removal, disposal, saw cutting, removal of concrete curb, gutter and sidewalk.

Existing trees with trunk diameter smaller than 6-inches shall be included in the Clearing and Grubbing and no additional compensation will be allowed therefor.

The Contract lump sum paid for Remove Eucalyptus Tree shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in removing the tree, completely in place, as shown on the plans, including remove tree roots and disposal of the resulting material, and as specified in the standard specifications, and these special provisions, and as directed by the Engineer.

#### **10-7 FINISHING ROADWAY**

##### VARIOUS CONTRACT ITEMS

##### **10-7.1 GENERAL**

The finished roadway shall conform to the requirements in Section 22, "Finishing Roadway"

##### **10-7.2 MEASUREMENT AND PAYMENT**

Full compensation for all costs involved in Finishing Roadway shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

#### **10-8 ROADWAY EXCAVATION**

##### BID ITEM 9, ROADWAY EXCAVATION

##### **10-8.1 GENERAL**

All work under this bid item shall be in accordance with section 19 "Earthwork", of the Standard Specifications and these special provisions.

Roadway excavation shall conform to the provisions of Section 19-2, "Roadway Excavation" of the Standard Specifications. Roadway excavation shall consist of all excavation involved in grading and construction of the roadway including grading of sidewalk, driveway and conform areas.

All aggregate base (new or existing) shall be compacted to a minimum of ninety-five percent (95%) to within 6 inches directly below the grading plane for the full width of the roadbed between and including curbs. The compaction requirement under and behind sidewalk shall be ninety percent (90%). No material shall be placed above any layer of prepared base material, which does not meet the relative compaction requirement, and until the base material has been approved by the Engineer.

Immediately prior to placing subsequent layers of materials thereon, the grading plane shall conform to Section 19-1.03C, "Grade Tolerance," of the Standard Specifications.

If after all grading and paving operations are complete, a surplus of material exists, that material regardless of character, shall be the property of the Contractor and shall be removed from the project site. All costs associated with removal of the surplus material shall be borne entirely by the Contractor and no separate payment shall be made therefore.

Selected materials shall be defined as materials which are excavated from the project site and which are satisfactory for use in fills, embankments, backfill or other uses as directed. Such material shall be suitable for compaction, have no cemented lumps or rock larger than 2.5 inches in greatest dimension, be free of topsoil, organic and other deleterious materials and shall be approved by the Engineer. Selected material shall be used as specified in Section 19-2.03D, "Selected Material," of the State Standard Specifications.

Compaction of subgrade by ponding or jetting will not be allowed.

Prior to the start of any trench excavation operations, Contractor shall perform potholing at all proposed locations where new underground utilities cross existing Undergrounding utilities to determine their exact location and elevation.

Excavations and trenches shall be properly sheeted, shored, braced and/or sloped to support adjacent earth banks, structures, construction materials, and equipment and to provide safe work conditions. No trench, pit or other excavation shall remain open longer than is necessary to expeditiously carry out the work.

Provide sheeting and shoring open cut, as needed to support the sides of the excavation and prevent any movements which could in any way injure any structure.

All excavations and trenches shall be supported in the manner set forth in the rules, orders and regulations prescribed by the Industrial Accident Commission of the State of California. Excavations and trenches that exceed five feet (5') in depth shall comply with the Division of Industrial Safety (OSHA) standards.

The Contractor shall be responsible for any injury which may result to any person or persons, structure or structures, or to any interest whatsoever that is due directly or indirectly to the insufficiency of sheeting and shoring for excavations and trenches.

Contractor's attention is directed to Section 7-1.02K(6)(B) "Excavation Safety, of the Caltrans Standard Specifications and to the applicable provisions of the Labor Code of the State of California. (2010 Edition).

The contract price paid for trench excavation, sheeting and shoring, and any utility potholing shall be included in the unit linear foot cost of pipe and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for furnishing, installing and removing sheeting and/or shoring for trench bracing.

Unsuitable material, as defined in Section 19-1.03B, "Unsuitable Material," of the standard specifications, encountered below the grading plane shall be excavated and disposed of as directed by the Engineer. The removal and disposal of unsuitable material will be paid as for as Roadway Excavation for the quantities involved. The resulting space shall be filled and compacted with material suitable for planned use and as approved by the Engineer. **Handling of contaminated material will be per Bid Item No. 6.**

Roadway Excavation shall be considered a final pay item in accordance with Section 9-1.02C of the Standard Specifications.

Contractor shall provide recommendations for salvaging some of the existing AC through cold or hot mix recycling. This shall be in compliance with Caltrans Standard Specifications and shall be discussed with the City Engineer prior to implementation.

#### **10-8.2 MEASUREMENT AND PAYMENT**

The contract price paid per cubic yard for Roadway Excavation shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in roadway excavation including utility trenching, complete in place, including subgrade preparation, compacting, subgrade removal, the removal, hauling and disposal of asphalt concrete, base, sub-base and excess material, saw cutting, reconditioning or compacting subgrade, finishing roadway to grade, as shown on the plans, as specified in the standard specifications, these special provisions, and as directed by the Engineer.

#### **10-9 REMOVE ASPHALT CONCRETE SURFACING**

##### **NOT A SEPARATE PAY ITEM**

##### **10-9.1 GENERAL**

All work shall be in accordance with section 15-2 "Miscellaneous Facilities", of the Standard Specifications and these special provisions.

Existing asphalt concrete (AC) surfacing shown on the plans to be removed, shall be removed to a depth of at least 0.65 ft or as required to completely remove the existing asphalt concrete below the grade of the existing surface. No thin layer of existing AC to remain on the base rock surface. Resulting holes and depressions shall be backfilled with earthy material selected from excavation to the lines and grade established by the Engineer.

The material removed shall be disposed of outside the highway right of way in conformance with the provisions in Section 16-1.03D, "Disposal," of the Caltrans Standard Specifications.

## **10-9.2 MEASUREMENT AND PAYMENT**

Removing asphalt concrete surfacing will be measured by the cubic yard in the same manner specified for roadway excavation in conformance with the provisions in Section 19, "Earthwork," of the Caltrans Standard Specifications

Full compensation for removing asphalt concrete surfacing shall be considered as included in the prices paid for Roadway excavation and no additional compensation will be allowed therefor.

## **10-10 IMPORTED BORROW**

### **BID ITEM 10, IMPORTED BORROW**

### **10-10.1 GENERAL**

All work shall be in accordance with section 19-7 "Borrow Material", of the Standard Specifications and these special provisions.

Imported borrow shall be mineral material including rock, sand, gravel, or earth. The Contractor shall not use man-made refuse in imported borrow including:

- A. Portland cement concrete
- B. Asphalt concrete
- C. Hot mix asphalt
- D. Material planed from roadway surfaces
- E. Residue from grooving or grinding operations
- F. Metal
- G. Rubber
- H. Mixed debris
- I. Rubble

### **10-10.2 MEASUREMENT AND PAYMENT**

The contract unit price paid per cubic yard for "Import Borrow" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work complete in place as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer. Measurement shall be by cross section.

## **10-11 DEWATERING**

### **BID ITEM 11, DEWATERING**

### **10-11.1 GENERAL**

Contractor is advised that the construction dewatering is anticipated for excavation, for the storm drain and water main construction. Groundwater was encountered in soil borings during drilling between depths ranging from about 4 to 13 ½ feet but predominantly between 4 and 6 ½ feet below the existing grade. As a minimum, the Contractor shall provide the following services and facilities for Dewatering:

- Removal of water to maintain trench excavations in a dry and stable condition and control groundwater conditions for excavation work.
- Collection, treatment, and disposal of removed water
- Keeping excavations free of surface water, seepage water.
- Use of temporary drainage ditches and dikes to protect work from any source of surface water.

Contractor is responsible to design groundwater control system compatible with requirements of all laws and regulations – A dewatering plan shall be approved by the City and any regulatory agencies prior to implementation. It shall prevent the loss of fines, boils, quick conditions, or softening of the foundation soils. The operation of the dewatering system should continue during and after the installation of the pipe and embedment until sufficient backfill has been placed to balance the uplift forces.

Contractor shall assume sole responsibility for groundwater control systems and for any loss or damage resulting from partial or complete failure of protective measures and any settlement or resultant damage caused by the groundwater control operations. A Dewatering plan shall be submitted for City approval prior to beginning work.

#### **10-11.2 DISPOSAL OF GROUNDWATER**

Groundwater removed from the trenching and excavations operations shall be handled in accordance with the Section 5-2.11 “Updated Soil and Groundwater Management Plan” of the general special provisions and included as Attachment C. Groundwater shall be tested and disposed of in accordance with federal, state and local ordinances.

#### **10-11.3 MEASUREMENT AND PAYMENT**

The contract lump sum paid for dewatering shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in dewatering, testing and disposal as specified in these special provisions, the Soil and Groundwater Management Plan and as directed by the Engineer.

#### **10-12 REMOVE CONCRETE**

##### BID ITEM 12, REMOVE EXISTING CURB AND GUTTER

##### BID ITEM 13, REMOVE EXISTING CURB

##### BID ITEM 14, REMOVE PCC SIDEWALK/DRIVEWAY (INCLUDING BASE)

#### **10-12.1 GENERAL**

Remove concrete shall be in accordance with section 15-3 “Concrete Removal”, of the Standard Specifications and these special provisions.

Where no joints exist in the pavement on the line at which concrete is to be removed, a straight, neat cut with a power driven saw shall be made along the line to a minimum depth of 2 inches before removing the concrete. Full compensation for sawing joints of removal lines, as required, shall be considered as included in the contract price paid for removal of various concrete items and no additional compensation will be allowed therefore.

#### **10-12.2 MEASUREMENT AND PAYMENT**

Removing concrete curb and concrete curb and gutter will be measured by the linear foot, measured along the curb or curb and gutter before removal operations.

Remove concrete sidewalk and concrete driveway will be measured by the square foot measured along the sidewalk and concrete driveway island before removal operations.

The contract price paid for each of the above remove concrete items shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for all the work involved in removing the concrete, completely in place, as shown on the plans, including removing and disposing of base, and as specified in the standard specifications, and these special provisions, and as directed by the Engineer.

## **10-13 REMOVE EXISTING SIGNS**

### **BID ITEM 15, REMOVE EXISTING SIGNS**

#### **10-13.1 GENERAL**

All existing signs, sign posts/ poles or foundations within the project limits shall be removed. All work shall be in accordance with section 15 “Existing Facilities”, of the Standard Specifications and these special provisions.

Temporary “Stop Signs”, “Speed limit Signs”, “Bus Stop Signs” or pedestrian signs shall be provided by the contractor. If determined by the Engineer additional temporary signing shall be provided by Contractor. Temporary signs shall be considered as included in the Traffic Control and no additional compensation will be allowed therefor.

All existing “Bus Stop”, “Police” Law Enforcement, “No Dumping” Signs shall be salvaged, maintained in an acceptable condition and re-installed on new poles/posts.

#### **10-13.2 MEASUREMENT AND PAYMENT**

New signs and signs posts shall be paid as separate pay items.

The contract lump sum paid for Remove Existing Signs shall include full compensation for furnishing all labor, materials, tools and equipment, incidentals, and for doing all the work involved in removing and salvaging the existing signs, removing sign posts/poles, foundations and providing temporary signs as specified in these special provisions, and as directed by the Engineer.

## **10-14 REMOVE AND ABANDON EXISTING UTILITIES**

### **BID ITEM 16, REMOVE AND DISPOSE EXISTING STORM DRAIN MANHOLE**

### **BID ITEM 17, ABANDON EXISTING STORM DRAIN MANHOLE**

### **BID ITEM 18, REMOVE AND DISPOSE EXISTING STORM DRAIN INLET**

### **BID ITEM 19, REMOVE AND DISPOSE EXISTING 30-INCH STORM DRAIN PIPE**

### **BID ITEM 20, REMOVE AND DISPOSE EXISTING 18-INCH STORM DRAIN PIPE**

### **BID ITEM 21, REMOVE AND DISPOSE EXISTING 15-INCH STORM DRAIN PIPE**

### **BID ITEM 22, REMOVE AND DISPOSE EXISTING 12-INCH STORM DRAIN PIPE**

### **BID ITEM 23. CONVERT EXISTING CATCH BASIN TO MANHOLE**

#### **10-14.1 GENERAL**

Existing storm drains and potable water facilities shown on the plans to be removed or abandoned shall be removed or abandoned completely. These facilities include water pipes, water valves, fire hydrants, storm drain pipes and storm drain inlets. Work shall conform to the provisions in Section 15 “Existing Facilities,” of the standard specifications and these special provisions.

Openings into existing structures that are to remain in place must be plugged with minor concrete per Section 90 “Concrete” of the standard specifications.

## **REMOVE AND SALVAGE EXISTING FIRE HYDRANT AND SHUT-OFF VALVES**

Where called for on the plans and as directed by the Engineer, existing fire hydrants and shut-off valves shall be removed and salvaged. The existing fire hydrant assembly and pipe lateral shall be completely removed up to the existing water main. At the water main, the existing fire hydrant lateral shall be closed off by the installation of a blind flange, as approved by the Engineer. Salvaged materials shall be returned to City’s corporation yard at 150 Tara Street.

## **REMOVE OR ABANDON EXISTING STORM DRAIN PIPE AND MANHOLES**

All existing storm drain mains, laterals and manholes no longer required can be abandoned in place. Existing lines in conflict with the new storm drain system shall be removed. Storm pipes to be abandoned shall be plugged at each end with a concrete plug not less than eighteen inches (18") for pipes 18-inches or smaller in diameter and twenty-four inches (24") for pipes larger than 18-inches in diameter.

Manholes to be abandoned shall have their cones removed, backfilled with slurry, or native material compacted to ninety-five percent relative compaction. Frames and covers not to be reused shall be delivered to the City.

## **REMOVE STORM DRAIN MANHOLES AND INLETS**

The Contractor shall remove and dispose of all excess material or debris off the job site by the end of each workday. Assume responsibility of all storm drain inlets, manholes and pipe shown to be removed and dispose legally. The existing manholes, storm drain inlets, asphalt or concrete to be removed shall be outlined by the scoring with an appropriate saw to a uniform depth of not less than 4".

Existing asphalt concrete curb, gutters, sidewalk and driveways where manholes are located shall be saw-cut and then broken out to a straight joint as directed by the Engineer. The Contractor shall exercise care in removing the asphalt or concrete so as not to damage adjoining areas around manholes and inlets which are to remain intact, and any damage so caused shall be repaired by the Contractor at his own expense.

### **10-14.2 MEASUREMENT AND PAYMENT**

Full compensation for all costs involved in Remove and Salvage Existing Fire hydrants and shut-off valves shall be considered as included in the price paid for installing new Fire Hydrants and no additional compensation will be allowed therefor.

Full compensation for Remove or Abandon Existing Water Line on Bay Road shall be considered as included in the price paid for various items of work involved with the new water line installation and no additional compensation will be allowed therefor.

The contract unit price for Removal and Disposal of Existing Storm Drain Manhole and Remove and Dispose Existing Storm Drain inlets shall be measured per each and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to remove Storm Drain Manhole, including but not limited to sawcutting pavement; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; import material as needed; replace pavement section and concrete curb, gutter and sidewalk; and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract unit price for Abandonment of Existing Storm Drain Manhole shall be measured per each and include full compensation for furnishing all labor, materials, tools, equipment and incidentals to abandon Storm Drain Manhole; including but not limited to sawcutting pavement; excavation; loading, hauling and stockpiling trench spoil; removing cover, rim and cone, trench sheeting and shoring; slurry and native material backfill; installation of pavement section; and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract unit price for Removal and Disposal of Existing Storm Drain Pipe shall be measured by the linear foot of pipe removed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to remove Storm Drain Manhole and Storm Drain pipe, including but not limited to sawcutting pavement; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; import material as needed; replace pavement section and concrete curb, gutter and sidewalk; and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract unit price paid for the Removal and Disposal of 8-inch water main along Pulgas Avenue shall be measured by the linear foot of pipe removed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to remove waterline, including but not limited to sawcutting pavement; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; import material as needed;

replace pavement section and concrete curb, gutter and sidewalk; and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

## **10-15 ADJUST UTILITY FRAMES AND COVERS TO GRADE**

BID ITEM 24, ADJUST STORM DRAIN MANHOLE TO GRADE

BID ITEM 25, ADJUST UTILITY FRAMES AND COVERS TO GRADE

BID ITEM 26, ADJUST SEWER MANHOLE TO GRADE

### **10-15.1 GENERAL**

Work Covered in this section includes adjusting utility frames and covers to grade to match new pavement and sidewalk grades.

Upon placement of HMA, frames and covers of existing manholes, survey monuments, sanitary sewer cleanouts, water valves, water meter boxes, pull boxes and vault covers shall be adjusted to grade in accordance with the Section 15-2.10 "Adjust" of the standard specifications and these special provisions.

Adjustment of frames and covers for manholes, valve boxes, pull boxes, monument covers, sewer cleanouts, water meters and any other utility structures shall be accomplished by removing existing concrete collar around the frame, installing new concrete adjustment rings, as appropriate, and/or constructing concrete collars to adjust the frame and cover to an elevation level and flush with the surrounding pavement surface.

Manholes shall be covered during the paving operation so that no debris can fall into the sewer and storm drain system. Extreme care shall be taken to prevent spilling foreign material into the drainage or sanitary sewer system. The Engineer may require the Contractor to immediately remove manhole covers for inspection to determine if any foreign material has fallen into the manhole. The Contractor shall be required to immediately remove all foreign material from the manhole's interior.

For monuments contractor shall be responsible for preserving the survey point in its undisturbed position per Section 10-3, "Construction Staking" of these special provisions.

All materials removed during adjustment, except the existing frame and cover, shall become the property of the Contractor and shall be properly disposed of. If, in the Engineer's judgment, the existing frame or cover is unsuitable, the existing frame or cover shall be replaced with new frame and cover. Unsuitable frames and covers shall become the property of the Contractor and shall be disposed of as provided above. The cost of replacing unsuitable frames and covers which, in the Engineer's judgment, were damaged by the Contractor's operations shall be at the Contractor's expense.

### **10-15.2 MEASUREMENT AND PAYMENT**

Adjust Utility Frames and Covers to Grade shall be measured per each structure to be raised.

The contract price paid per each Adjust Utility Frames and Covers to Grade shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for doing all work involved adjusting the survey monument covers, adjusting water meter covers and adjusting sanitary sewer clean outs covers to grade including but not limited to grinding of adjacent pavement, storage of frames and covers and site clean-up as specified in these Special Provisions, Standard Specifications and as directed by the Engineer.

The contract bid price paid per each Adjust Storm Drain Manhole to Grade shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to adjust the storm drain manhole to grade, including but not limited to removal of existing rim and cover; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; new riser, frame and cover; new storm drain markers; import of fill as needed; sawcutting, removing and replacing curb and gutter; pavement section and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.



The contract bid price paid per each Adjust Sewer Manhole to Grade shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to adjust the sewer manhole to grade, including but not limited to removal of existing rim and cover; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; new riser, frame and cover; import of fill as needed; sawcutting, removing and replacing curb and gutter; pavement section and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

## **10-16 AGGREGATE BASE**

### **BID ITEM 27, CLASS 2 AGGREGATE BASE**

#### **10-16.1 GENERAL**

Aggregate Base shall be Class 2 and shall conform to the provisions of the Section 26 “Aggregate Base” of the Caltrans standard specifications.

AB under PCC sidewalk and ADA curb ramps shall be 4” minimum.  
AB under PCC driveway shall be 6” minimum

#### **10-16.2 MEASUREMENT AND PAYMENT**

The contract price paid per cubic yard for Aggregate Base (Class 2) shall include full compensation for furnishing all labor, materials, tools equipment, and performing all the work necessary to place the aggregate base, complete in place, as shown on the plans, as specified in the standard specifications, these special provisions, and as directed by the engineer. Measurement shall be by cross section.

## **10-17 CEMENT TREATED BASE**

### **NOT A SEPARATE PAY ITEM**

#### **10-17.1 GENERAL**

All work shall conform to the provisions of Section 27 “Cement Treated Bases” of the Standard Specifications.

#### **10-17.2 MEASUREMENT AND PAYMENT**

Full compensation for Cement Treated Base shall be considered as included in the price paid for square footage of the Bus Pad and no additional compensation will be allowed therefor.

## **10-18 HOT MIX ASPHALT (TYPE A)**

### **BID ITEM 28, HOT MIX ASPHALT (TYPE A)**

#### **10-18.1 GENERAL**

The work includes producing and placing Hot Mix Asphalt (Type A) using the standard process. HMA (Type A) shall conform to the Section 39 “Hot Mix Asphalt,” of the standard specifications.

The grade of the asphalt binder mixed with aggregate for HMA Type A shall be PG 64-10.  
Do not leave a vertical joint more than 0.15 foot high between adjacent lanes open to public traffic.

#### **10-18.2 MEASUREMENT AND PAYMENT**

The contract price paid per ton of HMA (Type A) shall include full compensation for furnishing all labor, materials, tools, equipment and performing all the work involved in constructing hot mix asphalt complete in placed, as shown on the plans, as specified in the standard specifications, these special provisions as directed by the Engineer.

## **10-19 TACK COAT**

### **VARIOUS CONTRACT ITEMS**

### **10-19.1 GENERAL**

Tack Coat shall conform to the provisions in Section 39 “Hot Mix Asphalt,” of the standard specifications and these special provisions.

Prepare subgrade or apply tack coat to surfaces receiving HMA. Tack coat shall be applied to existing pavement including planed surfaces, between HMA layers and to vertical surfaces of curbs, curb and gutters and construction joints.

### **10-19.2 MEASUREMENT AND PAYMENT**

Full compensation for Tack Coat shall be considered as included in the contract price paid HMA (Type A) and no separate payment will be made therefor.

## **10-20 CONCRETE FINISH WORK**

BID ITEM 29, CONCRETE CURB AND GUTTER

BID ITEM 30, CONCRETE CURB

BID ITEM 31, CONCRETE CURB (BIOFILTRATION AREA)

BID ITEM 32, CONCRETE SIDEWALK AND CURB RAMPS

BID ITEM 33, CONCRETE DRIVEWAY

BID ITEM 34, CONCRETE MEDIAN

BID ITEM 35, CONCRETE BUS PAD

BID ITEM 36, CONCRETE CROSSWALK

BID ITEM 37, CONCRETE SEAT WALL

BID ITEM 38, CONCRETE SEAT CUBE.

### **10-20.1 GENERAL:**

Attention is direction to Section 73 “Concrete Curbs and Sidewalks,” Section 90 “Concrete,” Section 52 “Reinforcement,” of the Standard Specifications and these special provisions.

The work includes constructing Portland cement concrete curbs, curbs and gutters, sidewalks, driveways, curb ramps, concrete median paving, crosswalk, bus pad, seat cubes, seat walls and other miscellaneous Portland cement concrete construction as shown on the plans, as specified in the standard specifications, these special provisions and as directed by the Engineer.

Concrete shall be Minor Concrete (containing no less than 463 pounds of cementitious material per cubic yard.

Expansion joint material shall be installed to the full depth of the concrete at all locations, as shown on the plans and standard drawings, and as directed by the Engineer.

All concrete gutters shall be water tested for drainage before acceptance. The maximum deviation from a true grade shall not result in ponding water to a depth exceeding 0.02 feet. It is the contractor’s responsibility to construct the gutter in such a manner that it flows around the return without ponding.

The finished surface of the top of the curb shall not vary more than 0.01 feet above or below the staked grade.

Color Admixtures: For standard concrete sidewalk, concrete pavement type 1, driveways, curb, gutter, median curb, concrete crosswalk, access ramps and bus pads, add one pound of lampblack per cubic yard of concrete. For Decorative Concrete Sidewalk, Concrete Pavement Type 2, Median Paving, Seat Walls, Seat Cubes, and Concrete Crosswalks, color shall be added per manufacturer’s recommendations.

Defective Work such as under-strength concrete, concrete out of line, level or plumb, or showing objectionable cracks, honeycomb, rock pockets, voids, spalling, exposed reinforcing, etc., shall be repaired or removed and replaced as directed by and to the satisfaction of the Engineer. All cleaning, patching, and repairs shall be subject to the Engineer’s approval and acceptance.

Color Samples: The contractor shall provide a sample of each concrete color and finish to the City review prior to constructing mockups.

Concrete Mockups: The Contractor shall demonstrate to the satisfaction of the City that he, or his subcontractor, possesses sufficient skills and experience to perform the work. Photographs and/or site visits of past work may be required to supply this information. A 4-foot sample of the concrete seatwall and one seat cube shall be poured and finished at the site the City's review prior to commencing concrete pouring. Once the samples have been reviewed, the Contractor shall meet or exceed that quality of finish in all subsequent work. Contractor shall be responsible for removal of the samples at the completion of the work.

Submittals: The following shall be submitted by the Contractor to the Engineer in accordance with the applicable portions of the referenced specifications:

1. The proposed mix design, giving the brand of cement, type, gradations and source of aggregates, water/cement ratio, mix proportions, and unit weight.
2. Manufacturer's literature for admixtures, embedded items, liquid membrane-form curing compound and non-shrink grout.
3. Certification that materials are in compliance with specification requirements.
4. Method of transporting and placing concrete.

## **10-20.2 MEASUREMENT AND PAYMENT:**

Vertical Curb at bus stops shall be paid for as Concrete Curb.

The contract price paid per linear foot for "Concrete Curb", "Concrete Curb (Biofiltration Area)", "Curb and Gutter", "Concrete Seat Wall", shall include full compensation for furnishing all labor, material (including base material), tools, equipment, and incidentals and for doing all the work involved in constructing curb, curb and gutter, concrete seat wall complete in place, as shown on the plans, as specified in the standard specifications and these special provisions, and as directed by the Engineer.

The contract unit price paid per each "Seat Cube", shall include full compensation for furnishing all labor, material (including base material), tools, equipment, and incidentals and for doing all the work involved in constructing seat cubes as shown on the plans, as specified in the special specifications and these special provisions, and as directed by the engineer.

The contract unit price paid per square foot for "Sidewalks and Curb Ramps", "Driveways", "Bus Pad", "Median" and "Crosswalk", shall include full compensation for furnishing all labor, material (including base material), tools, equipment, and incidentals and for doing all the work involved in constructing Sidewalks, Driveways, Curb Ramps including truncated domes warning surface, Bus Pad, Cross Walks and Median Paving as shown on the plans, as specified in the special specifications and these special provisions, and as directed by the Engineer. The "Bus Pad" bid item shall also include cement treated base per the plans and as specified in 10-17.

## **10-21 BIOFILTRATION AREAS**

### **BID ITEM 39, BIOFILTRATION AREAS**

#### **10-21.1 GENERAL:**

Bio filtration areas shall conform to these Special Provisions, and shall be constructed as shown on the plans and as directed by the Engineer. Comply with Section 20-3, "Erosion Control," of the Standard Specifications and these Special Provisions.

Bio filtration area excavation shall consist of performing all operations necessary to excavate all materials, regardless of character, material, size and subsurface conditions, from the roadway prism or adjacent thereto including grading of sidewalk, driveway and conform areas and other work items as described in Sections 19-1 and 19-2 of the Standard Specifications. Bio filtration area excavation includes the removal of the existing paved and unpaved surfaces and associated base material, regardless of character.

The Contractor shall furnish all materials, equipment, and labor necessary to complete all base of swale grading and related work as shown on the drawings and/or as specified herein.

The Contractor shall establish finish grade for bio filtration areas.

The soil shall be compacted not less than 85 percent and not more than 90 percent.

#### **10-21.2 SUBMITTALS**

Submit the following items, and other items as may be required by the City Engineer within 28 calendar days of notice to proceed, and obtain written approval prior to delivery of materials to the site. Finished work shall match approved samples. All submittals to show compliance with all referenced regulatory documents.

##### **1. SOIL CONDITIONERS**

Product Data: Manufacturer's specifications, catalog cuts, data sheets, and installation instructions.

Certification: Furnish the City Engineer with:

Test Reports: Provide soil samples directly to testing laboratory. Test results including analysis and comment to be sent directly to City Engineer and General Contractor by testing agency. Tests required:

Import Topsoil: Fertility test to include: pH, salinity, nitrate, ammonium, phosphate, potassium, calcium, magnesium. Agricultural suitability test to include: pH, salinity, boron, sodium adsorption ratio. Particle size appraisal test to include: pH, salinity, organic content, USDA particle size.

#### **10-21.3 PROJECT CONDITIONS**

The contractor shall exercise caution against injury to, or defacement of, existing conditions. At Contractor's expense, repair or replace items damaged from installation operations.

#### **10-21.4 MATERIALS**

##### **1. Bio Treatment Soil**

Soil for bio treatment areas shall meet the requirements specified under Appendix K, Attachment L, Provision C.3.c.i.(1)(b)(vi) "Specification of Soils for Bio treatment or Bio retention facilities", C.3. Storm water Technical Guidance for the San Mateo County Wide Water Pollution Prevention Program.

Soil mix should be free from noxious weeds or grasses, refuse, heavy roots, stones larger than one inch in size, and other deleterious substances.

##### **2. Class 2 Permeable Rock**

Bio treatment areas shall include a 12-inch thick layer of permeable Class 2 material per Section 68-2.02F "Permeable Material" of standard specifications.

##### **3. Perforated Plastic Pipe Underdrain**

Perforated plastic pipe underdrain shall conform to the Section 68-2.02D, "Perforated Plastic Pipe," of the Standard Specifications, and these Special Provisions.

Perforated plastic pipe shall be corrugated polyvinyl chloride plastic pipe with a smooth interior surface and shall conform to the material and structural requirements in AASHTO M 278.

##### **4. Underdrain Cleanouts and Risers**

Underdrain clean-outs and risers shall conform to the Section 68-2.02E "Underdrain Outlets and Risers) of the Standard Specifications, and these Special Provisions. Underdrain clean-outs and risers shall consist of a vertical, rigid, non-perforated, solid-walled PVC pipe, with diameter of 6 inches and a watertight cap as shown on plans.

##### **5. CLEARING AND GRUBBING**

In all areas that have not been newly graded where new planting is to occur, existing growth shall be sprayed with a non-selective contact herbicide to kill both foliage and roots. Do not spray during windy or gusty periods, and take great care to avoid wind drift of the herbicide.

After two weeks, remove all dead growth of weeds, all root stumps from the top 3 inches of soil, rocks over 2 inches in diameter, and debris. Remove and legally dispose of off-site; burning is prohibited.

All areas cleared and grubbed shall be fine graded to a smooth uniform surface without rock outcrops, mounds, or holes.

## 6. FIELD QUALITY CONTROL

Qualified foreman shall be continuously on project during operations.

1. During soil preparation work.
2. After plants are spotted, but before growing containers are removed or holes dug.
3. Preliminary Inspection: When installation is completed, but before start of maintenance.
4. Final Inspection: Shall take place at the completion of maintenance period. Give written notice of request in advance.

## 7. CLEAN UP

Upon completion of planting, all cans, boxes, and other debris that is a part of the planting operation shall be removed from the site.

All pavement shall be washed off, and site shall be left in clean condition. All biofiltration areas shall be weed free before final inspection. Clean up operations shall take place throughout the course of work so that walks and drives are clean at all times.

## 8. MAINTENANCE

### Start of Maintenance Period:

1. As soon as all planting is completed, a planting review and preliminary inspection to determine the condition of the plantings will be held by the City Engineer upon request of the Contractor.
2. Upon written approval of the work by the City Engineer, the 90-day maintenance period shall begin. The first day of that period shall be specified in the City representative's report.

Scope: The Contractor shall provide complete maintenance of all biofiltration areas. The work shall include, but not be limited to, litter control, weed control, fertilizing, repair of irrigation systems, erosion control and control of diseases and pests.

### Insect, Disease, and Pest Control:

1. All insect, disease, and pest control materials shall be applied at the direction of a licensed pest control operator.
2. Chemical applications shall be made only after a specific problem has been identified. The chemical applied shall be the least toxic to eliminate the problem.

### Pruning:

1. Any pruning shall be done only at the direction of the City Engineer.
2. Pruning shall be done by thinning and shaping to achieve a natural appearance. Excessive pruning or stubbing back will not be permitted.
3. Pruning cuts shall be allowed to heal naturally and not painted over with wound dressing or asphaltic emulsion.
4. All pruning cuts shall be made flush to the bark curl and shall be cleanly cut with no tearing of the bark.
5. All cuttings shall be removed from the site.
6. Do not remove lower branches from low-branching or multi-trunk trees, unless directed to do so by the City Engineer.

Weed Control:

1. Weeds shall be kept under control, either by hand or by the application of herbicides designed for use on any type of weeds invading the planting areas, at not more than 10 day intervals.
2. All equipment used for herbicides shall be properly cleaned before it is used on this project. Herbicides shall be applied per manufacturer's printed instructions. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.

Replacements: Immediately replace any plant materials that die or are damaged. Replacements shall be made as that required for original plantings.

9. GUARANTEE

All plants installed under the contract shall be guaranteed to live and grow for the period as specified in the landscaping specifications of these Special Provisions.

**10-21.5 MEASUREMENT AND PAYMENT**

The contract unit price paid per square foot for "Bio-filtration Areas" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in constructing and maintaining Bio-filtration areas complete in place, including excavation, removal and disposal of materials, pipe installation, risers, connections, bio treatment soil, permeable base and site cleanup as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

The vertical curb around the Bio-filtration areas shall be a separate pay item.

**10-22 STORM DRAIN SYSTEM**

BID ITEM NO, 23 CONVERTING EXISTING CATCH BASIN TO MANHOLE

BID ITEM NO, 40 8" HDPE SD PIPE

BID ITEM NO, 41 12" HDPE SD PIPE

BID ITEM NO, 42 15" HDPE SD PIPE

BID ITEM NO, 43 18" HDPE SD PIPE

BID ITEM NO, 44 24" HDPE SD PIPE

BID ITEM NO, 45 36" HDPE SD PIPE

BID ITEM NO, 46 42" HDPE SD PIPE

BID ITEM NO, 47 48" HDPE SD PIPE

BID ITEM NO. 48 AREA DRAIN

BID ITEM NO. 49 REHABILITATE EXISTING STORM DRAIN MANHOLE

BID ITEM NO. 50 48-INCH STANDARD STORM DRAIN MANHOLE

BID ITEM NO. 51 60-INCH STORM DRAIN MANHOLE (0 TO 10-FT DEPTH)

BID ITEM NO. 52 72-INCH STORM DRAIN MANHOLE (0 TO 10-FT DEPTH)

BID ITEM NO. 53 72-INCH STORM DRAIN MANHOLE (OVER 10-FT DEPTH)

BID ITEM NO. 54 96-INCH STORM DRAIN MANHOLE (OVER 10-FT DEPTH)

BID ITEM NO. 55 120-INCH STORM DRAIN MANHOLE (OVER 10-FT DEPTH)

BID ITEM NO. 56 TYPE GO SD INLET

BID ITEM NO. 57 18"x18" CONCRETE CATCH BASIN

### **10-22.1 DESCRIPTION OF WORK**

This work includes all labor, materials, tools, equipment and incidentals for doing all work involved in constructing and installing the storm drain system complete in place as shown on the Drawings and as specified herein. Such work includes, but is not limited to:

1. Installing storm drain pipes and connecting to manhole and inlet structures.
2. Constructing all storm drain structures.
3. Connecting to existing structures and pipe lines.

Consult all other sections to determine the extent and character of the work specified elsewhere but related to that included in this section. Work specified herein shall be properly coordinated with that specified elsewhere.

Submit to the Engineer for review product literature for manufactured items such as reinforced concrete pipe and precast structures.

The Contractor shall keep an accurate dimensioned record of the as-built location and depth, as referred to the approved base datum, on all components of the storm drainage system.

### **10-22. 2 REFERENCES**

1. 2010 Caltrans Standard Specifications
  - a. Section 70 Miscellaneous Facilities
  - b. Section 75 Miscellaneous Metal
  - c. Section 90 Portland Cement
2. American Association of State Highway and Transportation Officials (AASHTO)
  - a. AASHTO Standard Specification for Highway Bridges
  - b. AASHTO M 198 Standard specification for joint concrete pipe, manholes and precast box section using performed flexible joint sealant.
  - c. AASHTO M294, Type S HDPE Pipe.
3. American Standards for Testing Materials (ASTM):
  - a. D 638 – Standard Test Method for Tensile Properties of Plastic.
  - b. D 746 – Standard Test Method for Brittleness Temperature of Plastic and Elastomers by impact.
  - c. D 790 – Standard Test Method for Flexural Properties of Un-reinforced and Reinforced plastic and Electrical Insulated Materials.
  - d. D 1248 – Standard Specification for Polyethylene Plastics Molding and Extrusion Materials.
  - e. D 1505 – Standard Test Method for the Density of Plastics.
  - f. D 1525 – Standard Test Method for Vicat Softening Temperature of Plastics.
  - g. D 1603 – Standard Test Method for Carbon Black in Olefin Plastics.
  - h. D 2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
  - i. D 2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Pipe.

- j. D 2837 – Standard Practice for Obtaining Hydrostatic Design for Thermoplastic Pipe Materials.
- 4. Section 10.8 Roadway Excavation
- 5. Section 19 Earthwork – Caltrans Standard Specifications
- 6. Section 10.11 Remove and Abandon Existing Utilities.

#### **10-22.3 SUBMITTAL:**

Contractor shall submit five (5) copies of the manufacturer's catalog data for the following:

- 1. Precast concrete storm drain manhole sections, cones and grade rings.
- 2. Precast concrete storm drain inlets.
- 3. Manhole covers and frames.
- 4. Storm drain inlet grates.

Contractor shall submit 5 copies of the manufacturer's Certificate of Compliance for the following:

- 1. Portland Cement Concrete for manholes, inlets and other drainage structures.

#### **10-22.4 QUALITY ASSURANCE:**

##### **REMOVE OR ABANDON EXISTING STORM DRAIN PIPE**

All existing storm drain mains and lateral where shown on the plans shall be removed completely and legally dispose of unless otherwise noted on the plans.

##### **REMOVE INLET AND MANHOLES**

The Contractor shall remove and dispose of all excess material or debris off the job site by the end of each workday. Assume responsibility of all storm drain inlets, manholes and pipe shown to be removed and dispose legally. The existing manholes, storm drain inlets, asphalt or concrete to be removed shall be outlined by the scoring with an appropriate saw to a uniform depth of not less than 4".

Existing asphalt concrete curb, gutters, sidewalk and driveways where manholes are located shall be saw-cut and then broken out to a straight joint as directed by the Engineer. The Contractor shall exercise care in removing the asphalt or concrete so as not to damage adjoining areas around manholes and inlets which are to remain intact, and any damage so caused shall be repaired by the Contractor at his own expense.

#### **10-22.5 DELIVERY STORAGE AND HANDLING**

Protect piping material from sunlight, and distortion. Any HDPE pipe not having adequate ultraviolet inhibitor shall not be stored outside in direct sunlight. Any HDPE pipe that has been cut, gouged, scored or other physical deformations in excess of ten percent of the pipe wall thickness shall be cut out and removed. The remaining pipe sections may be rejoined as specified herein.

Do not allow surface temperature on HDPE pipe and Fittings to exceed 120 degrees Fahrenheit.

Store and handle HDPE pipe and fittings as recommended by manufacturer in published instructions.

Pipe Handling: Lift, move, or lower pipe and fittings only with wide fabric choker slings as recommended by the manufacturer. Wire rope or chain shall not be used. Slings shall be of sufficient capacity for the load, and shall be inspected before use. Worn or defective equipment shall not be used.

#### **10-22.6 WARRANTY**

Provide manufacturer's standard warranty for any material and workmanship for a period of one year from the date of the final acceptance.

#### **10-22.7 POTHOLING (CHECK ON LOCATIONS)**



Do not begin any construction until all utilities that are in that section of the storm drain have been exposed. If conflicts are found between said utilities and the proposed storm drain system in Bay Road the contractor shall construct a temporary system to bypass the conflict segment until such conflict is resolved. If conflicts are found in Pulgas Ave., the contractor shall notify the Engineer immediately.

## **10-22.8 MATERIALS**

### **STORM DRAIN INLETS AND MANHOLES**

Install all concrete structures in accordance with design size, shape, depth and at locations shown on the plans.

All drainage structures shall be precast concrete and shall be constructed of reinforced concrete in accordance with ASTM C857 "Standard Practice for Minimum Structural Loading for Underground Precast Utility Concrete Utility Structures" ASTM C858 "Standard Specification for Underground Precast Concrete utility Structures", ASTM C1433 "Standard Specification for Precast Reinforced Concrete Box Section for Culverts, Storm drain and Sewer", and with Section 51 "Concrete Structures" and with Section 70 "Miscellaneous Drainage Facilities" of the 2010 Caltrans Standard Specifications.

Storm drain inlets shall be Caltrans Standard storm drain Type G0 inlet with bicycle proof grate with Type 24-12X, welded steel shall conform to the provisions in section 19-1, 19-3, 19-5 and section 90 of the Caltrans Standard Specifications and these standard provisions.

Contractor shall submit the manufacturer's data sheet for Caltrans and County standard storm drain inlet and grate to the Engineer for approval.

All covers and grates shall fit into their frames without rocking and shall be placed flush with and in the plane of the finished pavement.

All joints shall be made water tight with band and mortar or joint sealing compound or other approved means.

As part of the price paid for inlet, contractor shall excavate around the inlet area in order to verify the proposed inlet will fit between the existing and proposed utilities.

### **HIGH DENSITY POLYETHYLENE (HDPE) PIPE**

One of the following manufacturers or approved equal.

1. Hancor Sure-lok
2. ADS N-12 Smooth Interior Corrugated Polyethylene Pipe

HDPE pipe shall be in accordance with AASHTO M294, Type S (12" to 60").

HDPE pipes shall have bell and spigot joints with leak resistant, silt-tight rubber gasket.

### **HDPE FITTINGS AND CUSTOM FABRICATIONS**

HDPE fittings shall have bell and spigot joints with leak resistant, silt-tight rubber gaskets. Fittings and custom fabrications shall be manufactured with the same materials as piping, shall be provided by the manufacturer and shall be compatible with components in the same system as well as other connected systems as required.

### **AREA DRAINS**

One of the following manufacturers or approved equal.

1. NDS Square Catch Basin (NDS-1800).

## 2. Approved Equal

Area drain shall consist of polypropylene or approved equal.

Area Drain grate shall be heavy duty cast iron.

### WARNING TAPE AND TRACER WIRE

Warning Tape shall be 3-inch wide "Green" color with an overall minimum thickness of 6 mil and a solid aluminum foil core with minimum thickness of 3 mil. The solid foil core shall be encased between two clear layers of 100% virgin polypropylene or polyethylene film. Warning Tape shall be permanently printed on both sides with repeating warning "Caution: Storm Pipe Below" at maximum interval of 2 feet. Warning tape shall be placed 1 foot above top of pipe.

A bare No. 12 copper tracer wire shall be placed along and taped to the top of all HDPE Storm Drain installations. The tracer wire must be continuous between drainage structures and shall terminate outside of the structure unless otherwise approved. The tracer wire may be tested for continuity by the City prior to acceptance of the project replacement to achieve a continuous tracer wire will be at the expense of the Contractor.

## 10-22.9 EXECUTION

### DRAIN INLETS AND MANHOLES INSTALLATION AND MAINTENANCE

#### General:

1. The Contractor shall carefully examine each inlet and manhole before installation, defective or damaged structures shall not be used.
2. Drain inlets and manholes called on the plans shall be constructed at the location and of the type indicated on the plans.
3. Precast structures shall be assembled accurately with full bed mortar or performed flexible plastic sealant.
4. Install all concrete structures in accordance with the manufacturers' instructions and Sections 51 "Concrete Structures" and Section 90 "Concrete" of the SSCDOT.
5. There shall be no more than twenty-four inches (24") of throat section between the top of the cone and the bottom of the manhole frame. The grade throat shall be constructed by use of appropriate sized reinforced concrete grade rings that will bring the manhole cover to finish grade. No plastic sealant gasket shall be used for joining grade extension rings in place.
6. Tops of manholes and catch basins shall be accurately brought to the elevation indicated on the plans, if no elevation is indicated on the plans, tops shall be brought flush with the finish grade surface of the surrounding ground or pavement. Concrete surfaces in contact with flowing water shall be finished smooth in order to reduce friction losses.
7. All fins and projections shall be removed.
8. Proper facilities shall be provided for lowering structures into trenches.
9. Contractor shall use thermoplastic materials to stencil all curb inlets with "No Dumping-Drains to Bay" statement. Contractor shall coordinate with Engineer regarding stenciling template, color and application procedure.
10. Where potential conflict with underground obstacles is anticipated, the Contractor shall expose any obstacles, determine whether a conflict with the proposed improvement exists and notify the Engineer of all conflicts immediately.

### PIPE INSTALLATION

#### HIGH DENSITY POLYETHYLENE (HDPE) PIPE

The Contractor must utilize survey leveling equipment to verify the grade and alignment of the new pipelines. The Contractor must submit the survey notes and grade to the engineer for final approval of grade and alignment. The Contractor must bed pipelines properly to prevent sag along the line.

Pipe installation shall conform to Section 64 "Plastic Pipe" of 2010 Caltrans Standard Specifications.

Pipe backfill shall conform to the details shown on the plans and shall conform to Section 19-3 "Structure Excavation and Backfill" of 2010 Caltrans Standard Specifications.

The Contractor shall carefully examine each pipe before is laid, defective or damaged pipes shall not be used. Pipes shall be laid to the grade and alignment indicated in the drawings.

Proper facilities shall be provided for lowering sections of pipe into trenches. Under no circumstances shall pipe be laid in water and no pipe shall be laid when trench conditions or weather are unsuitable for such work.

Install HDPE pipe to create water-tight joints and connections in conformance with the Standard Specifications. Connect to existing drainage system.

All pipes shall be installed upgrade, with the spigot ends of bell-and-spigot pipe and the tongue-and-groove pipe pointing in the direction of the flow.

#### CONNECTION TO EXISTING STORM DRAIN

The existing storm drains are shown on the plans at the locations where the new storm drains are to be connected. It is the responsibility of the Contractor to determine the exact location and depth of the existing storm drain prior to the installations of the proposed storm drain.

1. Where the connection is to be made into an existing manhole or inlet, the Contractor shall make the connection by breaking through the manhole base, cutting a rough channel through the manhole shelf to the existing channel, installing the new pipe finishing a new channel within the structure and repairing any damage to said structure.
2. All storm drain line connections to manholes, trunk lines, or site storm drains shall be left uncover until after the inspection has been made. After approval of the connection, the trench shall be backfilled as specified.

#### ABANDONMENT OF STORM DRAIN PIPES AND MANHOLES

The existing storm drains and manhole that are to be abandoned are shown on the plans.

1. Storm pipes to be abandoned shall be plugged at each end with a concrete plug not less than eighteen inches (18") for pipes 18-inches or smaller in diameter and twenty-four inches (24") for pipes larger than 18-inches in diameter.
2. Manholes to be abandoned shall have their cones removed, backfilled with slurry, or native material compacted to ninety-five percent relative compaction. Frames and covers not to be reused shall be delivered to the City.

#### CLEANING OF EXISTING PIPE

Cleaning of the pipe shall be performed if required by the City Inspector. All pipes to be clear of dirt and debris.

The contractor shall comply with the Municipal Regional Stormwater Permit (MRP) for discharge water.

## GENERAL

Disposal of Surplus Material: Unless noted otherwise in these specifications and the special conditions, the surplus excavated and unsuitable material included but not limited to asphalt concrete, roots, unsuitable soil, abandoned utilities, etc. shall become the property of the Contractor and shall be disposed of off the project site, or at a designated disposal site.

Restoration of Surfaces: Pavement, curb & gutter, walks, driveway, planted areas and similar surfaces removed, cut or damaged during construction of the storm drainage facilities shall be replaced or restored to their original condition. Local ordinances governing such replacements shall be adhered to in all respects.

Cleaning: At the completion of the installation of all storm drain lines, manholes, catch basins, drain inlets, culvert and similar structures shall be thoroughly cleaned of all dirt, debris and obstructions of any kind, to satisfy the Owner.

Inspection Testing: Installation shall be tested in according with applicable ASTM, AASHTOO or manufacturer's recommendations for the items involved.

### 10-22.10 QUALITY CONTROL

#### GENERAL

1. Contractor shall perform test on the newly installed storm drain piping after construction to verify field quality control by visually inspecting, if this is not possible contractor shall use a ball test.
2. Prior to test, all tests shall be cleaned and tested for major defects by flushing with an appropriately sized cleaning ball. Pre-cleaning by high velocity jet or other method may be necessary.
3. All pipelines shall be inspected visually by the contractor in order to verify the accuracy of the alignment and freedom from debris and obstructions.
4. The full diameter of the pipe shall be visible when viewed between consecutive manholes.
5. If portion of the work is found unacceptable, the contractor shall make the necessary repairs or cleaning and re-inspect at their own expense.

#### TESTING

1. Video inspection shall be performed post construction
2. The Contractor shall have all storm drain lines cleared by either mechanical or hydraulic balling before a video inspection is performed. A screen trap shall be installed at the downstream manhole of the line to be cleared to prevent debris from entering the existing mains.
3. The Contractor shall pay for all associated testing costs.
4. All defects and leaks shall be corrected by the Contractor to the satisfaction of the Engineer. No additional payment will be allowed for corrections.

### 10-22.11 Project Record Documents

Submit redlines markups of the actual installed locations of all utilities to the Owner. Accurately record actual locations of utilities encountered.

### 10-22.12 MEASUREMENT AND PAYMENT

Measurement of Storm Drain Pipe shall be measured by the linear foot of pipe in place, from face of the wall of the manhole/inlet to face of wall of the /manhole/inlet. The contract bid price paid per linear foot for each of the various types of Storm Drain Pipes shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for Storm Drain Pipe, including but not limited to site investigation and potholing; saw cut asphalt pavement; trench excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; plugging and abandonment of existing storm drain pipe; direction of and coordination with outside utility companies, including PG&E, to relocate and adjust their facilities as needed; locator wire and detection tape; placement and

compaction of pipe bedding zone material; connection to existing storm drain manholes and inlets including finishing channel and damage repairs to structure; placement and compaction of trench backfill material; cleaning of pipe; replacement of asphalt, concrete and other surface features and all other items necessary for the installation of Storm Drain Pipe in conformance with these plans and specifications or as directed by the Engineer.

The contract bid price paid per each Type GO Storm Drain Inlet shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to install Type GO Storm Drain inlet in place, including but not limited to removal and disposal of existing catch basin; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; new inlet base; inlet top; bicycle proof frame and grates; storm drain markers; connecting existing and proposed storm drain pipes; verifying downstream connections prior to excavation; sawcutting, removing and replacing curb and gutter; pavement section and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract bid price paid per each Area Drain shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to install Area Drain in place, including but not limited to excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; new inlet base; cast iron grate; storm drain markers; connecting existing and proposed storm drain pipes; verifying downstream connections prior to excavation; sawcutting, removing and replacing curb and gutter; pavement section and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract bid price paid per each Rehabilitation of Storm Drain Manhole shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to rehabilitate the storm drain manhole in place, including but not limited to cleaning existing manhole; crack sealing cracks over 1/8" in width; removing and disposing of all debris inside manhole; sealing of active water infiltration; applying mortar to walls and bench to seal manhole; resetting inverts as necessary with mortar; sealing pipe entry and exit with mortar; and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract bid price paid per each of the various sizes of Storm Drain Manhole shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to install Storm Drain Manhole in place, including but not limited to sawcutting pavement; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; backfilling and compacting new base; new cone; riser, frame and cover; connecting existing and proposed storm drain pipes; pavement section and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

The contract bid price paid per each Convert Storm Drain Inlet to Manhole shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals to convert the storm drain inlet to a manhole, including but not limited to removal and disposal of existing grate; excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; new cone; riser, frame and cover; new storm drain markers; import of fill as needed; sawcutting, removing and replacing curb and gutter; pavement section and all other work as shown on the plans, in accordance with these Technical Specifications or as directed by the Engineer.

All work for Plugging and Abandonment of Existing Storm Pipe shall be paid for at the applicable bid price for various items involving for installing the storm drain system and no separate payment shall be made to this work item. The applicable bid price for items involving plugging and abandoning storm drain pipe shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals.

## **10-23 WATER LINE**

### **10-23.1 WATER PIPE**

ITEM 74, 12-INCH PVC PIPE, AWWA C900 DR14

ITEM 75, 8-INCH PVC PIPE, AWWA C900 DR14

ITEM 76, 6-INCH PVC PIPE, AWWA C900 DR14

ITEM 105, 8-INCH PVC PIPE, AWWA C900 DR14

Water Pipe shall be provided as indicated, specified herein, and installed in accordance with the manufacturer's recommendations. Water Pipe shall be Polyvinyl Chloride (PVC), unless otherwise specified. Water pipe shall conform to the appropriate sections of the American Water Works Association (AWWA) standards.

#### **A. General Classifications**

Water Pipe shall be classified as new water pipe connecting to existing water main, and service line or lateral.

1. The water main shall be 6-, 8-, 12-, 16-inch PVC pipe
2. Service lines of size 6- through 8-inch shall be PVC pipe.
3. Service lines shall be of 3/4- through 2-inch shall be Type K soft copper pipe.

#### **B. Polyvinyl Chloride**

All Potable Water Pipe line material shall be a pressure rated Class 200 PVC Pipe DR 14 per AWWA C900-97 and Class 200 PVC Pipe DR 18 per C905-97 requirements.

A bare No. 12 copper tracer wire shall be placed along and taped to the top of all PVC water pipe installations. The tracer wire must be continuous between valve boxes and shall terminate in valve boxes unless otherwise approved. The tracer wire may be tested for continuity by the City prior to acceptance of the project replacement to achieve a continuous tracer wire will be at the expense of the Contractor.

Joints – Joining of PVC pipe shall be with elastomeric gasketed bell ends or couplings. The bell ends shall be integral thickened bell end or an integral sleeve-reinforced bell end. The bell end joints shall have a minimum wall thickness of the bell or sleeve-reinforced bell equal, at all points, to the DR requirements for the pipe. The minimum wall thickness in the ring groove and bell-entry sections shall equal or exceed the minimum wall thickness of the pipe barrel. All rubber rings shall be furnished by the pipe manufacturer.

PVC repair couplings shall be manufactured of the same material as the pipe and shall be furnished together with two (2) rubber rings. The couplings shall be designed and manufactured so as to ensure a watertight joint with the PVC pipe and shall conform to the requirements of Section 2 of AWWA C900. The couplings body and sockets shall have a wall thickness equal to the pipe barrel thickness with which the coupling is to be used. All rubber rings (elastomeric gaskets) shall be manufactured to conform to the requirements of ASTM F477.

### **10-23.2 FITTINGS**

ITEM 77, 12" 45° ELBOW, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK

ITEM 78, 12" 22½° ELBOW, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK

ITEM 79, 12" 11¼° ELBOW, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK

ITEM 80, 12"x8" TEE, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK  
ITEM 81, 12"x6" TEE DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK  
ITEM 82, 8" 45° ELBOW DUCTILE IRON AWWA C153  
ITEM 83, 6" 45° ELBOW DUCTILE IRON AWWA C153  
ITEM 84, 6" 22½° ELBOW DUCTILE IRON AWWA C153  
ITEM 85, 8" 22½° ELBOW DUCTILE IRON AWWA C153  
ITEM 86, 6" 11¼° ELBOW DUCTILE IRON AWWA C153  
ITEM 87, 8" FLG x MJ ADAPTER, DUCTILE IRON  
ITEM 88, 6" FLG x MJ ADAPTER, DUCTILE IRON  
ITEM 89, 12" SLEEVE, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153  
ITEM 101, 12" PVC C900 REPAIR COUPLER W/O CENTER STOP, GXG  
ITEM 102, 8" PVC C900 REPAIR COUPLER W/O CENTER STOP, GXG  
ITEM 103, 6" PVC C900 REPAIR COUPLER W/O CENTER STOP, GXG  
ITEM 104, 12"x8" REDUCER, DUCTILE IRON MJxMJ AWWA C153  
ITEM 106, 8" 45° ELBOW DUCTILE IRON AWWA C153  
ITEM 107, 8" 22½° BEND AND THRUST BLOCK  
ITEM 112, 8"X8"X8" DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK  
ITEM 113, 8"X8"X6" DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK  
ITEM 114, 8"X8"X8"X8" DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK

Fittings shall be provided as indicated, specified herein, and installed in accordance with the manufacturer's recommendations. Fittings for water pipe shall be ductile iron in accordance with the AWWA C110, the Uniform Plumbing Code and as specified herein.

All fittings for water pipe shall be manufactured specifically for use with the pipe being used and shall be installed in accordance with the manufacturer's recommendations and these special provisions. Rubber gaskets shall be furnished by the manufacturer of the fittings.

All fittings shall be pressure rated at not less than 250 psi. Bolts, nuts and washers required to install fittings shall be Type 316 stainless steel.

Fittings for water pipe of size 4-inch and larger shall have hub mechanical joints for "push-on" connections unless otherwise approved by the Engineer, except that any and all outlets for service connections or fire hydrant laterals shall be flanged.

All ductile iron fittings shall be lined and coated. Interior lining shall be bituminous material or cement mortar in accordance with AWWA C110. Exterior coating shall be bituminous material in accordance with AWWA C110. Lining and coating for fittings to be connected to ductile iron shall be of the same material as the lining and coating of the pipe to be connected. Ductile iron fittings shall be classified as "compact ductile iron fittings" of material specified in AWWA C153.

Fittings shall be loaded for delivery, unloaded at site, and handled on site in such a manner as to avoid damage to pipes, fittings and appurtenances.

### **10-23.3 WATER PIPE INSTALLATION**

#### **A. Potholing**

Do not begin any construction until all existing underground utilities are positively located. Prior to the start of trench excavation operations, Contractor shall perform potholing at all proposed locations where new underground utilities cross existing Undergrounding utilities to determine their exact location and elevation.

#### **B. Trench Excavation**

Trench excavation for the water line shall be per the details provided in the plan sheets. Excavation for water pipe shall be carried to a depth to allow three (4) inches below the outside surface of the coupling of the pipe when the invert of the pipe is set to designed grade. The bottom line of the trench shall be brought up to subgrade and thoroughly compacted so as to completely support the pipe throughout the entire length of the barrel. The subgrade for water pipe shall be understood to be the exterior bottom of the pipe.

C. Over Excavation

Measurement and Payment – Excavation in excess of that delineated in the plans and specifications deemed necessary and ordered in writing by the Engineer and not due in any part to carelessness or neglect by the Contractor, and refill shall be paid for as follows:

<u>Quantity</u>	<u>Depth</u>	<u>Payment</u>
Less than 5% of total design excavation	Less than 2 ft.	None
Less than 5% of total design excavation	2 ft or greater	4% of the pipe installation price for each 10 <sup>th</sup> of a foot greater than 2 ft over depth per foot of excavation.
Excess of 5% of total design excavation, but less than 10%	No Depth	2% of the pipe installation price for each 10 <sup>th</sup> of a foot over depth per foot of excavation.
Over 10% of total design excavation	No Depth limitation	Paid as extra work.

D. Trench Sheetting and Shoring

Excavations and trenches shall be properly sheeted, shored, braced and/or sloped to support adjacent earth banks, structures, construction materials, and equipment and to provide safe work conditions. No trench, pit or other excavation shall remain open longer than is necessary to expeditiously carry out the work.

Provide and sheeting and shoring open cut, as needed to support the sides of the excavation and prevent any movements which could in any way injure any structure.

All excavations and trenches shall be supported in the manner set forth in the rules, orders and regulations prescribed by the Industrial Accident Commission of the State of California. Excavations and trenches that exceed five feet (5') in depth shall comply with the Division of Industrial Safety (OSHA) standards.

The Contractor shall be responsible for any injury which may result to any person or persons, structure or structures, or to any interest whatsoever that is due directly or indirectly to the insufficiency of sheeting and shoring for excavations and trenches.

Contractor's attention is directed to Section 7-1.02K(6)(B) "Excavation Safety, of the Caltrans Standard Specifications and to the applicable provisions of the Labor Code of the State of California. (2010 Edition).

E. Pipe Installation

Proper implements, tools and equipment shall be used to load, handle, deliver and install pipe. All water pipe, except residential service lines, shall be installed at a minimum depth from the top of pipe to finished grade of 3 feet, unless otherwise noted on the plans or approved by the Engineer. Water pipe shall not be installed in joint trench with any other utilities. When pipe-laying is not in progress, close the open ends of installed pipe to prevent entrance of water or other foreign material into the pipe. Excavation, bedding, and



back fill shall be in accordance with the appropriate sections of the Caltrans standard specifications and these special provisions.

All pipe shall be laid and maintained to the lines and grades indicated. Fittings, valves, fire hydrants, air release and vacuum valves, and blow-offs shall be at the locations indicated with joints centered and vertical sections set plumb. No deviation shall be made from lines and grades indicated without the consent of the Engineer.

Assembly shall be as recommended by the manufacturer.

1. Pipe shall not be deflected horizontally or vertically more than half the limits recommended by the manufacturer.
2. Welded joints shall conform to AWWA standards.
3. PVC pipe shall not be curved to change alignment, avoid obstruction or alter grade, but deflections per 10-foot pipe length will not exceed that specified herein.
4. Pipe Assembly – The following are important points to note and follow:
  - i. The gasket, groove and pipe spigot shall be free of all foreign materials. All foreign materials shall be removed prior to installation.
  - ii. The gasket shall be installed such that the holes on the flat surface faces inside the coupling and the rounded edge faces the coupling entrance. The gasket must be evenly seated in the groove.
  - iii. Lubricant shall be generously applied to the installed gasket, the coupling interior and the pipe spigot (from the taper end to the full insertion mark). Note that the lubricant should never be applied to the groove because of the potential for leakage.
  - iv. Adequate stab shall be required in joining two pipe lengths. The spigot should be inserted into the coupling until it makes contact with the stop. The full insertion mark should be flush with the end of the coupling.
  - v. If field cuts are required, all cuts will be squared to the satisfaction of the Engineer. Field cut pipe shall have the burrs removed, ends beveled, and marked for proper insertion depth. A factory-finished beveled end shall be used as a guide in beveling. In addition, the full insertion mark will be copied onto the newly cut section to ensure proper stab and the spigot end will be copied onto the newly cut section to ensure proper stab and the spigot end will be beveled to an angle of approximately 15 degrees.
  - vi. All Fittings and Valves shall be adequately blocked.

#### F. Pipe Bedding

Water pipe must be laid on stable bedding which uniformly supports it. The trench bottom shall be smooth and free of rock larger than  $\frac{3}{4}$  inches in diameter, and other deleterious or organic material. The weight of fittings, valves, and other appurtenances shall not be supported or carried by the pipe. Fittings, valves, and appurtenances shall be supported by concrete pad or drain rock, when in the judgment of the Engineer, soil conditions or pipe bedding does not provide proper support.

Pipe bedding material shall be from four (4) inches below the pipe to twelve (12) inches above the top of pipe and for the full width of the trench and shall meet the material and compaction requirements specified in the plan sheets.

#### G. Trench Backfill

Trench backfill shall be per Section 19-3.02C "Structure Backfill" of the standard specifications.

Select backfill material shall be selected from the native excavation material and shall not include rocks or unbroken masses of soil larger than 3 inches in greatest dimension, organic matter or other unsatisfactory material. A relative compaction of 95% shall be achieved for the trench backfill.

#### H. Trench Pavement Replacement

Existing pavement shall be replaced in trenches in accordance with conditions and details shown on the plans. Prior to placing the permanent Hot Mix Asphalt Concrete pavement (HMA), the existing pavement shall be cut to neat lines parallel to the trench.

HMA (Type A) shall conform to the Section 39 of the Caltrans Standard Specification and these Special provisions.

The HMA tonnage used for trench pavement replacement shall be paid as HMA (Type A) and is included in the total HMA (Type A) tonnage required on the project.

#### I. Locator Wire

Locator wire for use with plastic pipe installation shall be #8 AWG blue HMWPE solid copper wire.

#### J. Detector Tape

Detector tape shall be 3-inch wide with the marking: WATER.

### **10-23.4 MEASUREMENT AND PAYMENT**

Measurement of Water Pipe for payment shall be the actual length of linear feet of pipe in place, measured along the axis of the pipe based on a linear foot unit measurement.

The contract bid price paid per linear feet for each of the various types of Water Pipes shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved.

Partial progress payment for pipe shall not exceed the following:

- 75% of the unit bid price until trenches have permanent paving;
- 60% of the unit bid price until leakage and bacterial tests have been approved.

Payment for Water Pipe shall include water pipe; joint restraints; saw cut asphalt pavement; any utility potholing required; trench excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; locator wire and detection tape; placement and compaction of pipe bedding zone material; placement and compaction of trench backfill material; pressure tests and disinfection; and all other items necessary for the installation of Water Pipe in conformance with the plans and specifications or as directed by the Engineer.

Measurement of Fitting for payment shall be actual each fitting in place, installed within a water pipeline, based on an "each" unit measurement.

The contract bid price paid per each unit for each of the various types of Fittings shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved.

Payment for Fitting shall include fittings (elbows, tees, wyes, reducers, sleeves, repair couplers); joint restraints; concrete thrust blocks and anchor blocks; polyethylene plastic wrap; and all other items necessary for the installation of Fittings in conformance with the plans and specifications or as directed by the Engineer.

### **10-23.5 GATE VALVES:**

ITEM 90, STANDARD GATE VALVE ASSEMBLY (12" GATE VALVE, RESILIENT SEAT, MJXMJ, MUELLER A2370 NRS OR EQUAL)  
ITEM 91, STANDARD GATE VALVE ASSEMBLY (8" GATE VALVE, RESILIENT SEAT, MJXMJ, MUELLER A2370 NRS OR EQUAL)  
ITEM 92, STANDARD GATE VALVE ASSEMBLY (6" GATE VALVE, RESILIENT SEAT, MJXMJ, MUELLER A2370 NRS OR EQUAL)  
ITEM 108, 8" GATE VALVE, RESILIENT SEAT, MJXMJ, MUELLER A2370 NRS OR EQUAL

Gate Valves shall be provided as shown on the plans, specified herein, and installed in accordance with the manufacturer's recommendations.

**A. Gate Valves**

Valve operation shall be left-hand (counterclockwise) opening.

Gate valves shall be solid wedge with non-rising stems conforming to the requirements of AWWA C500. Stem seal shall be O-ring seal. Valves shall have smooth unobstructed waterway, free from sediment pockets. Gate valves shall be Mueller A2370 resilient seat gate valves or approved equal.

Valve extension shall be attached to the operating nut as necessary such that the operating nut is two (2) feet maximum below finished grade. Valves manufactured for use with A.C. pipe shall not be used with PVC pipe. Gaskets shall be supplied by the manufacturer for installation with PVC pipe.

**10-23.6 MEASUREMENT AND PAYMENT**

The contract bid price paid per each for Gate Valve shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved in installing the Gate Valve.

Payment for Gate Valve shall include gate valves; joint restraints; valve boxes (casting and PVC pipe) and covers; concrete setting collar; concrete thrust blocks; and all other items necessary for the installation of Gate Valves in conformance with the plans and specifications or as directed by the Engineer.

**10-23.7 FIRE HYDRANTS:**

ITEM 93, STANDARD FIRE HYDRANT ASSEMBLY  
ITEM 94, CONNECTION TO EXISTING FIRE HYDRANTS BAY  
ITEM 109, CONNECTION TO EXISTING FIRE HYDRANTS PULGAS

**New fire Hydrants**

Fire Hydrants shall be provided as indicated on the plans, specified herein, and installed in accordance with the manufacturer's recommendations.

**CONNECTION TO EXISTING FIRE HYDRANTS:**

New Service Lateral Connection from Existing Fire Hydrant to New Water Main shall be provided as indicated on the plans, and specified herein.

**10-23.6 MEASUREMENT AND PAYMENT**

The contract bid price paid per each unit for Fire Hydrant shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved.

Payment for Fire Hydrant shall include fire hydrants; tees; 6-inch PVC service pipes; shut-off valves (Mueller A2370); bury elbows and risers; concrete shock collars; concrete thrust blocks; trenching and excavation, bedding,

backfill, compaction and all other items necessary for the installation of Fire hydrants in conformance with the plans and specifications or as directed by the Engineer.

Measurement of Connection to Existing Fire Hydrants for payment shall be actual each new connection complete in place.

The contract bid price paid per each unit for Connection to Existing Fire Hydrants shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved including but not limited to tees; 6-inch PVC service pipes; repair couplers, trenching and excavation, bedding, backfill, compaction and all other items necessary for restoring the service connection in conformance with the plans and specifications or as directed by the Engineer.

#### **10-23.7 SERVICE CONNECTONS:**

ITEM 95, STANDARD SERVICE CONNECTION, AVERAGE LENGTH 40 LF/EA SERVICE  
ITEM 110, STANDARD SERVICE CONNECTION, AVERAGE LENGTH 7 LF/EA SERVICE

Service Connections shall be provided as indicated, specified herein, and installed in accordance with the manufacturer's recommendations.

#### **10-23.8 MEASUREMENT AND PAYMENT**

Standard Service Connection shall be measured per actual each standard service connection in place, installed and connected to a water main and water meter.

The contract bid price paid per each unit for Standard Service Connection shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved including but not limited to double strap saddle connecting to water main; corp stop valve; service pipe (¾" Type K soft copper); and all other items necessary for the installation of Standard Service Connection in conformance with the plans and specifications or as directed by the Engineer.

#### **10-23.9 ABOVE GROUND COMBINATION AIR RELEASE AND VACUUM VALVE**

ITEM 96, STANDARD ABOVE GROUND COMBINATION AIR RELEASE AND VACUUM VALVE

Above Ground Combination Air Release and Vacuum Valves shall be provided as indicated, specified herein, and installed in accordance with the manufacturer's recommendations.

#### **10-23.10 MEASUREMENT AND PAYMENT**

Measurement of Standard Above Ground Combination Air Release and Vacuum Valve for payment shall be actual each Above Ground Combination Air Release and Vacuum Valve in place, installed and connected to a water main, based on an "each" unit measurement.

The contract bid price paid per each unit for Above Ground Combination Air Release and Vacuum Valve shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved, including but not limited to tapping saddle connecting to water main; corp stop valve; Class 200 polyethylene tubing; curb valve and hose bib; combination air release valve; enclosure cabinet, concrete pad; and all other items necessary for the installation of Above Ground Combination Air Release and Vacuum Valve in conformance with the plans and specifications or as directed by the Engineer.

#### **10-23.11 BLOW-OFF ASSEMBLY**

ITEM 97, STANDARD 2" BLOW-OFF ASSEMBLY

Blow-Off Assemblies shall be provided as indicated, specified herein, and installed in accordance with the manufacturer's recommendations.

#### **10-23.12 MEASUREMENT AND PAYMENT**

Measurement of Blow-Off Assembly for payment shall be actual each Blow-Off Assembly in place, installed and connected to a water main, based on an "each" unit measurement.

The contract bid price paid per each unit for Standard 2" Blow-Off Assembly shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved, including but not limited to tapping saddle connecting to water main; Mueller Valve H10915; 2-inch brass piping and fittings; location wire; PVC valve box; Christy Valve Box B1730 with traffic rated lid; concrete thrust block; and all other items necessary for the installation of Blow-Off Assembly in conformance with the plans and specifications or as directed by the Engineer.

#### **10-23.13 CONNECTIONS TO EXISTING WATER MAIN**

ITEM 98. CONNECTION TO EXISTING 12" WATER MAIN (INCLUDING SHUTDOWN)

ITEM 99. CONNECTION TO EXISTING 8" WATER MAIN (INCLUDING SHUTDOWN)

ITEM 100. CONNECTION TO EXISTING 6" WATER MAIN (INCLUDING SHUTDOWN)

ITEM 111. CONNECTION TO EXISTING 8" WATER MAIN (INCLUDING SHUTDOWN)

Connections to existing water mains, including shut-downs, shall be performed as indicated, and specified herein.

Shutdowns and disruptions to existing water lines shall be kept to a minimum. In general, shutdowns shall be made at times when there will be the least interference to users of water service. Connections to the existing water system shall be made only in the presence of and with the approval of the Engineer and as coordinated with the Water Superintendent. When a shutdown of the existing system is necessary to make the connection, it will be accomplished by City personnel. The operation of valves in the existing system by other than City personnel will not be permitted without specific authorization.

Shutdowns of water mains shall be allowed only on Tuesday through Thursday except for emergency repairs. The contractor shall notify the Engineer not less than 72 hours in advance of the time being requested to start a shutdown in accordance with the deadline schedule shown below. This 72-hour notice shall not include weekends and holidays; however, it shall stipulate the expected length of the shutdown.

Upon approval, the City shall prepare and furnish notices of the water service shutdown to be distributed to all affected residents or other water service customers. City Manager approval is required for advance notification less than the deadline schedule. A map indicating the area that notices are to be distributed will also be prepared. Notices shall be distributed by the Contractor per deadline schedule.

The contact phone number shall be 650 853 3189 for Inspection and City maintenance for all regular and emergency work.

Such notices shall be distributed not less than 48 hours prior to the scheduled shutdown. There shall not be more than one scheduled shutdown within any 48 hour period and a shutdown shall not begin less than 36 hours after notices have been distributed.

All notices shall be placed as close as practical to the front door of each residence in a secure place, NOT IN MAILBOX.

Those delivering the notices shall indicate on a list, map or sketch the notices not delivered and provide this to issuing division. Specific addresses where notices were not delivered or placed in non-standard locations must be noted (for example, "dog in yard, not delivered" or "notice on back porch facing street").

#### DEADLINE SCHEDULE FOR WATER SHUTOFF NOTICES

<u>Shutoff Day</u>	<u>Distribute Notice</u>	<u>Request submitted</u>
Tuesday	Friday (4:00 p.m.)	Thursday (5:00 p.m.) preceding week
Wednesday	Monday (4:00 p.m.)	Friday (5:00 p.m.) preceding week
Thursday	Tuesday (4:00 p.m.)	Monday (5:00 p.m.)

#### **10-23.14 MEASUREMENT AND PAYMENT**

The contract bid price paid per each unit for Connection To Existing Water Main (Including Shutdown) shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved, including but not limited to water pipe used for the tie-in, shutdown of the system, notices to affected customers, coordination, liaison, exploratory excavations, and other necessary work to provide in the specifications, these special provisions and as directed by the Engineer.

#### **10-23.15 PRESSURE AND LEAKAGE TESTS**

##### A. Preparation:

- The Contractor shall install temporary blow-offs as necessary for testing purposes and provide all necessary material and equipment, and shall perform all work required in connection with the testing of the water system, as specified herein.
- Hydrostatic and leakage tests shall be made by the Contractor only after the trenches have been backfilled sufficiently to hold the pipe firmly in position; and thrust blocks have given time to cure. Allow seven (7) days for Type I Portland Cement Concrete and three (3) days for Type III Portland Cement Concrete.
- The Contractor shall provide all water necessary for filling, flushing, disinfection and any required tests including all labor and equipment required.

##### B. Initial Pipe Filling:

- Contractor shall fill the new water main with water at the lowest elevation making sure that air is being released at all high points, including curb stops at domestic services, hydrants and blow-offs. If chlorine tablets have been attached inside the pipe as work progresses, the main line shall be filled very slowly in order to avoid dislodging the tablets. Pipes shall not be filled at a rate greater than one (1) foot of pipe length per second.
- The Contractor shall connect a pressure pump at the lowest elevation of the main to be tested. The pump must have a pressure gauge and connection to a small tank of makeup water that would facilitate pumped water measurement.
- Apply partial pressure and verify that all air has been released. Allow the pipe to stand with a pressure not to exceed the local water system pressure for at least 24 hours to stabilize, moisturize gaskets and allow air bubbles to travel to the highest points to be released previous to the Pressure Test. When difference in elevation between the low end and high end of the system to be tested is more than 25 feet, a separate test shall be given for each test section within 25 feet height increments.

##### C. Hydrostatic Pressure Test and Leakage Test:

- The Contractor shall notify the Engineer at least 24 hours in advance to allow proper scheduling. The Contractor shall supply and install pressure gages at the discretion of the Engineer. Approximately three (3) gauges are required for an average size block. Ensure that all air bubbles have been expelled from the pipe before starting the pressure test. Subject all water pipe to a hydrostatic test of at least fifty percent higher than the normal expected operating pressure or one hundred and fifty (150) pounds per square inch (psi), whichever is larger, unless otherwise specified or directed. This test pressure shall be measured at the

lowest elevation; therefore, pressure may be lesser at higher elevations. The expected difference in pressures due to difference in elevation shall be estimated by the Engineer to ensure that all gauges are working properly. Faulty gauges shall be replaced by the Contractor. If the slope of the pipe is greater than five percent (5%) the pipe shall be tested in sections no greater than seven hundred (700) linear feet.

- The minimum hydrostatic and leakage pressure for fire service lines is 200 psi.
- The duration of the pressure test shall not be less than two (2) hours. If no pressure drop is observed, the pressure test is considered passed and no leakage test is necessary. If during these two hours, the pressure drops more than five (5) psi, a leakage test is required as follows: The Contractor shall pump more water into the pipe to recuperate the required test pressure. The amount of water pumped into the pipe to maintain the test pressure during these two hours shall be measured. The measured water shall not exceed the allowable leakage as described below.
- Upon completion of the pressure and leakage tests, the pressure in the pipe shall be lowered to match the local system pressure. The Contractor shall release the pressure at the outlets selected by the Engineer.

D. Allowable Leakage:

- For domestic water and fire service lines, the duration of each leakage test shall not be less than two (2) hours, unless otherwise specified, and during the test the pipe shall be continuously subject to hydrostatic pressure, as specified, and measured at the lowest elevation.
- Satisfactorily apply the specified test pressure by means of a pump connected to the pipe. Maintain the test pressure for the specified time and do not allow to drop more than 5 psi during which all exposed pipe, couplings, fittings, valves and hydrants shall be examined carefully.
- No PVC pipe installation will be accepted if the leakage for the section of tested line is more than the amount determined by the formula below:

$$L = NDL = ND\sqrt{P} \div 7400$$

Where: L = allowable leakage, gph

N = number of joints in the length of pipeline tested

D = nominal diameter of pipe, in.

P = average test pressure during the leakage test, psig

- When test results indicate leakage beyond that allowed, Contractor shall conduct a leak survey of the line and repair any leaks found. The method used for leak survey shall be approved by the City Engineer. If the Contractor does not have the appropriate leak detection equipment, a specialized firm shall be hired. After all leaks have been repaired, the leakage test shall be repeated by the Contractor until satisfactory conformance to this specification is demonstrated.
- Any flaw disclosed by any of the above-referenced tests shall be repaired and satisfactorily retested by Contractor, even if the test is passed.

#### **10-23.16 MEASUREMENT AND PAYMENT**

Compensation for pressure and leakage tests shall be included in the price paid for the water pipe and no additional compensation will be allowed therefor.

#### **10-23.17 DISINFECTION AND BACTERIOLOGICAL TEST**

Following the Pressure and Leakage Tests and before being placed in service, all new water lines shall be chlorinated, flushed and tested by Contractor in accordance with the requirements of AWWA Standard C651-05, and as directed. If a later edition is available it will supersede the 05 edition.

A. Disinfection:

The Contractor shall have the option of applying chlorine with tablet method, continuous-feed method or slug method to the entire water content of the line, including services, fire hydrants and stubs, in sufficient quantity as stipulated in the above mentioned AWWA Standard.

- If the Contractor elects to employ the use of the "Tablet" form of chlorination by mounting tablets into the pipe sections as they are installed, he shall determine the minimum number of tablets per AWWA C651-05 or later Standard requirement. This method may be used only if the pipes and appurtenances are left clean and dry during construction. The tablets shall be attached to the ceiling of the pipe by a food-grade adhesive. In the event that adequate disinfection is not obtained using said minimum number of tablets, it shall be the Contractor's responsibility for re-chlorination until a satisfactory result is obtained.
- The tablet method and the continuous feed method shall be applied at an average chlorine dose of 25 mg/L and provide a minimum residual of 10mg/L after 24 hours retention.
- If liquid chlorination is to be used, the Contractor shall flush the pipe to remove any impurities, sediment or other materials that may be present in the pipe before starting the disinfection process. If colored or cloudy water is noticed, flushing shall continue until clear water is observed.

B. Final Flushing:

- After chlorination has been satisfactorily completed, thoroughly flush the lines until the chlorine content in all parts of the system has been proven by test to be comparable to the chlorine content of the City Water System. Contractor shall provide and use test paper or other means approved by the Engineer to measure chlorine residual to a precision of one (1) part per million (ppm) and PH to increments of 0.5.
- Prior to flushing, the Contractor shall thoroughly neutralize the free and combined chlorine residuals. The chemical product used for dechlorination shall provide consistent elimination of residual chlorine without affecting water quality. Sulfur Dioxide gas or Liquid Sodium Metabisulfite systems shall not be allowed. The product used by contractor for this purpose shall be Bio-Neutralizer, with 35% concentration Sodium Sulfite dechlorination tablets as produced by NORWECO, or approved equal. The Contractor shall submit product information sheet for review and approval by the City before performing any flushing.
- Before discharge, the pH of the water shall be within the range of 6.5 to 8.5. Neutralized water may be discharged into the storm drainage system upon satisfactory testing.
- Disposal of flushed water shall comply with the National Pollution Discharge Elimination System (NPDES). See Specification Section 02133 "Stormwater Pollution Prevention" of these specifications.
- Contractor shall use caution.

C. Bacteriological Test:

- After flushing the chlorine from the water system and prior to placing line in service, the Contractor shall engage the services of an approved Commercial Testing Laboratory, approved by the State of California Department of Health Services, to gather an approved number of representative water samples, the location and number of which shall be determined by the City Engineer. Bacteriological testing shall be in accordance with requirement of AWWA Standard C651-05.
- Samples shall be taken of water that has stood in the watermain for at least 16 hours after Final Flushing.
- Two consecutive sets of acceptable samples taken at least 24 hours apart shall be collected from the new watermain. The Contractor shall install temporary blow-off assemblies at each end of the new watermain and at each branch of it to allow sampling. One set of samples shall be taken at each end and at each branch



of the main line; at the discretion of the City Engineer, samples can be requested from any one domestic service per block. The number of samples taken will never be less than one set of samples for every one thousand two hundred (1,200) linear foot of main line.

- No section of water systems will be allowed to be connected to the City's existing water system when any sample of water tests indicate coliform bacteria as tested by the 24 Hour Membrane Filtration Method. Should the laboratory report show that any sample taken was not acceptable (Heterotrophic plate count greater than 0), Contractor shall re-chlorinate and test the water again as herein before specified. This process shall be repeated by Contractor until a satisfactory disinfection has been accomplished.
- Contractor shall direct the laboratory to send the original report of Bacteriological Examination to the City Engineer.
- Special Conditions: If trench water has entered the new water main during construction or if in the opinion of the City Engineer, excessive quantities of dirt or debris have entered the new main, bacteriological samples shall be taken at intervals of approximately two hundred (200) feet, and the location of samples shall be identified. Samples shall be taken of water that has been stood in the new pipe with an initial chlorine residual comparable.

#### **10-23.16 MEASUREMENT AND PAYMENT**

Compensation for Disinfection and Bacteriological test shall be included in the price paid for the length of the water pipe and no additional compensation will be allowed therefor.

#### **10-23.17 REMOVE WATER VALVE BOX**

##### **ITEM 116. REMOVE WATER VALVE BOX**

All valves boxes on the abandoned mains shall be removed, disposed of and the surface repaired to City standards. The contractor shall remove the valve box and riser and dispose legally.

The remaining riser shall be filled with Portland Cement Concrete to 6" below finished grade, the area saw cut to a 2 1/2" square and re-cemented or paved.

Valves buried in paved areas shall be buried with Portland Cement Concrete to the bottom of the Asphalt Concrete pavement. Valves buried in unpaved areas shall be buried with Portland Cement Concrete to 12" below ground level, with top soil or native material to grade.

Valves buried in the sidewalk area shall be removed and the surrounding concrete sidewalk shall be restored as described in City Standards. The valve box riser shall be removed to 12" below finished grade, the area saw cut to a 2.5" square and re-cemented.

#### **10-23.18 ITEM 115. REMOVE AND DISPOSE EXISTING 8-INCH WATER MAIN**

##### **REMOVE OR ABANDON EXISTING WATER LINE**

All existing water mains and laterals no longer required can be abandoned in place. Existing lines in conflict with the new water line and storm drain system shall be removed. Abandoned water lines must be securely closed by a 6-inch-thick, tight-fitting plug or wall of commercial-quality concrete.

#### **10-23.19 MEASUREMENT AND PAYMENT**

The contract bid price paid per each unit of Remove Water Valve Box shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved. The contract bid price paid per each unit of Remove and Dispose Existing 8" Water Main shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved.

## **10-24 SANITARY SEWER LATERAL RECONSTRUCTION**

### **BID ITEM 58, 4"-6" SANITARY SEWER LATERAL RECONSTRUCTION**

#### **10-24.1 SUMMARY**

Section Includes: Furnish and install all piping, including fittings, caps, and accessories as shown on the Project Engineer's Drawings, as shown on City's Standard Drawings and as described in the Specifications and as required to perform the reconstruction of publicly owned portion (from the City cleanout to the main) of 4 or 6-inch service laterals using open cut method. All service laterals that connect to the existing sewer main which are to be rehabilitated shall be replaced, and shortened or lengthened as required. The Contractor must install lateral as per Contract Drawings.

#### **10-24.2 REFERENCES**

1. American Association of State Highway and Transportation Officials (AASHTO)
2. American National Standards Institute (ANSI)
3. American Society of Mechanical Engineers (ASME)
4. American Society for Testing and Materials (ASTM)
5. American Water Works Association (AWWA)
6. UNI-Bell PVC Pipe Association (UNI-B)
7. Section 2315 Excavation and Fill
8. Section 2530 Sanitary Sewer Main Open Trench
9. Section 2531 Sanitary Sewer Main Pipe Bursting
10. Section 2605 Sanitary Sewer Manholes
11. East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitary Sewer Collectives and Conveyance Facilities (EPASDSS)

#### **10-24.3 SUBMITTAL**

1. Manufacture's data sheets:
  - a. Submit data to show that the following items conform to these Specification requirements:
    - i. SDR 26 Polyvinyl Chloride pipe (SDR 26 PVC), fittings, and accessories.
    - ii. Flexible couplings and flanged coupling adapters.
2. Publications: The Contractor shall furnish manufacturer's requirements, installation and operation manuals, and bulletins for the following items:
  - a. Requirements of ASTM D3034, Standard Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.
  - b. Sanitary Sewer pipe SDR 26 PVC shall be green in color.
  - c. All pipe bedding and backfill material per the most recent version of the East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitary Sewer Collection and Conveyance Facilities (EPASDSS) – Section C2 Earthwork & City standard details.

#### **10-24.4 QUALITY ASSURANCE**

All materials and equipment furnished under this Section shall: (1) be of an American manufacturer who has been regularly engaged in the design and manufacture of the materials and equipment and (2) be demonstrated to the satisfaction of the City that the quality is equal to the materials and equipment made by those manufacturers specifically named herein, if an alternate product manufacturer is proposed.

#### **10-24.5 UTILITY POTHOLING (CHECK ON LOCATIONS)**

Do not begin any construction until all utilities in the region of the reconstructed sewer laterals have been located. If conflicts with the new storm drain or other utilities are found in any particular section of the existing sewer lateral, the Contractor shall prepare a plan of action for reconstruction of the lateral either over or under the conflict and provide to the Engineer. If it is determined that no conflict exists, the existing lateral shall remain as is and the City reimbursed for the contract bid cost for the reconstruction of the lateral in question.

#### **10-24.6 CONSTRUCTION SCHEDULING/SEQUENCING**

Construction may involve expansion and/or modification of the existing sewer lateral which must continue to provide service to all customers during construction.

All connections and utility changes must be programmed to provide the least possible interruptions of service. Prior to any shutdown all materials, fittings, supports, equipment and tools shall be on the site and all necessary labor scheduled prior to starting any connection work. The Contractor shall notify the City in writing at least 7 days in advance of any required shutdowns so that affected customers may be notified. In general, shutdowns shall not exceed four hours in duration unless specifically authorized or indicated in the suggested construction sequence.

All work shall be conducted in a manner which will minimize shutdowns, open roadways, or traffic obstructions caused by the construction. Shutdowns causing damage to adjacent public and private property shall not be permitted, and any damage resulting shall be the sole responsibility of the Contractor.

Planned lateral reconstruction causing shutdowns shall be accomplished during periods of minimum use. In some cases this might require night or weekend work. The Contractor shall program his work so that service will be restored in the minimum possible time, and shall cooperate with the City in reducing shutdowns of the residences or businesses to a minimum. No sanitary sewer lateral work that will cause interruption will be permitted without the prior approval of the City. The Contractor shall notify residents and businesses at least 48 hours in advance of any required shutdowns.

#### **10-24.7 MATERIALS**

##### **GENERAL**

Pipe and fitting sizes are nominal inside diameter unless otherwise noted.

All materials delivered to the job site shall be new, free from defects, and marked to identify the material, class, and other appropriate data such as thickness for piping.

Acceptance of materials shall be subject to strength and quality testing in addition to inspection of the completed product. Acceptance of installed piping systems shall be based on inspection and leakage and bacteriological tests as specified hereinafter.

Certification by the manufacturer that all pipe and fittings furnished under this specification were manufactured, sampled, tested, and inspected in accordance with ASTM D3034 and ASTM F679.

Pipe and fittings shall meet extra strength minimum for SDR 26 of the requirements of ASTM D3034 and ASTM F679.

Watertight manhole adapter shall be provided on each connection at a manhole or other structure. Manhole adapter shall be as manufactured by GPK Products Inc. or approved equal.

Minimum "pipe stiffness" at 5 percent deflection shall be 46 psi for all sizes when tested in accordance with ASTM Method of Test D2412, External Loading Properties of Plastic Pipe by Parallel-Plate Loading.

##### **PIPING MATERIALS**

1. Pipe Designation: New sanitary sewer laterals and cleanouts shall be polyvinyl chloride (PVC) SDR-26 pipe.
  - a. PVC SDR-26 pipe to be used in all locations using open cut trench method or as directed by the City and shall be green in color.
2. Polyvinyl Chloride (PVC):
  - a. No fusible PVC pipe allowed.
  - b. Pipe: Polyvinyl chloride SDR-26. Pipe shall be UL listed or Factory Mutual Approved.
    - i. PVC Sewer Pipe, 4-inch through 15-inch in diameter, inclusive, shall have a standard dimension ratio (SDR) of 26, and conform to ASTM D 3034.
    - ii. PVC pipe must be sampled, tested, and inspected in accordance with ASTM D 3034.
    - iii. PVC Sewer Pipe greater than 15 inch in diameter shall conform to ASTM F 679. Pipe material must be sampled, tested, and inspected in accordance with ASTM F 679.
3. Pressure Class 200.
4. Joints:
  - a. Restrained joints: Bell and spigot (push-on) gasketed. Spigot joints must be conforming to ASTM D 3212 standards.
  - b. The bell shall consist of an integral wall section with a solid cross-section elastomeric ring, factory assembled, securely locked in place to prevent displacement.
5. Gaskets: Styrene Butadiene Rubber (SBR). Submit two sample gaskets of each gasket type with an explanation of the markings.
6. Trench bedding and backfill material shall be per the most recent version of the EPASDSS – Section C2 Earthwork & City standard details.
7. Concrete for curb, gutter, and sidewalk replacement shall be Section 10-18 of these Technical Specifications.
8. Check valve shall be 4" PVC SDR-26 with cleanout. Check valve shall be suitable for low pressure sanitary sewer applications.

## PIPE COUPLINGS AND FITTINGS

### GENERAL

For typical pipe joints refer to pipe material specifications. Other joint devices shall be furnished where called for as specified.

## 10-24.8 EXECUTION

### PIPING INSTALLATION

1. The exact location and depth of each sewer lateral is not known. It is the responsibility of the Contractor to verify the exact location, size, material and type of sewer lateral. All associated costs such as obstruction due to utilities and clearance of tree roots etc. shall be included in the bid price for lateral and cleanout replacement.
2. Where the plans indicate for a new lateral to be constructed the lateral replacement will be made from the sewer main to the location specified on the plans. The Contractor shall excavate, remove and dispose of the existing sanitary sewer lateral and install a new lateral. If concrete flatwork is removed for this operation, the Contractor shall construct a temporary AC sidewalk and curb and when installation is finished replace sidewalk in kind.
3. Contractor shall replace all sewer laterals with the same size. Typical size for residential is 4" diameter and for apartment complex/buildings and restaurants is 6" diameter sewer lateral. When installation of new lateral is done, Contractor shall take care not to damage the sewer main or the lateral/main connection.

4. All excavated materials and removed pipe materials shall become property of the Contractor and shall be immediately off-hauled and the new trench backfilled per the most recent version EPASDSS – Section C2 Earthwork & City standard details.

#### **10-24.9 FIELD QUALITY CONTROL**

1. Factory Quality Control: The Contractor shall test all products as required herein and by the reference specifications.
2. The Contractor shall:
  - a. Perform leakage tests.
  - b. Be responsible for the costs of additional inspection and retesting by the City resulting from non-compliance.

#### **CLEANING**

1. Prior to testing, the inside of each completed pipeline shall be thoroughly cleaned of all dirt, loose scale, sand and other foreign material. Cleaning shall be by sweeping, flushing with water internal cleaning device or "pig" or blowing with compressed air, as appropriate for the size and type of pipe. Flushing shall achieve a velocity of at least 3 feet per second. The Contractor shall install temporary strainers, temporarily disconnect equipment or take other appropriate measures to protect equipment while cleaning piping. Cleaning shall be completed after any repairs.
2. The Contractor shall comply with the Municipal Regional Stormwater Permit (MRP) for discharge water.

#### **FIELD TESTING**

1. General: Perform leakage tests on all pipe installed in this project. Furnish all equipment, material, personnel, test media and supplies to perform the tests and make all taps and other necessary temporary connections. The test pressure, allowable leakage and test medium shall be as specified. Perform leakage tests on all piping at a time agreed upon and in the presence of the City.
2. Buried Piping: Perform the leakage test for buried piping after all pipe is installed and backfilled. However, preliminary tests may be conducted prior to backfill. If preliminary tests are conducted, provide any necessary temporary thrust restraint.
3. Testing Apparatus: Provide pipe taps, nozzles and connections as necessary in piping to permit testing, addition of test media, and draining lines and disposal of water, as is necessary. Plug these openings in a manner favorably reviewed by the Engineer after use. Provide all required temporary bulkheads.
4. Correction of Defects: If leakage exceeds the allowable, repair or replace the installation and repeat leakage tests as necessary until conformance to the leakage test requirements specified herein have been fulfilled. All visible leaks shall be repaired even if the pipeline passes the allowable leakage test.
5. Reports: Keep records of each piping test, including:
  - a. Description and identification of piping tested.
  - b. Date of test.
  - c. Witnessing by Contractor and City.
  - d. Test evaluation.
  - e. Remarks, to include such items as:
    - i. Leaks (type, location).
    - ii. Repairs made on leaks.
    - iii. Submit test reports to the City.
6. Testing Specifics:
  - a. Sanitary Sewer Laterals:
    - i. Method: UNI-B-6-98 or ASTM C828 are acceptable,
    - ii. Medium: Air.

- iii. Allowable Leakage: Leakage shall be defined as the quantity of test medium that must be added to the section of pipeline being tested to maintain the specified test pressure for the specified test duration. Maximum allowable leakage shall be as specified in UNI-B-6-98 or ASTM C828.

#### **10-24.10 MEASUREMENT AND PAYMENT**

Measurement of Sanitary Sewer Lateral Reconstruction shall be measured by the linear foot of pipe in place, from face of the connection to existing pipe to the pipe/manhole/inlet. The contract bid price paid per linear foot for each of the various types of Sanitary Sewer Lateral Reconstruction shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for Sanitary Sewer Lateral Reconstruction, including but not limited to identifying a conflict with proposed utility; preparing plan to reconstruct lateral either over or below the proposed utility; saw cut asphalt pavement; trench excavation; loading, hauling and stockpiling trench spoil; trench sheeting and shoring; cutting and removal of existing lateral pipe; placement and compaction of pipe bedding zone material; connection to existing sanitary sewer lateral, main and manhole; installation of concrete encasement and/or Styrofoam blocks, placement and compaction of trench backfill material; cleaning of pipe; replacement of asphalt, concrete and other surface features and all other items necessary for the reconstruction of the sanitary sewer lateral in conformance with these plans and specifications or as directed by the Engineer.

#### **10-25 PAVEMENT STRIPING, MARKINGS AND MARKERS**

##### **BID ITEM 59, PAVEMENT STRIPING, MARKINGS AND MARKERS.**

##### **10-25.1 GENERAL**

Work covered by this section includes striping and pavement markings and pavement markers. All work shall be in conformance with the Section 84 "Traffic Stripes and Pavement Markings" and Section 85 "Pavement Markers" of the Standard Specifications.

Contractor shall submit certificates from the materials suppliers stating compliance of the materials with the requirements of the standard specifications. Within 30 days of contract award, the contractor shall submit a detailed schedule of values for the striping items that can line up with the lump sum cost of this Bid item.

All traffic striping and pavement markings shall be thermoplastic unless specified on the plans or directed by the Engineer.

A two-way reflective blue Stimsonite No.88 or approved equal pavement marker shall be installed near all fire hydrants.

##### **10-25.2 MEASUREMENT AND PAYMENT**

The contract lump sum price for pavement striping, markers and markings shall include full compensation for providing all labor, materials, tools, equipment and incidentals, and for doing all work including, but not limited to replacement materials (where applicable), pavement preparation, placement, corrective work, traffic control, and clean-up all as shown on the plans, specified in these specifications and directed by the Engineer, and no additional compensation will be allowed therefore.

#### **10-26 SIGNS**

##### **BID ITEM 60, ROADSIDE SIGN ON STREET LIGHT POLE (SIGN AND MOUNTING ONLY)**

##### **BID ITEM 61, FURNISH AND INSTALL ROADSIDE SIGN ON SINGLE DECORATIVE METAL POST**

##### **BID ITEM 62, ROADSIDE SIGN ON SIGN POST (POST NOT INCLUDED)**

##### **BID ITEM 118, TEMPORARY EDA SITE SIGN**

##### **10-26.1 GENERAL**

This work shall consist of furnishing all materials, equipment and labor necessary in the fabrication and installation or re-installation of all the metal signs as shown on the plan(s). Signage items shall include all surface preparation, pole, installation, pole foundation, sign and hardware installations as required. Included also is any necessary removal, salvage, temporary signage, relocation, and traffic control required to accomplish the scope of work detailed on the drawings and as described in these specifications. It may be necessary to phase the construction of the signage in the interest of public safety. The Contractor shall install signs when required to maintain public safety or convenience, as determined by the Engineer.

All sign locations shall be field verified and approved by the Engineer prior to excavation for the sign foundation.

All signing shall conform to the 2014 edition of the California Manual of Uniform Traffic Control Devices (CA MUTCD) and these special provisions. Shop drawings for all signs shall be submitted for review by the Engineer prior to fabrication.

#### **10-26.2 MATERIALS**

Materials shall be in conformance with the latest editions of the 2010 Standard Specifications Section 56, the Caltrans Standard Sign Specifications and the MUTCD, except that all materials will be supplied by the Contractor. All signs shall be fabricated from high tensile alloy aluminum with reflective smooth finish. Sign panels shall be a minimum of 0.080 inch thick, cut to size and shape with a tolerance of 1/32 inch. Panels shall be flat and free of buckles, warps, dents, burrs and any other defects resulting from fabrication.

All signs are to be of Diamond grade reflectivity. Sign sizes shall be as shown on the Drawings.

All fastening hardware shall be plated or galvanized. Posts for traffic signs in median nose areas shall be square formed steel tube, telescoping metal breakaway type, Unistrut Sign Support System or approved equal. Tubing shall be 12 gauge strip steel, structural quality, conforming to ASTM A-570 Grade 33. Galvanized tubing shall be 12 gauge strip steel, structural quality, conforming to ASTM A-446 Grade A, hot-dipped galvanized.

Decorative posts shall match the material, style, color and finish of the electrolite standards specified elsewhere and have an inside diameter of 2" and a minimum overall length of 15'. Post foundations shall use Class A concrete.

Street name sign panels shall be engineering grade 3M "Scotchlite Reflective Sheeting" or approved equal. Sign panel dimensions shall be 8-inches wide by 24-inches minimum length. Lettering shall be 6-inches in height. Sign background shall be green with white reflective lettering. All panels shall have a 1/2" radius on the corners. Street name signs shall consist of an assembly of two sign panels. Mounting hardware shall be Hawkins Heavy Duty Aluminum "Slotted Lock" (HD)SL or approved equal.

For the Temporary EDA Site Sign, see Attachment D of this Specifications.

#### **10-26.3 EXECUTION**

Signs shall be installed as shown on the Drawings and as directed by the Engineer. Construction and panel installation shall be per Section 56-2.03 and Section 56-2.04 of the Standard Specifications. Sign panels shall be level and sign posts shall be plumb.

Sign panel installations on electrolite standards shall use cantilever support brackets in accordance with the recommendations of the manufacturer. Install brackets on both the top and bottom of each sign.

#### **10-26.4 MEASUREMENT AND PAYMENT**

Measurement shall be per each for the type of sign as shown on the plans. The contract unit price for signs shall include full compensation for furnishing all labor, material, equipment, tools, and incidentals necessary to perform the full scope of work as described above, as shown on the plans, as specified herein and as directed by the Engineer.

## **10-27 SOLAR RAPID RECTAGULR FLASHING BEACON**

BID ITEM 63, SOLAR POWERED RRFB SYSTEM AT BAY ROAD & DEMETER SREET

BID ITEM 64, SOLAR POWERED RRFB SYSTEM AT BAY ROAD & TARA SREET

### **10-27.1 GENERAL**

Each RRFB shall consist of a self-contained solar engine that houses the charge controller, flash controller, on-board user interface, wireless communications, batteries and solar panel. Each RRFB shall include either one or two light bars. The RRFB shall conform to all provisions of the MUTCD, Interim Approval IA-21 including WW+S flash pattern. The RRFB shall be pre-wired to the maximum extent possible.

#### MECHANICAL SPECIFICATIONS

The solar engine shall be constructed from aluminum with an integrated solar panel. All batteries and electronics shall be mounted in the solar engine, with no external control cabinet or battery cabinet required.

The solar engine shall not exceed 15" in height from bottom of adapter fitting to top of solar panel. The depth of the solar engine shall not exceed 4".

The overall weight of the solar engine assembly (including two batteries but not including light bars or pushbutton) shall not exceed 20 lbs. (9.1 kg).

The solar engine shall be supplied with a fixed tilt angle of 45 degrees and shall be able to be oriented toward the equator with no additional mounting hardware.

Access to the interior of the solar engine shall be provided by a lid that is hinged on the bottom edge and is fitted with a foam gasket. The lid shall have a lockable latch.

The solar engine shall be vented to provide cooling of the battery and electronic system. The vents shall be screened to prevent ingress by insects and debris.

Fasteners shall be stainless steel.

#### LIGHT BAR

The light bars shall be current-driven LED strings without active electronics. The LEDs shall be driven by pulse-width modulated fixed current.

The light bar housing shall be constructed from aluminum and shall have the approximate dimensions: 24" L x 1.5" D x 4.5" H (61.0 cm L x 3.8 cm D x 11.4 cm H).

Each light bar shall conform to all provisions of the MUTCD and FHWA requirements.

Each of the two modules in a light bar shall have 8 LEDs and shall be purpose-built by the manufacturer of the RRFB including the optics.

Each end of a light bar shall include a side-emitting pedestrian confirmation light composed of a single LED. Users shall have the option of using both confirmation lights for median applications, or covering one confirmation light with an included sticker for side-of-road applications.

The light bar shall be mounted to the post or pole using a separate bracket assembly to facilitate mounting two light bars back-to-back (bi-directional) and to allow the light bar(s) to rotate horizontally for aiming.

The light bar bracket shall be constructed from galvanized or stainless steel and shall have both banding and bolting mounting options and shall be able to be mounted to all specified pole types.



The light bar assembly shall open for access to the wiring connections for the LED modules. LED modules shall be rated to NEMA 3R.

## MOUNTING

Mounting adapter hardware for the RRFB shall be available for the following configurations:

- 2" / 2.5" Perforated Square Pole Mount
- 2 3/8" - 2 7/8" Diameter Round Post Mount
- 4" - 4.5" Diameter Round Post Mount
- Side-of-Pole Mount
- Wooden Pole

Mounting configurations shall not require specialized tools.

## CONFIGURATION

The solar engine shall house an auto-scrolling LED on-board user interface that provides on-site configuration adjustment, system status and fault notification.

The user interface shall provide a display of four (4) alphanumeric characters and three (3) control buttons to navigate and change settings and activate functions.

When editing the configuration, the user interface will flash the display indicating it is ready to accept editing and will flash the display rapidly 3 times to indicate the setting change has been accepted.

The flash duration shall be adjustable in-the-field from 5 to 60 seconds in one second increments, 60 to 1,200 seconds in 60-second steps, and 3,600 seconds. Default flash duration shall be 20 seconds.

The system shall provide configurable nighttime intensity settings ranging from 10% to 100% of daytime intensity.

The system shall be capable of enabling or disabling ambient brightness auto-adjustment. This feature allows the system to provide optimal output brightness in relation to ambient light levels while always maintaining adherence to SAE J595 Class I specifications. If enabled, the ambient brightness auto-adjustment shall adjust output to a range between 50% and 100% of daytime intensity.

The User Interface shall provide viewing and/or programming access for the following:

- Activation Duration (5 to 60, 60 to 1200, or 3600 seconds)
- Digital output that is active during the flashing cycle that allows the control of external devices such as crosswalk illumination. Digital output shall be configurable for night operation only or operation day or night
- Radio Channel (Choice of 1 to 14)
- Radio Status
- Night Intensity Setting
- Adjustment for Ambient Daytime Brightness
- Self-Test / BIST (Built-In Self-Test) including the detection of shorts or open circuits in the fixture outputs
- Battery Status – General description and actual battery voltage
- Day or Night Status (as determined by dedicated photosensor not solar panel output)
- Solar Panel Voltage

- Automatic Light Control. If this safety feature is enabled, it allows the RRFB to temporarily reduce the intensity of the light bars to maintain energy equilibrium. The user interface shall report the amount of dimming being applied in the range of 10% to 100%
- Daily activations averaged over 90 days
- Pushbutton detection
- Firmware Version number

Activation duration, Night intensity setting and adjustment for ambient daytime brightness shall be automatically broadcast to all RRFBs in the system when changed in one RRFB.

### SOLAR PANEL SYSTEM

The solar engine shall include one 18V nominal solar panel rated between 10 and 15 watts with bypass diode. The solar panel shall be no larger than the footprint of the solar engine enclosure.

Electrical connections on the back of the solar panel shall be contained with an enclosure that prevents accidental contact with either of the power leads.

The solar charging system shall use maximum power point tracking (MPPT).

### BATTERY SYSTEM

The solar engine shall house two 7 amp-hour 12V nominal sealed valve-regulated AGM lead-acid maintenance-free batteries. Each battery shall be equipped with a 1.5 amp fast-blow barrel fuse on the positive lead.

The battery charging system shall be 3-stage and incorporate temperature-compensation to prevent battery overcharging in hot weather.

Batteries, in conjunction with recommended RRFB performance, shall be designed for a demonstrable service life of 5 years.

The battery shall be rated for -40° to 140°F (-40° to 60°C).

Batteries shall have quick connections to facilitate installation and be readily available from multiple suppliers and non-proprietary.

Batteries shall be supported by rubber bumpers and be secured in place with straps.

### OPERATIONAL SPECIFICATIONS

The RRFB shall meet the minimum photometric specifications of the Society of Automotive Engineers (SAE) standard J595 Class I dated January 2005. A photometric report by a certified third-party testing laboratory shall be provided to demonstrate compliance with J595.

The color of the yellow light bar indications shall meet the specifications of SAE standard J578 (Color Specification) dated December 2006.

The solar engine shall have the capacity to provide 300 20-second activations per day year-round using the applicable peak sun hours insolation available at the installation location. Refer to Section 8. Solar Simulations for details on insolation data sources.

The controller shall be able to support up to 1.4 amps combined current through the RRFB fixtures simultaneously.

The system shall use a dedicated light sensor to detect night and day states and apply any optionally-enabled intensity adjustments.

## RADIO SYSTEM

The radio system shall operate at 2.4GHz

Upon detection of a pushbutton press, an RRFB will broadcast an activation to all other nearby RRFBs sharing the same channel.

The RRFB shall have the capability to activate other RRFBs by wireless communications within 1,000 feet (304 meters).

The RRFB shall have a minimum of 14 unique channels that can be configured on-site to avoid inadvertent activation of nearby systems.

The antenna shall be a low-profile “button” shape that cannot be bent or broken by vandals

## ACTIVATIONS

The pedestrian push buttons that shall have an LED indicator with audible tone with Piezo control and shall be ADA compliant and CAMUTCD compliant for momentary operation. The RRFB shall be capable of operating with either 1 or 2 pushbuttons.

All RRFBs in the system shall initiate activation simultaneously within 150ms of activation.

If an additional activation occurs while the system is activated, the flash duration shall reset. For example, with the flash duration set to 20 seconds, if an additional activation occurs after the RRFB has been activated for 15 seconds the RRFB will continue for an additional 20 seconds, or 35 seconds in total.

If the RRFB has ceased its flashing cycle, any subsequent activation shall activate the RRFB immediately regardless of how recently the RRFB ceased operation.

Pushbutton wiring harnesses shall be included.

## SOLAR SIMULATIONS

Detailed solar simulations shall be provided as evidence that the RRFB is capable of the claimed performance at a specific location. Solar Simulations shall be composed of three calculations: Energy Balance, Array-to-Load Ratio (ALR), and Autonomy. The manufacturer or bidder shall provide a detailed analysis of these three calculations in an “Energy Balance Report”.

Monthly average sunlight (insolation), night length and temperature data for a specific, declared location shall be from recognized public sources such as the NASA Atmospheric Sciences Data Center. All sources shall be cited exactly and accessible online without cost to allow verification of the data.

Energy Balance

During a normal 24-hour cycle of operation, an RRFB will take energy in from the sun and consume energy through the flashing of the light bars, radio communication, and general quiescent power draw. Energy Balance refers to the evaluation of these energy values to determine overall system sustainability and resistance to variances in sunlight and activation load.

Energy Balance compares Energy-In and Energy-Out. Calculations shall be performed for the “Worst Month” of the year where worst month is determined by the lowest value of Energy-In divided by Energy-Out.

Energy-In

Energy-In is the total amount of sunlight energy in watt-hours available to the RRFB over a 24-hour period. Energy-In is available to operate the RRFB, charge the batteries, or both. Energy-In shall be determined as follows:

Insolation X Panel Wattage X Shading X charging efficiency X Battery charge acceptance

- The energy from the solar panel shall be based on available solar radiation at the installation location for the panel's inclination angle. The solar radiation (insolation) values used shall be for the worst-case month of the calendar year.
- Shading from nearby trees, buildings or other structures unique to a particular location are to be factored-in and the calculations shall clearly show and justify the de-rating of the solar panel energy input. A photograph showing the sun's path and obstructions it encounters shall be included.
- Batteries shall be returned to full charge by sunset at the end of each day.

#### Energy-Out

Energy-Out is the total amount of energy in watt-hours consumed by the RRFB in a 24-hour period of normal operation.

Energy-Out is the sum of quiescent and operating loads, measured in watt-hours, in all circuitry over 24 hours with an operating capacity of 300 20-second activations, including:

- Controller quiescent draw (daytime and between flashes)
- Wireless quiescent draw calculated over 24 hours;
- Operating load of pushbutton at rated operating capacity per activation (where applicable);
- Operating load of light bars including pedestrian indicators at rated intensity per activation. The number of light bars and their electrical load details (voltage, current and power when lit) shall be clearly indicated;
- Energy adjustments due to LED drive circuit efficiency.
- The simulations shall clearly detail the flash pattern being used and calculate the duty cycle of the pattern.
- Calculations shall assume the ratio of day to night activations is 9:1.

#### ALR (Array-to-Load Ratio)

System Array-to-Load (ALR) ratio shall be calculated as: Daily Available Energy-In divided by Daily Energy-Out as defined above.

RRFB Solar Simulations shall be calculated demonstrating a minimum Array-to-Load (ALR) ratio of 1.2:1 (1.2)

#### Autonomy

Autonomy is the number of days that the RRFB can continue to operate normally in the absence of any solar charging. Autonomy shall be calculated as follows:

(Nominal Battery Capacity de-rated for Temperature minus battery capacity unavailable due to Low Voltage Disconnect) divided by (Daily total energy consumption at the specified number and duration of activations)

RRFB autonomy shall be a minimum of 5 days.

#### ENVIRONMENTAL TESTING

The RRFB solar engine and light bars shall be rated to a minimum of NEMA 3R.

#### PACKAGING

Packaging shall consist of only recyclable corrugated cardboard and soft plastic bags.

#### QUALIFICATIONS

The RRFB shall be FCC certified to comply with all 47 CFR FCC Part 15 Subpart B Emission requirements.

The RRFB shall be manufactured in the USA and shall be Buy American compliant.

Manufacturer shall provide a 5-Year Limited Warranty, with the exception of the batteries which shall be covered by a 1-year warranty.

The Manufacturer shall be ISO 9001 certified.

**The RRFB shall be manufactured by Carmanah Technologies Inc, or approved equal.**

Manufacturer: Carmanah Technologies Inc.

Model: R920-E Solar RRFB

Toll-Free: 1-877-722-8877

www.carmanah.com

## **10-27.2 MEASUREMENT AND PAYMENT**

Solar Rapid Rectangular Flashing Beacon System shall be paid by lump sum. The contract bid price for Solar Rapid Rectangular Flashing Beacon System (Bid Item 63 and 64) shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals and testing and for doing all the work involved and in conjunction with the furnishing and installation of the Rapid Rectangular Flashing Beacon system, including, but not limited to, the solar panel, the pedestrian crossing signage at the crosswalk, pedestrian push buttons, Type 15-FBS poles, and pole foundations as shown on the plans, as specified herein and as directed by the Engineer.

## **10-28 EARTHWORK FOR LANDSCAPING**

### VARIOUS BID ITEMS

### **10-28.1 GENERAL**

The Contractor is responsible for furnishing all labor, material, power, tools, transportation, services, and equipment necessary hauling, disposal, earthwork and site preparation as shown on the Drawings and specified herein. This work includes furnishing import topsoil amended in accordance with laboratory recommendations for planting, furnishing dry and friable topsoil ready for use on-site, storing import topsoil in an off-site location if necessary for reasons due to inclement weather or meeting the progress of work requirements, clearing, stripping, scarifying, preparation of areas to be filled, over excavation and re-compaction, fill placement and compaction, grading, and all subsidiary work necessary to complete the grading of the developed areas to conform to existing curb and tree elevations.

The Contractor, as part of the price bid, is responsible for furnishing amended import topsoil including the incorporation of organic and chemical amendments and the placement in accordance with lab recommendations for placement.

The Contractor is responsible for ordering and providing laboratory analyses and for furnishing all products necessary, if any, to amend the proposed import topsoil as part of the price bid.

The Contractor is responsible for clearing and grubbing the site

1. Scrape and scarify and remove existing weeds and turf.

### **WORK SPECIFIED UNDER OTHER SECTIONS**

Consult all other sections to determine the extent and character of the work specified elsewhere but related to that included in this section. Work specified herein shall be properly coordinated with that specified.

## INVESTIGATION OF SITE AND SOIL CONDITIONS

Intending bidders are presumed to have visited the site and familiarized themselves with the existing conditions. The submitting of a bid shall be considered as acknowledgment on the part of the bidder of his or her familiarity with conditions at the site.

## PROTECTION

Contractor shall provide necessary safeguards and shall exercise caution against injury or defacement of any existing site improvement and planting. Contractor shall be responsible for any damage resulting from his operations and shall repair or replace such damage at their own expense. No trucks or vehicles of any kind shall be allowed to pass over sidewalks, curbs, etc. unless adequate protection is provided.

No excavation or operation of mechanical equipment shall occur beneath the drip line of existing trees

## DEFINITIONS

Percent Compaction: As referred to in these Specifications, percent compaction is the required in-place dry density of the material, expressed as a percentage of the maximum dry density of the same material determined by the ASTM test method, D1557-78(C).

## SUBMITTALS

Tests and Standards: Furnish analyses for proposed import topsoil, prepared by Waypoint Analytical of San Jose, (408) 727 0330.

1. Provide the following tests and information:
  - a. Fertility of soil for healthy growth of all plants.
  - b. Particle size appraisal.
  - c. USDA soil classifications.
  - d. Probable soil drainage characteristics.
2. Furnish two one-pound representative samples of the proposed import topsoil.

The Contractor, as part of the price bid, is responsible for suitably amending proposed import topsoil including incorporating organic and chemical amendments and following lab recommendations for placement. Submit all products, and laboratory analysis pertaining to organic and chemical amendments.

The proposed import topsoil and incorporation of any amendments or execution of physical changes to the soil as recommended by the soils laboratory are subject to the approval of the City Engineer and shall, if approved be installed and incorporated at no additional cost to the Owner.

The Contractor shall not place contaminated or otherwise unsuitable soils as part of this work, and shall be fully responsible for all costs associated with verifying, removing, disposing and replacing soil materials if the City determines the materials are not agriculturally suitable.

Tests and Standards (General Environmental Requirements): All fill materials shall meet the following environmental requirements in addition to the material requirements provided later in this Section:

1. Each fill material shall be from a single, designated source.
2. Provide analytical data for each fill material for the following laboratory analysis:
  - a. California Title 22 Metals, EPA Method 6020 and EPA Method 7471
  - b. Polychlorinated Biphenyls, EPA Method 8082
  - c. Organochlorine Pesticides, EPA Method 8081 A

- d. Total Petroleum Hydrocarbons, modified EPA Method 8015
  - e. Semivolatiles, EPA Method 8270C
  - f. Volatile Organic Compounds, EPA Method 8260B
  - g. Percent Moisture
3. The analytes for all laboratory analysis required in the above paragraph shall not be detected above laboratory limits with the exception of Total Petroleum Hydrocarbons shall not be detected at above 83 mg/kg and for California Title 22 metals, which shall not exceed any of the following Site Acceptance Criteria:

Maximum Metals Acceptance Concentrations (mg/kg)

Antimony	1.0	Mercury	1.3
Arsenic	20	Molybdenum	10
Barium	750	Nickel	145
Beryllium	3.2	Selenium	4
Cadmium	14	Silver	4.8
Chromium (Total)	750	Thallium	3.8
Cobalt	30	Vanadium	200
Copper	67	Zinc	120
Lead	54		

- A. Satisfactory Soil: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 2 inches (50 mm) in any dimension, debris, waste, vegetation, or other deleterious matter.
- B. Unsatisfactory Soil: ASTM D 2487 Soil Classification Groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.
- C. Backfill and Fill shall meet the following requirements:
  - 1. Satisfactory soil materials;
  - 2. Contain no recycled material;
- D. Subbase Material shall meet the following requirements:
  - 1. Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve;
  - 2. Contain no recycled material;

No material shall be delivered to the site, graded on-site, or otherwise modified until the Engineer approves the material.

## 10-28.2 MATERIALS

### IMPORTED SOIL

Imported Topsoil: Herein after referred to as "topsoil". Fertile, agricultural soil, sandy clay loam soil per USDA classification, free of impurities, plants, weeds and roots. Soil shall contain sufficient quantities of nitrogen, phosphorous, potassium, calcium and magnesium to ensure a medium for sustained healthy plant growth, and meet the following criteria:

1. Agricultural Suitability:

Salinity (ECe x 10 (3)): 0-3  
Sodium (SAR): 0-6  
Boron (PPM in Saturated Extract): 0-1.0  
Reaction (pH of Saturated Paste): 5.5-7.5

2. Particle Size

Minimum Maximum

Silt	10%	30%
Clay	10%	25%
Coarse Sand	5%	45%
Gravel (Maximum Aggregate Size 3/4 inch)	0%	15%
Decomposed Organic Matter	2%	15

### 10-28.3 EXECUTION

#### IMPORTED TOPSOIL PLACEMENT

Scrape and remove vegetative thatch. Caution shall be used so as not to rip or tear tree roots.

Perform excavation as needed to establish finish grade at perimeter curb and paved areas. Smooth the grades.

Place topsoil in sufficient quantities required in all planting areas and fill areas around sidewalk areas as designated on the plans or in the field by the City Engineer.

Place first lift in a 3" layer. Rake smooth. Compact 85% relative dry density at optimal moisture content. DO NOT USE mechanical equipment beneath the drip line of existing trees.

Place subsequent lifts as needed, compacting each lift to 85% relative dry density. Provide lifts as required to reach finish grade.

Do not place topsoil against the trunks of the existing trees or cover the ground over existing tree roots.

#### FINISH GRADING

- Locate and set grade stakes for finished grading, including flow lines.
- Provide positive drainage away from all trees, 3% minimum.
- Finish grades shall be smooth, even, free of rocks and debris with no abrupt changes, and be true to grading plan.
- Remove rocks, clods greater than 1-1/2" dia. offsite at Contractor's expense.
- Finish grades shall be free of depressions and undulations that allow formation of water puddles. Make adequate allowances for soil settlement.
- Finish Grading: All grades shall be 3" inch below the top of adjacent curbs and pavements
- Completed grading shall be reviewed in the field by the City Engineer. At that time minor changes in grading and shaping may be made at no additional cost to the Owner.

#### COMPACTION

The upper 6-inches of all fill materials shall be compacted to a minimum of 85% of the maximum dry density as determined by the ASTM designated D-1557-92 test procedure. The Contractor shall be responsible for providing moisture to obtain optimum moisture content or for performing aerating work to dry overly wet soils.



The Contractor shall not place contaminated soils or otherwise unsuitable soils as part of this work and shall be fully responsible for all costs associated with verifying, removing, disposing and replacing said materials if the City determines the materials are not agriculturally suitable.

#### REPLACEMENT

The Contractor shall replace at his expense or otherwise compensate for any existing tree that is damaged by construction to a condition beyond the ability of the tree to recover to pre-construction conditions. The replacement will match in value the tree damaged.

#### WEATHER LIMITATIONS

No fill shall be placed, spread or compacted during unfavorable weather conditions. Subject to approval by City.

#### SPILLAGE, DUST AND EROSION CONTROL

Spillage: The Contractor shall prevent spillage when hauling on or adjacent to any public street or highway. In the event that such occurs, the Contractor shall remove all spillage and sweep, wash or otherwise clean such streets or highways as required by local authorities and/or the State of California.

The Contractor shall take all precautions needed to prevent a dust nuisance to adjacent public properties and to prevent erosion and transportation of soil to the street or the storm drain system due to their work under this contract. Any damage so caused shall be corrected or repaired by the Contractor at no cost to the Owner.

Owner's Prerogative: In the event the Contractor fails to take such precautions or make such corrections or repairs promptly, the Owner may take such steps as they may deem necessary and deduct the cost of the same from the monies due to the Contractor. Any such action or lack of action on the part of the Owner in no way alters or relieves the Contractor of the responsibility for the proper protection of the work.

#### TREE PROTECTION

All excavation and grading near trees should be to the absolute minimum necessary.

Care should be taken with the existing trees to remain. Grades within the dripline of the trees shall not be changed unless otherwise specified on the plans. Unnecessary compaction of the area within the dripline shall be avoided.

Notify City Engineer before grading or excavation within an 8-foot radius of any main trunk

Avoid filling soil areas within the driplines of trees unless absolutely necessary and then only under the direction of the City Engineer.

If any fill is added near trees, do not, under any circumstances, permit water to collect near the trunk: provide positive drainage away from the dripline of the tree.

In areas within 10 feet of tree trunks, complete exploratory excavation by hand in order to determine location of major roots.

Great care should be taken to avoid tearing of roots; only smooth, clean cuts of roots should be made. If necessary to cut roots, do so with a saw and make a clean cut at right angles to the root so that the surface area of cuts is minimized. Do not seal roots. Cover roots with soil and leave no roots exposed.

If the excavation must remain open for more than four hours, cover the ends of the roots with damp burlap sacks or similar damp material.

As soon as practicable, backfill excavations and compact to a density similar to surrounding soils. In excavation areas, keep soil damp but not saturated, especially if the excavation is near the trunk.

The Contractor shall perform hand watering of a tree, any or all trees, if in the opinion of the City Forester, watering is needed to ensure trees vigor and recovery from work occurring around it.

#### **10-28.4 MEASUREMENT AND PAYMENT**

All work under this section shall be paid for at the applicable bid price for various items involving earthwork for landscaping and no separate payment shall be made to this work item. The applicable bid price for items involving earthwork for landscaping shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals.

#### **10-29 IRRIGATION**

##### **BID ITEM 65, IRRIGATION**

##### **10-29.1 DESCRIPTION OF WORK:**

This section specifies automatic irrigation systems and related work.

##### **RELATED SECTIONS**

Section 10-26 – Earthwork (Landscaping)

Section 10-28 – Planting

##### **QUALITY ASSURANCE**

Notify the City Engineer, in writing, ten work days prior to the following events:

1. At the completion of installation of the main line, 1 remote control valve, 1 gate valve, 1 quick coupler, and 1 lateral circuit.
2. Completion of the irrigation system layout.
3. Hydrostatic tests.
4. Coverage tests.

Coverage tests. Prior to planting, operate the automatic sprinkler controllers through all their cycles in the presence of the City Engineer. Make required changes, relocations, and adjustments so as to provide complete coverage.

N.E.C., current edition

##### **SUBMITTALS**

##### **Product Data:**

1. Provide list of all irrigation equipment used.
2. Provide catalog cut sheets with pertinent technical literature for all irrigation equipment and components.

Record Drawings: Provide reproducible irrigation plan with dimensioned field locations of wire routing, electrical point of connection, main and lateral lines, tubing, and valves from two permanent points of reference (at 200 foot intervals along the mainline and wire routing). Show colors of all common and control wiring.

Controller Diagrams: Prepare two sets of the following information sheet, each permanently sealed in laminated plastic. Size: as necessary to fit inside the complete extent of the controller cabinet door. One set shall

be affixed to the inside of the irrigation controller door and one set shall be included in the Product Data. The Information Sheet shall be a new schematic diagram showing relative locations of all valves, including all irrigation sprinklers controlled by each valve. Connect the sprinklers with one continuous line, and identify the line according to valve number. Photostatic reductions of the irrigation plan may not be used.

Wrenches, Keys and Couplers:

1. At completion of the Plant Establishment and Maintenance Period, provide the City with three each of all operating, servicing and disassembly keys and wrenches for all valves, valve boxes, controller enclosure.
2. At the beginning of the coverage test, provide two couplers complete with hose swivels and valve keys.

## IRRIGATION SYSTEM MAINTENANCE

Maintenance Period: After the installation has been accepted by the City as being complete, a maintenance period as defined in Section 10-30 shall begin. Maintenance visits shall be made at least once per week. Maintenance shall include, but not be limited to, operating and adjusting the irrigation system to assure adequate watering and instructing City personnel in all maintenance procedures and schedules, as well as programming and operating the irrigation controller. The maintenance period may be extended by the City without additional cost to the City if the system is improperly maintained.

## 10-29.2 MATERIALS

### IRRIGATION MATERIALS

Pipe, mainline and laterals: PVC 1120-1220 ASTM D-1785. No substitutions.

- Under landscaped areas: Per plans.
- Under paved areas wider than 8'-0": Schedule 80 PVC.
- Electrical Raceway for irrigation wires only, Sch 40 PVC, gray color.
- Thread Sealant: Permatex 510 or Teflon Paste. No substitutions.
- PVC Glue: Weld-On P70 Primer, only; to be used with 711 Cement. No Substitutions

Valves:

1. Gate Valves: Per plans.
2. Remote Control Valves: Per plans.
3. Quick Coupler Valves: Per plans. Valve key: Rain Bird #44K. Hose swivel: Rain Bird #SH1. Size of all components: 1-inch.

Valve Boxes:

Valve boxes shall be precast concrete or plastic of type and size indicated; free of all cracks, chips or structural defects. Boxes located in asphalt or concrete shall be concrete with concrete lids. Boxes subject to vehicular traffic shall be concrete and have heavy duty steel covers. Boxes shall be sized to provide a 4" minimum clearance around the irrigation equipment inside the box, excluding all pipes and fittings

Irrigation Head Nozzles and Sprinklers:

1. Pop Up Spray Sprinklers: See irrigation plans.
2. Fittings and Nipples:
  - a. PVC, Schedule 40 and Schedule 80 (as shown on the Drawings), standard weight, as manufactured by Sloane or Lasco.
  - b. For Galvanized Steel Pipe: Threaded Schedule 40, standard weight, manufactured by Grinnell.
  - c. Double Swing Joints: The 90 degree connector attached to the riser shall be PVC Schedule 40. The other two connectors shall be Marlex 90 degree connectors.

Control Wiring:

1. Common and Control Wire: Solid copper, 24 volt, to be housed in gray PVC conduit. The common ground wires shall be a minimum of 12 gauge with a white insulation jacket, and the control wires shall be a minimum of 12 gauge with red or black insulation jacket. Spare control wire: minimum 12 gauge with black insulation jacket.
2. Splicing Materials: "King" One Step #40-562 and #70-566, only.
3. Junction Boxes – marked "Irrigation Electrical."
4. Conduit shall be as indicated on the drawings.

Automatic Controller:

1. Controller: Per plans.
2. Controller Enclosure: Per plans.
3. Conduit for above ground uses: Heavy wall galvanized steel. Conduit Plug: Malleable, water-proof, permanent plastic or rubber, coordinate with controller enclosure.

### 10-29.3 EXECUTION

#### EXAMINATION AND PREPARATION

Confirm the existing static water pressure and the location of all subsurface utilities prior to starting irrigation installation. Promptly notify the City for further direction if existing utilities or other obstructions to the work not shown on the Drawings are encountered during excavation.

Flush lines before installing heads and valves.

Turn on and observe the existing irrigation equipment in operation in presence of City Engineer prior to performing work. Verify pipe runs and review limits of work to be affected by new work. Relocate existing sprinklers, test before backfilling.

#### PROTECTION

Protect PVC pipe fittings from direct sunlight. Beds on which pipe is stored must extend full length of pipe.

#### IRRIGATION SYSTEM INSTALLATION

Do not install sprinkler heads until curbs, walls and other related structures are in place.

Install irrigation equipment in accordance with manufacturer's instructions.

Stake out irrigation sprinklers with flags or other field markers for approval by City.

Layout: Drawings are diagrammatic. Swing joints, offsets and fittings are not shown. Where site conditions do not permit layouts as shown on plans, adjust layout to conform to existing site conditions and to avoid plants, overspray onto paving.

#### Excavating and Trenching:

1. Dig trenches wide enough so that no pipe is located directly over any other and there is a minimum of 4 inches between all pipes. Do not install pipe directly over other pipe. Provide minimum cover from finish grades as follows:

#### In Planting

<u>Material Description</u>	<u>Areas and Under Medians</u>	<u>Under Streets</u>
Mains	24"	36"
laterals	18"	36"
irrigation control wires	18"	36"

#### Sleeving:

1. Provide sleeves as shown on the plans and for all pipe under paving more than 8'-0" wide.
2. Provide conduit and sleeving where wires and laterals pass under walks and paving.
3. Surround sleeves with 6 inches of sand, unless directional boring is used.
4. Install removable non-decaying plug at ends of sleeve to prevent entrance of earth.

#### Pipeline Assembly:

1. Solvent Weld Joint: Install per manufacturer's instructions.
2. Make all connections between PVC pipe and metal valves and pipe with threaded fittings using PVC male/female adapters.
3. Changes in the direction of the irrigation pipe (e.g., Tees or 90 degree elbows) shall be minimum 12 inches away from the end of any sleeve.
4. Use Teflon based pipe joint compound, linseed-based dope or Permatex 510 on galvanized steel fitting threads.
5. Use only Teflon based pipe joint compound or Permatex 510 on PVC threaded pipe, fittings and Marlex fittings.
6. Wrap all below-ground metal in contact with soil in thermoplastic tape.
7. Install concrete thrust blocks on joint pipe, keeping fittings accessible to prevent damage from water hammer.
8. Pipe under streets and paved areas wider than 8'-0"; surround with 6-inches sand.
9. Connections within sleeves:
  - a. For sleeves less than 20 feet: Only whole lengths of pipe may be used. Do not install any pipe connections in the sleeve.
  - b. For sleeves 20 feet or longer: The number of pipe connections that are inside of the

sleeve are to be minimized by using long lengths of pipe. Any PVC connections that need to be in sleeves are to be made using female bell end pipe. Insert tapered side of the pipe connection into the sleeve prior to installation of remaining pipe.

Backflow Prevention Device: Install all components per detail and according to manufacturer's instructions.

Valves:

1. Thoroughly flush main line before installing valves.
2. Remote Control and Gate Valves: Install in valve boxes per details.
3. Quick Coupler Valves: Install per details.

Valve Boxes: Install according to the drawings.

Irrigation Sprinklers:

1. Thoroughly flush main line before installing heads.
2. Riser Sprinkler Assemblies: Install per manufacturer's recommendations and per detail.

Control Wires:

1. Install control wires continuously in PVC raceways. Provide 24 inches of looped slack of control and ground wire in each valve box.
2. Install splicing materials according to manufacturer's instructions. Splices shall occur only in irrigation box or junction boxes and will be allowed only on runs of more than 500 feet.
3. For each controller and branch of mainline, provide two extra control wires that are a different color. The extra wires are to be looped 24 inches in each remote control valve box and terminated in the last box on the line.
4. Tape control wires to bottom of mainline wherever possible.

Pipe Closure: Cap or plug openings with silicone sealant as pipeline is assembled to prevent entrance of dirt and obstruction.

Inspections and Tests:

1. Make hydrostatic tests when welded PVC joints have cured at least 24 hours. Flush to remove all air from the line and cap risers. Center load piping with small amount of backfill to prevent arching and slipping. Do not cover fittings. Apply continuous static water pressure of 100 psi as follows:
  - a. Test piping on the pressure side of control valves for four hours.
  - b. Test piping on the non-pressure side of control valves for two hours.
  - c. Provide all equipment required for these tests including pump, fittings, and pressure gauge.
  - d. Loss in test pressure greater than 3 psi shall indicate leakage and constitute test failure.
2. Leaks resulting from tests shall be repaired and tests repeated until system passes

tests. Remake any faulty joints with all new materials. Do not use cement or caulking to seal leaks.

3. Examine valve boxes and quick couplers for damage.

Automatic Controller, Electric Meter, and Enclosure:

1. Install controller and enclosure per manufacturer's instructions. Work with the City to coordinate with PG&E as necessary for complete installation.
2. Connect irrigation control wiring to controller in sequential arrangement according to assigned identification number of valve. Provide permanent non-fading numbered labels at each controller dial and corresponding valve.
3. Install control wiring in conduit as necessary so that no wiring is exposed.
4. Program controller for multiple starts.

Backfilling and Compacting:

1. After system is operating and required tests and inspections have been made, backfill and compact excavations and trenches.
2. Place backfill materials in 6-inch layers and compact to a minimum relative density of 80 percent in planting areas and 95% as detailed under hardscape and structural areas. Dress planting areas to finish grades.

#### AS-BUILT DRAWNGS

Turn over all as-built drawings to City Engineer prior to final City inspection.

#### SITE CLEAN UP AND REPAIR

Upon completion of site improvements, and prior to beginning the maintenance period, all surplus material and other debris shall be removed from the site. At project acceptance, remove fertilizer on pavement and residue from cleaning of cement equipment. Examine valve boxes and quick couplers for damage at end of maintenance period, repair and replace as deemed necessary by the City Engineer.

Fill and repair all depressions due to the settlement of irrigation trenches, and replace all necessary planting and paving for one year following completion and acceptance. Reset valve, valve boxes, and quick couplers as necessary.

#### 10-29.4 MEASUREMENT AND PAYMENT

The lump sum price for Irrigation shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Irrigation, and related incidental work. The contractor shall provide a Schedule of Values identifying the costs for each major component of this item and submit it to the City within 15 calendar days after receiving Notice to Proceed.

#### 10-30 PLANTING

##### BID ITEM 66, PLANTING

##### BID ITEM 67, PLANT ESTABLISHMENT WORK (3 MONTHS)

#### 10-30.1 GENERAL

Provide planting work and planting maintenance complete as shown on the drawings and as specified.

Related work specified elsewhere includes:

1. Section 10-26, EARTHWORK (LANDSCAPING)
2. Section 10-27, IRRIGATION

## QUALITY ASSURANCE

### Reference Standards:

1. Manufacturer's recommendations.
2. "Sunset Western Garden Book," Lane Publishing Co., Menlo Park, California; current edition.
3. "American Standards for Nursery Stock," American Association of Nurseryman, 230 Southern Building, Washington, D.C. 20005.

### Qualifications:

1. Experience: Assign a full-time employee to the job as foreman for the duration of the Contract with a certified landscape technician, certification through CLCA or minimum of four (4) 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 to be accomplished to perform the task in a competent, efficient manner acceptable to the City.

### Requirements:

1. Supervision: The foreman shall directly supervise the work force at all times and be present during the entire installation. Notify City Engineer of all changes in supervision.
2. Identification: Provide proper identification at all times for landscape maintenance firm's vehicles and a labor force uniformly dressed in a manner satisfactory to City Engineer.

### 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. Submit inspection certificates required by law with each shipment of plants, and deliver certificates to the City. Obtain clearance from the County Agricultural Commissioner as required by law, before planting plants delivered from outside the County in which planted.

## SUBMITTALS.

Product Data: Manufacturer's current catalog cuts and specifications of the following:

1. Fertilizers
2. Herbicide
3. Tree Tie and Stake
4. Iron

### Sulfate Samples:

- 1 Plants: Submit all plants, upon delivery to site, for approval by City Engineer



2. Organic Mulch: Submit 1-pint sample.  
Certificates of Compliance for the following:
1. Soil amendment, chemical and physical properties.

Soil Analysis: 0.5 cubic foot sample of each fill soil which will be in contact with plant roots and import topsoil. Samples must be taken after completion of rough grading. Contractor shall submit soil samples to Waypoint Analytical of San Jose, CA (408) 727-0330. Request test No. A 05, including: soil fertility - pH, salinity, nitrate, ammonium, phosphate, calcium, magnesium; agricultural suitability - boron, sodium, absorption ratio (SAR); particle size appraisal - organic content, USDA particle size distribution; soil amendment and fertilizer recommendations.

Provide a one-quart sample of each proposed amendment to Waypoint Analytical of San Jose, (408) 727-0330, for their testing for conformance to this specification. No material shall be delivered to the site until the City Engineer approves the samples. Testing costs shall be paid for by the Contractor.

Prior to planting submit copies of all trucking or packaging tags to City Representative for all soil amendment, fertilizer and other additives so that quantities may be verified.

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.
  - b. Reason Contractor wants the substitution.
  - c. The price difference in the two different products.
2. If the product is approved and, in the opinion of the City Engineer, the substituted product does not perform as well as it should, the Contractor shall replace it with the specified product at no additional cost to the City.

PROJECT/SITE CONDITIONS

Site Visit: At beginning of work, visit and walk the site with the City Engineer to clarify scope of work and understand existing project/site conditions.

WARRANTY AND REPLACEMENT

Pre-Emergence Weed Killer: Warrant the work against weed growth for a period of four (4) months after application.

Warrant all plants and planting to be in a healthy, thriving condition until the end of the maintenance period, and deciduous trees beyond that time until active growth is evident.

Replace all dead plants and plants not in a vigorous condition immediately as directed by the City Engineer at Contractor's expense. Install replacement plants before the final acceptance at the size specified.

Warrant all plant material for a period of one year after final acceptance of the maintenance work against defects in the plant prior to installation.

Warrant plant installation and maintenance by Contractor against defects for a period of one year.

STORAGE

Plants not installed on the day of arrival at the site shall be stored and protected as follows:

Outside storage shall be shaded and protected from the sun and wind.

Plants stored on the project shall be protected from drying out at all times by covering the balls or roots with moist sawdust, wood chips, shredded bark, peat moss or other similar mulching material.

Plants, including those in containers, shall be kept in a moist condition until planted, by watering.

Lime and fertilizer shall not be stored with any landscape materials.

Soil sterilant shall not be stored with any other landscape materials.

Storage of materials shall be only in areas designated or as approved by the Owner.

Handling - Care shall be taken to avoid damaging plants being moved from the nursery or storage area to the planting site. Plants shall be protected from drying out. Plants shall not be handled by the trunk or stem. Plants shall be protected from freezing or drying out by a covering of burlap, tarpaulin, mulching material during transportation from the heeling-in bed to the planting site. Damaged plants shall be rejected and shall be removed from the site.

## **10-30.2 MATERIALS**

### **PLANTS**

Plant the variety, quantity and size indicated. The total quantity tabulated on the drawings are considered approximate and furnished for convenience only.

Tag plants of the type or name indicated and in accordance with the standard practice recommended by the American Association of Nurserymen.

Install healthy, shapely and well rooted plants with no evidence of having been rootbound, restricted or deformed.

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.

Substitutions will not be permitted, except as follows:

3. If proof is submitted to the City Engineer 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.
4. Substantiate and submit proof of plant availability in writing to the City Engineer within 10 days after the effective date of Notice to Proceed.

Trees: Select straight trunks with the leader intact, undamaged and uncut with all old abrasions and cuts completely callused over. Do not prune plants prior to delivery.

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.

### **FERTILIZERS**

Commercial fertilizer must comply with the recommendations in the horticultural soils test results.

Commercial fertilizer, pelleted or granular form, shall conform to the requirements of Chapter 7, Article 2, of the Agricultural Code of the State of California for fertilizing materials as follows:

Type A: 6% Nitrogen, 20% Phosphorus Acid and 20% Potash, (6-20-20).

Type B: 21 gram planting tablets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Agriform.

Type C: Complete fertilizer 21% Nitrogen, 7% Phosphoric Acid and 14% Potash (21-7-14).

If commercial fertilizer having this analysis is not obtainable, other similar commercial fertilizer may be used providing it meets the approval of the City Engineer.

Maintenance Fertilizer: Must comply with the recommendations in the horticultural soils test results. For bidding purposes assume Type C.

#### SOIL AMENDMENT:

Soil amendment must comply with the import topsoil amendment recommendation obtained from the horticultural soils test results.

Organic amendment shall be shredded redwood sawdust or shredded fir and/or pine bark with the following properties:

<u>Percent Passing</u>	<u>Sieve Designation</u>	
100 9.51 mm	3/8"	
95-100 6.35 mm	1/4"	
80-100 4.76 mm	No. 4	
60-100 2.38 mm	No. 8	8 mesh
20-70 1.00 mm	No. 18	16 mesh
0-30 500 micron	No. 35	32 mesh

#### Redwood Sawdust

1. Dry bulk density, lbs. per cu. yd., 270-370
2. Nitrogen stabilized - dry weight basis, min. 0.4%

#### Fir and/or Pine Bark

1. Dry bulk density, lbs. per cu. yd., 450-580
2. Nitrogen stabilized - dry weight basis, min. 0.5% Salinity (ECe): 4.0 maximum

Organic Content: 90% minimum

Reaction (pH): 4.0 minimum

Submit sample to the City Engineer within two weeks after award of Contract with Laboratory organic amendment analysis report to include above information and iron content.

IRON SULFATE: Dry form.

#### MULCH

Organic Mulch: Fir or pine bark chips, dark in color; 3/4-inch to 1-inch.

Submit samples of mulch to the City Engineer for approval within two weeks of award of Contract. Resubmit until acceptable to City, at no extra cost.

#### TREE SUPPORT POLES:

Peeled lodge pole pine logs, clean, smooth, new, and sized as follows:

Two-inch (2") diameter by eight feet (8') long for trees less than 8' high and 1" caliper.

Three-inch (3") diameter by eight to ten feet (8' - 10') long for trees greater than 8' high and 1" caliper.

#### TIES:

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.

#### STEEL PLANT STAKES:

Steel plant stakes shall be "Mega Grate Stakes" as manufactured by JR Partners 1616 Freedom Court, Turlock, CA 95382 (209-634-7791), or approved equal.

"Mega Grate Stakes" utilized for staking trees shall be a minimum of 8 feet in length with an outside diameter of 1.66-inches and 0.14-inch wall thickness. All "Mega Grate Stakes" shall have a powder coated baked on finish for rust inhibiting qualities, color to be black.

#### ROOT BARRIERS:

Root barriers shall be UB 24-2 as manufactured by Deep Root Partners, L.P., 530 Washington Street, San Francisco, CA 94111, (800) 458-7668, or approved equal. The guide shall be black, injection molded panels, of 0.085-inch wall thickness in modules 2 feet long by 2 feet deep.

#### PLANTING SOIL (TOPSOIL):

Planting soil is defined as on-site surface soil. 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.

If insufficient on-site surface soil is not available, provide imported planting soil as specified in Section 10-28, Earthwork.

#### PRE-EMERGENCE WEED KILLER:

Clean non-staining as recommended by a licensed pest control specialist.

### 10-30.3 EXECUTION

#### FINE GRADING AND SOIL PREPARATION.

##### Planting Soil Placement:

1. Inspect planting areas and remove all base rock, sod and other foreign material. Except where tree roots are evident, scarify all planting areas in two directions full depth of compaction (to a minimum of 3 inches) into undisturbed native soil 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 City Engineer to the specified depth to ensure proper drainage.
2. Uniformly distribute and spread planting soil backfill in planting areas in layers not to exceed 24" and compact to a maximum of 85% relative compaction.
3. When the planting soil differs in clay and silt content from the subsoil it is to be placed upon, install a 3-inch thick lift of planting soil on the subgrade and rototill into the subgrade 3 inches deep before installing the remaining required planting soil.
4. Do not work planting soil in a wet or muddy condition or dump or spread in areas where subgrade is not in proper condition.
5. Water settling, puddling, and jetting of fill and backfill materials as a compaction method is not

acceptable.

6. Maintain moisture content of materials during compaction operations within required moisture range to obtain indicated compaction density.

Before proceeding with the work: Carefully inspect all areas and verify all dimensions and quantities. Immediately inform the City Engineer of any discrepancy between the drawings and specifications and actual conditions and secure approval to proceed.

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.

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.

Planting area soil shall be in a loose, friable condition prior to planting.

Drag to a smooth, even surface. Grade to form all swales, pitch to drainage inlets, streets, curb, etc., to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas which shall be uniformly level or sloped between finish elevations.

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 for a distance of 12 to 18 inch from the edge of pavement. The remainder of the planting area shall be graded to receive the required depth of mulch.

The following recommendation is for bidding purposes only. Once acquired, refer to the horticultural soils test results for actual quantities and fertilizers.

Materials determined from the soils test shall be uniformly distributed throughout all irrigated planting areas and incorporated to a homogeneously blended soil depth of six inches. Assume per 1000 square feet:

6 cubic yards nitrogen stabilized organic amendment  
30 pounds commercial fertilizer (6-20-20)  
10 pounds iron sulfate

In areas to receive planting soil in depths of 12 inches or more, rototill above additives into soil 6 to 8 inches deep. In areas to receive planting soil in depths less than 12 inches, premix the additives into the backfill before placement. Keep iron sulfate off pavement and other surfaces to prevent rust staining. Correct all rust damage to work.

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 size in turf areas and 4 inches or larger in shrub and ground cover areas. Secure approval of the grade by the City Engineer before any planting.

Scarify all planting areas that become compacted prior to planting.

## TREE AND SHRUB PLANTING

Mark tree and shrub locations on site using stakes, gypsum or similar approved means and secure location approval by the City Engineer before plant holes are dug. Adjust location as necessary prior to planting.

Test drainage of plant beds and pits by filling with water (minimum 6"). The retention of water in planting beds and plant pits for more than three (3) hours shall be brought to the attention of the City

Engineer. 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 City Engineer.

Excavate tree, shrub and vine pits to widths and depths shown on the plans.

Break and loosen the sides and bottom of the pit to ensure root penetration and water test hole for drainage as required above.

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 (Type B fertilizer) 3 inches below surface of rootball and 1/2-inch from roots at the following rates:

1 gallon can plant	-	1 tablet
5 gallon can plant	-	3 tablets
15 gallon can plant	-	6 tablets
24-inch box plant	-	6 tablets

The City may require excavation of up to 5% of all plants selected at random for conformance review.

Carefully remove and set plants 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.

Set plants in backfill with top of the rootball 2 inches above finished grade. 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.

Build watering basin berms around trees and shrubs to drain through rootball as shown on the plans.

Stake and/or guy trees as detailed. Drive stake until solid and remove excess stake protruding above top tree tie to prevent rubbing against branches. When installing plant stakes, ensure the plant's rootball is not damaged.

Remove any soil from top of plant rootballs and secure City Engineer approval of rootball height prior to mulching.

After approval of rootball height, mulch watering basins with organic and thoroughly water.

Cut leader stakes so that top of stakes do not wear on trees.

#### ROOT BARRIER:

Place the tree root guide in the trench with the vertical ribs facing toward the tree and align with the hardscape. Using the hardscape as a guide, backfill against the tree root guides to promote a clean, smooth fit to the surrounding pavement. Keep the double top edge at least 1/2-inch above grade to ensure roots do not grow over the top.

#### GROUND COVER PLANTING:

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.

#### MULCH:

Mulch all shrub and ground cover areas with organic mulch to the depth shown on the drawings. Hold bark mulch away from base (trunk) of plant 2" to 4" or as directed by the City Engineer.

#### PRE-EMERGENCE WEED KILLER:

Apply pre-emergence weed killer in all areas to receive ground cover planting. Work shall be done under the supervision of a person licensed by the State of California as a pest control applicator and holding a qualified applicator license or a Qualified Applicator Certificate. Obtain approval of the finish grades prior to applying weed killer and coordinate planting and watering with the pest control specialist prior to planting. Take care to keep weed killer off areas to be seeded.

#### WATERING:

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. Do supplemental hand watering of trees and shrubs during the first 3 weeks of plant establishment.

#### MAINTENANCE OF PLANTING:

Maintain plants from time of delivery to site until final acceptance of landscape installation.

#### PRE-MAINTENANCE PERIOD REVIEW AND APPROVAL OF PLANTING

Receive approval of the installed planting prior to commencement of planting establishment maintenance period. Notify the City Engineer 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 tree stakes.
4. No partial approvals will be given.

#### PLANTING ESTABLISHMENT MAINTENANCE

##### General Requirements:

1. The planting establishment maintenance period required shall be 90 (ninety) calendar days after all planting is complete, and installation approved. A longer period may be required if the plant material is not acceptably maintained during the 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 City Engineer.
2. Planting establishment maintenance immediately follows, coincides with, and is continuous with the planting operations, and 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 and trespass, 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 landscape work or maintenance.
5. Repair all damaged planted areas, and replace plants immediately upon discovery of damage or loss.
6. Check sprinkler systems at each watering; adjust coverage and clean sprinklers immediately. Adjust timing of sprinkler 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 over 1-inch high at all times.

#### Tree, Shrub and Ground Cover 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 City Engineer.
2. Keep watering basins in good condition and weed-free at all times.
3. Replace all damaged, unhealthy or dead trees, shrubs, vines and ground covers with new stock immediately; size as indicated on the drawings.

#### Fertilizing:

1. Collect 2 one-quart samples of the in-place topsoil in the shrub and groundcover areas, and 2 one-quart samples of the bio-treatment soil in the biofiltration areas, 20 days after completion of planting. Submit samples to Waypoint Analytical of Santa Clara, (408) 727 0330, for maintenance period fertilizer recommendation. Test results shall be made available to the Engineer. Sample shall be a representative composite taken from several planting areas. Cost of soil test shall be paid for by the Contractor.
2. Upon approval and after submitting fertilizer delivery tags, fertilize all planting areas as indicated in the horticultural soils report. For bidding purposes assume broad-casting Type C (21-7-14) fertilizer at the rate of 5 lbs. per 1,000 square feet evenly throughout, and reapply every forty-five (45) days until acceptable.
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.

#### FINAL PLANTING REVIEW AND ACCEPTANCE

At the conclusion of the planting establishment period, schedule a final review with the City, the City's maintenance person, and the City Engineer. 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, at no additional cost to the City, until all work has been completed. This condition will be waived by the City under such circumstances wherein the City 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.

Submit written notice requesting review at least 10 days before the anticipated review.

Prior to review, weed and rake all planted areas, repair plant basins, plumb tree stakes, clear the site of all debris and present in a neat, orderly manner.

Following the completion of the plant establishment period, the Contractor agrees to repair or replace tree plantings that fail in growth within a specified warranty period of 12 months. Failures include, but are not limited to, the following:



- i Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
- ii Structural failures including plantings falling or blowing over.

#### **10-30.4 MEASUREMENT AND PAYMENT**

The lump sum price for Planting shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Planting, and related incidental work. The contractor shall provide a Schedule of Values identifying the costs for each major component of this item and submit it to the City within 15 calendar days after receiving Notice to Proceed.

#### **10-31 SITE FURNISHINGS**

##### **BID ITEM 68, SITE FURNISHINGS**

##### **10-31.1 GENERAL**

###### **SCOPE**

Provide all labor, material, power, tools, transportation, services, and equipment necessary for the purchase and installation of all site furnishings as shown on the plans and specified.

###### **WORK SPECIFIED UNDER OTHER SECTIONS**

Consult all other Sections to determine extent and character of work specified elsewhere but related to that included in this Section. Work specified herein shall be properly coordinated with that specified elsewhere.

###### **SUBMITTALS**

Submit catalogue sheets for all site furnishings for verification and approval by Owner and Engineer prior to ordering equipment.

Delivery schedules shall be verified and certified in writing to the Engineer within ten days after the project commences.

##### **10-31. 2 MATERIALS**

###### **TRASH RECEPTACLES:**

Trash receptacles shall be Dumor, model #158-32SH, or approved equal. 32-gallon receptacle with shield lid, bronze finish. Available from Ross Recreation, 100 Bush Creek Road, Suite 206, Santa Rosa, CA 95404, (855) 892-3240.

###### **RECYCLING RECEPTACLE:**

Recycling receptacles shall be Dumor, model #158-22 with RC-RECYCLED lid, or approved equal. 22-gallon receptacle with recycling lid, bronze finish. Available from Ross Recreation, 100 Bush Creek Road, Suite 206, Santa Rosa, CA 95404, (855) 892-3240.

###### **BICYCLE RACK:**

Bicycle racks shall be Landscape Forms, "Ring" bike rack with bronze finish, or approved equal. Available from Landscape Forms, contact Kelly Kirk, (800) 430-6206 ext. 1321.

###### **TREE GRATE:**

Tree grates and frames shall be as supplied by Urban Accessories, Inc., 465 East Fifteenth Street, Tacoma, WA 98421, (253) 572-1112. Each tree grate shall have one frame. Tree grates shall be Urban Accessories, "Chinook", 3-foot x 5-foot rectangle, nickel bronze material, brush finish, or approved equal. Available from Recreation

Republic, (760) 690-4030. Tree grate frames shall be Urban Accessories, Type "S" for installation into new concrete, or approved equal. Material and finish of frame to match tree grate. Available from Recreation Republic, (760) 690-4030.

**BUS SHELTER INCLUDING BENCH:**

Bus shelter shall be Model "GDC 04x16D", 4'x16' domed roof canopy with rain gutter and 2-sided display as manufactured by Daytech Limited, 416 675 1195 or approved equal.

Bench shall be 3-seat Model "BE510300" ADA Compliant manufactured by Daytech Limited, 416 675 1195 or approved equal.

**10-31.3 EXECUTION**

**INSTALLATION**

Install all equipment in accordance with manufacturers' instructions.

Install tree grate frames by incorporating them into the tree pit forming material, taking care to insure that the frame is on an even plane, and sufficient bracing is in place to prevent frame deformation during concrete pouring and curing.

Install tree grate, grinding leveling pads and shimming as needed to hold tree grates even and prevent rocking. Gap between grate and frame in finished installation shall not exceed 1/8-inch on all sides.

**10-31.4 MEASUREMENT AND PAYMENT**

The lump sum price for Site Furnishings shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Site Furnishings, and related incidental work.

The contractor shall provide a Schedule of Values identifying the costs for each major component of this item and submit it to the City within 15 calendar days after receiving Notice to Proceed.

**10-32 STREET LIGHTING**

BID ITEM 69, LIGHT FOUNDATION

BID ITEM 70, DECORATIVE PEDESTRIAN SCALED LIGHT

BID ITEM 71, DECORATIVE ROADWAY STREET LIGHT WITH  
PEDESTRIAN SCALED LIGHT

BID ITEM 72, CONDUIT, PULL BOXES AND WIRING

**10-32.1 GENERAL**

Electroliers shall consist of two types:

DECORATIVE ROADWAY STREET LIGHT WITH PEDESTRIAN SCALED LIGHT  
DECORATIVE PEDESTRIAN SCALED LIGHT

Work shall include providing conduit and conductors to electrical service points, coordinating service connections with PG&E, trenching, conduit, conductors, backfill, pull boxes, foundations, installation and testing of electroliers.

Street lighting shall conform to the provisions in Section 86, Signals, Lighting and Electrical Systems, of the Standard Specifications 2010, the Drawings, and these specifications. All work shall conform to the requirements of the National Electrical Code

Work shall include providing conduit, trenching, backfill, and pull boxes.

## **10-32.2 MATERIALS**

### **GENERAL**

Submit catalog cuts for conduits, and pull boxes for review by the Engineer, prior to ordering of materials.

Catalog numbers, where referenced, are to establish baselines for comparison of alternative products, if submitted.

### **CONDUIT**

Conduit to be installed underground shall be schedule 40 PVC type. The conduit in an electrolier foundation and between the foundation and the nearest pull box shall be the rigid steel type. After conductors have been installed, the ends of the conduits terminating at pull boxes and cabinets shall be sealed with an approved sealing compound. Conduits entering pull boxes shall enter at an angle not greater than 45 degrees from the horizontal.

### **PULL BOXES**

Pull boxes for street lights shall be size number 3-1/2. Pull box covers for street lights shall be marked with letters at least one-inch in height spelling out "STREET LIGHTING." Section joints of precast pull boxes shall be sealed with compound as recommended by the manufacturer. Grout shall not be placed in the bottom of the pull boxes.

Lids for boxes and vaults not in regular vehicle traffic areas shall be designed to support a single wheel load of 8,000 pounds over a 10" square area.

### **CONDUCTORS**

Splices for street light conductors shall be insulated by "Method B" per Caltrans Standard Plan ES-13A.

### **DECORATIVE ROADWAY STREET LIGHT WITH PEDESTRIAN SCALED LIGHT**

Decorative roadway street light with pedestrian scaled light shall be a double-arm electrolier with a 118 Watt LED luminaire mounted at a height of 23' on a 6' mast arm toward the street area and a 27 Watt LED luminaire mounted at a height of 12' on a 2' mast arm toward the sidewalk and opposite of the 6' mast arm. All Pedestrian and Roadway (combo) standards shall include banner hangers mounted perpendicular to the roadway.

The standard shall be Holophane's North Yorkshire Decorative 23' in height, one piece cast iron and steel pole, with a 20" base. The 6' mast arm shall be Holophane's West Liberty roadway arm with two breakaway banner arms mounted at 14' and 18' above the sidewalk. The 2' pedestrian mast arm shall be Holophane's Boston Harbor. All components shall have a standard black finish color, Pole Assembly shall be Holophane Part Number NY23/20CISU735D, WLC72/1, BHC24/1, (2)BBD24, FGIUS, AB-31-4 RFD170123 or approved equal.

Luminaires toward the street area shall be Holophane's Memphis Style Luminaire, 118 watt LED, auto-sensing driver 120-277 volt, teardrop Type III glass door, standard black finish with internal photoelectric control receptacle and long life photo control, Holophane Part MPL2 P30S 40K AS BK TG 3S R PCLL or approved equal.

Luminaires toward the sidewalk shall be Holophane's Memphis Pedestrian, 27 watt LED, auto-sensing driver 120-277 volt, teardrop Type IV glass optic, standard black finish with internal photoelectric control receptacle and long life photo control, Holophane Part Number MSPL2 P10 40K AS S B 4 R PCS P5 or approved equal.

### **DECORATIVE PEDESTRIAN SCALED LIGHT**

Decorative pedestrian scaled light shall be a single-arm electrolier with a 51 Watt LED luminaire mounted at a height of 13' on a 2' mast arm toward the sidewalk.

The standard shall be Holophane's North Yorkshire Decorative, 13' in height with a 20" base diameter, one piece cast iron and steel pole. The 2' mast arm shall be Holophane's West Liberty roadway arm and acorn finial pole top. All components shall have a standard black finish color, Holophane Part Number NY13/20CISU734D, AFCABKH, BHC24/1/BOU3820, FGIUS, AB-31-4 RFD170122 or approved equal.

Luminaires toward the sidewalk shall be Holophane's Memphis Pedestrian, 51 watt LED, auto-sensing driver 120-277 volt, teardrop Type IV glass optic, standard black finish with internal photoelectric control receptacle, Holophane Part Number MSPL2 P30 40K AS S B 4 R PCS P5 or approved equal.

### **10-32.3 EXECUTION**

The Contractor shall submit for review by the Engineer his plan for temporary electrical shutdown(s) a minimum of five working days prior to the proposed shutdown. A maximum shutdown period of two hours will be allowed. The Contractor shall notify all affected customers a minimum of 48 hours prior to any shutdown.

If utility conflicts are discovered during excavation for the foundation, the Contractor shall notify the City and the appropriate utility company.

### **10-3.4 MEASUREMENT AND PAYMENT**

Foundations shall be measured on a per-unit basis. The contract price paid for foundations shall include full compensation for furnishing all labor and materials, tools, equipment and incidentals, and for performing the work involved in placing, removing, salvaging, storing, maintaining, moving to new locations, replacing and disposing of the components as specified by the Contract Documents.

Decorative Pedestrian Scaled Light shall be measured on a per-unit basis. The contract price paid for Pedestrian Pole/Lights shall include full compensation for furnishing all labor and materials, tools, equipment and incidentals, and for performing the work involved in placing, removing, salvaging, storing, maintaining, moving to new locations, replacing and disposing of the components as specified by the Contract Documents.

Decorative Roadway Street Light with Pedestrian Scaled Light shall be measured on a per-unit basis. The contract price paid for Combination Street Pole/Lights shall include full compensation for furnishing all labor and materials, tools, equipment and incidentals, and for performing the work involved in placing, removing, salvaging, storing, maintaining, moving to new locations, replacing and disposing of the components as specified by the Contract Documents.

Conduit, Conductors and Wiring shall be measured on a linear-foot basis, conduit measured straight-line from pull box to pull box or from pull box to cabinet/enclosure. Conductors and Wiring shall be measured as a straight horizontal distance measured from pull box to pull box plus vertical distance from road surface to pole mounting height. New and Adjust Pull boxes shall be measured on a per unit basis. The lumpsum price paid for furnishing and installing various types of Conduit, Conductors, Wiring, and New Pull boxes and Adjust Pull Boxes should include all labor, materials, tools, equipment and incidentals required for performing the work involved in placing, removing, storing, maintaining and replacing conduit (including connecting new and existing conduit or installing conduit into existing pull boxes), and installing conductors, including removing existing conductors, cleaning existing conduits, and pulling new and existing conductors into conduit and including removing existing boxes and modifying existing sweeps where appropriate and replacing landscaping in kind that is damaged by the Contractors operations, as specified in the Contract Documents.

Full compensation for pull ropes or tape shall be included in the various other items of work and no additional compensation will be allowed therefor.

### **10-33 ON SITE BIOLOGIST**

#### **BID ITEM 73,ON SITE BIOLOGIST**

A Biologist will need to be on site during the vegetation removal and installation of a Salt Marsh Harvest mouse exclusion fence in areas of potential habitat at the ends of Bay Road (at the fire truck turnaround). The biologist will need to be approved by the Department of Fish and Wildlife. All work in accordance with the US Fish and Wildlife Service Biological Opinion Letter, included in Attachment A. The Biologist will need to be approved by the USFW prior to starting any work on site.

#### **10-6.02 MEASUREMENT AND PAYMENT**

On Site Biologist shall be paid as lump sum. The contract price for this item shall include full compensation for all the work as listed in the Biological Opinion Letter in Attachment A; furnishing all labor, material, equipment, tools, and incidentals necessary to perform the work.

#### **10-33 TEMPORARY LIGHTING**

##### **ITEM 117, TEMPORARY LIGHTING**

In order to provide temporary lighting during construction phase Seven (7) luminaries between Pulgas Avenue and Cooley Landing entrance on wood poles to be installed. Contractor to provide a plan for review and approval.

#### **10-33.1 MEASUREMENT AND PAYMENT**

The contract bid price paid for Temporary Lighting to include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved. It shall also include purchase and construction of 7 temporary luminaries, span wire, wood poles, foundations, guy anchors, pull boxes and removing them once the permanent lighting is in place and no additional compensation will be allowed therefor.

### **SECTION 11. (BLANK)**

## SECTION 12.

### LOBBYING RESTRICTION FORM (FORM CD-512)

FORM CD-512 (REV 05-17)	U.S. DEPARTMENT OF COMMERCE
<b>CERTIFICATION REGARDING LOBBYING LOWER TIER COVERED TRANSACTIONS</b>	
<p>Applicants should review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying."</p>	
<p><b>LOBBYING</b></p> <p>As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:</p> <p>(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.</p> <p>(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.</p> <p>(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.</p> <p>This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.</p>	<p><b>Statement for Loan Guarantees and Loan Insurance</b></p> <p>The undersigned states, to the best of his or her knowledge and belief, that:</p> <p>In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.</p> <p>Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.</p>
<p><b>As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.</b></p>	
NAME OF APPLICANT	AWARD NUMBER AND/OR PROJECT NAME
CITY OF EAST PALO ALTO	RAVENSWOOD-BAY ROAD STORMWATER INFRASTRUCTURE PROJECT
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
KAMAL FALLAHA, DIRECTOR OF PUBLIC WORKS	
SIGNATURE	DATE
	8-20-2019

**SECTION 13. (RELATIONS WITH RAILROAD, NOT USED)**

## **SECTION 14. FEDERAL REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION PROJECTS**



# PROPOSAL TO THE CITY OF EAST PALO ALTO

DEPARTMENT OF PUBLIC WORKS  
CONTRACT NO. - HPLUL-5438 (011)

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

**BUSINESS P.O. BOX** \_\_\_\_\_

**CITY, STATE, ZIP** \_\_\_\_\_

**BUSINESS STREET ADDRESS** \_\_\_\_\_

*(Please include even if P.O. Box used)*

**CITY, STATE, ZIP** \_\_\_\_\_

**TELEPHONE NO:**                      **AREA CODE (    )** \_\_\_\_\_

**FAX NO:**                              **AREA CODE (    )** \_\_\_\_\_

**CONTRACTOR LICENSE NO.** \_\_\_\_\_

The work for which this proposal is submitted is for construction in conformance with the special provisions (including the payment of not less than the State general prevailing wage rates or Federal minimum wage rates), the project plans described below, including any addenda thereto, the contract annexed hereto, and also in conformance with the California Department of Transportation Standard Plans, dated 2010, the Standard Specifications, dated 2010, and the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished.

The special provisions for the work to be done are dated October 8, 2018 and are entitled: CONTRACT DOCUMENTS AND SPECIFICATIONS FOR CONSTRUCTION OF BAY ROAD IMPROVEMENTS PHASE II/III PROJECT.

**CITY OF EAST PALO ALTO  
DEPARTMENT OF PUBLIC WORKS  
NOTICE TO CONTRACTORS AND SPECIAL PROVISIONS FOR**

*BAY ROAD IMPROVEMENTS PHASE II/III PROJECT*

**IN**

*CITY OF EAST PALO ALTO, COUNTY OF SAN MATEO, STATE OF CALIFORNIA*

The project plans for the work to be done were approved 10/8/2018 and are entitled:

**CITY OF EAST PALO ALTO  
DEPARTMENT OF PUBLIC WORKS  
PROJECT PLANS FOR**

*BAY ROAD IMPROVEMENTS PHASE II/III PROJECT*

**IN**

*CITY OF EAST PALO ALTO, COUNTY OF SAN MATEO, STATE OF CALIFORNIA*

Bids are to be submitted for the entire work. The amount of the bid for comparison purposes will be the total of all items.

The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total 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;
- (b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentagewise the unit price or item total in the *CITY OF EAST PALO ALTO's* Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the *CITY OF EAST PALO ALTO*, and that discretion will be exercised in the manner deemed by the *CITY OF EAST PALO ALTO* to best protect the public interest in the prompt and economical completion of the work. The decision of the *CITY OF EAST PALO ALTO* respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this Proposal shall be accepted and the undersigned should fail to contract as aforesaid or should fail to give the "Faithful Performance" Surety Bond in the sum of one hundred percent (100%) of the contract bid, Payment Bond in the sum of 100% of the contract bid, plus any increases authorized by the City, the "Labor and Material" Surety Bond in the sum of one hundred percent (100%) of the contract bid, and certificates of insurance covering Public Liability and Property Damage in amounts satisfactory to the City Engineer and a Certificate of Insurance covering Workmen's Compensation Insurance, within ten (10) days not counting Sundays and legal holidays, after the Bidder has received notice from the City that the Contract is ready for signature, the City may, at its option, determine that the bidder has abandoned the Contract, thereupon this Proposal and the acceptance thereof shall be null and void, and the forfeiture of any security accompanying this Proposal shall operate and the same shall become the property of the City of East Palo Alto, State of California.

The undersigned, as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes, and agrees if this proposal is accepted, that he will contract with the *CITY OF EAST PALO ALTO*, in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefor the following prices, to wit:

## BID SCHEDULE

BAY ROAD IMPROVEMENTS PHASE II/III PROJECT,  
CITY PROJECT No. CIP-ST-05A-13  
CITY OF EAST PALO ALTO, CALIFORNIA

### BASE BID

ITEM NO.	ITEM DESCRIPTION	EST. QUANTITY	UNIT OF MEASURE	UNIT PRICE (IN FIGURES)	TOTAL AMOUNT (IN FIGURES)
1	MOBILIZATION (5% of Contract)	1	LS	\$	\$
2	WATER POLLUTION CONTROL INCLUDING PREPARING SWPPP	1	LS	\$	\$
3	CONSTRUCTION STAKING	1	LS	\$	\$
4	TRAFFIC CONTROL	1	LS	\$	\$
5	CONSTRUCTION AREA SIGNS	1	LS	\$	\$
6	HAZARDOUS SOIL AND GROUNDWATER HANDLING	1	LS	\$	\$
7	CLEARING AND GRUBBING	1	LS	\$	\$
8	REMOVE EUCALYPTUS TREE	1	EA	\$	\$
9	ROADWAY EXCAVATION	3430	CY	\$	\$
10	IMPORTED BORROW	3240	CY	\$	\$
11	DEWATERING	1	LS	\$	\$
12	REMOVE EXISTING CURB & GUTTER	2410	LF	\$	\$
13	REMOVE EXISTING CURB	1350	LF	\$	\$
14	REMOVE PCC SIDEWALK/DRIVEWAY (INCLUDING BASE)	10750	SQFT	\$	\$
15	REMOVE EXISTING SIGNS	1	LS	\$	\$
16	REMOVE AND DISPOSE EXISTING STORM DRAIN MANHOLE	11	EA	\$	\$
17	ABANDON EXISTING STORM DRAIN MANHOLE	3	EA	\$	\$
18	REMOVE AND DISPOSE EXISTING STORM DRAIN INLET	8	EA	\$	\$
19	REMOVE AND DISPOSE EXISTING 30-INCH STORM DRAIN PIPE	9	LF	\$	\$
20	REMOVE AND DISPOSE EXISTING 18-INCH STORM DRAIN PIPE	48	LF	\$	\$
21	REMOVE AND DISPOSE EXISTING 15-INCH STORM DRAIN PIPE	639	LF	\$	\$
22	REMOVE AND DISPOSE EXISTING 12-INCH STORM DRAIN PIPE	16	LF	\$	\$

23	CONVERT EXISTING CATCH BASIN TO MANHOLE	2	EA	\$	\$
24	ADJUST STORM MANHOLE TO GRADE	1	EA	\$	\$
25	ADJUST UTILITY FRAME AND COVER TO GRADE	8	EA	\$	\$
26	ADJUST SEWER MANHOLES TO GRADE	15	EA	\$	\$
27	CLASS 2 AGGREGATE BASE	1930	CY	\$	\$
28	HOT MIX ASPHALT CONCRETE (TYPE A)	5670	TON	\$	\$
29	CONCRETE CURB & GUTTER	4880	LF	\$	\$
30	CONCRETE CURB	1910	LF	\$	\$
31	CONCRETE CURB (BIOFILTRATION AREA)*	400	LF	\$	\$
32	CONCRETE SIDEWALK AND CURB RAMPS	25540	SQFT	\$	\$
33	CONCRETE DRIVEWAY	8630	SQFT	\$	\$
34	CONCRETE MEDIAN	410	SQFT	\$	\$
35	CONCRETE BUS PAD	1700	SQFT	\$	\$
36	CONCRETE CROSSWALK	4030	SQFT	\$	\$
37	CONCRETE SEAT WALL	76	LF	\$	\$
38	CONCRETE SEAT CUBE	12	EA	\$	\$
39	BIOFILTRATION AREAS*	1680	SQFT	\$	\$
<b>STORM DRAIN*</b>					
40	8" HDPE SD PIPE	260	LF	\$	\$
41	12" HDPE SD PIPE	753	LF	\$	\$
42	15" HDPE SD PIPE	214	LF	\$	\$
43	18" HDPE SD PIPE	428	LF	\$	\$
44	24" HDPE SD PIPE	1,471	LF	\$	\$
45	36" HDPE SD PIPE	687	LF	\$	\$
46	42" HDPE SD PIPE	1013	LF	\$	\$
47	48" HDPE SD PIPE	590	LF	\$	\$
48	AREA DRAIN	9	EA	\$	\$
49	REHABILITATE EXISTING STORM DRAIN MANHOLE	3	EA	\$	\$
50	48-INCH STANDARD STORM DRAIN MANHOLE	6	EA	\$	\$
51	60-INCH STORM DRAIN MANHOLE (0 TO 10-FT DEPTH)	6	EA	\$	\$
52	72-INCH STORM DRAIN MANHOLE (0 TO 10-FT DEPTH)	5	EA	\$	\$
53	72-INCH STORM DRAIN MANHOLE (OVER 10-FT DEPTH)	6	EA	\$	\$
54	96-INCH STORM DRAIN MANHOLE (OVER 10-FT DEPTH)	2	EA	\$	\$
55	120-INCH STORM DRAIN MANHOLE (OVER 10-FT DEPTH)	1	EA	\$	\$

56	TYPE GO SD INLET	30	EA	\$	\$
57	18" X 18" CONCRETE CATCH BASIN	2	EA	\$	\$
<b>SANITARY SEWER SERVICE LATERALS (BAY ROAD AND PULGAS AVENUE)*</b>					
58	4"-6" SANITARY SEWER SERVICE LATERAL RECONSTRUCTION	166	LF	\$	\$
<b>OTHER</b>					
59	PAVEMENT STRIPING, MARKINGS AND MARKERS	1	LS	\$	\$
60	ROADSIDE SIGN ON STREET LIGHT POLE (SIGN AND MOUNTING ONLY)	33	EA	\$	\$
61	FURNISH AND INSTALL ROADSIDE SIGN ON SINGLE DECORATIVE METAL POST	24	EA	\$	\$
62	FURNISH AND INSTALL ROADSIDE SIGN ON SIGN POST (POST NOT INCLUDED)	23	EA	\$	\$
63	SOLAR POWERED RRFB SYSTEM AT BAY ROAD & DEMETER STREET	1	LS	\$	\$
64	SOLAR POWERED RRFB SYSTEM AT BAY ROAD & TARA STREET	1	LS	\$	\$
65	IRRIGATION	1	LS	\$	\$
66	PLANTING	1	LS	\$	\$
67	PLANT ESTABLISHMENT WORK (3 MONTHS)	1	LS	\$	\$
68	SITE FURNISHINGS	1	LS	\$	\$
69	LIGHT FOUNDATION	35	EA	\$	\$
70	DECORATIVE PEDESTRIAN SCALED LIGHT	2	EA	\$	\$
71	DECORATIVE ROADWAY STREET LIGHT WITH PEDESTRIAN SCALED LIGHT	36	EA	\$	\$
72	CONDUIT, CONDUCTOR, PULL BOXES AND WIRING	1	LS	\$	\$
73	ON SITE BIOLOGIST	1	LS	\$	\$
<b>12" WATER MAIN (BAY ROAD)*</b>					
74	12" PVC PIPE, AWWA C900 DR14	2664	LF	\$	\$
75	8" PVC PIPE, AWWA C900 DR14	100	LF	\$	\$
76	6" PVC PIPE, AWWA C900 DR14	100	LF	\$	\$
77	12" 45° ELBOW, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	10	EA	\$	\$
78	12" 22½° ELBOW, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	5	EA	\$	\$

79	12" 11¼° ELBOW, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	12	EA	\$	\$
80	12"x8" TEE, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	3	EA	\$	\$
81	12"x6" TEE DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	2	EA	\$	\$
82	8" 45° ELBOW DUCTILE IRON AWWA C153, THRUST BLOCK	6	EA	\$	\$
83	6" 45° ELBOW DUCTILE IRON AWWA C153, THRUST BLOCK	4	EA	\$	\$
84	6" 22½° ELBOW DUCTILE IRON AWWA C153, THRUST BLOCK	1	EA	\$	\$
85	8" 22½° ELBOW DUCTILE IRON AWWA C153, THRUST BLOCK	1	EA	\$	\$
86	6" 11¼° ELBOW DUCTILE IRON AWWA C153, THRUST BLOCK	1	EA	\$	\$
87	8" Flg x MJ ADAPTER, DUCTILE IRON	1	EA	\$	\$
88	6" Flg x MJ ADAPTER, DUCTILE IRON	1	EA	\$	\$
89	12" SLEEVE, DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153	1	EA	\$	\$
90	STANDARD GATE VALVE ASSEMBLY (12" GATE VALVE, RESILIENT SEAT, MJX MJ, MUELLER A2370 NRS OR EQUAL)	2	EA	\$	\$
91	STANDARD GATE VALVE ASSEMBLY (8" GATE VALVE, RESILIENT SEAT, MJX MJ, MUELLER A2370 NRS OR EQUAL)	3	EA	\$	\$
92	STANDARD GATE VALVE ASSEMBLY (6" GATE VALVE, RESILIENT SEAT, MJX MJ, MUELLER A2370 NRS OR EQUAL)	1	EA	\$	\$
93	STANDARD FIRE HYDRANT ASSEMBLY	10	EA	\$	\$
94	CONNECTION TO EXISTING FIRE HYDRANTS (ON BAY ROAD WITHIN CITY R/W)	2	EA	\$	\$
95	STANDARD WATER SERVICE CONNECTION (AVERAGE LENGTH 40 LF/EA SERVICE)	48	EA	\$	\$
96	STANDARD ABOVE GROUND COMBINATION AIR RELEASE AND VACUUM VALVE	1	EA	\$	\$
97	STANDARD 2" BLOW-OFF ASSEMBLY	2	EA	\$	\$
98	CONNECTION TO EXISTING 12"	1	EA	\$	\$

	WATER MAIN (INCLUDING SHUTDOWN)				
99	CONNECTION TO EXISTING 8" WATER MAIN (INCLUDING SHUTDOWN)	4	EA	\$	\$
100	CONNECTION TO EXISTING 6" WATER MAIN (INCLUDING SHUTDOWN)	2	EA	\$	\$
101	12" PVC C900 REPAIR COUPLER W/O CENTER STOP, GXG	4	EA	\$	\$
102	8" PVC C900 REPAIR COUPLER W/O CENTER STOP, GXG	6	EA	\$	\$
103	6" PVC C900 REPAIR COUPLER W/O CENTER STOP, GXG	4	EA	\$	\$
104	12"x8" REDUCER, DUCTILE IRON MJxMJ AWWA C153	1	EA	\$	\$
<b>WATER MAIN ESTIMATE (PULGAS AVE.)*</b>					
105	8" PVC PIPE, AWWA C900 DR14	628	LF	\$	\$
106	8" 45° ELBOW DUCTILE IRON AWWA C153	2	EA	\$	\$
107	8" 22½° BEND AND THRUST BLOCK	3	EA	\$	\$
108	8" GATE VALVE, RESILIENT SEAT, MJxMJ, MUELLER A2370 NRS OR EQUAL	5	EA	\$	\$
109	CONNECTION TO EXISTING FIRE HYDRANTS (ON PULGAS AVENUE WITH IN CITY R/W)	1	EA	\$	\$
110	STANDARD SERVICE CONNECTION, AVERAGE LENGTH 7 LF/EA SERVICE	18	EA	\$	\$
111	CONNECTION TO EXISTING 8" WATER MAIN (INCLUDING SHUTDOWN)	3	EA	\$	\$
112	8"x8"x8" DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	1	EA	\$	\$
113	8"x8"x6" DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	1	EA	\$	\$
114	8"x8"x8"x8" DUCTILE IRON MJ RESTRAINED JOINTS AWWA C153, THRUST BLOCK	1	EA	\$	\$
115	REMOVE AND DISPOSE EXISTING 8-INCH WATER MAIN	635	LF	\$	\$



116	REMOVE WATER VALVE BOX	4	EA	\$	\$
<b>OTHER - TEMPORARY</b>					
117	TEMPORARY LIGHTING	1	LS	\$	\$
118	TEMPORARY EDA SITE SIGN	1	EA	\$	\$
<b>Total</b>				\$	

(Abbreviation: LS = Lump Sum; LF = Lineal Foot; EA = Each, SQFT= Square Feet, SQYD= Square Yard, CY = Cubic Yards, TON= ton , LB= pound)

<b>Grand Total - Basis of Award</b>	<b>\$</b>
<b>Total Base Bid Amount (in Writing) Basis of Award:</b>	

\*EDA Grant Funded

Note: The estimate of construction quantities set forth herein are approximate only, being given as a basis for the comparison of bids. The City does not expressly or by implication agree that the actual amount of work will correspond therewith, and reserves the right to change the amount of any class or portion of the work or to omit portions of the work as may be deemed necessary or expedient by the Engineer. All bids will be compared on the basis of the Engineer's Estimate of quantities of the work to be done. The undersigned declares, by their signature to this proposal, that the bidder has checked carefully all of the above figures and understands that the City shall not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

Accompanying this Proposal is \_\_\_\_\_  
(insert the words "Cash", "Cashier's Check", "Certified Check", or "Bidder's Bond", as the case may be, made out to the City of East Palo Alto), in amount equal to at least ten percent (10%) of the total bid.

# BIDDER INFORMATION SHEET

(To be submitted with Proposal form)

To The City of East Palo Alto:

Pursuant to "Notice to Contractors," Specifications, Instruction to Bidders, and subject to all provisions of the Ordinances of the City of East Palo Alto and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of East Palo Alto, complete at the prices stated herein, the services hereinafter mentioned.

IF A SOLE OWNER OR SOLE CONTRACTOR, SIGN HERE:

- 1) Name under which business is conducted \_\_\_\_\_
- 2) Name and Signature of Proprietor. \_\_\_\_\_
- 3) Place of business \_\_\_\_\_  
(Street and Number)  
City and State \_\_\_\_\_
- 4) Telephone Number \_\_\_\_\_ Zip Code \_\_\_\_\_

IF A PARTNERSHIP, SIGN HERE:

- 1) Name under which business is conducted \_\_\_\_\_
- 2) Name and Signature of each member of partnership:  
(Indicate character of each partner - general or special.)  
\_\_\_\_\_  
\_\_\_\_\_
- 3) Place of business \_\_\_\_\_  
(Street and Number)  
City and State \_\_\_\_\_
- 4) Telephone Number \_\_\_\_\_ Zip Code \_\_\_\_\_

*Continued on Next Page*

IF A CORPORATION, SIGN HERE:

- 1) Name under which business is conducted \_\_\_\_\_
- 2) Signature, with official title of officer authorized to sign for the Corporation

\_\_\_\_\_  
(Impress Corporate Seal Here)

- 3) Incorporated under the laws of the State of \_\_\_\_\_
- 4) Place of business \_\_\_\_\_  
(Street and Number)  
City and State \_\_\_\_\_
- 5) Telephone Number \_\_\_\_\_ Zip Code \_\_\_\_\_

The undersigned further acknowledges receipt of addenda as listed below, and represents that any additions or modifications to, or deletions from, the work called for in these addenda, are included in the total bid sum.

Addenda Number

Date

_____	_____
_____	_____
_____	_____
_____	_____

## LIST OF SUBCONTRACTORS

The Bidder shall list the name and address of each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions in Section 2-1.33C, "Subcontractor List," of the Standard Specifications and Section 2-1.01, "General," of the special provisions.

<u>Name and Address</u>	<u>Description of Portion of Work Subcontracted</u>	<u>Dollar Amount</u>	<u>License No.</u>

*(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS BY ALL SUBCONTRACTORS WHICH ARE A PART OF THIS PROPOSAL)*

## EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder \_\_\_\_\_, proposed subcontractor \_\_\_\_\_, hereby certifies that he has \_\_\_\_\_, 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 which are subject to the equal opportunity clause. Contracts and subcontracts which are 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.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

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.

## **PUBLIC CONTRACT CODE**

### **Public Contract Code Section 10285.1 Statement**

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has \_\_\_\_ , has not \_\_\_\_ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

### **Public Contract Code Section 10162 Questionnaire**

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the 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 or an attachment hereto.

### **Public Contract Code 10232 Statement**

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.  
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

## NONCOLLUSION AFFIDAVIT

(Title 23 United States Code Section 112 and Public Contract Code Section 7106)

To the CITY of East Palo Alto, *DEPARTMENT OF PUBLIC WORKS*.

In conformance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Noncollusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.



## **DEBARMENT AND SUSPENSION CERTIFICATION**

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgement rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

## **NONLOBBYING CERTIFICATION FOR FEDERAL-AID CONTRACTS**

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in conformance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

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

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**16.** 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. 09-12-97

## **INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES**

This disclosure form shall be completed by the reporting entity, whether subawardee 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 and/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 District 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 subawardee, e.g., the first subawardee 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 "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organization level below agency name, 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. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influenced the covered Federal action.  
(b) 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).
11. 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.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. 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.
15. Check whether or not a continuation sheet(s) is attached.

16. The certifying official shall sign and date the form, 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.

Accompanying this proposal is \_\_\_\_\_

(NOTICE: INSERT THE WORDS "CASH(\$ \_\_\_\_\_)," "CASHIER'S CHECK,"  
"CERTIFIED CHECK," OR "BIDDER'S BOND," AS THE CASE MAY BE.)

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

The names of all persons interested in the foregoing proposal as principals are as follows:

## IMPORTANT NOTICE

*If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a copartnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.*

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Licensed in conformance with an act providing for the registration of Contractors,

License No. \_\_\_\_\_ Classification(s) \_\_\_\_\_

### **ADDENDA** -

This Proposal is submitted with respect to the changes to the contract included in addenda number/s \_\_\_\_\_

*(Fill in addenda numbers if addenda have been received and insert, in this Proposal, any Engineer's Estimate sheets that were received as part of the addenda.)*

By my signature on this proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this proposal I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

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



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Signature and Title of Bidder

Business Address \_\_\_\_\_

Place of Business \_\_\_\_\_

Place of Residence \_\_\_\_\_

# CONSTRUCTION CONTRACT DBE COMMITMENT

*This information may be submitted with your bid proposal. If it is not, and you are the apparent low bidder or the second or third low bidder, it must be submitted and received as specified in Section 2-1.02B of the Special Provisions. Failure to submit the required DBE information will be grounds for finding the proposal nonresponsive.*

1. Local Agency: \_\_\_\_\_ 2. Contract DBE Goal: \_\_\_\_\_
3. Project Description: \_\_\_\_\_
4. Project Location: \_\_\_\_\_
5. Bidder's Name: \_\_\_\_\_ 6. Prime Certified DBE: ☐ 7. Bid Amount: \_\_\_\_\_
8. Total Dollar Amount for **ALL** Subcontractors: \_\_\_\_\_ 9. Total Number of **ALL** Subcontractors: \_\_\_\_\_

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount
<b>Local Agency to Complete this Section</b>			<b>15. TOTAL CLAIMED DBE PARTICIPATION</b>	\$
21. Local Agency Contract Number: _____ 22. Federal-Aid Project Number: _____ 23. Bid Opening Date: _____ 24. Contract Award Date: _____  Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate.  <div style="display: flex; justify-content: space-between;"> <div>             25. Local Agency Representative's Signature _____               27. Local Agency Representative's Name _____               29. Local Agency Representative's Title _____           </div> <div>             26. Date _____               28. Phone _____           </div> </div>				%
<div style="display: flex; justify-content: space-between;"> <div>             25. Local Agency Representative's Signature _____               27. Local Agency Representative's Name _____               29. Local Agency Representative's Title _____           </div> <div>             26. Date _____               28. Phone _____           </div> </div>			<b>IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required.</b>  <div style="display: flex; justify-content: space-between;"> <div>             16. Preparer's Signature _____               18. Preparer's Name _____               20. Preparer's Title _____           </div> <div>             17. Date _____               19. Phone _____           </div> </div>	

DISTRIBUTION: 1. Original – Local Agency



2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract. Include additional copy with award package.

**ADA Notice:** For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

## INSTRUCTIONS – CONSTRUCTION CONTRACT DBE COMMITMENT

### CONTRACTOR SECTION

- 1. Local Agency** - Enter the name of the local or regional agency that is funding the contract.
- 2. Contract DBE Goal** - Enter the contract DBE goal percentage as it appears on the project advertisement.
- 3. Project Location** - Enter the project location as it appears on the project advertisement.
- 4. Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
- 5. Bidder's Name** - Enter the contractor's firm name.
- 6. Prime Certified DBE** - Check box if prime contractor is a certified DBE.
- 7. Bid Amount** - Enter the total contract bid dollar amount for the prime contractor.
- 8. Total Dollar Amount for ALL Subcontractors** – Enter the total dollar amount for all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
- 9. Total number of ALL subcontractors** – Enter the total number of all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
- 10. Bid Item Number** - Enter bid item number for work, services, or materials supplied to be provided.
- 11. Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials to be provided. Indicate all work to be performed by DBEs including work performed by the prime contractor'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.
- 12. DBE Certification Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
- 13. DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors. Also, enter the prime contractor's name and phone number, if the prime is a DBE.
- 14. DBE Dollar Amount** - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime contractor if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
- 15. Total Claimed DBE Participation** - \$: Enter the total dollar amounts entered in the "DBE Dollar Amount" column. %: Enter the total DBE participation claimed ("Total Claimed DBE Participation Dollars" divided by item "Bid Amount"). If the total % claimed is less than item "Contract DBE Goal," an adequately documented Good Faith Effort (GFE) is required (see Exhibit 15-H DBE Information - Good Faith Efforts of the LAPM).
- 16. Preparer's Signature** - The person completing the DBE commitment form on behalf of the contractor's firm must sign their name.
- 17. Date** - Enter the date the DBE commitment form is signed by the contractor's preparer.
- 18. Preparer's Name** - Enter the name of the person preparing and signing the contractor's DBE commitment form.
- 19. Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
- 20. Preparer's Title** - Enter the position/title of the person signing the contractor's DBE commitment form.

### LOCAL AGENCY SECTION

- 21. Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
- 22. Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
- 23. Bid Opening Date** - Enter the date contract bids were opened.

**24. Contract Award Date** - Enter the date the contract was executed.

**25. Local Agency Representative's Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Contractor Section of this form is complete and accurate.

**26. Date** - Enter the date the DBE commitment form is signed by the Local Agency Representative.

**27. Local Agency Representative's Name** - Enter the name of the Local Agency Representative certifying the contractor's DBE commitment form.

**28. Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.

**29. Local Agency Representative Title** - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

**EXHIBIT 15-H DBE INFORMATION —GOOD FAITH EFFORTS**

**DBE INFORMATION - GOOD FAITH EFFORTS**

The \_\_\_\_\_ (City/County of) \_\_\_\_\_ established a Disadvantaged Business Enterprise (DBE) goal of \_\_\_\_\_% for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest and third lowest bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the “Local Agency Bidder DBE Commitment” form indicates that the bidder has met the DBE goal. This will protect the bidder’s eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the “Local Agency Bidder DBE Commitment” form may not provide sufficient documentation to demonstrate that adequate good faith efforts were made.

The following items are listed in the Section entitled “Submission of DBE Commitment” of the Special Provisions:

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

<u>Publications</u>	<u>Dates of Advertisement</u>

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

<u>Names of DBEs Solicited</u>	<u>Date of Initial Solicitation</u>	<u>Follow Up Methods and Dates</u>

- C. The items of work which the bidder made available to DBE firms 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 DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation was made available to DBE firms.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract

- D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

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Names, addresses and phone numbers of firms selected for the work above:

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- E. Efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs:

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- F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

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- G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

- H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

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**NOTE:** USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

**EXHIBIT 15-H DBE INFORMATION —GOOD FAITH EFFORTS**

**DBE INFORMATION - GOOD FAITH EFFORTS**

Federal-aid Project No. SRTSL-5438 (013)

Bid Opening Date \_\_\_\_\_

The City of East Palo Alto established a Disadvantaged Business Enterprise (DBE) goal of 7% for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest and third lowest bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the “Local Agency Bidder DBE Commitment” form indicates that the bidder has met the DBE goal. This will protect the bidder’s eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the “Local Agency Bidder DBE Commitment” form may not provide sufficient documentation to demonstrate that adequate good faith efforts were made.

The following items are listed in the Section entitled “Submission of DBE Commitment” of the Special Provisions:

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

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

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

<u>Names of DBEs Solicited</u>	<u>Date of Initial Solicitation</u>	<u>Follow Up Methods and Dates</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- C. The items of work which the bidder made available to DBE firms 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 DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation was made available to DBE firms.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract

- D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

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Names, addresses and phone numbers of firms selected for the work above:

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- E. Efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs:

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- F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

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- H. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

- H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

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**NOTE:** USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

## EXHIBIT 12-B BIDDER'S LIST OF SUBCONTRACTORS (DBE AND NON-DBE)

### PART I

The bidder shall list all subcontractors (both DBE and non-DBE) in accordance with Title 49, Section 26.11 of the Code of Federal Regulations. This listing is required in addition to listing DBE Subcontractors elsewhere in the proposal. **Photocopy this form for additional firms and include as an attachment.**

Firm Name/ Address/ City, State, ZIP	Phone/ Fax	Annual Gross Receipts	Description of Portion of Work to be Performed	<u>Local Agency Use</u> <u>Only</u> (Certified DBE?)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>		<input type="checkbox"/> > \$15 million		Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>		<input type="checkbox"/> > \$15 million		Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>		<input type="checkbox"/> > \$15 million		Age of Firm (Yrs.)
<i>Name</i>	<i>Phone</i>	<input type="checkbox"/> < \$1 million		<input type="checkbox"/> YES
		<input type="checkbox"/> < \$5 million		<input type="checkbox"/> NO
<i>Address</i>	<i>Fax</i>	<input type="checkbox"/> < \$10 million		<i>If YES list DBE #:</i>
		<input type="checkbox"/> < \$15 million		
<i>City State ZIP</i>		<input type="checkbox"/> > \$15 million		Age of Firm (Yrs.)

**Distribution:** 1) Original - Local Agency File

## BID BOND

CITY OF EAST PALO ALTO  
(To be submitted with Proposal form)

KNOW ALL MEN BY THESE PRESENTS, that we \_\_\_\_\_,  
as Principal, and \_\_\_\_\_, as Surety, are held and firmly  
bound unto the City of East Palo Alto, hereinafter called "City", in penal sum of ten percent (10%) OF THE TOTAL  
AMOUNT OF THE BID OF THE PRINCIPAL submitted to said 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  
Proposal dated \_\_\_\_\_, 20\_\_\_\_, for (BAY ROAD IMPROVEMENTS PHASE II/III PROJECT  
CIP-ST-05A-13) \_\_\_\_\_.

NOW, THEREFORE, if the Principal shall not withdraw said Proposal prior to the date and time for the opening of  
bids, and if the Principal is awarded the contract and shall within the period specified in the Proposal after receiving  
notice that the contract has been awarded and the prescribed forms are presented to him for signature, enter in a written  
contract with the City, in accordance with the Proposal as accepted and give insurance and bond with good and  
sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract  
and for the payment of labor and materials used for the performance of the contract, or in the event of the withdrawal  
of said Proposal within the period specified or the failure to enter into such contract and give such city bonds, within  
the time specified, if the Principal shall pay the City the difference between the amount specified in said Proposal and  
the amount for which the city may procure the required work and/or supplies, if the latter amount be in excess of the  
former, together with all costs incurred by the City in again calling for Bids, then the above obligation shall be void  
and of no effect, otherwise to remain in full force and virtue.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the  
terms of the contract on the call for Bids, or to the work to be performed thereunder, or the specifications  
accompanying the same, shall in anyway affect its obligation under this bond, and it does hereby waive notice of any  
such change, extension of time, alteration or addition to the terms of said contract or the call for Bids, or to the work, or  
to the specifications.

In the event suit is brought upon this bond by the City and judgment is recovered, the Surety shall pay all costs  
incurred by the City in such suit, including a reasonable attorney's fee to be fixed by the court.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, the name and corporate seals of each corporate party being  
hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing  
body.

(Corporate Seal)

\_\_\_\_\_

Principal

By \_\_\_\_\_

(acknowledgment)

Title \_\_\_\_\_

(Corporate Seal)

By \_\_\_\_\_  
Attorney-in-Fact                      Surety

Title \_\_\_\_\_

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**NOTARIAL ACKNOWLEDGMENT OF ATTORNEY-IN-FACT OF SURETY**

STATE OF CALIFORNIA    )

) ss.

COUNTY OF SAN MATEO )

On \_\_\_\_\_, before me, a Notary Public, personally appeared \_\_\_\_\_, personally known to me (or 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.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public

(Seal)

## **GUARANTY**

To the CITY OF EAST PALO ALTO  
(To be submitted with Proposal form)

The undersigned guarantees the construction and installation of the following work included in this project:

### **BAY ROAD IMPROVEMENTS PHASE II/III PROJECT City of East Palo Alto, California**

Should any of the materials or equipment prove defective, or should the work as a whole prove defective, due to faulty workmanship, material furnished, or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications, due to any of the above causes, all within six months after the date on which this contract is accepted by the City, the undersigned agrees to reimburse the City, upon demand, for City's expenses incurred in restoring said work to the condition contemplated in said project, including the cost of any such equipment or materials replaced and the cost of removing and replacement or materials replaced and the cost of removing and replacing any other work necessary to make such replacement or repairs, or, upon demand by the City, to replace any such material and to repair said work completely without cost to the City so that said work will function successfully as originally contemplated.

The City shall have the unqualified option to make any needed replacement or repairs itself or to have such replacements or repairs done by the undersigned. In the event the City elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the City. If the undersigned shall fail or refuse to comply with his obligations under this guaranty, the City shall be entitled to recover all costs and expenses, including attorneys' fees, reasonably incurred by reason of the said failure or refusal.

**Contractor**

**Date**

## **BIDDER'S FINANCIAL RESPONSIBILITY, TECHNICAL ABILITY & EXPERIENCE**

(To be submitted with Proposal form)

THE BIDDER MUST FURNISH EVIDENCE OF FINANCIAL RESPONSIBILITY AND ABILITY TO PERFORM THE WORK INCLUDED IN THIS PROPOSED CONTRACT. SUCH EVIDENCE MAY INCLUDE, BUT NOT BE LIMITED TO, A FINANCIAL STATEMENT AS OF THE DATE OF BID; A STATEMENT, WITH REFERENCES, OF COMPLETED WORK OF A SIMILAR CHARACTER TO THAT INCLUDED HEREIN; A STATEMENT OF THE LAST TWO PROJECTS PERFORMED REGARDLESS OF THEIR CHARACTER; AND SUCH OTHER INFORMATION WHICH WILL ENABLE THE DIRECTOR OF PUBLIC WORKS TO JUDGE THE BIDDER'S RESPONSIBILITY, EXPERIENCE, SKILL AND BUSINESS STANDING.

**CERTIFICATION OF COMPLIANCE WITH LAWS  
PROHIBITING DISCRIMINATION**

(To be submitted with Proposal form)

We are in compliance with the Equal Employment Opportunity Requirement of Executive Order 11246, Title VII of the Civil Rights Act, the California Fair Employment Practices Act, any other Federal or State law relating to equal employment opportunity and the provisions of Article 16.6 of the County of San Mateo Ordinance Code, as well as the provisions of City of East Palo Alto’s Policy Against Discrimination, Harassment and Retaliation, and the established guidelines implementing them.

We will not discriminate against any employee or applicant for employment based on race, religion, color, national origin, ancestry, or sex. This pertains to the areas of recruitment, hiring, training, upgrading, transfer, compensation and termination.

CERTIFICATION OF INTENT

We will maintain or develop and implement, during the course of the work concerned, an Affirmative Action Program of hiring and employment conducted without regard to race, religion, color, national origin, ancestry or sex of the applicants. With this certification we shall submit any and all information which may be required by the City in connection with this program.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Authorized Signature of Bidder

\_\_\_\_\_  
Title



## **CITY OF EAST PALO ALTO'S POLICY AGAINST DISCRIMINATION, HARASSMENT AND RETALIATION**

EFFECTIVE DATE: 12/21/2004

REVISED DATE: 1/12/07

ADOPTED BY CITY COUNCIL: 12/21/2004

### **I. PURPOSES**

The purposes of this policy are to emphasize the City's commitment to keeping its workplace free of harassment, discrimination and retaliation, to define and provide examples of the conduct that is prohibited, to summarize the respective responsibilities for preventing, reporting, investigating, and responding to violations and to give clear warning of the serious consequences that violators will face.

A copy of this policy shall be provided to all persons who are subject to it, and shall be posted on City bulletin boards in all City facilities.

### **II. POLICY**

All of the following are prohibited by this Policy:

- Discrimination or harassment in any aspect of City employment based on any legally protected characteristic or status, including sex, gender, sexual orientation, race, color, national origin, language, ancestry, religion, age, marital status, domestic partner, physical disability, mental disability, or medical condition.
- Retaliation for opposing, filing a complaint about, or participating in an investigation of, any such harassment or discrimination.
- Aiding, abetting, inciting, compelling, or coercing or any such discrimination, harassment or retaliation, or attempting to do so.

The City will take all reasonable steps necessary to prevent such misconduct from occurring, and to remedy and punish any occurrence. Any City employee, Council member, member of any advisory body, including any Commissioner, Committee member, or Board member found having engaged in any such misconduct will be subject to disciplinary action up to and including termination or censure or removal and will be deemed to have acted outside the course and scope of his or her employment.

This policy applies to all City employees, volunteers, interns, vendors, and contractors as well as to all applicants for City positions.

The policy shall not be interpreted or applied in any manner that would be inconsistent with any applicable State or Federal law or regulation, or increase the legal liability of the City.

### **III. DESCRIPTION AND EXAMPLES OF PROHIBITED HARASSMENT**

Harassment on the basis of sex is unlawful, and is prohibited by this policy. Sexual harassment includes unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature, when:

- An individual's submission to such conduct is made explicitly or implicitly, a term or condition of that individual's employment; or,
- An individual's submission to or rejection of such conducts is used as the basis for an employment decision affecting that individual; or,
- The conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, abusive, or offensive work environment.

Sexual harassment need not be motivated by sexual desire or gratification, and may include nonsexual conduct motivated by the violator's hostility towards the victim's gender, or towards the victim's nonconformity to gender

stereotypes. Sexual harassment includes not only conduct motivated by gender, but also by pregnancy, childbirth, or a related condition. A harasser may be either male or female, and the victim may either be the same sex or the opposite sex. Even a person who is not the intended target of harassment may be harassed by it if he or she witnesses it.

Sexual harassment may be verbal, visual, or physical. For example:

- Verbal harassment may consist of derogatory, threatening, or intimidating comments, epithets, slurs or jokes; references to gender, physical appearance, attire, sexual prowess, marital status, or pregnancy; or sexual advances, propositions, or demands.
- Visual harassment may consist of displaying or circulating derogatory or offensive posters, cartoons, drawings, photographs, pin-ups, computer images, or electronic media transmissions.
- Physical harassment may consist of assault, battery, or unwelcome, unnecessary and offensive touching (kissing, hugging, patting, rubbing, pinching, brushing against), stating, leering, gesturing, whistling or making noises, impeding or blocking movement, or physical interfering with normal work or movement.

In addition to prohibiting harassment based on sex or gender, this policy also prohibits harassment based on sexual orientation, or upon any other legal protected characteristic or status, such as race, religion, creed, color, national origin, language, ancestry, physical disability, mental disability, medical condition, marital status, domestic partner, or age.

Harassment on the basis of such factors is subject to the principles applicable to sexual harassment, as stated above.

#### **IV. REPORTING DISCRIMINATION, HARASSMENT OR RETALIATION**

Any City employee, volunteer, intern, vendor, contractor, or applicant who becomes aware of any discrimination, harassment or retaliation prohibited by this policy shall report it immediately to their immediate supervisor, or higher ranking supervisor, or the Assistant City Manager. Under no circumstances shall such a report be required or expected to be made to the person who engaged in the misconduct that is subject to this report.

The responsibility to report conduct prohibited by this policy arises even if the conduct is directed toward someone else and even if the person toward whom it is directed does not want it reported.

Reports may be made orally or in writing, free of requirements as to form.

Because reports of conduct prohibited by this policy will be treated as serious charges, the making of a deliberately false report, or a report made with reckless disregard for its truth or falsity, may subject the maker to disciplinary action.

#### **V. INVESTIGATION AND RESOLUTION**

The City of East Palo Alto will investigate all reported violations of this policy. All employees, volunteers, interns, vendors and contractors, members of the City Council, or members of a City advisory body shall cooperate with any such investigation.

Any supervisor, manager department head, member of the City Council, or member of a City advisory body who receives a report of, or who becomes aware of, conduct prohibited by this policy shall promptly report it to the Personnel Officer. Upon receiving the report, the Personnel Officer shall direct any report that accuses a City Council member or appointee to the City Council for investigation and resolution. The City Council shall delegate the responsibility to conduct a prompt, full, and fair investigation to the qualified private investigator. Upon receiving a report regarding a non-City Council member or appointee, the Personnel Officer shall conduct a prompt, full, and fair investigation, or delegate that responsibility to a qualified City employee or private investigator. The person performing the investigation shall:

- Interview the complainant, the accused, and any other person the investigator believe to have knowledge relevant to the charges;
- Gather and review any documentary, electronic, or physical evidence relevant to the charges;

- Consult with legal counsel as needed;
- Determine whether the charges can or cannot be substantiated; and
- Develop recommendations for appropriate remedial and/or disciplinary action, if any.

## VI. OUTSIDE ADMINISTRATIVE AGENCIES

In addition to the remedies described in this Policy, the U.S. Equal Employment Commission and the California Department of Fair Employment and Housing provide administrative complaint and investigation processes as to harassment, discrimination or retaliation on the basis of a protected status. The toll free telephone number for such office is listed below:

California Department of Fair Employment and Housing 1.800.233.3212  
U.S. Equal Employment Opportunity Commission 1.800.669.4000

## VI. AFFIRMATIVE ACTION



### NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246 AND 41 CFR PART 60-4)

The following Notice shall be included in, and shall be a part of all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000.

The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for minority participation for each trade	Goals for female participation for each trade
<u>What % to use?</u>	25.8 %	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is:

State of	California
County of	San Mateo
City of	East Palo Alto

# AFFIRMATIVE ACTION PROGRAM QUESTIONNAIRE

(To be submitted with Proposal form)

THIS REPORT MUST BE COMPLETED IN FULL BY THE BIDDER AND SUBMITTED WITH HIS BID.

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

NAME OF FIRM: \_\_\_\_\_

STREET ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

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

NAME OF PERSON SUBMITTING REPORT: \_\_\_\_\_

1.     \_\_\_Yes \_\_\_No   Have you read and are you acquainted with the Equal Employment Opportunity Requirements of Executive Order 11246, Title VII of the Civil Rights Act, the California Fair Employment Practices Act, Article 16.6 of the San Mateo County Ordinance Code, Employment Policy of the City of East Palo Alto (CP-2), and the City of East Palo Alto's Policy Against Discrimination, Harassment and Retaliation.

2.     \_\_\_Yes \_\_\_No   Is it the policy of your company to recruit, hire, train, upgrade, transfer, compensate, and discharge without regard to race, religion, color, national origin, ancestry, or sex?

3.     \_\_\_Yes \_\_\_No   Have you appointed an Equal Employment Opportunity officer? Give his name, position in the company, office address, and telephone number.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.     \_\_\_Yes \_\_\_No   Does your employment advertising state that you are an Equal Opportunity Employer?

5.     \_\_\_Yes \_\_\_No   Have all recruitment sources been advised that all qualified applicants will be considered for employment without regard to race, religion, color, national origin, ancestry or sex?

6.     \_\_\_Yes \_\_\_No   Were any employees hired by means other than the union hiring hall in the past year?

How many? \_\_\_\_\_

What positions? \_\_\_\_\_

7.     If non-union personnel are employed by the company, or if a position cannot be filled by the union hall, specify the advertisement and recruitment sources that are used. (For example, State HRD, newspapers, high schools, vocational schools, referral agencies, community groups.)

\_\_\_\_\_  
\_\_\_\_\_

- 
8. How many apprentices do you employ? \_\_\_\_\_  
How many of these are minorities? \_\_\_\_\_
9. \_\_\_Yes \_\_\_No Do you have a program for upgrading and counseling present employees?  
Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. \_\_\_Yes \_\_\_No Do you have a collective bargaining agreement with a labor union or other organization?  
Please list these groups:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
11. What percentage of your work force is covered by union agreement?  
\_\_\_\_\_
12. \_\_\_Yes \_\_\_No Have you advised the labor union and/or worker organization of your company's responsibility under the Affirmative Action Program?
13. \_\_\_Yes \_\_\_No Does your company's collective bargaining agreement include a provision for nondiscrimination in employment?
14. \_\_\_Yes \_\_\_No Have you notified all subcontractors submitting bids to you that they will be subject to the same minority employment requirements should you be the successful bidder?
15. Describe any previous experience with Affirmative Action Programs:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
16. State what affirmative action you plan to take in connection with this project:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If your company has a written Affirmative Action Program now in effect, please attach a copy of it.

# AFFIRMATIVE ACTION PROGRAM EMPLOYEE REPORT FORM

(To be submitted with Proposal form)

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

Name of Bidder: \_\_\_\_\_

Name of person submitting report: \_\_\_\_\_

Be sure to include the total of all employees in each classification in the first column, not just minorities. Report the number of employees enrolled in formal on-the-job (apprenticeship) training programs in parenthesis () for each classification.

## **JOB CLASSIFICATION**

\_\_\_\_\_  
**Professionals**

\_\_\_\_\_  
**Clerical & Office**

\_\_\_\_\_  
**Field Supervisors**

\_\_\_\_\_  
**Operating Engineers**

\_\_\_\_\_  
**Teamsters**

\_\_\_\_\_  
**Carpenters**

\_\_\_\_\_  
**Cement Masons**

\_\_\_\_\_  
**Laborers**

\_\_\_\_\_  
**Electricians**

\_\_\_\_\_  
**Sheet Metal**

\_\_\_\_\_  
**TOTAL**

# CONTRACT FORMS

## CITY OF EAST PALO ALTO

THIS GENERAL CONSTRUCTION CONTRACT ("Contract") dated \_\_\_\_\_ is by and between the CITY OF EAST PALO ALTO, a municipal corporation in the State of California ("City") and {CONTRACTOR'S NAME}, a {Type of Company} ("Contractor").

### RECITALS:

The parties to this Contract have mutually covenanted and agreed, as follows:

1. **The Contract Documents.** The complete Contract consists of the following documents: Notice Inviting Bids; Instructions to Bidders; Performance Bond and Payment Bond; Guaranty; Plans and Specifications for the **BAY ROAD IMPROVEMENTS PHASE II/III PROJECT**, Project No. **CIP-ST-05A-13**, dated **October 8, 2018**. These documents are all incorporated by reference. The documents comprising the complete contract are collectively referred to as the Contract Documents.

This Contract also contains the following Exhibits, attached and incorporated by reference:

Exhibit A	-	BID PROPOSAL
Exhibit B	-	FAITHFUL PERFORMANCE BOND
Exhibit C	-	LABOR AND MATERIALS BOND
Exhibit D	-	PAYMENT BOND
Exhibit E	-	INSURANCE REQUIREMENTS AND CERTIFICATE OF INSURANCE
Exhibit F	-	CONTRACTOR'S CERTIFICATE RELATING TO WORKERS COMPENSATION
Exhibit G	-	CERTIFICATE OF WOKERS COMPENSATION INSURANCE
Exhibit H	-	CERTIFICATE OF STATE CONTRACTOR'S LICENSE
Exhibit I	-	APPRENTICESHIP STANDARDS
Exhibit J	-	FEDERAL MINIMUM WAGE RATES
Exhibit K	-	FHWA 1273

Any and all obligations of the City and the Contractor are fully set forth and described therein.

All of the above documents are intended to work together so that any work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all documents.

2. **The Work.** Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, transportation, and material necessary to perform and complete the project in a good and workmanlike manner. The work consist(s) of furnishing all labor, materials, equipment, tools and services necessary to perform general improvements on Bay Road, Pulgas Avenue, and the intersection of Fordham and Purdue Street in the City of East Palo Alto, California, as called for, and in the manner designated in, and in strict conformity with, the Plans and Specifications prepared by BKF Engineers and Biggs Cardosa Associates Inc. and adopted by the City. These Plans and Specifications are entitled **BAY ROAD IMPROVEMENTS PHASE II/III PROJECT**, as further set forth in the Scope of Work, Exhibit\_\_\_\_\_.

**General work description:** The Bay Road Phase II and III Improvement Project will add new sidewalks, lighted crosswalks, new street lights and pedestrian lights, landscaping, and bus passenger shelters to Bay Road. The project will additionally repair the base structure and resurface Bay Road and install drainage improvements. New striping will delineate vehicle travel lanes and bicycles lanes to create a multi modal street that meets current design and safety standards for vehicle, bicycle and pedestrian travel. All improvements will be constructed within the existing Bay Road right-of-way (ROW) as indicated on the contract plans entitled, "BAY ROAD IMPROVEMENTS PHASE II/III PROJECT" plans dated October 8, 2018.

It is understood and agreed that the work will be performed and completed as required in the Plans and Specifications under the sole direction and control of the Contractor, and subject to inspection and approval of the City, or its representatives. The City hereby designates as its representative for the purpose of this contract the Senior Civil

Engineer for Construction or an employee of the City who will be designated in writing by the Director of Community Development.

**3. Contract Price.** The City agrees to pay and the Contractor agrees to accept, in full payment for the work above agreed to be done, the sum of {AMOUNT IN WORDS} (\$ {AMOUNT IN NUMBERS}) subject to final determination of work performed and materials furnished at unit prices per Exhibit "A", and subject to additions and deductions in accordance, as provided in the Documents and in accordance with Contract Documents. The sum includes base bid and accepted Additive Alternate(s) No. Number(s). All other Additive Alternate(s) are rejected by City and are not included in this contract.

**4. Permits; Compliance with Law.** Contractor shall, at its expense, obtain all necessary permits and licenses, easements, etc., for the construction of the project, give all necessary notices, pay all fees required by law, and comply with all laws, ordinances, rules and regulations relating to the work and to the preservation of the public health and safety.

**5. Inspection by City.** Contractor shall at all times maintain proper facilities and provide safe access for inspection by the City to all parts of the work, and to the shops wherein the work is in preparation. Where the Specifications require work to be specially tested or approved, it shall not be tested or covered up without timely notice to the City of its readiness for inspection and without the approval thereof or consent thereto by the latter. Should any such work be covered up without such notice, approval, or consent, it must, if required by City, be uncovered for examination at the Contractor's expense.

**6. Extra or Additional Work and Changes.** Should City at any time during the progress of the work request any alterations, deviations, additions or omissions from the Specifications or Plans or other Contract Documents it shall be at liberty to do so, and the same shall in no way affect or make void the contract, but will be added to or deducted from the amount of the contract price, as the case may be, by a fair and reasonable valuation, agreed to in writing between the parties hereto. No extra work shall be performed or change be made unless in pursuance of a written order from the Director of Community Development or authorized representative, stating that the extra work or change is authorized and no claim for an addition to the contract sum shall be valid unless so ordered.

**7. Time for Completion.** All work under this contract shall be completed before the expiration **280 working days** from the date specified in the Notice to Proceed.

If Contractor shall be delayed in the work by the acts or neglect of City, or its employees or those under it by contract or otherwise, or by changes ordered in the work, or by strikes, lockouts by others, fire, unusual delay in transportation, unavoidable casualties or any causes beyond the Contractor's control, or by delay authorized by the City, or by any cause which the City shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the City may decide.

This provision does not exclude the recovery of damages for delay by either party under other provisions.

**8. Inspection and Testing of Materials.** Contractor shall notify City a sufficient time in advance of the manufacture or production of materials, to be supplied under this contract, in order that the City may arrange for mill or factory inspection and testing of same, if City requests such notice from Contractor.

**9. Termination for Breach, etc.** If Contractor should file a bankruptcy petition and/or be judged bankrupt, or if Contractor should make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of insolvency, or if Contractor or any subcontractors should violate any of the provisions of the Contract, City may serve written notice upon Contractor and its surety of City's intention to terminate the Contract. The notice shall contain the reasons for such intention to terminate the Contract, and, unless within ten days after serving such notice, such violation shall cease and satisfactory arrangements for correction thereof be made, upon the expiration of the ten days, the Contract shall cease and terminate. In the event of any such termination, City shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the Contract; provided, however that, if the surety within fifteen days after the serving upon it of notice of termination does not give City written notice of its intention to take over and perform the Contract or does not commence performance thereof within thirty days from the date of the serving of such notice, City may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of Contractor, and Contractor and its surety shall be liable to City for any excess cost occasioned City thereby, and in such event City may without liability for so doing take possession of and utilize in completing the work, such materials, appliances, plant and other property belonging to Contractor as may be on the site of the work and necessary therefor.



**10. City's Right to Withhold Certain Amounts and Make Application Thereof.** In addition to the amount which City may retain under Paragraph 21 until the final completion and acceptance of all work covered by the Contract, City may withhold from payment to Contractor such amount or amounts as in its judgment may be necessary to pay just claims against Contractor or any subcontractors for labor and services rendered and materials furnished in and about the work. City may apply such withheld amount or amounts to the payment of such claims in its discretion. In so doing City shall be deemed the agent of Contractor and any payment so made by City shall be considered as a payment made under the Contract by City to the Contractor and City shall not be liable to Contractor for any such payment made in good faith. Such payment may be made without prior judicial determination of the claim or claims.

**11. Notice and Service Thereof.** All notices required pursuant to this Contract shall be communicated in writing, and shall be delivered in person, by commercial courier or by first class or priority mail delivered by the United States Postal Service. Transmission of notice by facsimile or by telephone may be deemed sufficient if the requirement for written notice is waived, in writing, by the receiving party. Notices delivered in person shall be deemed communicated as of actual receipt. Notices sent by mail or courier service shall be deemed communicated as of three days after mailing or dispatch, unless that date is a date on which there is no mail or delivery service, in which case communication shall be deemed to occur the next mail service or delivery day. The burden of proof of compliance with this requirement for written notice shall be on the sending party. All notices sent pursuant to this Contract shall be addressed as follows:

City: City of East Palo Alto  
Public Works Department  
Attn: City Engineer  
1960 Tate Street  
East Palo Alto, CA 94303

Contractor: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**12. Assignment of Contract.** Neither the Contract, nor any part thereof, nor moneys due or to become due thereunder may be assigned by Contractor without the prior written approval of City.

**13. Compliance with Specifications of Materials.** Whenever in the Specifications, any material or process is indicated or specified by patent or proprietary name, or by name of manufacturer, such Specifications must be met by Contractor, unless City agrees in writing to some other material, process or article offered by Contractor which is equal in all respects to the one specified.

**14. Contract Security.** Contractor shall furnish a surety bond in an amount at least equal to 100 percent of the contract price as security for the faithful performance of this Contract. Contractor shall also furnish a separate surety bond in an amount at least equal to 100 percent of the contract price as security for the payment of all persons for furnishing materials, provisions, provender, or other supplies, or teams, used in, upon, for or about the performance of the work contracted to be done, or for performing any work or labor thereon of any kind, and for the payment of amounts due under the Unemployment Insurance Code with respect to such work or labor in connection with this Contract, and for the payment of a reasonable attorney's fee to be fixed by the court in case suit is brought upon the bond. Bonds shall be issued by an admitted surety insurer authorized to operate in the state of California.

**15. Insurance.** Contractor shall not commence work under this Contract until all insurance required as set forth in Exhibit E has been obtained and such insurance has been approved by the City, nor shall Contractor allow any subcontractor to commence work on a subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Contractor shall furnish the City with satisfactory proof of the carriage of insurance required, and there shall be a specific contractual liability endorsement extending the Contractor's coverage to include the contractual liability assumed by the Contractor pursuant to this Contract and particularly Paragraph 16 hereof. Any policy of insurance required of the Contractor under this Contract shall also contain an endorsement providing that thirty (30) days' notice must be given in writing to the City of any pending change in the limits of liability or of any cancellation or modification of the policy. Insurance carrier shall be California-admitted.

**16. Hold Harmless.** Contractor agrees to defend, save, indemnify and hold harmless City and all its officers, employees, agents, independent contractors and volunteers against any and all liability, claims, judgments, or demands, including demands arising from injuries or death of persons (Contractor's employees included) and damage to property, arising directly or indirectly out of the obligations herein undertaken or out of the operations conducted by Contractor, save and except claims or litigation arising through the active negligence or willful misconduct of City, or of City's officials, agents, employees, independent contractors or volunteers who are directly responsible to City. Contractor shall make good and reimburse City for any expenditures, including reasonable attorneys' fees, City may make by reason of such claim or litigation, and, if requested by City, Contractor shall defend any such suits at the sole cost and expense of Contractor.

**17. Hours of Work.** Eight hours of labor during any one calendar day and forty hours of labor during any one calendar week shall constitute the maximum hours of service upon all work done hereunder, and it is expressly stipulated that no laborer, worker, or mechanic employed at any time by the Contractor or by any subcontractor or subcontractors under this Contract, upon the work or upon any part of the work contemplated by this Contract, shall be required or permitted to work thereon more than eight hours during any one calendar day and forty hours during any one calendar week, except, as provided by Section 1815 of the Labor Code of the State of California, work performed by employees of contractors in excess of eight hours per day and forty hours during any one week shall be permitted upon public work upon compensation for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay. It is further expressly stipulated that for each and every violation of Sections 1811-1815, inclusive, of the Labor Code of the State of California, all the provisions whereof are deemed to be incorporated herein, Contractor shall forfeit, as a penalty to City, fifty dollars (\$50.00) for each laborer, worker, or mechanic employed in the execution of this Contract by Contractor, or by any subcontractor under this Contract, for each calendar day during which the laborer, worker, or mechanic is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of the provisions of the Sections of the Labor Code.

Contractor, and each subcontractor, shall, in accordance with California Labor Code Section 1776 or as the same may be later amended, keep accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with work under this agreement. Each payroll record shall contain or be verified by a written declaration under penalty of perjury, in accordance with Labor Code Section 1776(a). Such payroll records shall be made available at all reasonable times at the Contractor's principal office to the persons authorized to inspect such records pursuant to Labor Code Section 1776. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations, as well as to the City's representative. In the event the Contractor or a Subcontractor fails to comply in a timely manner within ten days to a written notice requesting the records, such contractor or subcontractor shall forfeit twenty-five dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated, in accordance with Labor Code Section 1776(g).

**18. Wage Rates.** Pursuant to the Labor Code of the State of California, or any applicable local law, City has ascertained the general prevailing rate per diem wages and rates for holidays, and overtime work in the City, for each craft, classification or type of laborer, worker, or mechanic needed to execute this Contract. City has adopted, by reference, the general prevailing rate of wages applicable to the work to be done under the Contract, as adopted and published by the Division of Labor Standards Enforcement and Labor Statistics and Research of the State of California, Department of Industrial Relations, to which reference is hereby made for a full and detailed description. A copy of the prevailing wage rates may be reviewed in the office of the Director of Community Development, City of East Palo Alto, 1960 Tate Street, East Palo Alto, California. Wage rates can also be obtained through the California Department of Industrial Relations website at:

<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>

Neither the notice inviting bids nor this Contract shall constitute a representation of fact as to the prevailing wage rates upon which the Contractor or any subcontractor may base any claim against City.

It shall be mandatory upon Contractor and upon any subcontractor to pay not less than the specified rates to all laborers, workers, and mechanics employed in the execution of the Contract. It is further expressly stipulated that Contractor shall, as a penalty to City, forfeit fifty dollars (\$50.00) for each calendar day, or portion thereof, for each laborer, worker, or mechanic paid less than the stipulated prevailing rates for any work done under this Contract by

Contractor or by any subcontractor; and Contractor agrees to comply with all provisions of Section 1775 of the Labor Code.

In case it becomes necessary for Contractor or any subcontractor to employ on the project under this Contract any person in a trade or occupation (except executives, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate is herein specified, Contractor shall immediately notify City who will promptly thereafter determine the prevailing rate for such additional trade or occupation and shall furnish Contractor with the minimum rate based thereon. The minimum rate thus furnished shall be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

**19. Accident Prevention.** Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment, and other hazards shall be guarded or eliminated in accordance with the safety provisions of the Construction Safety Orders issued by the Industrial Accident Commission of the State of California.

**20. Contractor's Guarantee.** City shall not, in any way or manner, be answerable or suffer loss, damage, expense or liability for any loss or damage that may happen to the building, work, or equipment or any part thereof, or in, on, or about the same during its construction and before acceptance. Contractor unqualifiedly guarantees the first-class quality of all workmanship and of all materials, apparatus, and equipment used or installed by Contractor or by any subcontractor or supplier in the project which is the subject of this Contract, unless a lesser quality is expressly authorized in the Plans and Specifications, in which event Contractor unqualifiedly guarantees such lesser quality; and that the work as performed by Contractor will conform with the Plans and Specifications or any written authorized deviations therefrom. In case of any defect in work, materials, apparatus or equipment, whether latent or patent, revealed to City within one year of the date of acceptance of completion of this Contract by City, Contractor will forthwith remedy such defect or defects without cost to City.

**21. Liquidated Damages.** Time shall be the essence of this Contract. If Contractor fails to complete, within the time fixed for such completion, the entire work mentioned and described and contracted to be done and performed, Contractor shall become liable to City for liquidated damages in the sum of **Three Thousand and No/100 Dollars (\$3,000.00)** for each and every calendar day during which work shall remain uncompleted beyond such time fixed for completion or any lawful extension thereof. The amount specified as liquidated damages is presumed to be the amount of damage sustained by City since it would be impracticable or extremely difficult to fix the actual damage; and the amount of liquidated damages may be deducted by City from moneys due Contractor hereunder, or its assigns and successors at the time of completion, and Contractor, or its assigns and successors at the time of completion, and its sureties shall be liable to City for any excess.

**22. Additional Provisions.**

None.

IN WITNESS WHEREOF, two identical counterparts of this contract, each of which shall for all purposed be deemed an original thereof, have been duly executed by the parties.

CITY OF EAST PALO ALTO  
a municipal corporation

[INSERT CONTRACTOR'S NAME &  
TYPE OF COMPANY]

License No. \_\_\_\_\_

By \_\_\_\_\_  
Carlos Martinez  
City Manager

By \_\_\_\_\_  
[INSERT NAME]  
[INSERT TITLE]

By \_\_\_\_\_  
[INSERT NAME]  
[INSERT TITLE]

Attest:  
City Clerk

By \_\_\_\_\_  
Maria Buell  
Deputy City Clerk

(SEAL)

APPROVED AS TO FORM:

\_\_\_\_\_  
Rafael E. Alvarado Jr.  
City Attorney

**(Notice: The signatures of the Contractor's officers on this contract must be acknowledged before a notary.)**

**ACKNOWLEDGMENT**

State of California )  
County of )

On \_\_\_\_\_ before me, \_\_\_\_\_  
personally appeared \_\_\_\_\_

\_\_\_\_\_

personally known to me (or 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 \_\_\_\_\_

(SEAL)

**EXHIBIT A - BID SCHEDULE**

See Proposal for Bid Schedule

**EXHIBIT B - FAITHFUL PERFORMANCE BOND**

CITY OF EAST PALO ALTO

Bond No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that \_\_\_\_\_ as Principal, and \_\_\_\_\_ a Corporation authorized to do business in the State of California and organized and existing under and by virtue of the laws of the State of \_\_\_\_\_ as Surety, are held and firmly bound unto the City of East Palo Alto, a municipal corporation of the County of San Mateo, the State of California, in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), for the faithful performance of a certain contract hereinafter referred to, to be paid to the City of East Palo Alto for the payment of which well and truly to be made, the said Principal and the said Surety, hereby bind themselves and all and singularly, their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

Signed by us and dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

WHEREAS, the said Principal has entered into the annexed contract with the City of East Palo Alto to perform and complete, in strict conformity herewith and in a good and workmanlike manner:

**BAY ROAD IMPROVEMENTS PHASE II/III PROJECT  
City of East Palo Alto, California**

NOW, THEREFORE, the conditions of the above and foregoing obligations are such that:

If the said Principal shall faithfully perform the said contract, then the above obligation with respect to the faithful performance of said contract shall be void; otherwise to remain in full force and effect.

And that said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same, 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 or to the work or to the specifications.

In case suit is brought upon this bond by the City of East Palo Alto, a reasonable attorney's fee, to be fixed by the Court, shall be paid by Principal and Surety.

IN WITNESS WHEREOF, the said Principal and Surety have executed this instrument the day and year first above written.

Approved as to Form and Legality

\_\_\_\_\_  
Principal (Contractor)

By: \_\_\_\_\_  
City Attorney

By: \_\_\_\_\_  
Attorney-in-fact      Surety

Approved:

By: \_\_\_\_\_  
City Manager

By: \_\_\_\_\_



**EXHIBIT C - LABOR AND MATERIALS BOND**

CITY OF EAST PALO ALTO

Bond No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that \_\_\_\_\_ as Principal, and \_\_\_\_\_ a corporation authorized to do business in the State of California and organized and existing under and by virtue of the laws of the State of \_\_\_\_\_ as Surety, are held and firmly bound unto the City of East Palo Alto, a municipal corporation of the County of San Mateo, the State of California, in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the benefit of laborers and material-men hereinafter designated, to be paid to the City of East Palo Alto for the payment of which well and truly to be made, and said Principal and the said Surety, hereby bind themselves and all and singularly, their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

Signed by us and dated this \_\_\_\_\_ day of \_\_\_\_\_; 20\_\_\_\_

WHEREAS, the said Principal has entered into the annexed contract with the City of East Palo Alto to perform and complete, in strict conformity and in a good and workmanlike manner: **BAY ROAD IMPROVEMENTS PHASE II/III PROJECT, City of East Palo Alto, California**. Plans and Specifications are on file in the office of the City Engineer of the City of East Palo Alto.

NOW, THEREFORE, the conditions of the above and foregoing obligations are such that:

If said principal or his subcontractors, their heirs, executors, administrators, successors and assigns shall fail to pay for any materials, provisions, provender 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 for amounts due under the Unemployment Insurance Act with respect to such work or labor, then said Surety will pay the same in or to an amount not exceeding the amount hereinabove specified to be for the benefit of laborers and material and also will pay, in case suit is brought upon this bond, such reasonable attorney's fee as shall be fixed by the Court, awarded and taxed as provided by law.

This bond, to the extent of the obligation herewith with respect to laborers and materials, shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Division 3, Part 4, Title 15 of the Civil Code of the State of California, so as to give a right of action to them or their assigns in any suit brought upon this bond.

And that said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same, shall in any way affect its obligations on the bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or the specifications.

In case suit is brought upon this bond by the City of East Palo Alto, a reasonable attorney's fee, to be fixed by the Court, shall be paid by Principal and Surety.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument the day and year first hereinabove written.

Approved as to Form and Legality:

\_\_\_\_\_  
City Attorney

\_\_\_\_\_  
Principal (Contractor)

Approved:

By: \_\_\_\_\_  
Attorney-in-Fact                      Surety

By: \_\_\_\_\_  
City Manager

By: \_\_\_\_\_

\_\_\_\_\_  
Principal (Contractor)

## **EXHIBIT D - PAYMENT BOND**

CITY OF EAST PALO ALTO

Bond No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the City of East Palo Alto, a municipal corporation, has awarded to \_\_\_\_\_, hereinafter designated as "Principal", a contract for **adding new sidewalks, lighted crosswalks, new street lights and pedestrian lights, landscaping, and bus passenger shelters to Bay Road. The project will additionally repair the base structure and resurface Bay Road and install drainage improvements. New striping will delineate vehicle travel lanes and bicycles lanes to create a multi modal street that meets current design and safety standards for vehicle, bicycle and pedestrian travel. All improvements will be constructed within the existing Bay Road right-of-way (ROW), and**

WHEREAS, said Principal is required to furnish a bond in connection with said contract, to secure payment of claims of laborers, mechanics, or material-men employed on work under said contract, as provided by law.

NOW, THEREFORE, we the undersigned Principal and Surety are held and firmly bound unto the City of East Palo Alto in the sum of \_\_\_\_\_ DOLLARS (\$\_\_\_\_\_), said sum being equal to the estimated amount payable by said City of East Palo Alto under the terms of the contract, for which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if said Principal, his or its heirs, executors, administrators, successors, or assigns, or subcontractors shall fail to pay for any material, provisions, provender or other supplies, implements or machinery 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 for amounts due under the Unemployment Insurance Code with respect to such work or labor or for any amounts required to be deducted, withheld, paid over to the Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to the Revenue and Taxation Code, with respect to such work and labor, the Surety or Sureties hereon will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, said Surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 3181 of the Civil Code of the State of California so as to give a right of action to them or their assigns in any suit brought upon this bond.

Said Surety, for value received, hereby stipulates and agrees that, in accordance with the Plans, Standard Specifications, Special Provisions and other Contract Documents, no change, extension of time, alteration or addition to the terms of the contract, or to the work to be performed thereunder, or to the specifications accompanying the same, shall in anywise affect its obligations to this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this \_\_\_\_\_ day of \_\_\_\_\_, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Approved as to Form and Legality:

By: \_\_\_\_\_  
City Attorney

By: \_\_\_\_\_  
Principal (Contractor)

\_\_\_\_\_  
Attorney-in-Fact      Surety

Approved:

By: \_\_\_\_\_  
City Manager

By: \_\_\_\_\_

## **EXHIBIT E – INSURANCE REQUIREMENTS AND CERTIFICATE OF INSURANCE**

1. These are the Indemnity and Insurance Requirements for Contractors providing services or supplies to the City of East Palo Alto (City). By agreeing to perform the work or submitting a proposal, you verify that you comply with and agree to be bound by these requirements. If any additional Contract documents are executed, the actual Indemnity language and Insurance Requirements may include additional provisions as deemed appropriate by City.
2. You should check with your Insurance advisors or brokers to verify compliance and determine if additional coverage or limits may be needed to adequately insure your obligations under this agreement. These are the minimum required and do not in any way represent or imply that such coverage is sufficient to adequately cover the Contractor's liability under this agreement. The defense and indemnity obligations shall survive the termination of the agreement for the full period of time allowed by law. The full coverage and limits afforded under Contractor's policies of Insurance shall be available to City and these Insurance Requirements shall not in any way act to reduce coverage that is broader or includes higher limits than those required. The Insurance obligations under this agreement shall be: 1—all the Insurance coverage and limits carried by or available to the Contractor; or 2—the minimum Insurance requirements shown in this agreement, whichever is greater. Any insurance proceeds in excess of the specified minimum limits and coverage required, which are applicable to a given loss, shall be available to City.
3. Contractor shall furnish the City with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy and Automobile policy listing all policy endorsements to City before work begins. City reserves the right to require full-certified copies of all Insurance coverage and endorsements.

### **I. INDEMNIFICATION:**

Contractor shall indemnify, defend (with independent counsel approved by the City), and hold harmless the City, its officers, officials, directors, employees, agents, volunteers and affiliates and each of them from any and all claims, demands, causes of action, damages, costs, expenses, actual attorney's fees, Contractor's fees, expert fees, losses or liability, in law or in equity, of every kind and nature whatsoever arising out of or in connection with Contractor's operations, or any subcontractor's operations, to be performed under this Agreement, for the fullest extent permitted by law, with the exception of the sole or active negligence or willful misconduct of the City.

The provisions of this section shall survive the expiration or termination of this Agreement and are not limited by any provisions relating to insurance in this Agreement.

### **II. INSURANCE**

**Contractual Liability Insurance:** Contractor's General Liability insurance shall include contractual liability coverage at least as broad as the unmodified ISO CG 00 01 CGL policy. Contractor shall provide thirty (30) days' notice, in writing, to the City, at 2415 University Avenue, East Palo Alto, CA 94303, of any pending cancellation of the policy. Contractor shall notify City of any pending change to the policy that would result in noncompliance with the requirements of this Agreement. All certificates shall be filed with the City.

**Worker's Compensation and Employer's Liability Insurance:** Contractor shall have in effect during the entire life of this Agreement Worker's Compensation and Employer's Liability Insurance providing full statutory coverage. In signing this Agreement, Contractor makes the following certification, required by Section 18161 of the California Labor Code: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this Agreement".

**Waiver of Subrogation:** Contractor hereby agrees to waiver rights of subrogation which any insurer of Contractor may require from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. The workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

**Commercial General Liability Insurance:** Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$25,000,000** per occurrence. If a general aggregate limit applies, either the

general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

Automobile Insurance: Coverage at least as broad as Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than **\$10,000,000** per accident for bodily injury and property damage.

Builder's Risk (Course of Construction): Contractor shall maintain insurance utilizing an "All Risk" (Special Perils) coverage form, with limits no less than **\$8,600,000** or the construction value and no coinsurance penalty provisions.

Completed Operation Coverage: Contractor shall maintain insurance as required by this Agreement to the fullest amount allowed by law and shall maintain insurance and Additional Insured Endorsements for a minimum of five (5) years following the completion of this project. In the event contractor fails to obtain or maintain completed operations coverage as required by this Agreement, the City at its sole discretion may purchase the coverage required and the cost will be paid by Contractor.

Broader Insurance Coverage: In the event that Contractor maintains broader coverage and/or higher limits than the City's minimum requirements, the City shall be entitled to the broader coverage and/or the higher limits available to the Contractor. The limits of insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the City before the City's own insurance shall be called upon to protect it as a named insured.

Additional Insureds: The City of East Palo Alto, its subsidiary agencies, directors, officers, employees, agents, independent contractors and volunteers shall be named as additional insured on any such policies of comprehensive general and automobile liability insurance with coverage at least as broad as ISO CG 20 10 and CG 20 37.

Primary Insurance Coverage: Except for professional liability and worker's compensation insurance, the policies shall also contain a provision that the insurance afforded thereby to the City, its subsidiary agencies, and their directors, officers, employees, agents, independent contractors and volunteers shall be primary insurance to the full limits of liability of the policy, and that if the City, its subsidiary agencies and their directors, officers, employees, agents, independent contractors and volunteers have other insurance against a loss covered by a policy, such other insurance shall be excess insurance only. Contractor shall provide endorsement at least as broad as ISO CG 20 01 04 13.

Breach: In the event of the breach of any provision of this section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, City, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work pursuant to this Agreement.

Surety Bonds: Contractor shall provide the following Surety Bonds: bid bond, performance bond, payment bond, and maintenance bond.

**EXHIBIT F - CONTRACTOR'S CERTIFICATE RELATING TO WORKERS' COMPENSATION  
INSURANCE**

CITY OF EAST PALO ALTO  
PURSUANT TO LABOR CODE SECTION 3800

I, THE UNDERSIGNED, HEREBY CERTIFY that at all times during the performance of any work under contract or agreement with the City of East Palo Alto (check one of the following):

\_\_\_\_\_ I will have in full force and effect Workers' Compensation Insurance pursuant to the attached Certificate of Workers' Compensation Insurance issued by an admitted insurer. Said certificate shall state that there is in existence a valid policy for Workers' Compensation Insurance in a form approved by the California Insurance Commissioner. The certificate shall show the expiration date of the policy, that the full deposit premium on the policy has been paid and that the insurer will give City at least ten (10) days advance notice of the cancellation of the policy (an exact copy or duplicate of the Certificate of Workers' Compensation Insurance certified by the Director of Industrial Relations or the insurer may be attached).

\_\_\_\_\_ I have in full force and effect and have attached hereto a Certificate of Consent to Self-Insure issued by the Director of Industrial Relations (an exact copy or duplicate thereof certified by the Director may be attached).

I declare under penalty of perjury that the foregoing is true and correct and executed on \_\_\_\_\_ at East Palo Alto, California.

BY: \_\_\_\_\_

\_\_\_\_\_  
Official Title

On behalf of:

\_\_\_\_\_  
Contractor

**NOTE: YOUR CERTIFICATE OF WORKERS' COMPENSATION INSURANCE MUST BE ATTACHED  
AND MUST MEET THE REQUIREMENTS SET FORTH ABOVE**

**PLEASE NOTE THAT IF YOU HAVE ANYONE WORKING FOR OR WITH YOU, YOU MAY BE  
REQUIRED TO HAVE WORKERS' COMPENSATION INSURANCE. FOR FURTHER INFORMATION,  
CONTACT THE OFFICE OF THE DIRECTOR OF INDUSTRIAL RELATIONS, 888 NORTH FIRST  
STREET, SAN JOSE, CALIFORNIA, TELEPHONE (408) 277-1265**

**EXHIBIT G - CERTIFICATE OF WORKERS' COMPENSATION INSURANCE**

CITY OF EAST PALO ALTO

In accordance with the provisions of Section 3800 of the Labor Code of the State of California, the undersigned insurance company hereby certifies to the City of East Palo Alto, California, that it is an admitted Workers' Compensation Insurer and that it has issued a policy of Workers' Compensation Insurance bearing Policy Number \_\_\_\_\_ to \_\_\_\_\_.

Said policy is a valid policy of Workers' Compensation Insurance issued in a form approved by the California Insurance Commissioner and is now in full force and effect. The full deposit on said policy has been paid. The expiration date of said policy is the \_\_\_\_\_ day of \_\_\_\_\_, 2016. The undersigned insurer will give said City of East Palo Alto at least ten (10) days advance notice of the cancellation of said policy.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Insurance Company

Address:  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Authorized Representative  
(Signature)

\_\_\_\_\_  
Authorized Representative  
(Type Name)

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

Executed at East Palo Alto, California, on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

\_\_\_\_\_  
Authorized Representative  
(Signature)

\_\_\_\_\_  
Authorized Representative



**EXHIBIT H - CERTIFICATE OF STATE CONTRACTOR'S LICENSE**

CITY OF EAST PALO ALTO

MY/OUR STATE CONTRACTOR'S LICENSE FOR CLASSIFICATION: \_\_\_\_\_  
NO. \_\_\_\_\_, EXPIRES \_\_\_\_\_.

THIS PROPOSAL MUST BE NOTARIZED BELOW.

Subscribed and sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_.

\_\_\_\_\_  
(Notary Seal)

Notary Public in and for the

County of San Mateo

State of California

The aforesigned, as Bidder, declares that he has carefully examined the location of the proposed work, the annexed proposed form of Agreement, and the Plans and Specifications therein referred to; that he proposes, and agrees if this Proposal is accepted, that he will contract with the City of East Palo Alto, in the form of the copy of the Agreement annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction and to do all the work and furnish all the materials specified in the Contract, in the manner and time therein prescribed and according to the requirements of the Engineer.

The City reserves the right to increase or decrease quantities by 25% as described in Section 4-1.03B "Increase or Decrease of Quantities" of the Caltrans Standard Specifications.

## **EXHIBIT I - APPRENTICESHIP STANDARDS**

### **CITY OF EAST PALO ALTO**

Information relative to apprenticeship standards and administration of the apprenticeship program may be obtained from the Director of Industrial Relations, San Francisco, California, or from the Division of Apprenticeship Standards and its branch office.

"I am aware of the provisions of Sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the contractor and any subcontractor under him. I comply with the requirements of said sections in the employment of apprentices, as evidenced by the signature below."

Signed By: \_\_\_\_\_

Official Title: \_\_\_\_\_

Notice also is hereby given that in accordance with Section 1773.2 of the Labor Code of the State of California, copies of the general prevailing rate of per diem wages in the locality in which the public work is to be performed for each craft classification, or type of workman, and for holiday and overtime work, as determined by the Director of the Department of Industrial Relations, are on file in the Office of the Director of Public Works/City Engineer and are available to any interested party upon request. It shall be mandatory upon the Contractor to whom the contract is awarded, and upon all subcontractors under him, to pay not less than the highest of the applicable rates set forth in either the federal or municipal schedules or prevailing wage rates.

Employer payments other than those itemized therein, as defined in Section 1773.1 of the Labor Code, are to be paid in accordance with the terms of collective bargaining agreement applicable to the type of classification of the workmen employed on the program, including overtime, Sunday and Holiday pay.

Pursuant to the provisions of Government Code S4590, and at the request and expense of the Contractor, securities equivalent to the amount withheld by City to ensure performance, under a contract shall be deposited with City and with a State or Federally-chartered bank as escrow agent who shall pay such moneys to the Contractor upon satisfactory completion of the contract. Eligible securities shall include those listed in Government Code S16430 or bank or savings and loan certificates for deposit. The Contractor shall be the beneficial owner of and security and shall receive any interest thereon.

## **EXHIBIT J - FEDERAL MINIMUM WAGE RATES**

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov>.

The federal minimum wage rates are available directly from the Department of Labor Home Page under <https://beta.sam.gov/search?index=wd>. Specify on the left column the Davis Bacon Act. Select appropriate selection for state, county, and construction type. After the search, review the results. Click on the Davis-Bacon Act WD#.

Addenda to incorporate the Federal minimum wage rates will be issued to holders of "Contract Documents and Specifications" books. Future effective general prevailing wage rates which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

**SEE ATTACHMENT F FOR WAGE RATES**

**EXHIBIT K – FHWA 1273**

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

#### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: 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, pre-apprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. 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 CFR Part 26 in the award and administration of DOT-assisted contracts. 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 contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) ) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) ) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) ) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, 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 1(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 paragraph 1.d. 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 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 work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. 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.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, 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 therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) ) 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, U.S. Department of Labor, 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.

(3) ) 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 Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination 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.

(4) ) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) 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.

c. 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.

d. 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 assets for the meeting of obligations under the plan or program.

## **2. Withholding**

The contracting agency 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 same prime contractor, or any other federally- assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime 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, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, 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.

## **3. Payrolls and basic records**

a. 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. 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 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.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. 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). The required weekly payroll 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 prime 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 contracting agency for transmission to the State DOT, the FHWA 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 contracting agency..

(2) ) 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:

(i) That the payroll for the payroll period contains the information required 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;

(ii) 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;

(iii) 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.

(3) ) 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 3.b.(2) of this section.

(4) ) 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.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, 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 FHWA may, after written notice to the contractor, the contracting agency or the State DOT, 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.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

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, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, 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 Office of Apprenticeship Training, Employer and Labor Services 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 a 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 journeymen 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 determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, 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.

##### b. Trainees (programs of the USDOL).

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.

c. 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.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. 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.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. 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.

**8. 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.

**9. 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.

**10. Certification of eligibility.**

a. 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).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency 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 the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) ) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) ) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) ) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) ) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal- aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) ) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) ) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.



**ATTACHMENT A**

**BAY ROAD IMPROVEMENTS PHASE II/III  
PROJECT**

**CITY CONTRACT NO. CIP-ST-05A-13**

**US FISH AND WILDLIFE SERVICE  
BIOLOGICAL OPINION LETTER**



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
San Francisco Bay-Delta Fish and Wildlife Office  
650 Capitol Mall, Suite 8-300  
Sacramento, California 95814



In reply refer to:  
08FBDT00-2016-F-0160

NOV 01 2016

Mr. Tom Holstein  
Environmental Branch Chief  
California Department of Transportation  
D4 Office of Local Assistance  
111 Grand Avenue  
P.O. Box 23660  
Oakland, CA 94623-0660

5438(011)

Subject: Formal Consultation on the Bay Road Improvement Project: Phase II and Phase III Bay Road between Clark Avenue/Illinois Street and Cooley Landing Regional Park Access Road, East Palo Alto, San Mateo County, California (Federal Project No. HPL4-6438 (11))

Dear Mr. Holstein:

This letter is in response to the California Department of Transportation (Caltrans) May 9, 2016, request to initiate formal consultation with the U.S. Fish and Wildlife Service (Service) for the Bay Road Improvement Project: Phase II and Phase III (project) located in East Palo Alto, San Mateo County, California. The Caltrans consultation initiation letter was received by the Service on May 16, 2016. At issue are the effects of the proposed project on the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*; SMHM) and the endangered California clapper rail (*Rallus longirostris obsoletus*; CCR). This document is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C 1531 *et seq.*) (Act).

Recent genetic analyses of rail species resulted in a change in the common name and taxonomy of the large, "clapper-type" rails (*Rallus longirostris*) of the west coast of North America to Ridgway's rail (*Rallus obsoletus*) (Maley and Brumfield 2013; Chesser *et al.* 2014). Thus the California clapper rail (*Rallus longirostris obsoletus*) is now referred to in the scientific community as the California Ridgway's rail (*Rallus obsoletus obsoletus*). The change in the common name and taxonomy of the California clapper rail, however, does not change the listing status of the species under the Act and will be referred to by the original name in this document.

In reviewing this project, the Service has relied upon: (1) the April, 2016 *Bay Road Improvement Project: Phase I and Phase III Bay Road between Clark Avenue/Illinois Street and Cooley Landing Regional Park Access Road Biological Assessment* (BA); (2) the Caltrans May 9, 2016, letter requesting consultation; and (3) other information available to the Service.

## BIOLOGICAL OPINION

### Description of the Proposed Action

The City of East Palo Alto proposes to construct improvements to an approximately one-half mile portion of Bay Road between Clark Avenue/Illinois Street and the east end of Bay Road where it meets Cooley Landing Regional Park access road. The proposed project includes two phases of roadway, streetscape, and utility improvements. The proposed project is organized as two phases since each phase addresses a specific set of improvements needed to correct the deficiencies of its section of Bay Road. Phase I of the Bay Road project was previously completed by the City. Phase II addresses the section of Bay Road between Clarke Avenue/Illinois Street and Pulgas Avenue, and Phase III addresses improvements east of Pulgas Avenue where the road is two lanes wide. The proposed project would maintain the existing number of travel lanes in each phase area.

Work throughout the project area would include: construction of wider sidewalks, installation of new bike lanes, resurfacing or otherwise repairing the roadway, construction of new bus stop turn-outs with concrete pavement pads, installation of pedestrian and street lighting, adjusting and improving conflicting or underperforming storm drainage systems, water mains, and other utilities, installation of landscaped medians with new street trees, construction of colored concrete pavement at intersections, installation of lighted crosswalks, installation of irrigation system as well as planting of shrubs or trees in the median and on both sides of the roadway, installation of new pavement striping and construction of a fire engine turn around.

All improvements of Phase II would be constructed within existing developed Bay Road right-of-way (ROW) and as such are not anticipated to affect CCR or SMHM and are not further described in this biological opinion except for where Caltrans did not describe the phases separately.

Phase III of the proposed Bay Road Improvement Project extends from Pulgas Avenue to the terminus of Bay Road where it meets the Cooley Landing Regional Park access road. A San Francisco Bay Trail trailhead is located at the end of Bay Road. Phase III improvements include the following:

#### Roadway Improvements

- Reconstruct this section roadway, including the road base prior to resurfacing.
- Bay Road would be widened to provide adequate traffic lane widths and room for bicycle lanes; dirt and gravel shoulders would be eliminated and a new sidewalk would be constructed on the north side of the road. A new sidewalk would be constructed on the south side of Bay Road between Pulgas Avenue and Tara Road. All roadway improvements shall be within the existing ROW except an emergency vehicle turnaround that would be constructed on privately-owned land on the south side of Bay Road approximately 120 feet west of the proposed project terminus at Cooley Landing Park and a curb return at the northeast corner of Bay Road and Pulgas Avenue intersection.
- New bicycle lanes would be located on both sides of the road.

- A new combined bicycle/pedestrian pathway linking the Bay Trail trailhead to the new sidewalk and bicycle lane would be constructed on the north side of Bay Road.
- Install new street and pedestrian lighting for safety.
- A new lighted crosswalk would be located at the intersection of Bay Road and Tara Road.

### Utilities

- Replacement of an existing 12-inch water main in Bay Road which has reached its design life and is prone to breaks.
- A new storm drainage system consisting of new storm drain main lines, laterals and catch basins would connect to a new storm main extending south on Pulgas Avenue to Runnymede Street, as described under Phase II in the BA.
- The existing sewer main would be relocated to make room for the new storm drain system and other new underground utilities.
- A new underground joint utility trench would extend to the eastern end of Phase III. Existing overhead utilities (electrical, telephone and cable) would be relocated to the utility trench and aboveground distribution structures (poles, cables and supports) removed.
- Landscaped stormwater biotreatment areas would be constructed along sidewalks on Bay Road.

Three components of Phase III of the proposed project are located outside of the ROW and have the potential to affect CCR and SMHM and are described below. These components include:

1. Emergency Turnaround: An emergency vehicle access turnaround that would be construction on privately-owned land on the south side of Bay Road approximately 120 feet west of the proposed project terminus at Cooley Landing Park;
2. Storm Drains: The connection of two new storm mains to an existing culvert located approximately 60 feet east of the terminus of Runnymede Street; and
3. Sidewalk Easement: The acquisition of a sidewalk easement at the northeast corner of Bay Road and Pulgas Avenue Intersection for a curb return and American with Disabilities Act compliant curb ramps

### Construction Staging and Schedule (both phases)

Construction equipment and materials would be staged within the existing Bay Road ROW, the Pulgas Avenue ROW and/or the Runnymede Street ROW. The majority of material staging would occur between Illinois Street/Clarke Avenue and Pulgas Avenue, where the Bay Road ROW is approximately 90 feet wide. West of Pulgas Avenue, staging would occur along the existing shoulders of Bay Road within the existing 40-foot ROW. The Pulgas Avenue ROW and/or the Runnymede Street ROW may be used for staging for the construction of storm sewer mains within

those streets. Staging areas would be fitted with sediment and dust control Best Management Practices.

Construction of the proposed project is expected to last approximately 12 to 18 months. Consistent with the City Municipal Code, construction activities would occur from Monday through Friday between 7:00 a.m. and 6:00 p.m., and Saturdays between 9:00 a.m. and 5:00 p.m. No Sunday or Federal holiday construction is proposed.

### Conservation Measures

#### *California Clapper Rail*

1. The proposed project will minimize effects to CCR by prohibiting construction within 200 meters (656 feet) of salt marsh during the nesting season.
2. Proposed project construction in areas within 200 meters (656 feet) of salt marsh will be limited to the period between September 1 and January 31 minimize potential adverse effects to breeding CCR.
3. If it is necessary to complete work within the 200-meter (656-foot) buffer, then the following standard measures will be implemented to minimize potential effects to CCR:
  - a. Prior to initiation of proposed project activities, a protocol level CCR survey effort will be performed by a Service-qualified biologist during the CCR nesting season. A protocol level survey effort requires a minimum of four surveys between January 16 and late March to early April and prior approval of the Service. No construction is permitted during the period in which the surveys are being conducted.
  - b. If the survey finds CCR activity centers during the protocol level surveys, no work will occur within 200 meters (656 feet) of any activity centers until after August 31.
  - c. If no CCR are observed during the protocol level survey, construction may begin after approval of the survey results by Service.
  - d. Construction will be limited to daylight hours only and artificial nighttime lighting on the proposed project site will be shielded, directed downward and minimized at night.
  - e. Environmental training will be provided to all persons working on the proposed project site prior to the initiation of project-related activities and training materials and briefings will include all biological resources that may be found on or in the vicinity of the proposed project site, the laws and regulations that protect those resources, the consequences of non-compliance with those laws and regulations and a contact person in the event that protected biological resources are discovered on the proposed project site.

*Salt Marsh Harvest Mouse*

1. A Service-approved biologist will be on-site during vegetation removal and the installation of a mouse exclusion fence in areas of potential habitat at the east ends of Bay Road and Runnymede Street. The Service-approved biologist will document compliance with the project permit conditions and conservation measures.
2. The Service-approved biologist will conduct preconstruction surveys for the salt marsh harvest mouse immediately prior to the start of work in potential habitat at the fire truck turnaround at the east end of Bay Road and at the storm drain connection at the east end of Runnymede Street.
3. Vegetation clearing in areas of potential habitat at the fire truck turnaround at the east end of Bay Road and at the storm drain connection at the east end of Runnymede Street will be completed only with non-mechanized hand tools (i.e. trowel, hoe, rake, and shovel). No motorized equipment, including weed whackers or lawn mowers, will be used to remove this vegetation. Vegetation will be removed to bare ground or stubble no higher than 1 inch. Vegetation will be removed under the supervision of the Service-approved biologist. Vegetation removal may begin when no mice are observed during the preconstruction surveys and will start at the edge farthest from the salt marsh or the poorest habitat and work its way towards the salt marsh or the better salt marsh habitat.
4. To prevent SMHM from moving through the project site during construction, temporary exclusion fencing will be placed around work areas within ruderal vegetation at the east end of Bay Road and Runnymede Street immediately after the vegetation removal. The fence will integrate heavy plastic sheeting or similar material that does not allow salt marsh harvest mice to pass through or climb, and the bottom should be buried to a depth of 2 inches so that these species cannot crawl under the fence. Fence height will be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. All supports for the exclusion fencing must be placed on the inside of the project area. Fence design will be approved by the Service-approved biologist prior to installation.
5. A contractor sensitivity training program will be conducted to educate all persons employed or otherwise working on the project site prior to performing any work in areas of potential SMHM habitat. The program will consist of a presentation from the Service-approved biologist that includes a discussion of the biology, habitats, legal protections, penalties for violations and project-specific protective measures for species present at this site.
6. Vegetation removal will be limited to the minimum amount needed for construction activities and vehicle access. Temporary effects to vegetation in areas adjacent to tidal marsh would be revegetated with native seed following construction.
7. After completion of the initial vegetation removal and installation of the mouse exclusion fence, the Service-approved biologist will conduct weekly site visits to monitor the condition of the exclusion fence and report on its integrity.

8. Any contractor, employee, or agency personnel who inadvertently kills or injures a salt marsh harvest mouse will immediately report the incident to the Service-approved biologist. The Service-approved biologist will contact the Service and Caltrans to report the dead or injured animal via electronic mail and telephone within one working day.

## **Action Area**

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area for this section 7 consultation encompasses all areas that may be directly or indirectly affected as a result of activities for the project and the broader area that, while outside the construction zone, may be directly or indirectly affected by vibrations, noise, dust, or movement associated with the proposed project. The action area includes Caltrans' Biological Study Area which included approximately 30.55 acres of paved roads and associated developed/landscaped areas, 5.16 acres of ruderal upland, 0.66 acre of salt marsh, and 0.10 acre of open water, and within 700 feet of the salt marsh.

## **Status of Species**

### California Clapper Rail

The status of the species has been updated since the issuance of the PBO. The status of California clapper rail and information about its biology, ecology, distribution, and current threats is available in the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (Service 2013). Critical habitat has not been designated for this species.

### Salt Marsh Harvest Mouse

The status of the species has been updated since the issuance of the PBO. There are two subspecies of the salt marsh harvest mouse: the northern subspecies (*R. r. halicoetes*) and the southern subspecies (*R. r. raviventris*). Both subspecies are listed as endangered. The status of the salt marsh harvest mouse and information about its biology, ecology, distribution, and current threats is available in the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (Service 2013). Critical habitat has not been designated for this species.

## **Environmental Baseline**

### Surrounding Land Uses and Existing Conditions

The project is located within the City of East Palo Alto, California, and contains developed residential, industrial, and light commercial land uses. Caltrans' Biological Study Area (BSA) for the project is located on public and private land along Bay Road, Pulgas Avenue, and Runnymede Street in the City of East Palo Alto in San Mateo County, California. Bay Road and Runnymede Street run roughly east to west, and Pulgas Avenue roughly north to south, all through developed residential and commercial areas. The project area terminates on the eastern end within the salt marsh of Cooley Landing and Ravenswood Open Space Preserve. The Ravenswood Open Space Preserve is located immediately to the east, and some of the project's buffer area extends into the Preserve. Topography is very flat, with elevations ranging between approximately 10 and 15 feet (North American Vertical Datum 1988).

Hydrology in most of the project area is managed as surface runoff from streets conveyed to an underground stormwater system. The only area of natural hydrologic function is at the eastern end where portions of salt marsh are present and is influenced by the tides of San Francisco Bay. Habitats were characterized as developed/landscaped areas, ruderal upland, salt marsh (a type of wetland), and open water. The area primarily contains developed and landscaped surfaces (totaling approximately 31 acres) associated with roads including: Bay Road, Tara Road, Pulgas Avenue, Runnymede Street, Demeter Street, and Clarke Avenue. Landscaped areas consist of maintained areas along Bay Road, dominated by ornamental tree species such as blue gum (*Eucalyptus globulus*), Peruvian peppertree (*Schinus molle*), English walnut (*Juglans regia*), ornamental pine trees (*Pinus* spp.), with scattered native vegetation including coast live oak (*Quercus agrifolia*), and shrubs including coyote brush (*Baccharis pilularis*).

Observed vegetative communities in undeveloped parcels primarily consisted of ruderal uplands with sparse landscaped trees or shrubs. Ruderal uplands observed within undeveloped parcels along Bay Road were dominated by ground cover consisting of wild oat (*Avena fatua*), black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), ripgut brome (*Bromus diandrus*), bristly ox-tongue (*Helminthotheca echioides*), foxtail barley (*Hordeum murinum*), and other weedy non-native species.

The eastern edge of the proposed project area ends at the Bay Trail. Outboard of the Bay Trail, the area contains salt marsh and open water associated with Cooley Landing and the Ravenswood Open Space Preserve. Salt marsh provides habitat for a variety of special-status wildlife species, including salt marsh harvest mouse.

Wildlife species common to the vicinity of the BSA include house finch (*Carpodacus mexicanus*), great egret (*Ardea alba*), barn swallow (*Hirundo rustica*), and raccoon (*Procyon lotor*). The eastern portion of the project area is located adjacent to open water and salt marsh habitat which could be used by special-status species. The proposed project area does not contain any salt marsh or open water habitat, only non-native/ruderal grassland, developed surfaces and landscaped vegetation are present within the proposed project area. Due to the proximity of the salt marsh to the proposed project area and the planned location of the fire engine turn around, special-status species may be found within the proposed project area, specifically within the fire engine turn around parcel.

#### Salt Marsh Harvest Mouse

The project area borders the salt marsh of Cooley Landing and Ravenswood Open Space Preserve which contains preferred habitat for SMHM. Figure 7 of the BA considers 1.83 acres of the BSA SMHM habitat but actual project footprint contains an approximately 0.13 acre undeveloped parcel that will be partially developed as a fire engine turn around at the eastern end of Bay Road, and undeveloped ruderal land along a levee at the end of Runnymede Street. Several California Natural Diversity Database (CNDDDB) records of this species have been documented within the salt marsh bordering the project area, the nearest of which is located 0.2 mile southeast of the (CDFW 2016). Vegetation to be removed is primarily non-native/ruderal upland species or shrubs but may be used as upland refugia by the species.



### California Clapper Rail

The project area borders the salt marsh of Cooley Landing and Ravenswood Open Space Preserve which contains documented habitat for CCR. The nearest CNDDDB record for this species is located 0.2 mile southeast of the project area, and dated 2006 (CDFW 2016). Additionally, as reported by McBroom (2015), this species has been consistently observed in “very high density” within salt marsh areas adjacent to the project area from 2010-2015 during annual surveys conducted under the auspices of the Invasive Spartina Project. The project footprint is not located within marsh habitat.

### **Effects of the Proposed Project**

#### California Clapper Rail

Noise, vibrations, and visual disturbance from construction activities and heavy equipment may result in the harassment of individual CCR in the adjacent habitat and expose them to predation if they were flushed from cover or prevented from seeking available cover. Noise or other construction disturbance during the CCR breeding season (February 1-August 31) could result in the loss of breeding activity or nest abandonment and the loss of all eggs and chicks in the nest. To minimize adverse effects to breeding, work is planned to occur outside of the nesting season. If work is necessary during the nesting season and protocol-level surveys indicate presence, no work will occur within 200 meters (656 feet), less than the standard Service recommendation of 700 feet, of any activity centers until after August 31 minimizing noise and visual disturbance that may result in nest abandonment or stress that could cause reduced success or fecundity.

#### Salt Marsh Harvest Mouse

Noise and vibrations from construction activities and heavy equipment may result in the harassment of individual SMHM in the adjacent salt marsh habitat and expose them to predation if they were flushed from cover or prevented from seeking available cover.

No work is planned to occur in the adjacent salt marsh habitat. Approximately 0.13 acre of ruderal vegetation that may be used as upland refugial habitat within the fire engine turn around parcel at the eastern terminus of Bay Road and at the eastern terminus of Runnymede Street will be permanently affected. This area is considered marginal habitat because it directly abuts a developed roadway. Approximately 0.75 acre surrounding the 0.13 acre of permanent disturbance will remain in its current ruderal state, maintaining the current function of the area as potential upland refugia for SMHM. Temporary effects to vegetation in areas adjacent to the salt marsh at the ends of Bay Road and end of Runnymede Street will be revegetated following construction. Function of the area as potential refugia during high tides for SMHM would remain intact after construction.

### **Cumulative Effects**

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions unrelated to the proposed project are not considered in this section, because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of specific projects

that might affect the California clapper rail and salt marsh harvest mice in the action area that are currently under review by State, county, or local authorities.

## **Conclusion**

After reviewing the current status of the CCR and SMHM, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the CCR and SMHM. This is based on the project being completed in developed or ruderal vegetation without physically affecting salt marsh habitat and implementation of conservation measures.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Caltrans so that they become binding conditions of any grant or permit issued to the applicants, as appropriate, for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans(1) fails to assume and implement the terms and conditions or (2) fails to require the (applicants) to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

### **Amount or Extent of Take**

The Service anticipates incidental take of individual CCR and SMHM will be difficult to detect or quantify because of the variable, unknown size of any resident population over time, their elusive and cryptic behavior, and the difficulty of finding killed or injured animals. Due to the difficulty in quantifying the number of CCR and SMHM that will be taken as a result of the proposed project, the Service is quantifying take incidental to the proposed project as the following:

1. Harassment of all CCR in the adjacent salt marsh habitat within 700 feet of the project construction areas; and

2. Harassment, harm, and mortality of all SMHM within suitable habitat of the 1.83 acres of potential habitat as described in the BA.

Upon implementation of the reasonable and prudent measures, incidental take associated with the project will become exempt from the prohibitions described under section 9 of the Act.

### **Effect of the Take**

In the accompanying biological opinion, the Service determines that the levels of take are not likely to result in jeopardy to the CCR and SMHM.

### **Reasonable and Prudent Measures**

The following reasonable and prudent measures are necessary and appropriate to minimize the effects of the proposed project to the CCR and SMHM:

1. Caltrans will minimize the potential for harassment of CCR and harm, harassment, or mortality of SMHM.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, the Corps shall ensure that the applicants comply with the following terms and conditions, which implement their respective reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. Term and Condition 1 implements Reasonable and Prudent Measure 1:
  - a. Caltrans shall minimize the potential for harm, harassment, injury, killing or other forms of take of the CCR and SMHM from project related activities by implementation of the *Conservation Measures* as described in the *Project Description* in this biological opinion or as modified by the *Terms and Conditions* of this document.
  - b. Caltrans shall ensure that the applicants immediately notifies the Service of any killed, injured, or entrapped CCR or SMHM, within one (1) working day of the detection. Please contact the Assistant Field Supervisor of the Endangered Species Division at: San Francisco Bay-Delta Fish and Wildlife Office, 650 Capitol Mall, Suite 8-300, Sacramento, California 95814 or by telephone at (916) 930-5603.
  - c. Caltrans shall educate and inform personnel involved in the project as to the *Conservation Measures* and *Terms and Conditions* in this biological opinion.
  - d. Caltrans shall comply with the reporting requirements of this biological opinion, including a post-construction report outlining how the *Conservation Measures* were implemented for this project.

## Reporting Requirements

In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, the Corps must reinitiate formal consultation as per 50 CFR 402.16.

1. The Service must be notified within 24 hours of the finding of any injured or dead listed species or any unanticipated damage to its habitat associated with the proposed project. Injured listed species shall be cared by a licensed veterinarian or other qualified person, such as the Service-approved biologist for the proposed project. Notification will be made to the contact above in *Term and Condition 2b*, and must include the date, time, and precise location of the individual/incident clearly indicated on a U.S. Geological Survey 7.5 minute quadrangle or other maps at a finer scale, as requested by the Service, and any other pertinent information. When an injured or dead individual of the listed species is found, Caltrans shall follow the steps outlined in the Disposition of Individuals Taken section below.
2. Sightings of any listed or sensitive animal species shall be reported to the Service and CNDDDB (<http://www.dfg.ca.gov/biogeodata/cnddb/>).
3. The applicants shall submit a post-construction compliance report prepared by the on-site biologist to the San Francisco Bay-Delta Fish and Wildlife Office within sixty (60) calendar days of the date of the completion of construction activities. This report shall detail (i) dates that construction occurred; (ii) pertinent information concerning the success of the project in meeting the avoidance and minimization measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on the CCR and SMHM, if any; (v) occurrences of incidental take of these listed species, if any; (vi) documentation of employee environmental education; and (vii) other pertinent information.

### *Disposition of Individuals Taken*

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact persons are the Assistant Field Supervisor of the Endangered Species Division at (916) 930-5603; and the Resident Agent-in-Charge of the Service's Office of Law Enforcement, 5622 Price Way, McClellan, California 95562, at (916) 569-8444.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement

recovery plans, or to develop information. The Service recommends the following actions:

1. Encourage or require the use of appropriate California native species in re-vegetation efforts.
2. Facilitate additional educational programs geared toward the importance and conservation of tidal marsh and seasonal wetlands.
3. Assist the Service in implementing other recovery actions identified within most current recovery plans for the CCR and SMHM.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

### **REINITIATION – CLOSING STATEMENT**

This concludes formal consultation for the Bay Road Improvement Project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any additional take will not be exempt from the prohibitions of section 9 of the Act, pending reinitiation.

If you have any question or concern regarding this response, please contact Kim Squires, Section 7 Division Chief, via email at [Kim\\_Squires@fws.gov](mailto:Kim_Squires@fws.gov). Please refer to Service file number 08FBDT00-2016-F-0160 in any future correspondence regarding this project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kaylee Allen', with a long horizontal flourish extending to the right.

Kaylee Allen  
Field Supervisor

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- California Department of Fish and Wildlife (CDFW). 2016. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Accessed May 2014.
- Chesser, R.T., R.C. Banks, C. Cicero, J.L. Dunn, A.W. Kratter, I.J. Lovette, A.G. Navarro-Sigüenza, P.C. Rasmussen, J.V. Remsen, Jr., J.D. Rising, D.F. Stotz, and K. Winker. 2014. Fifty-fifth supplement to the American Ornithologists' Union *Check-list of North American Birds*. Auk 131: in press.
- Maley, J.M. and R.T. Brumfield. 2013 Mitochondrial and next-generation sequence data used to infer phylogenetic relationships and species limits in the Clapper/King rail complex. *Condor* 115:316-329.
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**ATTACHMENT B**

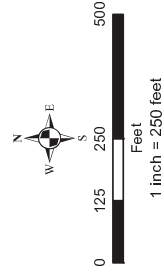
**BAY ROAD IMPROVEMENTS PHASE II/III  
PROJECT**










**CITY CONTRACT NO. CIP-ST-05A-13**

**RIDGEWAY RAIL SEASONAL  
AVOIDANCE BUFFER MAP**



Figure 2.  
Ridway's Rail  
Seasonal Avoidance  
Buffer



	Study Area: (30.55 ac.)
	Open Water: (0.10 ac.)
	Salt Marsh: (0.66 ac.)
	200m CCR Buffer
<b>Project Project</b>	
	Median
	Road
	Sidewalk
	Storm Drain
	Turnaround



**ATTACHMENT C**

**BAY ROAD IMPROVEMENTS PHASE II/III  
PROJECT**

**CITY CONTRACT NO. CIP-ST-05A-13**

**SOIL AND GROUNDWATER  
MONITORING PLAN**

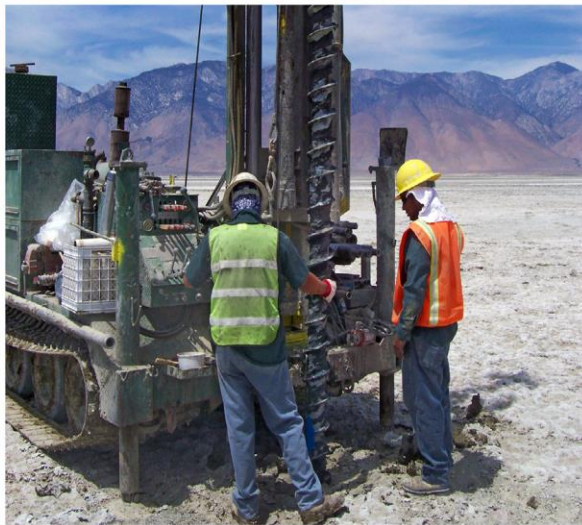
# Updated Soil and Groundwater Management Plan

## Bay Road Phase II and III Improvement Project East Palo Alto, California

T.Y. Lin International

345 California Street | San Francisco, California 94104

September 21, 2018 | Project No. 402068004



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

**Ninyo & Moore**  
Geotechnical & Environmental Sciences Consultants

September 21, 2018  
Project No. 402068004

Ms. Sneha Pavuluri  
T.Y. Lin International  
345 California Street  
San Francisco, California 94104


Subject: Updated Soil and Groundwater Management Plan  
Bay Road Phase II and III Improvement Project  
East Palo Alto, California

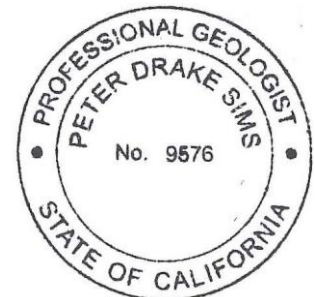
Dear Ms. Pavuluri:

Ninyo & Moore has prepared for T.Y. Lin International (T.Y. Lin) this Updated Soil and Groundwater Management Plan (Updated SGMP) for the above-referenced site. This Updated SGMP, which replaces the SGMP prepared by Ninyo & Moore in October 2016 due to the expansion of the project area, has been prepared to provide T.Y. Lin an understanding of the special handling and management procedures that are to be followed when encountering potentially contaminated soil and/or groundwater during the implementation of the Bay Road Phase II and III Improvement Project. The environmental concerns identified for this media were obtained from available Environmental Site Assessment Reports for the site and adjoining properties prepared by Ninyo & Moore and others.

We appreciate the opportunity to be of service to you on this project.

Respectfully submitted,  
**NINYO & MOORE**

  
**Marci J. Richards, PG 8050**  
Senior Geologist

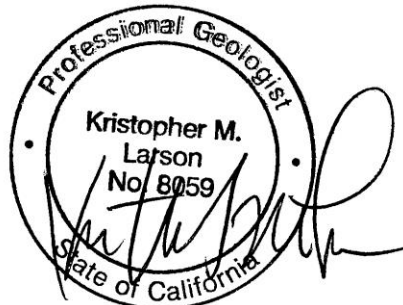


  
**Peter D. Sims, PG 9576**  
Project Environmental Geologist

**Kristopher M. Larson, PG 8059**  
Principal Environmental Geologist

MJR/PDS/KML/vmn

Distribution: (1) Addressee



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- 1 – Site Location
- 2 – Site Plan and Approximate Location of COPCs

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- A – Soil and Groundwater Sample Locations and Data for Adjacent Properties to the Site
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- C – DTSC Information Advisory for Clean Imported Fill Material

# 1 INTRODUCTION AND BACKGROUND

This Updated Soil and Groundwater Management Plan (Updated SGMP) was prepared for T.Y. Lin International (T.Y. Lin) for the Bay Road Phase II and III Improvement Project being conducted by the City of East Palo Alto (the City) in California. This Updated SGMP replaces the SGMP prepared by Ninyo & Moore in October 2016 due to the expansion of the project area. The new project area consists of replacement and/or relocation of storm drain, water main and/or sanitary sewer laterals on Bay Road, east of Illinois Street/Clarke Avenue; Runnymede Street, east of Pulgas Avenue; Weeks Street, east of Pulgas Avenue; Pulgas Avenue from Bay Road to approximately 280 feet south of Runnymede Street; and small sections on Illinois Street (approximately 210 feet) and Clark Avenue (approximately 350 feet), north and south of Bay Road, respectively. The project area is collectively referred to as the “site” (Figure 1). This Updated SGMP has been prepared to provide T.Y. Lin an understanding of the special handling and management procedures that are to be followed when encountering potentially contaminated soil and/or groundwater during the implementation of the Bay Road Phase II and III Improvement Project. Based on previous investigations on properties adjacent to the site boundaries, Ninyo & Moore’s January 2015 and S.S. Papadopoulos & Associates’ (SSPA) September 2016 site investigation activities on a portion of Bay Road (beginning just west of Pulgas Avenue to the Bay Trail near Cooley Landing and a small section of Tara Road), SSPA’s September 2014 site investigation on a portion of Runnymede Street (east of Pulgas), and SSPA’s 2012 and 2014 monitoring report and previous investigations on a portion of Weeks Street (east of Pulgas), this project may encounter potential contaminated soil and/or groundwater with elevated concentrations of heavy metals, in particular arsenic; total petroleum hydrocarbons (TPH), as gasoline (TPHg), diesel (TPHd), and motor oil (TPHmo); organochlorine pesticides (OCPs) including but not limited to chlordane, dieldrin, 4,4-dichlorodiphenyldichloroethylene (4,4-DDE), 4,4-dichlorodiphenyltrichloroethane (4,4-DDT), heptachlor epoxide, lindane, and toxaphene; and/or volatile organic compounds (VOCs) including but not limited to tetrachloroethylene (PCE), trichloroethylene (TCE), and cis-1,2-dichloroethene (DCE).

This Updated SGMP has been prepared to summarize the protocol to be implemented during future construction activities at the site. This Updated SGMP should be implemented during activities including, but not limited to, excavations, utility installations, and other intrusive activities associated with the construction activities at the site.

In the event that during excavations and utility installations the excavated materials are temporarily stockpiled on-site, this Updated SGMP provides the protocol to be followed in association with their management.



This Updated SGMP addresses worker health and safety controls, personnel assignments and responsibilities, soil excavation, management of contaminated and potentially contaminated materials, on-site reuse and, if required, off-site disposal procedures, and provides recommendations to reduce exposure to workers and the public from contaminants, if encountered. Work performed under this Updated SGMP shall be in compliance with site construction specifications, a site health and safety plan, and applicable local, state, and federal statutes and regulations.

## 2 SITE DESCRIPTION

The project area encompasses Bay Road, east of Illinois Street/Clarke Avenue; Runnymede Street, east of Pulgas Avenue; Weeks Street, east of Pulgas Avenue; Pulgas Avenue from Bay Road to approximately 280 feet south of Runnymede Street; and small sections on Illinois Street (approximately 210 feet) and Clark Avenue (approximately 350 feet), north and south of Bay Road, respectively. (Figure 1). Properties on Bay Road and north on Pulgas Avenue and Tara Road are currently used for commercial and industrial purposes. Properties east of Pulgas Avenue on Weeks Street and Runnymede Street and on Pulgas Avenue between Bay Road and Weeks Street are currently used for commercial and industrial purposes, are residential, or are vacant. Properties on Pulgas Avenue, south of Weeks and on the sections of Illinois Street and Clark Avenue are currently residential.

### 2.1 Land Use Restrictions of Adjoining Properties

The following properties are the subject of deed restrictions: 1990 Bay Road, 1950 Bay Road, Pacific Gas & Electric Pole Yard that is a portion of the 2000 Bay Road property, 1200 Weeks Street, 1275 Runnymede Street, and 1885 Bay Road. The 2296 Pulgas Avenue property has a potential land use restriction pending over-excavation activities.

The deed restriction for properties at 1990 Bay Road, 1950 Bay Road, the Pacific Gas & Electric Pole Yard that is a portion of 2000 Bay Road, 1200 Weeks Street, and 1275 Runnymede Street require compliance with the San Francisco Bay Regional Water Quality Control Board (RWQCB) Order No. R2-2016-0037 for Starlink Logistics, Inc. (SLLI), the 1990 Bay Road property owner. RWQCB Order No. R2-2016-0037 includes portions of Bay Road, Weeks Street, and Runnymede that are identified on Figure 2 as “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)”. The deed restrictions require the following:

- Any soil or groundwater brought to the surface shall be handled in accordance with all applicable provisions of state and federal law;
- Any work performed in the areas covered by the deed restrictions shall preserve the integrity of remedial measures or groundwater monitoring systems; and

- The RWQCB should be notified 10 days prior to any work that may affect the integrity of remedial measure or groundwater monitoring systems.

The deed restriction for the 1885 Bay Road property require compliance with the Environmental Covenant and Deed Restriction and its associated Operation and Maintenance Plan (OMP) per the RWQCB, which include the following:

- Maintenance of durable cover in accordance with the OMP;
- Any soil or groundwater brought to the surface shall be handled in accordance with all applicable provisions of state and federal law;
- A well shall not be drilled, bored, or otherwise constructed for the purpose of extracting water for any use, unless expressly permitted in writing by the RWQCB.

The property at 2296 Pulgas Avenue requires compliance with the County of San Mateo Groundwater Protection Program (GPP). There is a pending case closure with a building department notification letter by the GPP for the site, as the lateral and vertical extent of TPH-impacted soil and groundwater were assessed by the property owner. A building department notification letter would require a Updated SGMP prior to issuing a permit for future development that would disturb the residual contamination. In June 2018, a work plan to over-excavate the residual TPH-contaminated soil was submitted to the GPP with the intent to receive a case closure with no land use restrictions.

Implementation of this Updated SGMP will ensure compliance with the requirements of the land use restrictions.

## 2.2 Impacted Soil and/or Groundwater on Adjoining Properties

The following adjoining properties did not have deed restrictions listed on Geotracker but have been under the oversight of the San Mateo County Environmental Health Department (SMCEHD) for assessment and/or remediation: 2447 Pulgas Avenue, 2479 Pulgas Avenue, 1801-1805 Bay Road, and 1802-1804 Bay Road (Figure 2).

The adjoining properties at 2447 Pulgas Avenue and 1805 Bay Road are identified as leaking underground storage tank (LUST) closed SMCEHD cases. Impact at the properties was discovered in 1994 and related to gasoline; however, no records are available. The property at 2447 Pulgas Avenue is noted as having excavation; the case was closed in 2002. The 1805 Bay Road case was closed in 2009.

The adjoining property at 2479 Pulgas Avenue is a closed SMCEHD LUST case. A 1,000 gallon gasoline UST was removed in 1991 and over excavation of impacted soil was performed. Confirmation soil samples had a maximum TPHg concentration of 150 parts per million (ppm)



and confirmation groundwater samples had maximum TPHg concentrations of 430 parts per billion (ppb) and benzene concentrations of 1 ppb. Depth to water was measured from approximately 5 to 9 feet below ground surface (bgs) in the four wells. The case was closed in 1997.

The adjoining properties at 1801-1805 Bay Road and 1802-1804 are within the Ravenswood Industrial Area (RIA) and under RWQCB Orders, Nos. 92-037 and 92-086. Properties within the RIA have a history of agricultural uses, industrial uses, and/or fill operations, and more recently as auto wrecking yards and storage facilities with little or no regulation of land-use. Site contamination can be treated by the application of the Land Use Covenant (LUC) which consists primarily of the construction of a durable cover over the surface of a site and is intended to eliminate the pathway of direct exposure to native site soils, thereby eliminating the risk posed by these soils. However, the Updated SGMP for the RIA requires soil encountered during trenching and other earthwork construction activities (e.g., excavation) which contain constituents of potential environmental concern (COPCs) above the cleanup goals (CGs) (Table 1 in Appendix A) to be removed from a site and properly disposed off-site or evaluated (stockpiled and sampled) for potential reuse onsite with specific conditions (placed beneath durable cover) and with approval by the RWQCB (Ninyo & Moore, 2018).

### **3 DEFINITIONS**

Definitions of key terms used in this Updated SGMP are provided in the following sections.

#### **3.1 Materials**

For purposes of this Updated SGMP, the term “materials” refers to soil and/or other subsurface materials that may be encountered during the planned construction.

#### **3.2 Contaminated Substance**

In the context of this Updated SGMP, a contaminated substance contains a substance, or substances, at concentrations that would: require special training, handling, or the use of personal protective equipment; restrict the end use to protect human health or the environment; be subject to local, state, or federal regulatory requirements.

Based on the results of the previous site and adjoining property investigations, contaminated soil and groundwater may be encountered and possibly generated. This contaminated soil and/or groundwater may be considered a contaminated substance that may contain chemicals at levels that make it a hazardous substance, or in some cases, a hazardous waste under state and/or federal regulations, unless additional analytical testing confirms otherwise.

Protective measures and equipment to reduce or prevent exposures from contaminated soil and/or groundwater generated during this project will be specified in the project health and safety plan, discussed in further detail in Section 8.

### **3.3 Hazardous Substance**

A hazardous substance is any substance that is toxic, corrosive, an irritant, a strong sensitizer, flammable, combustible, radioactive, or that may cause personal injury or illness as a result of any customary or reasonable foreseeable handling or use.

### **3.4 Hazardous Waste**

A California-hazardous waste is a contaminated substance that meets the definition of hazardous waste as defined in the California Code of Regulations (CCR) Title 22 Sections 66261.20 through 66261.24. A Resource Conservation and Recovery Act (RCRA)-hazardous waste is a contaminated substance that meets the definition of hazardous waste as defined in 40 Code of Federal Regulations (CFR) Part 261.

### **3.5 Competent Person**

A competent person shall have demonstrated knowledge of, and professional experience in the observation and documentation of environmental excavating activities; environmental and geologic conditions in the project area; and recognition of, and testing for, hazardous materials and conditions. A competent person shall have current Occupational Safety and Health Administration (OSHA) training and certificates and the authority to respond to changed conditions. Typically, a competent person will be a state-licensed geologist, engineer, or health professional with sufficient knowledge of local conditions and environmental regulations, or a person working under the direct supervision of such a geologist or engineer.

## **4 SITE CHARACTERIZATION**

This section describes soil and groundwater conditions at the site.

### **4.1 Soil**

Based on information obtained from the January 2015 investigation of a portion of the site on Bay Road and investigations on adjoining properties, the soil underlying the site varies. Along Bay Road, soil consists of finely graded, moist, silty sand with trace gravel and low plasticity to 10 feet below ground surface (bgs) (Ninyo & Moore, 2015). Along Runnymede Street, soil beneath the road base consists of clay from approximately 1 to 3 feet bgs underlain by sandy silt, clayey sand, sandy clay, and/or poorly graded sand to approximately 7 feet bgs (Geomatrix, 2007). On the adjoining property at 2296 Pulgas Avenue, lean clay was present from the

surface to approximately 12 feet bgs (Clearwater, 2018). Boring logs and/or soil descriptions were not available for other adjoining properties.

Uses of the various historical properties that have comprised the site such as a metal plating facility, an agricultural chemical manufacturing facility, auto wrecking yards and storage facilities, commercial businesses with USTs, former agricultural uses, etc. are reportedly the source of soil impacts at the site. Investigations dating back to 1991 have indicated that potential sources of environmental concern include VOCs, TPH, Title 22 metals (focused on arsenic and lead), semi-volatile organic compounds (SVOCs), organochlorine pesticides (OCPs), hexavalent chromium (Cr+6), polychlorinated biphenyls (PCBs), and/or polycyclic aromatic hydrocarbons (PAHs) on site (Ninyo & Moore, 2014) and/or on adjacent properties (Ninyo & Moore, 2004, 2015, and 2018, Geomatrix 2007). The COPCs identified by Ninyo & Moore during our January 2015 investigation activities for a portion of the site included similar COPCs (arsenic, TPH, and VOCs including PCE, and TCE). However, these COPCs were reported in low levels are not above the 2016 RWQCB Environmental Screening Levels (ESLs) based on Direct Exposure Human Health Risk Levels (Table S-1) (RWQCB, 2016), which are the screening criteria for this project. The highest concentration of any particular COPC, is likely arsenic associated with the 1990 Bay Road property, which is discussed below. The potential arsenic impacted soil locations on the site consist of those areas identified in RWQCB Order No. R2-2016-0037 and labeled on Figure 2 as “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” and those areas where adjacent properties have known or potential arsenic impacted soil and labeled on Figure 2 as “Potential Area of Arsenic Impacted Soil” (Figure 2).

### **1990 Bay Road**

Based on information discussed in the Ninyo & Moore Phase I Environmental Site Assessment prepared in July 2014 (Ninyo & Moore, 2014), historical pesticide manufacturing activities conducted at 1990 Bay Road (Figure 2) is the source of the extremely high arsenic concentrations within the property, and arsenic impacted soils are present beneath Bay Road and along the north and south shoulders of Bay Road and extend to the east towards the tidal marsh and south to Weeks Street and Runnymede Street. Remedial actions conducted to address the arsenic impacted soils in the vicinity of Bay Road included excavating and disposing arsenic in soils exceeding 70 milligrams per kilogram (mg/kg) located on the north side of Bay Road, and a 2-inch asphalt cap for soils impacted with arsenic exceeding 70 mg/kg on the south site of Bay Road (and adjacent to the 1990 Bay Road property) (Figure 2).

Based on Ninyo & Moore’s Phase II Environmental Site Assessment prepared in April 2015, six soil samples (two each from boring locations B-6 through B-8) collected within the vicinity of

1990 Bay Road (Figure 2) had low levels of arsenic ranging from 3.4 to 9.3 mg/kg, suggesting that arsenic impacted soil is unlikely uniformly distributed beneath Bay Road. Because arsenic impacted soil on the north side of Bay Road was the only soil exceeding 70 mg/kg that was excavated and disposed off-site, it is likely that high concentrations of arsenic still remain in several areas adjacent to the roadway.

In September 2016, SSPA performed soil sampling on behalf of SLLI to evaluate the potential for reuse of soil to the site or the waste classification for soil that would be disposed off-site in connection with trenching activities to be performed by the City on the portion of Bay Road beginning just west of Pulgas Avenue and continuing to the Bay Trail near Cooley Landing. Presented in Appendix B are the laboratory analytical results of soil samples collected by SSPA (Tables 1 through 3); the soil sample locations within Bay Road adjacent to the 1990 Bay Road property (SSPA Figures 1 through 3); and the laboratory analytical reports. Additional soil sample locations are shown on Figure 2. Soil excavated from utility trenches or removed by means of directional boring within the area labeled “Potential Area of Arsenic Impacted Soil” (RWQCB Order No. R2-2016-0037) on Figure 2 shall be direct loaded into trucks and disposed of based on the waste classification(s) that will be provided to the City by SLLI. Soil outside of the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on the portion of Bay Road beginning just west of Pulgas Avenue and continuing to the Bay Trail near Cooley Landing that is excavated from utility trenches or removed by means of directional boring is acceptable for reuse on site.

The 1990 Bay Road property is the subject of several environmental deed restrictions, as are properties to the south and east that are impacted from the 1990 Bay Road historic operations. Included in the requirements of the deed restrictions is compliance with the RWQCB Order No. R2-2016-0037 for SLLI, the 1990 Bay Road property owner. Impacted properties to the south that are adjacent to the site are 1200 Weeks Street and 1275 Runnymede Street. It is the understanding of the City of East Palo Alto that SLLI and their consultant are responsible for remediating and mitigating these impacts during Bay Road Phase II and III Improvement activities. City of East Palo Alto is responsible for notifying SLLI a minimum of 14 days prior to any scheduled improvements, widening, realignment, or excavation below the paving of Bay Road, Weeks Street, and Runnymede Street within the area marked “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on Figure 2.

## 4.2 Groundwater

According to the California RWQCB, Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), the site is located in the Santa Clara Valley, San Mateo Plain Basin/Sub-

Basin (RWQCB, 2013). The reported existing beneficial uses for groundwater include municipal and domestic water supply, industrial service and process water supply, and potential agricultural water supply.

Historical and regulatory documents and databases reviewed indicate TPH, VOC, and arsenic releases within the site vicinity have impacted groundwater in the area. The COPCs identified in groundwater during the January 2015 investigation activities for a portion of the site on Bay Road included TPH as diesel and motor oil (TPHd and TPHmo), TCE, and PCE. The approximate locations of these COPCs are shown on Figure 2. COPCs identified in groundwater during the 2004 investigation activities at 1802-1804 Bay Road included TPH as gasoline (TPHg) and VOCs (1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene, ethylbenzene, xylenes, methyl-tert-butyl-ether (MTBE), naphthalene, and toluene) and barium. The approximate locations of these COPCs are presented on tables and a figure in Appendix A. The COPC, arsenic, was identified in groundwater during the 2007 investigation activities in Runnymede Street. The approximate locations are presented on a figure in Appendix A. In addition, groundwater with elevated concentrations of arsenic has been detected in monitoring wells under Bay Road adjacent to the 1990 Bay Road property and under Weeks Street and Runnymede Street, south of the 1990 Bay Road property. Groundwater samples were collected as recently as 2012 and 2014 from wells W-130, W-131, and W-132 located in Bay Road, W-133 located in Weeks Street, and W-136 and W-143 located in Runnymede Street. The maximum concentration of arsenic reported in samples collected from the three wells under Bay Road was in the groundwater sample collected in 2010 from well W-131 at 6.82 µg/L. The maximum concentration of arsenic reported from W-133 under Weeks Street was in the groundwater sample collected in 2005 at 4.6 µg/L. The maximum concentration of arsenic reported from W-136 under Runnymede Street was in the groundwater sample collected in 2010 at 40.2 µg/L. In addition, groundwater with elevated concentrations of arsenic ranging from 0.58 µg/L to 50.4 µg/L were detected in grab groundwater samples beneath Runnymede Street during the 2007 investigation.

Historic depth to groundwater in the site vicinity was reported ranging from approximately 5 to 10 feet bgs, and groundwater flow direction is to the east/southeast towards the San Francisco Bay. Groundwater was encountered between 5.5 and 6.5 feet bgs in temporary soil borings advanced in January 2015 as part of Ninyo & Moore's investigation activities of a portion of the site on Bay Road. Based on groundwater water level measurements for several monitoring wells in Bay Road collected by the 1990 Bay Road property owner's environmental consultant, depth to groundwater below current pavement is approximately 3.7 feet bgs adjacent to the

PG&E Poleyard property, 4.5 ft to 4.75 feet bgs near Tara Road, approximately 1.8 feet bgs in Weeks Street and approximately 3.5 feet bgs Runnymede Street.

## **5 CONSTITUENTS OF POTENTIAL ENVIRONMENTAL CONCERN**

Based on Ninyo & Moore's January 2105 site investigation and SSPC's September 2016 site investigation activities on a portion of the site on Bay Road and previous investigation activities on adjacent properties, the following are COPCs that may be encountered by the General Contractor (Contractor) in the soil and/or groundwater to be generated, handled and managed during the implementation of the Bay Road Phase II and III Improvement Project<sup>1</sup>:

- TPHd (groundwater), TPHg and TPHmo (soil and groundwater);
- VOCs (groundwater), specifically TCE, PCE, benzene, and MTBE; and,
- California Title 22 Metals (soil and groundwater), specifically arsenic.

Based on groundwater monitoring analytical results by the 1990 Bay Road property owner's environmental consultant, elevated concentrations of arsenic have been detected in groundwater under Bay Road, Weeks Street, and Runnymede Street or have the potential to be present based on adjacent property investigations within the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" and "Potential Area of Arsenic Impacted Soil," respectively on Figure 2.

## **6 PROJECT TEAM**

This section describes the general project team relevant to the excavation, handling, transportation, reuse, and, as applicable, off-site disposal of contaminated materials and groundwater if encountered at the site.

### **6.1 Project Manager**

The City will designate a Project Manager who will oversee future construction activities at the site. The Project Manager will serve as the point of contact and will coordinate with the involved parties.

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<sup>1</sup> Due to limitations in the sampling scopes and properties with investigations, additional COPCs and areas of impacted soil may be encountered during construction.

## 6.2 General Contractor

Because future planned construction activities include the potential to encounter COPC-impacted materials, the Contractor responsible for site construction will be required to implement this Updated SGMP addressing excavation and management, direct-loading, temporary stockpiling, possible off-site disposal, and measures to protect worker/public health and the environment from impacts caused by the Contractor's activities. The Contractor shall be responsible for assigning qualified personnel to execute the work, and for selecting and supervising the work of other subcontractors assigned to the project.

The Contractor shall provide a site Superintendent, who will be responsible for site activities. The site Superintendent's responsibilities will include oversight of equipment, labor, materials, and resources needed to complete the project as it involves the COPC-impacted materials.

## 6.3 Health and Safety Manager

The Contractor shall retain a Health and Safety Manager (HSM). The HSM will be responsible for preparing and overseeing implementation of a Site-specific Health and Safety Plan (SHSP). The SHSP shall list the various safety-related Contractor personnel and their duties and responsibilities. The SHSP is discussed in further detail in Section 8.

## 6.4 Subcontractors

The Contractor may utilize subcontractors to execute subtasks of this project, subject to approval by the Project Manager. The supervision, inspection, and approval of such subcontractor work will be the responsibility of the Contractor.

## 6.5 Project Environmental Consultant

The Project Manager will retain Ninyo & Moore as the qualified environmental consulting firm to provide environmental oversight services for site construction activities involving COPC-impacted materials. Ninyo & Moore will monitor soil excavation activities, provide guidance to the Contractor on segregation of materials, as necessary, and document on-site reuse of excavated materials. As applicable, they will assist in characterizing and profiling previously unknown COPC-impacted materials, if such materials are proposed to be transported and disposed of offsite.

## 6.6 Project Geotechnical Consultant

The Project Manager may retain or assign a qualified geotechnical consultant to serve as the Project Geotechnical Consultant. If needed, the Geotechnical Consultant will perform compaction testing and oversee backfilling of excavations.



## 6.7 1990 Bay Road Site Manager

SLLI, the owner of 1990 Bay Road, will assign a 1990 Bay Road Site Manager to assist the Project Manager and Contractor with coordinating the off-site disposal of soil from the “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” shown on Figure 2. The 1990 Bay Road Site Manager will determine the waste classification of the soil to be disposed off-site, select an off-site disposal facility, and coordinate direct loading the soil onto trucks for transport to the off-site disposal facility.

## 7 NOTIFICATIONS

In addition to required permits, approvals, and notifications required by law, as applicable, the Contractor shall be responsible for notifying California OSHA in accordance with the Contractor’s Annual Trenching and Excavation Permit and notifying Underground Service Alert. The City of East Palo Alto and appropriate regulatory agencies should be notified prior to commencing construction activities. If contaminated soil and/or groundwater are found on-site, the Project Manager will be immediately informed. In accordance with the environmental agreement between the City and SLLI, property owner of the 1990 Bay Road property, the City will notify SLLI with a minimum 14 day notice in advance of any scheduled improvements, widening, realignment, or excavation below the paving of Bay Road within the 1990 Bay Road site and within the areas on Figure 2 labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on Weeks Street and on Runnymede Street so that SLLI can test soils. In accordance with the deed restrictions for adjacent properties and properties within the Ravenswood Industrial Area (RIA) and under RWQCB Orders, Nos. 92-037 and 92-086, the RWQCB will be notified 10 working days prior to any work that may affect the integrity of remedial measure or groundwater monitoring systems.

## 8 HEALTH AND SAFETY PLAN

Prior to site mobilization, the Contractor’s HSM shall prepare the SHSP. During site construction activities the site will be restricted from public access. The SHSP will provide policies, information, requirements, and guidelines to be followed while conducting excavation activities, direct-loading, temporary stockpiling/management/storage, and handling, and, as applicable, disposal of waste from the site. The SHSP shall be prepared in accordance with the Federal and State OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Standards: 29 CFR 1910.120 and 8 CCR Section 5192.

The SHSP shall provide for contingencies and be structured to handle a variety of situations that may arise, but be concise enough so that site workers understand the hazards and are able to



follow the procedures to reduce the level of risk. If previously unknown contaminated or hazardous soils are encountered during construction activities, field personnel working in these areas shall be trained and current in accordance with the standards provided by HAZWOPER (40-hour initial training with annual updates), and shall be overseen by an environmental professional who has a 40 hour HAZWOPER certificate and eight-hour HAZWOPER supervisor training. Additional training will be required for personnel engaged in specialized tasks, as appropriate.

Field personnel shall be required to review the SHSP and provide written acknowledgement of their review and understanding of the SHSP and willingness to abide by its requirements. In addition, the Contractor's site Superintendent will perform a daily tailgate safety meeting held at the beginning of each workday to discuss relevant task-specific safety issues. Additionally, daily site visitors will be required to review the SHSP and sign the acknowledgement sheet.

## **9 SOIL EXCAVATION**

It is anticipated that the Contractor will be responsible for construction activities associated with subsurface excavation, trenching and/or directional boring, handling, on-site reuse, direct-loading for off-site disposal, and temporary stockpiling of soil in accordance with project specifications, the SHSP, this Updated SGMP, and all applicable local, state, and federal statutes, regulations, and guidelines. Excavation and handling of COPC-impacted soils will be conducted in a manner that prevents the release of contamination, if present, to other on-site and off-site areas. Areas of potentially COPC-impacted soil and properties with releases are identified on Figure 2<sup>2</sup>.

Directional boring may be selected as a method for utility installation within the areas of potentially COPC-impacted soil identified on Figure 2. Drilling and receiving pits that may be needed to implement directional boring should be located outside of the areas of potentially COPC-impacted soil identified on Figure 2.

Ninyo & Moore will provide construction oversight during excavation-related activities associated with COPC-impacted materials, and use appropriate field screening procedures and indicators and project-specific experience to guide the Contractor in segregating excavated impacted soil.

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<sup>2</sup> Due to limitations in the sampling scopes and properties with investigations, additional COPCs and areas of impacted soil may be encountered during construction.

Segregation of soil into “potentially contaminated,” “contaminated,” and “clean” stockpiles may be necessary to evaluate reuse options as follows:

- **“Potentially Contaminated” Soils/Materials Stockpile:** Soils and/or materials that may not be obviously contaminated based on field observations or may only be minimally contaminated. Analytical testing to evaluate the stockpile for on-site reuse or off-site disposal will be required.
- **“Contaminated” Soils/Materials Stockpile:** Soils and/or materials that based on field observations, such as odors, discoloration, and/or content, likely are contaminated and will require analytical testing to evaluate the stockpile for possible off-site disposal options.
- **“Clean” Soil Stockpile:** Soil that is not suspected to be contaminated based on the type of material encountered (e.g., imported clean fill) and lack of visual or field screening indicators of contamination. Analytical testing to evaluate the stockpile for potential reuse or disposal options may be required.

## 9.1 Excavated Material Characterization and On-Site Backfilling

Soils excavated in association with future site construction will be direct loaded on to trucks for transport to permitted landfills or treatment/disposal facilities. Onsite material that meets the City’s chemical testing requirements, or imported clean fill material, both with geotechnical qualities evaluated as suitable by the Geotechnical consultant, will be used as backfill. Clean excavated material that will not be reused in place will be segregated and either immediately reused at a pre-approved on-site location or temporarily stockpiled. Stockpiles will be managed according to the guidelines specified in Section 12. If materials require off-site disposal, the soil will be tested according to the applicable requirements of the receiving facility.

Soil in proximity to the 1990 Bay Road property has been sampled and pre-characterized by SLLI for direct loading and off-site disposal (Tables 1, 2 and 3 in Appendix B). Soil excavated from utility trenches or removed by means of directional boring within the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on Figure 2 shall be direct loaded into trucks and disposed of based on the waste classification(s) that will be provided to the City by SLLI.

Soil in two locations on Bay Road, one segment east of the 1990 Bay Road property and one segment west of the 1990 Bay Road property, have been sampled by SLLI and pre-characterized by the City for reuse on site. The segment to the west begins just west of Pulgas Avenue to the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)”, west of the Bay Road property (Figure 2). The segment to the east begins at the west end of the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)”, east of the Bay Road property, and continues to the Bay Trail near Cooley Landing. Soil excavated from utility trenches or removed by means of directional boring outside

of the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” and in the two locations identified above and on Figure 2 shall be either immediately reused at an on-site location or temporarily stockpiled.

Soil in proximity to the Runnymede Storm Drain improvements project has been sampled to evaluate arsenic concentrations in the areas to be excavated for Phase II of the City of East Palo Alto’s Runnymede Storm Drain improvements project. Presented in Appendix A is SSPA’s letter report with a table of the analytical results and a figure with the sampling locations. Based on the letter, the arsenic concentrations detected (1.8 to 24 mg/kg) will not impact worker health and safety or limit soil disposal options.

Soils at other locations within the site have not been evaluated and/or pre-characterized and shall be evaluated and managed as outlined in Section 9.

## **9.2 Intrusive Work Monitoring**

Ninyo & Moore will observe intrusive work activities associated with COPC-impacted materials, and use appropriate field screening equipment, including a photo-ionization detector (PID) meter, procedures and indicators to identify the possible presence of contaminated material. Physical characteristics (staining and odors) will also be documented as a method for identifying COPC-impacted materials. These activities will help minimize potential construction delays.

## **10 SEGREGATION AND STOCKPILING**

Excavated soil that needs to be transported off-site for disposal by the city will be disposed of at a pre-approved facility. If excavated COPC-impacted soil outside the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on Figure 2 is required to be disposed of off-site and is not directly loaded on to trucks, the Contractor will transport the materials to a pre-determined temporary stockpile staging area. If excavated materials are designated for on-site reuse, and evaluated as suitable for on-site reuse by Ninyo & Moore and the Geotechnical consultant, it will be placed by the Contractor into a “Reuse” stockpile.

Asphalt pavement to be removed from Bay Road and the south shoulder areas within the 1990 Bay Road Site area (“Potential Area of Arsenic Impacted Soil” [RWQCB Order No. R2-2016-0037]) shall be sawcut and removed by the Contractor and recycled offsite.

### **10.1 Stockpile Management**

As applicable, a staging area and temporary stockpiles will be managed by the Contractor in accordance with this document, construction specifications, and the project Storm Water

Pollution Prevention Plan (SWPPP). It is recommended that excavated and stockpiled soils associated with construction activities at the site be managed as follows:

- Clean soils will not be allowed to be in direct contact with any contaminated or potentially contaminated materials. This may be accomplished by separately placing the excavated/stockpiled clean soils onto a relatively impervious surface, such as asphalt, concrete, or underlain by 10-millimeter (mil) or thicker HDPE liner.
- Stockpiles will be sprayed or misted with water to minimize dust emissions during stockpiling, if necessary.
- Stockpiles will be securely covered with a 6-mil or thicker HDPE liner to minimize runoff from rain, and
- Stockpiles will be configured in such a manner that surface water runoff, if present, from the stockpile does not carry stockpiled materials beyond the stockpile area.

Ninyo & Moore will assist the Project Manager with removing stockpiles from the site in a timely manner to avoid nuisance complaints. It is anticipated that soil classified as hazardous waste will be direct-loaded on to trucks for off-site disposal. If it is necessary to stockpile material that was classified as hazardous waste based on the analytical results of samples collected from the stockpiles, then these materials will be temporarily stockpiled on-site by the Contractor in accordance with hazardous waste regulations.

## 10.2 Best Management Practices

The Contractor shall implement BMPs associated with the site SWPPP to protect the temporary stockpiles from erosion and storm water run-on and runoff. The BMPs include, but are not limited to, the following:

- Erosion control,
- Storm water drainage control,
- Secondary containment (as applicable),
- Fugitive emission control of dust and/or vapors,
- Spill prevention, and
- Additional BMPs specified in the project SWPPP.

## 10.3 Odor and Vapor Control

There may potentially be odors (associated with contaminated soils) and dust present during construction activities, including during excavation and management of direct-loaded or temporarily stockpiled contaminated materials. If dust or odors are present during construction, the Contractor shall employ engineering controls, to mitigate impacts to site workers and

visitors. An active business district is located on Bay Road between Clarke Avenue and Pulgas Avenue. Industrial and commercial properties are located along Bay Road between Pulgas Avenue and Cooley Landing. Residential and/or commercial properties are located along Pulgas Avenue between Bay Road and Runnymede Street. Residential properties are located on Weeks and Runnymede Streets. With the appropriate engineering controls these facilities and/or residences should not be impacted by the generation or presence of dust and/or odors. The Contractor shall implement appropriate means and methods, including water misting and blowers to suppress dust and odors during construction, and covering stockpiles and open excavations or trenches, prior to leaving the site at the end of each workday.

## **10.4 Dust Control**

The Contractor will mitigate dust with water, either with a hand held sprayer or by water trucks, as-needed, on the surface of active work areas. Care will be exercised to minimize the overuse of water so as not to create surface water runoff or excessively saturated conditions.

Dust control will also be conducted on site during construction activities. If obvious dust is being generated by construction and stockpiling activities, especially in areas where elevated concentrations of COPCs are known, dust monitoring should be conducted by an environmental professional. If dust monitoring is to be conducted on site, a Dust Monitoring Plan (DMP) will need to be prepared by the Contractor prior to site construction activities. The DMP will be submitted to the Project Manager for review and approval.

## **11 UNKNOWN CONTAMINATION**

This section presents a general protocol regarding unknown contamination that may be encountered during intrusive work activities.

If hazardous substances or conditions are encountered which present an immediate threat of injury to human health or water quality, the Contractor shall secure the area and shall notify the Project Manager immediately. The Contractor shall call "911" to summon the emergency services, as necessary.

If previously unknown contamination or hazardous substances are encountered that do not present an immediate threat to human health or water quality, the Contractor shall immediately notify Ninyo & Moore and the Project Manager. As necessary, the area surrounding the discovery of unknown contamination/hazardous materials will be isolated and secured by the Contractor with markings, fencing, or a suitable barrier so that construction activities can be excluded from the zone of impact. Ninyo & Moore and the Project Manager will then decide

whether immediate excavation, segregation, stockpiling, containerization, and/or other activities are warranted as well as notification of the appropriate regulatory authority.

## **12 STOCKPILE CHARACTERIZATION**

This section discusses the stockpile sampling procedures required for the off-site disposal and/or reuse of COPC-impacted soil. Any additional stockpile sampling, analytical testing and reporting required for waste profiling and/or on-site reuse evaluation shall be the responsibility of the Contractor.

### **12.1 Stockpile Sampling**

If off-site disposal of COPC-impacted soil is required, stockpile sampling will be necessary to meet the acceptance criteria of the disposal facility. The preferred disposal facility should be contacted regarding this option. If stockpile sampling is required, it shall be conducted in general conformance with the waste disposal site acceptance requirements of the respective disposal facility.

### **12.2 Analytical Testing Program**

Analytical testing for materials to be disposed of off-site will be based on the accepting facility(s) requirements and other requirements. Materials that do not meet geotechnical or environmental requirements for reuse (i.e., requiring off-site disposal) will be tested according to the requirements of the accepting facility(s). Contractor should assume the materials may be tested for the following:

- California Title 22 Metals; samples containing one or more metal concentrations less than the California Total Threshold Limit Concentrations (TTLCs) but greater than 10-times the California Soluble Threshold Limit Concentrations (STLCs) will be analyzed for soluble metal concentrations by the California Waste Extraction Test (WET) method to profile the waste as either California Class I hazardous or California Class II non-hazardous. Samples containing one or more metal concentrations exceeding 20-times the Federal Toxicity Characteristics Leaching Procedures (TCLPs) will be analyzed for soluble metal concentrations by the Federal TCLP to classify the waste as either RCRA or non-RCRA hazardous waste.
- VOCs (e.g. PCE, TCE).
- Semi-volatile organic compounds (SVOCs).
- TPH compounds (e.g. TPHg, TPHd and TPHmo).
- Polychlorinated Biphenyls (PCBs).
- Organochlorine pesticides (OCPs).
- Asbestos.

- Other analytical tests required by the accepting facility(s).

According to the Department of Toxic Substances Control (DTSC) 2001 *Information Advisory (for) Clean Imported Fill* guidelines, the following sampling schedules may apply<sup>3</sup>:

- One sample per every 250 cubic yards (cy) for up to 1,000 cy.
- Four samples for the first 1,000 cy plus one extra sample per each additional 500 cy; and
- For a volume of soil greater than 5,000 cy, 12 samples collected for the first 5,000 cy, and one extra sample for every additional 1,000 cy.

A copy of the DTSC guidelines is included in Appendix C.

## 12.3 Stockpile Reuse Evaluation

The stockpile sampling analytical results will be evaluated to determine if the stockpiled soil can be reused on-site. Stockpiled soil will be considered acceptable for on-site reuse if the analytical results indicate concentrations less than the Table S-1 (Construction Worker Direct Exposure) RWQCB ESLs, except for arsenic within the area of potential COPC-impacted soil shown on Figure 2, which the RWQCB has determined to be acceptable if less than or equal to 70 mg/kg on Bay Road and less than or equal to 20 mg/kg on Weeks Street and Runnymede Street<sup>4</sup> (Appendix A). Prior to any onsite reuse of stockpiled soil, Ninyo & Moore shall review the stockpile sampling analytical results and confirm reuse is acceptable.

## 12.4 Imported Material

If the Contractor requires the importation of material to replace contaminated soil that has been transported and disposed off-site, this imported material shall be characterized following the DTSC Information Advisory for Imported Clean Fill guidelines. Ninyo & Moore shall be provided the analytical sampling results to confirm that this material is acceptable as clean imported fill material. Additional geotechnical evaluation will also be required for any imported material.

# 13 WASTE CATEGORIES, TRANSPORT AND DISPOSAL

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<sup>3</sup> Because waste acceptance criteria may change, the receiving facility should always be contacted prior to determining the sampling schedule and analytical methods.

<sup>4</sup> The 70 mg/kg and 20 mg/kg reuse goal for arsenic and location is based on the RWQCB Order No. R2-2016-0037.



## 13.1 Waste Categories

The following describes the potential waste categories for soil to be generated for disposal by the Bay Road Phase II and III Improvement Project.

- Resource Conservation and Recovery Act (RCRA)-hazardous wastes will be disposed of at a RCRA landfill facility. This waste may require pretreatment prior to RCRA disposal based on the levels of contaminants in the waste.
- Non-RCRA, California Class I hazardous wastes may be disposed of at a California hazardous waste Class I landfill facility, or out-of-state, non-RCRA hazardous waste facility. If transported to an out-of-state facility, the material would be disposed of based on classification in the state where the receiving facility is located.
- Non-hazardous contaminated materials may be disposed of at a California Class II solid waste facility, or used as Alternative Daily Cover (ADC) at such a facility, as appropriate.

If materials are transported and disposed of offsite, it is important to note that various permitted landfill and treatment/disposal facilities may have additional analytical requirements beyond federal and state requirements based on their permits from local and state regulatory agencies. Landfill and treatment/disposal facilities should be contacted during project planning stages to confirm that waste will be accepted as characterized.

## 13.2 Transport and Disposal

Off-site transport of excavated material is anticipated. Transporters and disposal facilities used must be appropriately licensed and/or permitted and properly insured, and be pre-approved by the Project Manager. The Contractor, with assistance from Ninyo & Moore, will manage the transportation and disposal of wastes to the appropriate treatment and disposal or recycling facilities. The Contractor shall prepare waste profiles and manifests for review by Ninyo & Moore and signature by the City of East Palo Alto. Manifests and waste profiles will be forwarded to the appropriate disposal/recycling facility for acceptance. The Contractor shall be responsible for the scheduling of shipments of wastes after notice of acceptance.

Coordinating vehicles entering the site for loading and off-site disposal of site materials shall be tracked through documentation by the Contractor. Vehicles shall be decontaminated, as necessary, prior to their departure from the site. Care shall be taken to avoid spillage of contaminated materials and/or tracking such materials off-site. The contractor shall maintain a daily log of contaminated substances, hazardous substances, or hazardous wastes removed from the site for disposal. The logs shall include a description of the truck, the date and time the truck left the site, and the destination. Upon project completion, the logs shall be accompanied by copies of waste manifests and load tickets that document receipt of the waste at the permitted facility and the weight of the load.



Hazardous wastes transported off-site for disposal or recycling shall be performed in accordance with Department of Transportation (DOT) Hazardous Material Transportation regulations 49 CFR Parts 171 and 180, 40 CFR Part 262, Subpart B, and Title 22 CCR Section 66262, which involve packaging, placarding, labeling, and manifesting requirements. Hazardous wastes transported shall also have appropriate certification notices per 40 CFR Part 268 and Title 22 CCR Section 66268. Personnel having the required DOT-training shall perform DOT-related functions, if required.

Contaminated materials characterized as non-hazardous that do not exhibit the DOT hazard class characteristics (i.e., explosives, gases, flammable/combustible liquids, flammable solids/spontaneously combustible materials/dangerous when wet materials, oxidizers and organic peroxides, toxic materials and infectious substances, radioactive materials, and corrosive materials) are not regulated under DOT rules for hazardous materials transportation. If a material is suspected to be hazardous, it shall be shipped under the appropriate hazard class.

Trucks carrying contaminated substances, hazardous substances, or hazardous wastes shall be enclosed such that there is no odor or dust during transportation along the haul route identified in the project specifications. Open trucks shall not be permitted to transport waste from the site that may produce odor or dust during transportation.

## **14 GROUNDWATER MANAGEMENT**

Activities associated with site construction may involve subsurface excavations, and depending on the excavation depths could potentially encounter groundwater. Groundwater data collected during the January 2015 investigation on a portion of the site indicated that groundwater concentrated near borings B-5, B-7, and B-8 in Bay Road are impacted by COPCs including TPHd, TPHmo, TCE and PCE. Concentrations of these COPCs are illustrated on Figure 2<sup>5</sup>. Arsenic has also been reported in groundwater samples collected during the 2012 and 2014 groundwater monitoring events for the 1990 Bay Road property and other properties included in the RWQCB Order No. R2-2016-0037, inclusive of Weeks Street and Runnymede Street (Appendix B). Groundwater data collected during the 2014 investigation activities at 1802-1804

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<sup>5</sup> Due to limitations in our 2015 sampling scope, additional COPCs and areas of impacted groundwater may be encountered during construction.

Bay Road indicated that groundwater concentrations are impacted with COPCs including TPHg, VOCs, and barium.

If select excavations are planned to extend below approximately 4 feet, groundwater will likely be encountered and will need to be contained during construction dewatering activities. The Contractor will be responsible for providing equipment (e.g. vacuum truck or a pump, holding tanks, filtration systems, etc.) to contain groundwater and conduct the permit-required sampling and analytical testing until it can be discharged to either the sanitary or storm drain systems or receiving water bodies. Additionally, the Contractor shall ensure that this groundwater and other water draining from excavated materials will not be allowed to flow onto the ground surface unless the surface is protected with a High Density Polyethylene (HDPE) geomembrane. Surface water runoff will be handled according to the site-specific SWPPP, national pollution discharge elimination system requirements, and other pertinent statutes and regulations.

If discharging to the sanitary sewer is desired and possible, the Contractor shall obtain and comply with a Special Discharge Permit to be issued by the East Palo Alto Sanitary District. Prior to any discharge, Ninyo & Moore shall be provided the analytical sampling results to confirm discharging is acceptable.

If the contractor plans to discharge to the storm drain system or surface water, they will be required to follow the guidelines presented in the RWQCB Order No. R2-2012-0012, NPDES No. CAG912002, "General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit)", dated February 8, 2012 (RWQCB, 2012).

Should off-site disposal be required, the groundwater will be stored, sampled and analyzed by the Contractor in accordance with the accepting off-site facilities requirements.

Groundwater dewatered from the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" on Figure 2 shall be pumped by the Contractor into groundwater storage tanks. Contractor shall utilize equipment and methods when dewatering trenches to minimize the amount of sediment and other solids pumped from trenches to Contractor's groundwater storage tanks. SLLI will periodically sample groundwater in Contractor's storage tanks to confirm groundwater is below discharge limits for arsenic.

## 15 DOCUMENTATION

Documentation shall be provided by the Contractor to Ninyo & Moore summarizing the activities involving COPC-impacted materials. The documentation will include information relating to soil excavation, including volumes of materials excavated and reused on-site or disposed off-site, and placement locations of on-site reused materials. If materials are transported off-site, information will be provided by the Contractor regarding the characterization, handling, and disposition of these materials. The documentation will be included in a report by Ninyo & Moore which will be signed by a registered professional (e.g., Professional Geologist, Professional Engineer).

The report will include the following information:

- Site map showing the lateral extent and depths of the COPC-impacted materials excavated at the site.
- Placement location(s), of the COPC-impacted excavated materials reused on-site.
- As applicable, identification of each COPC-impacted soil stockpile, a plot plan detailing the stockpile locations, and corresponding estimates of the volumes of materials in each stockpile.
- A description of the stockpile sampling methodologies and sample location/selection process, and sample locations, a copy of the sample analytical results, chain-of-custody documents, and quality assurance/quality control supporting data, and summary tables of the laboratory analytical results of the stockpile sampling for COPC-impacted stockpiles to be either reused on-site or to be disposed of off-site.
- If materials are transported off-site, an accounting of the materials transported and disposed of off-site, including weight tickets and waste manifests.
- Health and safety monitoring records, including air monitoring analytical data during excavation activities and procedures used to mitigate odors and dust.
- Daily field reports of activities conducted accompanied by appropriate documentation, including photographs.

## 16 LIMITATIONS

This Updated SGMP has been prepared in general accordance with current regulatory guidelines and the standard-of-care exercised in preparing similar plans in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this Updated SGMP. Variations in site conditions may exist and conditions not observed or described in this Updated SGMP may be encountered during subsequent activities. Please also note that this Updated SGMP did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this Updated SGMP, are based on limited subsurface assessments. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored.

The environmental interpretations and opinions contained in this Updated SGMP are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site, and on work performed by others. The testing and analyses have been conducted by independent laboratories, which are certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis or work performed by others. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results and work performed by others.

Our conclusions and opinions are based on an analysis of the observed site conditions and work performed by others. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this Updated SGMP may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This Updated SGMP is intended exclusively for use by T.Y. Lin. Any use or reuse of the findings, conclusions, and/or recommendations of this Updated SGMP by parties other than T.Y. Lin is undertaken at said parties' sole risk.

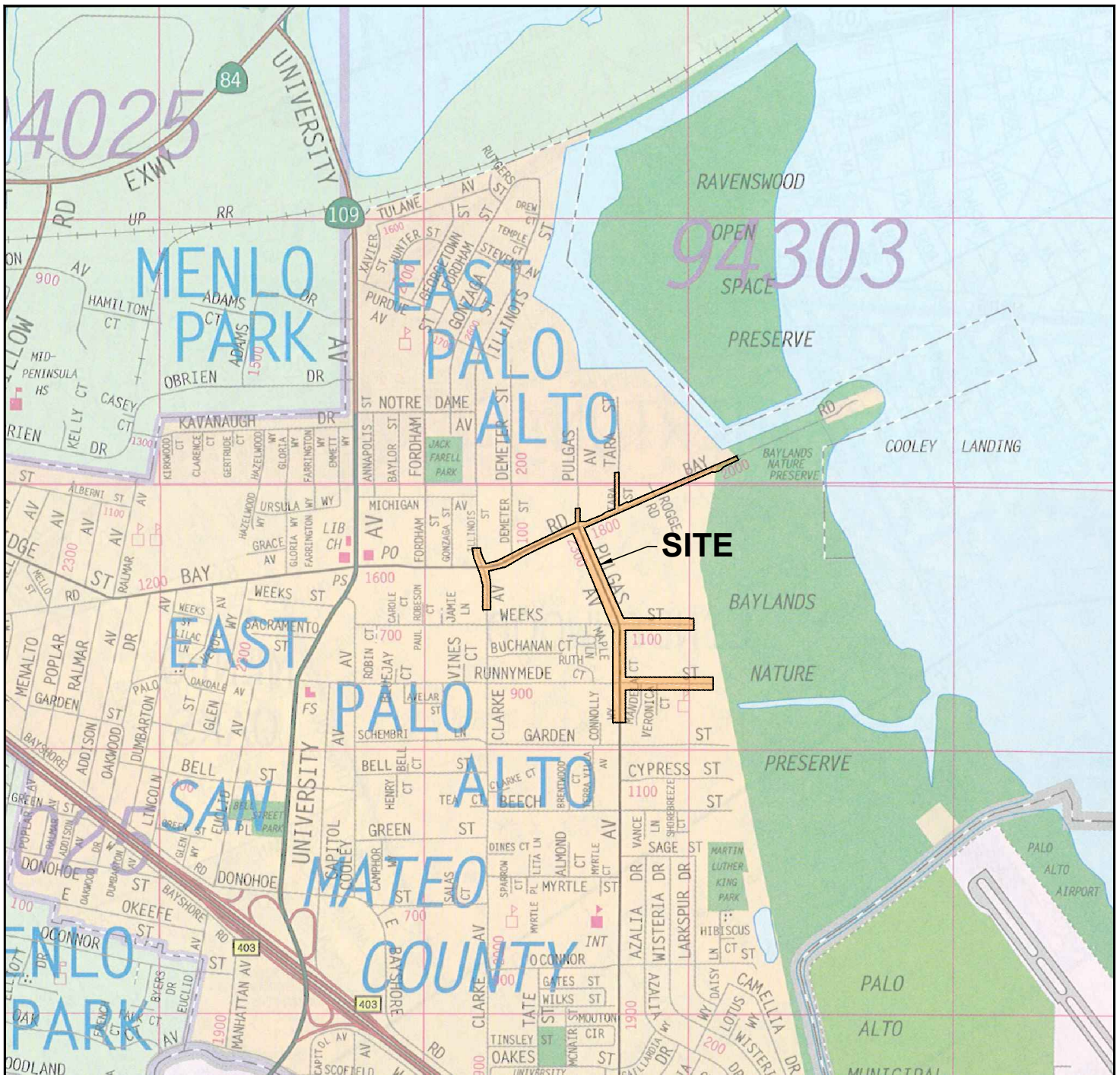
## 17 REFERENCES

- California RWQCB, 2013, Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, Fourth Edition, dated January 29.
- California RWQCB, 2012 Order No. R2-2012-0012, NPDES No. CAG912002, General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit), dated February 9.
- California RWQCB, 2016 Order No. R2-2016-0037, Adoption of Final Site Cleanup Requirements and Recission of Order Nos. 91-016, 91-095, 92-127, 94-042, 96-162, 97-095, and R2-2005-0033 for: Starlink Logistics, Inc. (Formerly, Rhone-Poulenc, Inc.), dated July 18.
- California RWQCB, 1992 Order No. R2-1992-037 and R2-1992-0086, Site Cleanup Requirements for East Palo Alto Industrial Area, Multiple Landowners, East Palo Alto, San Mateo County.
- San Francisco Bay RWQCB, 2016 Environmental Screening Levels, dated February.
- Ninyo & Moore, 2004, Revised Limited Phase II Environmental Site Assessment Report, 1800 and 1802 Bay Road, East Palo Alto, California, dated July 1.
- Ninyo & Moore, 2015, Remedial Action Completion Report, Ravenswood Family Health Center, 1885 Bay Road, East Palo Alto, California, dated April 14.
- Ninyo & Moore, 2014, Phase I Environmental Site Assessment, Bay Road Improvements Project, Phases 2 and 3, Bay Road between Clarke Avenue and Cooley Landing, East Palo Alto, California, dated August 7.
- Ninyo & Moore, 2015, Phase II Environmental Site Assessment Report, Bay Road Improvements Project, Phases 2 and 3, Bay Road and Pulgas Avenue, East Palo Alto, California, dated April 30.
- Ninyo & Moore, 2018, Area-Wide Soil and Groundwater Management Plan, Ravenswood Industrial Area, East Palo Alto, California, dated July 18.
- RPS Group, 2018, Updated Work Plan for Predevelopment, Soil Excavation and Final Remedy, 1200 Weeks Street, East Palo Alto, California, dated May 15.
- Geomatrix Consultants, Inc. and S.S., Papadopoulos & Associates, Inc., 2007, Groundwater Investigation Results, Vicinity of Well W-136, 1990 Bay Road Site, East Palo Alto, California, dated March 30.
- Clearwater Group, 2018, Subsurface Investigation and Case Closure Request, 2296 Pulgas Avenue, East Palo Alto, California, dated February 16.



# FIGURES





REFERENCE: METRO AREAS OF ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES, THOMAS GUIDE, 2008.

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

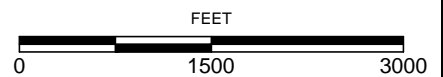


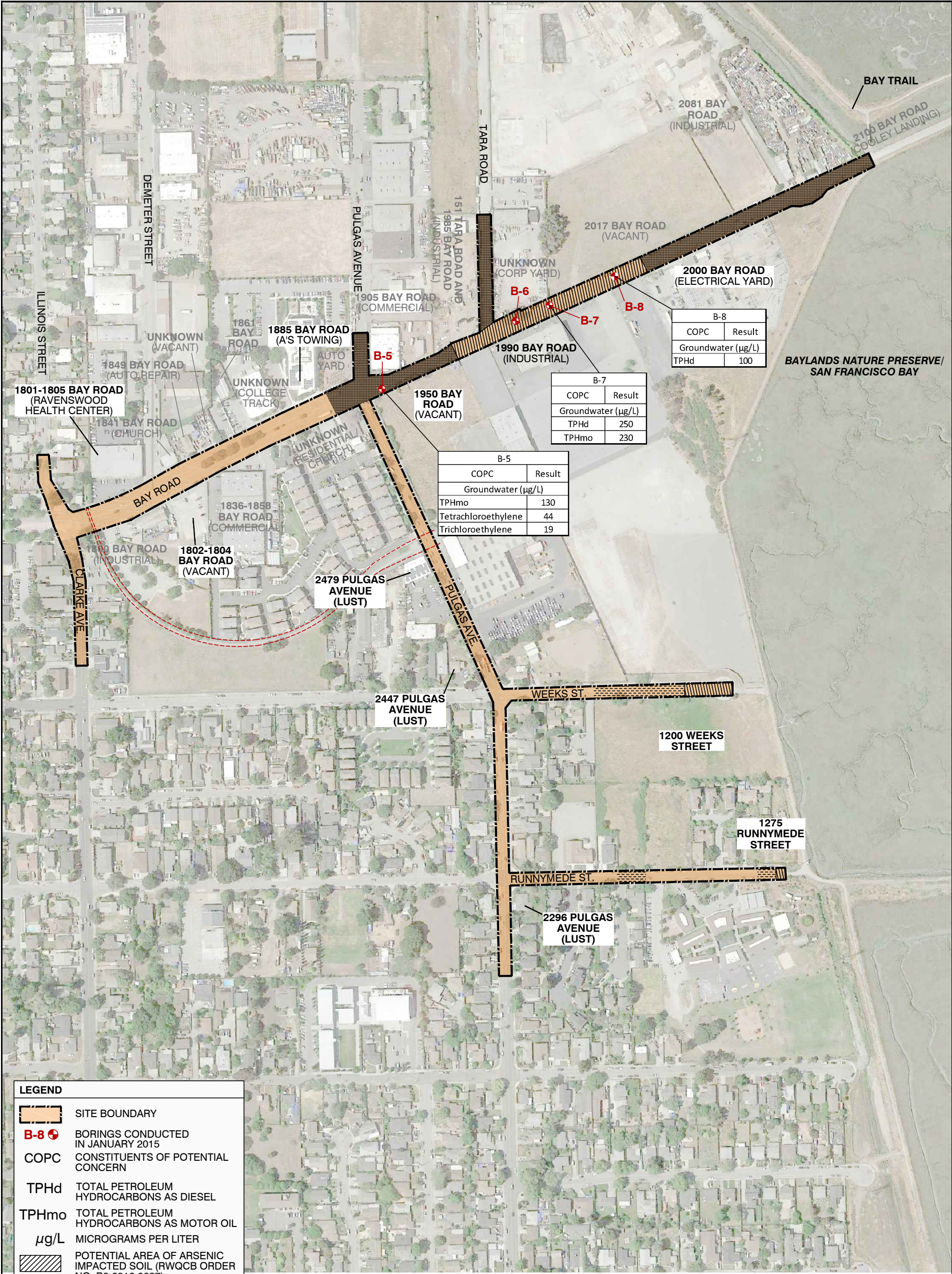
FIGURE 1

## SITE LOCATION

SOIL AND GROUNDWATER MANAGEMENT PLAN  
BAY ROAD IMPROVEMENT PROJECT PHASE II AND III  
EAST PALO ALTO, CALIFORNIA

402068004 | 9/18





B-8	
COPC	Result
Groundwater (µg/L)	
TPHd	100

B-7	
COPC	Result
Groundwater (µg/L)	
TPHd	250
TPHmo	230

B-5	
COPC	Result
Groundwater (µg/L)	
TPHmo	130
Tetrachloroethylene	44
Trichloroethylene	19

LEGEND

- SITE BOUNDARY
- BORINGS CONDUCTED IN JANUARY 2015
- COPC** CONSTITUENTS OF POTENTIAL CONCERN
- TPHd** TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- TPHmo** TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
- µg/L** MICROGRAMS PER LITER
- POTENTIAL AREA OF ARSENIC IMPACTED SOIL (RWQCB ORDER NO. R2-2016-0037)
- POTENTIAL AREA OF ARSENIC IMPACTED SOIL (BASED ON ADJACENT PROPERTY INVESTIGATIONS)
- SOIL ACCEPTABLE FOR REUSE ON SITE (SSPA, 2016)
- 1950 BAY ROAD** PROPERTY WITH KNOWN ENVIRONMENTAL ASSESSMENT

NOTES:

REPORTED GROUNDWATER VALUES EXCEED SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD TIER 1 ENVIRONMENTAL SCREENING LEVELS.

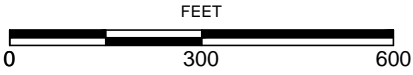


FIGURE 2

SITE PLAN AND APPROXIMATE LOCATION OF COPCs

SOIL AND GROUNDWATER MANAGEMENT PLAN  
BAY ROAD IMPROVEMENT PROJECT PHASE II AND III  
EAST PALO ALTO, CALIFORNIA



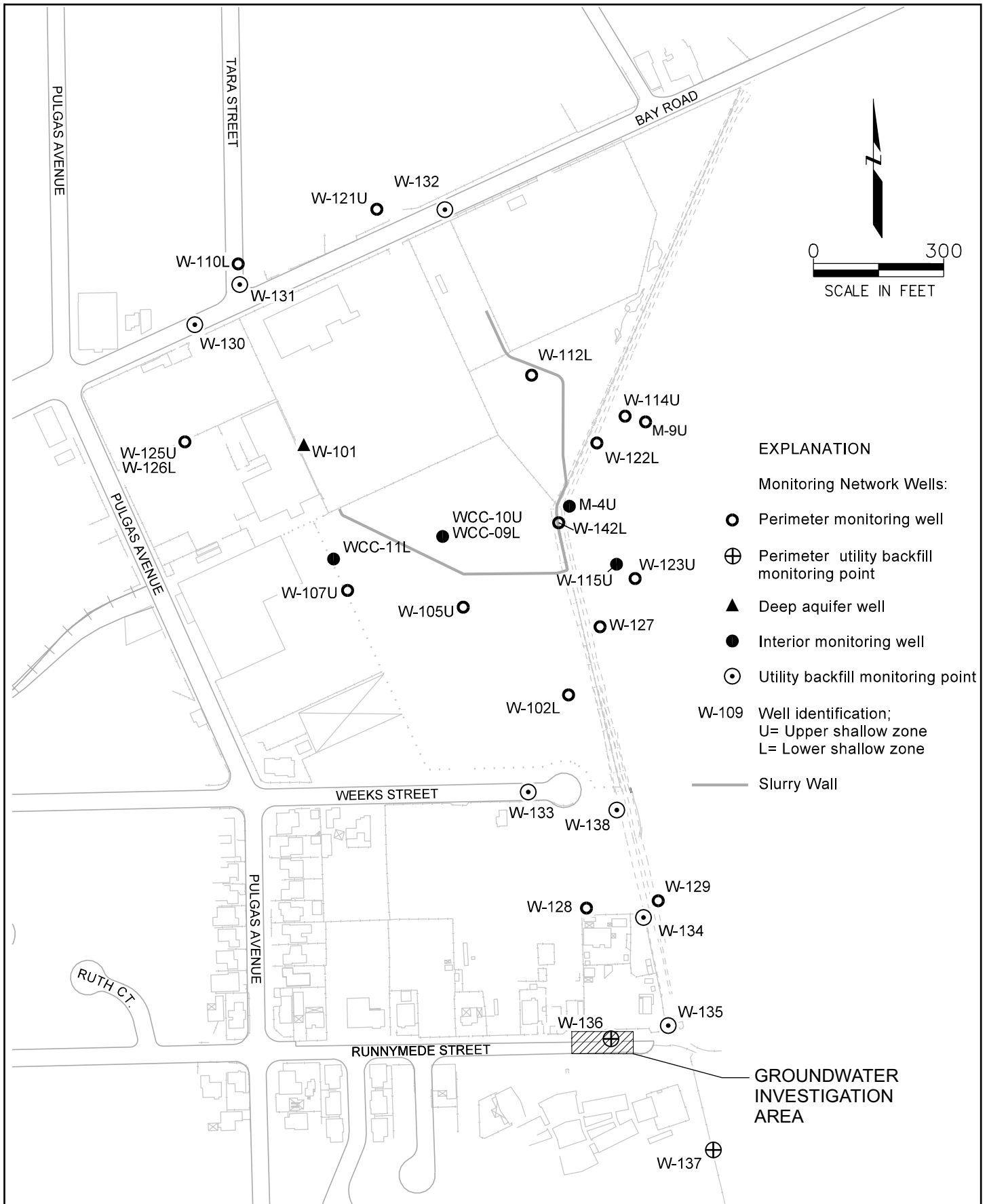


# APPENDIX A

## Soil and Groundwater Sample Locations and Data for Adjacent Properties to the Site



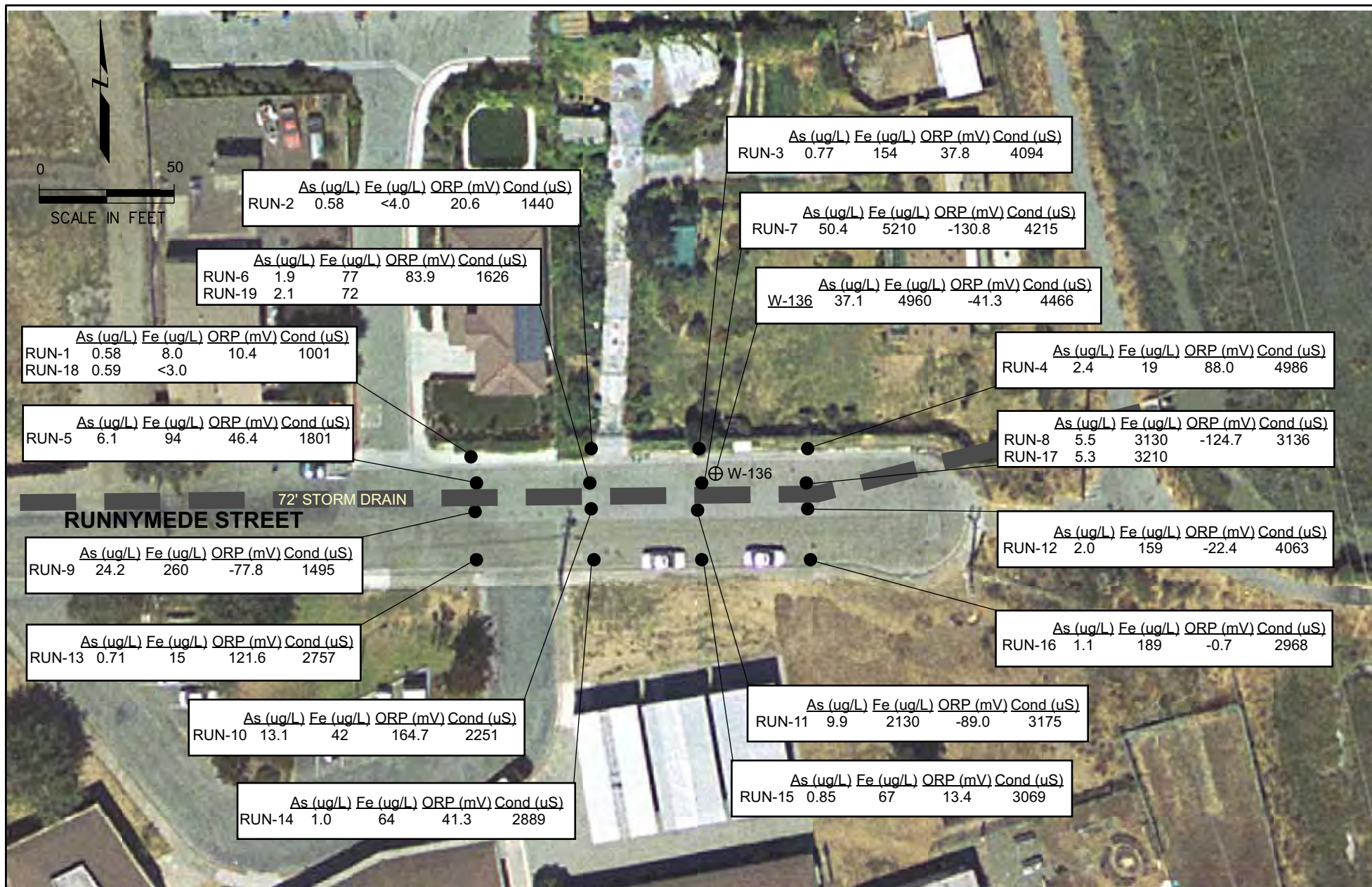
# 1 – Runnymede Street W-136 Borehole Logs and Analytical Data



S.S. Papadopoulos & Associates, Inc.

**SITE PLAN**  
Vicinity of Well W-136 Groundwater Investigation  
1990 Bay Road Site  
East Palo Alto, California

**Figure 1**



● Groundwater sample location

⊕ Monitoring Well



S.S. Papadopoulos & Associates, Inc.

## ARSENIC AND IRON CONCENTRATIONS IN GROUNDWATER

Vicinity of Well W-136 Groundwater Investigation  
1990 Bay Road Site  
East Palo Alto, California

Figure  
2

Project No.  
SSP-082-401

PROJECT: 1990 BAY ROAD SITE		Log of Boring No. RUN-1	
BORING LOCATION: Runnymede Street		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: Air Knife Hand auger		TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA		DEPTH TO WATER: FIRST 3.5' COMPL	
SAMPLING METHOD: Slide hammer 6"x2" Hand auger		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION <small>NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.</small>	REMARKS
	Sample No.	Sample	Blows/	Foot			
						Surface Elevation:	
						CONCRETE	
						AGGREGATE BASE	
1						LEAN CLAY (CL): black (2.5Y 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2							
3							
4						SANDY SILT (ML): very dark grayish brown (10YR 3/2), wet, 65% fines, 35% fine sand, low plasticity, soft fine fraction is a mix of silt and clay	
5							
6						↓ brown (10YR 4/3), 60% fines, 40% fine to coarse sand	
7							
8							
9							
10							
11							
12							
13							
14							
15							

PROJECT: 1990 BAY ROAD SITE					Log of Boring No. <b>RUN-2</b>				
BORING LOCATION: <b>Runnymede Street</b>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <b>3/5/07</b>		DATE FINISHED: <b>3/5/07</b>		
DRILLING METHOD: <del>Air Knife</del> <b>Hand auger</b>					TOTAL DEPTH: <b>7.0'</b>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: <b>NA</b>					DEPTH TO WATER: FIRST <b>3.3'</b> COMPL				
SAMPLING METHOD: <del>Slide hammer 6" x 2"</del> <b>hand auger</b>					LOGGED BY: <b>M. Calhoun</b>				
HAMMER WEIGHT: NA      DROP: NA					RESPONSIBLE PROFESSIONAL:      REG. NO.				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
1						CLAYEY GRAVEL (GC): dark brown (10YR 3/5), moist, 60% fine to coarse gravel, 25% low plasticity fines, 15% coarse sand	
2						<b>BRICK</b>	
3						LEAN CLAY (CH): black (2.5Y 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
4						SANDY SILT (MD): very dark grayish brown (10YR 3/2), wet, 70% fines, 30% fine sand, trace medium to coarse sand, low plasticity, soft	
5						fine fraction is a mix of silt and clay	
6						↓ 60% fines, 40% fine to coarse sand	
7						Bottom of boring at 7.0 ft	
8							
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000

Geomatrix Consultants

Figure

PROJECT: 1990 BAY ROAD SITE		Log of Boring No. <b>RUN-3</b>	
BORING LOCATION: <b>Runnymede Street</b>		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: <b>3/5/07</b>	DATE FINISHED: <b>3/5/07</b>
DRILLING METHOD: <b>Air Knife Hand Auger</b>		TOTAL DEPTH: <b>7.0'</b>	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: <b>NA</b>		DEPTH TO WATER: FIRST <b>3.2'</b> COMPL	
SAMPLING METHOD: <b>Slide hammer [6"x2"] Hand auger</b>		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot			
						Surface Elevation:	
1						POORLY GRADED GRAVEL (GP): dark gray (10YR 4/1), dry, 95% coarse gravel, 5% low plasticity fines	
2						LEAN CLAY (CL): black (2.5T 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, firm	
3						↓ very dark grayish brown (10YR 3/2)	
4						↓ wet, dark brown (10YR 3/3), fine fraction is a mix of clay and silt	
5						SANDY SILT (ML): dark brown (10YR 3/3), wet, 65% fines, 35% fine sand, low plasticity, soft, fines are a mix of silt and clay	
6						↓ sand fraction fine to coarse	
7						Bottom of boring at 7.0 ft	
8							
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000

Geomatrix Consultants

Figure

PROJECT: 1990 BAY ROAD SITE					Log of Boring No. <b>RUN- 4</b>				
BORING LOCATION: <i>Runnymede Street, East Palo Alto</i>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <i>3/5/07</i>		DATE FINISHED: <i>3/5/07</i>		
DRILLING METHOD: <del>Air Knife</del> <i>Hand auger</i>					TOTAL DEPTH: <i>7.0'</i>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: <i>NA</i>					DEPTH TO WATER: FIRST <i>3.2'</i> COMPL				
SAMPLING METHOD: <del>Slide hammer [8"x2"]</del> <i>Hand auger</i>					LOGGED BY: <div style="text-align: right;">M. Calhoun</div>				
HAMMER WEIGHT: NA      DROP: NA					RESPONSIBLE PROFESSIONAL:      REG. NO.				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/	Foot		NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
1						<i>POORLY GRADED GRAVEL (GP): dark gray (10YR 4/1), dry, 95% coarse gravel, 5% low plasticity fines</i>	
2						<i>LEAN CLAY WITH SAND (CL): very dark brown (10YR 2/2), moist, 80% fines, 20% fine sand, low to medium plasticity, soft.</i>	
3						<i>↓ fine fraction a mix of clay and silt, sand fraction fine to medium, trace coarse sand.</i>	
4						<i>↓ wet</i>	
5						<i>SANDY SILT (ML): dark yellowish brown (10YR 4/4), wet, 70% fines, 30% fine to coarse sand, low plasticity, soft</i>	
6						<i>fine fraction is a mix of silt and clay</i>	
7						<i>Bottom of boring at 7.0 ft</i>	
8							
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000	Geomatrix Consultants	Figure
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PROJECT: 1990 BAY ROAD SITE					Log of Boring No. RUN-5				
BORING LOCATION: Runnymede Street					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: 3/7/07		DATE FINISHED: 3/7/07		
DRILLING METHOD: Air Knife Hand auger					TOTAL DEPTH: 7.0'		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: NA					DEPTH TO WATER: FIRST 5.5'		COMPL		
SAMPLING METHOD: Slide hammer (6"x2") Hand auger					LOGGED BY: M. Calhoun				
HAMMER WEIGHT: NA DROP: NA					RESPONSIBLE PROFESSIONAL: REG. NO.				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
1						ASPHALTIC CONCRETE	
2						AGGREGATE BASE	
3						LEAN CLAY (CL): black (10YR 2/1) mottled with olive gray (5Y 4/2), moist, 90% fines, 10% fine to coarse sand, low plasticity, firm	
4							
5						LEAN CLAY WITH SAND (CL): dark olive gray (5Y 3/2), moist, 80% fines, 20% fine sand, low plasticity, soft. Fine fraction is a mix of silt and clay	
6						POORLY GRADED SAND (SP): very dark gray (5Y 3/1), wet, 90% fine sand, 10% low plasticity fines.	
7						Bottom of boring at 7.0 ft bgs	
8							
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000	Geomatrix Consultants	Figure
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PROJECT: 1990 BAY ROAD SITE		Log of Boring No. RUN-6	
BORING LOCATION: Runnymede Street		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 2/9/07	DATE FINISHED: 2/7/07
DRILLING METHOD: <del>Air Knife</del> Hand auger		TOTAL DEPTH: 6.5'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA		DEPTH TO WATER: FIRST 5.5' COMPL	
SAMPLING METHOD: <del>Slide hammer (6"x2")</del> Hand auger		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				O/V/M Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.  Surface Elevation:	REMARKS
	Sample No.	Sample	Blows/	Foot			
1						ASPHALTIC CONCRETE	
2						AGGREGATE BASE	
3						LEAN CLAY (cl): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, firm	
4						↓ black (10YR 2/1) mottled with olive (5Y 4/3), soft	
5							
6						CLAYEY SAND (sc): dark gray (5Y 4/1), wet, 80% fine to medium sand, 20% low plasticity fines	
7						Bottom of boring at 6.5 ft	
8							
9							
10							
11							
12							
13							
14							
15							

PROJECT: 1990 BAY ROAD SITE		Log of Boring No. RUN-7	
BORING LOCATION: Runnymede Street		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: Air Knife Hand auger		TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA		DEPTH TO WATER: FIRST 5.0' COMPL	
SAMPLING METHOD: Slide hammer [6" x 2"] Hand auger		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot				
						Surface Elevation:	
						ASPHALTIC CONCRETE	
						AGGREGATE BASE	
1						LEAN CLAY WITH SAND (cl): black (2.5Y 2.5/1), moist, 80% fines, 20% fine sand, low plasticity, firm	
2						↓ black (2.5Y 2.5/1) mottled with brown (10YR 4/3)	
3							
4						↓ olive gray (5Y 4/2) mottled with black (2.5Y 2.5/1) and brown (10YR 4/3), 85% fines, 15% fine sand	
5						CLAYEY SAND (sc): very dark gray (10YR 3/1), wet, 85% fine sand, 15% low plasticity fines, trace medium sand	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15						Bottom of boring at 7.0'	

PROJECT: 1990 BAY ROAD SITE					Log of Boring No. <b>RUN - 8</b>				
BORING LOCATION: <b>Runny made Street</b>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <b>3/5/07</b>		DATE FINISHED: <b>3/5/07</b>		
DRILLING METHOD: <del>Air Knife</del> <b>Hand Auger</b>					TOTAL DEPTH: <b>7.2'</b>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: <b>Pacific Tek</b>					DEPTH TO WATER: FIRST <b>4.0'</b>		COMPL		
SAMPLING METHOD: <del>Slide hammer (6" x 2")</del> <b>Hand auger</b>					LOGGED BY: <div style="text-align: right;">M. Calhoun</div>				
HAMMER WEIGHT: NA      DROP: NA					RESPONSIBLE PROFESSIONAL:      REG. NO.				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
						<b>ASPHALTIC CONCRETE</b>	
						<b>AGGREGATE BASE</b>	
1						LEAN CLAY WITH SAND (CL): very dark brown (10YR 2/2), 85% fines, 15% fine to coarse sand, low plasticity, firm	
2						↓ black (5Y 2.5/2)	
3							
4							
5						POORLY GRADED SAND (SP): black (5Y 2.5/1), wet, 95% fine sand, 5% low plasticity fines, trace medium to coarse sand [backfill]	
6						CLAYEY SAND (SC): black (5Y 2.5/1), wet, 65% fine sand, 35% low plasticity fines	
7						SANDY LEAN CLAY (CL): dark yellowish brown (10YR 3/4), moist, 70% fines, 30% fine sand, low plasticity, soft, fines are	
8						Bottom of boring at 7.2 ft	
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000	Geomatrix Consultants	Figure
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PROJECT: 1990 BAY ROAD SITE		Log of Boring No. RUN -9	
BORING LOCATION: Rinnymede Street		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 3/7/07	DATE FINISHED: 3/7/07
DRILLING METHOD: <del>Air Knife</del> Hand auger		TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA		DEPTH TO WATER: FIRST 5.2' COMPL	
SAMPLING METHOD: Slide hammer [6"x2"] Hand auger		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/	Foot			
						Surface Elevation:	
						ASPHALTIC CONCRETE	
						AGGREGATE BASE	
1						LEAN CLAY (cl): black (10YR 2/1), moist, 90% fines, 10% fine sand, trace coarse sand to fine gravel, low plasticity, firm	
2							
3							
4							
5						↓ olive gray (5Y 4/2) mottled with black (10YR 2/1). Sand fraction fine (no coarse sand or gravel).	
6						SANDY SILT (ML): dark gray (5Y 4/1), wet, 60% fines, 40% fine to coarse sand, trace fine gravel, nonplastic, soft	
7						Bottom of boring at 7.0 ft	
8							
9							
10							
11							
12							
13							
14							
15							

PROJECT: 1990 BAY ROAD SITE					Log of Boring No. <b>RUN-10</b>				
BORING LOCATION: <b>Runnymede Street</b>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <b>3/7/07</b>		DATE FINISHED: <b>3/7/07</b>		
DRILLING METHOD: <del>Air Knife</del> <b>Hand auger</b>					TOTAL DEPTH: <b>7.0'</b>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: <b>NA</b>					DEPTH TO WATER: FIRST <b>5.5'</b> <span style="float: right;">COMPL</span>				
SAMPLING METHOD: <del>Slide hammer [6" x 2"]</del> <b>Hand auger</b>					LOGGED BY: <div style="text-align: right;">M. Calhoun</div>				
HAMMER WEIGHT: NA <span style="margin-left: 100px;">DROP: NA</span>					RESPONSIBLE PROFESSIONAL: <span style="float: right;">REG. NO.</span>				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS Symbol); color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
						<b>ASPHALTIC CONCRETE</b>	
						<b>AGGREGATE BASE</b>	
1						LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, trace medium sand, low plasticity, firm.	
2							
3						↓ black (10YR 2/1) mottled with olive gray (5Y 5/2), with white (5Y 8/1) stringers, soft	
4						↓ olive (5Y 4/3) mottled with black (10YR 2/1), low to medium plasticity, firm	
5							
6						SANDY SILT WITH GRAVEL (ML): dark grayish brown (10YR 4/2), wet, 60% fines, 25% fine to coarse sand, 15% fine gravel, nonplastic, soft	
7							
8						Bottom of boring at 7.0 ft	
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000	Geomatrix Consultants	Figure
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PROJECT: 1990 BAY ROAD SITE		Log of Boring No. RUN-11	
BORING LOCATION: Runnymede Street		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 2/6/07	DATE FINISHED: 2/6/07
DRILLING METHOD: <del>Air Knife</del> Hand auger		TOTAL DEPTH: 7.5'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA		DEPTH TO WATER: FIRST 6.5' COMPL	
SAMPLING METHOD: Slide hammer (6"x2") Hand auger		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot			
						Surface Elevation:	
						ASPHALTIC CONCRETE	
						AGGREGATE BASE	
1						LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, firm	
2							
3						↓ olive (5Y 4/3) mottled with black (10YR 2/1), stringers of white (5Y 8/1).	
4							
5						↓ olive (5Y 4/3) mottled with brown (10YR 4/3)	
6							
7	RUN-11-7.0					CLAYEY SAND (SC): olive gray (5Y 4/2), wet, 70% fine sand, 30% low plasticity fines	
8	RUN-11-7.5					Bottom of boring at 7.5 ft	
9							
10							
11							
12							
13							
14							
15							

PROJECT: 1990 BAY ROAD SITE		Log of Boring No. RUN-12	
BORING LOCATION: Runnymede Street		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 3/5/02	DATE FINISHED: 3/5/02
DRILLING METHOD: <del>Air Knife</del> Hand auger		TOTAL DEPTH: 7.2'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA		DEPTH TO WATER: FIRST 4.2' COMPL	
SAMPLING METHOD: <del>Slide hammer</del> 6"x2" Hand auger		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot			
						Surface Elevation:	
						ASPHALTIC CONCRETE	
						AGGREGATE BASE	
1						LEAN CLAY (CL): black (2.54 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2							
3							
4						LEAN CLAY WITH SAND (CL): very dark brown (10YR 2/2), moist, 85% fines, 15% fine sand, low plasticity, firm	
5						CLAYEY SAND (SC): dark yellowish brown (10YR 3/4), <sup>wet</sup> 60% fine to coarse sand, 40% low plasticity fines, fine fraction is a mix of clay and silt	
6						80% fine to medium sand, 20% low plasticity fines	
7						SANDY LEAN CLAY (CL): dark brown (10YR 3/3), moist, 65% fines, 35% fine sand, low plasticity, soft, fine fraction is mix of clay and silt.	
8						Bottom of boring at 7.2 ft	
9							
10							
11							
12							
13							
14							
15							



PROJECT: 1990 BAY ROAD SITE					Log of Boring No. RUN-13				
BORING LOCATION: <i>Runny made Street</i>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <i>3/6/07</i>		DATE FINISHED: <i>3/6/07</i>		
DRILLING METHOD: <i>Air Knife Hand auger</i>					TOTAL DEPTH: <i>7.5'</i>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: <i>NA</i>					DEPTH TO WATER: FIRST <i>3.6'</i> COMPL				
SAMPLING METHOD: <i>Slide hammer [6"x2"] Hand auger</i>					LOGGED BY: <div style="text-align: right;">M. Calhoun</div>				
HAMMER WEIGHT: NA DROP: NA					RESPONSIBLE PROFESSIONAL: REG. NO.				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
						<b>ASPHALTIC CONCRETE</b>	
						<b>AGGREGATE BASE</b>	
1						LEAN CLAY WITH SAND (CL): black (10YR 2/1), moist, 80% fines, 20% fine sand, low plasticity, soft	
2							
3						SANDY LEAN CLAY (CL): very dark brown (10YR 2/2), moist, 70% fines, 30% fine to medium sand, low plasticity, soft	
4						SANDY SILT (ML): dark grayish brown (2.5Y 4/2), wet, 65% fines, 35% fine sand, trace medium sand, low plasticity, soft. Fine fraction is a mix of silt and clay	
5							
6						CLAYEY SAND (SC): very dark grayish brown (10YR 3/2), wet, 80% fine to coarse sand, 20% low plasticity fines, trace fine gravel	
7						SANDY SILT (ML): dark grayish brown (10YR 4/2), 65% fines, 35% fine sand, low plasticity, soft; Fine fraction is a mix of silt and sand	
8						Bottom of boring at 7.5 ft	
9							
10							
11							
12							
13							
14							
15							

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Figure

PROJECT: 1990 BAY ROAD SITE					Log of Boring No. <b>RVN-14</b>				
BORING LOCATION: <b>Runnymede Street</b>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <b>3/6/07</b>		DATE FINISHED: <b>3/6/07</b>		
DRILLING METHOD: <del>Air Knife</del> <b>Hand auger</b>					TOTAL DEPTH: <b>7.0'</b>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: <b>NA</b>					DEPTH TO WATER: FIRST <b>3.5'</b> COMPL				
SAMPLING METHOD: <del>Slide hammer</del> <b>[6" x 2"] Hand auger</b>					LOGGED BY: <div style="text-align: right;">M. Calhoun</div>				
HAMMER WEIGHT: NA      DROP: NA					RESPONSIBLE PROFESSIONAL:      REG. NO.				

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.			
						Surface Elevation:	
						<b>ASPHALTIC CONCRETE</b>	
1						LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2							
3							
4						SANDY SILT (ML): dark yellowish brown (10YR 4/4), wet, 60% fines, 40% fine sand, trace medium sand, non-plastic, many rootlets < 1" long, soft	
5							
6						65% fines, 35% fine sand, trace medium sand, low plasticity. Fine fraction is a mix of silt and clay	
7							
						Bottom of Boring at 7.0 ft	
8							
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000	Geomatrix Consultants	Figure
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PROJECT: 1990 BAY ROAD SITE		Log of Boring No. <i>RUN-15</i>	
BORING LOCATION: <i>Runnymede St</i>		ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: <i>2/6/07</i>	DATE FINISHED: <i>2/6/07</i>
DRILLING METHOD: <del>Air Knife</del> <i>Hand auger</i>		TOTAL DEPTH: <i>7.0</i>	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: <i>NA</i>		DEPTH TO WATER: FIRST <i>3.7'</i> COMPL	
SAMPLING METHOD: <del>Slide hammer</del> <i>[8" X 2"] Hand auger</i>		LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA		RESPONSIBLE PROFESSIONAL: REG. NO.	

DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot			
						Surface Elevation:	
						ASPHALTIC CONCRETE	
						AGGREGATE BASE	
1						LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2						↓ fine fraction is a mix of clay and silt	
3							
4						SANDY SILT (ML): dark yellowish brown (10YR 4/4), wet, 60% fines, 40% fine sand, trace medium sand, nonplastic, soft	
5							
6						↓ low plasticity, fine fraction is a mix of silt and clay	
7						SANDY LEAN CLAY (CL)	
						Bottom of boring at 7.0 ft	
8							
9							
10							
11							
12							
13							
14							
15							

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Figure

PROJECT: 1990 BAY ROAD SITE					Log of Boring No. <i>RUN-16</i>				
BORING LOCATION: <i>Runnymede Street</i>					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: Precision Sampling, Inc.					DATE STARTED: <i>3/6/07</i>		DATE FINISHED: <i>3/6/07</i>		
DRILLING METHOD: <i>Air Knife Hand auger</i>					TOTAL DEPTH: <i>7.0'</i>		MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT:					DEPTH TO WATER: FIRST <i>4.5'</i> COMPL				
SAMPLING METHOD: <i>Slide hammer (6" x 2") Hand auger</i>					LOGGED BY: M. Calhoun				
HAMMER WEIGHT: NA      DROP: NA					RESPONSIBLE PROFESSIONAL:      REG. NO.				

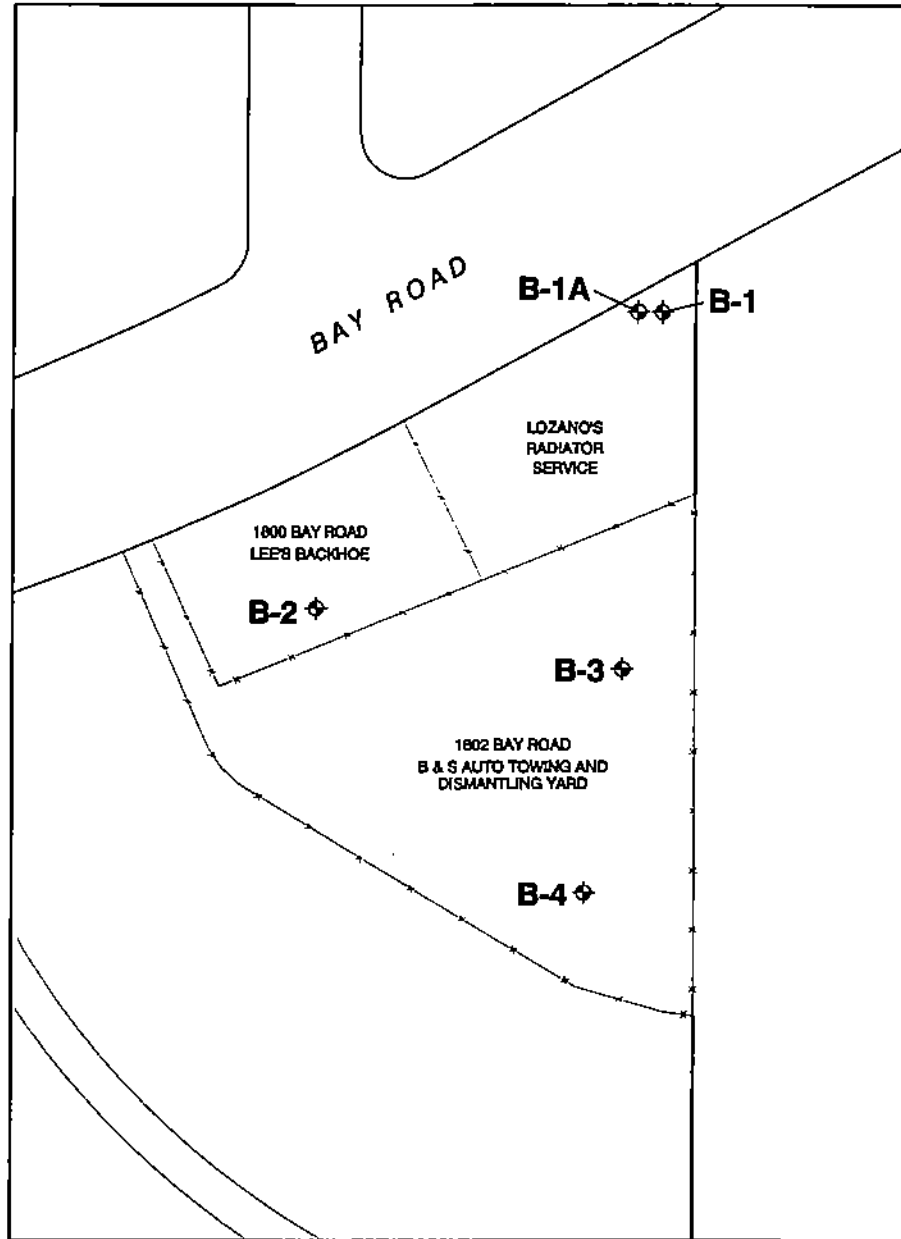
DEPTH (feet)	SAMPLES				OVM Reading (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	
						Surface Elevation:	
						<i>ASPHALTIC CONCRETE</i>	
						<i>AGGREGATE BASE</i>	
1						<i>LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, soft.</i>	
2							
3							
4						<i>↓ fine fraction is a mix of clay and silt, very soft</i>	
5						<i>SANDY SILT (ML): yellowish brown (10YR 5/4), wet, 60% fines, 40% fine sand, non plastic, very soft.</i>	
6						<i>↓ sand fraction fine to coarse</i>	
7						<i>SANDY LEAN CLAY (CL)</i>	
8						<i>Bottom of boring at 7.0 ft</i>	
9							
10							
11							
12							
13							
14							
15							

Project No. 1220.000	Geomatrix Consultants	Figure
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## 2 – 1802-1804 Bay Road – 2004 Soil and Groundwater Tables



0 80 160  
APPROXIMATE SCALE IN FEET

**LEGEND**  
B-4 APPROXIMATE SAMPLE LOCATION  
 FENCE

REFERENCE: USCOE TECHNICAL MEMORANDUM, MARCH 19, 2004.

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

***Ninyo & Moore***

### BORING LOCATION MAP

1800 AND 1802 BAY ROAD  
EAST PALO ALTO, CALIFORNIA

PROJECT NO.

400982001

DATE

6/2004

FIGURE

2

TABLE 1  
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, DIESEL AND MOTOR OIL  
SOIL SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY STREET  
EAST PALO ALTO

ANALYTE	SAMPLE NUMBER									
	B1-S-1-1		B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1
	ANALYTICAL RESULTS (mg/kg)									
TPH-G	<1.0		<1.0	<1.0	<1.0	1800 <sup>1</sup>	<1.1	<1.0 <sup>2</sup>	<1.0	300
TPH-D	47		6.8	8.7	4.4	1800	7.7	2800	6.3	1300
TPH-MO	180		8.1	11	<2.5	2800	17	4100	15	1800

Notes:

Samples analyzed using EPA Method 8015B.

mg/kg = milligrams per kilograms.

1 = Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

2 = The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

TABLE 2  
PCB AND ORGANOCHLORINE PESTICIDE  
SOIL SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY ROAD  
EAST PALO ALTO

ANALYTE	ANALYTICAL RESULTS (µg/kg)										SAMPLE NUMBER									
											ORGANOCHLORINE PESTICIDES									
	B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B5-S-1-1	B6-S-1-1										
4,4'-DDD	<5.0 <sup>1</sup>	<5.0 <sup>1</sup>	<5.0 <sup>1</sup>	<5.0 <sup>1</sup>	<5.0 <sup>1</sup>	<12 <sup>1</sup>	<5.0 <sup>1</sup>	<12 <sup>1</sup>	<5.0 <sup>1</sup>	<5.0 <sup>1</sup>										
4,4'-DDE	5.3	<5.0	<5.0	<5.0	<5.0	<12	11	12	<5.0 <sup>1</sup>	<5.0 <sup>1</sup>										
4,4'-DDT	5.7 <sup>1,3</sup>	<5.0 <sup>2</sup>	<5.0 <sup>2</sup>	<5.0 <sup>2</sup>	<5.0 <sup>2</sup>	<12 <sup>1</sup>	<5.0 <sup>2</sup>	<12 <sup>1</sup>	<5.0 <sup>2</sup>	<5.0 <sup>2</sup>										
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<25	<5.0	<5.0										
alpha-BHC	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
beta-BHC	<5.0	<5.0	<5.0	<5.0	<5.0	<120	<5.0	<120	<5.0	<5.0										
Chlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
delta-BHC	<10	<10	<10	<10	<10	<12	<10	<12	<10	<10										
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Endosulfan sulfate	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10										
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0 <sup>2</sup>										
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0 <sup>2</sup>										
(Lindane)	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Methoxychlor	<5.0	<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0										
Toxaphene	<200	<200	<200	<200	<12	<200	<12	<200	<12	<200										
											PCBs									
Aroclor 1016	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										
Aroclor 1221	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										
Aroclor 1232	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										
Aroclor 1242	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										
Aroclor 1248	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										
Aroclor 1254	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										
Aroclor 1260	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50										

Notes:

Organochlorine Pesticide analyzed using EPA Method 8081A. PCBs analyzed using EPA Method 8082.

µg/kg = micrograms per kilograms.

1 = Calibration Verification recovery was above the method control limit for this analyte, however the average % difference for all analytes met method criteria.

2 = Calibration Verification recovery was below the method control limit for this analyte, however the average % difference for all analytes met method criteria.

3 = The RPD between the primary and confirmatory analysis exceeded 40%. Per method 8000B, the lower value was reported due to apparent chromatographic problems.

4 = Reporting limit raised due to sample matrix effects.

5 = The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).





TABLE 3  
SEMI-VOLATILE ORGANIC COMPOUNDS  
SOIL SAMPLE ANALYTICAL DATA  
1600 AND 1602 BAY ROAD  
EAST PALO ALTO

ANALYTE	ANALYTICAL RESULTS (mg/kg)										
	B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1 <sup>1,9</sup>	B3-S-5-1	B4-S-1-1 <sup>1,9</sup>	B4-S-5-1 <sup>11</sup>	B6-S-1-1 <sup>7</sup>		
Bis(2-chloroethyl)ether	170	170	170	170	<340	170	<1700	<330	<340		
Bis(2-chloroisopropyl)ether	<330 <sup>1</sup>	<330 <sup>1</sup>	<330 <sup>1</sup>	<330 <sup>1</sup>	<1700	<330	<3300	<670	<1700		
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<330	7600	<330	<3300	<670	12000 <sup>12</sup>		
Butyl benzyl phthalate	<330	<330	<330	<330	<1700	<330	<3300	<670	2700 <sup>12</sup>		
Chrysene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700 <sup>12</sup>		
Di-n-butyl phthalate	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700 <sup>12</sup>		
Di-n-octyl phthalate	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Dibenz(a,h)anthracene	<420	<420	<420	<420	<2100 <sup>8</sup>	<420	<4200	<870	<2100 <sup>9</sup>		
Dibenzofuran	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Diethyl phthalate	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Dimethyl phthalate	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Fluoranthene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Fluorene	<330	<330	<330	<330	<1700	<330	<3300	<670 <sup>5</sup>	<1700		
Hexachlorobenzene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Hexachlorobutadiene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Hexachlorocyclopentadiene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Hexachlorocyclohexane	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Indeno(1,2,3-cd)pyrene	<330	<330	<330	<330	<1700 <sup>8</sup>	<330	<3300	<670	<1700 <sup>9</sup>		
Isophorone	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
n-Nitroso-di-n-propylamine	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
n-Nitrosodiphenylamine	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Naphthalene	<330	<330	<330	<330	6600	<330	<3300	<670	4100		
Nitrobenzene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Pentachlorophenol	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Phenanthrene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Phenol	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700		
Pyrene	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700 <sup>12</sup>		

Notes:  
Samples analyzed using EPA Method 8270c  
1 µg/kg = micrograms per kilogram

- 1 = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- 2 = Laboratory Control Sample recovery was above the method control limit. Analyte not detected, data not impacted.
- 3 = The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 4 = The RPD exceeded the method control limit due to sample matrix effects.
- 5 = The RPD exceeded the method control limit due to sample matrix effects. The individual analyte Q/JQC recoveries, however, were within acceptance limits.
- 6 = The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
- 7 = Laboratory Control Sample recovery was below method control limits.
- 8 = Reporting limit raised due to high concentrations of hydrocarbons.
- 9 = Internal Standard recovery was outside of method limits. Matrix interference was confirmed by reanalysis.
- 10 = GPC cleanup used for removing petroleum hydrocarbon interference.
- 11 = Reporting limit raised due to sample matrix effects.
- 12 = Internal Standard was below acceptance limit.

TABLE 4  
VOLATILE ORGANIC COMPOUNDS  
SOIL SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY ROAD  
EAST PALO ALTO

ANALYTE	SAMPLE NUMBER										
	B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1	B6-S-5-1	
1,1,1,2-Tetrachloroethane	<2.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
1,1,1-Trichloroethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,1,2,2-Tetrachloroethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,1,2-Trichloroethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,1-Dichloroethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
1,1-Dichloropropene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,2,3-Trichlorobenzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
1,2,3-Trichloropropane	<10	<8.2	<8.9	<8.7	<10	<8.4	<10	<10	<13	<13	
1,2,4-Trichlorobenzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
1,2,4-Trimethylbenzene	<2.0	<1.6	<1.8	<1.7	91	<1.7	<2.0	9.7	81	81	
1,2-Dibromo-3-chloropropane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
1,2-Dibromomethane (EDB)	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,2-Dichlorobenzene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,2-Dichloroethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,2-Dichloropropane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,3,5-Trimethylbenzene	<2.0	<1.6	<1.8	<1.7	35	<1.7	<2.0	3.4	32	32	
1,3-Dichlorobenzene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,3-Dichloropropane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
1,4-Dichlorobenzene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
2,2-Dichloropropane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
2-Chlorotoluene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
4-Chlorotoluene	<2.0	<1.6	<1.8	<1.7	8.9	<1.7	<2.0	<2.0	2.8	2.8	
Benzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Bromobenzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Bromochloromethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
Bromodichloromethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Bromoform	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Bromomethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Carbon tetrachloride	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Chlorobenzene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
Chloroethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	
Chloroform	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6	<2.6	
Chloromethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6	<6.6	

TABLE 4  
VOLATILE ORGANIC COMPOUNDS  
SOIL SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY ROAD  
EAST PALO ALTO

ANALYTE	SAMPLE NUMBER											
	B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B5-S-1-1	B5-S-5-1	B6-S-1-1	B6-S-5-1
cis-1,2-Dichloroethene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
cis-1,3-Dichloropropene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
Dibromochloromethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
Dibromomethane	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
Dichlorodifluoromethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6
Ethylbenzene	<2.0	<1.6	<1.8	<1.7	20	<1.7	<2.0	<2.0	<2.0	<2.0	14	<2.6
Hexachlorobutadiene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6
Isopropylbenzene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
m,p-Xylenes	<2.0	<1.6	<1.8	<1.7	100	1.8	<2.0	<2.0	<2.0	<2.0	70	<2.6
Methyl-tert-butyl Ether (MTBE)	<5.0	<4.1	<4.5	<4.3	<5.0	130	29	35	35	35	150	<2.6
Methylene chloride	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
n-Butylbenzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6
n-Propylbenzene	<2.0	<1.6	<1.8	<1.7	7.2	<1.7	<2.0	<2.0	<2.0	<2.0	6.9	<2.6
Naphthalene	<5.0	<4.1	<4.5	<4.3	13	<4.2	<5.0	<5.0	<5.0	<5.0	10	<2.6
o-Xylene	<2.0	<1.6	<1.8	<1.7	53	<1.7	<2.0	<2.0	<2.0	<2.0	34	<2.6
p-Isopropyltoluene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
sec-Butylbenzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6
Styrene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
tert-Butylbenzene	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6
Tetrachloroethene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
Toluene	<2.0	<1.6	<1.8	<1.7	76	1.7	<2.0	<2.0	<2.0	<2.0	40	<2.6
trans-1,2-Dichloroethene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
trans-1,3-Dichloropropene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
Trichloroethene	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.0	<2.0	<2.6	<2.6
Trichlorofluoromethane	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6
Vinyl chloride	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<5.0	<5.0	<6.6	<6.6

Notes:

Samples analyzed using EPA Method 8260B.

1 = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

µg/kg = micrograms per kilograms.

TABLE 5  
TITLE 22 METALS  
SOIL SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY ROAD  
AEST PALO ALTO

ANALYTE	SAMPLE NUMBER									
	B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1	
Antimony	<20 <sup>1</sup>	<10	<10	<10	<10	<10	<3.0 <sup>1</sup>	<10	<10	
Arsenic	<4.0 <sup>1</sup>	3.3	3.7	4.2	3.3	7.2	<6.0 <sup>1</sup>	3.7	2.7	
Barium	25	97	150	130	120	160	45	140	170	
Beryllium	<1.0 <sup>1</sup>	<0.5	0.6	0.62	0.9	0.61	<1.5 <sup>1</sup>	0.6	<0.5	
Cadmium	<1.0 <sup>1</sup>	<0.5	<0.5	<0.5	0.81	0.59	<1.5 <sup>1</sup>	<0.5	1.4	
Chromium	29	31	35	35	57	37	32	37	37	
Cobalt	18	7.2	9.9	7.9	11	8.4	16	8.4	7.9	
Copper	32	15	18	19	45	22	46	20	60	
Lead	5.5	5	6.2	6.3	54	18	25	6.8	120	
Mercury	<0.020	<0.02	<0.02	0.039	0.096	0.022	0.18	0.038	0.079	
Molybdenum	<4.0 <sup>1</sup>	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0 <sup>1</sup>	<2.0	<2.0	
Nickel	23	35	35	38	51	39	26	38	35	
Selenium	<4.0 <sup>1</sup>	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0 <sup>1</sup>	<2.0	<2.0	
Silver	<2.0	<1.0 <sup>1</sup>	<1.0	<1.0	<1.0	<1.0	<3.0 <sup>1</sup>	<1.0	<1.0	
Thallium	<20 <sup>1</sup>	<10	<10	<10	<10	<10	<30 <sup>1</sup>	<10	<10	
Vanadium	74	30	36	36	58	38	80	37	43	
Zinc	42	41	49	52	120	61	82	52	140	

Notes:

1 = Reporting limit raised due to sample matrix effects.

Samples analyzed using EPA method 6010B and 7471A for mercury.  
mg/kg = milligrams per kilograms.

**TABLE 6**  
**TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, DIESEL AND MOTOR OIL**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**  
**1800 AND 1802 BAY STREET**  
**EAST PALO ALTO**

ANALYTE	SAMPLE NUMBER					
	B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
ANALYTICAL RESULTS	TPH-G (µg/L)	<50	80	82	<50	<50
	TPH-D (mg/L)	<0.28	<0.25	<0.25	<0.25	<0.25
	TPH-MO (mg/L)	<0.28	<0.25	<0.25	<0.25	<0.25

**Notes:**

Samples analyzed using EPA Method 8015B.

µg/L = micrograms per liter.

mg/L = milligrams per liter.

**TABLE 7**  
**PCB AND ORGANOCHLORINE PESTICIDE**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
		ORGANOCHLORINE PESTICIDES					
4,4'-DDD	ANALYTICAL RESULTS (µg/L)	<0.11 <sup>2</sup>	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT		<0.11 <sup>1</sup>	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
alpha-BHC		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Chlordane		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
delta-BHC		<0.22	<0.20	<0.20	<0.20	<0.20	<0.20
Dieldrin		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan II		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan sulfate		<0.22	<0.20	<0.20	<0.20	<0.20	<0.20
Endrin		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde		<0.11	<0.10	<0.10	0.14	<0.10	<0.10
Endrin ketone		<0.11 <sup>1</sup>	<0.10	<0.10	<0.10	<0.10	<0.10
gamma-BHC (Lindane)		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor <sup>1</sup>		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Toxaphene	<5.6	<5.0	<5.0	<5.0	<5.0	<5.0	

**TABLE 7**  
**PCB AND ORGANOCHLORINE PESTICIDE**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
		PCBs					
Aroclor 1016	ANALYTICAL RESULTS (µg/L)	<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1221		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1232		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1242		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1248		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1254		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1260		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0

**Notes:**

Organochlorine Pesticide analyzed using EPA method 8081A

PCBs analyzed using EPA method 8082

1 = Calibration Verification recovery was below the method control limit for this analyte, however the average % difference for all analytes met method criteria.

2 = Calibration Verification recovery was above the method control limit for this analyte, however the average % difference for all analytes met method criteria.



**TABLE 8**  
**SEMI-VOLATILE ORGANIC COMPOUNDS**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
1,2,4-Trichlorobenzene	ANALYTICAL RESULTS (µg/L)	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene		<10	<10	<10	<10	<10	<10
1,2-Diphenylhydrazine/Azobenzene		<20	<20	<20	<20	<20	<20
1,3-Dichlorobenzene		<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene		<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol		<20	<20	<20	<20	<20	<20
2,4,6-Trichlorophenol		<20	<20	<20	<20	<20	<20
2,4-Dichlorophenol		<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol		<20	<20	<20	<20	<20	<20
2,4-Dinitrophenol		<20	<20	<20	<20	<20	<20
2,4-Dinitrotoluene		<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene		<10	<10	<10	<10	<10	<10
2-Chloronaphthalene		<10	<10	<10	<10	<10	<10
2-Chlorophenol		<10	<10	<10	<10	<10	<10
2-Methylnaphthalene		<10	<10	<10	<10	<10	<10
2-Methylphenol		<10	<10	<10	<10	<10	<10
2-Nitroaniline		<20	<20	<20	<20	<20	<20
2-Nitrophenol		<10	<10	<10	<10	<10	<10
3,3-Dichlorobenzidine		<20	<20	<20	<20	<20	<20
3-Nitroaniline		<20	<20	<20	<20	<20	<20
4,6-Dinitro-2-methylphenol		<20	<20	<20	<20	<20	<20
4-Bromophenyl phenyl ether		<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol		<20	<20	<20	<20	<20	<20
4-Chloroaniline		<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether		<10	<10	<10	<10	<10	<10
4-Methylphenol		<10	<10	<10	<10	<10	<10
4-Nitroaniline		<20	<20	<20	<20	<20	<20
4-Nitrophenol		<20	<20	<20	<20	<20	<20
Acenaphthene		<10	<10	<10	<10	<10	<10
Acenaphthylene		<10	<10	<10	<10	<10	<10
Aniline		<10	<10	<10	<10	<10	<10
Anthracene <sup>1</sup>		<10	<10	<10	<10	<10	<10
Benzidine		<20	<20	<20	<20	<20	<20
Benzo(a)anthracene		<10	<10	<10	<10	<10	<10
Benzo(a)pyrene		<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene		<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene		<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene		<10	<10	<10	<10	<10	<10
Benzoic acid		<20	<20	<20	<20	<20	<20
Benzyl alcohol		<20	<20	<20	<20	<20	<20

**TABLE 8**  
**SEMI-VOLATILE ORGANIC COMPOUNDS**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
Bis(2-chloroethoxy)methane	ANALYTICAL RESULTS (µg/L)	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl)ether		<10	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl)ether		<10	<10	<10	<10	<10	<10
Bis(2-ethylhexyl)phthalate		<50	<50	<50	<50	<50	<50
Butyl benzyl phthalate		<20	<20	<20	<20	<20	<20
Chrysene		<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate <sup>1</sup>		<20	<20	<20	<20	<20	<20
Di-n-octyl phthalate		<20	<20	<20	<20	<20	<20
Dibenz(a,h)anthracene		<20	<20	<20	<20	<20	<20
Dibenzofuran		<10	<10	<10	<10	<10	<10
Diethyl phthalate		<10	<10	<10	<10	<10	<10
Dimethyl phthalate		<10	<10	<10	<10	<10	<10
Fluoranthene		<10	<10	<10	<10	<10	<10
Fluorene <sup>1</sup>		<10	<10	<10	<10	<10	<10
Hexachlorobenzene		<10	<10	<10	<10	<10	<10
Hexachlorobutadiene		<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene		<20	<20	<20	<20	<20	<20
Hexachloroethane		<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene		<20	<20	<20	<20	<20	<20
Isophorone		<10	<10	<10	<10	<10	<10
n-Nitroso-di-n-propylamine		<10	<10	<10	<10	<10	<10
n-Nitrosodiphenylamine		<10	<10	<10	<10	<10	<10
Naphthalene		<10	<10	<10	<10	<10	<10
Nitrobenzene		<20	<20	<20	<20	<20	<20
Pentachlorophenol		<20	<20	<20	<20	<20	<20
Phenanthrene <sup>1</sup>		<10	<10	<10	<10	<10	<10
Phenol		<10	<10	<10	<10	<10	<10
Pyrene		<10	<10	<10	<10	<10	<10

**Notes:**

Samples analyzed using EPA Method 8270C.

<sup>1</sup> = Laboratory control sample recovery was above the method control limits. Analyte not detected, data not impacted.

µg/L = micrograms per liter.

TABLE 9  
VOLATILE ORGANIC COMPOUNDS  
GROUNDWATER SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY ROAD  
EAST PALO ALTO

ANALYTE	SAMPLE NUMBER							
	B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1	TB-1*	TB-2
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	<1.0	<1.0	7.4	8.8	<1.0	7.5	<1.0	<1.0
1,2-Dibromo-3-chloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	<1.0	<1.0	2.3	3.7	<1.0	2.2	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0
Chloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	<0.50	<0.50	2.5	0.56	<0.50	2.4	<0.50	<0.50
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	<1.0	<1.0	12	7.4	<1.0	12	<1.0	<1.0

ANALYTICAL RESULTS (µg/L)

TABLE 9  
VOLATILE ORGANIC COMPOUNDS  
GROUNDWATER SAMPLE ANALYTICAL DATA  
1800 AND 1802 BAY ROAD  
EAST PALO ALTO

ANALYTE	SAMPLE NUMBER							
	B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1	TB-1*	TB-2
Methyl-tert-butyl Ether (MTBE)	1.3	<1.0	40	60	<1.0	38	<1.0	<1.0
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	<1.0	<1.0	1.2	<1.0	<1.0	1.0	<1.0	<1.0
o-Xylene	<0.50	<0.50	6.4	3.6	<0.50	6.2	<0.50	<0.50
p-Isopropyltoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-Butylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Styrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	<0.50	0.54	8.7	1.6	<0.50	8.3	<0.50	<0.50
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:

Samples analyzed using EPA Method 8260B.

\* Headspace in sample container.

**TABLE 10**  
**TITLE 22 METALS**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
Antimony	ANALYTICAL RESULTS (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Barium		0.074	0.062	0.075	0.12	<0.010	0.075
Beryllium		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Cadmium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chromium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cobalt		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Copper		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Mercury		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Nickel		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Selenium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Silver		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Thallium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Vanadium		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Zinc		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

Samples analyzed using EPA Method 6010B and EPA Method 7470A for Mercury.  
mg/L = milligrams per liter.

**TABLE 11**  
**ESL AND PRG COMPARISON TO CONSTITUENTS REPORTED IN ON-SITE SOIL SAMPLES**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

<b>SOIL SAMPLES</b>							
<b>Sample Location</b>	<b>Contaminant</b>	<b>Depth</b>					
		<b>1 foot</b>	<b>5 feet</b>	<b>ESL-res (mg/kg)</b>	<b>ESL-com (mg/kg)</b>	<b>PRG-res (mg/kg)</b>	<b>PRG-com (mg/kg)</b>
<b>Lozano's</b>							
<b>B1</b>	<b>Petroleum Hydrocarbons</b>						
	TPH-D (mg/kg)	47	6.8	100	100	NA	NA
	TPH-MO (mg/kg)	180	8.1	500	1000	NA	NA
	<b>Pesticides (µg/kg)</b>						
	4,4'DDE	5.3	<5.0	1.7	4	1.7	7
	4,4'DDT	5.7	<5.0	1.7	4	1.7	7
<b>Lee's Backhoe</b>							
<b>B2</b>	<b>Petroleum Hydrocarbons (mg/kg)</b>						
	TPH-D	8.7	4.4	100	100	NA	NA
	TPH-MO	11	<2.5	500	1000	NA	NA
<b>B &amp; S Towing and Dismantling</b>							
<b>B3</b>	<b>Petroleum Hydrocarbons (mg/kg)</b>						
	TPH-D	1800	7.7	100	100	NA	NA
	TPH-MO	2800	17	500	1000	NA	NA
	<b>SVOCs (µg/kg)</b>						
	2-Methylnaphthalene	5300	<330	0.25	0.25	NA	NA
	4-Methylphenol	2100	<330	NA	NA	310	3100
	Bis(2-ethylhexyl)phthalate	7600	<330	66	66	35	120
	Naphthalene	6600	<330	4.2	4.2	56	190
	<b>VOCs (µg/kg)</b>						
	Benzene	8.9	<1.7	0.044	0.044	0.6	1.3
	Ethylbenzene	20	<1.7	3.3	3.3	8.9	20
	m,p-Xylenes	100	1.8	1.5	1.5	270	420
	Methyl-tert-butyl Ether (MTBE)	310	130	0.023	0.023	62	160
	n-Propylbenzene	7.2	<1.7	NA	NA	240	240
	Naphthalene	13	<4.2	4.2	4.2	56	190
	o-Xylene	53	<1.7	1.5	1.5	270	420
	Toluene	76	1.7	2.9	2.9	520	520
	1,2,4-Trimethylbenzene	91	<1.7	NA	NA	52	170
	1,3,5-Trimethylbenzene	35	<1.7	NA	NA	21	70

**TABLE 11**  
**ESL AND PRG COMPARISON TO CONSTITUENTS REPORTED IN ON-SITE SOIL SAMPLES**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

SOIL SAMPLES							
Sample Location	Contaminant	Depth					
		1 foot	5 feet	ESL-res (mg/kg)	ESL-com (mg/kg)	PRG-res (mg/kg)	PRG-com (mg/kg)
<b>B6</b> (Duplicate sample of B3)	<b>Petroleum Hydrocarbons (mg/kg)</b>						
	TPH-D	1300	NS	100	100	NA	NA
	TPH-MO	1800	NS	500	1000	NA	NA
	<b>SVOCs (µg/kg)</b>						
	2-Methylnaphthalene	4800	NS	0.25	0.25	NA	NA
	4-Methylphenol	2100	NS	NA	NA	310	3100
	Bis(2-ethylhexyl)phthalate	12000	NS	66	66	35	120
	Naphthalene	4100	NS	4.2	4.2	56	190
	Butyl benzyl phthalate	2700	NS	NA	NA	12000	100000
	<b>VOCs (µg/kg)</b>						
	Benzene	2.8	NS	0.044	0.044	0.6	1.3
	Ethylbenzene	14	NS	3.3	3.3	8.9	20
	m,p-Xylenes	70	NS	1.5	1.5	270	420
	Methyl-tert-butyl Ether (MTBE)	150	NS	0.023	0.023	62	160
	n-Propylbenzene	6.9	NS	NA	NA	240	240
	Naphthalene	10	NS	4.2	4.2	56	190
	o-Xylene	34	NS	1.5	1.5	270	420
	Toluene	40	NS	2.9	2.9	520	520
	1,2,4-Trimethylbenzene	81	NS	NA	NA	52	170
	1,3,5-Trimethylbenzene	32	NS	NA	NA	21	70
	4-Chlorotoluene	2.8	NS	NA	NA	160	560
<b>B4</b>	<b>Petroleum Hydrocarbons (mg/kg)</b>						
	TPH-D	2800	6.3	100	100	NA	NA
	TPH-MO	4100	15	500	1000	NA	NA
	<b>Pesticides (µg/kg)</b>						
	4,4'DDE	12	<5.0	1.7	4	1.7	7
	<b>VOCs (µg/kg)</b>						
	m,p-Xylenes	<2.0	7.8	1.5	1.5	270	420
	Methyl-tert-butyl Ether (MTBE)	29	35	0.023	0.023	62	160

**TABLE 11**  
**ESL AND PRG COMPARISON TO CONSTITUENTS REPORTED IN ON-SITE SOIL SAMPLES**  
**1800 AND 1802 BAY ROAD**  
**EAST PALO ALTO**

SOIL SAMPLES							
Sample Location	Contaminant	Depth					
		1 foot	5 feet	ESL-res (mg/kg)	ESL-com (mg/kg)	PRG-res (mg/kg)	PRG-com (mg/kg)
B4	o-Xylene	<2.0	3.5	1.5	1.5	270	420
	1,2,4-Trimethylbenzene	<2.0	9.7	NA	NA	52	170
	1,3,5-Trimethylbenzene	<2.0	3.4	NA	NA	21	70

**Notes:**

µg/kg = micrograms per kilograms.

mg/kg = milligrams per kilograms.

ESL = Environmental Screening levels from RWQCB San Francisco Bay Region Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Lookup Tables.

PRGs = Preliminary Remediation Goals from USEPA Region 9 (10/2002).

NA = Not available.

NS = Not sampled.



TABLE 12  
ESL AND PRG COMPARISON TO CONSTITUENTS REPORTED IN ON-SITE GROUNDWATER SAMPLES  
1800 AND 1802 BAY ROAD  
EAST PALO ALTO

Sample Location	Contaminant	Concentration	ESL (µg/L)	Primary MCLs (µg/L)
<b>Lozano's</b>				
<b>B1</b>	VOCs (µg/L)			
	MTBE	13	5	13
	Metals (mg/L)			
	Barium	0.074	1000	1000
<b>Lee's Backhoe</b>				
<b>B2</b>	VOCs (µg/L)			
	Toluene	0.54	40	150
	Metals (mg/L)			
	Barium	0.062	1000	1000
<b>B &amp; S Auto Towing and Dismantling</b>				
<b>B3</b>	Petroleum Hydrocarbons (µg/L)			
	TPH-G	80	100	NA
	Metals (mg/L)			
	Barium	0.075	1000	1000
	VOCs (µg/L)			
	Ethylbenzene	2.5	30	300
	Methyl-tert-butyl Ether (MTBE)	40	5	13
	o-Xylene	6.4	13	1750
	Toluene	8.7	40	150
	1,2,4-Trimethylbenzene	7.4	NA	NA
	1,3,5-Trimethylbenzene	2.3	NA	15*
	Naphthalene	1.2	21	21*
	m,p-Xylenes	12	13	1750
<b>B6 (Duplicate sample of B3)</b>	Metals (mg/L)			
	Barium	0.075	1000	1000
	VOCs (µg/L)			
	Ethylbenzene	2.4	30	300
	Methyl-tert-butyl Ether (MTBE)	38	5	13
	o-Xylene	6.2	13	1750
	Toluene	8.3	40	150
	1,2,4-Trimethylbenzene	7.5	NA	NA
	1,3,5-Trimethylbenzene	2.2	NA	15*
	m,p-Xylenes	12	13	1750
	Naphthalene	1	21	21*
<b>B4</b>	Petroleum Hydrocarbons (µg/L)			
	TPH-G	82	100	NA
	Metals (mg/L)			
	Barium	0.12	1000	
	Organochlorine Pesticides (µg/L)			
	Endrin aldehyde	0.14	0.0023**	2**
	VOCs (µg/L)			
	Ethylbenzene	0.56	30	300
	Methyl-tert-butyl Ether (MTBE)	60	5	13
	o-Xylene	3.6	13	1750
	Toluene	1.6	40	150
	1,2,4-Trimethylbenzene	8.8	NA	NA
	1,3,5-Trimethylbenzene	3.7	NA	15*
	m,p-Xylenes	7.4	13	1750

**Notes:**

µg/L = micrograms per liter.

µg/kg = milligrams per kilograms.

MCL = Maximum contaminant levels.

ESL = Environmental Screening levels from RWQCB San Francisco Bay Region Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Lookup Tables.

Primary MCLs = Maximum Contaminant Levels, California Code of Regulations, Title 22, Chapter 15, Sections 64443 and 64444.

NA = Not available.

\* Taste and odor threshold.

\*\* Endrin was the listed compound used for comparison.



## 3 – 1990 Bay Road & South – 2014 Groundwater Sampling



**S.S. PAPADOPULOS & ASSOCIATES, INC.**  
**ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS**

January 30, 2015

Mr. Bruce H. Wolfe  
Executive Officer  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Subject:       **2014 Annual Summary and Groundwater Monitoring Report**  
                  1990 Bay Road Site  
                  East Palo Alto, California

Dear Mr. Wolfe:

This Annual Summary and Groundwater Monitoring Report presents a summary of investigation and remediation activities conducted in 2014 by StarLink Logistics, Inc. (SLLI) at the 1990 Bay Road site in East Palo Alto, California (the site, Figure 1). This report has been prepared by S.S. Papadopoulos & Associates, Inc. (SSP&A) on behalf of SLLI to satisfy the requirements of Provisions 2.b and 2.f of California Regional Water Quality Control Board (RWQCB) Order No. SCR 91-016 and subsequent amendments.

**Technical Activities**

Technical activities performed at the site in 2014 include preparation of comprehensive site documents, site maintenance and inspections, soil sample collection south of Runnymede and on the former Bain's property, repair of sanitary sewer manholes, and sewer and groundwater monitoring activities. These activities are described in more detail below.

**Preparation of Comprehensive Site Documents**

In 2013 SLLI submitted three comprehensive site documents for RWQCB review. The documents included a draft Comprehensive Tentative Order for Final Site Cleanup Requirements (draft Comprehensive Order), a draft Comprehensive Site Management Plan (SMP), and a draft Revised Aquifer Characterization and Contingency Plan (ACCP). Currently the requirements for managing the site are found in several different RWQCB Orders, and in separate deed restrictions and site management plans. The submitted documents are intended to consolidate the information and requirements to allow for more efficient and reliable management of the site. On April 7, 2014, SLLI representatives met with RWQCB to discuss the documents submitted. RWQCB comments were subsequently incorporated in the documents and revised versions were

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submitted to the RWQCB in late April. SLLI hopes to finalize these documents as soon as possible, and has offered technical support to facilitate RWQCB review and approval.

### **Site Maintenance and Inspections**

- Monthly site inspections were conducted throughout the year. These site inspections included checking the conditions of the site caps and paved areas, warehouse, trailer, fencing, gates, signs and storm drain system. Monitoring wells were inspected quarterly.
- On January 24, SLLI performed an annual inspection to evaluate the condition of existing caps and levees at the 1990 Bay Road site in East Palo Alto, California. Asphalt crack-filling and sealing maintenance work that was conducted in 2013 remained in good condition on the caps over the 1990 Bay Road property, the PG&E poleyard, the former Bains property, and the former Curtaccio property. Some cracks and weed growth were observed on the Torres south cap, and along the eastern edge of the north cap. Some minor diesel spills were noted on the Torres north cap as well, however, the condition of the asphalt cap did not appear to be compromised. Following the inspection, coyote brush was removed from the non-tidal marsh soil cap and debris was cleared from storm drain catch basins. Mr. Jess Torres was notified about repairs needed in the fencing along the levee and for cracks in the south cap of his property.
- The Bayshore levee which runs along the eastern edge of the 1990 Bay Road Site from Bay Road to Runnymede Street was inspected on January 24 for general stability, evidence of erosion, and changes since the previous annual inspection. In general, the levees appeared to be in reasonable condition with minor deterioration caused by rodent burrowing and some tidal erosion along the banks of the major slough that runs parallel with the levee south of Weeks Street. These conditions will be further monitored during future inspections, but no additional preventative measures were recommended.
- On June 10, a PG&E subcontractor (Osmosis Utilities Services, Inc.) performed utility pole reinforcement work at three of the power poles in the former non-tidal marsh area. Two of the poles are in the geosynthetic clay liner (GCL) capped area, and the third is in the phytoremediation area. For each of the poles, a support post was driven to a depth of approximately 6.5 feet and then strapped to the pole. During onsite coordination with SLLI, the subcontractor concluded that soil excavation would not be needed prior to driving the posts at these locations.
- In June, the new owners of the former Bains property planned to repave the property and install new storm drain elements. In preparation for the planned paving work, SLLI collected soil samples (discussed below) and raised two well boxes on the property. SLLI installed new well boxes for wells W-118 and W-119 at the elevation of the new pavement. The property owner re-paved the property and inadvertently paved over wells W-108 and W-109,

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also located on the former Bains property. Neither W-108 nor W-109 are monitored and they will be located, uncovered, and properly abandoned in 2015.

- On October 28 and 29, sections of the warehouse exterior walls were painted to cover graffiti.
- On October 28 a National Fire Protection Association (NFPA) five-year fire system inspection was performed at the warehouse on the 1990 Bay Road property. The fire sprinklers were inspected and confirmed to be functional and alarm switches were repaired. Some maintenance recommendations were made and are under consideration.

### **Soil Sampling for Planned Construction Activities**

- On June 6, SLLI conducted a soil investigation related to planned storm drain installation and paving work at the former Bains property located at 2470 Pulgas Avenue. A total of 13 soil samples were collected from the deed-restricted portions of the property at the locations shown on the attached Figure 2. The samples were collected in areas where the property owner had removed pavement and indicated that some soil excavation may be needed. Samples were collected using a hand-auger to bore to depths of 0.5 to 2.5 feet, as indicated on Figure 2. At each location, the soil from the boring were placed into a stainless steel bowl, composited, and a sample was collected in an 8-oz glass jar.

Samples were analyzed for total arsenic by EPA Method 6010A at the TestAmerica laboratory in Pleasanton, CA. The analytical report is included in Appendix A and the results are shown on Figure 2 and summarized in Table 1. All samples except one contained arsenic concentrations less than 14 milligram per kilogram (mg/kg). One sample (BA7-11) containing 210 mg/kg was collected in an area to the south of the small concrete pad on the south side of the building. The concrete pad and a small section of surrounding asphalt were removed to allow for the planned asphalt overlay to drain away from the building. The property owner's contractor agreed to place the asphalt overlay without any excavation in this area. As an interim measure until the area was re-paved, the contractor placed an inch of clean fill over the section of exposed soil where BA7-11 was collected. The results of soil sampling and analysis were submitted to Mr. Mark Johnson of the RWQCB on June 16. Trenching and paving work was completed at 2470 Pulgas Avenue on June 21.

- In September, the owner of the former Bains property indicated that they were intending to pave an unpaved section of the property approximately 50 feet by 5 feet in area on the northwest edge of the property. The paving activities would require removing the top 12 to 18 inches of soil. This area of the property is deed restricted, and limited samples had been collected from the area during previous investigations. Accordingly, it was determined that the soil should be characterized for arsenic prior to soil excavation.

One 3-point composite soil sample was collected by SLLI on September 25. The composite sample was comprised of individual samples collected at the locations shown on Figure 2.

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Samples were collected using a hand auger to retrieve soil to a depth 18 inches at each location, and then composited in a stainless steel bowl. The composite sample was analyzed for total arsenic analysis by EPA Method 6010 at the TestAmerica laboratory in Pleasanton, CA. The result, shown on Figure 2 and included in Table 1, indicates an arsenic concentration of 15 mg/kg. Based on this result, no engineering controls were imposed for removal of the top 18 inches of soil. The analytical report is included in Appendix A.

- In September, SLLI conducted soil sampling to determine arsenic concentrations in the areas to be excavated for Phase II of the City of East Palo Alto's Runnymede Storm Drain improvements project. The soil samples were collected on September 12 from areas within the planned extent of excavation based on the design documents for the project. Results of the sampling were submitted to the City in a letter report dated September 18, 2014, which is included as Appendix B. The results are summarized in Table 2. The arsenic concentrations in the soil samples ranged from 1.8 to 24 mg/kg. These concentrations are below levels that would impact worker health and safety or limit soil disposal options for the Runnymede Phase II project. These results are similar to the results of the soil investigations performed in this area between 1996 and 1998. The data was reviewed by the RWQCB prior to the City initiating construction.

### **Sanitary Sewer Routine Monitoring**

- Twenty-four hour composite samples were collected from two EPASD sanitary sewer manhole locations, manholes A22 and T23, during the year (Figure 3). The monitoring plan submitted to EPASD and Palo Alto Regional Water Quality Control Plant (PARWQCP) on May 22, 1996 specifies that samples will be collected monthly during the winter season and bimonthly during the summer season. These samples have been collected since October 1996. In 2014, samples were collected in January, February, March, April, June, August, October, November, and December by Field Solutions, Inc. of San Jose, California according to the procedures outlined in the 1996 monitoring plan. The EPASD was notified in advance of the dates and times the sampling was conducted.

Composite samples were collected using ISCO samplers. Every 15 minutes, 20 milliliter (ml) aliquots were collected into a single container. After 24 hours of collection, samples were poured unfiltered into 500 ml bottles preserved with nitric acid. Samples were analyzed by TestAmerica of Pleasanton, California according to U.S. EPA Method 200.8 (ICP/mass spectroscopy).

Sewer sample analytical results for 2014 are included in Table 3 and analytical reports are attached as Appendix C. The results show a significant decrease in the concentration of arsenic in downstream manhole T23 starting in August. This decrease is the result of sewer repair work that was implemented based on investigations conducted by SLLI in 2013 and 2014. The investigation and repair work is explained in more detail below.

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- The 1996 monitoring plan also calls for annual leak testing of the sewer lateral from the 1990 Bay Road property warehouse to the main sewer line (Figure 3). On December 26 the annual leak test was conducted and no leak was detected.

### **Sanitary Sewer Investigation**

- In 2013, an investigation was initiated to attempt to identify the cause of the increasing trend in arsenic concentrations noted in downstream manhole T23. Results from an extra sampling event in November 2013 indicated the source of the concentrations was likely located near manhole T27

Based on the results of the November 2013 sampling, on January 24, 2014, SLLI conducted a video inspection from manhole A29 located on Bay Road where the sanitary sewer line enters the 1990 Bay Road property to past manhole T27 located on the Torres property at the bend in the levee (where the elevated concentration of arsenic was detected). The inspection was conducted by Subdynamic Locating Services (Subdynamic) of San Jose, California with personnel from the East Palo Alto Sanitary District (EPASD), and Freyer & Laureta (Engineers for EPASD) present on site.

The results of the inspection indicated the laterals previously sealed on the 1990 Bay Road property and a pipe patch downstream of T27 did not show any signs of leakage. However, high effluent flows did not allow for full inspection of the pipe and manhole. A memo summarizing the inspection is included as Appendix D. This memo and copies of the inspection videos were sent to the EPASD on February 4.

As a result of the inspection, SLLI proposed that additional samples be collected from manholes T28 and T27, which were collected in February 2014. Analytical results for these samples, included in Table 3, indicated an arsenic concentration of 17 micrograms per liter in manhole T27 and 1.6 micrograms per liter in T28 (immediately upstream from T27), indicating that infiltration was occurring at T27 or in the section of pipe between T28 and T27. Based on this result, SLLI recommended a new video inspection be implemented for this segment of pipe and manhole T27.

- Video inspections of the sanitary sewer between manholes A29 and T23 were conducted by the EPASD in April 2014. The EPASD provided the results of the video inspections to SLLI, which identified groundwater infiltration into two manholes, T23 and T27. Based on this finding, SLLI implemented a plan to repair the sewer manholes as described below.

### **Sanitary Sewer Manhole Repair**

- SLLI contracted with Michels Corporation (Michels) of Salem, Oregon to repair the leaks observed in manholes T23 and T27 and conduct a thorough inspection of all of the manholes on the 1990 Bay Road site. Michels provided the labor, equipment and materials to seal the active leaks and apply epoxy coating in pre-cast concrete manholes T23 and T27, and to inspect manholes T24, T25, T26, T28, and T29. Between August 4 and 7, Michels completed the manhole repairs and inspections. A letter report describing the implementation

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of the manhole repair was submitted to the EPASD on September 9, and is included in Appendix E. On August 12, approximately one week after the completion of the repair work, routine sewer sampling was conducted in manholes A22 and T23. The arsenic concentration detected in manhole T23 was 1.5 micrograms per liter ( $\mu\text{g/L}$ ) compared to a high of 14  $\mu\text{g/L}$  prior to repair. This August result, along with subsequent test results presented in Table 3, indicate that the repair work successfully mitigated the groundwater intrusion issues at the site.

- In January, the EPASD notified SLLI that sewer manhole T-26 on the Torres property was inaccessible. During paving work completed in 2002 by the property owner on the southern portion of the 1175 Weeks Street property, the contractor had paved over EPASD sanitary sewer manhole T-26. During the spring of 2014, the manhole was located and the overlying pavement was removed by Torres to allow access to the manhole. Following discussions with EPASD and Torres, SLLI agreed to raise the manhole lid to grade and repair the adjacent asphalt cap.

On August 22, 2014, Casey Construction (Redwood City, CA) completed the manhole modification. The existing steel rim and lid were lifted off and two 3.5 inch by 30 inch diameter concrete rings were installed. Additional concrete spacers were placed to reset the top of the rim slightly above flush with the surrounding asphalt. Concrete was hand-packed between the top-ring and the rim. Cement grout was placed on the inside of the manhole to seal the interior, and concrete was poured to a depth of 2 inches below grade around the exterior of the rings to provide structural support. Hot asphalt was placed and compacted to restore the surface around the manhole.

## Groundwater Monitoring

Site groundwater control using a subsurface barrier wall and phytoremediation continued in 2014. The groundwater monitoring program consists of biennial chemical performance monitoring and hydraulic performance monitoring with annual site-wide water-level measurements in April and quarterly water-level measurement at nine specified monitoring locations. Phytoremediation monitoring consists of inspections to monitor the health and growth of the site trees as well as biennial tissue sampling. Groundwater monitoring results are submitted to the RWQCB Geotracker database system annually. Results of annual and biennial groundwater and phytoremediation monitoring in 2014 are presented below.

- The most recent biennial groundwater sampling and monitoring event for the site occurred on April 17 and 18, 2014 and the results are included in Table 4 and shown on Figure 4. Arsenic concentrations in all perimeter monitoring wells remained below the 0.04 milligrams per liter ( $\text{mg/L}$ ) contingency action level. The laboratory analytical reports are included in Appendix F and the plots of historic arsenic concentration in monitoring wells are presented in Appendix G. As approved by the RWQCB on October 7, 2013, monitoring well M-9 was sampled as a perimeter monitoring well and well W-114 was sampled as an interior well.



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- During the quarterly monitoring events, which occurred on January 24, July 16, and October 28, 2014, water levels in nine wells, W-139 (A), W-140 (B), W-141 (C), P-8U, P-9L, P-10U, P-11L, P-12U, and P-13L, were measured. During the annual hydraulic monitoring event on April 17, water levels in 17 perimeter wells, 6 interior wells, 8 utility backfill monitoring points, 11 piezometers, 12 water level monitoring wells, 3 containment performance wells and 1 deep well were measured. This list uses the latest well nomenclature presented in the draft Revised ACCP, which was submitted to the RWQCB in April 2014. Water level monitoring results are presented in Table 5. Potentiometric surface maps for the upper and lower shallow groundwater zones are shown on Figures 5 and 6. The conversion of the field measurements to equivalent fresh-water groundwater elevations for wells with elevated salinity is presented in Table 6. Groundwater levels in the tidal marsh are influenced by the location of the tidal channels, which are groundwater discharge locations, and fluctuations in water levels in the tidal channels during the tidal cycle. As a result, in some locations groundwater flow patterns in the tidal marsh are complex. The water level in well W-127, which is located adjacent to a tidal channel, has consistently been higher than water levels in nearby wells. The water level elevation at this well was excluded from contouring.
- Inspections of the tamarisk and eucalyptus trees on the former non-tidal marsh and Torres properties were performed in April and October and growth measurements were collected in April. Tissue samples were collected on September 25. Tissue sample results were below levels of concern. No significant health issues were noted in the established trees during inspections. In general, the trees continue to thrive. However, the majority of the new eucalyptus trees planted in 2012 have been lost due to rodents (gophers and squirrels) chewing through their roots. Replacement trees are planned for installation in spring of 2015. Because the rodent activity appears to coincide with excessively moist soil, it is under consideration to eliminate watering of the replacement trees.
- The performance criterion for the barrier wall requires that the water levels at monitoring well W-141(C), within the barrier wall on the Torres property, must be lower than the water levels at monitoring wells W-139(A) and W-140(B), located at the ends of the barrier wall, on an average-annual basis. During 2014, the average of the water levels measured quarterly (Table 5) were 1.62, 1.82 and 1.52 feet above mean sea level in monitoring wells W-139(A), W-140(B) and W-141(C), respectively, which indicate that the performance criterion continues to be met.

### **Community Relations**

The following community relations activities occurred in 2014:

- In January, the CD containing important site documents that is maintained in the site document binder in the Information Repository in the East Palo Alto public library was updated.
- In January, during the site inspection it was noted that the City's contractors had tied into the storm drain system in the manhole at the end of Bay Road, near the storm drain outfall. An

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approximately 12-inch plastic corrugated pipe was installed through a crudely cut hole about 5 to 7 feet below grade in the manhole, which had not been properly sealed.

SLLI contacted the City's Deputy Director of Community Development, Sharon Jones, to discuss issues with the construction including the fact that it appeared that they had tied into SLLI's storm drain without any notification or discussion. On February 3, 2014, a letter was sent to Sharon Jones expressing concerns. In October it was confirmed that the City had sealed around the pipe connection to the manhole.

- On February 11, an SLLI representative attended a meeting of the City's General Plan Advisory Committee.
- On several occasions during 2014, SLLI met with or communicated with representatives of the EPASD and City Engineering and Planning staff regarding the potential realignment of the segment of the sanitary sewer that runs through the 1990 Bay Road site.
- On several occasions in 2014, SLLI met with or communicated with the City of East Palo Alto regarding various issues including the Bay Road Phase II project, the undergrounding of utilities on Bay Road, the Runnymede Storm Drain Phase II project, and the Groundwater Management Plan. Some of these meetings are described in more detail below.
  - On April 3, SLLI representatives met with City Engineer, Kamal Fallaha and Associate Engineer, Vivian Ma, and Greg Armendariz of Swinerton Management & Consulting to discuss the status and plans for the Bay Road Phase II project.
  - On May 22, SLLI representatives attended a project kickoff meeting for the undergrounding of utilities on Bay Road.
  - On June 25 SLLI representatives attended a site walk with the City's contractors and the utility representatives regarding undergrounding utilities on Bay Road.
  - On October 15, SLLI provided comments to the City on the City's 65% design package for the Bay Road Phase II project.
  - On October 21, SLLI representatives met with Acting City Manager Carlos Martinez and Kamal Fallaha to discuss various issues including the status of the Bay Road Phase II project, the comments on the design package, and the planned uses for SLLI properties and other properties on the 1990 Bay Road site.
  - On September 29 and December 4, SLLI representatives attended meetings on the City's groundwater management plan.
  - On December 17, SLLI representatives attended a meeting of the Public Works and Transportation Commission.
- In December, SLLI contracted with the County of San Mateo to allow the County to lease the 1990 Bay Road property for use as a temporary parking facility while the parking lot at 2415 University Avenue is unavailable due to construction. On December 12, an SLLI

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representative met with Mark Hahn, a project manager for the County of San Mateo Public Works Department, regarding the logistics for the temporary parking at the 1990 Bay Road property. The County is providing lighting, shuttle service to 2415 University Avenue, and security guards on site during hours of lot operation, 6am-12pm, Monday through Friday and 8am-6pm on Saturday. The County's use of the property as parking commenced on December 15<sup>th</sup>.

- During 2014, SLLI and the U.S. EPA contacted the U.S. Army Corps of Engineers to request formal close-out of the Army Corps file for the Cooley Landing Salt Pond restoration project. No formal close-out has been received to date.

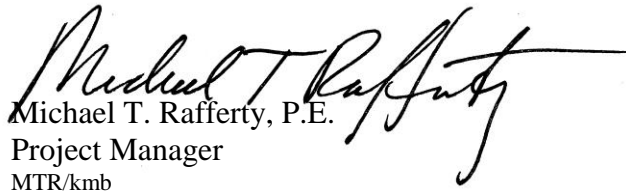
### **Technical Documents**

The following technical documents were submitted in 2014:

- |   |                    |
|---|--------------------|
| • 2013 Annual Summary and Groundwater Monitoring Report   | January 31, 2014   |
| • Five-Year Status Report   | March 31, 2014     |
| • Draft Comprehensive Tentative Order of Final Site Cleanup Requirements  | April 14, 2014     |
| • Comprehensive Site Management Plan  | April 16, 2014     |
| • Revised Aquifer Characterization and Contingency Plan   | April 16, 2014     |
| • Letter Report to EPASD-<br>Manhole Repair and Inspection Memo   | September 9, 2014  |
| • Letter Report to City of East Palo Alto - Arsenic Analytical<br>Results for Soil, Runnymede Storm Drain Improvement Project | September 18, 2014 |

Please contact the undersigned or Robert Ferguson at (919) 678-6086 if you have any questions or require additional information.

Sincerely,  
S.S. PAPADOPULOS & ASSOCIATES, INC.

  
Michael T. Rafferty, P.E.  
Project Manager  
MTR/kmb

Enclosures:

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Table 1 – 2014 Soil Sampling Results- Former Bains Property  
Table 2 – 2014 Soil Sampling Results- South of Runnymede  
Table 3 – 2014 Sanitary Sewer Monitoring Results  
Table 4 – Groundwater Chemistry Monitoring Results  
Table 5 – Groundwater Elevations, 2014 Monitoring Program  
Table 6 – Groundwater and Equivalent Fresh-Water Heads-April 2014  
Figure 1 – Site Location Map  
Figure 2 – Soil Sample Locations – Former Bains Property  
Figure 3 – Sanitary Sewer Monitoring Locations  
Figure 4 – Groundwater Chemistry Monitoring Results  
Figure 5 – Upper Shallow Groundwater Zone Water Levels, April 17, 2014  
Figure 6 – Lower Shallow Groundwater Zone Water Levels, April 17, 2014  
Appendix A – Analytical Reports for 2014 Soil Sampling on the Former Bains Property  
Appendix B – Letter Report to City of East Palo Alto- Arsenic Analytical Results for  
Soil, Runnymede Storm Drain Improvement Project  
Appendix C – Sewer Sampling Analytical Reports  
Appendix D – Sanitary Sewer Video Inspection Memo  
Appendix E – Letter Report to the East Palo Alto Sanitary District- Manhole Repair and  
Inspection Memo  
Appendix F – Field and Analytical Reports for Groundwater Chemistry Monitoring  
Appendix G – Arsenic Concentrations in Monitoring Wells

cc: (Electronic Only)

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## TABLES

**TABLE 1****2014 SOIL SAMPLING RESULTS  
FORMER BAINS PROPERTY  
ARSENIC CONCENTRATION**

1990 Bay Road Site  
East Palo Alto, California

<b>Sample ID<sup>1</sup></b>	<b>Sample Date</b>	<b>Analytical Result<sup>2</sup> (mg/kg)<sup>3</sup></b>
BA7-1	6/6/2014	5.7
BA7-2	6/6/2014	6.5
BA7-3	6/6/2014	6.0
BA7-4	6/6/2014	14
BA7-5	6/6/2014	4.9
BA7-6	6/6/2014	<2.7
BA7-7	6/6/2014	<3.0
BA7-8	6/6/2014	<3.6
BA7-9	6/6/2014	7.7
BA7-10	6/6/2014	6.4
BA7-11	6/6/2014	210
BA7-12	6/6/2014	6.4
BA7-13	6/6/2014	6.2
B-COMP-1 <sup>4</sup>	9/25/2014	15

**Notes:**

1. Sample locations for the former Bains property are shown on Figure 2.
2. Samples analyzed for arsenic by TestAmerica Laboratories of Pleasanton, California by EPA Method 6010B.
3. Results are shown in milligrams per kilogram (mg/kg)
4. B-COMP-1 is a composite sample of three sub-samples.

**TABLE 2**

**2014 SOIL SAMPLING RESULTS  
SOUTH OF RUNNYMEDE  
ARSENIC CONCENTRATION**

1990 Bay Road Site  
East Palo Alto, California

<b>Sample ID<sup>1</sup></b>	<b>Sample Date</b>	<b>Analytical Result<sup>2</sup> (mg/kg)<sup>3</sup></b>
Run-SD-1	9/12/2014	24
Run-SD-2	9/12/2014	21
Run-SD-3	9/12/2014	21
Run-SD-4	9/12/2014	4.9
Run-SD-5	9/12/2014	2.2
Run-SD-6	9/12/2014	4.2
Run-SD-7	9/12/2014	3.3
Run-SD-8	9/12/2014	2.1
Run-SD-9	9/12/2014	1.9
Run-SD-10	9/12/2014	1.8

Notes:

1. Each Runnymede Storm Drain sample is a composite of four sub-samples collected within an area of planned excavation.
2. Samples analyzed for arsenic by TestAmerica Laboratories of Pleasanton, California by EPA Method 6010B.
3. Results are shown in milligrams per kilogram (mg/kg)



**TABLE 3****2014 SANITARY SEWER MONITORING RESULTS**

1990 Bay Road Site  
East Palo Alto, California

Date Sampled	Arsenic Concentration (ug/l) <sup>1</sup>			
	A22 <sup>2</sup>	T23 <sup>2</sup>	T27 <sup>2</sup>	T28 <sup>2</sup>
1/31/2014	<2	13		
2/27/2014	1.2	14		
2/28/2014			17	1.6
3/28/2014	2	8.8		
4/24/2014	1.3	10		
6/18/2014 <sup>3</sup>	<1	8.7		
8/12/2014 <sup>3</sup>	1	1.5		
10/10/2014	1.2	1.6		
11/7/2014	1.2	1.5		
12/30/2014	1.3	1.2		

## Notes:

1. 24-hour composite samples collected by Field Solutions, Inc. and analyzed for arsenic by TestAmerica according to U.S. EPA Method 200.8. Results are shown in micrograms per liter (ug/l).
2. Sample locations are shown on Figure 3.
3. Repairs to manholes T27 and T23 were completed on August 5 and 6, 2014, respectively.

**TABLE 4**

**ANALYTICAL RESULTS**  
**BIENNIAL GROUNDWATER MONITORING PROGRAM**  
**APRIL 2014**  
1990 Bay Road Site  
East Palo Alto, California

<b>WELL NO.<sup>1</sup></b>	<b>ZONE<sup>2</sup></b>	<b>ARSENIC CONCENTRATION<sup>3</sup></b> milligrams per liter (mg/l)
<b>DEEP WELL</b>		
W-101	D	0.0006
<b>PERIMETER WELLS</b>		
M-9	U	0.013
W-102	L	<0.0002
W-105	U	0.0006
W-107	U	0.0004
W-110	L	0.0006
W-112	L	0.0007
W-121	U	0.0012
W-122	L	<0.0002
W-123	U	0.008
W-125	U	0.0006
W-126	L	0.0006
W-127	U	<0.0002
W-128	U	0.0009
W-129	U	0.013
W-137	UB	0.0047
W-142	L	<0.0002
W-143	UB	0.0008
<b>INTERIOR WELLS</b>		
W-114	U	0.045
W-115	U	0.028
W-115 DUP	U	0.045
WCC-09	L	0.95
WCC-09 DUP	L	0.92
WCC-10	U	4.3
WCC-11	L	0.0053
WCC-11 DUP	L	0.0053
M-4	U	0.19
<b>UTILITY BACKFILL MONITORING POINTS</b>		
W-130	UB	0.0017
W-130 DUP	UB	0.0013
W-131	UB	0.0019
W-132	UB	0.0019
W-133	UB	0.0027
W-134	UB	6.7
W-135A	UB	3.9
W-136	UB	0.04
W-138	UB	4.8
W-138 DUP	UB	5

**Notes:**

1. Location of wells shown on Figure 4.
2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower shallow zone; UB-utility backfill.
3. Samples collected by Blaine Tech Services on April 17 and 18, 2014 and analyzed by Exova of Santa Fe Springs, California by EPA Method 200.8 SOP7040, Rev 12

TABLE 5

**GROUNDWATER ELEVATIONS  
2014 MONITORING PROGRAM**

1990 Bay Road Site  
East Palo Alto, California

WELL NO. <sup>1</sup>	ZONE <sup>2</sup>	DATE	TIME	MEASURING POINT ELEVATION <sup>3</sup>	DEPTH BELOW MEASURING POINT <sup>4</sup>	WATER LEVEL ELEVATION
W-101	D	4/17/2014	9:56	6.62	3.52	3.10
<b>PERIMETER WELLS</b>						
M-9	U	4/17/2014	9:20	6.47	4.51	1.96
W-102	L	4/17/2014	2:09	8.22	6.57	1.65
W-105	U	4/17/2014	10:33	9.24	7.16	2.08
W-107	U	4/17/2014	9:44	10.19	8.09	2.10
W-110	L	4/17/2014	9:26	7.68	5.23	2.45
W-112	L	4/17/2014	9:36	6.88	4.45	2.43
W-121	U	4/17/2014	9:14	6.45	4.02	2.43
W-122	L	4/17/2014	9:55	5.78	3.68	2.10
W-123	U	4/17/2014	9:03	6.08	4.35	1.73
W-125	U	4/17/2014	10:18	6.93	4.58	2.35
W-126	L	4/17/2014	10:19	7.03	4.72	2.31
W-127	U	4/17/2014	10:00	6.99	4.59	2.40
W-128	U	4/17/2014	9:09	5.95	4.49	1.46
W-129	U	4/17/2014	8:58	6.57	5.34	1.23
W-137	UB	4/17/2014	9:29	4.46	3.69	0.77
W-142	L	4/17/2014	9:12	7.37	5.46	1.91
W-143	UB	4/17/2014	9:42	3.7	2.35	1.35
<b>INTERIOR WELLS</b>						
M-4	U	4/17/2014	9:15	6.24	4.24	2.00
W-114	U	4/17/2014	9:22	6.15	4.05	2.10
W-115	U	4/17/2014	8:55	6.32	4.54	1.78
WCC-09	L	4/17/2014	10:05	8.76	6.67	2.09
WCC-10	U	4/17/2014	10:07	8.6	6.4	2.20
WCC-11	L	4/17/2014	10:00	8.35	6.05	2.30
<b>WATER LEVEL MONITORING WELLS</b>						
C-26	U	4/17/2014	9:16	6.56	4.12	2.44
W-103	U	4/17/2014	10:11	8.04	6.12	1.92
W-104	L	4/17/2014	10:29	9.52	7.67	1.85
W-106	L	4/17/2014	9:50	10.52	8.4	2.12
W-111	U	4/17/2014	9:28	7.62	5.09	2.53
W-113	U	4/17/2014	9:33	6.86	4.52	2.34
W-118	U	4/17/2014	10:14	6.71	4.45	2.26
W-119	L	4/17/2014	10:16	6.81	4.48	2.33
W-120	L	4/17/2014	9:12	6.58	4.12	2.46
W-124	L	4/17/2014	9:06	5.84	4.05	1.79
WCC-06	U	4/17/2014	9:44	6.70	4.41	2.29
WCC-12	U	4/17/2014	9:58	8.48	6.45	2.03
<b>UTILITY BACKFILL MONITORING POINT</b>						
W-130	UB	4/17/2014	9:31	6.78	4.41	2.37
W-131	UB	4/17/2014	9:27	6.76	4.51	2.25
W-132	UB	4/17/2014	9:20	5.72	3.3	2.42
W-133	UB	4/17/2014	9:20	3.08	1.31	1.77
W-134	UB	4/17/2014	8:50	4.16	2.79	1.37
W-135A	UB	4/17/2014	8:44	6.42	5.03	1.39
W-136	UB	4/17/2014	9:39	2.70	1.68	1.02
W-138	UB	4/17/2014	9:14	6.80	5.28	1.52

TABLE 5

**GROUNDWATER ELEVATIONS  
2014 MONITORING PROGRAM**

1990 Bay Road Site  
East Palo Alto, California

WELL NO. <sup>1</sup>	ZONE <sup>2</sup>	DATE	TIME	MEASURING POINT ELEVATION <sup>3</sup>	DEPTH BELOW MEASURING POINT <sup>4</sup>	WATER LEVEL ELEVATION
<b>CONTAINMENT/PERFORMANCE WELLS</b>						
W-139(A)	U	1/24/2014	12:55	8.19	6.5	1.69
W-139(A)	U	4/17/2014	10:30	8.19	6.02	2.17
W-139(A)	U	7/16/2014	10:03	8.19	6.70	1.49
W-139(A)	U	10/28/2014	10:35	8.19	7.07	1.12
W-140(B)	U	1/24/2014	12:42	5.48	3.7	1.78
W-140(B)	U	4/17/2014	8:20	5.48	3.1	2.38
W-140(B)	U	7/16/2014	9:33	5.48	3.75	1.73
W-140(B)	U	10/28/2014	10:15	5.48	4.10	1.38
W-141(C)	U	1/24/2014	13:11	8.66	7.1	1.56
W-141(C)	U	4/17/2014	10:27	8.66	6.67	1.99
W-141(C)	U	7/16/2014	10:42	8.66	7.23	1.43
W-141(C)	U	10/28/2014	10:54	8.66	7.56	1.10
<b>PIEZOMETERS</b>						
P1	U	4/17/2014	8:32	9.97	7.65	2.32
P3	U	4/17/2014	8:34	9.73	7.49	2.24
P4	U	4/17/2014	8:46	9.71	7.54	2.17
P6	U	4/17/2014	8:32	9.98	7.81	2.17
P7	U	4/17/2014	9:40	6.29	3.91	2.38
P8	U	1/24/2014	13:16	8.19	6.69	1.50
P8	U	4/17/2014	10:16	8.19	6.16	2.03
P8	U	7/16/2014	10:32	8.19	6.80	1.39
P8	U	10/28/2014	10:58	8.19	7.13	1.06
P9	L	1/24/2014	13:20	8.2	6.82	1.38
P9	L	4/17/2014	10:20	8.2	6.32	1.88
P9	L	7/16/2014	10:37	8.20	6.94	1.26
P9	L	10/28/2014	11:02	8.20	7.23	0.97
P10	U	1/24/2014	13:01	7.77	6.01	1.76
P10	U	4/17/2014	10:30	7.77	5.55	2.22
P10	U	7/16/2014	10:11	7.77	6.12	1.65
P10	U	10/28/2014	10:44	7.77	6.47	1.30
P11	L	1/24/2014	13:02	7.77	6.07	1.70
P11	L	4/17/2014	10:28	7.77	5.63	2.14
P11	L	7/16/2014	14:35	7.77	6.18	1.59
P11	L	10/28/2014	12:55	7.77	6.39	1.38
P12	U	1/24/2014	12:49	7.34	5.53	1.81
P12	U	4/17/2014	10:19	7.34	4.94	2.40
P12	U	7/16/2014	9:44	7.34	5.62	1.72
P12	U	10/28/2014	10:23	7.34	6.02	1.32
P13	L	1/24/2014	12:47	7.22	5.41	1.81
P13	L	4/17/2014	10:22	7.22	4.84	2.38
P13	L	7/16/2014	9:54	7.22	5.50	1.72
P13	L	10/28/2014	10:29	7.22	5.90	1.32

## Notes:

1. Location of wells shown in Figures 5 and 6

2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower, shallow zone; UB-utility backfill.

3. Measuring point (MP) in feet NGVD. Elevations of wells were surveyed in September 2009 relative to site datum.

4. Water levels were measured on:

- January 24, 2014 by SSP&amp;A between 12:42 hours and 13:20. On that date, low tide near the Dumbarton Bridge occurred at approximately 10:03 hours reaching a height of approximately 2.37 feet above MLLW (-1.59 feet above NGVD).

- April 17, 2014 by SSP&amp;A between 8:20 hours and 10:30. On that date, low tide near the Dumbarton Bridge occurred at approximately 9:12 hours reaching a height of approximately -0.57 feet above MLLW (-4.53 feet above NGVD).

- July 16, 2014 by SSP&amp;A between 9:33 hours and 14:35. On that date, low tide near the Dumbarton Bridge occurred at approximately 10:40 hours reaching a height of approximately -0.62 feet above MLLW (-4.58 feet above NGVD).

- October 28, 2014 by SSP&amp;A between 10:15 hours and 12:55. On that date, low tide near the Dumbarton Bridge occurred at approximately 10:34 hours reaching a height of approximately 3.05 feet above MLLW (-0.91 feet above NGVD)

5. On April 17, 2014 depths to groundwater were remeasured by SSP&amp;A in wells W-137 (3.69 instead of 3.63), WCC-09 (6.67 instead of 6.56) P11 (5.63 instead of 5.75). On July 16, depth to groundwater was remeasured in well P11 (6.18 instead of 5.93 at 10:15). On October 28, depth to groundwater was remeasured in well P-11 (6.39 at 12:55 instead of 6.18 at 10:41)

TABLE 6

## GROUNDWATER AND EQUIVALENT FRESH-WATER HEADS - APRIL 2014

1990 Bay Road Site  
East Palo Alto, California

Aquifer Zone	Well No.	Groundwater Elevation ( feet NGVD)	Parameters Used in Calculating Equivalent Fresh-Water Heads					Equivalent Fresh- Water Heads <sup>4</sup> (feet NGVD)
			Specific Conductance <sup>2</sup> (uS/cm)	TDS Concentration <sup>3</sup> (mg/L)	Groundwater Density <sup>4</sup> (g/ml)	Groundwater Specific Gravity (unitless)	Top of Well Screen Elevation (feet NGVD)	
Upper Shallow Zone	M-4	2.00	26750	18190	1.0110	1.0110	-1.78	2.04
	M-9	1.96	42080	28614	1.0182	1.0182	-4.07	2.07
	W-103	1.92	14650	9962	1.0053	1.0053	-1.30	1.94
	W-114	2.10	40710	27683	1.0175	1.0175	-2.40	2.18
	W-115	1.78	40720	27690	1.0175	1.0175	-3.20	1.87
	W-123	1.73	47900	29145	1.0186	1.0186	-3.80	1.83
	W-127	2.40	47900	32572	1.0209	1.0209	0.47	2.44
Lower Shallow Zone	W-129	1.23	38200	25976	1.0164	1.0164	-3.26	1.30
	P-9L	1.88	NA	22025	1.0136	1.0136	-18.80	2.16
	P-11L	2.14	NA	24789	1.0155	1.0155	-19.73	2.48
	P-13L	2.38	NA	8363	1.0042	1.0042	-17.78	2.47
	W-102	1.65	33041	22468	1.0139	1.0139	-17.79	1.92
	W-104	1.85	29500	20060	1.0123	1.0123	-24.49	2.17
	W-106	2.12	9330	6344	1.0028	1.0028	-17.97	2.18
	W-110	2.45	24666	16773	1.0100	1.0100	-13.02	2.60
	W-112	2.43	22712	15444	1.0091	1.0091	-19.20	2.63
	W-119	2.33	9100	6188	1.0027	1.0027	-13.21	2.37
	W-120	2.46	8300	5644	1.0023	1.0023	-12.93	2.50
	W-122	2.10	38080	25894	1.0163	1.0163	-23.30	2.51
	W-124	1.79	35400	24072	1.0151	1.0151	-20.30	2.12
	W-126	2.31	17835	12128	1.0068	1.0068	-19.49	2.46
	W-142	1.91	37100	25228	1.0158	1.0158	-20.63	2.27
	WCC-09	2.09	23539	16007	1.0095	1.0095	-17.24	2.27
	WCC-11	2.30	10654	7245	1.0034	1.0034	-15.65	2.36

## Notes:

1. This table contains the Equivalent Fresh-Water Heads for wells with elevated salinity.
2. Specific Conductance obtained from most recent well sampling records (2014 or earlier).
3. TDS (mg/L) = 0.68 Specific Conductance (uS/cm) (Hem, 1985. Study and Interpretation of the Chemical Characteristics of Natural Waters, USGS Water Supply Paper no. 2254) or measured values in piezometers P-9L, P-11L, and P-13L.
4. Groundwater Density (g/mL) =  $6.89798 \times 10^{-7} \times (\text{TDS mg/L}) + 0.99844$  (relationship obtained for a 0.1 to 3.2% solution of Sodium Chloride, Weast, R.C. ed. 1978. Handbook of Chemistry and Physics (59th ed.). West Palm Beach, FL: CRC Press. p. D-299)
5. Equivalent Fresh-Water Head:  $h' = [(sg \times h) + (1 - sg)z]$ ; where h = measured water level elevation (feet NGVD), sg = specific gravity, z = elevation of top of well screen (feet NGVD).

## FIGURES



Basemap from USGS National Map  
Palo Alto and Mountain View, California  
Quadrangle 2012



0 1000 2000



SCALE IN FEET

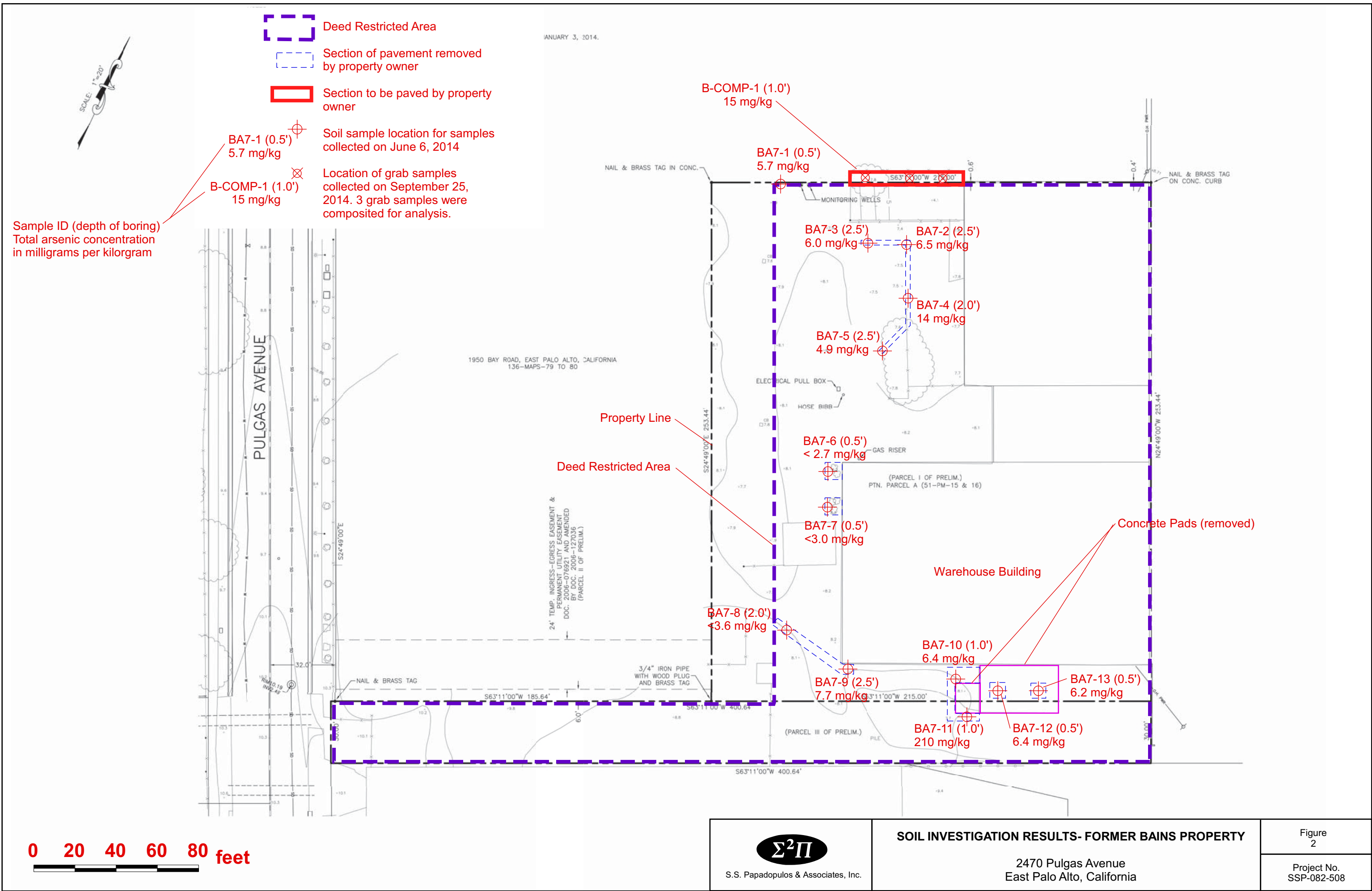


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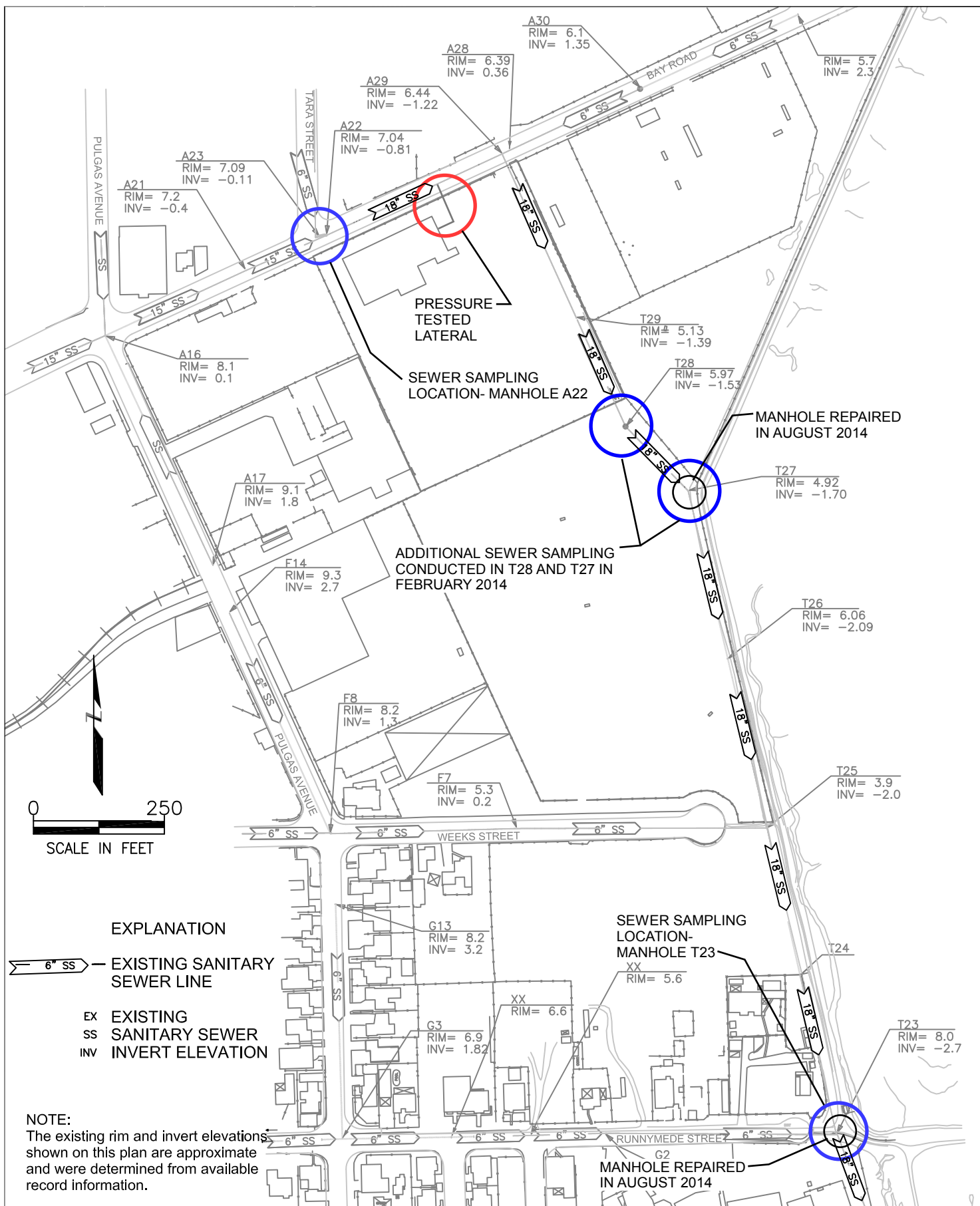
#### SITE LOCATION MAP

1990 Bay Road Site  
East Palo Alto, California

Figure 1





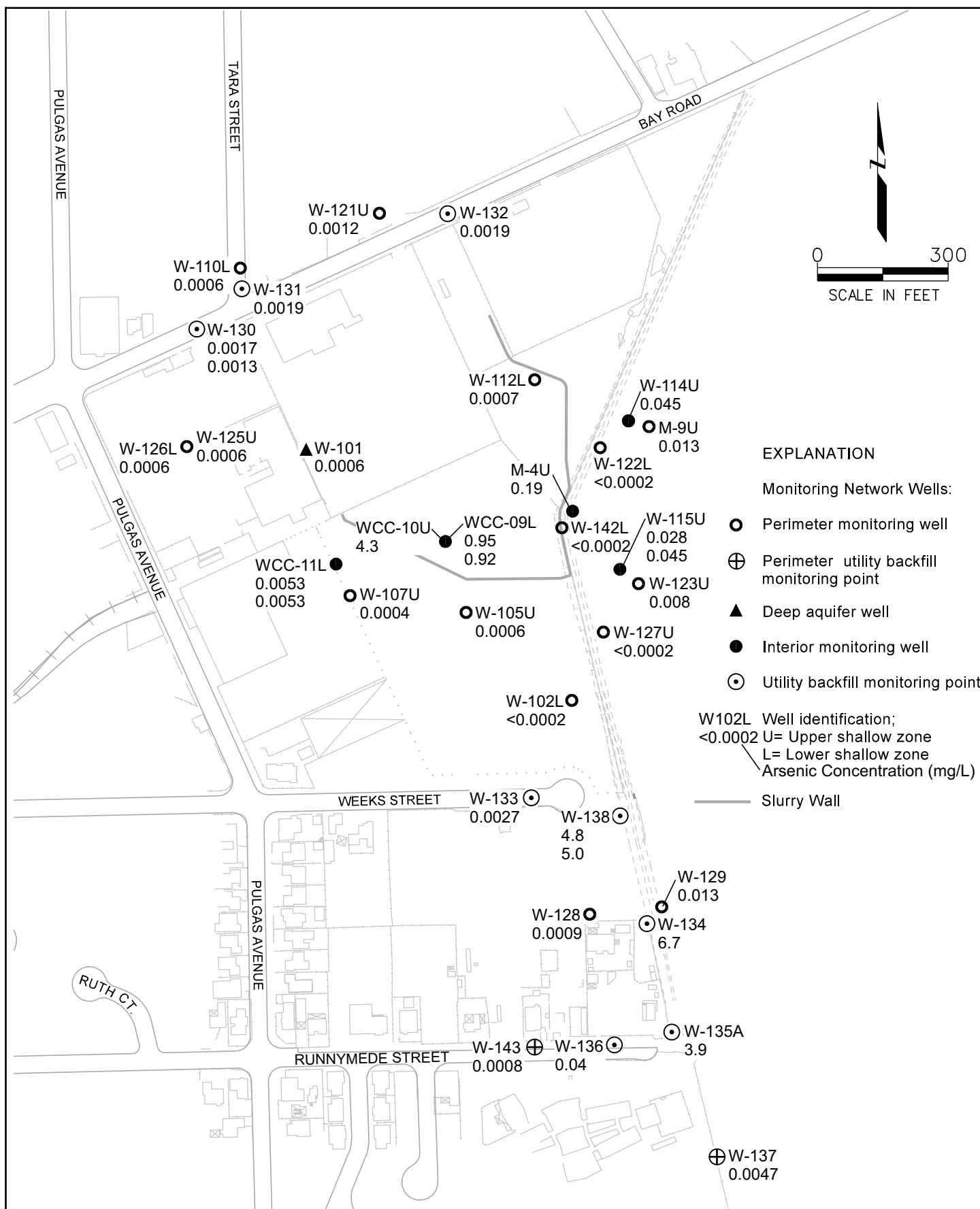


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### SANITARY SEWER MONITORING LOCATIONS

1990 Bay Road Site Vicinity  
East Palo Alto, California

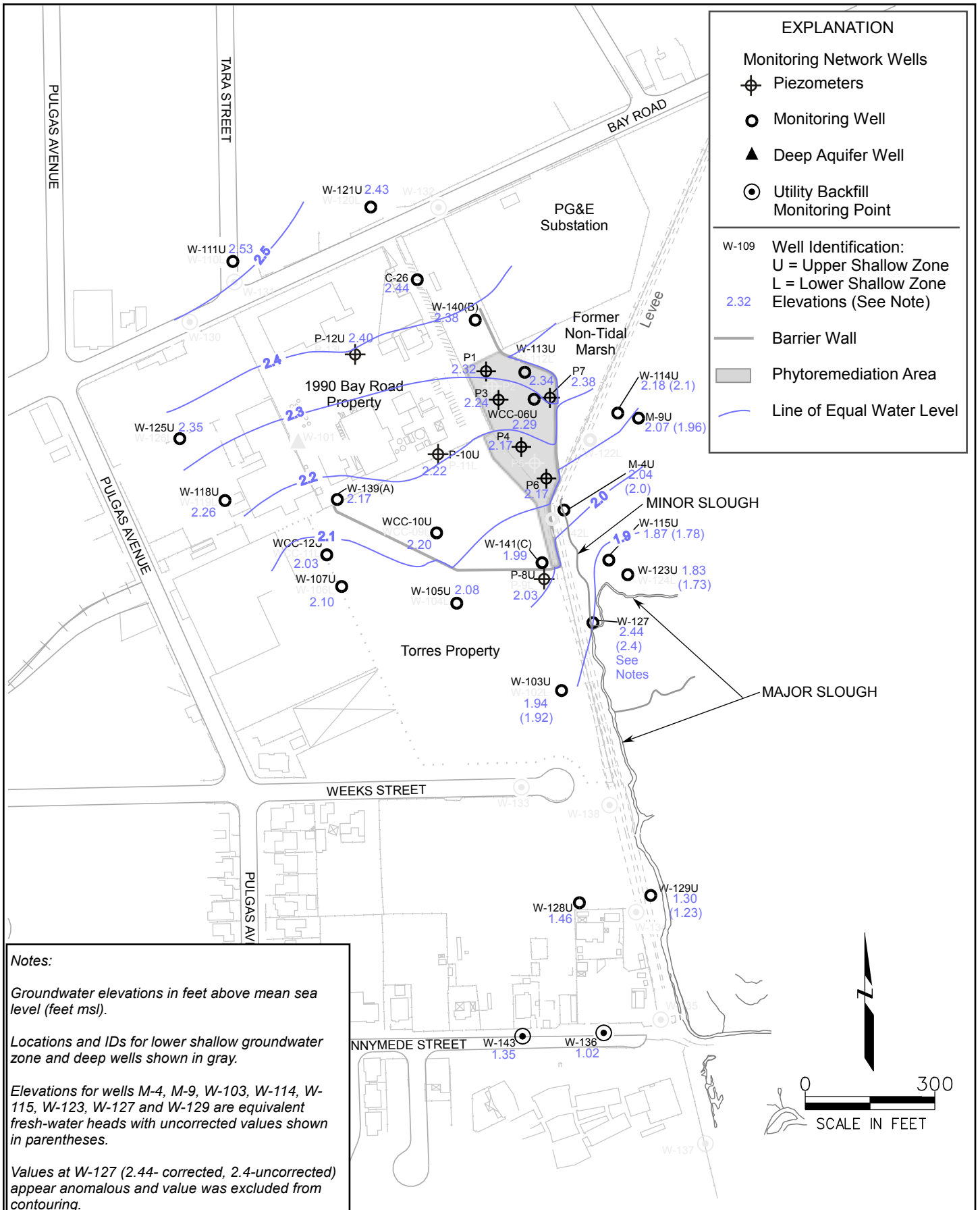
Figure 3



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**GROUNDWATER MONITORING NETWORK  
 ARSENIC MONITORING RESULTS APRIL 2014**  
 1990 Bay Road Site  
 East Palo Alto, California

**Figure 4**



S.S. Papadopoulos & Associates, Inc.

1990 Bay Road Site Vicinity  
 East Palo Alto, California

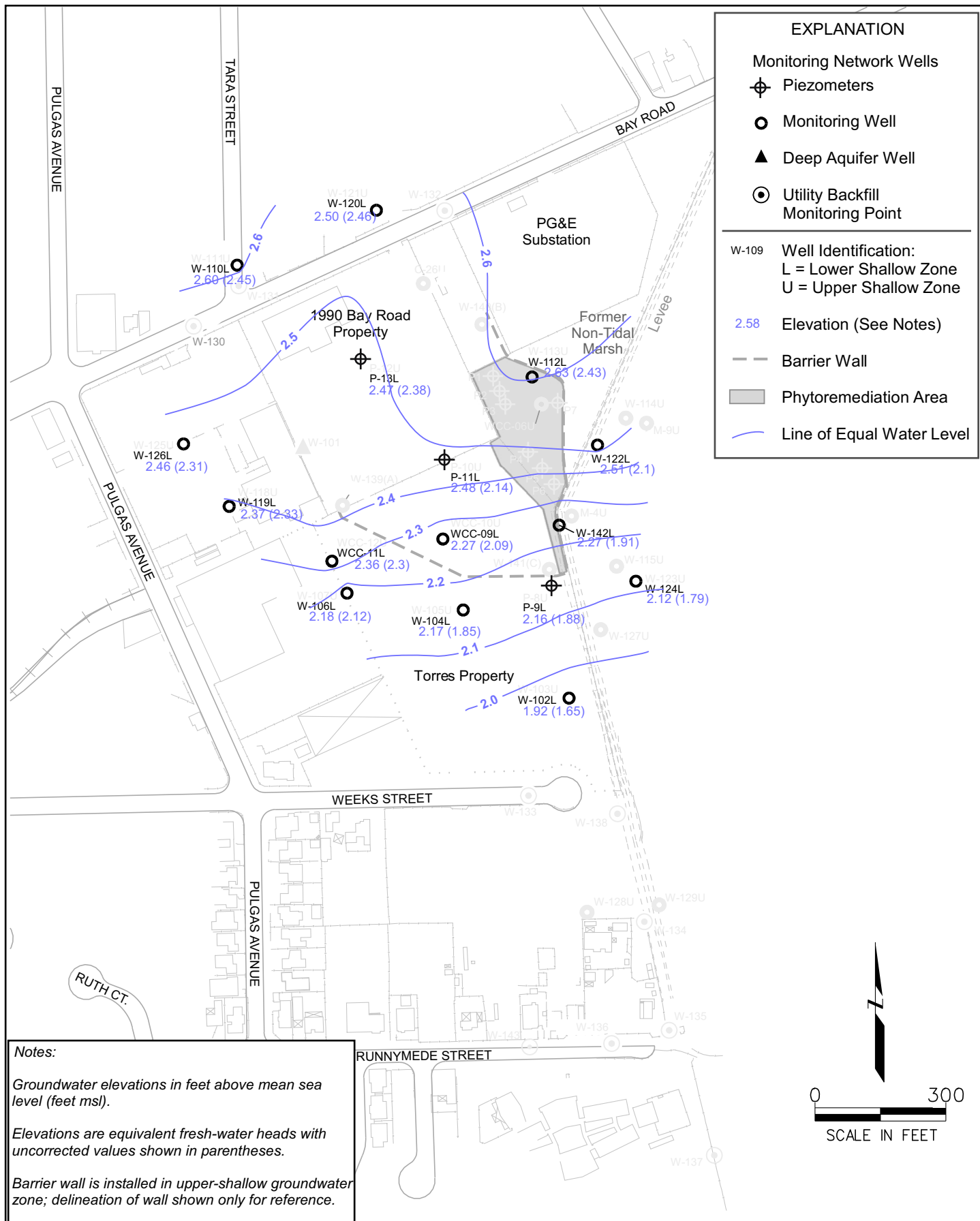



Figure 6



## 4 – 1990 Bay Road & South – 2012 Groundwater Sampling Results

**TABLE 1**

**ANALYTICAL RESULTS**  
**BIENNIAL GROUNDWATER MONITORING PROGRAM**  
**APRIL 2012**  
1990 Bay Road Site  
East Palo Alto, California

Concentrations reported in milligrams per liter (mg/l)

WELL NO. <sup>1</sup>	ZONE <sup>2</sup>	2012 ARSENIC <sup>3</sup>
<b>DEEP WELL</b>		
W-101 <sup>4</sup>	D	<0.001
<b>PERIMETER WELLS</b>		
W-102	L	<0.001
W-105	U	<0.001
W-107	U	<0.001
W-110	L	<0.001
W-112	L	<0.001
W-114	U	0.04
W-121	U	<0.001
W-122	L	<0.001
W-123	U	0.011
W-125	U	<0.001
W-126	L	<0.001
W-127	U	<0.001
W-128	U	<0.001
W-129	U	0.009
W-137	UB	0.045
W-142	L	<0.001
W-143	UB	<0.001
<b>INTERIOR WELLS</b>		
W-115	U	0.03
W-115 DUP	U	0.031
WCC-09	L	1.7
WCC-09 DUP	L	1.71
WCC-10	U	5.61
WCC-11	L	0.011
WCC-11 DUP	L	0.023
M-4	U	0.204
<b>UTILITY BACKFILL MONITORING POINT</b>		
W-130	UB	<0.001
W-130 DUP	UB	<0.001
W-131	UB	<0.001
W-132	UB	<0.001
W-133	UB	<0.001
W-134	UB	6.65
W-135	UB	
W-135A		5.28
W-135A DUP		
W-136	UB	0.003
W-138	UB	4.73
W-138 DUP	UB	5.24
<b>OTHER WELL</b>		
M-9	U	0.013

**Note:**

1. Location of wells shown on Figure 1.
2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower shallow zone; UB-utility backfill.
3. Samples collected by Blaine Tech Services on April 24 and 25, 2012 and analyzed by Exova (West Coast Analytical Services) of Santa Fe Springs, California by EPA Method 200.8 with helium collision gas (SOP 7040 rev12).
4. Deep monitoring well W-101 was under flowing artesian condition at the time of sampling.



## 5 – Runnymede Street – 2015 Soil Sampling



**S.S. PAPADOPULOS & ASSOCIATES, INC.**  
**ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS**

September 18, 2014

Mr. Kamal Fallaha  
City Engineer  
City of East Palo Alto  
1960 Tate Street  
East Palo Alto, CA 94303

Subject:       **Arsenic Analytical Results for Soil**  
                  **Runnymede Storm Drain Improvement Project**

Dear Mr. Fallaha:

On behalf of StarLink Logistics, Inc. (SLLI), S.S. Papadopoulos & Associates (SSP&A) is writing to present the results of recent soil sampling that was conducted to determine arsenic concentrations in the areas to be excavated for Phase II of the City of East Palo Alto's Runnymede Storm Drain improvements project.

The soil samples were collected on Friday, September 12, 2014 after the City drained the pond at O'Connor Street sufficiently to allow access for sampling. Ten samples (Run-SD-1 to -10) were collected for analysis in the areas shown on Figure 1. Each sample analyzed was a composite of four sub-samples collected within the area. Samples were collected to a depth of approximately 2 feet below ground surface, except in areas Run-SD-6 and Run-SD-10, which were collected to approximately 1.5 feet below ground surface. The sample areas approximate the extent of planned excavation based on design documents for the project.

The samples were analyzed for arsenic at the TestAmerica Laboratories, Inc. in Pleasanton, California. The lab reports are attached and the results, summarized in Table 1, show a range of arsenic concentrations in the soil samples from 1.8 to 24 mg/kg. These results are similar to the results of the soil investigations performed in this area between 1996 and 1998. These new data have been reviewed with Mark Johnson of the California Regional Water Quality Control Board, San Francisco Region, and Mr. Johnson agrees that the low arsenic levels detected will not impact worker health and safety or limit soil disposal options for this project.

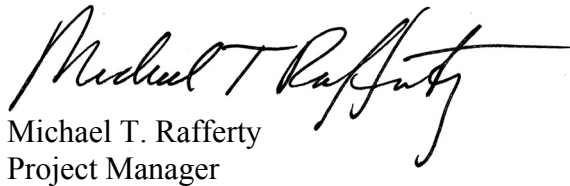


Mr. Kamal Fallaha  
September 18, 2014  
Page 2

Please call if you have any questions or concerns.

Sincerely,

S.S. PAPADOPULOS & ASSOCIATES, INC.

A handwritten signature in black ink, reading "Michael T. Rafferty".

Michael T. Rafferty  
Project Manager

MR/kb

Enclosures:

Table 1 – Sampling Results Summary  
Figure 1 – Soil Sample Areas and Results  
Analytical Laboratory Report

CC: Robert Ferguson, SLLI  
Mark Johnson, RWQCB  
Maziar Bozorginia, City of East Palo Alto

**TABLE 1**

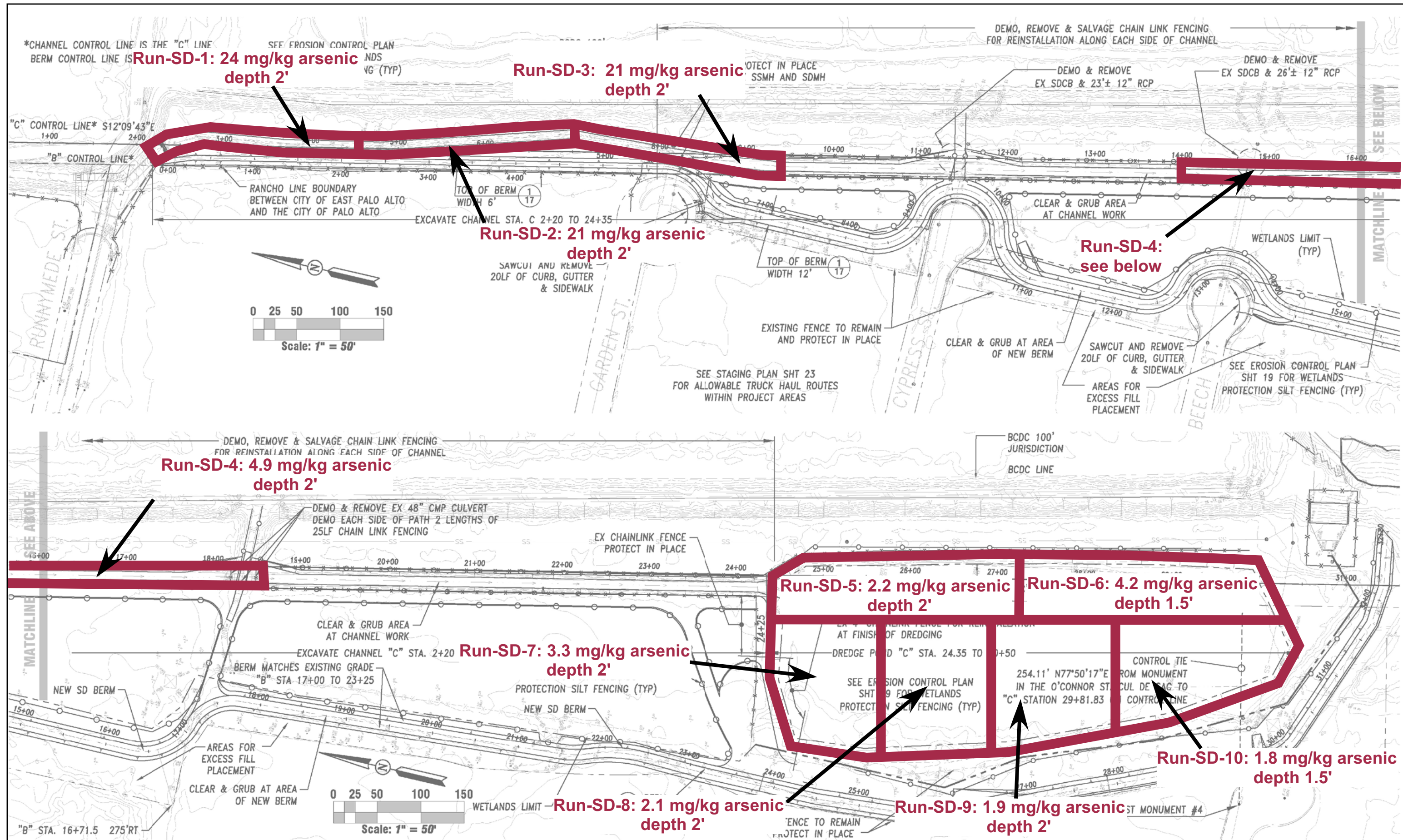
**RUNNYMEDE STORM DRAIN COMPOSITE SAMPLING RESULTS**  
**ARSENIC CONCENTRATION**

1990 Bay Road Site  
East Palo Alto, California

<b>Sample ID<sup>1</sup></b>	<b>Sample Date</b>	<b>Analytical Result<sup>2</sup></b> <b>(mg/kg)<sup>3</sup></b>
Run-SD-1	9/12/2014	24
Run-SD-2	9/12/2014	21
Run-SD-3	9/12/2014	21
Run-SD-4	9/12/2014	4.9
Run-SD-5	9/12/2014	2.2
Run-SD-6	9/12/2014	4.2
Run-SD-7	9/12/2014	3.3
Run-SD-8	9/12/2014	2.1
Run-SD-9	9/12/2014	1.9
Run-SD-10	9/12/2014	1.8

Notes

1. Each sample is a composite of four sub-samples collected within an area to be excavated. Sample areas shown on Figure 1.
2. Samples analyzed for arsenic by TestAmerica Laboratories of Pleasanton, California by EPA Method 6010B.
3. mg/kg- milligrams per kilogram



2014 COMPOSITE SOIL SAMPLE AREAS AND RESULTS

1990 Bay Road Site  
East Palo Alto, California

Figure 1



S.S. Papadopoulos & Associates, Inc.



## 6 – Table 1 – Cleanup Goals (RWQCB Nos. 92-037 & -086)

**Table 1 – Cleanup Goals**

Chemicals of Concern	Soil ESL – Direct Exposure Human Health Risk Levels (Commercial/Industrial Shallow Soil Exposure- Table S-1) (mg/kg)	Soil ESL – Direct Exposure Human Health Risk Levels (Any Land Use/ Any Depth Soil Exposure: Construction Worker - Table S-1) (mg/kg)	Groundwater ESL-Direct Exposure Human Health Risk Levels (Table GW-1) MCL Priority (µg/L)	Subslab/Soil Gas Vapor Intrusion ESL Human Health Risk Level (Table SG-1) Commercial/Industrial (µg/m <sup>3</sup> )
Arsenic	11*	11*	10	NL
Cadmium	580	43	5	NL
Chromium (total)	NL	NL established	50	NL
Chromium VI	6.2	2.8	10	NL
Copper	47,000	14,000	1,000	NL
Lead	320	160	15	NL
Nickel	11,000	86	100	NL
Dieldren	0.17	1.1	0.00071	NL
TPHg	3,900	7,400	220	2,500,000
TPHd	1,100	8,800	150	570,000
TPHmo	140,000	32,000	150**	NL
Benzene	1.0	24	1.0	420
1,1-DCA	17	390	5.0	7,700
PCE	2.7	33	5.0	2,100
TCE	8.0	22	5.0	3,000
Cis-1-2DCE	90	82	6.0	35,000
Vinyl chloride	0.15	3.4	0.5	160
Toluene	4,600	4,100	40	1,300,000
Ethylbenzene	22	480	30	4,900
Total xylenes	2,400	2,400	20	440,000
MTBE	180	3,700	5.0	47,000
PCB	1	5.6	5.0	NL

**Notes:**

\*Duverge-Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region (Duverge, 2011)

\*\*If detections are degradates (not NAPL), add TPHmo and TPHd results and compare to TPHd criterion (150 µ/L)(RWQCB, 2016)

mg/kg = milligrams per kilograms

µg/L = micrograms per liter

DCA = dichloroethane

DCE = dichloroethene

PCE = tetrachloroethylene

TCE = trichloroethylene

TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

TPHmo = Total petroleum hydrocarbons as motor oil

PCB = Polychlorinated biphenyls

MTBE = Methyl tert-butyl ether

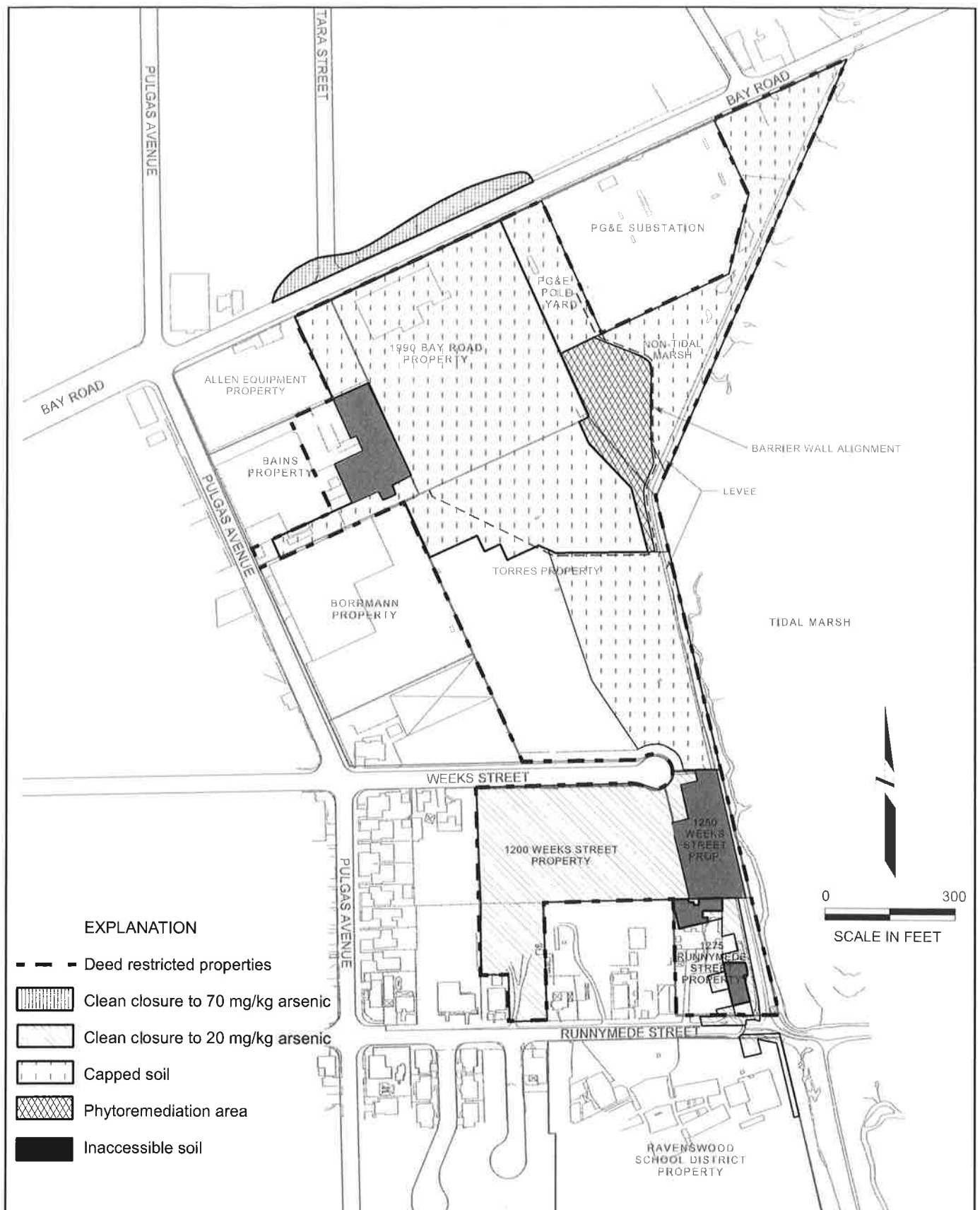
NL = Not listed (not established)

ESLs-San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, February 2016



## 7 – RWQCB Order No. R2-2016-0037 – Arsenic Map





S.S. Papadopoulos & Associates, Inc.

### CURRENT STATUS OF REMEDIATION

1990 Bay Road Site  
East Palo Alto, California

**Figure 5**



# APPENDIX B

## Soil and Groundwater Sample Locations and Data for the Site



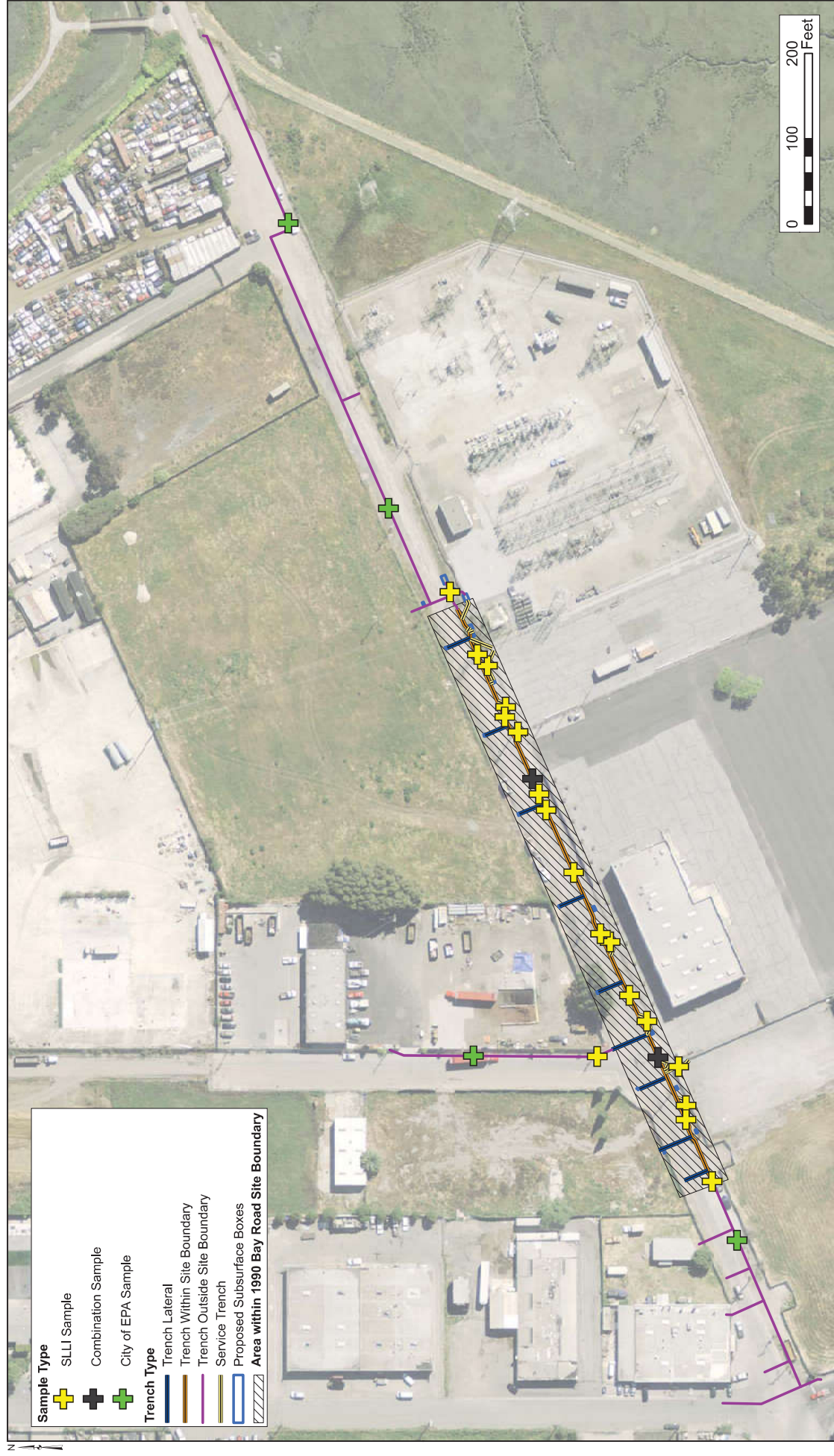


Figure 1 Proposed Pre-Characterization Sample Locations

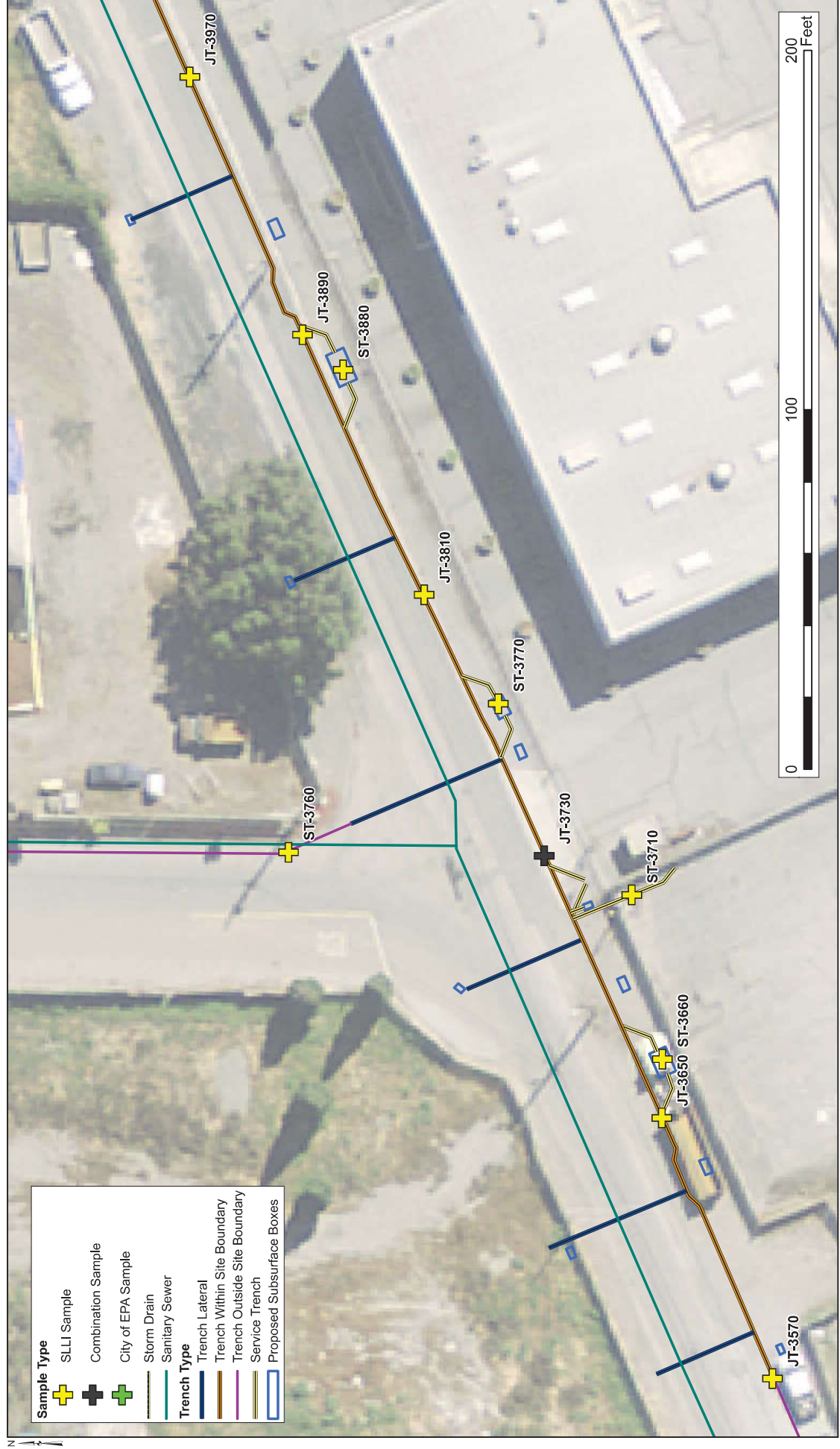
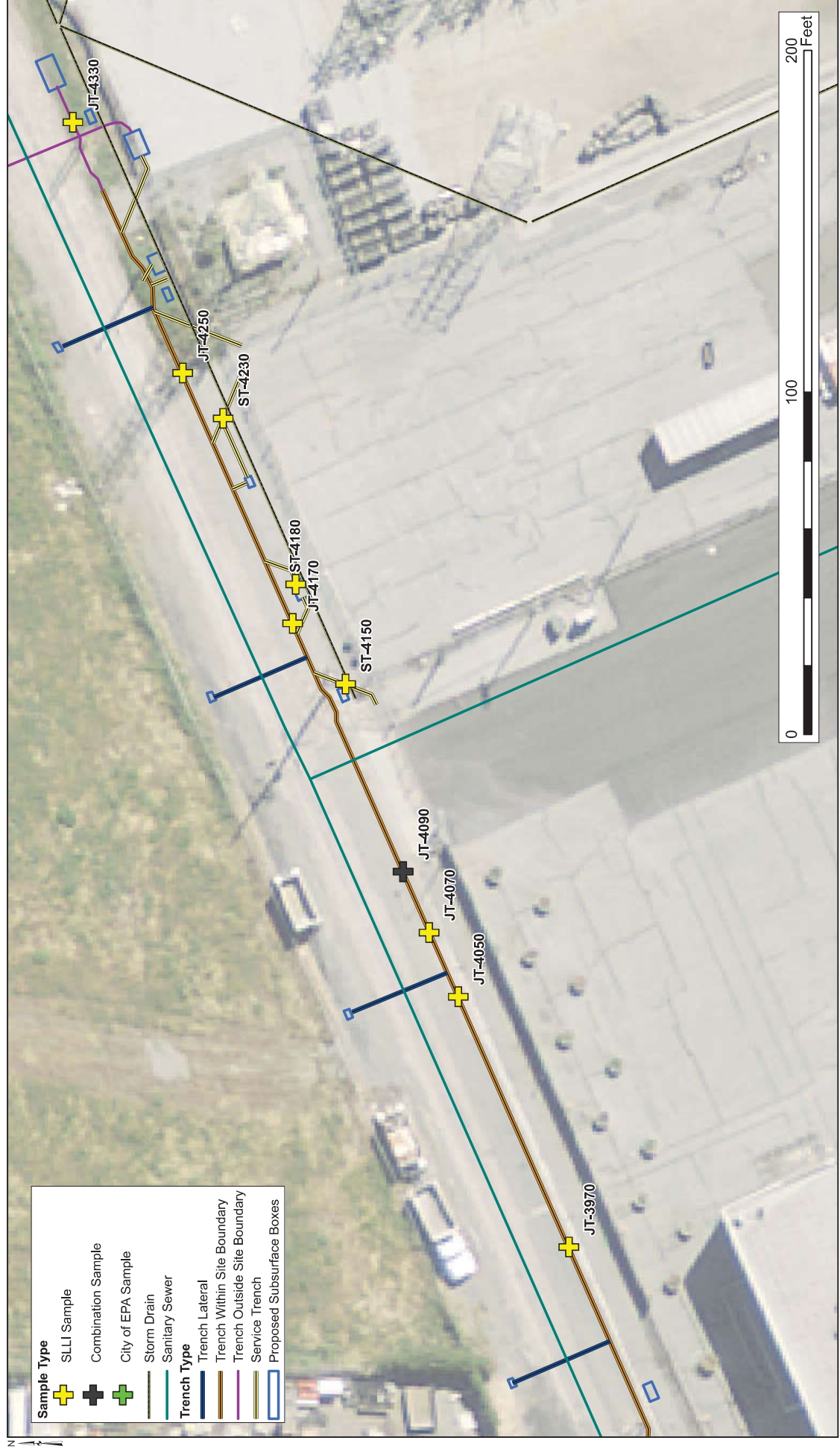


Figure 2 Proposed Pre-Characterization Sample Locations- Western Extent of Samples within 1990 Bay Road Site Boundaries





**Figure 3** Proposed Pre-Characterization Sample Locations- Eastern Extent of Samples within 1990 Bay Road Site Boundaries

**Table 1 - Total Petroleum Hydrocarbons as Diesel, Motor Oil and Gasoline and Volatile Organic Compounds Soil Sample Analytical Results**

Sample Identification	Sample Date	mg/kg		µg/kg		
		TPHd	TPHmo	TPHg	Tetrachloroethene	All other VOCs
JT-3730	9/21/2016	14	ND<50	ND<180	42	ND
JT-4090	9/21/2016	250	890	ND<190	ND<3.8	ND
JT-3490	9/21/2016	9.1	23	ND<190	120	ND
ST-3780	9/21/2016	200	700	ND<190	ND<3.8	ND
JT-4450	9/21/2016	58	200	ND<210	ND<4.1	ND
JT-4800	9/21/2016	100	380	ND<200	ND<4.0	ND
Construction Worker Direct Exposure ESL <sup>a</sup>		880	32,000	2,800	33,000	ND
Ten (10) Times the STLC <sup>b</sup>		NE	NE	NE	NE	ND
Twenty (20) Times the TCLP <sup>c</sup>		NE	NE	NE	14,000	ND

**Notes:**

<sup>a</sup>San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, December 2013, revised February 2016 (rev3).

<sup>b</sup>STLC - Soluble Threshold Limit Concentration, Official California Code of Regulations (CCR), Title 22, Division 4.5, Ch. 11, Characteristics of Hazardous Waste, established in milligrams per liter (mg/l).

<sup>c</sup>TCLP - Toxicity Characteristic Leaching Procedure, Resource Conservation and Recovery Act (RCRA), established in milligrams per liter (mg/l).

Total petroleum hydrocarbons as gasoline (TPHg) and volatile organic compounds (VOCs) analyzed using USEPA Method 8260B; only detected VOCs listed in table above, please refer to analytical laboratory report for complete list of VOCs analyzed.

Total petroleum hydrocarbons as diesel (TPHd) and as motor oil (TPHmo) analyzed using USEPA Method 8015B.

A **BOLD** concentration indicates exceedance of site-specific reuse goals or Tier 1 ESLs.

µg/kg-micrograms per kilograms

Analytical results reported on a dry-weight basis

ND<X - not detected at a concentration greater than the laboratory reporting limit of X

NE - Not established

Table 2 - California Title 22 Metals, Herbicides & Asbestos Soil Sample Analytical Results															
Sample Identification	Sample Date	ANALYTICAL RESULTS												Herbicides (µg/kg)	Asbestos (percent)
		Metals (mg/kg)													
		Arsenic <sup>a</sup>	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	Mercury	All Other Metals		
JT-3570	9/21/2016	ND<3.7	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3650	9/21/2016	13	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3660	9/21/2016	20	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3710	9/21/2016	100	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3720	9/21/2016	4.6	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3730	9/21/2016	44/31*	140	1.0	31	7.4	19	16	37	30	53	0.089	ND	ND	ND<0.25
ST-3770	9/22/2016	26	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3810	9/23/2016	19	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3880	9/21/2016	16	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3890	9/21/2016	38	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3970	9/21/2016	52	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4050	9/21/2016	79	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4070	9/21/2016	11	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-4150	9/21/2016	37	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4170	9/21/2016	12	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4180	9/21/2016	13	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-4230	9/21/2016	7.8	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4250	9/21/2016	12	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4330	9/21/2016	10	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4090	9/21/2016	5.7/7.5*	120	ND<0.32	30	7.0	22	7.3	34	34	45	0.083	ND	ND	ND<0.25
JT-3490	9/21/2016	6.9	120	0.53	35	11	33	25	37	44	60	0.11	ND	---	ND<0.25
ST-3780	9/21/2016	3.4	110	1.2	40	7.6	25	23	35	31	47	0.075	ND	---	ND<0.25
JT-4450	9/21/2016	13	140	1.1	32	7.1	24	33	37	31	65	0.22	ND	---	ND<0.25
JT-4800	9/21/2016	5.2	110	ND<0.34	57	8.8	26	16	46	37	47	0.12	ND	---	ND<0.25
Construction Worker Direct Exposure ESL <sup>d</sup>		0.98	3,000	43	NE	28	14,000	160	86	470	110,000	44	NE	NE	NE
Ten (10) Times the STLC <sup>b</sup>		50	1,000	10	50	800	250	50	200	240	2,500	2.0	NE	NE	NE
Twenty (20) Times the TCLP <sup>c</sup>		100	2,000	20	100	NE	NE	100	NE	NE	NE	4.0	NE	NE	NE
Notes:															
<sup>a</sup> Cleanup goal for arsenic in soil outside of the 1990 Bay Road site limits was established at 20 mg/kg by Regional Water Control Board Order No. R2-2016-0037.															
<sup>b</sup> STLC - Soluble Threshold Limit Concentration, Official California Code of Regulations (CCR), Title 22, Division 4.5, Ch. 11, Characteristics of Hazardous Waste, established in milligrams per liter (mg/l).															
<sup>c</sup> TCLP - Toxicity Characteristic Leaching Procedure, Resource Conservation and Recovery Act (RCRA), established in milligrams per liter (mg/l).															
<sup>d</sup> San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB). Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, November 2007, revised February 2016 (rev3).															
A <b>BOLD</b> concentration indicates exceedance of regulatory screening levels (10 times the STLC, STLC itself if compared to "Lead WET" result), or site-specific reuse goals or Tier 1 ESLs.															
An <u>UNDERLINED</u> concentrations indicates exceedance of 20 times the TCLP.															
Gray shading indicates the concentration is greater than the cleanup goal of 20 mg/kg.															
California Title 22 Metals analyzed using USEPA Method 6010B/7471A															
mg/kg - milligrams per kilogram; analytical results reported on a dry-weight basis															
µg/kg-micrograms per kilograms															
ND<X - not detected at a concentration greater than the laboratory reporting limit of X															
NE - Not Established															
--- Not analyzed															
<sup>F1</sup> - MS and/or MSD recovery outside acceptable limits. The results were validated because the laboratory control sample (LCS) was within the control limits.															
<sup>F2</sup> - MS/MSD RPD exceeds control limits. The results were validated because the laboratory control sample (LCS) was within the control limits.															
* - First result listed was analyzed at request of Ninyo & Moore and the second result listed was analyzed at request of S.S. Papadopoulos & Associates															

**Table 3 - Organochlorine Pesticides, Polychlorinated Biphenyls, and Semivolatile Organic Compounds Soil Sample Analytical Results**

Sample Identification	Sample Date	Organochlorine Pesticides									Polychlorinated Biphenyls		SVOCs (mg/kg)
		(µg/kg)											
		Dieldrin	Heptachlor epoxide	4,4'-DDT	4,4'-DDE	4,4'-DDD	Chlordane (technical)	alpha-Chlordane	gamma-Chlordane	All Other OCPs	PCB-1260	All Other PCBs	
JT-3730	9/21/2016	3.9	ND<1.9	6.8	3.6	ND<1.9	ND<39	ND<1.9	2.4	ND	56	ND	ND
JT-4090	9/21/2016	3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<78	ND<3.9	4.1	ND	ND<49	ND	ND
JT-3490	9/21/2016	2.1	ND<2.0	4.5	2.6	ND<2.0	ND<40	ND<2.0	2.5	ND	ND<50	ND	ND
ST-3780	9/21/2016	3.7	64	8.6	6.2	ND<2.0	<u>620</u>	120	95	ND	ND<49	ND	ND
JT-4450	9/21/2016	2.4	ND<2.0	9.9	6.4	ND<2.0	ND<39	2.0	8.6	ND	ND<49	ND	ND
JT-4800	9/21/2016	ND<2.0	ND<2.0	ND<2.0	3.3	5.9	ND<40	ND<2.0	ND<2.0	ND	ND<50	ND	ND
Construction Worker Direct Exposure ESL <sup>b</sup>		1,100	1,900	57,000	57,000	81,000	14,000	NE	NE	NE	5,600	5,600	NE
Ten (10) Times the STLC <sup>e</sup>		8,000	4,700	1,000	1,000	1,000	2,500	NE	NE	NE	50,000	50,000	NE
Twenty (20) Times the TCLP <sup>e</sup>		NE	160	NE	NE	NE	600	NE	NE	NE	NE	NE	NE

**Notes:**

<sup>a</sup>Soil Management Plan (SMP), MacArthur Transit Village, Iris Environmental, July 2013, revised December 2013.

<sup>b</sup>San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, December 2013, revised February 2016 (rev3).

Total petroleum hydrocarbons as gasoline (TPHg) and volatile organic compounds (VOCs) analyzed using USEPA Method 8260B; only detected VOCs listed in table above, please refer to analytical laboratory report for complete list of VOCs analyzed.  
Total petroleum hydrocarbons as diesel (TPHd) and as motor oil (TPHmo) analyzed using USEPA Method 8015B.

<sup>b</sup> STLC - Soluble Threshold Limit Concentration, Official California Code of Regulations (CCR), Title 22, Division 4.5, Ch. 11, Characteristics of Hazardous Waste, established in milligrams per liter (mg/l).

<sup>c</sup> TCLP - Toxicity Characteristic Leaching Procedure, Resource Conservation and Recovery Act (RCRA), established in milligrams per liter (mg/l).

<sup>d</sup> San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, November 2007, revised February 2016 (rev3).

<sup>e</sup> Waste extraction test (WET) and Toxicity Characteristic Leaching Procedure (TCLP) results reported in milligrams per liter (mg/l).

A **BOLD** concentration indicates exceedance of regulatory screening levels (10 times the STLC, STLC itself if compared to "Lead WET" result), or site-specific reuse goals or Tier 1 ESLs.

An UNDERLINED concentrations indicates exceedance of 20 times the TCLP.

mg/kg-milligrams per kilograms

µg/kg-micrograms per kilograms

Analytical results reported on a dry-weight basis

ND<X - not detected at a concentration greater than the laboratory reporting limit of X

NE - Not established

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pleasanton

1220 Quarry Lane

Pleasanton, CA 94566

Tel: (925)484-1919

TestAmerica Job ID: 720-74605-1

Client Project/Site: BAY ROAD

For:

S S Papadopoulos & Associates, Inc.

45 Belden Place, 4th Floor

San Francisco, California 94104

Attn: Mr. Ken Chiang



Authorized for release by:

10/3/2016 11:07:35 AM

Afsaneh Salimpour, Senior Project Manager

(925)484-1919

[afsaneh.salimpour@testamericainc.com](mailto:afsaneh.salimpour@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Job ID: 720-74605-1**

**Laboratory: TestAmerica Pleasanton**

## Narrative

### Job Narrative 720-74605-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/21/2016 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

#### GC Semi VOA

Method(s) 8151A: The continuing calibration verification (CCV) associated with batch 354185 recovered outsider control limit for 2,4-DB. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: JT-3730 (720-74605-6) and JT-4090 (720-74605-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analytes: JT-4170 (720-74605-16). Elevated reporting limits (RLs) are provided.

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analyte: JT-3570 (720-74605-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

## Client Sample ID: JT-3570

## Lab Sample ID: 720-74605-1

No Detections.

## Client Sample ID: JT-3650

## Lab Sample ID: 720-74605-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13		3.0		mg/Kg	4		6010B	Total/NA

## Client Sample ID: ST-3660

## Lab Sample ID: 720-74605-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	20		3.4		mg/Kg	4		6010B	Total/NA

## Client Sample ID: ST-3710

## Lab Sample ID: 720-74605-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	100		3.3		mg/Kg	4		6010B	Total/NA

## Client Sample ID: ST-3720

## Lab Sample ID: 720-74605-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.6		3.1		mg/Kg	4		6010B	Total/NA

## Client Sample ID: JT-3730

## Lab Sample ID: 720-74605-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	31		3.3		mg/Kg	4		6010B	Total/NA

## Client Sample ID: ST-3770

## Lab Sample ID: 720-74605-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	26		2.6		mg/Kg	4		6010B	Total/NA

## Client Sample ID: JT-3810

## Lab Sample ID: 720-74605-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		3.9		mg/Kg	4		6010B	Total/NA

## Client Sample ID: ST-3880

## Lab Sample ID: 720-74605-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16		3.4		mg/Kg	4		6010B	Total/NA

## Client Sample ID: JT-3890

## Lab Sample ID: 720-74605-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	38		3.5		mg/Kg	4		6010B	Total/NA

## Client Sample ID: JT-3970

## Lab Sample ID: 720-74605-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	52		3.9		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

## Detection Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

### Client Sample ID: JT-4050

### Lab Sample ID: 720-74605-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	79		3.0		mg/Kg	4		6010B	Total/NA

### Client Sample ID: JT-4070

### Lab Sample ID: 720-74605-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		2.6		mg/Kg	4		6010B	Total/NA

### Client Sample ID: JT-4090

### Lab Sample ID: 720-74605-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.5		3.5		mg/Kg	4		6010B	Total/NA

### Client Sample ID: ST-4150

### Lab Sample ID: 720-74605-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	37		3.1		mg/Kg	4		6010B	Total/NA

### Client Sample ID: JT-4170

### Lab Sample ID: 720-74605-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		3.3		mg/Kg	4		6010B	Total/NA

### Client Sample ID: ST-4180

### Lab Sample ID: 720-74605-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13		3.5		mg/Kg	4		6010B	Total/NA

### Client Sample ID: ST-4230

### Lab Sample ID: 720-74605-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.8		2.9		mg/Kg	4		6010B	Total/NA

### Client Sample ID: JT-4250

### Lab Sample ID: 720-74605-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		3.7		mg/Kg	4		6010B	Total/NA

### Client Sample ID: JT4330

### Lab Sample ID: 720-74605-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10		4.0		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3570**

**Date Collected: 09/21/16 09:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-1**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.7		mg/Kg		09/22/16 14:45	09/29/16 00:02	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3650**

**Date Collected: 09/21/16 09:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-2**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		3.0		mg/Kg		09/22/16 14:45	09/29/16 00:07	4

TestAmerica Pleasanton

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-3660**

**Date Collected: 09/21/16 09:32**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-3**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20		3.4		mg/Kg		09/22/16 14:45	09/29/16 00:12	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-3710**

**Date Collected: 09/15/16 09:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-4**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	100		3.3		mg/Kg		09/22/16 14:45	09/29/16 00:18	4



## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-3720**

**Date Collected: 09/21/16 09:54**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-5**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6		3.1		mg/Kg		09/22/16 14:45	09/29/16 00:23	4

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-6**

**Matrix: Solid**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicamba	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
Dichlorprop	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
2,4-D	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
Silvex (2,4,5-TP)	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
2,4,5-T	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
2,4-DB	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCAA	67		31 - 120	09/29/16 20:51	10/01/16 15:11	10

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	31		3.3		mg/Kg		09/22/16 14:45	09/29/16 00:28	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-3770**

**Date Collected: 09/21/16 10:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-7**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		2.6		mg/Kg		09/22/16 14:45	09/29/16 00:34	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3810**

**Date Collected: 09/21/16 10:28**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-8**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		3.9		mg/Kg		09/22/16 14:45	09/29/16 00:39	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-3880**

**Date Collected: 09/21/16 11:35**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-9**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		3.4		mg/Kg		09/22/16 14:45	09/29/16 00:55	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3890**

**Date Collected: 09/21/16 10:38**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-10**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38		3.5		mg/Kg		09/22/16 14:45	09/29/16 01:01	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3970**

**Date Collected: 09/21/16 10:48**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-11**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	52		3.9		mg/Kg		09/22/16 14:45	09/29/16 01:06	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-4050**

**Date Collected: 09/21/16 11:00**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-12**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	79		3.0		mg/Kg		09/22/16 14:45	09/29/16 01:11	4



## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-4070**

**Date Collected: 09/21/16 11:10**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-13**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		2.6		mg/Kg		09/22/16 14:45	09/29/16 01:17	4

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-4090**

**Date Collected: 09/21/16 11:25**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-14**

**Matrix: Solid**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicamba	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
Dichlorprop	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
2,4-D	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
Silvex (2,4,5-TP)	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
2,4,5-T	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
2,4-DB	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCAA	67		31 - 120	09/29/16 20:51	10/01/16 15:36	10

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.5		3.5		mg/Kg		09/22/16 14:45	09/29/16 01:22	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-4150**

**Date Collected: 09/13/16 11:20**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-15**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37		3.1		mg/Kg		09/22/16 14:45	09/29/16 01:28	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-4170**

**Date Collected: 09/21/16 12:30**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-16**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		3.3		mg/Kg		09/22/16 16:03	09/28/16 20:39	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-4180**

**Date Collected: 09/21/16 12:38**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-17**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		3.5		mg/Kg		09/22/16 16:03	09/28/16 20:44	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-4230**

**Date Collected: 09/21/16 12:47**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-18**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.8		2.9		mg/Kg		09/22/16 16:03	09/28/16 20:50	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-4250**

**Date Collected: 09/21/16 12:55**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-19**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		3.7		mg/Kg		09/22/16 16:03	09/28/16 20:55	4

## Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT4330**

**Date Collected: 09/21/16 13:02**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-20**

**Matrix: Solid**

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		4.0		mg/Kg		09/22/16 16:03	09/28/16 21:00	4



# Surrogate Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

## Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPA2 (31-120)
720-74605-6	JT-3730	67
720-74605-14	JT-4090	67
LCS 500-354004/2-A	Lab Control Sample	68
LCSD 500-354004/3-A	Lab Control Sample Dup	63
MB 500-354004/1-A	Method Blank	63

#### Surrogate Legend

DCPA = DCAA

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 500-354004/1-A

Matrix: Solid

Analysis Batch: 354185

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 354004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicamba	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
Dichlorprop	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
2,4-D	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
Silvex (2,4,5-TP)	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
2,4,5-T	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
2,4-DB	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCAA	63		31 - 120	09/29/16 20:51	10/01/16 13:58	10

Lab Sample ID: LCS 500-354004/2-A

Matrix: Solid

Analysis Batch: 354185

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 354004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dicamba	1330	925		ug/Kg		69	40 - 110
Dichlorprop	1330	822		ug/Kg		62	32 - 110
2,4-D	1340	786		ug/Kg		59	20 - 110
Silvex (2,4,5-TP)	1330	980		ug/Kg		74	37 - 110
2,4,5-T	1340	1040		ug/Kg		77	30 - 110
2,4-DB	1340	831		ug/Kg		62	30 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCAA	68		31 - 120

Lab Sample ID: LCSD 500-354004/3-A

Matrix: Solid

Analysis Batch: 354185

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 354004

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dicamba	1330	889		ug/Kg		67	40 - 110	4	30
Dichlorprop	1330	782		ug/Kg		59	32 - 110	15	30
2,4-D	1340	741		ug/Kg		55	20 - 110	2	30
Silvex (2,4,5-TP)	1330	920		ug/Kg		69	37 - 110	4	30
2,4,5-T	1340	991		ug/Kg		74	30 - 110	11	30
2,4-DB	1340	797		ug/Kg		59	30 - 122	14	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCAA	63		31 - 120

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-209796/1-A

Matrix: Solid

Analysis Batch: 210223

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0		mg/Kg		09/22/16 14:32	09/28/16 18:21	1

Lab Sample ID: LCS 720-209796/2-A

Matrix: Solid

Analysis Batch: 210223

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	48.4		mg/Kg		97	80 - 120

Lab Sample ID: LCSSRM 720-209796/3-A

Matrix: Solid

Analysis Batch: 210223

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209796

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	45.5	41.0		mg/Kg		90	69 - 119

Lab Sample ID: MB 720-209800/1-A

Matrix: Solid

Analysis Batch: 210225

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0		mg/Kg		09/22/16 14:45	09/28/16 22:46	1

Lab Sample ID: LCS 720-209800/2-A

Matrix: Solid

Analysis Batch: 210225

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	47.3		mg/Kg		95	80 - 120

Lab Sample ID: LCSSRM 720-209800/3-A

Matrix: Solid

Analysis Batch: 210225

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209800

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	45.5	37.8		mg/Kg		83	69 - 119

TestAmerica Pleasanton

# QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

## GC Semi VOA

### Prep Batch: 354004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-6	JT-3730	Total/NA	Solid	8151A	
720-74605-14	JT-4090	Total/NA	Solid	8151A	
MB 500-354004/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 500-354004/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 500-354004/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

### Analysis Batch: 354185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-6	JT-3730	Total/NA	Solid	8151A	354004
720-74605-14	JT-4090	Total/NA	Solid	8151A	354004
MB 500-354004/1-A	Method Blank	Total/NA	Solid	8151A	354004
LCS 500-354004/2-A	Lab Control Sample	Total/NA	Solid	8151A	354004
LCSD 500-354004/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	354004

## Metals

### Prep Batch: 209796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-16	JT-4170	Total/NA	Solid	3050B	
720-74605-17	ST-4180	Total/NA	Solid	3050B	
720-74605-18	ST-4230	Total/NA	Solid	3050B	
720-74605-19	JT-4250	Total/NA	Solid	3050B	
720-74605-20	JT4330	Total/NA	Solid	3050B	
MB 720-209796/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-209796/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 720-209796/3-A	Lab Control Sample	Total/NA	Solid	3050B	

### Prep Batch: 209800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-1	JT-3570	Total/NA	Solid	3050B	
720-74605-2	JT-3650	Total/NA	Solid	3050B	
720-74605-3	ST-3660	Total/NA	Solid	3050B	
720-74605-4	ST-3710	Total/NA	Solid	3050B	
720-74605-5	ST-3720	Total/NA	Solid	3050B	
720-74605-6	JT-3730	Total/NA	Solid	3050B	
720-74605-7	ST-3770	Total/NA	Solid	3050B	
720-74605-8	JT-3810	Total/NA	Solid	3050B	
720-74605-9	ST-3880	Total/NA	Solid	3050B	
720-74605-10	JT-3890	Total/NA	Solid	3050B	
720-74605-11	JT-3970	Total/NA	Solid	3050B	
720-74605-12	JT-4050	Total/NA	Solid	3050B	
720-74605-13	JT-4070	Total/NA	Solid	3050B	
720-74605-14	JT-4090	Total/NA	Solid	3050B	
720-74605-15	ST-4150	Total/NA	Solid	3050B	
MB 720-209800/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-209800/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 720-209800/3-A	Lab Control Sample	Total/NA	Solid	3050B	

TestAmerica Pleasanton

## QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

### Metals (Continued)

#### Analysis Batch: 210223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-16	JT-4170	Total/NA	Solid	6010B	209796
720-74605-17	ST-4180	Total/NA	Solid	6010B	209796
720-74605-18	ST-4230	Total/NA	Solid	6010B	209796
720-74605-19	JT-4250	Total/NA	Solid	6010B	209796
720-74605-20	JT4330	Total/NA	Solid	6010B	209796
MB 720-209796/1-A	Method Blank	Total/NA	Solid	6010B	209796
LCS 720-209796/2-A	Lab Control Sample	Total/NA	Solid	6010B	209796
LCSSRM 720-209796/3-A	Lab Control Sample	Total/NA	Solid	6010B	209796

#### Analysis Batch: 210225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-1	JT-3570	Total/NA	Solid	6010B	209800
720-74605-2	JT-3650	Total/NA	Solid	6010B	209800
720-74605-3	ST-3660	Total/NA	Solid	6010B	209800
720-74605-4	ST-3710	Total/NA	Solid	6010B	209800
720-74605-5	ST-3720	Total/NA	Solid	6010B	209800
720-74605-6	JT-3730	Total/NA	Solid	6010B	209800
720-74605-7	ST-3770	Total/NA	Solid	6010B	209800
720-74605-8	JT-3810	Total/NA	Solid	6010B	209800
720-74605-9	ST-3880	Total/NA	Solid	6010B	209800
720-74605-10	JT-3890	Total/NA	Solid	6010B	209800
720-74605-11	JT-3970	Total/NA	Solid	6010B	209800
720-74605-12	JT-4050	Total/NA	Solid	6010B	209800
720-74605-13	JT-4070	Total/NA	Solid	6010B	209800
720-74605-14	JT-4090	Total/NA	Solid	6010B	209800
720-74605-15	ST-4150	Total/NA	Solid	6010B	209800
MB 720-209800/1-A	Method Blank	Total/NA	Solid	6010B	209800
LCS 720-209800/2-A	Lab Control Sample	Total/NA	Solid	6010B	209800
LCSSRM 720-209800/3-A	Lab Control Sample	Total/NA	Solid	6010B	209800

# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3570**

**Date Collected: 09/21/16 09:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:02	ASB	TAL PLS

**Client Sample ID: JT-3650**

**Date Collected: 09/21/16 09:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-2**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:07	ASB	TAL PLS

**Client Sample ID: ST-3660**

**Date Collected: 09/21/16 09:32**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-3**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:12	ASB	TAL PLS

**Client Sample ID: ST-3710**

**Date Collected: 09/15/16 09:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-4**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:18	ASB	TAL PLS

**Client Sample ID: ST-3720**

**Date Collected: 09/21/16 09:54**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-5**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:23	ASB	TAL PLS

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-6**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			354004	09/29/16 20:51	LLH	TAL CHI
Total/NA	Analysis	8151A		10	354185	10/01/16 15:11	SAW	TAL CHI

TestAmerica Pleasanton

# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-6**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:28	ASB	TAL PLS

**Client Sample ID: ST-3770**

**Date Collected: 09/21/16 10:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-7**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:34	ASB	TAL PLS

**Client Sample ID: JT-3810**

**Date Collected: 09/21/16 10:28**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-8**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:39	ASB	TAL PLS

**Client Sample ID: ST-3880**

**Date Collected: 09/21/16 11:35**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-9**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:55	ASB	TAL PLS

**Client Sample ID: JT-3890**

**Date Collected: 09/21/16 10:38**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-10**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:01	ASB	TAL PLS

**Client Sample ID: JT-3970**

**Date Collected: 09/21/16 10:48**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-11**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:06	ASB	TAL PLS

TestAmerica Pleasanton

# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: JT-4050**

**Date Collected: 09/21/16 11:00**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-12**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:11	ASB	TAL PLS

**Client Sample ID: JT-4070**

**Date Collected: 09/21/16 11:10**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-13**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:17	ASB	TAL PLS

**Client Sample ID: JT-4090**

**Date Collected: 09/21/16 11:25**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-14**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			354004	09/29/16 20:51	LLH	TAL CHI
Total/NA	Analysis	8151A		10	354185	10/01/16 15:36	SAW	TAL CHI
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:22	ASB	TAL PLS

**Client Sample ID: ST-4150**

**Date Collected: 09/13/16 11:20**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-15**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:28	ASB	TAL PLS

**Client Sample ID: JT-4170**

**Date Collected: 09/21/16 12:30**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-16**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 20:39	ASB	TAL PLS

**Client Sample ID: ST-4180**

**Date Collected: 09/21/16 12:38**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-17**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS

TestAmerica Pleasanton



# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

**Client Sample ID: ST-4180**

**Date Collected: 09/21/16 12:38**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-17**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		4	210223	09/28/16 20:44	ASB	TAL PLS

**Client Sample ID: ST-4230**

**Date Collected: 09/21/16 12:47**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-18**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 20:50	ASB	TAL PLS

**Client Sample ID: JT-4250**

**Date Collected: 09/21/16 12:55**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-19**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 20:55	ASB	TAL PLS

**Client Sample ID: JT4330**

**Date Collected: 09/21/16 13:02**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74605-20**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 21:00	ASB	TAL PLS

## Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# Certification Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

## Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

## Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2903	04-30-18
Georgia	State Program	4	N/A	04-30-17
Georgia	State Program	4	939	04-30-17
Hawaii	State Program	9	N/A	04-30-17
Illinois	NELAP	5	100201	04-30-17
Indiana	State Program	5	C-IL-02	04-30-17
Iowa	State Program	7	82	05-01-18
Kansas	NELAP	7	E-10161	10-31-16 *
Kentucky (UST)	State Program	4	66	04-30-17
Kentucky (WW)	State Program	4	KY90023	12-31-16 *
Mississippi	State Program	4	N/A	04-30-17
New York	NELAP	2	12019	04-01-17
North Carolina (WW/SW)	State Program	4	291	12-31-16 *
North Dakota	State Program	8	R-194	04-30-17
Oklahoma	State Program	6	8908	08-31-17 *
South Carolina	State Program	4	77001	04-30-17
USDA	Federal		P330-15-00038	02-11-18
Wisconsin	State Program	5	999580010	08-31-17
Wyoming	State Program	8	8TMS-Q	04-30-17

\* Certification renewal pending - certification considered valid.

TestAmerica Pleasanton

## Method Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Method	Method Description	Protocol	Laboratory
8151A	Herbicides (GC)	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL PLS

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# Sample Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-74605-1	JT-3570	Solid	09/21/16 09:05	09/21/16 17:00
720-74605-2	JT-3650	Solid	09/21/16 09:12	09/21/16 17:00
720-74605-3	ST-3660	Solid	09/21/16 09:32	09/21/16 17:00
720-74605-4	ST-3710	Solid	09/15/16 09:05	09/21/16 17:00
720-74605-5	ST-3720	Solid	09/21/16 09:54	09/21/16 17:00
720-74605-6	JT-3730	Solid	09/21/16 09:46	09/21/16 17:00
720-74605-7	ST-3770	Solid	09/21/16 10:12	09/21/16 17:00
720-74605-8	JT-3810	Solid	09/21/16 10:28	09/21/16 17:00
720-74605-9	ST-3880	Solid	09/21/16 11:35	09/21/16 17:00
720-74605-10	JT-3890	Solid	09/21/16 10:38	09/21/16 17:00
720-74605-11	JT-3970	Solid	09/21/16 10:48	09/21/16 17:00
720-74605-12	JT-4050	Solid	09/21/16 11:00	09/21/16 17:00
720-74605-13	JT-4070	Solid	09/21/16 11:10	09/21/16 17:00
720-74605-14	JT-4090	Solid	09/21/16 11:25	09/21/16 17:00
720-74605-15	ST-4150	Solid	09/13/16 11:20	09/21/16 17:00
720-74605-16	JT-4170	Solid	09/21/16 12:30	09/21/16 17:00
720-74605-17	ST-4180	Solid	09/21/16 12:38	09/21/16 17:00
720-74605-18	ST-4230	Solid	09/21/16 12:47	09/21/16 17:00
720-74605-19	JT-4250	Solid	09/21/16 12:55	09/21/16 17:00
720-74605-20	JT4330	Solid	09/21/16 13:02	09/21/16 17:00

720-74605

17/105

# TestAmerica Pleasanton

1220 Quarry Lane

## Chain of Custody Record

Pleasanton, CA 94566-4756  
phone 925.484.1919 fax 925.600.3002

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other ☐ RWQCB

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Kinsley Binard		Site Contact: Ken Chiang		Date:		COC No:	
S.S. Papadopoulos & Associates		Tel/Fax: 415-637-0444		Lab Contact: Afsaneh Salimpour		Carrier: TestAmerica Courier		1 of 2 COCs	
45 Belden Place, 4th Floor		Analysis Turnaround Time		Perform MS / MSD (Y / N)				Sampler: Ken Chiang and Mark de Wit	
San Francisco, CA 94303		<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		arsenic by 6010B (8 oz Glass Jar)				For Lab Use Only:	
415-773-0400		TAT if different from Below		herbicides by 8151 (8 oz Glass Jar)				Walk-in Client:	
Project Name: Joint Trench Soil Pre-Characterization		2 weeks						Lab Sampling:	
Site: 1990 Bay Road Site		<input checked="" type="checkbox"/> 1 week						Job /ISDG No.:	
P.O.# 0082-315		<input type="checkbox"/> 2 days							
		<input type="checkbox"/> 1 day							
Sample Identification		Sample Date	Sample Time	Sample Type (O-Comp, G-Grab)	Matrix	# of Cont.	Sample Specific Notes:		
JT-3670		09/11/16	09:05	C	S	1			
JT-3650		09/12		C	S	1			
ST-3660		09/32		C	S	1			
ST-3710	9/15/16 09:05			C	S	1			
ST-3720		09:54		C	S	1			
JT-3730		09:46		C	S	2			
ST-3770		10/12		C	S	1			
JT-3810		10/28		C	S	1			
ST-3880		11/35		C	S	1			
JT-3890		10/38		C	S	1			
JT-3970		10/48		C	S	1			
JT-4050		11/00		C	S	1			
<p>Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other</p> <p>Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.</p> <p><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for Months</p> <p>Special Instructions/OC Requirements &amp; Comments: Email results to Kinsley Binard at Kbinard@sspa.com Do not dispose of sample without contacting Kinsley Binard. Waste disposal requirements will depend on results of arsenic analysis.</p>									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp (°C) Obsd.:		Coord.:		Therm ID No.:	
Relinquished by: <i>[Signature]</i>		Company: <i>SSPA</i>		Date/Time: <i>9/16/16 13:45</i>		Received by: <i>[Signature]</i>		Company: <i>THB</i>	
Relinquished by: <i>[Signature]</i>		Company: <i>THB</i>		Date/Time: <i>9/21/16 17:00</i>		Received by: <i>[Signature]</i>		Company: <i>THB</i>	
Relinquished by: <i>[Signature]</i>		Company: <i>THB</i>		Date/Time: <i>9/21/16 17:00</i>		Received by: <i>[Signature]</i>		Company: <i>THB</i>	

# TestAmerica Pleasanton

1220 Quarry Lane

Pleasanton, CA 94566-4756  
phone 925.484.1919 fax 925.600.3002

## Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other: **RWQCB**

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
TestAmerica Laboratories, Inc.

171105

Client Contact		Project Manager: Kinsley Binard		Site Contact: Ken Chiang		Date:		COC No: 2 of 2 COCs	
S.S. Papadopoulos & Associates		Tel/fax: 415-637-0444		Lab Contact: Afanesh Salimpour		Carrier: TestAmerica Courier		Sampler: Ken Chiang and Mark de Wit	
45 Belden Place, 4th Floor		Analysis Turnaround Time		Perform MS / MSD (Y / N)				For Lab Use Only:	
San Francisco, CA 94303		<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		arsenic by 6010B (8 oz Glass Jar)				Walk-in Client:	
415-773-0400		TAT if different from Below		herbicides by 8151 (8 oz Glass Jar)				Lab Sampling	
Project Name: Joint Trench Soil Pre-Characterization		<input type="checkbox"/> 1 week <input type="checkbox"/> 2 weeks <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day						Job /SDG No.:	
Site: 1990 Bay Road Site									
P O # 0082-315								Sample Specific Notes:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Sample Specific Notes:
JT-4070	9/21/16	1110	C	S	1	N	X	
JT-4090	9/21/16	1125	C	S	2	N	X	
ST-4150	9/13/16	1120	C	S	1	N	X	
JT-4170	9/21/16	1230	C	S	1	N	X	
ST-4180	9/21/16	1238	C	S	1	N	X	
ST-4230	9/21/16	1247	C	S	1	N	X	
JT-4250	9/21/16	1255	C	S	1	N	X	
JT-4330	9/21/16	1302	C	S	1	N	X	

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: Email results to Kinsley Binard at Kbinard@sspa.com Do not dispose of sample without contacting Kinsley Binard. Waste disposal requirements will depend on results of arsenic analysis.

Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Return to Client ☐ Disposal by Lab ☐ Archive for Months

Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:	Cor'd:	Therm ID No.:
Relinquished by: [Signature]	Company: SSPA	Date/Time: 9/21/16 1345	Received by: [Signature]	Company: TB
Relinquished by: [Signature]	Company: TB	Date/Time: 9/21/16 1700	Received by: [Signature]	Company: TB
Relinquished by: [Signature]	Company: TB	Date/Time: 9/21/16 1700	Received by: [Signature]	Company: TB

[illegible]

THE LEADER IN ENVIRONMENTAL TESTING

10/3/2016

## Login Sample Receipt Checklist

Client: S S Papadopoulos & Associates, Inc.

Job Number: 720-74605-1

**Login Number: 74605**

**List Source: TestAmerica Pleasanton**

**List Number: 1**

**Creator: Arauz, Dennis**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: S S Papadopoulos & Associates, Inc.

Job Number: 720-74605-1

**Login Number: 74605**

**List Number: 2**

**Creator: Sanchez, Ariel M**

**List Source: TestAmerica Chicago**

**List Creation: 09/23/16 11:04 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pleasanton

1220 Quarry Lane

Pleasanton, CA 94566

Tel: (925)484-1919

TestAmerica Job ID: 720-74613-1

Client Project/Site: Bay Road Improvement Project

For:

S S Papadopoulos & Associates, Inc.

45 Belden Place, 4th Floor

San Francisco, California 94104

Attn: Kinsley Binard



Authorized for release by:

9/29/2016 2:00:03 PM

Afsaneh Salimpour, Senior Project Manager

(925)484-1919

[afsaneh.salimpour@testamericainc.com](mailto:afsaneh.salimpour@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
*	LCS or LCSD is outside acceptance limits.

#### GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Job ID: 720-74613-1**

**Laboratory: TestAmerica Pleasanton**

## Narrative

### Job Narrative 720-74613-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/21/2016 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

#### Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ST-3780. The Terra Core DI vial container labels list JT-3780, while the COC lists ST-3780. We logged the sample in per COC.

#### GC/MS VOA

Method(s) 8260B: Internal standard (ISTD) response for the following samples was outside control limits: JT-3730 (720-74613-1), JT-3490 (720-74613-3) and JT-4450 (720-74613-5). The samples were re-analyzed with concurring results, and the second set of data has been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 720-209835 recovered outside control limits for the following analytes: 2-Butanone (MEK). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270C: The following samples was diluted due to the abundance of non-target analytes: JT-3730 (720-74613-1), JT-4090 (720-74613-2), JT-3490 (720-74613-3), ST-3780 (720-74613-4), JT-4450 (720-74613-5) and JT-4800 (720-74613-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 8015B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 720-209972 and analytical batch 720-210023 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8015B: The following samples required a dilution due to the nature of the sample matrix: JT-4090 (720-74613-2), ST-3780 (720-74613-4) and JT-4800 (720-74613-6). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8081A: The following sample was diluted due to the abundance of non-target analytes: JT-4090 (720-74613-2). Elevated reporting limits (RLs) are provided.

Method(s) 8081A: The continuing calibration verification (CCV) associated with batch 720-210110 recovered above the upper control limit from the front channel. The CCV from the back channel was in control ; therefore, the data have been reported from the back channel. The following samples are impacted: JT-4090 (720-74613-2), JT-3490 (720-74613-3), ST-3780 (720-74613-4), JT-4450 (720-74613-5), JT-4800 (720-74613-6), (STD200 720-210110/21), (LCS 720-209959/2-A) and (MB 720-209959/1-A).

Method(s) 8081A: The %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDT and gamma-Chlordane for the following samples: JT-3730 (720-74613-1). The lower value(s) has been reported and qualified in accordance with the laboratory's SOP.

Method(s) 8082: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by

## Case Narrative

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

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### Job ID: 720-74613-1 (Continued)

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#### Laboratory: TestAmerica Pleasanton (Continued)

sulfur: JT-3730 (720-74613-1), JT-4090 (720-74613-2), JT-3490 (720-74613-3), ST-3780 (720-74613-4), JT-4450 (720-74613-5), JT-4800 (720-74613-6), (LCS 720-209967/2-A) and (MB 720-209967/1-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Client Sample ID: JT-3730

## Lab Sample ID: 720-74613-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	42		3.7		ug/Kg	1		8260B/CA_LUFT MS	Total/NA
Diesel Range Organics [C10-C28]	14		0.99		mg/Kg	1		8015B	Total/NA
Dieldrin	3.9		1.9		ug/Kg	1		8081A	Total/NA
4,4'-DDT	6.8	p	1.9		ug/Kg	1		8081A	Total/NA
4,4'-DDE	3.6		1.9		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	2.4	p	1.9		ug/Kg	1		8081A	Total/NA
PCB-1260	56		48		ug/Kg	1		8082	Total/NA
Arsenic	44		3.2		mg/Kg	4		6010B	Total/NA
Barium	140		1.6		mg/Kg	4		6010B	Total/NA
Cadmium	1.0		0.40		mg/Kg	4		6010B	Total/NA
Chromium	31		1.6		mg/Kg	4		6010B	Total/NA
Cobalt	7.4		0.65		mg/Kg	4		6010B	Total/NA
Copper	19		4.8		mg/Kg	4		6010B	Total/NA
Lead	16		1.6		mg/Kg	4		6010B	Total/NA
Nickel	37		1.6		mg/Kg	4		6010B	Total/NA
Vanadium	30		1.6		mg/Kg	4		6010B	Total/NA
Zinc	53		4.8		mg/Kg	4		6010B	Total/NA
Mercury	0.089		0.0091		mg/Kg	1		7471A	Total/NA

## Client Sample ID: JT-4090

## Lab Sample ID: 720-74613-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	250		12		mg/Kg	5		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	890		620		mg/Kg	5		8015B	Total/NA
gamma-Chlordane	4.1		3.9		ug/Kg	2		8081A	Total/NA
Arsenic	5.7		2.6		mg/Kg	4		6010B	Total/NA
Barium	120		1.3		mg/Kg	4		6010B	Total/NA
Chromium	30		1.3		mg/Kg	4		6010B	Total/NA
Cobalt	7.0		0.52		mg/Kg	4		6010B	Total/NA
Copper	22		3.9		mg/Kg	4		6010B	Total/NA
Lead	7.3		1.3		mg/Kg	4		6010B	Total/NA
Nickel	34		1.3		mg/Kg	4		6010B	Total/NA
Vanadium	34		1.3		mg/Kg	4		6010B	Total/NA
Zinc	45		3.9		mg/Kg	4		6010B	Total/NA
Mercury	0.083		0.0090		mg/Kg	1		7471A	Total/NA

## Client Sample ID: JT-3490

## Lab Sample ID: 720-74613-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	120		3.8		ug/Kg	1		8260B/CA_LUFT MS	Total/NA
Diesel Range Organics [C10-C28]	9.1	F1	0.30		mg/Kg	3		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	23		15		mg/Kg	3		8015B	Total/NA
Dieldrin	2.1		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDT	4.5		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE	2.6		2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	2.5		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	6.9		3.2		mg/Kg	4		6010B	Total/NA
Barium	120		1.6		mg/Kg	4		6010B	Total/NA
Cadmium	0.53		0.40		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Detection Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Client Sample ID: JT-3490 (Continued)

## Lab Sample ID: 720-74613-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	35		1.6		mg/Kg	4		6010B	Total/NA
Cobalt	11		0.64		mg/Kg	4		6010B	Total/NA
Copper	33		4.8		mg/Kg	4		6010B	Total/NA
Lead	25		1.6		mg/Kg	4		6010B	Total/NA
Nickel	37		1.6		mg/Kg	4		6010B	Total/NA
Vanadium	44		1.6		mg/Kg	4		6010B	Total/NA
Zinc	60		4.8		mg/Kg	4		6010B	Total/NA
Mercury	0.11		0.0092		mg/Kg	1		7471A	Total/NA

## Client Sample ID: ST-3780

## Lab Sample ID: 720-74613-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	200		10		mg/Kg	10		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	700		500		mg/Kg	10		8015B	Total/NA
Dieldrin	3.7		2.0		ug/Kg	1		8081A	Total/NA
Heptachlor epoxide	64		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDT	8.6		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE	6.2		2.0		ug/Kg	1		8081A	Total/NA
Chlordane (technical)	620		40		ug/Kg	1		8081A	Total/NA
alpha-Chlordane	120		2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	95		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	3.4		3.4		mg/Kg	4		6010B	Total/NA
Barium	110		1.7		mg/Kg	4		6010B	Total/NA
Cadmium	1.2		0.43		mg/Kg	4		6010B	Total/NA
Chromium	40		1.7		mg/Kg	4		6010B	Total/NA
Cobalt	7.6		0.69		mg/Kg	4		6010B	Total/NA
Copper	25		5.2		mg/Kg	4		6010B	Total/NA
Lead	23		1.7		mg/Kg	4		6010B	Total/NA
Nickel	35		1.7		mg/Kg	4		6010B	Total/NA
Vanadium	31		1.7		mg/Kg	4		6010B	Total/NA
Zinc	47		5.2		mg/Kg	4		6010B	Total/NA
Mercury	0.075		0.0097		mg/Kg	1		7471A	Total/NA

## Client Sample ID: JT-4450

## Lab Sample ID: 720-74613-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	58		3.0		mg/Kg	3		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	200		150		mg/Kg	3		8015B	Total/NA
Dieldrin	2.4		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDT	9.9		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE	6.4		2.0		ug/Kg	1		8081A	Total/NA
alpha-Chlordane	2.0		2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	8.6		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	13		2.8		mg/Kg	4		6010B	Total/NA
Barium	140		1.4		mg/Kg	4		6010B	Total/NA
Cadmium	1.1		0.35		mg/Kg	4		6010B	Total/NA
Chromium	32		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	7.1		0.56		mg/Kg	4		6010B	Total/NA
Copper	24		4.2		mg/Kg	4		6010B	Total/NA
Lead	33		1.4		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton



## Detection Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

### Client Sample ID: JT-4450 (Continued)

### Lab Sample ID: 720-74613-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	37		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	31		1.4		mg/Kg	4		6010B	Total/NA
Zinc	65		4.2		mg/Kg	4		6010B	Total/NA
Mercury	0.22		0.0094		mg/Kg	1		7471A	Total/NA

### Client Sample ID: JT-4800

### Lab Sample ID: 720-74613-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	100		5.0		mg/Kg	5		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	380		250		mg/Kg	5		8015B	Total/NA
4,4'-DDE	3.3		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDD	5.9		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	5.2		2.7		mg/Kg	4		6010B	Total/NA
Barium	110		1.4		mg/Kg	4		6010B	Total/NA
Chromium	57		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	8.8		0.55		mg/Kg	4		6010B	Total/NA
Copper	26		4.1		mg/Kg	4		6010B	Total/NA
Lead	16		1.4		mg/Kg	4		6010B	Total/NA
Nickel	46		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	37		1.4		mg/Kg	4		6010B	Total/NA
Zinc	47		4.1		mg/Kg	4		6010B	Total/NA
Mercury	0.12		0.0095		mg/Kg	1		7471A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-1**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Acetone	ND		37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Benzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Dichlorobromomethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Bromobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Bromoform	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Bromomethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2-Butanone (MEK)	ND	*	37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
n-Butylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
sec-Butylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
tert-Butylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Carbon disulfide	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Carbon tetrachloride	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chlorobenzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chloroethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chloroform	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chloromethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2-Chlorotoluene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
4-Chlorotoluene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chlorodibromomethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,3-Dichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,4-Dichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,3-Dichloropropane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1-Dichloropropene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dibromo-3-Chloropropane	ND	*	7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Ethylene Dibromide	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Dibromomethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Dichlorodifluoromethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1-Dichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1-Dichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
cis-1,2-Dichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
trans-1,2-Dichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dichloropropane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
cis-1,3-Dichloropropene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
trans-1,3-Dichloropropene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Ethylbenzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Hexachlorobutadiene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2-Hexanone	ND		37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Isopropylbenzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
4-Isopropyltoluene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Methylene Chloride	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
4-Methyl-2-pentanone (MIBK)	ND		37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Naphthalene	ND	*	7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
N-Propylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Styrene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,1,2-Tetrachloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-1**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
<b>Tetrachloroethene</b>	<b>42</b>		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Toluene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,3-Trichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,4-Trichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,1-Trichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,2-Trichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Trichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Trichlorofluoromethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,3-Trichloropropane	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,4-Trimethylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,3,5-Trimethylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Vinyl chloride	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Xylenes, Total	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2,2-Dichloropropane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Gasoline Range Organics (GRO)	ND		180		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
-C5-C12									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	73		45 - 131				09/21/16 20:40	09/23/16 15:10	1
1,2-Dichloroethane-d4 (Surr)	96		60 - 140				09/21/16 20:40	09/23/16 15:10	1
Toluene-d8 (Surr)	98		58 - 140				09/21/16 20:40	09/23/16 15:10	1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Bis(2-chloroethyl)ether	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Chlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,3-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,4-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzyl alcohol	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,2-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Methylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Methylphenol, 3 & 4	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
N-Nitrosodi-n-propylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Hexachloroethane	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Nitrobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Isophorone	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Nitrophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dimethylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Bis(2-chloroethoxy)methane	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,2,4-Trichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Naphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Chloroaniline	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Hexachlorobutadiene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Chloro-3-methylphenol	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Methylnaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3730**

**Lab Sample ID: 720-74613-1**

**Date Collected: 09/21/16 09:46**

**Matrix: Solid**

**Date Received: 09/21/16 17:00**

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4,6-Trichlorophenol	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4,5-Trichlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Chloronaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Dimethyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Acenaphthylene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
3-Nitroaniline	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Acenaphthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Dibenzofuran	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,6-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Diethyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Chlorophenyl phenyl ether	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Fluorene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Methyl-4,6-dinitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
N-Nitrosodiphenylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Bromophenyl phenyl ether	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Hexachlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Pentachlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Phenanthrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Di-n-butyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Butyl benzyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
3,3'-Dichlorobenzidine	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[a]anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Bis(2-ethylhexyl) phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Chrysene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Di-n-octyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[b]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[a]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[k]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Indeno[1,2,3-cd]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[g,h,i]perylene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzoic acid	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Azobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Dibenz(a,h)anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	62		21 - 98	09/26/16 10:36	09/27/16 23:10	2
2-Fluorobiphenyl	81		30 - 112	09/26/16 10:36	09/27/16 23:10	2
Terphenyl-d14	78		59 - 134	09/26/16 10:36	09/27/16 23:10	2
2-Fluorophenol	68		28 - 98	09/26/16 10:36	09/27/16 23:10	2
Phenol-d5	71		23 - 101	09/26/16 10:36	09/27/16 23:10	2
2,4,6-Tribromophenol	69		37 - 114	09/26/16 10:36	09/27/16 23:10	2

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics [C10-C28]</b>	<b>14</b>		0.99		mg/Kg		09/26/16 11:32	09/27/16 20:24	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		09/26/16 11:32	09/27/16 20:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl	73		40 - 130				09/26/16 11:32	09/27/16 20:24	1

## Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
<b>Dieldrin</b>	<b>3.9</b>		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endrin aldehyde	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endrin	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endrin ketone	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Heptachlor	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Heptachlor epoxide	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
<b>4,4'-DDT</b>	<b>6.8</b>	<b>p</b>	1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
<b>4,4'-DDE</b>	<b>3.6</b>		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
4,4'-DDD	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endosulfan I	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endosulfan II	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
alpha-BHC	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
beta-BHC	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
gamma-BHC (Lindane)	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
delta-BHC	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endosulfan sulfate	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Methoxychlor	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Toxaphene	ND		39		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Chlordane (technical)	ND		39		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
alpha-Chlordane	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
<b>gamma-Chlordane</b>	<b>2.4</b>	<b>p</b>	1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	91		57 - 122				09/26/16 10:20	09/27/16 14:52	1
DCB Decachlorobiphenyl	99		21 - 136				09/26/16 10:20	09/27/16 14:52	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1221	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1232	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1242	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1248	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1254	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
<b>PCB-1260</b>	<b>56</b>		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		45 - 132				09/26/16 11:02	09/27/16 19:26	1
DCB Decachlorobiphenyl	80		42 - 146				09/26/16 11:02	09/27/16 19:26	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
<b>Arsenic</b>	<b>44</b>		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
<b>Barium</b>	<b>140</b>		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Beryllium	ND		0.32		mg/Kg		09/23/16 16:18	09/26/16 22:01	4

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# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-1**

**Matrix: Solid**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.0		0.40		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Chromium	31		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Cobalt	7.4		0.65		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Copper	19		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Lead	16		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Molybdenum	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Nickel	37		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Selenium	ND		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Silver	ND		0.81		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Thallium	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Vanadium	30		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Zinc	53		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:01	4

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.089		0.0091		mg/Kg		09/23/16 11:45	09/26/16 16:13	1

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# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4090**

**Date Collected: 09/21/16 11:25**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-2**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Acetone	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Benzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Dichlorobromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Bromobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Bromoform	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Bromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2-Butanone (MEK)	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
n-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
sec-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
tert-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Carbon disulfide	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Carbon tetrachloride	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chloroethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chloroform	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chloromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
4-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chlorodibromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,3-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,4-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,3-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dibromo-3-Chloropropane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Ethylene Dibromide	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Dibromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Dichlorodifluoromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
cis-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
trans-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
cis-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
trans-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Ethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Hexachlorobutadiene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2-Hexanone	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Isopropylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
4-Isopropyltoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Methylene Chloride	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
4-Methyl-2-pentanone (MIBK)	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Naphthalene	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
N-Propylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Styrene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,1,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4090**

**Date Collected: 09/21/16 11:25**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-2**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Tetrachloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Toluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,3-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,4-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,1-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,2-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Trichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Trichlorofluoromethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,3-Trichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,4-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,3,5-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Vinyl chloride	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Xylenes, Total	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Gasoline Range Organics (GRO)	ND		190		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
-C5-C12									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		45 - 131				09/21/16 20:40	09/22/16 23:14	1
1,2-Dichloroethane-d4 (Surr)	96		60 - 140				09/21/16 20:40	09/22/16 23:14	1
Toluene-d8 (Surr)	92		58 - 140				09/21/16 20:40	09/22/16 23:14	1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Bis(2-chloroethyl)ether	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Chlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,3-Dichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,4-Dichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzyl alcohol	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,2-Dichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Methylphenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Methylphenol, 3 & 4	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
N-Nitrosodi-n-propylamine	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Hexachloroethane	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Nitrobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Isophorone	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dimethylphenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Bis(2-chloroethoxy)methane	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dichlorophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,2,4-Trichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Naphthalene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Chloroaniline	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Hexachlorobutadiene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Chloro-3-methylphenol	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Methylnaphthalene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10

TestAmerica Pleasanton



# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4090**

**Lab Sample ID: 720-74613-2**

**Date Collected: 09/21/16 11:25**

**Matrix: Solid**

**Date Received: 09/21/16 17:00**

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4,6-Trichlorophenol	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4,5-Trichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Chloronaphthalene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Nitroaniline	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Dimethyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Acenaphthylene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
3-Nitroaniline	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Acenaphthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dinitrophenol	ND		13		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Nitrophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Dibenzofuran	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dinitrotoluene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,6-Dinitrotoluene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Diethyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Chlorophenyl phenyl ether	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Fluorene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Nitroaniline	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Methyl-4,6-dinitrophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
N-Nitrosodiphenylamine	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Bromophenyl phenyl ether	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Hexachlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Pentachlorophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Phenanthrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Di-n-butyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Fluoranthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Pyrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Butyl benzyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
3,3'-Dichlorobenzidine	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[a]anthracene	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Bis(2-ethylhexyl) phthalate	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Chrysene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Di-n-octyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[b]fluoranthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[a]pyrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[k]fluoranthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Indeno[1,2,3-cd]pyrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[g,h,i]perylene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzoic acid	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Azobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Dibenz(a,h)anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	66		21 - 98	09/26/16 10:36	09/27/16 23:36	10
2-Fluorobiphenyl	92		30 - 112	09/26/16 10:36	09/27/16 23:36	10
Terphenyl-d14	94		59 - 134	09/26/16 10:36	09/27/16 23:36	10
2-Fluorophenol	69		28 - 98	09/26/16 10:36	09/27/16 23:36	10
Phenol-d5	79		23 - 101	09/26/16 10:36	09/27/16 23:36	10
2,4,6-Tribromophenol	43		37 - 114	09/26/16 10:36	09/27/16 23:36	10

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	250		12		mg/Kg		09/26/16 11:32	09/27/16 20:54	5
Motor Oil Range Organics [C24-C36]	890		620		mg/Kg		09/26/16 11:32	09/27/16 20:54	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	0	X D	40 - 130	09/26/16 11:32	09/27/16 20:54	5

## Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Dieldrin	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endrin aldehyde	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endrin	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endrin ketone	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Heptachlor	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Heptachlor epoxide	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
4,4'-DDT	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
4,4'-DDE	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
4,4'-DDD	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endosulfan I	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endosulfan II	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
alpha-BHC	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
beta-BHC	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
gamma-BHC (Lindane)	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
delta-BHC	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endosulfan sulfate	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Methoxychlor	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Toxaphene	ND		78		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Chlordane (technical)	ND		78		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
alpha-Chlordane	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
gamma-Chlordane	4.1		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94	p	57 - 122	09/26/16 10:20	09/28/16 08:36	2
DCB Decachlorobiphenyl	102		21 - 136	09/26/16 10:20	09/28/16 08:36	2

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1221	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1232	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1242	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1248	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1254	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1260	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		45 - 132	09/26/16 11:02	09/27/16 19:42	1
DCB Decachlorobiphenyl	75		42 - 146	09/26/16 11:02	09/27/16 19:42	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Arsenic	5.7		2.6		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Barium	120		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4090**

**Date Collected: 09/21/16 11:25**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-2**

**Matrix: Solid**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.26		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Cadmium	ND		0.32		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Chromium</b>	<b>30</b>		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Cobalt</b>	<b>7.0</b>		0.52		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Copper</b>	<b>22</b>		3.9		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Lead</b>	<b>7.3</b>		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Molybdenum	ND		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Nickel</b>	<b>34</b>		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Selenium	ND		2.6		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Silver	ND		0.65		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Thallium	ND		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Vanadium</b>	<b>34</b>		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
<b>Zinc</b>	<b>45</b>		3.9		mg/Kg		09/23/16 16:18	09/26/16 22:06	4

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.083</b>		0.0090		mg/Kg		09/23/16 11:45	09/26/16 16:16	1

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3490**

**Date Collected: 09/21/16 08:50**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-3**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Acetone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Benzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Dichlorobromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Bromobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Bromoform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Bromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2-Butanone (MEK)	ND	*	38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
n-Butylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
sec-Butylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
tert-Butylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Carbon disulfide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Carbon tetrachloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chloroethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chloroform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chloromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2-Chlorotoluene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
4-Chlorotoluene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chlorodibromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,3-Dichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,4-Dichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,3-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dibromo-3-Chloropropane	ND	*	7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Ethylene Dibromide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Dibromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Dichlorodifluoromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
cis-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
trans-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
cis-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
trans-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Ethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Hexachlorobutadiene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2-Hexanone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Isopropylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
4-Isopropyltoluene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Methylene Chloride	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
4-Methyl-2-pentanone (MIBK)	ND		38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Naphthalene	ND	*	7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
N-Propylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Styrene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,1,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3490**

**Date Collected: 09/21/16 08:50**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-3**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
<b>Tetrachloroethene</b>	<b>120</b>		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Toluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,3-Trichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,4-Trichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,1-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,2-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Trichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Trichlorofluoromethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,3-Trichloropropane	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,4-Trimethylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,3,5-Trimethylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Vinyl chloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Xylenes, Total	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Gasoline Range Organics (GRO)	ND		190		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
-C5-C12									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	72		45 - 131				09/21/16 20:40	09/23/16 15:40	1
1,2-Dichloroethane-d4 (Surr)	107		60 - 140				09/21/16 20:40	09/23/16 15:40	1
Toluene-d8 (Surr)	97		58 - 140				09/21/16 20:40	09/23/16 15:40	1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Bis(2-chloroethyl)ether	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Chlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,3-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,4-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzyl alcohol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,2-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Methylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Methylphenol, 3 & 4	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
N-Nitrosodi-n-propylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Hexachloroethane	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Nitrobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Isophorone	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Nitrophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dimethylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Bis(2-chloroethoxy)methane	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,2,4-Trichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Naphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Chloroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Hexachlorobutadiene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Chloro-3-methylphenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Methylnaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3490**

**Lab Sample ID: 720-74613-3**

**Date Collected: 09/21/16 08:50**

**Matrix: Solid**

**Date Received: 09/21/16 17:00**

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4,6-Trichlorophenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4,5-Trichlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Chloronaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Dimethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Acenaphthylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
3-Nitroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Acenaphthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Dibenzofuran	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,6-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Diethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Chlorophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Fluorene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Methyl-4,6-dinitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
N-Nitrosodiphenylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Bromophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Hexachlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Pentachlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Phenanthrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Di-n-butyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Butyl benzyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
3,3'-Dichlorobenzidine	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[a]anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Bis(2-ethylhexyl) phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Chrysene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Di-n-octyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[b]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[a]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[k]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Indeno[1,2,3-cd]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[g,h,i]perylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzoic acid	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Azobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Dibenz(a,h)anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	66		21 - 98	09/26/16 10:36	09/28/16 00:02	2
2-Fluorobiphenyl	86		30 - 112	09/26/16 10:36	09/28/16 00:02	2
Terphenyl-d14	87		59 - 134	09/26/16 10:36	09/28/16 00:02	2
2-Fluorophenol	71		28 - 98	09/26/16 10:36	09/28/16 00:02	2
Phenol-d5	75		23 - 101	09/26/16 10:36	09/28/16 00:02	2
2,4,6-Tribromophenol	74		37 - 114	09/26/16 10:36	09/28/16 00:02	2

TestAmerica Pleasanton



# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	9.1	F1	0.30		mg/Kg		09/26/16 11:32	09/27/16 12:05	3
Motor Oil Range Organics [C24-C36]	23		15		mg/Kg		09/26/16 11:32	09/27/16 12:05	3

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl	108		40 - 130				09/26/16 11:32	09/27/16 12:05	3

## Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Dieldrin	2.1		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
4,4'-DDT	4.5		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
4,4'-DDE	2.6		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Chlordane (technical)	ND		40		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
alpha-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
gamma-Chlordane	2.5		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	88		57 - 122				09/26/16 10:20	09/28/16 08:53	1
DCB Decachlorobiphenyl	80		21 - 136				09/26/16 10:20	09/28/16 08:53	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1221	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1232	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1242	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1248	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1254	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1260	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		45 - 132				09/26/16 11:02	09/27/16 19:59	1
DCB Decachlorobiphenyl	75		42 - 146				09/26/16 11:02	09/27/16 19:59	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Arsenic	6.9		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Barium	120		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3490**

**Date Collected: 09/21/16 08:50**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-3**

**Matrix: Solid**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.32		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Cadmium	0.53		0.40		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Chromium	35		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Cobalt	11		0.64		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Copper	33		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Lead	25		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Molybdenum	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Nickel	37		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Selenium	ND		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Silver	ND		0.80		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Thallium	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Vanadium	44		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Zinc	60		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:11	4

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.0092		mg/Kg		09/23/16 13:01	09/28/16 16:49	1

TestAmerica Pleasanton



# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: ST-3780**

**Date Collected: 09/21/16 10:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-4**

**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Acetone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Benzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Dichlorobromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Bromobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Bromoform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Bromomethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2-Butanone (MEK)	ND	*	38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
n-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
sec-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
tert-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Carbon disulfide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Carbon tetrachloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chloroethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chloroform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chloromethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
4-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chlorodibromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,3-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,4-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,3-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dibromo-3-Chloropropane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Ethylene Dibromide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Dibromomethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Dichlorodifluoromethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
cis-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
trans-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
cis-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
trans-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Ethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Hexachlorobutadiene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2-Hexanone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Isopropylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
4-Isopropyltoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Methylene Chloride	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
4-Methyl-2-pentanone (MIBK)	ND		38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Naphthalene	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
N-Propylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Styrene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,1,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: ST-3780**

**Date Collected: 09/21/16 10:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-4**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Tetrachloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Toluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,3-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,4-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,1-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,2-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Trichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Trichlorofluoromethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,3-Trichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,4-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,3,5-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Vinyl chloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Xylenes, Total	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Gasoline Range Organics (GRO)	ND		190		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
-C5-C12									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		45 - 131				09/21/16 20:40	09/23/16 16:09	1
1,2-Dichloroethane-d4 (Surr)	120		60 - 140				09/21/16 20:40	09/23/16 16:09	1
Toluene-d8 (Surr)	102		58 - 140				09/21/16 20:40	09/23/16 16:09	1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Bis(2-chloroethyl)ether	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Chlorophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,3-Dichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,4-Dichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzyl alcohol	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,2-Dichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Methylphenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Methylphenol, 3 & 4	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
N-Nitrosodi-n-propylamine	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Hexachloroethane	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Nitrobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Isophorone	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Nitrophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dimethylphenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Bis(2-chloroethoxy)methane	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dichlorophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,2,4-Trichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Naphthalene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Chloroaniline	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Hexachlorobutadiene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Chloro-3-methylphenol	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Methylnaphthalene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: ST-3780**

**Lab Sample ID: 720-74613-4**

**Date Collected: 09/21/16 10:05**

**Matrix: Solid**

**Date Received: 09/21/16 17:00**

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4,6-Trichlorophenol	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4,5-Trichlorophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Chloronaphthalene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Nitroaniline	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Dimethyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Acenaphthylene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
3-Nitroaniline	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Acenaphthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dinitrophenol	ND		6.5		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Nitrophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Dibenzofuran	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dinitrotoluene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,6-Dinitrotoluene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Diethyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Chlorophenyl phenyl ether	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Fluorene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Nitroaniline	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Methyl-4,6-dinitrophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
N-Nitrosodiphenylamine	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Bromophenyl phenyl ether	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Hexachlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Pentachlorophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Phenanthrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Anthracene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Di-n-butyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Fluoranthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Pyrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Butyl benzyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
3,3'-Dichlorobenzidine	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[a]anthracene	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Bis(2-ethylhexyl) phthalate	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Chrysene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Di-n-octyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[b]fluoranthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[a]pyrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[k]fluoranthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Indeno[1,2,3-cd]pyrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[g,h,i]perylene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzoic acid	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Azobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Dibenz(a,h)anthracene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		21 - 98	09/26/16 10:36	09/28/16 00:28	5
2-Fluorobiphenyl	85		30 - 112	09/26/16 10:36	09/28/16 00:28	5
Terphenyl-d14	86		59 - 134	09/26/16 10:36	09/28/16 00:28	5
2-Fluorophenol	66		28 - 98	09/26/16 10:36	09/28/16 00:28	5
Phenol-d5	71		23 - 101	09/26/16 10:36	09/28/16 00:28	5
2,4,6-Tribromophenol	71		37 - 114	09/26/16 10:36	09/28/16 00:28	5

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	200		10		mg/Kg		09/26/16 11:32	09/27/16 21:23	10
Motor Oil Range Organics [C24-C36]	700		500		mg/Kg		09/26/16 11:32	09/27/16 21:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	0	X D	40 - 130	09/26/16 11:32	09/27/16 21:23	10

## Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Dieldrin	3.7		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Heptachlor epoxide	64		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
4,4'-DDT	8.6		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
4,4'-DDE	6.2		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Chlordane (technical)	620		40		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
alpha-Chlordane	120		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
gamma-Chlordane	95		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		57 - 122	09/26/16 10:20	09/28/16 09:11	1
DCB Decachlorobiphenyl	89		21 - 136	09/26/16 10:20	09/28/16 09:11	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1221	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1232	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1242	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1248	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1254	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1260	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		45 - 132	09/26/16 11:02	09/27/16 20:16	1
DCB Decachlorobiphenyl	74		42 - 146	09/26/16 11:02	09/27/16 20:16	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Arsenic	3.4		3.4		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Barium	110		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: ST-3780**

**Lab Sample ID: 720-74613-4**

**Date Collected: 09/21/16 10:05**

**Matrix: Solid**

**Date Received: 09/21/16 17:00**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.34		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Cadmium	1.2		0.43		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Chromium	40		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Cobalt	7.6		0.69		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Copper	25		5.2		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Lead	23		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Molybdenum	ND		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Nickel	35		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Selenium	ND		3.4		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Silver	ND		0.86		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Thallium	ND		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Vanadium	31		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Zinc	47		5.2		mg/Kg		09/23/16 16:18	09/26/16 22:16	4

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.075		0.0097		mg/Kg		09/23/16 13:01	09/28/16 16:52	1

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4450**

**Date Collected: 09/21/16 13:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-5**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Acetone	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Benzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Dichlorobromomethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Bromobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chlorobromomethane	ND		17		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Bromoform	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Bromomethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2-Butanone (MEK)	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
n-Butylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
sec-Butylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
tert-Butylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Carbon disulfide	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Carbon tetrachloride	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chlorobenzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chloroethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chloroform	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chloromethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2-Chlorotoluene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
4-Chlorotoluene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chlorodibromomethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,3-Dichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,4-Dichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,3-Dichloropropane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1-Dichloropropene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dibromo-3-Chloropropane	ND	*	8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Ethylene Dibromide	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Dibromomethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Dichlorodifluoromethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1-Dichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1-Dichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
cis-1,2-Dichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
trans-1,2-Dichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dichloropropane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
cis-1,3-Dichloropropene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
trans-1,3-Dichloropropene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Ethylbenzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Hexachlorobutadiene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2-Hexanone	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Isopropylbenzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
4-Isopropyltoluene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Methylene Chloride	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
4-Methyl-2-pentanone (MIBK)	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Naphthalene	ND	*	8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
N-Propylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Styrene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,1,2-Tetrachloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1

TestAmerica Pleasanton



# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4450**

**Date Collected: 09/21/16 13:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-5**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Tetrachloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Toluene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,3-Trichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,4-Trichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,1-Trichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,2-Trichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Trichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Trichlorofluoromethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,3-Trichloropropane	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,4-Trimethylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,3,5-Trimethylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Vinyl acetate	ND		17		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Vinyl chloride	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Xylenes, Total	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2,2-Dichloropropane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Gasoline Range Organics (GRO)	ND		210		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
-C5-C12									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	70		45 - 131				09/21/16 20:40	09/23/16 16:38	1
1,2-Dichloroethane-d4 (Surr)	109		60 - 140				09/21/16 20:40	09/23/16 16:38	1
Toluene-d8 (Surr)	96		58 - 140				09/21/16 20:40	09/23/16 16:38	1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Bis(2-chloroethyl)ether	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Chlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,3-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,4-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzyl alcohol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,2-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Methylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Methylphenol, 3 & 4	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
N-Nitrosodi-n-propylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Hexachloroethane	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Nitrobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Isophorone	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Nitrophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dimethylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Bis(2-chloroethoxy)methane	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,2,4-Trichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Naphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Chloroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Hexachlorobutadiene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Chloro-3-methylphenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Methylnaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4450**

**Date Collected: 09/21/16 13:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-5**

**Matrix: Solid**

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4,6-Trichlorophenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4,5-Trichlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Chloronaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Dimethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Acenaphthylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
3-Nitroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Acenaphthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Dibenzofuran	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,6-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Diethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Chlorophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Fluorene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Methyl-4,6-dinitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
N-Nitrosodiphenylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Bromophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Hexachlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Pentachlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Phenanthrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Di-n-butyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Butyl benzyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
3,3'-Dichlorobenzidine	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[a]anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Bis(2-ethylhexyl) phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Chrysene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Di-n-octyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[b]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[a]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[k]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Indeno[1,2,3-cd]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[g,h,i]perylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzoic acid	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Azobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Dibenz(a,h)anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	69		21 - 98	09/26/16 10:36	09/28/16 00:54	2
2-Fluorobiphenyl	86		30 - 112	09/26/16 10:36	09/28/16 00:54	2
Terphenyl-d14	86		59 - 134	09/26/16 10:36	09/28/16 00:54	2
2-Fluorophenol	75		28 - 98	09/26/16 10:36	09/28/16 00:54	2
Phenol-d5	78		23 - 101	09/26/16 10:36	09/28/16 00:54	2
2,4,6-Tribromophenol	68		37 - 114	09/26/16 10:36	09/28/16 00:54	2

TestAmerica Pleasanton



# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	58		3.0		mg/Kg		09/26/16 11:32	09/28/16 02:49	3
Motor Oil Range Organics [C24-C36]	200		150		mg/Kg		09/26/16 11:32	09/28/16 02:49	3

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl	93		40 - 130				09/26/16 11:32	09/28/16 02:49	3

## Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Dieldrin	2.4		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
4,4'-DDT	9.9		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
4,4'-DDE	6.4		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Toxaphene	ND		39		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Chlordane (technical)	ND		39		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
alpha-Chlordane	2.0		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
gamma-Chlordane	8.6		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	91		57 - 122				09/26/16 10:20	09/28/16 09:28	1
DCB Decachlorobiphenyl	92		21 - 136				09/26/16 10:20	09/28/16 09:28	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1221	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1232	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1242	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1248	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1254	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1260	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		45 - 132				09/26/16 11:02	09/27/16 20:32	1
DCB Decachlorobiphenyl	75		42 - 146				09/26/16 11:02	09/27/16 20:32	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Arsenic	13		2.8		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Barium	140		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4450**

**Date Collected: 09/21/16 13:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-5**

**Matrix: Solid**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.28		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Cadmium	1.1		0.35		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Chromium	32		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Cobalt	7.1		0.56		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Copper	24		4.2		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Lead	33		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Molybdenum	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Nickel	37		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Selenium	ND		2.8		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Silver	ND		0.70		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Thallium	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Vanadium	31		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Zinc	65		4.2		mg/Kg		09/23/16 16:18	09/26/16 22:21	4

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.22		0.0094		mg/Kg		09/23/16 13:01	09/28/16 16:54	1

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4800**

**Date Collected: 09/21/16 13:28**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-6**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Acetone	ND		40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Benzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Dichlorobromomethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Bromobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chlorobromomethane	ND		16		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Bromoform	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Bromomethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2-Butanone (MEK)	ND	*	40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
n-Butylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
sec-Butylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
tert-Butylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Carbon disulfide	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Carbon tetrachloride	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chloroethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chloroform	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chloromethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2-Chlorotoluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
4-Chlorotoluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chlorodibromomethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,3-Dichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,4-Dichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,3-Dichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1-Dichloropropene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dibromo-3-Chloropropane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Ethylene Dibromide	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Dibromomethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Dichlorodifluoromethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1-Dichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1-Dichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
cis-1,2-Dichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
trans-1,2-Dichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
cis-1,3-Dichloropropene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
trans-1,3-Dichloropropene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Ethylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Hexachlorobutadiene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2-Hexanone	ND		40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Isopropylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
4-Isopropyltoluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Methylene Chloride	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
4-Methyl-2-pentanone (MIBK)	ND		40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Naphthalene	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
N-Propylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Styrene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,1,2-Tetrachloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4800**

**Date Collected: 09/21/16 13:28**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-6**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Tetrachloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Toluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,3-Trichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,4-Trichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,1-Trichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,2-Trichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Trichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Trichlorofluoromethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,3-Trichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,4-Trimethylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,3,5-Trimethylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Vinyl acetate	ND		16		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Vinyl chloride	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Xylenes, Total	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2,2-Dichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Gasoline Range Organics (GRO)	ND		200		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
-C5-C12									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		45 - 131				09/21/16 20:40	09/23/16 17:08	1
1,2-Dichloroethane-d4 (Surr)	106		60 - 140				09/21/16 20:40	09/23/16 17:08	1
Toluene-d8 (Surr)	102		58 - 140				09/21/16 20:40	09/23/16 17:08	1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Bis(2-chloroethyl)ether	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Chlorophenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,3-Dichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,4-Dichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzyl alcohol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,2-Dichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Methylphenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Methylphenol, 3 & 4	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
N-Nitrosodi-n-propylamine	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Hexachloroethane	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Nitrobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Isophorone	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Nitrophenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dimethylphenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Bis(2-chloroethoxy)methane	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dichlorophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,2,4-Trichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Naphthalene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Chloroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Hexachlorobutadiene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Chloro-3-methylphenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Methylnaphthalene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4800**

**Lab Sample ID: 720-74613-6**

**Date Collected: 09/21/16 13:28**

**Matrix: Solid**

**Date Received: 09/21/16 17:00**

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4,6-Trichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4,5-Trichlorophenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Chloronaphthalene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Nitroaniline	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Dimethyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Acenaphthylene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
3-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Acenaphthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dinitrophenol	ND		5.2		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Nitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Dibenzofuran	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dinitrotoluene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,6-Dinitrotoluene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Diethyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Chlorophenyl phenyl ether	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Fluorene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Nitroaniline	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Methyl-4,6-dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
N-Nitrosodiphenylamine	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Bromophenyl phenyl ether	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Hexachlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Pentachlorophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Phenanthrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Anthracene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Di-n-butyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Fluoranthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Pyrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Butyl benzyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
3,3'-Dichlorobenzidine	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[a]anthracene	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Bis(2-ethylhexyl) phthalate	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Chrysene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Di-n-octyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[b]fluoranthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[a]pyrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[k]fluoranthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Indeno[1,2,3-cd]pyrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[g,h,i]perylene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzoic acid	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Azobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Dibenz(a,h)anthracene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		21 - 98	09/26/16 10:36	09/28/16 01:20	4
2-Fluorobiphenyl	90		30 - 112	09/26/16 10:36	09/28/16 01:20	4
Terphenyl-d14	90		59 - 134	09/26/16 10:36	09/28/16 01:20	4
2-Fluorophenol	74		28 - 98	09/26/16 10:36	09/28/16 01:20	4
Phenol-d5	79		23 - 101	09/26/16 10:36	09/28/16 01:20	4
2,4,6-Tribromophenol	82		37 - 114	09/26/16 10:36	09/28/16 01:20	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	100		5.0		mg/Kg		09/26/16 11:32	09/27/16 22:22	5
Motor Oil Range Organics [C24-C36]	380		250		mg/Kg		09/26/16 11:32	09/27/16 22:22	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	0	X D	40 - 130	09/26/16 11:32	09/27/16 22:22	5

## Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Dieldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
4,4'-DDT	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
4,4'-DDE	3.3		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
4,4'-DDD	5.9		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Chlordane (technical)	ND		40		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
alpha-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
gamma-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		57 - 122	09/26/16 10:20	09/28/16 09:46	1
DCB Decachlorobiphenyl	86		21 - 136	09/26/16 10:20	09/28/16 09:46	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1221	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1232	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1242	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1248	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1254	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1260	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		45 - 132	09/26/16 11:02	09/27/16 20:49	1
DCB Decachlorobiphenyl	74		42 - 146	09/26/16 11:02	09/27/16 20:49	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Arsenic	5.2		2.7		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Barium	110		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4

TestAmerica Pleasanton

# Client Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4800**

**Date Collected: 09/21/16 13:28**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-6**

**Matrix: Solid**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.27		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Cadmium	ND		0.34		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Chromium</b>	<b>57</b>		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Cobalt</b>	<b>8.8</b>		0.55		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Copper</b>	<b>26</b>		4.1		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Lead</b>	<b>16</b>		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Molybdenum	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Nickel</b>	<b>46</b>		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Selenium	ND		2.7		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Silver	ND		0.68		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Thallium	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Vanadium</b>	<b>37</b>		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
<b>Zinc</b>	<b>47</b>		4.1		mg/Kg		09/23/16 16:18	09/26/16 22:26	4

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.12</b>		0.0095		mg/Kg		09/23/16 13:01	09/28/16 16:57	1

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# Surrogate Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (45-131)	12DCE (60-140)	TOL (58-140)
720-74613-1	JT-3730	73	96	98
720-74613-2	JT-4090	94	96	92
720-74613-3	JT-3490	72	107	97
720-74613-4	ST-3780	97	120	102
720-74613-5	JT-4450	70	109	96
720-74613-6	JT-4800	89	106	102
LCS 720-209822/5	Lab Control Sample	100	85	95
LCS 720-209822/7	Lab Control Sample	100	86	95
LCS 720-209835/5	Lab Control Sample	96	99	105
LCS 720-209835/7	Lab Control Sample	97	101	105
LCSD 720-209822/6	Lab Control Sample Dup	98	84	96
LCSD 720-209822/8	Lab Control Sample Dup	101	87	95
LCSD 720-209835/6	Lab Control Sample Dup	96	100	106
LCSD 720-209835/8	Lab Control Sample Dup	97	103	105
MB 720-209822/4	Method Blank	101	85	95
MB 720-209835/4	Method Blank	97	101	103

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
12DCE = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		NBZ (21-98)	FBP (30-112)	TPH (59-134)	2FP (28-98)	PHL (23-101)	TBP (37-114)
720-74613-1	JT-3730	62	81	78	68	71	69
720-74613-2	JT-4090	66	92	94	69	79	43
720-74613-3	JT-3490	66	86	87	71	75	74
720-74613-4	ST-3780	63	85	86	66	71	71
720-74613-5	JT-4450	69	86	86	75	78	68
720-74613-6	JT-4800	65	90	90	74	79	82
LCS 720-209965/2-A	Lab Control Sample	76	75	87	73	77	73
MB 720-209965/1-A	Method Blank	70	68	83	70	74	64

### Surrogate Legend

NBZ = Nitrobenzene-d5  
FBP = 2-Fluorobiphenyl  
TPH = Terphenyl-d14  
2FP = 2-Fluorophenol  
PHL = Phenol-d5  
TBP = 2,4,6-Tribromophenol

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# Surrogate Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PTP1 (40-130)
720-74613-1	JT-3730	73
720-74613-2	JT-4090	0 X D
720-74613-3	JT-3490	108
720-74613-3 MS	JT-3490	92
720-74613-3 MSD	JT-3490	99
720-74613-4	ST-3780	0 X D
720-74613-5	JT-4450	93
720-74613-6	JT-4800	0 X D
LCS 720-209972/2-A	Lab Control Sample	106
MB 720-209972/1-A	Method Blank	106

#### Surrogate Legend

PTP = p-Terphenyl

## Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (57-122)	DCB1 (21-136)
720-74613-1	JT-3730	91	99
720-74613-2	JT-4090	94 p	102

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

## Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (57-122)	DCB2 (21-136)
720-74613-3	JT-3490	88	80
720-74613-4	ST-3780	90	89
LCS 720-209959/2-A	Lab Control Sample	88	105
MB 720-209959/1-A	Method Blank	84	99

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

## Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (57-122)	DCB1 (21-136)
720-74613-5	JT-4450	91	92
720-74613-6	JT-4800	99	86

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# Surrogate Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1	DCB1
		(45-132)	(42-146)
720-74613-1	JT-3730	75	80
720-74613-2	JT-4090	84	75
720-74613-3	JT-3490	78	75
720-74613-4	ST-3780	84	74
720-74613-5	JT-4450	82	75
720-74613-6	JT-4800	83	74
LCS 720-209967/2-A	Lab Control Sample	80	75
MB 720-209967/1-A	Method Blank	75	83

## Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-209822/4

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg			09/22/16 19:15	1
Acetone	ND		50		ug/Kg			09/22/16 19:15	1
Benzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Dichlorobromomethane	ND		5.0		ug/Kg			09/22/16 19:15	1
Bromobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Chlorobromomethane	ND		20		ug/Kg			09/22/16 19:15	1
Bromoform	ND		5.0		ug/Kg			09/22/16 19:15	1
Bromomethane	ND		10		ug/Kg			09/22/16 19:15	1
2-Butanone (MEK)	ND		50		ug/Kg			09/22/16 19:15	1
n-Butylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
sec-Butylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
tert-Butylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Carbon disulfide	ND		5.0		ug/Kg			09/22/16 19:15	1
Carbon tetrachloride	ND		5.0		ug/Kg			09/22/16 19:15	1
Chlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Chloroethane	ND		10		ug/Kg			09/22/16 19:15	1
Chloroform	ND		5.0		ug/Kg			09/22/16 19:15	1
Chloromethane	ND		10		ug/Kg			09/22/16 19:15	1
2-Chlorotoluene	ND		5.0		ug/Kg			09/22/16 19:15	1
4-Chlorotoluene	ND		5.0		ug/Kg			09/22/16 19:15	1
Chlorodibromomethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,3-Dichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1-Dichloropropene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			09/22/16 19:15	1
Ethylene Dibromide	ND		5.0		ug/Kg			09/22/16 19:15	1
Dibromomethane	ND		10		ug/Kg			09/22/16 19:15	1
Dichlorodifluoromethane	ND		10		ug/Kg			09/22/16 19:15	1
1,1-Dichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1-Dichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			09/22/16 19:15	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			09/22/16 19:15	1
Ethylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Hexachlorobutadiene	ND		5.0		ug/Kg			09/22/16 19:15	1
2-Hexanone	ND		50		ug/Kg			09/22/16 19:15	1
Isopropylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
4-Isopropyltoluene	ND		5.0		ug/Kg			09/22/16 19:15	1
Methylene Chloride	ND		10		ug/Kg			09/22/16 19:15	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			09/22/16 19:15	1
Naphthalene	ND		10		ug/Kg			09/22/16 19:15	1
N-Propylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Styrene	ND		5.0		ug/Kg			09/22/16 19:15	1

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# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-209822/4

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
Tetrachloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
Toluene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
Trichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
Trichlorofluoromethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Vinyl acetate	ND		20		ug/Kg			09/22/16 19:15	1
Vinyl chloride	ND		5.0		ug/Kg			09/22/16 19:15	1
Xylenes, Total	ND		10		ug/Kg			09/22/16 19:15	1
2,2-Dichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			09/22/16 19:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		45 - 131		09/22/16 19:15	1
1,2-Dichloroethane-d4 (Surr)	85		60 - 140		09/22/16 19:15	1
Toluene-d8 (Surr)	95		58 - 140		09/22/16 19:15	1

Lab Sample ID: LCS 720-209822/5

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	50.9		ug/Kg		102	70 - 144
Acetone	250	274		ug/Kg		109	30 - 162
Benzene	50.0	49.6		ug/Kg		99	70 - 130
Dichlorobromomethane	50.0	49.9		ug/Kg		100	70 - 140
Bromobenzene	50.0	48.6		ug/Kg		97	70 - 130
Chlorobromomethane	50.0	51.0		ug/Kg		102	70 - 130
Bromoform	50.0	56.7		ug/Kg		113	59 - 158
Bromomethane	50.0	52.0		ug/Kg		104	59 - 132
2-Butanone (MEK)	250	270		ug/Kg		108	53 - 133
n-Butylbenzene	50.0	48.5		ug/Kg		97	70 - 142
sec-Butylbenzene	50.0	43.8		ug/Kg		88	70 - 136
tert-Butylbenzene	50.0	45.4		ug/Kg		91	70 - 130
Carbon disulfide	50.0	53.4		ug/Kg		107	60 - 140
Carbon tetrachloride	50.0	44.4		ug/Kg		89	70 - 142
Chlorobenzene	50.0	47.9		ug/Kg		96	70 - 130
Chloroethane	50.0	54.7		ug/Kg		109	65 - 130
Chloroform	50.0	48.2		ug/Kg		96	77 - 127

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# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209822/5

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	50.0	53.2		ug/Kg		106	55 - 140
2-Chlorotoluene	50.0	46.6		ug/Kg		93	70 - 138
4-Chlorotoluene	50.0	46.7		ug/Kg		93	70 - 136
Chlorodibromomethane	50.0	49.4		ug/Kg		99	70 - 146
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	70 - 130
1,3-Dichlorobenzene	50.0	47.9		ug/Kg		96	70 - 131
1,4-Dichlorobenzene	50.0	48.7		ug/Kg		97	70 - 130
1,3-Dichloropropane	50.0	49.4		ug/Kg		99	70 - 140
1,1-Dichloropropene	50.0	46.6		ug/Kg		93	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	47.6		ug/Kg		95	60 - 145
Ethylene Dibromide	50.0	51.4		ug/Kg		103	70 - 140
Dibromomethane	50.0	49.2		ug/Kg		98	70 - 139
Dichlorodifluoromethane	50.0	44.7		ug/Kg		89	37 - 158
1,1-Dichloroethane	50.0	48.5		ug/Kg		97	70 - 130
1,2-Dichloroethane	50.0	47.0		ug/Kg		94	70 - 130
1,1-Dichloroethene	50.0	51.5		ug/Kg		103	74 - 122
cis-1,2-Dichloroethene	50.0	49.4		ug/Kg		99	70 - 138
trans-1,2-Dichloroethene	50.0	50.7		ug/Kg		101	67 - 130
1,2-Dichloropropane	50.0	52.7		ug/Kg		105	73 - 127
cis-1,3-Dichloropropene	50.0	52.2		ug/Kg		104	68 - 147
trans-1,3-Dichloropropene	50.0	50.6		ug/Kg		101	70 - 155
Ethylbenzene	50.0	45.0		ug/Kg		90	80 - 137
Hexachlorobutadiene	50.0	45.2		ug/Kg		90	70 - 132
2-Hexanone	250	247		ug/Kg		99	44 - 133
Isopropylbenzene	50.0	45.2		ug/Kg		90	70 - 130
4-Isopropyltoluene	50.0	44.8		ug/Kg		90	70 - 133
Methylene Chloride	50.0	50.6		ug/Kg		101	70 - 134
4-Methyl-2-pentanone (MIBK)	250	262		ug/Kg		105	60 - 160
Naphthalene	50.0	47.0		ug/Kg		94	60 - 147
N-Propylbenzene	50.0	44.7		ug/Kg		89	70 - 130
Styrene	50.0	50.4		ug/Kg		101	70 - 130
1,1,1,2-Tetrachloroethane	50.0	50.2		ug/Kg		100	70 - 130
1,1,2,2-Tetrachloroethane	50.0	52.4		ug/Kg		105	70 - 146
Tetrachloroethene	50.0	46.6		ug/Kg		93	70 - 132
Toluene	50.0	47.5		ug/Kg		95	75 - 120
1,2,3-Trichlorobenzene	50.0	46.5		ug/Kg		93	60 - 140
1,2,4-Trichlorobenzene	50.0	48.4		ug/Kg		97	60 - 140
1,1,1-Trichloroethane	50.0	43.2		ug/Kg		86	70 - 130
1,1,2-Trichloroethane	50.0	49.8		ug/Kg		100	70 - 130
Trichloroethene	50.0	46.5		ug/Kg		93	70 - 133
Trichlorofluoromethane	50.0	47.1		ug/Kg		94	60 - 140
1,2,3-Trichloropropane	50.0	48.6		ug/Kg		97	70 - 146
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.2		ug/Kg		100	60 - 140
1,2,4-Trimethylbenzene	50.0	46.6		ug/Kg		93	70 - 130
1,3,5-Trimethylbenzene	50.0	46.7		ug/Kg		93	70 - 131
Vinyl acetate	50.0	60.8		ug/Kg		122	38 - 176
Vinyl chloride	50.0	52.4		ug/Kg		105	58 - 125

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# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209822/5

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m-Xylene & p-Xylene	50.0	47.9		ug/Kg		96	70 - 146
o-Xylene	50.0	44.7		ug/Kg		89	70 - 140
2,2-Dichloropropane	50.0	43.2		ug/Kg		86	70 - 162

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		45 - 131
1,2-Dichloroethane-d4 (Surr)	85		60 - 140
Toluene-d8 (Surr)	95		58 - 140

Lab Sample ID: LCS 720-209822/7

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)	1000	995		ug/Kg		100	61 - 128
-C5-C12							

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		45 - 131
1,2-Dichloroethane-d4 (Surr)	86		60 - 140
Toluene-d8 (Surr)	95		58 - 140

Lab Sample ID: LCSD 720-209822/6

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	50.0	50.9		ug/Kg		102	70 - 144	0	20
Acetone	250	262		ug/Kg		105	30 - 162	4	30
Benzene	50.0	49.8		ug/Kg		100	70 - 130	0	20
Dichlorobromomethane	50.0	49.7		ug/Kg		99	70 - 140	0	20
Bromobenzene	50.0	48.7		ug/Kg		97	70 - 130	0	20
Chlorobromomethane	50.0	50.3		ug/Kg		101	70 - 130	1	20
Bromoform	50.0	55.4		ug/Kg		111	59 - 158	2	20
Bromomethane	50.0	52.7		ug/Kg		105	59 - 132	1	20
2-Butanone (MEK)	250	269		ug/Kg		107	53 - 133	0	20
n-Butylbenzene	50.0	48.6		ug/Kg		97	70 - 142	0	20
sec-Butylbenzene	50.0	44.3		ug/Kg		89	70 - 136	1	20
tert-Butylbenzene	50.0	46.2		ug/Kg		92	70 - 130	2	20
Carbon disulfide	50.0	53.9		ug/Kg		108	60 - 140	1	20
Carbon tetrachloride	50.0	45.3		ug/Kg		91	70 - 142	2	20
Chlorobenzene	50.0	46.6		ug/Kg		93	70 - 130	3	20
Chloroethane	50.0	54.9		ug/Kg		110	65 - 130	0	20
Chloroform	50.0	48.5		ug/Kg		97	77 - 127	1	20
Chloromethane	50.0	54.6		ug/Kg		109	55 - 140	3	20
2-Chlorotoluene	50.0	46.8		ug/Kg		94	70 - 138	0	20
4-Chlorotoluene	50.0	47.0		ug/Kg		94	70 - 136	1	20
Chlorodibromomethane	50.0	49.4		ug/Kg		99	70 - 146	0	20

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209822/6

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	70 - 130	0	20
1,3-Dichlorobenzene	50.0	47.9		ug/Kg		96	70 - 131	0	20
1,4-Dichlorobenzene	50.0	48.4		ug/Kg		97	70 - 130	1	20
1,3-Dichloropropane	50.0	49.6		ug/Kg		99	70 - 140	0	20
1,1-Dichloropropene	50.0	46.9		ug/Kg		94	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	50.0	47.1		ug/Kg		94	60 - 145	1	20
Ethylene Dibromide	50.0	51.2		ug/Kg		102	70 - 140	0	20
Dibromomethane	50.0	48.7		ug/Kg		97	70 - 139	1	20
Dichlorodifluoromethane	50.0	44.9		ug/Kg		90	37 - 158	1	20
1,1-Dichloroethane	50.0	48.6		ug/Kg		97	70 - 130	0	20
1,2-Dichloroethane	50.0	46.7		ug/Kg		93	70 - 130	1	20
1,1-Dichloroethene	50.0	52.4		ug/Kg		105	74 - 122	2	20
cis-1,2-Dichloroethene	50.0	49.4		ug/Kg		99	70 - 138	0	20
trans-1,2-Dichloroethene	50.0	51.0		ug/Kg		102	67 - 130	1	20
1,2-Dichloropropane	50.0	52.9		ug/Kg		106	73 - 127	0	20
cis-1,3-Dichloropropene	50.0	52.2		ug/Kg		104	68 - 147	0	20
trans-1,3-Dichloropropene	50.0	50.1		ug/Kg		100	70 - 155	1	20
Ethylbenzene	50.0	43.9		ug/Kg		88	80 - 137	2	20
Hexachlorobutadiene	50.0	45.3		ug/Kg		91	70 - 132	0	20
2-Hexanone	250	249		ug/Kg		100	44 - 133	1	20
Isopropylbenzene	50.0	44.4		ug/Kg		89	70 - 130	2	20
4-Isopropyltoluene	50.0	45.1		ug/Kg		90	70 - 133	0	20
Methylene Chloride	50.0	50.7		ug/Kg		101	70 - 134	0	20
4-Methyl-2-pentanone (MIBK)	250	266		ug/Kg		106	60 - 160	1	20
Naphthalene	50.0	47.0		ug/Kg		94	60 - 147	0	20
N-Propylbenzene	50.0	45.4		ug/Kg		91	70 - 130	1	20
Styrene	50.0	48.9		ug/Kg		98	70 - 130	3	20
1,1,1,2-Tetrachloroethane	50.0	49.2		ug/Kg		98	70 - 130	2	20
1,1,2,2-Tetrachloroethane	50.0	52.3		ug/Kg		105	70 - 146	0	20
Tetrachloroethene	50.0	47.2		ug/Kg		94	70 - 132	1	20
Toluene	50.0	45.9		ug/Kg		92	75 - 120	3	20
1,2,3-Trichlorobenzene	50.0	46.4		ug/Kg		93	60 - 140	0	20
1,2,4-Trichlorobenzene	50.0	47.6		ug/Kg		95	60 - 140	2	20
1,1,1-Trichloroethane	50.0	43.6		ug/Kg		87	70 - 130	1	20
1,1,2-Trichloroethane	50.0	49.9		ug/Kg		100	70 - 130	0	20
Trichloroethene	50.0	46.6		ug/Kg		93	70 - 133	0	20
Trichlorofluoromethane	50.0	47.1		ug/Kg		94	60 - 140	0	20
1,2,3-Trichloropropane	50.0	49.0		ug/Kg		98	70 - 146	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.3		ug/Kg		101	60 - 140	0	20
1,2,4-Trimethylbenzene	50.0	46.8		ug/Kg		94	70 - 130	0	20
1,3,5-Trimethylbenzene	50.0	47.1		ug/Kg		94	70 - 131	1	20
Vinyl acetate	50.0	61.4		ug/Kg		123	38 - 176	1	20
Vinyl chloride	50.0	52.9		ug/Kg		106	58 - 125	1	20
m-Xylene & p-Xylene	50.0	46.8		ug/Kg		94	70 - 146	2	20
o-Xylene	50.0	43.6		ug/Kg		87	70 - 140	3	20
2,2-Dichloropropane	50.0	42.7		ug/Kg		85	70 - 162	1	20

TestAmerica Pleasanton



# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209822/6

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	98		45 - 131
1,2-Dichloroethane-d4 (Surr)	84		60 - 140
Toluene-d8 (Surr)	96		58 - 140

Lab Sample ID: LCSD 720-209822/8

Matrix: Solid

Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	1000	999		ug/Kg		100	61 - 128	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	101		45 - 131
1,2-Dichloroethane-d4 (Surr)	87		60 - 140
Toluene-d8 (Surr)	95		58 - 140

Lab Sample ID: MB 720-209835/4

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg			09/23/16 08:47	1
Acetone	ND		50		ug/Kg			09/23/16 08:47	1
Benzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Dichlorobromomethane	ND		5.0		ug/Kg			09/23/16 08:47	1
Bromobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Chlorobromomethane	ND		20		ug/Kg			09/23/16 08:47	1
Bromoform	ND		5.0		ug/Kg			09/23/16 08:47	1
Bromomethane	ND		10		ug/Kg			09/23/16 08:47	1
2-Butanone (MEK)	ND		50		ug/Kg			09/23/16 08:47	1
n-Butylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
sec-Butylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
tert-Butylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Carbon disulfide	ND		5.0		ug/Kg			09/23/16 08:47	1
Carbon tetrachloride	ND		5.0		ug/Kg			09/23/16 08:47	1
Chlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Chloroethane	ND		10		ug/Kg			09/23/16 08:47	1
Chloroform	ND		5.0		ug/Kg			09/23/16 08:47	1
Chloromethane	ND		10		ug/Kg			09/23/16 08:47	1
2-Chlorotoluene	ND		5.0		ug/Kg			09/23/16 08:47	1
4-Chlorotoluene	ND		5.0		ug/Kg			09/23/16 08:47	1
Chlorodibromomethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,3-Dichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1-Dichloropropene	ND		5.0		ug/Kg			09/23/16 08:47	1

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# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-209835/4

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			09/23/16 08:47	1
Ethylene Dibromide	ND		5.0		ug/Kg			09/23/16 08:47	1
Dibromomethane	ND		10		ug/Kg			09/23/16 08:47	1
Dichlorodifluoromethane	ND		10		ug/Kg			09/23/16 08:47	1
1,1-Dichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2-Dichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1-Dichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2-Dichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			09/23/16 08:47	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			09/23/16 08:47	1
Ethylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Hexachlorobutadiene	ND		5.0		ug/Kg			09/23/16 08:47	1
2-Hexanone	ND		50		ug/Kg			09/23/16 08:47	1
Isopropylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
4-Isopropyltoluene	ND		5.0		ug/Kg			09/23/16 08:47	1
Methylene Chloride	ND		10		ug/Kg			09/23/16 08:47	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			09/23/16 08:47	1
Naphthalene	ND		10		ug/Kg			09/23/16 08:47	1
N-Propylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Styrene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
Tetrachloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
Toluene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
Trichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
Trichlorofluoromethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Vinyl acetate	ND		20		ug/Kg			09/23/16 08:47	1
Vinyl chloride	ND		5.0		ug/Kg			09/23/16 08:47	1
Xylenes, Total	ND		10		ug/Kg			09/23/16 08:47	1
2,2-Dichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
Gasoline Range Organics (GRO)	ND		250		ug/Kg			09/23/16 08:47	1
-C5-C12									

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		45 - 131		09/23/16 08:47	1
1,2-Dichloroethane-d4 (Surr)	101		60 - 140		09/23/16 08:47	1
Toluene-d8 (Surr)	103		58 - 140		09/23/16 08:47	1

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209835/5

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	57.5		ug/Kg		115	70 - 144
Acetone	250	332		ug/Kg		133	30 - 162
Benzene	50.0	53.7		ug/Kg		107	70 - 130
Dichlorobromomethane	50.0	54.8		ug/Kg		110	70 - 140
Bromobenzene	50.0	50.7		ug/Kg		101	70 - 130
Chlorobromomethane	50.0	56.1		ug/Kg		112	70 - 130
Bromoform	50.0	57.3		ug/Kg		115	59 - 158
Bromomethane	50.0	53.7		ug/Kg		107	59 - 132
2-Butanone (MEK)	250	337 *		ug/Kg		135	53 - 133
n-Butylbenzene	50.0	50.4		ug/Kg		101	70 - 142
sec-Butylbenzene	50.0	51.6		ug/Kg		103	70 - 136
tert-Butylbenzene	50.0	50.8		ug/Kg		102	70 - 130
Carbon disulfide	50.0	60.4		ug/Kg		121	60 - 140
Carbon tetrachloride	50.0	55.8		ug/Kg		112	70 - 142
Chlorobenzene	50.0	50.3		ug/Kg		101	70 - 130
Chloroethane	50.0	52.7		ug/Kg		105	65 - 130
Chloroform	50.0	53.0		ug/Kg		106	77 - 127
Chloromethane	50.0	46.8		ug/Kg		94	55 - 140
2-Chlorotoluene	50.0	48.0		ug/Kg		96	70 - 138
4-Chlorotoluene	50.0	48.9		ug/Kg		98	70 - 136
Chlorodibromomethane	50.0	57.1		ug/Kg		114	70 - 146
1,2-Dichlorobenzene	50.0	48.3		ug/Kg		97	70 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/Kg		99	70 - 131
1,4-Dichlorobenzene	50.0	49.4		ug/Kg		99	70 - 130
1,3-Dichloropropane	50.0	53.4		ug/Kg		107	70 - 140
1,1-Dichloropropene	50.0	54.2		ug/Kg		108	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	58.3		ug/Kg		117	60 - 145
Ethylene Dibromide	50.0	59.6		ug/Kg		119	70 - 140
Dibromomethane	50.0	54.7		ug/Kg		109	70 - 139
Dichlorodifluoromethane	50.0	47.0		ug/Kg		94	37 - 158
1,1-Dichloroethane	50.0	50.7		ug/Kg		101	70 - 130
1,2-Dichloroethane	50.0	50.9		ug/Kg		102	70 - 130
1,1-Dichloroethene	50.0	55.9		ug/Kg		112	74 - 122
cis-1,2-Dichloroethene	50.0	50.4		ug/Kg		101	70 - 138
trans-1,2-Dichloroethene	50.0	56.3		ug/Kg		113	67 - 130
1,2-Dichloropropane	50.0	51.4		ug/Kg		103	73 - 127
cis-1,3-Dichloropropene	50.0	56.5		ug/Kg		113	68 - 147
trans-1,3-Dichloropropene	50.0	57.4		ug/Kg		115	70 - 155
Ethylbenzene	50.0	50.3		ug/Kg		101	80 - 137
Hexachlorobutadiene	50.0	62.1		ug/Kg		124	70 - 132
2-Hexanone	250	310		ug/Kg		124	44 - 133
Isopropylbenzene	50.0	53.8		ug/Kg		108	70 - 130
4-Isopropyltoluene	50.0	51.1		ug/Kg		102	70 - 133
Methylene Chloride	50.0	54.5		ug/Kg		109	70 - 134
4-Methyl-2-pentanone (MIBK)	250	303		ug/Kg		121	60 - 160
Naphthalene	50.0	56.8		ug/Kg		114	60 - 147
N-Propylbenzene	50.0	51.9		ug/Kg		104	70 - 130
Styrene	50.0	53.0		ug/Kg		106	70 - 130

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209835/5

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	50.3		ug/Kg		101	70 - 130
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/Kg		101	70 - 146
Tetrachloroethene	50.0	58.6		ug/Kg		117	70 - 132
Toluene	50.0	49.5		ug/Kg		99	75 - 120
1,2,3-Trichlorobenzene	50.0	56.6		ug/Kg		113	60 - 140
1,2,4-Trichlorobenzene	50.0	56.9		ug/Kg		114	60 - 140
1,1,1-Trichloroethane	50.0	54.5		ug/Kg		109	70 - 130
1,1,2-Trichloroethane	50.0	53.4		ug/Kg		107	70 - 130
Trichloroethene	50.0	55.6		ug/Kg		111	70 - 133
Trichlorofluoromethane	50.0	59.6		ug/Kg		119	60 - 140
1,2,3-Trichloropropane	50.0	52.1		ug/Kg		104	70 - 146
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	61.0		ug/Kg		122	60 - 140
1,2,4-Trimethylbenzene	50.0	50.2		ug/Kg		100	70 - 130
1,3,5-Trimethylbenzene	50.0	50.1		ug/Kg		100	70 - 131
Vinyl acetate	50.0	62.1		ug/Kg		124	38 - 176
Vinyl chloride	50.0	51.1		ug/Kg		102	58 - 125
m-Xylene & p-Xylene	50.0	50.4		ug/Kg		101	70 - 146
o-Xylene	50.0	49.4		ug/Kg		99	70 - 140
2,2-Dichloropropane	50.0	61.3		ug/Kg		123	70 - 162

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		45 - 131
1,2-Dichloroethane-d4 (Surr)	99		60 - 140
Toluene-d8 (Surr)	105		58 - 140

Lab Sample ID: LCS 720-209835/7

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	962		ug/Kg		96	61 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		45 - 131
1,2-Dichloroethane-d4 (Surr)	101		60 - 140
Toluene-d8 (Surr)	105		58 - 140

Lab Sample ID: LCSD 720-209835/6

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	50.0	56.7		ug/Kg		113	70 - 144	1	20
Acetone	250	325		ug/Kg		130	30 - 162	2	30
Benzene	50.0	53.4		ug/Kg		107	70 - 130	0	20
Dichlorobromomethane	50.0	54.3		ug/Kg		109	70 - 140	1	20

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209835/6

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromobenzene	50.0	50.6		ug/Kg		101	70 - 130	0	20
Chlorobromomethane	50.0	55.6		ug/Kg		111	70 - 130	1	20
Bromoform	50.0	55.2		ug/Kg		110	59 - 158	4	20
Bromomethane	50.0	54.1		ug/Kg		108	59 - 132	1	20
2-Butanone (MEK)	250	316		ug/Kg		126	53 - 133	6	20
n-Butylbenzene	50.0	50.9		ug/Kg		102	70 - 142	1	20
sec-Butylbenzene	50.0	51.8		ug/Kg		104	70 - 136	1	20
tert-Butylbenzene	50.0	50.7		ug/Kg		101	70 - 130	0	20
Carbon disulfide	50.0	59.8		ug/Kg		120	60 - 140	1	20
Carbon tetrachloride	50.0	55.3		ug/Kg		111	70 - 142	1	20
Chlorobenzene	50.0	49.9		ug/Kg		100	70 - 130	1	20
Chloroethane	50.0	52.4		ug/Kg		105	65 - 130	1	20
Chloroform	50.0	53.1		ug/Kg		106	77 - 127	0	20
Chloromethane	50.0	46.8		ug/Kg		94	55 - 140	0	20
2-Chlorotoluene	50.0	48.0		ug/Kg		96	70 - 138	0	20
4-Chlorotoluene	50.0	49.3		ug/Kg		99	70 - 136	1	20
Chlorodibromomethane	50.0	56.8		ug/Kg		114	70 - 146	0	20
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	70 - 130	1	20
1,3-Dichlorobenzene	50.0	49.9		ug/Kg		100	70 - 131	0	20
1,4-Dichlorobenzene	50.0	49.8		ug/Kg		100	70 - 130	1	20
1,3-Dichloropropane	50.0	53.1		ug/Kg		106	70 - 140	1	20
1,1-Dichloropropene	50.0	53.7		ug/Kg		107	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	50.0	56.1		ug/Kg		112	60 - 145	4	20
Ethylene Dibromide	50.0	58.2		ug/Kg		116	70 - 140	2	20
Dibromomethane	50.0	54.3		ug/Kg		109	70 - 139	1	20
Dichlorodifluoromethane	50.0	46.7		ug/Kg		93	37 - 158	1	20
1,1-Dichloroethane	50.0	50.9		ug/Kg		102	70 - 130	0	20
1,2-Dichloroethane	50.0	50.9		ug/Kg		102	70 - 130	0	20
1,1-Dichloroethene	50.0	54.9		ug/Kg		110	74 - 122	2	20
cis-1,2-Dichloroethene	50.0	51.0		ug/Kg		102	70 - 138	1	20
trans-1,2-Dichloroethene	50.0	55.3		ug/Kg		111	67 - 130	2	20
1,2-Dichloropropane	50.0	51.7		ug/Kg		103	73 - 127	1	20
cis-1,3-Dichloropropene	50.0	56.7		ug/Kg		113	68 - 147	0	20
trans-1,3-Dichloropropene	50.0	56.9		ug/Kg		114	70 - 155	1	20
Ethylbenzene	50.0	49.9		ug/Kg		100	80 - 137	1	20
Hexachlorobutadiene	50.0	62.6		ug/Kg		125	70 - 132	1	20
2-Hexanone	250	289		ug/Kg		116	44 - 133	7	20
Isopropylbenzene	50.0	53.4		ug/Kg		107	70 - 130	1	20
4-Isopropyltoluene	50.0	51.3		ug/Kg		103	70 - 133	0	20
Methylene Chloride	50.0	54.2		ug/Kg		108	70 - 134	1	20
4-Methyl-2-pentanone (MIBK)	250	289		ug/Kg		116	60 - 160	5	20
Naphthalene	50.0	56.0		ug/Kg		112	60 - 147	1	20
N-Propylbenzene	50.0	51.7		ug/Kg		103	70 - 130	1	20
Styrene	50.0	53.0		ug/Kg		106	70 - 130	0	20
1,1,1,2-Tetrachloroethane	50.0	50.3		ug/Kg		101	70 - 130	0	20
1,1,2,2-Tetrachloroethane	50.0	48.9		ug/Kg		98	70 - 146	3	20
Tetrachloroethene	50.0	58.0		ug/Kg		116	70 - 132	1	20
Toluene	50.0	49.1		ug/Kg		98	75 - 120	1	20

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209835/6

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene	50.0	57.0		ug/Kg		114	60 - 140	1	20
1,2,4-Trichlorobenzene	50.0	57.3		ug/Kg		115	60 - 140	1	20
1,1,1-Trichloroethane	50.0	54.2		ug/Kg		108	70 - 130	1	20
1,1,2-Trichloroethane	50.0	53.1		ug/Kg		106	70 - 130	1	20
Trichloroethene	50.0	54.6		ug/Kg		109	70 - 133	2	20
Trichlorofluoromethane	50.0	58.4		ug/Kg		117	60 - 140	2	20
1,2,3-Trichloropropane	50.0	51.1		ug/Kg		102	70 - 146	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	60.1		ug/Kg		120	60 - 140	1	20
1,2,4-Trimethylbenzene	50.0	50.7		ug/Kg		101	70 - 130	1	20
1,3,5-Trimethylbenzene	50.0	50.2		ug/Kg		100	70 - 131	0	20
Vinyl acetate	50.0	60.0		ug/Kg		120	38 - 176	3	20
Vinyl chloride	50.0	50.7		ug/Kg		101	58 - 125	1	20
m-Xylene & p-Xylene	50.0	50.5		ug/Kg		101	70 - 146	0	20
o-Xylene	50.0	49.8		ug/Kg		100	70 - 140	1	20
2,2-Dichloropropane	50.0	57.4		ug/Kg		115	70 - 162	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	96		45 - 131
1,2-Dichloroethane-d4 (Surr)	100		60 - 140
Toluene-d8 (Surr)	106		58 - 140

Lab Sample ID: LCSD 720-209835/8

Matrix: Solid

Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	1000	977		ug/Kg		98	61 - 128	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	97		45 - 131
1,2-Dichloroethane-d4 (Surr)	103		60 - 140
Toluene-d8 (Surr)	105		58 - 140

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-209965/1-A

Matrix: Solid

Analysis Batch: 209988

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Chlorophenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzyl alcohol	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-209965/1-A

Matrix: Solid

Analysis Batch: 209988

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Methylphenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
N-Nitrosodi-n-propylamine	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachloroethane	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Nitrobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Isophorone	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Nitrophenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dimethylphenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Naphthalene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Chloroaniline	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachlorobutadiene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Methylnaphthalene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Chloronaphthalene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Nitroaniline	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Dimethyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Acenaphthylene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
3-Nitroaniline	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Acenaphthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dinitrophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Nitrophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Dibenzofuran	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dinitrotoluene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,6-Dinitrotoluene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Diethyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Fluorene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Nitroaniline	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Methyl-4,6-dinitrophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Pentachlorophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Phenanthrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Anthracene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Fluoranthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Pyrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1

TestAmerica Pleasanton



# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-209965/1-A

Matrix: Solid

Analysis Batch: 209988

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Chrysene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[a]pyrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[g,h,i]perylene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzoic acid	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Azobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	70		21 - 98	09/26/16 10:36	09/27/16 01:02	1
2-Fluorobiphenyl	68		30 - 112	09/26/16 10:36	09/27/16 01:02	1
Terphenyl-d14	83		59 - 134	09/26/16 10:36	09/27/16 01:02	1
2-Fluorophenol	70		28 - 98	09/26/16 10:36	09/27/16 01:02	1
Phenol-d5	74		23 - 101	09/26/16 10:36	09/27/16 01:02	1
2,4,6-Tribromophenol	64		37 - 114	09/26/16 10:36	09/27/16 01:02	1

Lab Sample ID: LCS 720-209965/2-A

Matrix: Solid

Analysis Batch: 209988

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	1.33	1.03		mg/Kg		77	48 - 115
Bis(2-chloroethyl)ether	1.33	1.02		mg/Kg		76	45 - 115
2-Chlorophenol	1.33	1.04		mg/Kg		78	48 - 115
1,3-Dichlorobenzene	1.33	0.936		mg/Kg		70	41 - 115
1,4-Dichlorobenzene	1.33	0.952		mg/Kg		71	40 - 115
Benzyl alcohol	1.33	1.08		mg/Kg		81	51 - 115
1,2-Dichlorobenzene	1.33	0.981		mg/Kg		74	44 - 115
2-Methylphenol	1.33	1.05		mg/Kg		78	54 - 115
Methylphenol, 3 & 4	1.33	1.05		mg/Kg		79	42 - 115
N-Nitrosodi-n-propylamine	1.33	1.07		mg/Kg		80	46 - 115
Hexachloroethane	1.33	1.00		mg/Kg		75	44 - 115
Nitrobenzene	1.33	1.11		mg/Kg		83	48 - 115
Isophorone	1.33	1.08		mg/Kg		81	54 - 115
2-Nitrophenol	1.33	1.10		mg/Kg		82	48 - 115
2,4-Dimethylphenol	1.33	1.07		mg/Kg		80	52 - 115
Bis(2-chloroethoxy)methane	1.33	1.05		mg/Kg		78	46 - 115
2,4-Dichlorophenol	1.33	1.10		mg/Kg		83	49 - 100
1,2,4-Trichlorobenzene	1.33	1.03		mg/Kg		77	47 - 115
Naphthalene	1.33	1.03		mg/Kg		77	44 - 115
4-Chloroaniline	1.33	0.919		mg/Kg		69	30 - 115
Hexachlorobutadiene	1.33	1.06		mg/Kg		79	44 - 115

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-209965/2-A

Matrix: Solid

Analysis Batch: 209988

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	1.33	1.11		mg/Kg		83	58 - 115
2-Methylnaphthalene	1.33	1.05		mg/Kg		79	49 - 115
Hexachlorocyclopentadiene	1.33	0.691		mg/Kg		52	42 - 132
2,4,6-Trichlorophenol	1.33	1.10		mg/Kg		83	45 - 115
2,4,5-Trichlorophenol	1.33	1.09		mg/Kg		82	48 - 115
2-Chloronaphthalene	1.33	1.06		mg/Kg		80	52 - 115
2-Nitroaniline	1.33	1.14		mg/Kg		85	54 - 115
Dimethyl phthalate	1.33	1.06		mg/Kg		79	64 - 119
Acenaphthylene	1.33	1.05		mg/Kg		79	61 - 129
3-Nitroaniline	1.33	0.940		mg/Kg		71	50 - 115
Acenaphthene	1.33	0.974		mg/Kg		73	50 - 115
2,4-Dinitrophenol	2.67	1.83		mg/Kg		69	15 - 115
4-Nitrophenol	2.67	2.28		mg/Kg		85	54 - 125
Dibenzofuran	1.33	1.05		mg/Kg		78	55 - 115
2,4-Dinitrotoluene	1.33	1.09		mg/Kg		81	57 - 115
2,6-Dinitrotoluene	1.33	1.08		mg/Kg		81	54 - 119
Diethyl phthalate	1.33	1.05		mg/Kg		79	49 - 117
4-Chlorophenyl phenyl ether	1.33	1.09		mg/Kg		82	57 - 115
Fluorene	1.33	1.05		mg/Kg		78	54 - 115
4-Nitroaniline	1.33	1.00		mg/Kg		75	59 - 115
2-Methyl-4,6-dinitrophenol	2.67	2.04		mg/Kg		77	39 - 115
N-Nitrosodiphenylamine	1.33	1.10		mg/Kg		83	56 - 115
4-Bromophenyl phenyl ether	1.33	1.10		mg/Kg		83	53 - 115
Hexachlorobenzene	1.33	1.04		mg/Kg		78	55 - 115
Pentachlorophenol	2.67	2.23		mg/Kg		84	35 - 115
Phenanthrene	1.33	1.07		mg/Kg		80	54 - 115
Anthracene	1.33	1.10		mg/Kg		83	55 - 115
Di-n-butyl phthalate	1.33	1.18		mg/Kg		89	55 - 115
Fluoranthene	1.33	1.05		mg/Kg		79	52 - 130
Pyrene	1.33	1.19		mg/Kg		89	48 - 115
Butyl benzyl phthalate	1.33	1.34		mg/Kg		100	53 - 115
3,3'-Dichlorobenzidine	1.33	1.11		mg/Kg		83	42 - 115
Benzo[a]anthracene	1.33	1.13		mg/Kg		85	55 - 115
Bis(2-ethylhexyl) phthalate	1.33	1.38		mg/Kg		104	53 - 115
Chrysene	1.33	1.10		mg/Kg		82	58 - 115
Di-n-octyl phthalate	1.33	1.32		mg/Kg		99	53 - 115
Benzo[b]fluoranthene	1.33	1.15		mg/Kg		86	50 - 119
Benzo[a]pyrene	1.33	1.18		mg/Kg		88	57 - 122
Benzo[k]fluoranthene	1.33	1.14		mg/Kg		85	55 - 120
Indeno[1,2,3-cd]pyrene	1.33	1.19		mg/Kg		90	56 - 115
Benzo[g,h,i]perylene	1.33	1.26		mg/Kg		95	56 - 115
Benzoic acid	1.33	1.16		mg/Kg		87	10 - 115
Azobenzene	1.33	1.07		mg/Kg		80	52 - 115
Dibenz(a,h)anthracene	1.33	1.18		mg/Kg		88	57 - 121

TestAmerica Pleasanton



# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-209965/2-A

Matrix: Solid

Analysis Batch: 209988

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209965

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	76		21 - 98
2-Fluorobiphenyl	75		30 - 112
Terphenyl-d14	87		59 - 134
2-Fluorophenol	73		28 - 98
Phenol-d5	77		23 - 101
2,4,6-Tribromophenol	73		37 - 114

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-209972/1-A

Matrix: Solid

Analysis Batch: 210022

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209972

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		1.0		mg/Kg		09/26/16 11:32	09/27/16 12:05	1	
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		09/26/16 11:32	09/27/16 12:05	1	
	MB	MB								
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
p-Terphenyl	106		40 - 130				09/26/16 11:32	09/27/16 12:05	1	

Lab Sample ID: LCS 720-209972/2-A

Matrix: Solid

Analysis Batch: 210022

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209972

			Spike	LCS	LCS					
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.
Diesel Range Organics [C10-C28]			83.3	67.7		mg/Kg		81	50 - 150	
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
p-Terphenyl	106		40 - 130							

Lab Sample ID: 720-74613-3 MS

Matrix: Solid

Analysis Batch: 210023

Client Sample ID: JT-3490

Prep Type: Total/NA

Prep Batch: 209972

	Sample	Sample	Spike	MS	MS					
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.
Diesel Range Organics [C10-C28]	9.1	F1	83.0	172	F1	mg/Kg		196	50 - 150	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
p-Terphenyl	92		40 - 130							

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 720-74613-3 MSD

Matrix: Solid

Analysis Batch: 210023

Client Sample ID: JT-3490

Prep Type: Total/NA

Prep Batch: 209972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Diesel Range Organics [C10-C28]	9.1	F1	83.0	165	F1	mg/Kg		188	50 - 150	4	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
p-Terphenyl	99		40 - 130								

## Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 720-209959/1-A

Matrix: Solid

Analysis Batch: 210110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209959

Top Data: 20000									
Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Dieldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
4,4'-DDT	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
4,4'-DDE	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Chlordane (technical)	ND		40		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
alpha-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
gamma-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
	MB	MB							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		57 - 122				09/26/16 10:20	09/28/16 06:15	1
DCB Decachlorobiphenyl	99		21 - 136				09/26/16 10:20	09/28/16 06:15	1

Lab Sample ID: LCS 720-209959/2-A

Matrix: Solid

Analysis Batch: 210110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	16.7	13.9		ug/Kg		84	65 - 120
Dieldrin	16.7	17.2		ug/Kg		103	72 - 120

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 720-209959/2-A

Matrix: Solid

Analysis Batch: 210110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin aldehyde	16.7	18.9		ug/Kg		113	68 - 120
Endrin	16.7	18.1		ug/Kg		109	68 - 120
Endrin ketone	16.7	19.2		ug/Kg		115	84 - 133
Heptachlor	16.7	15.9		ug/Kg		95	69 - 120
Heptachlor epoxide	16.7	17.1		ug/Kg		103	68 - 120
4,4'-DDT	16.7	17.6		ug/Kg		105	63 - 127
4,4'-DDE	16.7	17.3		ug/Kg		104	84 - 126
4,4'-DDD	16.7	18.2		ug/Kg		109	85 - 128
Endosulfan I	16.7	17.2		ug/Kg		103	62 - 120
Endosulfan II	16.7	17.5		ug/Kg		105	65 - 120
alpha-BHC	16.7	15.9		ug/Kg		95	62 - 120
beta-BHC	16.7	19.1		ug/Kg		115	78 - 136
gamma-BHC (Lindane)	16.7	16.7		ug/Kg		100	72 - 120
delta-BHC	16.7	16.1		ug/Kg		97	43 - 125
Endosulfan sulfate	16.7	18.3		ug/Kg		110	74 - 121
Methoxychlor	16.7	18.7		ug/Kg		112	71 - 132
alpha-Chlordane	16.7	16.7		ug/Kg		100	70 - 120
gamma-Chlordane	16.7	16.5		ug/Kg		99	68 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	88		57 - 122
DCB Decachlorobiphenyl	105		21 - 136

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-209967/1-A

Matrix: Solid

Analysis Batch: 210024

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209967

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1221	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1232	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1242	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1248	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1254	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1260	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		45 - 132	09/26/16 11:02	09/27/16 18:52	1
DCB Decachlorobiphenyl	83		42 - 146	09/26/16 11:02	09/27/16 18:52	1

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 720-209967/2-A

Matrix: Solid

Analysis Batch: 210024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	133	111		ug/Kg		83	65 - 121
PCB-1260	133	111		ug/Kg		83	68 - 127
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Tetrachloro-m-xylene	80		45 - 132				
DCB Decachlorobiphenyl	75		42 - 146				

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-209893/1-A

Matrix: Solid

Analysis Batch: 209996

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209893

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Arsenic	ND		1.0		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Barium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Beryllium	ND		0.10		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Cadmium	ND		0.13		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Chromium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Cobalt	ND		0.20		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Copper	ND		1.5		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Lead	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Molybdenum	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Nickel	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Selenium	ND		1.0		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Silver	ND		0.25		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Thallium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Vanadium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Zinc	ND		1.5		mg/Kg		09/23/16 16:18	09/26/16 13:41	1

Lab Sample ID: LCS 720-209893/2-A

Matrix: Solid

Analysis Batch: 209996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209893

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	46.8		mg/Kg		94	80 - 120
Arsenic	50.0	47.4		mg/Kg		95	80 - 120
Barium	50.0	45.4		mg/Kg		91	80 - 120
Beryllium	50.0	44.5		mg/Kg		89	80 - 120
Cadmium	50.0	47.4		mg/Kg		95	80 - 120
Chromium	50.0	47.7		mg/Kg		95	80 - 120
Cobalt	50.0	48.0		mg/Kg		96	80 - 120
Copper	50.0	48.3		mg/Kg		97	80 - 120
Lead	50.0	47.4		mg/Kg		95	80 - 120
Molybdenum	50.0	48.7		mg/Kg		97	80 - 120
Nickel	50.0	48.3		mg/Kg		97	80 - 120
Selenium	50.0	46.1		mg/Kg		92	80 - 120

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# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-209893/2-A

Matrix: Solid

Analysis Batch: 209996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209893

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	25.0	23.6		mg/Kg		94	80 - 120
Thallium	50.0	48.9		mg/Kg		98	80 - 120
Vanadium	50.0	47.4		mg/Kg		95	80 - 120
Zinc	50.0	46.8		mg/Kg		94	80 - 120

Lab Sample ID: LCSSRM 720-209893/3-A

Matrix: Solid

Analysis Batch: 209996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209893

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	74.6	43.5		mg/Kg		58	11 - 101
Arsenic	45.5	41.5		mg/Kg		91	69 - 119
Barium	579	494		mg/Kg		85	61 - 117
Beryllium	155	129		mg/Kg		83	56 - 102
Cadmium	201	178		mg/Kg		89	67 - 118
Chromium	106	93.8		mg/Kg		88	67 - 121
Cobalt	247	226		mg/Kg		91	64 - 133
Copper	130	119		mg/Kg		91	68 - 126
Lead	302	261		mg/Kg		86	62 - 113
Molybdenum	165	151		mg/Kg		92	62 - 128
Nickel	305	274		mg/Kg		90	65 - 117
Selenium	133	120		mg/Kg		90	63 - 126
Silver	33.5	30.3		mg/Kg		90	51 - 130
Thallium	191	172		mg/Kg		90	64 - 124
Vanadium	214	193		mg/Kg		90	67 - 123
Zinc	388	341		mg/Kg		88	62 - 110

## Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-209870/1-A

Matrix: Solid

Analysis Batch: 210001

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209870

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		09/23/16 11:45	09/26/16 15:05	1

Lab Sample ID: LCS 720-209870/2-A

Matrix: Solid

Analysis Batch: 210001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 209870

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.833	0.795		mg/Kg		95	80 - 120

Lab Sample ID: MB 720-209873/1-A

Matrix: Solid

Analysis Batch: 210193

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 209873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		09/23/16 13:01	09/28/16 16:38	1

TestAmerica Pleasanton

# QC Sample Results

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Lab Sample ID: LCS 720-209873/2-A**  
**Matrix: Solid**  
**Analysis Batch: 210193**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 209873**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.833	0.786		mg/Kg	-	94	80 - 120

**Lab Sample ID: 720-74613-3 MS**  
**Matrix: Solid**  
**Analysis Batch: 210193**

**Client Sample ID: JT-3490**  
**Prep Type: Total/NA**  
**Prep Batch: 209873**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.11		0.806	0.927		mg/Kg	-	102	75 - 125

**Lab Sample ID: 720-74613-3 MSD**  
**Matrix: Solid**  
**Analysis Batch: 210193**

**Client Sample ID: JT-3490**  
**Prep Type: Total/NA**  
**Prep Batch: 209873**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.11		0.781	0.906		mg/Kg	-	102	75 - 125	2	20

TestAmerica Pleasanton

# QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## GC/MS VOA

### Prep Batch: 209759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-2	JT-4090	Total/NA	Solid	5035	

### Analysis Batch: 209822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-2	JT-4090	Total/NA	Solid	8260B/CA_LUFT MS	209759
MB 720-209822/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209822/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209822/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209822/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209822/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

### Analysis Batch: 209835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-3	JT-3490	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-4	ST-3780	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-5	JT-4450	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-6	JT-4800	Total/NA	Solid	8260B/CA_LUFT MS	209886
MB 720-209835/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209835/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209835/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209835/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209835/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

### Prep Batch: 209886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	5035	
720-74613-3	JT-3490	Total/NA	Solid	5035	
720-74613-4	ST-3780	Total/NA	Solid	5035	
720-74613-5	JT-4450	Total/NA	Solid	5035	
720-74613-6	JT-4800	Total/NA	Solid	5035	

## GC/MS Semi VOA

### Prep Batch: 209965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	

TestAmerica Pleasanton

# QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## GC/MS Semi VOA (Continued)

### Prep Batch: 209965 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	3546	
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209965/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209965/2-A	Lab Control Sample	Total/NA	Solid	3546	

### Analysis Batch: 209988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-209965/1-A	Method Blank	Total/NA	Solid	8270C	209965
LCS 720-209965/2-A	Lab Control Sample	Total/NA	Solid	8270C	209965

### Analysis Batch: 210106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8270C	209965
720-74613-2	JT-4090	Total/NA	Solid	8270C	209965
720-74613-3	JT-3490	Total/NA	Solid	8270C	209965
720-74613-4	ST-3780	Total/NA	Solid	8270C	209965
720-74613-5	JT-4450	Total/NA	Solid	8270C	209965
720-74613-6	JT-4800	Total/NA	Solid	8270C	209965

## GC Semi VOA

### Prep Batch: 209959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	
720-74613-3	JT-3490	Total/NA	Solid	3546	
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209959/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209959/2-A	Lab Control Sample	Total/NA	Solid	3546	

### Prep Batch: 209967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	
720-74613-3	JT-3490	Total/NA	Solid	3546	
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209967/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209967/2-A	Lab Control Sample	Total/NA	Solid	3546	

### Prep Batch: 209972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	
720-74613-3	JT-3490	Total/NA	Solid	3546	

TestAmerica Pleasanton



# QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## GC Semi VOA (Continued)

### Prep Batch: 209972 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209972/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209972/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-74613-3 MS	JT-3490	Total/NA	Solid	3546	
720-74613-3 MSD	JT-3490	Total/NA	Solid	3546	

### Analysis Batch: 210016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8081A	209959

### Analysis Batch: 210020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8015B	209972
720-74613-2	JT-4090	Total/NA	Solid	8015B	209972
720-74613-4	ST-3780	Total/NA	Solid	8015B	209972
720-74613-5	JT-4450	Total/NA	Solid	8015B	209972
720-74613-6	JT-4800	Total/NA	Solid	8015B	209972

### Analysis Batch: 210022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-209972/1-A	Method Blank	Total/NA	Solid	8015B	209972
LCS 720-209972/2-A	Lab Control Sample	Total/NA	Solid	8015B	209972

### Analysis Batch: 210023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	8015B	209972
720-74613-3 MS	JT-3490	Total/NA	Solid	8015B	209972
720-74613-3 MSD	JT-3490	Total/NA	Solid	8015B	209972

### Analysis Batch: 210024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8082	209967
720-74613-2	JT-4090	Total/NA	Solid	8082	209967
720-74613-3	JT-3490	Total/NA	Solid	8082	209967
720-74613-4	ST-3780	Total/NA	Solid	8082	209967
720-74613-5	JT-4450	Total/NA	Solid	8082	209967
720-74613-6	JT-4800	Total/NA	Solid	8082	209967
MB 720-209967/1-A	Method Blank	Total/NA	Solid	8082	209967
LCS 720-209967/2-A	Lab Control Sample	Total/NA	Solid	8082	209967

### Analysis Batch: 210110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-2	JT-4090	Total/NA	Solid	8081A	209959
720-74613-3	JT-3490	Total/NA	Solid	8081A	209959
720-74613-4	ST-3780	Total/NA	Solid	8081A	209959
720-74613-5	JT-4450	Total/NA	Solid	8081A	209959
720-74613-6	JT-4800	Total/NA	Solid	8081A	209959
MB 720-209959/1-A	Method Blank	Total/NA	Solid	8081A	209959
LCS 720-209959/2-A	Lab Control Sample	Total/NA	Solid	8081A	209959

TestAmerica Pleasanton

# QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Metals

### Prep Batch: 209870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	7471A	
720-74613-2	JT-4090	Total/NA	Solid	7471A	
MB 720-209870/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-209870/2-A	Lab Control Sample	Total/NA	Solid	7471A	

### Prep Batch: 209873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	7471A	
720-74613-4	ST-3780	Total/NA	Solid	7471A	
720-74613-5	JT-4450	Total/NA	Solid	7471A	
720-74613-6	JT-4800	Total/NA	Solid	7471A	
MB 720-209873/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-209873/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-74613-3 MS	JT-3490	Total/NA	Solid	7471A	
720-74613-3 MSD	JT-3490	Total/NA	Solid	7471A	

### Prep Batch: 209893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3050B	
720-74613-2	JT-4090	Total/NA	Solid	3050B	
720-74613-3	JT-3490	Total/NA	Solid	3050B	
720-74613-4	ST-3780	Total/NA	Solid	3050B	
720-74613-5	JT-4450	Total/NA	Solid	3050B	
720-74613-6	JT-4800	Total/NA	Solid	3050B	
MB 720-209893/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-209893/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 720-209893/3-A	Lab Control Sample	Total/NA	Solid	3050B	

### Analysis Batch: 209996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-209893/1-A	Method Blank	Total/NA	Solid	6010B	209893
LCS 720-209893/2-A	Lab Control Sample	Total/NA	Solid	6010B	209893
LCSSRM 720-209893/3-A	Lab Control Sample	Total/NA	Solid	6010B	209893

### Analysis Batch: 210001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	7471A	209870
720-74613-2	JT-4090	Total/NA	Solid	7471A	209870
MB 720-209870/1-A	Method Blank	Total/NA	Solid	7471A	209870
LCS 720-209870/2-A	Lab Control Sample	Total/NA	Solid	7471A	209870

### Analysis Batch: 210039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	6010B	209893
720-74613-2	JT-4090	Total/NA	Solid	6010B	209893
720-74613-3	JT-3490	Total/NA	Solid	6010B	209893
720-74613-4	ST-3780	Total/NA	Solid	6010B	209893
720-74613-5	JT-4450	Total/NA	Solid	6010B	209893
720-74613-6	JT-4800	Total/NA	Solid	6010B	209893

TestAmerica Pleasanton

## QC Association Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

### Metals (Continued)

#### Analysis Batch: 210193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	7471A	209873
720-74613-4	ST-3780	Total/NA	Solid	7471A	209873
720-74613-5	JT-4450	Total/NA	Solid	7471A	209873
720-74613-6	JT-4800	Total/NA	Solid	7471A	209873
MB 720-209873/1-A	Method Blank	Total/NA	Solid	7471A	209873
LCS 720-209873/2-A	Lab Control Sample	Total/NA	Solid	7471A	209873
720-74613-3 MS	JT-3490	Total/NA	Solid	7471A	209873
720-74613-3 MSD	JT-3490	Total/NA	Solid	7471A	209873

# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3730**

**Date Collected: 09/21/16 09:46**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 15:10	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		2	210106	09/27/16 23:10	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		1	210020	09/27/16 20:24	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210016	09/27/16 14:52	JZT	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 19:26	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:01	CAM	TAL PLS
Total/NA	Prep	7471A			209870	09/23/16 11:45	OBI	TAL PLS
Total/NA	Analysis	7471A		1	210001	09/26/16 16:13	OBI	TAL PLS

**Client Sample ID: JT-4090**

**Date Collected: 09/21/16 11:25**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-2**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209759	09/21/16 20:40	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209822	09/22/16 23:14	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		10	210106	09/27/16 23:36	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		5	210020	09/27/16 20:54	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		2	210110	09/28/16 08:36	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 19:42	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:06	CAM	TAL PLS
Total/NA	Prep	7471A			209870	09/23/16 11:45	OBI	TAL PLS
Total/NA	Analysis	7471A		1	210001	09/26/16 16:16	OBI	TAL PLS

**Client Sample ID: JT-3490**

**Date Collected: 09/21/16 08:50**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-3**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 15:40	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS

TestAmerica Pleasanton

# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-3490**

**Date Collected: 09/21/16 08:50**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-3**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C		2	210106	09/28/16 00:02	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		3	210023	09/27/16 12:05	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 08:53	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 19:59	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:11	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:49	SLK	TAL PLS

**Client Sample ID: ST-3780**

**Date Collected: 09/21/16 10:05**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-4**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 16:09	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		5	210106	09/28/16 00:28	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		10	210020	09/27/16 21:23	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 09:11	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 20:16	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:16	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:52	SLK	TAL PLS

**Client Sample ID: JT-4450**

**Date Collected: 09/21/16 13:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-5**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 16:38	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		2	210106	09/28/16 00:54	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		3	210020	09/28/16 02:49	JXL	TAL PLS

TestAmerica Pleasanton

# Lab Chronicle

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

**Client Sample ID: JT-4450**

**Date Collected: 09/21/16 13:12**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-5**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 09:28	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 20:32	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:21	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:54	SLK	TAL PLS

**Client Sample ID: JT-4800**

**Date Collected: 09/21/16 13:28**

**Date Received: 09/21/16 17:00**

**Lab Sample ID: 720-74613-6**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 17:08	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		4	210106	09/28/16 01:20	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		5	210020	09/27/16 22:22	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 09:46	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 20:49	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:26	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:57	SLK	TAL PLS

## Laboratory References:

= Asbestos TEM Laboratories, Inc., 630 BANCROFT WAY, Berkeley, CA 94710

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

TestAmerica Pleasanton

# Certification Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

## Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

- 1
- 2
- 3
- 4
- 5
- 6
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- 8
- 9
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- 11
- 12
- 13
- 14
- 15
- 16

## Method Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS
8270C	Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	SW846	TAL PLS
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
8081A	Organochlorine Pesticides (GC)	SW846	TAL PLS
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PLS
6010B	Metals (ICP)	SW846	TAL PLS
7471A	Mercury (CVAA)	SW846	TAL PLS
Asbestos	General Sub Contract Method	NONE	

### Protocol References:

NONE = NONE

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

= Asbestos TEM Laboratories, Inc., 630 BANCROFT WAY, Berkeley, CA 94710

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

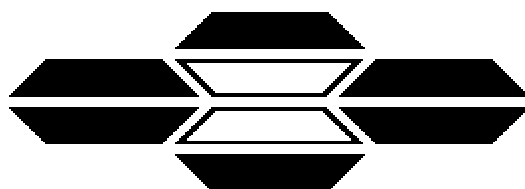


## Sample Summary

Client: S S Papadopoulos & Associates, Inc.  
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-74613-1	JT-3730	Solid	09/21/16 09:46	09/21/16 17:00
720-74613-2	JT-4090	Solid	09/21/16 11:25	09/21/16 17:00
720-74613-3	JT-3490	Solid	09/21/16 08:50	09/21/16 17:00
720-74613-4	ST-3780	Solid	09/21/16 10:05	09/21/16 17:00
720-74613-5	JT-4450	Solid	09/21/16 13:12	09/21/16 17:00
720-74613-6	JT-4800	Solid	09/21/16 13:28	09/21/16 17:00



## **ASBESTOS TEM LABORATORIES, INC.**

### **CARB Method 435 Polarized Light Microscopy Analytical Report**

**Laboratory Job # 1283-00754**

630 Bancroft Way  
Berkeley, CA 94710  
(510) 704-8930  
FAX (510) 704-8429

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ASBESTOS TEM LABORATORIES, INC

CA DPH ELAP  
Lab No. 1866



NVLAP Lab Code: 101891-0  
Berkeley, CA

Sep/27/2016

Afsaneh Salimpour  
TestAmerica Laboratories, Inc.  
1220 Quarry Lane  
Pleasanton, CA 94566

RE: LABORATORY JOB # 1283-00754  
Polarized light microscopy analytical results for bulk sample(s).  
Job Site: 720-74613-1  
Job No.: Bay Road

Enclosed please find the bulk material analytical results for one or more samples submitted for asbestos analysis. The analyses were performed in accordance with the California Air Resources Board (ARB) Method 435 for the determination of asbestos in serpentine aggregate samples.

Prior to analysis, samples are logged-in and all data pertinent to the sample recorded. The samples are checked for damage or disruption of any chain-of-custody seals. A unique laboratory ID number is assigned to each sample. A hard copy log-in sheet containing all pertinent information concerning the sample is generated. This and all other relevant paper work are kept with the sample throughout the analytical procedures to assure proper analysis.

Sample preparation follows a standard CARB 435 prep method. The entire sample is dried at 135-150 C and then crushed to ~3/8" gravel size using a Bico Chipmunk crusher. If the submitted sample is >1 pint, the sample was split using a 1/2" riffle splitter following ASTM Method C-702-98 to obtain a 1 pint aliquot. The entire 1 pint aliquot, or entire original sample, is then pulverized in a Bico Braun disc pulverizer calibrated to produce a nominal 200 mesh final product. If necessary, additional homogenization steps are undertaken using a 3/8" riffle splitter. Small aliquots are collected from throughout the pulverized material to create three separate microscope slide mounts containing the appropriate refractive index oil. The prepared slides are placed under a polarizing light microscope where standard mineralogical techniques are used to analyze the various materials present, including asbestos. If asbestos is identified and of less than 10% concentration by visual area estimate then an additional five sample mounts are prepared. Quantification of asbestos concentration is obtained using the standard CAL ARB Method 435 point count protocol. For samples observed to contain visible asbestos of less than 10% concentration, a point counting technique is used with 50 points counted on each of eight sample mounts for a total of 400 points. The data is then compiled into standard report format and subjected to a thorough quality assurance check before the information is released to the client.

While the CARB 435 method has much to commend it, there are a number of situations where it fails to provide sufficient accuracy to make a definitive determination of the presence/absence of asbestos and/or an accurate count of the asbestos concentration present in a given sample. These problems include, but are not limited to, 1) statistical uncertainty with samples containing <1% asbestos when too few particles are counted, 2) definitive identification and discrimination between various fibrous amphibole minerals such as tremolite/actinolite/hornblende and the "Libby amphiboles" such as tremolite/winchite/richterite/arfvedsonite, and C) small asbestiform fibers which are near or below the resolution limit of the PLM microscope such as those found in various California coast range serpentine bodies. In these cases, further analysis by transmission electron microscopy is recommended to obtain a more accurate result.

Sincerely Yours,

Lab Manager  
ASBESTOS TEM LABORATORIES, INC.

--- These results relate only to the samples tested and must not be reproduced, except in full, without the approval of the laboratory. ---

630 BANCROFT WAY • BERKELEY, CA 94710 • PH. (510) 704-8930 • FAX (510) 704-8429

With Branch Offices Located At: 1350 FREEPORT BLVD. UNIT 104, SPARKS, NV 89431

# POLARIZED LIGHT MICROSCOPY CARB 435 ANALYTICAL REPORT

Page: 1 of

Contact: Afsaneh Salimpour	Samples Submitted: 6	Report No. <b>344482</b>
Address: TestAmerica Laboratories, Inc. 1220 Quarry Lane Pleasanton, CA 94566	Samples Analyzed: 6	Date Submitted: Sep-23-16
	Job Site / No. Bay Road 720-74613-1	Date Reported: Sep-27-16

SAMPLE ID	POINTS COUNTED	ASBESTOS % TYPE	LOCATION / DESCRIPTION
<b>JT-3730</b>		<b>&lt;0.25% None Detected</b>	720-74613-1
Lab ID # 1283-00754-001	<b>400</b> - Total Points		No Asbestos Detected - ARB Exception I
<b>JT-4090</b>		<b>&lt;0.25% None Detected</b>	720-74613-2
Lab ID # 1283-00754-002	<b>400</b> - Total Points		No Asbestos Detected - ARB Exception I
<b>JT-3490</b>		<b>&lt;0.25% None Detected</b>	720-74613-3
Lab ID # 1283-00754-003	<b>400</b> - Total Points		No Asbestos Detected - ARB Exception I
<b>ST-3780</b>		<b>&lt;0.25% None Detected</b>	720-74613-4
Lab ID # 1283-00754-004	<b>400</b> - Total Points		No Asbestos Detected - ARB Exception I
<b>JT-4450</b>		<b>&lt;0.25% None Detected</b>	720-74613-5
Lab ID # 1283-00754-005	<b>400</b> - Total Points		No Asbestos Detected - ARB Exception I
<b>JT-4800</b>		<b>&lt;0.25% None Detected</b>	720-74613-6
Lab ID # 1283-00754-006	<b>400</b> - Total Points		No Asbestos Detected - ARB Exception I
Lab ID #	- Total Points		
Lab ID #	- Total Points		
Lab ID #	- Total Points		
Lab ID #	- Total Points		

QC Reviewer 

Analyst 

344482  
**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

344482  
**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

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9/29/2016





## Login Sample Receipt Checklist

Client: S S Papadopoulos & Associates, Inc.

Job Number: 720-74613-1

**Login Number: 74613**

**List Source: TestAmerica Pleasanton**

**List Number: 1**

**Creator: Bullock, Tracy**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# APPENDIX C

## DTSC Information Advisory for Clean Imported Fill Material



# Information Advisory

## Clean Imported Fill Material



October 2001

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

*It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.*

State of California



California  
Environmental  
Protection Agency



### Executive Summary

*This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed. It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used. The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.*

### Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses. The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to human health or the environment at some future time.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).*

## Overview

Both natural and manmade fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contami-

nation and/or appropriate for the proposed use, the use of that material as fill should be avoided.

## Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous ma-

### Potential Contaminants Based on the Fill Source Area

Fill Source:	Target Compounds
Land near to an existing freeway	Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)
Land near a mining area or rock quarry	Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH
Agricultural land	Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)
Residential/acceptable commercial land	VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191)

*\*The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996). Other possible analyses include Hexavalent Chromium: EPA method 7199*

## Recommended Fill Material Sampling Schedule

### Area of Individual Borrow Area

### Sampling Requirements

2 acres or less

Minimum of 4 samples

2 to 4 acres

Minimum of 1 sample every 1/2 acre

4 to 10 acres

Minimum of 8 samples

Greater than 10 acres

Minimum of 8 locations with 4 subsamples per location

### Volume of Borrow Area Stockpile

### Samples per Volume

Up to 1,000 cubic yards

1 sample per 250 cubic yards

1,000 to 5,000 cubic yards

4 samples for first 1000 cubic yards + 1 sample per each additional 500 cubic yards

Greater than 5,000 cubic yards

12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

terials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil. Undesirable commercial sites include former gasoline service stations, retail strip malls that contained dry cleaners or photographic processing facilities, paint stores, auto repair and/or painting facilities. Undesirable industrial facilities include metal processing shops, manufacturing facilities, aerospace facilities, oil refineries, waste treatment plants, etc. Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

### Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary

to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If

metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated. At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

## Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all com-

pounds of concern to ensure that the imported soil is uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses). This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyses have been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

*For further information, call Richard Coffman, Ph.D., R.G., at (818) 551-2175.*



2020 Challenger Drive, Suite 103 | Alameda, California 94501 | p. 510.343.3000

SAN DIEGO | IRVINE | LOS ANGELES | FONTANA | ALAMEDA | SAN FRANCISCO | SACRAMENTO  
SAN JOSE | PHOENIX | TUCSON | PRESCOTT | LAS VEGAS | DENVER | BROOMFIELD | HOUSTON

[www.ninyoandmoore.com](http://www.ninyoandmoore.com)

**ATTACHMENT D**

**BAY ROAD IMPROVEMENTS PHASE II/III  
PROJECT**

**CITY CONTRACT NO. CIP-ST-05A-13**

**TEMPORARY EDA SITE SIGN  
SPECIFICATIONS AND DETAILS**

## EDA PROJECT SIGN

The Contractor shall supply, erect, and maintain in good condition a project sign according to the specifications set forth below:

### EDA SITE SIGN SPECIFICATIONS

Size: 4' x 8' x ¾"

Materials: Exterior grade/MDO plywood (APA rating A-B)

Supports: 4" x 4" x 12' posts with 2" x 4" cross branching

Erection: Posts shall be set a minimum of three feet deep in concrete footings that are at least 12" in diameter.

Paint: Outdoor enamel

Colors: Jet Black, Blue (PMS300), and Gold (PMS7406). Specifically, on white background the following will be placed:

The U. S. Department of Commerce seal in blue, black, and gold;

“EDA” in blue;

“U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT

ADMINISTRATION” in black;

“In partnership with” in blue;

(Actual name of the) “EDA Grant Recipient” in black;

Lettering: Specific fonts are named below; positioning will be as shown on the attached illustration.

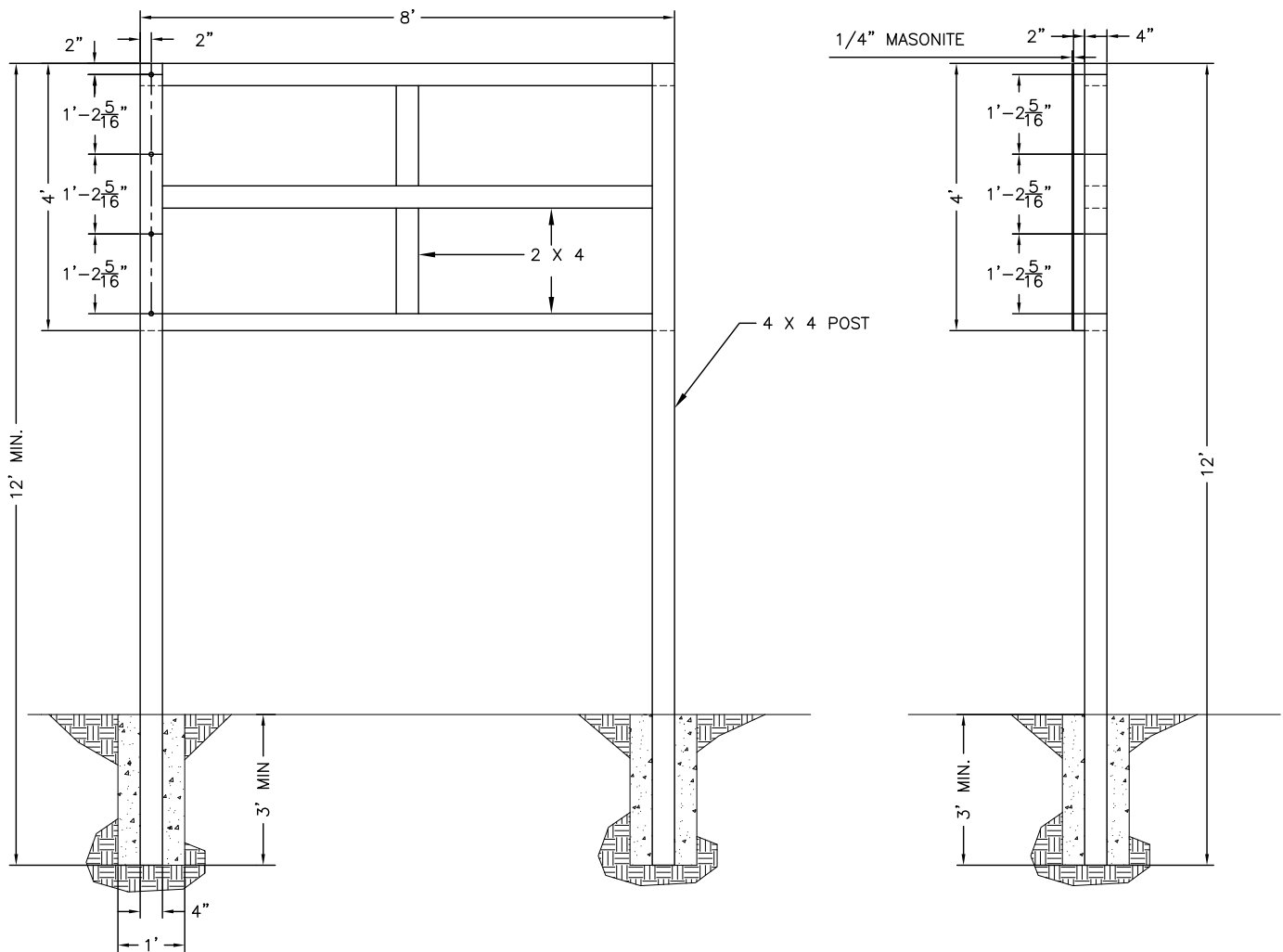
“U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT  
ADMINISTRATION” use Bank Gothic Medium - **BANK GOTHIC MED**

“In partnership with” use Univers<sup>TM</sup> 55 Oblique - **Univers 55**

(Name of) “EDA Grant Recipient” use Univers<sup>TM</sup> Extra Black 85 **Univers 85**

Project signs will not be erected on public highway rights-of-way. If any possibility exists for obstruction to traffic line of sight, the location and height of the sign will be coordinated with the agency responsible for highway or street safety in the area.

The EDA Regional Director may permit modifications to these specifications if they conflict with state law or local ordinances.

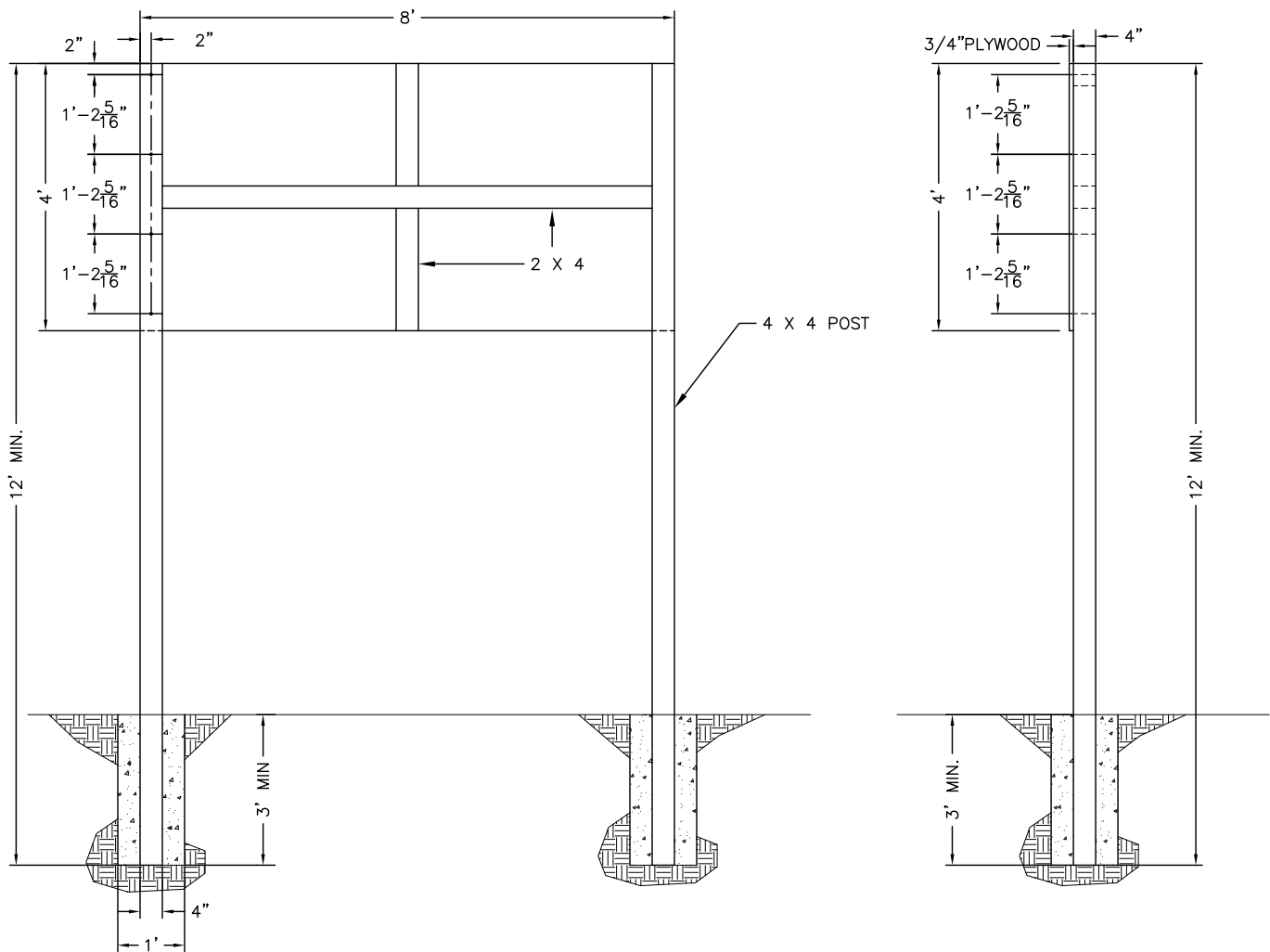


SIGN A  
MASONITE SIGN  
SCALE: 3/8" = 1'

PROJECT - SIGN A

ECONOMIC DEVELOPMENT ADMINISTRATION





SIGN B  
PLYWOOD SIGN  
SCALE: 3/8" = 1'

PROJECT – SIGN B

ECONOMIC DEVELOPMENT ADMINISTRATION



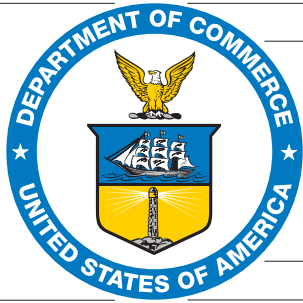
# EDA

U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION

*In partnership with*

**<EDA Grant Recipient Name>**

CITY OF EAST  
PALO ALTO



EDA

Black  
Blue= PMS300  
Gold= PMS7406

U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION

*In partnership with*

**<EDA Grant Recipient Name>**

CITY OF EAST  
PALO ALTO

**ATTACHMENT E**

**BAY ROAD IMPROVEMENTS PHASE II/III  
PROJECT**

**CITY CONTRACT NO. CIP-ST-05A-13**

**EDA CONTRACTING PROVISIONS FOR  
CONSTRUCTION PROJECTS**

# **U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION**



## **EDA CONTRACTING PROVISIONS FOR CONSTRUCTION PROJECTS**

These EDA Contracting Provisions for Construction Projects (EDA Contracting Provisions) are intended for use by recipients receiving federal assistance from the U. S. Department of Commerce - Economic Development Administration (EDA). They contain provisions specific to EDA and other federal provisions not normally found in non-federal contract documents. The requirements contained herein must be incorporated into all construction contracts and subcontracts funded wholly or in part with federal assistance from EDA.

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## 1. **DEFINITIONS**

*Agreement* – The written instrument that is evidence of the agreement between the Owner and the Contractor overseeing the Work.

*Architect/Engineer* - The person or other entity engaged by the Recipient to perform architectural, engineering, design, and other services related to the work as provided for in the contract.

*Contract* – The entire and integrated written agreement between the Owner and the Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

*Contract Documents* – Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents.

*Contractor* – The individual or entity with whom the Owner has entered into the Agreement.

*Drawings or Plans* – That part of the Contract Documents prepared or approved by the Architect/Engineer that graphically shows the scope, extent, and character of the Work to be performed by the Contractor.

*EDA* - The United States of America acting through the Economic Development Administration of the U.S. Department of Commerce or any other person designated to act on its behalf. EDA has agreed to provide financial assistance to the Owner, which includes assistance in financing the Work to be performed under this Contract. Notwithstanding EDA's role, nothing in this Contract shall be construed to create any contractual relationship between the Contractor and EDA.

*Owner* – The individual or entity with whom the Contractor has entered into the Agreement and for whom the Work is to be performed.

*Project* – The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

*Recipient* – A non-Federal entity receiving a Federal financial assistance award directly from EDA to carry out an activity under an EDA program, including any EDA-approved successor to the entity.

*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.

*Subcontractor* – An individual or entity having direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

*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.

## 2. **APPLICABILITY**

The Project to which the construction work covered by this Contract pertains is being assisted by the United States of America through federal assistance provided by the U.S. Department of Commerce - Economic Development Administration (EDA). Neither EDA, nor any of its departments, entities, or employees is a party to this Contract. The following EDA Contracting Provisions are included in this Contract and all subcontracts or related instruments pursuant to the provisions applicable to such federal assistance from EDA.

## 3. **FEDERALLY REQUIRED CONTRACT PROVISIONS**

(a) All contracts in excess of the simplified acquisition threshold - currently fixed at \$150,000 (*see* 41 U.S.C. §§ 134 and 1908) must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate.

(b) All contracts in excess of \$10,000 must address termination for cause and for convenience by the Recipient including the manner by which it will be effected and the basis for settlement.

(c) All construction contracts awarded in excess of \$10,000 by recipients of federal assistance and their contractors or subcontractors shall contain a provision requiring compliance with Executive Order 11246 of September 24, 1965, *Equal Employment Opportunity*, as amended by Executive Order 11375 of October 13, 1967, and Department of Labor implementing regulations at 41 C.F.R. part 60.

(d) All prime construction contracts in excess of \$2,000 awarded by Recipients must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3148) as supplemented by Department of Labor regulations at 29 C.F.R. part 5. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. § 874 and 40 U.S.C. § 3145) as supplemented by Department of Labor regulations at 29 C.F.R. part 3.

(e) All contracts awarded by the Recipient in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704 (the Contract Work Hours and Safety Standards Act) as supplemented by Department of Labor regulations at 29 C.F.R. part 5.

(f) All contracts must include EDA requirements and regulations that involve a requirement on the contractor or sub-contractor to report information to EDA, the Recipient or any other federal agency.



- (g) All contracts must include EDA requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.
- (h) All contracts must include EDA requirements and regulations pertaining to copyrights and rights in data.
- (i) All contracts and subgrants in excess of \$150,000 must contain a provision that requires compliance with all applicable standards, orders, or requirements issued under the Clean Air Act (42 U.S.C. § 7401 *et seq.*) and the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1251 *et seq.*), and Executive Order 11738, *Providing for Administration of the Clean Air Act and the Federal Water Pollution Control Act With Respect to Federal Contracts, Grants, or Loans*.
- (j) Contracts must contain mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201).
- (k) Contracts must contain a provision ensuring that contracts are not to be made to parties on the government wide Excluded Parties List System in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. part 180.
- (l) Contracts must contain a provision ensure compliance with the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352) under which contractors that apply or bid for an award of \$100,000 or more must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.
- (m) If the Recipient is a state agency or agency of a political subdivision of a state, any contract awarded must contain a provision ensuring compliance with section 6002 of the Solid Waste Disposal Act (42 U.S.C. § 6962), as amended by the Resource Conservation and Recovery Act related to the procurement of recovered materials.

#### 4. **REQUIRED PROVISIONS DEEMED INSERTED**

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion of correction.

5. **INSPECTION BY EDA REPRESENTATIVES**

The authorized representatives and agents of EDA shall be permitted to inspect all work, materials, payrolls, personnel records, invoices of materials, and other relevant data and records.

6. **EXAMINATION AND RETENTION OF CONTRACTOR'S RECORDS**

(a) The Owner, EDA, or the Comptroller General of the United States, or any of their duly authorized representatives shall, generally until three years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders that do not exceed \$10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the Owner, EDA, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

7. **CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES**

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due to the Contractor in accordance with the progress schedule. The Contractor also shall furnish the Owner (a) a detailed estimate giving a complete breakdown of the contract price and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only to determine the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

8. **CONTRACTOR'S TITLE TO MATERIAL**

No materials, supplies, or equipment for the work shall be purchased by the Contractor or by any subcontractor that is subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants and guarantees that he/she has good title to all work, materials, and equipment used by him/her in the Work, free and clear of all liens, claims, or encumbrances.

9. **INSPECTION AND TESTING OF MATERIALS**

All materials and equipment used in the completion of the Work shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. Materials of construction, particularly those upon which the strength and durability of any structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for intended uses.

10. **"OR EQUAL" CLAUSE**

Whenever a material, article, or piece of equipment is identified in the Contract Documents by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard. Any material, article, or equipment of other manufacturers and vendors that will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Architect/Engineer, of equal substance and function. However, such substitution material, article, or equipment shall not be purchased or installed by the Contractor without the Architect/Engineer's written approval.

11. **PATENT FEES AND ROYALTIES**

(a) Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Architect/Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents.

(b) To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner and the Architect/Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against 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) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

12. **CLAIMS FOR EXTRA COSTS**

No claims for extra work or cost shall be allowed unless the same was done in pursuance of a written order from the Architect/Engineer approved by the Owner.

### 13. **CONTRACTORS AND SUBCONTRACTORS INSURANCE**

(a) The Contractor shall not commence work under this Contract until the Contractor has obtained all insurance reasonably required by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her subcontract until the insurance required of the subcontractor has been so obtained and approved.

(b) Types of insurance normally required are:

- (1) Workmen's Compensation
- (2) Contractor's Public Liability and Property Damage
- (3) Contractor's Vehicle Liability
- (4) Subcontractors' Public Liability, Property Damage and Vehicle Liability
- (5) Builder's Risk (Fire and Extended Coverage)

(c) **Scope of Insurance and Special Hazards:** The insurance obtained, which is described above, shall provide adequate protection for the Contractor and his/her subcontractors, respectively, against damage claims that may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him/her and also against any of the special hazards that may be encountered in the performance of this Contract.

(d) **Proof of Carriage of Insurance:** The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates, and dates of expiration of applicable insurance policies.

### 14. **CONTRACT SECURITY BONDS**

(a) If the amount of this Contract exceeds \$150,000, the Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract and also a payment bond in an amount equal to one hundred percent (100%) of the Contract price or in a penal sum not less than that prescribed by State, Territorial, or local law, as security for the payment of all persons performing labor on the Work under this Contract and furnishing materials in connection with this Contract. The performance bond and the payment bond may be in one or in separate instruments in accordance with local law. Before final acceptance, each bond must be approved by EDA. If the amount of this Contract does not exceed \$150,000, the Owner shall specify the amount of the payment and performance bonds.

(b) All bonds shall be in the form prescribed by the Contract Documents except as otherwise provided in applicable laws or regulations, and shall be executed by such sureties as are named in the current list of *Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies* as published in Treasury Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's

authority to act. Surety companies executing the bonds must also be authorized to transact business in the state where the Work is located.

15. **LABOR STANDARDS - DAVIS-BACON AND RELATED ACTS**  
**(as required by section 602 of PWEDA)**

(a) **Minimum Wages**

(1) All laborers and mechanics employed or working upon the site of the Work 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 at 29 C.F.R. part 3, the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the 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 that 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 1(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 29 C.F.R. § 5.5(a)(1)(iv); 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 C.F.R. § 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 work is performed. The wage determination (including any additional classification and wage rates determined under 29 C.F.R. § 5.5(a)(1)(ii) 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) (i) Any class of laborers or mechanics to be employed under the Contract, but not listed in the wage determination, shall be classified in conformance with the wage determination. EDA shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(A) The work to be performed by the classification requested is not performed by a classification in the wage determination;

(B) The classification is utilized in the area by the construction industry; and

(C) The proposed wage rate, including any bona fide fringe benefits, bears a

reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and EDA or its designee 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 EDA or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and EDA or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), EDA or its designee shall refer the questions, including the views of all interested parties and the recommendation of EDA or its designee, to the Administrator for determination.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(2)(ii) or (iii) 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.

(3) 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.

(4) 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 assets for the meeting of obligations under the plan or program.

(b) **Withholding**

EDA or its designee 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 same prime Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime 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 in the construction or development of the Project, all or part of the wages required by the Contract, EDA or its designee 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. EDA or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

(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 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 C.F.R. § 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, the plan or program is financially responsible, and the plan or program has been communicated in writing to the laborers or mechanics affected, and provide records that 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) (i) For each week in which Contract work is performed, the Contractor shall submit a copy of all payrolls to the Owner for transmission to EDA or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 C.F.R. part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose. It may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402; or downloaded from the U.S. Department of Labor's website at <https://www.dol.gov/whd/forms/wh347.pdf>. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors
- (ii) 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:
  - (A) That the payroll for the payroll period contains the information required to be maintained under 29 C.F.R. § 5.5(a)(3)(i) and that such information is correct and complete;

(B) 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 29 C.F.R. part 3; and

(C) 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.

(iii) 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 15(c)(2)(ii) of this section.

(iv) 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 3729 of Title 31 of the U.S. Code.

(3) The Contractor or subcontractor shall make the records required under paragraph 15(c)(1) of this section available for inspection, copying, or transcription by authorized representatives of EDA or its designee 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, EDA or its designee may, after written notice to the Contractor 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 C.F.R. § 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 (Bureau), 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 a 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 journeymen 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 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 C.F.R. § 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 that 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's 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, *Equal Employment Opportunity*, as amended, and 29 C.F.R. part 30.

(e) **Compliance with Copeland Anti-Kickback Act Requirements.** The Contractor shall comply with the Copeland Anti-Kickback Act (18 U.S.C. § 874 and 40 U.S.C. § 3145) as supplemented by Department of Labor regulations (29 C.F.R. part 3, “Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States”). The Act provides that the Contractor and any subcontractors shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which they are otherwise entitled. The Owner shall report all suspected or reported violations to EDA.

(f) **Subcontracts.** The Contractor and any subcontractors will insert in any subcontracts the clauses contained in 29 C.F.R. §§ 5.5(a)(1) through (10) and such other clauses as EDA or its designee may require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 C.F.R. § 5.5.

(g) **Contract termination; debarment.** The breach of the contract clauses in 29 C.F.R. § 5.5 may be grounds for termination of the contract, and for debarment as a Contractor and a subcontractor as provided in 29 C.F.R. § 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 C.F.R. 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 C.F.R. parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and EDA or its designee, 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 any person or firm that 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 C.F.R. § 5.12(a)(1).

(2) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.

16. **LABOR STANDARDS - CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

(a) **Overtime requirements.** No Contractor or subcontractor contracting for any part of the Contract work, which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic in any workweek in which that person is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(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 therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

(c) **Withholding for unpaid wages and liquidated damages.** EDA or its designee 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 monies payable on account of work performed by the Contractor or subcontractor under any such Contract or any other federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.

(d) **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (c) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (c) of this section.

17. **EQUAL EMPLOYMENT OPPORTUNITY**

(a) The Recipient hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 C.F.R. chapter 60, which is paid for in whole or in part with funds obtained from EDA, the following equal opportunity clause:

During the performance of this contract, the Contractor agrees as follows:

Economic Development Administration  
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(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. 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, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers representatives of the Contractor's commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965 and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by EDA and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of

this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the portion of the sentence immediately preceding paragraph 17(a)(1) and the provisions of paragraphs 17(a)(1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as EDA or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by EDA or the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

(9) The Recipient further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally-assisted construction work. Provided, however, that if the Recipient so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government that does not participate in work on or under the Contract.

(10) The Recipient agrees that it will assist and cooperate actively with EDA and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish EDA and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist EDA in the discharge of the EDA's primary responsibility for securing compliance.

(11) The Recipient further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by EDA or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the Recipient agrees that if it fails or refuses to comply with these undertakings, EDA may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this EDA financial assistance; refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case

to the Department of Justice for appropriate legal proceedings.

(b) Exemptions to Above Equal Opportunity Clause (41 C.F.R. chapter 60):

(1) Contracts and subcontracts not exceeding \$10,000 (other than Government bills of lading, and other than contracts and subcontracts with depositories of Federal funds in any amount and with financial institutions which are issuing and paying agents for U.S. savings bonds and savings notes) are exempt. The amount of the Contract, rather than the amount of the federal financial assistance, shall govern in determining the applicability of this exemption.

(2) Except in the case of subcontractors for the performance of construction work at the site of construction, the clause shall not be required to be inserted in subcontracts below the second tier.

(3) Contracts and subcontracts not exceeding \$10,000 for standard commercial supplies or raw materials are exempt.

18. **CONTRACTING WITH SMALL, MINORITY AND WOMEN'S BUSINESSES**

(a) If the Contractor intends to let any subcontracts for a portion of the work, the Contractor shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services.

(b) Affirmative steps shall consist of:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(4) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises;

(5) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies;

(6) Requiring each party to a subcontract to take the affirmative steps of this section; and

(7) The Contractor is encouraged to procure goods and services from labor surplus area firms.

19. **HEALTH, SAFETY, AND ACCIDENT PREVENTION**

(a) In performing this contract, the Contractor shall:

- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to their health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
- (2) Protect the lives, health, and safety of other persons;
- (3) Prevent damage to property, materials, supplies, and equipment; and
- (4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:

- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 C.F.R. part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701 – 3708); and
- (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this Contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 C.F.R. part 1904.

(d) The Owner shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the Work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Owner may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as EDA, or the Secretary of Labor shall direct as a means of enforcing such provisions.

20. **CONFLICT OF INTEREST AND OTHER PROHIBITED INTERESTS**

(a) No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part hereof.

(b) No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

(c) The Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the Contract Documents has a corporate or financial affiliation with the supplier or manufacturer.

(d) The Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, may be involved. Such a conflict may arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in the Contractor. The Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors, or anything of monetary value from the Contractor or subcontractors.

(e) If the Owner finds after a notice and hearing that the Contractor, or any of the Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the Owner or EDA in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, the Owner may, by written notice to the Contractor, terminate this Contract. The Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which the Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

(f) In the event this Contract is terminated as provided in paragraph (e) of this section, the Owner may pursue the same remedies against the Contractor as it could pursue in the event of a breach of this Contract by the Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, the Owner may pursue exemplary damages in an amount (as determined by the Owner) which shall not be less than three nor more than ten times the costs the Contractor incurs in providing any such gratuities to any such officer or employee.



## 21. **RESTRICTIONS ON LOBBYING**

(a) This Contract, or subcontract is subject to 31 U.S.C. § 1352, regarding lobbying restrictions. The section is explained in the common rule, 15 C.F.R. part 28 (55 FR 6736-6748, February 26, 1990). Each bidder under this Contract or subcontract is generally prohibited from using federal funds for lobbying the Executive or Legislative Branches of the Federal Government in connection with this EDA Award.

(b) **Contract Clause Threshold:** This Contract Clause regarding lobbying must be included in each bid for a contract or subcontract exceeding \$100,000 of federal funds at any tier under the EDA Award.

(c) **Certification and Disclosure:** Each bidder of a contract or subcontract exceeding \$100,000 of federal funds at any tier under the federal Award must file Form CD-512, *Certification Regarding Lobbying – Lower Tier Covered Transactions*, and, if applicable, Standard Form-LLL, *Disclosure of Lobbying Activities*, regarding the use of any nonfederal funds for lobbying. Certifications shall be retained by the Contractor or subcontractor at the next higher tier. All disclosure forms, however, shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(d) **Continuing Disclosure Requirement:** Each Contractor or subcontractor that is subject to the Certification and Disclosure provision of this Contract Clause is required to file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person. Disclosure forms shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(e) **Indian Tribes, Tribal Organizations, or Other Indian Organizations:** Indian tribes, tribal organizations, or any other Indian organizations, including Alaskan Native organizations, are excluded from the above lobbying restrictions and reporting requirements, but only with respect to expenditures that are by such tribes or organizations for lobbying activities permitted by other federal law. An Indian tribe or organization that is seeking an exclusion from Certification and Disclosure requirements must provide EDA with the citation of the provision or provisions of federal law upon which it relies to conduct lobbying activities that would otherwise be subject to the prohibitions in and to the Certification and Disclosure requirements of 31 U.S.C. § 1352, preferably through an attorney's opinion. Note, also, that a non-Indian subrecipient, contractor, or subcontractor under an award to an Indian tribe, for example, is subject to the restrictions and reporting requirements.

## 22. **HISTORICAL AND ARCHAEOLOGICAL DATA PRESERVATION**

The Contractor agrees to facilitate the preservation and enhancement of structures and objects of historical, architectural or archaeological significance and when such items are found and/or unearthed during the course of project construction. Any excavation by the Contractor that uncovers an historical or archaeological artifact shall be immediately reported to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the State Historic

Preservation Officer (SHPO) for recovery of the items. *See* the National Historic Preservation Act of 1966 (54 U.S.C. § 300101 *et seq.*, formerly at 16 U.S.C. § 470 *et seq.*) and Executive Order No. 11593 of May 31, 1971.

23. **CLEAN AIR AND WATER**

Applicable to Contracts in Excess of \$150,000

(a) **Definition.** “Facility” means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by the Contractor or any subcontractor, used in the performance of the Contract or any subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the Administrator, or a designee, of the United States Environmental Protection Agency (EPA) determines that independent facilities are collocated in one geographical area.

(b) In compliance with regulations issued by the EPA, 2 C.F.R. part 1532, pursuant to the Clean Air Act, as amended (42 U.S.C. § 7401 *et seq.*); the Federal Water Pollution Control Act, as amended (33 U.S.C. § 1251 *et seq.*); and Executive Order 11738, the Contractor agrees to:

(1) Not utilize any facility in the performance of this contract or any subcontract which is listed on the Excluded Parties List System, part of the System for Award Management (SAM), pursuant to 2 C.F.R. part 1532 for the duration of time that the facility remains on the list;

(2) Promptly notify the Owner if a facility the Contractor intends to use in the performance of this contract is on the Excluded Parties List System or the Contractor knows that it has been recommended to be placed on the List;

(3) Comply with all requirements of the Clean Air Act and the Federal Water Pollution Control Act, including the requirements of section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act, and all applicable clean air and clean water standards; and

(4) Include or cause to be included the provisions of this clause in every subcontract and take such action as EDA may direct as a means of enforcing such provisions.

24. **USE OF LEAD-BASED PAINTS ON RESIDENTIAL STRUCTURES**

(a) If the work under this Contract involves construction or rehabilitation of residential structures over \$5,000, the Contractor shall comply with the Lead-based Paint Poisoning Prevention Act (42 U.S.C. § 4831). The Contractor shall assure that paint or other surface coatings used in a residential property does not contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight. For purposes of this section, “residential property” means a dwelling unit, common areas, building exterior surfaces, and any surrounding land, including outbuildings, fences and play equipment affixed to the land, belonging to an owner and available for use by residents, but not

including land used for agricultural, commercial, industrial or other non-residential purposes, and not including paint on the pavement of parking lots, garages, or roadways.

- (b) As a condition to receiving assistance under PWEDA, recipients shall assure that the restriction against the use of lead-based paint is included in all contracts and subcontracts involving the use of federal funds.

25. **ENERGY EFFICIENCY**

The Contractor shall comply with all standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201) for the State in which the Work under the Contract is performed.

26. **ENVIRONMENTAL REQUIREMENTS**

When constructing a Project involving trenching and/or other related earth excavations, the Contractor shall comply with the following environmental constraints:

- (1) **Wetlands.** When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert wetlands.
- (2) **Floodplains.** When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency (FEMA) Floodplain Maps, or other appropriate maps, i.e., alluvial soils on Natural Resource Conservation Service (NRCS) Soil Survey Maps.
- (3) **Endangered Species.** The Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of the Contractor, the Contractor will immediately report this evidence to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the U.S. Fish and Wildlife Service.

27. **DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSIONS**

As required by Executive Orders 12549 and 12689, *Debarment and Suspension*, 2 C.F.R. Part 180 and implemented by the Department of Commerce at 2 C.F.R. part 1326, for prospective participants in lower tier covered transactions (except subcontracts for goods or services under the \$25,000 small purchase threshold unless the subrecipient will have a critical influence on or substantive control over the award), the Contractor agrees that:

- (1) By entering into this Contract, the Contractor and subcontractors certify, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared
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ineligible, or voluntarily excluded from participation in this Contract by any federal department or agency.

(2) Where the Contractor or subcontractors are unable to certify to any of the statements in this certification, the Contractor or subcontractors shall attach an explanation to this bid.

*See also 2 C.F.R. part 180 and 2 C.F.R. § 200.342.*

28. **EDA PROJECT SIGN**

The Contractor shall supply, erect, and maintain in good condition a Project sign according to the specifications provided by EDA. To the extent practical, the sign should be a free standing sign. Project signs shall not be located on public highway rights-of-way. Location and height of signs will be coordinated with the local agency responsible for highway or street safety in the Project area, if any possibility exists for obstructing vehicular traffic line of sight. Whenever the EDA site sign specifications conflict with State law or local ordinances, the EDA Regional Director will permit such conflicting specifications to be modified so as to comply with State law or local ordinance.

29. **BUY AMERICA**

To the greatest extent practicable, contractors are encouraged to purchase American-made equipment and products with funding provided under EDA financial assistance awards.

**ATTACHMENT F**

**FEDERAL WAGE RATES**

"General Decision Number: CA20190018 07/26/2019

Superseded General Decision Number: CA20180029

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Alameda, Calaveras, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus and Tuolumne Counties in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the

wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/04/2019
1	02/01/2019
2	02/15/2019
3	02/22/2019
4	05/03/2019
5	07/26/2019

ASBE0016-004 01/01/2019

AREA 1: CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS & TOULMNE COUNTIES

AREA 2: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO & SANTA CLARA COUNTIES

Rates	Fringes
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Asbestos Removal  
worker/hazardous material  
handler (Includes  
preparation, wetting,

stripping, removal,  
scrapping, vacuuming, bagging  
and disposing of all  
insulation materials from  
mechanical systems, whether  
they contain asbestos or not)

Area 1.....	\$ 28.20	9.27
Area 2.....	\$ 36.53	9.27

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ASBE0016-008 01/01/2019

AREA 1: ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN  
FRANSICO, SAN MATEO, SANTA CLARA, & SANTA CRUZ

AREA 2: CALAVERAS, COLUSA, FRESNO, KINGS, MADERA, MARIPOSA,  
MERCED, SAN JOAQUIN, STANISLAU, & TUOLUMNE

	Rates	Fringes
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Asbestos Workers/Insulator  
(Includes the application of  
all insulating materials,  
Protective Coverings,  
Coatings, and Finishes to all  
types of mechanical systems)

Area 1.....	\$ 68.11	23.32
Area 2.....	\$ 43.81	31.22

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BOIL0549-001 10/01/2016

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO & SANTA  
CLARA COUNTIES

AREA 2: REMAINING COUNTIES



	Rates	Fringes
BOILERMAKER		
Area 1.....	\$ 43.28	37.91
Area 2.....	\$ 39.68	35.71

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BRCA0003-001 08/01/2017

	Rates	Fringes
MARBLE FINISHER.....	\$ 32.60	15.31

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BRCA0003-003 08/01/2017

	Rates	Fringes
MARBLE MASON.....	\$ 44.60	26.83

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BRCA0003-005 05/01/2017

	Rates	Fringes
BRICKLAYER		
( 1) Fresno, Kings, Madera, Mariposa, Merced....	\$ 38.45	21.22
( 7) San Francisco, San Mateo.....	\$ 42.34	25.83
( 8) Alameda, Contra Costa, San Benito, Santa Clara.....	\$ 44.16	21.71
( 9) Calaveras, San Joaquin, Stanislaus, Toulumne.....	\$ 39.66	20.76
(16) Monterey, Santa Cruz...	\$ 39.51	23.49

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BRCA0003-008 09/01/2017

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 35.14	16.87
TERRAZZO WORKER/SETTER.....	\$ 44.11	26.36

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BRCA0003-011 04/01/2018

AREA 1: Alameda, Contra Costa, Monterey, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz

AREA 2: Calaveras, San Joaquin, Stanislaus, Tuolumne

AREA 3: Fresno, Kings, Madera, Mariposa, Merced

	Rates	Fringes
TILE FINISHER		
Area 1.....	\$ 28.56	15.87
Area 2.....	\$ 25.60	14.30
Area 3.....	\$ 25.88	15.17
Tile Layer		
Area 1.....	\$ 47.77	18.29
Area 2.....	\$ 42.67	16.81
Area 3.....	\$ 38.15	17.70

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CARP0022-001 07/01/2018

San Francisco County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		

Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 48.55	29.32
Journeyman Carpenter.....	\$ 48.40	29.32
Millwright.....	\$ 48.50	30.91

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CARP0034-001 07/01/2018

	Rates	Fringes
Diver		
Assistant Tender, ROV Tender/Technician.....	\$ 47.65	32.52
Diver standby.....	\$ 52.61	32.52
Diver Tender.....	\$ 51.82	32.52
Diver wet.....	\$ 97.17	32.52
Manifold Operator (mixed gas).....	\$ 56.82	32.52
Manifold Operator (Standby) ..	\$ 51.82	32.52

#### DEPTH PAY (Surface Diving):

050 to 100 ft	\$2.00 per foot
101 to 150 ft	\$3.00 per foot
151 to 220 ft	\$4.00 per foot

#### SATURATION DIVING:

The standby rate shall apply until saturation starts. The saturation diving rate applies when divers are under pressure continuously until work task and decompression are complete. The diver rate shall be paid for all saturation hours.

#### DIVING IN ENCLOSURES:

Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: \$1.00 per foot. When it is

necessary for a diver to enter any pipe, tunnel or other enclosure less than 48"" in height, the premium will be \$1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:

Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

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CARP0034-003 07/01/2017

	Rates	Fringes
Piledriver.....	\$ 46.65	31.91

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CARP0035-007 07/01/2017

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tuolumne Counties

	Rates	Fringes
Modular Furniture Installer		
Area 1		
Installer I.....	\$ 25.61	20.42
Installer II.....	\$ 22.18	20.42
Lead Installer.....	\$ 29.06	20.92
Master Installer.....	\$ 33.28	20.92
Area 2		

Installer I.....	\$ 22.96	20.42
Installer II.....	\$ 20.01	20.42
Lead Installer.....	\$ 25.93	20.92
Master Installer.....	\$ 29.56	20.92
Area 3		
Installer I.....	\$ 22.01	20.42
Installer II.....	\$ 19.24	20.42
Lead Installer.....	\$ 24.81	20.92
Master Installer.....	\$ 31.83	20.92

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CARP0035-008 08/01/2018

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: San Joaquin

AREA 4: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, Stanislaus, Tuolumne Counties

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1.....	\$ 48.40	29.76
Area 2.....	\$ 42.52	29.76
Area 3.....	\$ 41.02	29.15
Area 4.....	\$ 41.67	29.76
Drywall Stocker/Scraper		
Area 1.....	\$ 24.20	17.29
Area 2.....	\$ 21.26	17.29
Area 3.....	\$ 20.51	16.88
Area 4.....	\$ 20.84	17.29

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CARP0152-001 07/01/2018

## Contra Costa County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 48.55	29.32
Journeyman Carpenter.....	\$ 48.40	29.32
Millwright.....	\$ 48.50	30.91

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CARP0152-002 07/01/2018

## San Joaquin County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 42.67	29.32
Journeyman Carpenter.....	\$ 42.52	29.32
Millwright.....	\$ 45.02	30.91

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CARP0152-004 07/01/2018

Calaveras, Mariposa, Merced, Stanislaus and Tuolumne Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 41.32	29.32
Journeyman Carpenter.....	\$ 41.17	29.32
Millwright.....	\$ 43.67	30.91

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CARP0217-001 07/01/2018

San Mateo County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 48.55	29.32
Journeyman Carpenter.....	\$ 48.40	29.32
Millwright.....	\$ 48.50	30.91

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CARP0405-001 07/01/2018

Santa Clara County

	Rates	Fringes
Carpenters		

Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 48.55	29.32
Journeyman Carpenter.....	\$ 48.40	29.32
Millwright.....	\$ 48.50	30.91

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CARP0405-002 07/01/2018

San Benito County

	Rates	Fringes
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Carpenters

Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 42.58	29.32
Journeyman Carpenter.....	\$ 42.52	29.32
Millwright.....	\$ 45.02	30.91

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CARP0505-001 07/01/2018

Santa Cruz County

	Rates	Fringes
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Carpenters

Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		



Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 42.67	29.32
Journeyman Carpenter.....	\$ 42.52	29.32
Millwright.....	\$ 45.02	30.91

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CARP0605-001 07/01/2018

#### Monterey County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 42.67	29.32
Journeyman Carpenter.....	\$ 42.52	29.32
Millwright.....	\$ 45.02	30.91

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CARP0701-001 07/01/2018

#### Fresno and Madera Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		

Filer.....	\$ 41.32	29.32
Journeyman Carpenter.....	\$ 41.17	29.32
Millwright.....	\$ 43.67	30.91

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CARP0713-001 07/01/2018

Alameda County

	Rates	Fringes
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Carpenters

Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 48.55	29.32
Journeyman Carpenter.....	\$ 48.40	29.32
Millwright.....	\$ 48.50	30.91

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CARP1109-001 07/01/2018

Kings County

	Rates	Fringes
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Carpenters

Bridge Builder/Highway		
Carpenter.....	\$ 48.40	29.32
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 41.32	29.32
Journeyman Carpenter.....	\$ 41.17	29.32
Millwright.....	\$ 43.67	30.91

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ELEC0006-004 12/01/2018

SAN FRANCISCO COUNTY

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 40.52	3%+19.05
Technician.....	\$ 46.60	3%+19.05

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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ELEC0006-007 06/01/2018

SAN FRANCISCO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 71.00	3%+31.215

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ELEC0100-002 03/01/2019

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 38.75	23.06

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ELEC0100-005 12/01/2018

FRESNO, KINGS, MADERA

	Rates	Fringes
Communications System		
Installer.....	\$ 33.59	19.55
Technician.....	\$ 38.63	19.71

#### SCOPE OF WORK

Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

#### A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS

Background foreground music, Intercom and telephone

interconnect systems, Telephone systems Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage, master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide,

B. FIRE ALARM SYSTEMS Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS      Television monitoring and surveillance systems Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems Vibration sensor systems Card access systems Access control systems, Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation) Inventory Control Systems, Digital Data Systems Broadband and Baseband and Carriers Point of Sale Systems, VSAT Data Systems Data Communication Systems RF and Remote Control Systems, Fiber Optic Data Systems

WORK EXCLUDED Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (not to exceed 10 feet) may be installed on open wiring systems. Energy management systems. SCADA (Supervisory Control and Data Acquisition) when not intrinsic to the above listed systems (in the scope). Fire alarm systems when installed in raceways (including wire and cable pulling) shall be performed at the electrician wage rate, when either of the following two (2) conditions apply:

1. The project involves new or major remodel building trades

construction.

2. The conductors for the fire alarm system are installed in conduit.

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\* ELEC0234-001 12/24/2018

MONTEREY, SAN BENITO AND SANTA CRUZ COUNTIES

	Rates	Fringes
ELECTRICIAN		
Zone A.....	\$ 49.30	25.58
Zone B.....	\$ 54.23	25.73

Zone A: All of Santa Cruz, Monterey, and San Benito Counties within 25 air miles of Highway 1 and Dolan Road in Moss Landing, and an area extending 5 miles east and west of Highway 101 South to the San Luis Obispo County Line

Zone B: Any area outside of Zone A

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ELEC0234-003 12/01/2018

MONTEREY, SAN BENITO, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 40.02	19.75
Technician.....	\$ 46.02	19.75

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of

terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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ELEC0302-001 02/25/2019

CONTRA COSTA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 60.48	26.06
ELECTRICIAN.....	\$ 53.76	25.86

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ELEC0302-003 12/01/2018

CONTRA COSTA COUNTY

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 38.42	19.70
Technician.....	\$ 44.18	19.88

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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ELEC0332-001 06/01/2018

SANTA CLARA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 75.35	35.491
ELECTRICIAN.....	\$ 65.52	35.196

FOOTNOTES: Work under compressed air or where gas masks are required, or work on ladders, scaffolds, stacks, "Bosun's chairs," or other structures and where the workers are not protected by permanent guard rails at a distance of 40 to



60 ft. from the ground or supporting structures: to be paid one and one-half times the straight-time rate of pay.  
 Work on structures of 60 ft. or over (as described above):  
 to be paid twice the straight-time rate of pay.

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 ELEC0332-003 12/01/2018

SANTA CLARA COUNTY

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 40.02	19.75
Technician.....	\$ 46.02	19.93

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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 ELEC0595-001 06/01/2018

ALAMEDA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 61.03	3%+35.72
ELECTRICIAN.....	\$ 54.25	3%+35.72

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ELEC0595-002 06/01/2018

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 42.55	7.45%+24.58
ELECTRICIAN		
(1) Tunnel work.....	\$ 38.85	7.45%+24.58
(2) All other work.....	\$ 37.00	7.45%+24.58

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ELEC0595-006 12/01/2018

ALAMEDA COUNTY

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 40.02	3%+18.96
Technician.....	\$ 46.02	3%+18.96

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by

their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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ELEC0595-008 12/01/2018

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
Communications System		
Installer.....	\$ 33.59	3%+18.86
Technician.....	\$ 38.63	3%+18.86

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are

installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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\* ELEC0617-001 06/01/2019

SAN MATEO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 63.00	37.68

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ELEC0617-003 12/01/2018

SAN MATEO COUNTY

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 40.02	19.93
Technician.....	\$ 46.02	19.93

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by

their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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\* ELEC0684-001 06/01/2019

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 40.25	3%+22.83

CABLE SPLICER = 110% of Journeyman Electrician

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ELEC0684-004 12/01/2018

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
Communications System		
Installer.....	\$ 33.59	19.56
Technician.....	\$ 38.63	19.71

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

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ELEC1245-001 01/01/2019

Rates

Fringes

#### LINE CONSTRUCTION

(1) Lineman; Cable splicer..\$ 56.79	17.41
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution	

line	equipment).....\$	45.36	16.24
(3)	Groundman.....\$	34.68	15.86
(4)	Powderman.....\$	49.55	3%+17.65

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day,  
Independence Day, Labor Day, Veterans Day, Thanksgiving Day  
and day after Thanksgiving, Christmas Day

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ELEV0008-001 01/01/2019

	Rates	Fringes
ELEVATOR MECHANIC.....\$	67.56	34.125+a+b

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly  
rate as vacation pay credit for employees with more than 5  
years of service, and 6% for 6 months to 5 years of service.  
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day,  
Labor Day, Veterans Day, Thanksgiving Day, Friday after  
Thanksgiving, and Christmas Day.

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\* ENGI0003-001 06/24/2019

""AREA 1"" WAGE RATES ARE LISTED BELOW

""AREA 2"" RECEIVES AN ADDITIONAL \$2.00 PER HOUR ABOVE AREA 1  
RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment		

## (AREA 1:)

GROUP 1.....	\$ 49.02	30.74
GROUP 2.....	\$ 47.49	30.74
GROUP 3.....	\$ 46.01	30.74
GROUP 4.....	\$ 44.63	30.74
GROUP 5.....	\$ 43.36	30.74
GROUP 6.....	\$ 42.04	30.74
GROUP 7.....	\$ 40.90	30.74
GROUP 8.....	\$ 39.76	30.74
GROUP 8-A.....	\$ 37.55	30.74

OPERATOR: Power Equipment

(Cranes and Attachments -

## AREA 1:)

GROUP 1		
Cranes.....	\$ 50.65	30.74
Oiler.....	\$ 36.63	30.39
Truck crane oiler.....	\$ 39.20	30.39
GROUP 2		
Cranes.....	\$ 48.14	30.74
Oiler.....	\$ 36.36	30.39
Truck crane oiler.....	\$ 38.98	30.39
GROUP 3		
Cranes.....	\$ 46.40	30.74
Hydraulic.....	\$ 38.32	30.39
Oiler.....	\$ 36.14	30.39
Truck Crane Oiler.....	\$ 38.71	30.39
GROUP 4		
Cranes.....	\$ 43.36	30.74

OPERATOR: Power Equipment

(Piledriving - AREA 1:)

GROUP 1		
Lifting devices.....	\$ 45.89	30.39
Oiler.....	\$ 36.63	30.39
Truck crane oiler.....	\$ 39.20	30.39
GROUP 2		
Lifting devices.....	\$ 44.07	30.39
Oiler.....	\$ 36.36	30.39



Truck Crane Oiler.....\$ 38.98	30.39
GROUP 3	
Lifting devices.....\$ 42.39	30.39
Oiler.....\$ 36.14	30.39
Truck Crane Oiler.....\$ 38.71	30.39
GROUP 4	
Lifting devices.....\$ 40.62	30.39
GROUP 5	
Lifting devices.....\$ 39.32	30.39
GROUP 6	
Lifting devices.....\$ 37.98	30.39
OPERATOR: Power Equipment	
(Steel Erection - AREA 1:)	
GROUP 1	
Cranes.....\$ 46.30	30.39
Oiler.....\$ 36.63	30.39
Truck Crane Oiler.....\$ 39.20	30.39
GROUP 2	
Cranes.....\$ 43.79	30.39
Oiler.....\$ 36.36	30.39
Truck Crane Oiler.....\$ 38.98	30.39
GROUP 3	
Cranes.....\$ 42.05	30.39
Hydraulic.....\$ 38.32	30.39
Oiler.....\$ 36.14	30.39
Truck Crane Oiler.....\$ 38.71	30.39
GROUP 4	
Cranes.....\$ 39.01	30.39
GROUP 5	
Cranes.....\$ 35.13	30.39
OPERATOR: Power Equipment	
(Tunnel and Underground Work	
- AREA 1:)	
SHAFTS, STOPES, RAISES:	
GROUP 1.....\$ 40.77	30.39
GROUP 1-A.....\$ 43.24	30.39
GROUP 2.....\$ 39.51	30.39

GROUP 3.....	\$ 38.18	30.39
GROUP 4.....	\$ 37.04	30.39
GROUP 5.....	\$ 35.90	30.39
UNDERGROUND:		
GROUP 1.....	\$ 40.67	30.39
GROUP 1-A.....	\$ 43.14	30.39
GROUP 2.....	\$ 39.41	30.39
GROUP 3.....	\$ 38.08	30.39
GROUP 4.....	\$ 36.94	30.39
GROUP 5.....	\$ 35.80	30.39

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: \$.60 per hour additional.

#### POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track

loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull- type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader machine (asphalt, Barber-Greene and similar); Miller Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber- tired earthmoving equipment (scrapers); Slip form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed construction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt); Mine or shaft hoist; Portable

crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper; Boom- type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with compressor combination; Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self- propelled pipeline wrapping machine; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination); Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing

mahcine (on streets, highways, airports and canals);  
Self-propelled compactor (without dozer); Signalperson;  
Slip-form pumps (lifting device for concrete forms); Tie  
spacer; Tower mobile; Trenching machine, maximum digging  
capacity up to and including 5 ft. depth; Truck- type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator;  
Brakeperson; Combination mixer and compressor  
(shotcrete/gunite); Compressor operator; Deckhand; Fire  
tender; Forklift (under 20 ft.); Generator;  
Gunite/shotcrete equipment operator; Hydraulic monitor; Ken  
seal machine (or similar); Mixermobile; Oiler; Pump  
operator; Refrigeration plant; Reservoir-debris tug (self-  
propelled floating); Ross Carrier (construction site);  
Rotomist operator; Self-propelled tape machine; Shuttlecar;  
Self-propelled power sweeper operator (includes vacuum  
sweeper); Slusher operator; Surface heater; Switchperson;  
Tar pot firetender; Tugger hoist, single drum; Vacuum  
cooling plant; Welding machine (powered other than by  
electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743  
series or smaller, and similar (without attachments); Mini  
excavator under 25 H.P. (backhoe-trencher); Tub grinder  
wood chipper

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#### ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over  
100 tons; Derrick, over 100 tons; Derrick barge  
pedestal-mounted, over 100 tons; Self-propelled boom-type  
lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and  
including 7 cu. yds.; Crane, over 45 tons up to and

including 100 tons; Derrick barge, 100 tons and under;  
Self-propelled boom-type lifting device, over 45 tons;  
Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu.  
yd.; Cranes 45 tons and under; Self-propelled boom-type  
lifting device 45 tons and under;

GROUP 4: Boom Truck or dual purpose A-frame truck,  
non-rotating over 15 tons; Truck-mounted rotating  
telescopic boom type lifting device, Manitex or similar  
(boom truck) over 15 tons; Truck-mounted rotating  
telescopic boom type lifting device, Manitex or similar  
(boom truck) - under 15 tons;

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#### PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons;  
Clamshell over 7 cu. yds.; Self-propelled boom-type lifting  
device over 100 tons; Truck crane or crawler, land or barge  
mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and  
including 100 tons; Clamshell up to and including 7 cu.  
yds.; Self-propelled boom-type lifting device over 45 tons;  
Truck crane or crawler, land or barge mounted, over 45 tons  
up to and including 100 tons; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-  
propelled boom-type lifting device 45 tons and under;  
Skid/scow piledriver, any tonnage; Truck crane or crawler,  
land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer;  
Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

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#### STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons to 100 tons; Tower crane

GROUP 3: Crane, 45 tons and under; Self-propelled boom-type lifting device, 45 tons and under

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy-duty repair person/welder

GROUP 5: Boom cat

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#### TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete

pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

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#### AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS, TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: ALAMEDA, CALAVERAS, CONTRA COSTA, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, STANISLAUS, TUOLUMNE

AREA 2 -NOTED BELOW

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

#### CALAVERAS COUNTY:

Area 1: Remainder

Area 2: Eastern Part

#### FRESNO COUNTY:

Area 1: Remainder

Area 2: Eastern Part

#### MADERA COUNTY:

Area 1: Remainder



Area 2: Eastern Part

MARIPOSA COUNTY:

Area 1: Remainder

Area 2: Eastern Part

MONTEREY COUNTY:

Area 1: Remainder

Area 2: Southwestern part

TUOLUMNE COUNTY:

Area 1: Remainder

Area 2: Eastern Part

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 ENGI0003-008 07/01/2017

	Rates	Fringes
Dredging: (DREDGING:		
CLAMSHELL & DIPPER DREDGING;		
HYDRAULIC SUCTION DREDGING:)		
AREA 1:		
(1) Leverman.....	\$ 44.77	31.25
(2) Dredge Dozer; Heavy		
duty repairman.....	\$ 39.81	31.25
(3) Booster Pump		
Operator; Deck		
Engineer; Deck mate;		
Dredge Tender; Winch		
Operator.....	\$ 38.69	31.25
(4) Bargeman; Deckhand;		
Fireman; Leveehand; Oiler..	\$ 35.39	31.25
AREA 2:		
(1) Leverman.....	\$ 46.77	31.25
(2) Dredge Dozer; Heavy		
duty repairman.....	\$ 41.81	31.25

(3) Booster Pump		
Operator; Deck		
Engineer; Deck mate;		
Dredge Tender; Winch		
Operator.....	\$ 40.69	31.25
(4) Bargeman; Deckhand;		
Fireman; Leveehand; Oiler..	\$ 37.39	31.25

#### AREA DESCRIPTIONS

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED,  
NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN,  
SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS,  
SUTTER, YOLO, AND YUBA COUNTIES

AREA 2: MODOC COUNTY

THE REMAINGING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2  
AS NOTED BELOW:

#### ALPINE COUNTY:

Area 1: Northernmost part

Area 2: Remainder

#### CALAVERAS COUNTY:

Area 1: Remainder

Area 2: Eastern part

#### COLUSA COUNTY:

Area 1: Eastern part

Area 2: Remainder

#### ELDORADO COUNTY:

Area 1: North Central part

Area 2: Remainder

#### FRESNO COUNTY:

Area 1: Remainder

Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part

Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border  
with Shasta County

Area 2: Remainder

MADERA COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Except Eastern part

Area 2: Eastern part

MONTERREY COUNTY

Area 1: Except Southwestern part

Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of  
Sierra County

Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion

Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion

Area 2: Remainder

## SHASTA COUNTY:

Area 1: All but the Northeastern corner

Area 2: Remainder

## SIERRA COUNTY:

Area 1: Western part

Area 2: Remainder

## SISKIYOU COUNTY:

Area 1: Central part

Area 2: Remainder

## SONOMA COUNTY:

Area 1: All but the Northwestern corner

Area 2: Remainder

## TEHAMA COUNTY:

Area 1: All but the Western border with Mendocino & Trinity  
Counties

Area 2: Remainder

## TRINITY COUNTY:

Area 1: East Central part and the Northeastern border with  
Shasta County

Area 2: Remainder

## TUOLUMNE COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

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ENGI0003-019 07/26/2017

SEE AREA DESCRIPTIONS BELOW

Rates

Fringes

OPERATOR: Power Equipment

(LANDSCAPE WORK ONLY)

GROUP 1

AREA 1.....\$ 34.05 28.73

AREA 2.....\$ 36.05 28.73

GROUP 2

AREA 1.....\$ 30.45 28.73

AREA 2.....\$ 32.45 28.73

GROUP 3

AREA 1.....\$ 25.84 28.73

AREA 2.....\$ 27.84 28.73

GROUP DESCRIPTIONS:

GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a rating more than 65 HP.

GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

GROUP 3: Landscape Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

## AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS  
NOTED BELOW:

## ALPINE COUNTY:

Area 1: Northernmost part

Area 2: Remainder

## CALAVERAS COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

## COLUSA COUNTY:

Area 1: Eastern part

Area 2: Remainder

## DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner

Area 2: Remainder

## ELDORADO COUNTY:

Area 1: North Central part

Area 2: Remainder

## FRESNO COUNTY

Area 1: Except Eastern part

Area 2: Eastern part

## GLENN COUNTY:

Area 1: Eastern part

Area 2: Remainder

## HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts

Area 2: Remainder

## LAKE COUNTY:

Area 1: Southern part

Area 2: Remainder

## LASSEN COUNTY:

Area 1: Western part along the Southern portion of border  
with Shasta County

Area 2: Remainder

## MADERA COUNTY

Area 1: Remainder

Area 2: Eastern part

## MARIPOSA COUNTY

Area 1: Remainder

Area 2: Eastern part

## MENDOCINO COUNTY:

Area 1: Central and Southeastern parts

Area 2: Remainder

## MONTEREY COUNTY

Area 1: Remainder

Area 2: Southwestern part

## NEVADA COUNTY:

Area 1: All but the Northern portion along the border of  
Sierra County

Area 2: Remainder

## PLACER COUNTY:

Area 1: All but the Central portion

Area 2: Remainder

## PLUMAS COUNTY:

Area 1: Western portion

Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner

Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part

Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part

Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner

Area 2: Reaminder

TEHAMA COUNTY:

Area 1: All but the Western border with mendocino & Trinity  
Counties

Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeaster border with  
Shasta County

Area 2: Remainder

TULARE COUNTY;

Area 1: Remainder

Area 2: Eastern part

TUOLUMNE COUNTY:

Area 1: Remainder

Area 2: Eastern Part

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IRON0377-002 01/01/2019

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 32.58	23.41
Ornamental, Reinforcing and Structural.....	\$ 39.00	32.05

## PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval  
Reserve-Niland,  
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training  
Center-Goldstone, San Clemente Island, San Nicholas Island,  
Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine  
Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,  
Naval Post Graduate School - Monterey, Yermo Marine Corps  
Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

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\* LABO0067-002 07/01/2019

AREA ""A"" - ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND  
SANTA CLARA COUNTIES

AREA ""B"" - CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA,  
MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, STANISLAUS, AND  
TUOLUMNE COUNTIES

	Rates	Fringes
Asbestos Removal Laborer		
All Counties.....	\$ 24.00	11.30
LABORER (Lead Removal)		
Area A.....	\$ 31.81	24.61
Area B.....	\$ 30.81	24.61

ASBESTOS REMOVAL-SCOPE OF WORK: Site mobilization; initial site clean-up; site preparation; removal of asbestos-containing materials from walls and ceilings; or from pipes, boilers and mechanical systems only if they are being scrapped; encapsulation, enclosure and disposal of asbestos-containing materials by hand or with equipment or machinery; scaffolding; fabrication of temporary wooden barriers; and assembly of decontamination stations.

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LABO0073-002 06/25/2018

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 29.54	23.65
Traffic Control Person I....	\$ 29.84	23.65
Traffic Control Person II...	\$ 27.34	23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LABO0073-003 07/01/2018

SAN JOAQUIN COUNTY

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 31.20	22.20

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LABO0073-005 06/25/2018

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 37.82	24.11
GROUP 2.....	\$ 37.59	24.11
GROUP 3.....	\$ 37.34	24.11
GROUP 4.....	\$ 36.89	24.11
GROUP 5.....	\$ 36.35	24.11
Shotcrete Specialist.....	\$ 38.34	24.11

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher

in tunnel; Concrete screedman; Grout pumpman and potman;  
 Gunite & shotcrete gunman & potman; Headermen; High  
 pressure nozzleman; Miner - tunnel, including top and  
 bottom man on shaft and raise work; Nipper; Nozzleman on  
 slick line; Sandblaster - potman, Robotic Shotcrete Placer,  
 Segment Erector, Tunnel Muck Hauler, Steel Form raiser and  
 setter; Timberman, retimberman (wood or steel or substitute  
 materials therefore); Tugger (for tunnel laborer work);  
 Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
 muckers, trackmen; Concrete crew - includes rodding and  
 spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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 LABO0073-007 06/25/2018

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS)		
Construction Specialist		
Group.....	\$ 30.49	23.20
GROUP 1.....	\$ 29.79	23.20
GROUP 1-a.....	\$ 30.01	23.20
GROUP 1-c.....	\$ 29.84	23.20
GROUP 1-e.....	\$ 30.34	23.20
GROUP 1-f.....	\$ 30.37	23.20
GROUP 2.....	\$ 29.64	23.20
GROUP 3.....	\$ 29.54	23.20
GROUP 4.....	\$ 23.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,

## HORTICULTURAL &amp; LANDSCAPE

## LABORERS)

(1) New Construction.....	\$ 29.54	23.20
(2) Establishment Warranty Period.....	\$ 23.23	23.20

## LABORER (GUNITE)

GROUP 1.....	\$ 29.75	22.31
GROUP 2.....	\$ 29.25	22.31
GROUP 3.....	\$ 28.66	22.31
GROUP 4.....	\$ 28.54	22.31

## LABORER (WRECKING)

GROUP 1.....	\$ 29.79	23.20
GROUP 2.....	\$ 29.64	23.20

## FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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## LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement;

Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and

explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry

cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".



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GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

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WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

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LABO0073-009 07/01/2018

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
LABORER (Plaster Tender).....	\$ 32.02	23.00

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO0261-003 06/25/2018

SAN FRANCISCO AND SAN MATEO COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 20.54	23.65
Traffic Control Person I....	\$ 30.84	23.65
Traffic Control Person II...	\$ 28.34	23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LABO0261-005 06/25/2018

#### SAN FRANCISCO AND SAN MATEO COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 37.82	24.11
GROUP 2.....	\$ 37.59	24.11
GROUP 3.....	\$ 37.34	24.11
GROUP 4.....	\$ 36.89	24.11
GROUP 5.....	\$ 36.35	24.11
Shotcrete Specialist.....	\$ 38.34	24.11

#### TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading;  
 Cherry pickermen - where car is lifted; Concrete finisher  
 in tunnel; Concrete screedman; Grout pumpman and potman;  
 Gunit & shotcrete gunman & potman; Headermen; High  
 pressure nozzleman; Miner - tunnel, including top and  
 bottom man on shaft and raise work; Nipper; Nozzleman on  
 slick line; Sandblaster - potman, Robotic Shotcrete Placer,  
 Segment Erector, Tunnel Muck Hauler, Steel Form raiser and  
 setter; Timberman, retimberman (wood or steel or substitute  
 materials therefore); Tugger (for tunnel laborer work);  
 Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
 muckers, trackmen; Concrete crew - includes rodding and  
 spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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 LABO0261-009 06/25/2018

SAN FRANCISCO, AND SAN MATEO COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA A:)		
Construction Specialist		
Group.....	\$ 31.49	23.20
GROUP 1.....	\$ 30.79	23.20
GROUP 1-a.....	\$ 31.01	23.20
GROUP 1-c.....	\$ 30.84	23.20
GROUP 1-e.....	\$ 31.34	23.20
GROUP 1-f.....	\$ 31.37	23.20
GROUP 2.....	\$ 30.64	23.20
GROUP 3.....	\$ 30.54	23.20

GROUP 4.....\$ 24.23 23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,

HORTICULTURAL & LANDSCAPE

LABORERS - AREA A:)

(1) New Construction.....\$ 30.54 23.20

(2) Establishment Warranty

Period.....\$ 24.23 23.20

LABORER (WRECKING - AREA A:)

GROUP 1.....\$ 30.79 23.20

GROUP 2.....\$ 30.64 23.20

Laborers: (GUNITE - AREA A:)

GROUP 1.....\$ 30.75 22.31

GROUP 2.....\$ 30.25 22.31

GROUP 3.....\$ 29.66 22.31

GROUP 4.....\$ 29.54 22.31

#### FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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#### LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond drill; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker

and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of

type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting

or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in

the performance of ""form stripping, cleaning and oiling  
and moving to the next point of erection"".

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GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

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WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash,  
windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building  
materials)

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LAB00261-011 05/01/2018

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
MASON TENDER, BRICK.....	\$ 35.37	20.70

FOOTNOTES: Underground work such as sewers, manholes, catch  
basins, sewer pipes, telephone conduits, tunnels and cut  
trenches: \$5.00 per day additional. Work in live sewage:



\$2.50 per day additional.

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LABO0261-014 07/01/2017

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
PLASTER TENDER.....	\$ 34.70	23.11

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO0270-003 06/25/2018

AREA A: SANTA CLARA

AREA B: MONTEREY, SAN BENITO AND SANTA CRUZ COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person		
Area A.....	\$ 30.54	23.65
Area B.....	\$ 29.54	23.65
Traffic Control Person I		
Area A.....	\$ 30.84	23.65
Area B.....	\$ 29.84	23.65
Traffic Control Person II		
Area A.....	\$ 28.34	23.65
Area B.....	\$ 27.34	23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LAB00270-004 06/25/2018

MONTEREY, SAN BENITO, SANTA CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 37.82	24.11
GROUP 2.....	\$ 37.59	24.11
GROUP 3.....	\$ 37.34	24.11
GROUP 4.....	\$ 36.89	24.11
GROUP 5.....	\$ 36.35	24.11
Shotcrete Specialist.....	\$ 38.34	24.11

#### TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work);

Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
muckers, trackmen; Concrete crew - includes rodding and  
spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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LABO0270-005 07/01/2018

MONTEREY AND SAN BENITO COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 31.20	22.20

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LABO0270-007 06/25/2018

MONTEREY, SAN BENITO, AND SANTA CRUZ, COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA B)		
Construction Specialist		
Group.....	\$ 30.40	23.20
GROUP 1.....	\$ 29.79	23.20
GROUP 1-a.....	\$ 30.01	23.20
GROUP 1-c.....	\$ 29.84	23.20
GROUP 1-e.....	\$ 30.34	23.20
GROUP 1-f.....	\$ 30.37	23.20
GROUP 2.....	\$ 29.64	23.20
GROUP 3.....	\$ 29.54	23.20
GROUP 4.....	\$ 23.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,

HORTICULTURAL & LANDSCAPE

LABORERS - AREA B)

(1) New Construction.....	\$ 29.54	23.20
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(2) Establishment Warranty		
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Period.....	\$ 23.23	23.20
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LABORER (GUNITE - AREA B)

GROUP 1.....	\$ 29.75	22.31
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GROUP 2.....	\$ 29.25	22.31
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GROUP 3.....	\$ 28.66	22.31
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GROUP 4.....	\$ 28.54	22.31
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LABORER (WRECKING - AREA B)

GROUP 1.....	\$ 29.79	23.20
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GROUP 2.....	\$ 29.64	23.20
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#### FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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#### LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified

hazardous waste worker including Leade Abatement;  
Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder;

All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

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GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

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WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash,  
windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building  
materials)

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LABO0270-010 06/25/2018

SANTA CLARA COUNTY

	Rates	Fringes
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LABORER (CONSTRUCTION CRAFT

LABORERS - AREA A:)

Construction Specialist

Group.....	\$ 31.49	23.20
GROUP 1.....	\$ 30.79	23.20
GROUP 1-a.....	\$ 31.01	23.20
GROUP 1-c.....	\$ 30.84	23.20



GROUP 1-e.....	\$ 31.34	23.20
GROUP 1-f.....	\$ 30.37	23.20
GROUP 2.....	\$ 30.64	23.20
GROUP 3.....	\$ 30.54	23.20
GROUP 4.....	\$ 24.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,  
HORTICULTURAL & LANDSCAPE  
LABORERS - AREA A:)

(1) New Construction.....	\$ 30.54	23.20
(2) Establishment Warranty Period.....	\$ 24.23	23.20

LABORER (GUNITE - AREA A:)

GROUP 1.....	\$ 30.75	22.31
GROUP 2.....	\$ 30.25	22.31
GROUP 3.....	\$ 29.66	22.31
GROUP 4.....	\$ 29.54	22.31

LABORER (WRECKING - AREA A:)

GROUP 1.....	\$ 30.79	23.20
GROUP 2.....	\$ 30.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker;  
Chainsaw; Laser beam in connection with laborers' work;  
Cast-in- place manhole form setter; Pressure pipelayer;  
Davis trencher - 300 or similar type (and all small

trenchers); Blaster; Diamond driller; Multiple unit drill;  
Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucket; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and

every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

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GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

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WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

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LABO0270-011 07/01/2017

MONTEREY, SAN BENITO, SANTA CRUZ, SANTA CLARA COUNTIES

	Rates	Fringes
LABORER (Plaster Tender).....	\$ 34.70	21.22

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO0294-001 07/01/2018

FRESNO, KINGS AND MADERA COUNTIES

	Rates	Fringes
LABORER (Brick)		
Mason Tender-Brick.....	\$ 31.20	22.20

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LABO0294-002 06/25/2018

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 29.54	23.65
Traffic Control Person I....	\$ 29.84	23.65
Traffic Control Person II...	\$ 27.34	23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LABO0294-005 06/25/2018

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
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## Tunnel and Shaft Laborers:

GROUP 1.....	\$ 37.82	24.11
GROUP 2.....	\$ 37.59	24.11
GROUP 3.....	\$ 37.34	24.11
GROUP 4.....	\$ 36.89	24.11
GROUP 5.....	\$ 36.35	24.11
Shotcrete Specialist.....	\$ 38.34	24.11

## TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Guniting and shotcrete  
nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or  
excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading;  
Cherry pickermen - where car is lifted; Concrete finisher  
in tunnel; Concrete screedman; Grout pumpman and potman;  
Guniting & shotcrete gunman & potman; Headermen; High  
pressure nozzleman; Miner - tunnel, including top and  
bottom man on shaft and raise work; Nipper; Nozzleman on  
slick line; Sandblaster - potman, Robotic Shotcrete Placer,  
Segment Erector, Tunnel Muck Hauler, Steel Form raiser and  
setter; Timberman, retimberman (wood or steel or substitute  
materials therefore); Tugger (for tunnel laborer work);  
Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
muckers, trackmen; Concrete crew - includes rodding and  
spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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LAB00294-008 06/25/2018

## FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA B:)		
Construction Specialist		
Group.....	\$ 30.49	23.20
GROUP 1.....	\$ 29.79	23.20
GROUP 1-a.....	\$ 30.01	23.20
GROUP 1-c.....	\$ 29.84	23.20
GROUP 1-e.....	\$ 30.34	23.20
GROUP 1-f.....	\$ 30.37	23.20
GROUP 2.....	\$ 29.64	23.20
GROUP 3.....	\$ 29.54	23.20
GROUP 4.....	\$ 23.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,  
HORTICULTURAL & LANDSCAPE  
LABORERS - AREA B:)

(1) New Construction.....	\$ 29.54	23.20
(2) Establishment Warranty		
Period.....	\$ 23.23	23.20

## LABORER (GUNITE - AREA B:)

GROUP 1.....	\$ 29.75	22.31
GROUP 2.....	\$ 29.25	22.31
GROUP 3.....	\$ 28.66	22.31
GROUP 4.....	\$ 28.54	22.31

## LABORER (WRECKING - AREA B:)

GROUP 1.....	\$ 29.79	23.20
GROUP 2.....	\$ 29.64	23.20

## FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers



entitled to receive the wage rate set forth in Group 1-a below.

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#### LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond drill; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter;

Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track drilller; Jack leg drilller; Wagon drilller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work

performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair

track and road beds; Streetcar and railroad construction  
track laborer; Temporary air and water lines, Victaulic or  
similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building  
including but not limited to: street cleaner; cleaning and  
washing windows; brick cleaner (jobsite only); material  
cleaner (jobsite only). The classification "material  
cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be  
salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or  
temporary jobsite yard.

The material cleaner classification should not be used in  
the performance of "form stripping, cleaning and oiling  
and moving to the next point of erection".

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#### GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

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#### WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash,  
windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

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LABO0294-010 07/01/2018

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN  
JOAQUIN, STANISLAUS & TUOLUMNE

	Rates	Fringes
Plasterer tender.....	\$ 32.02	23.00

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO0294-011 07/01/2017

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
LABORER (Plaster Tender).....	\$ 31.02	22.52

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO0304-002 06/25/2018

ALAMEDA COUNTY

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 30.54	23.65
Traffic Control Person I....	\$ 30.84	23.65

Traffic Control Person II...\$ 28.34 23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LABO0304-003 06/26/2017

ALAMEDA COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 36.60	24.83
GROUP 2.....	\$ 36.37	24.83
GROUP 3.....	\$ 36.12	24.83
GROUP 4.....	\$ 35.67	24.83
GROUP 5.....	\$ 35.13	24.83
Shotcrete Specialist.....	\$ 37.12	24.83

#### TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and

bottom man on shaft and raise work; Nipper; Nozzleman on  
 slick line; Sandblaster - potman, Robotic Shotcrete Placer,  
 Segment Erector, Tunnel Muck Hauler, Steel Form raiser and  
 setter; Timberman, retimberman (wood or steel or substitute  
 materials therefore); Tugger (for tunnel laborer work);  
 Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
 muckers, trackmen; Concrete crew - includes rodding and  
 spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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 LABO0304-004 06/25/2018

ALAMEDA COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA A:)		
Construction Specialist		
Group.....	\$ 31.49	23.20
GROUP 1.....	\$ 30.79	23.20
GROUP 1-a.....	\$ 31.01	23.20
GROUP 1-c.....	\$ 30.84	23.20
GROUP 1-e.....	\$ 31.34	23.20
GROUP 1-f.....	\$ 30.37	23.20
GROUP 2.....	\$ 30.64	23.20
GROUP 3.....	\$ 30.54	23.20
GROUP 4.....	\$ 24.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,

HORTICULTURAL & LANDSCAPE

LABORERS - AREA A:)

(1) New Construction.....	\$ 30.54	23.20
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(2) Establishment Warranty		
Period.....	\$ 24.23	23.20
LABORER (GUNITE - AREA A:)		
GROUP 1.....	\$ 30.75	22.31
GROUP 2.....	\$ 30.25	22.31
GROUP 3.....	\$ 29.66	22.31
GROUP 4.....	\$ 29.54	22.31
LABORER (WRECKING - AREA A:)		
GROUP 1.....	\$ 30.79	23.20
GROUP 2.....	\$ 30.64	23.20

## FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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## LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter;



Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender,

chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

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GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

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#### WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash,  
windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building  
materials)

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LABO0304-005 05/01/2018

#### ALAMEDA COUNTY

	Rates	Fringes
Brick Tender.....	\$ 35.37	20.70

FOOTNOTES: Work on jobs where heat-protective clothing is  
required: \$2.00 per hour additional. Work at grinders: \$.25  
per hour additional. Manhole work: \$2.00 per day additional.

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LABO0304-008 07/01/2017

#### ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Plasterer tender.....	\$ 34.70	23.11

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO0324-002 06/25/2018

CONTRA COSTA COUNTY

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 30.54	23.65
Traffic Control Person I....	\$ 30.84	23.65
Traffic Control Person II...	\$ 28.34	23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LABO0324-006 06/25/2018

CONTRA COSTA COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 37.82	24.11
GROUP 2.....	\$ 37.59	24.11
GROUP 3.....	\$ 37.34	24.11
GROUP 4.....	\$ 36.89	24.11

GROUP 5.....	\$ 36.35	24.11
Shotcrete Specialist.....	\$ 38.34	24.11

#### TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Guniting and shotcrete  
nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or  
excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading;  
Cherry pickermen - where car is lifted; Concrete finisher  
in tunnel; Concrete screedman; Grout pumpman and potman;  
Guniting & shotcrete gunman & potman; Headermen; High  
pressure nozzleman; Miner - tunnel, including top and  
bottom man on shaft and raise work; Nipper; Nozzleman on  
slick line; Sandblaster - potman, Robotic Shotcrete Placer,  
Segment Erector, Tunnel Muck Hauler, Steel Form raiser and  
setter; Timberman, retimberman (wood or steel or substitute  
materials therefore); Tugger (for tunnel laborer work);  
Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
muckers, trackmen; Concrete crew - includes rodding and  
spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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LAB00324-012 06/25/2018

#### CONTRA COSTA COUNTY

Rates	Fringes
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LABORER (CONSTRUCTION CRAFT

## LABORERS - AREA A:)

## Construction Specialist

Group.....	\$ 31.49	23.20
GROUP 1.....	\$ 30.79	23.20
GROUP 1-a.....	\$ 31.01	23.20
GROUP 1-c.....	\$ 30.84	23.20
GROUP 1-e.....	\$ 31.34	23.20
GROUP 1-f.....	\$ 30.37	23.20
GROUP 1-g.....	\$ 30.99	23.20
GROUP 2.....	\$ 30.64	23.20
GROUP 3.....	\$ 30.54	23.20
GROUP 4.....	\$ 24.23	23.20

See groups 1-b and 1-d under laborer classifications.

## LABORER (GARDENERS,

## HORTICULURAL &amp; LANDSCAPE

## LABORERS - AREA A:)

(1) New Construction.....	\$ 30.54	23.20
(2) Establishment Warranty		
Period.....	\$ 24.23	23.20

## LABORER (GUNITE - AREA A:)

GROUP 1.....	\$ 30.75	22.31
GROUP 2.....	\$ 30.25	22.31
GROUP 3.....	\$ 29.66	22.31
GROUP 4.....	\$ 29.54	22.31

## LABORER (WRECKING - AREA A:)

GROUP 1.....	\$ 30.79	23.20
GROUP 2.....	\$ 30.64	23.20

## FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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## LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker;  
Chainsaw; Laser beam in connection with laborers' work;  
Cast-in- place manhole form setter; Pressure pipelayer;  
Davis trencher - 300 or similar type (and all small  
trenchers); Blaster; Diamond driller; Multiple unit drill;  
Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker  
and similar type tampers; Buggymobile; Caulker, bander,  
pipewrapper, conduit layer, plastic pipelayer; Certified  
hazardous waste worker including Leade Abatement;  
Compactors of all types; Concrete and magnesite mixer, 1/2  
yd. and under; Concrete pan work; Concrete sander; Concrete  
saw; Cribber and/or shoring; Cut granite curb setter;  
Dri-pak-it machine; Faller, logloader and buckler; Form  
raiser, slip forms; Green cutter; Headerboard, Hubsetter,  
aligner, by any method; High pressure blow pipe (1-1/2" or  
over, 100 lbs. pressure/over); Hydro seeder and similar  
type; Jackhammer operator; Jacking of pipe over 12 inches;  
Jackson and similar type compactor; Kettle tender, pot and  
worker applying asphalt, lay-kold, creosote, lime, caustic  
and similar type materials (applying means applying,  
dipping or handling of such materials); Lagging, sheeting,  
whaling, bracing, trenchjacking, lagging hammer; Magnesite,  
epoxyresin, fiberglass, mastic worker (wet or dry); No  
joint pipe and stripping of same, including repair of  
voids; Pavement breaker and spader, including tool grinder;  
Perma curb; Pipelayer (including grade checking in  
connection with pipelaying); Precast-manhole setter;  
Pressure pipe tester; Post hole digger, air, gas and  
electric; Power broom sweeper; Power tampers of all types  
(except as shown in Group 2); Ram set gun and stud gun;  
Riprap stonepaver and rock-slinger, including placing of  
sacked concrete and/or sand (wet or dry) and gabions and



similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 1-g, CONTRA COSTA COUNTY: Pipelayer (including grade checking in connection with pipelaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; Pressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole form setters

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural

and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

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#### GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

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#### WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

GROUP 1-g, CONTRA COSTA COUNTY: Pipelayer (including grade checking in connection with pipelaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; Pressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole form setters

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LABO0324-014 05/01/2018

CONTRA COSTA COUNTY:

	Rates	Fringes
Brick Tender.....	\$ 35.37	20.70

FOOTNOTES: Work on jobs where heat-protective clothing is required: \$2.00 per hour additional. Work at grinders: \$.25 per hour additional. Manhole work: \$2.00 per day additional.

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LABO0324-018 07/01/2018

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Plasterer tender.....	\$ 37.14	22.32

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO1130-002 06/25/2018

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person..	\$ 29.54	23.65
Traffic Control Person I....	\$ 29.84	23.65
Traffic Control Person II...	\$ 27.34	23.65

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

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LABO1130-003 06/26/2017

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 36.60	24.83
GROUP 2.....	\$ 36.37	24.83
GROUP 3.....	\$ 36.12	24.83
GROUP 4.....	\$ 35.67	24.83
GROUP 5.....	\$ 35.13	24.83
Shotcrete Specialist.....	\$ 37.12	24.83

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete  
nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or  
excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading;  
Cherry pickermen - where car is lifted; Concrete finisher  
in tunnel; Concrete screedman; Grout pumpman and potman;  
Gunite & shotcrete gunman & potman; Headermen; High  
pressure nozzleman; Miner - tunnel, including top and  
bottom man on shaft and raise work; Nipper; Nozzleman on  
slick line; Sandblaster - potman, Robotic Shotcrete Placer,  
Segment Erector, Tunnel Muck Hauler, Steel Form raiser and  
setter; Timberman, retimberman (wood or steel or substitute  
materials therefore); Tugger (for tunnel laborer work);  
Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang -  
muckers, trackmen; Concrete crew - includes rodding and  
spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

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LAB01130-005 07/01/2018

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 31.20	22.20

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LAB01130-007 06/25/2018

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE , COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT		
LABORERS - AREA B:)		
Construction Specialist		
Group.....	\$ 30.49	23.20
GROUP 1.....	\$ 29.79	23.20
GROUP 1-a.....	\$ 30.01	23.20
GROUP 1-c.....	\$ 29.84	23.20
GROUP 1-e.....	\$ 30.34	23.20
GROUP 1-f.....	\$ 29.37	23.20
GROUP 2.....	\$ 29.64	23.20
GROUP 3.....	\$ 29.54	23.20
GROUP 4.....	\$ 23.23	23.20

See groups 1-b and 1-d under laborer classifications.

LABORER (GARDENERS,  
HORTICULTURAL & LANDSCAPE

LABORERS - AREA B:)

(1) New Construction.....	\$ 29.54	23.20
(2) Establishment Warranty		
Period.....	\$ 23.23	23.20

LABORER (GUNITE - AREA B:)

GROUP 1.....	\$ 29.75	22.31
GROUP 2.....	\$ 29.25	22.31
GROUP 3.....	\$ 28.66	22.31
GROUP 4.....	\$ 28.54	22.31

LABORER (WRECKING - AREA B:)

GROUP 1.....	\$ 29.79	23.20
GROUP 2.....	\$ 29.64	23.20

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

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LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker;  
Chainsaw; Laser beam in connection with laborers' work;  
Cast-in- place manhole form setter; Pressure pipelayer;  
Davis trencher - 300 or similar type (and all small  
trenchers); Blaster; Diamond driller; Multiple unit drill;  
Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker  
and similar type tampers; Buggymobile; Caulker, bander,  
pipewrapper, conduit layer, plastic pipelayer; Certified  
hazardous waste worker including Leade Abatement;  
Compactors of all types; Concrete and magnesite mixer, 1/2  
yd. and under; Concrete pan work; Concrete sander; Concrete  
saw; Cribber and/or shoring; Cut granite curb setter;  
Dri-pak-it machine; Faller, logloader and buckler; Form  
raiser, slip forms; Green cutter; Headerboard, Hubsetter,  
aligner, by any method; High pressure blow pipe (1-1/2" or  
over, 100 lbs. pressure/over); Hydro seeder and similar  
type; Jackhammer operator; Jacking of pipe over 12 inches;  
Jackson and similar type compactor; Kettle tender, pot and  
worker applying asphalt, lay-kold, creosote, lime, caustic  
and similar type materials (applying means applying,  
dipping or handling of such materials); Lagging, sheeting,  
whaling, bracing, trenchjacking, lagging hammer; Magnesite,  
epoxyresin, fiberglass, mastic worker (wet or dry); No  
joint pipe and stripping of same, including repair of  
voids; Pavement breaker and spader, including tool grinder;  
Perma curb; Pipelayer (including grade checking in  
connection with pipelaying); Precast-manhole setter;  
Pressure pipe tester; Post hole digger, air, gas and  
electric; Power broom sweeper; Power tampers of all types



(except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to

apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

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GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or

similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:

A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.

C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

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#### GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Guniting laborer

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#### WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building

materials)

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LABO1130-008 07/01/2018

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN  
JOAQUIN, STANISLAUS & TUOLUMNE

	Rates	Fringes
Plasterer tender.....	\$ 32.02	23.00

Work on a swing stage scaffold: \$1.00 per hour additional.

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LABO1130-009 07/01/2018

MARIPOSA, MERCED, STANISLAUS, AND TUOLUMNE COUNTIES

	Rates	Fringes
LABORER (Plaster Tender).....	\$ 32.02	23.00

Work on a swing stage scaffold: \$1.00 per hour additional.

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PAIN0016-001 01/01/2019

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN MATEO, SANTA  
CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Painters:.....	\$ 42.67	24.03

PREMIUMS:

EXOTIC MATERIALS - \$0.75 additional per hour.

SPRAY WORK: - \$0.50 additional per hour.

INDUSTRIAL PAINTING - \$0.25 additional per hour

[Work on industrial buildings used for the manufacture and processing of goods for sale or service; steel construction (bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:

over 50 feet - \$2.00 per hour additional

100 to 180 feet - \$4.00 per hour additional

Over 180 feet - \$6.00 per hour additional

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PAIN0016-003 01/01/2018

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO & SANTA CLARA COUNTIES

AREA 2: CALAVERAS, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS & TUOLUMNE COUNTIES

	Rates	Fringes
Drywall Finisher/Taper		
AREA 1.....	\$ 45.16	26.74
AREA 2.....	\$ 41.03	25.34

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PAIN0016-012 01/01/2019

ALAMEDA, CONTRA COSTA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA AND SANTA CRUZ COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 48.60	27.43

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PAIN0016-015 01/01/2019

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE  
COUNTIES

	Rates	Fringes
PAINTER		
Brush.....	\$ 33.68	20.24

FOOTNOTES:

SPRAY/SANDBLAST: \$0.50 additional per hour.

EXOTIC MATERIALS: \$1.00 additional per hour.

HIGH TIME: Over 50 ft above ground or water level \$2.00  
additional per hour. 100 to 180 ft above ground or water  
level \$4.00 additional per hour. Over 180 ft above ground  
or water level \$6.00 additional per hour.

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PAIN0016-022 01/01/2019

SAN FRANCISCO COUNTY

	Rates	Fringes
PAINTER.....	\$ 46.29	24.03

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PAIN0169-001 01/01/2018

FRESNO, KINGS, MADERA, MARIPOSA AND MERCED COUNTIES:

	Rates	Fringes
GLAZIER.....	\$ 35.00	26.26

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PAIN0169-005 01/01/2019

ALAMEDA CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN  
MATEO, SANTA CLARA & SANTA CRUZ COUNTIES

	Rates	Fringes
GLAZIER.....	\$ 50.03	28.19

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PAIN0294-004 01/01/2019

FRESNO, KINGS AND MADERA COUNTIES

	Rates	Fringes
PAINTER		
Brush, Roller.....	\$ 30.53	19.11
Drywall Finisher/Taper.....	\$ 34.87	23.68

FOOTNOTE:

Spray Painters & Paperhangers recive \$1.00 additional per  
hour. Painters doing Drywall Patching receive \$1.25  
additional per hour. Lead Abaters & Sandblasters receive  
\$1.50 additional per hour. High Time - over 30 feet (does  
not include work from a lift) \$0.75 per hour additional.

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PAIN0294-005 01/01/2018

FRESNO, KINGS & MADERA

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 31.49	20.48

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PAIN0767-001 01/01/2019

CALAVERAS, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
GLAZIER.....	\$ 38.47	28.40

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee required to wear a body harness shall receive \$1.50 per hour above the basic hourly rate at any elevation.

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PAIN1176-001 01/01/2017

HIGHWAY IMPROVEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1.....	\$ 34.41	16.31
GROUP 2.....	\$ 29.25	16.31
GROUP 3.....	\$ 29.59	16.31

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing



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 PAIN1237-003 10/01/2018

CALAVERAS; SAN JOAQUIN COUNTIES; STANISLAUS AND TUOLUMNE  
 COUNTIES:

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 36.81	21.51

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PLAS0066-002 07/01/2017

ALAMEDA, CONTRA COSTA, SAN MATEO AND SAN FRANCISCO COUNTIES:

	Rates	Fringes
PLASTERER.....	\$ 40.51	27.13

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PLAS0300-001 07/01/2018

	Rates	Fringes
PLASTERER		
AREA 188: Fresno.....	\$ 32.70	31.68
AREA 224: San Benito, Santa Clara, Santa Cruz.....	\$ 32.88	31.68
AREA 295: Calaveras & San Joaquin Couonties.....	\$ 32.70	31.68
AREA 337: Monterey County..	\$ 32.88	31.68
AREA 429: Mariposa, Merced, Stanislaus, Tuolumne Counties.....	\$ 32.70	31.68

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PLAS0300-005 07/01/2017

	Rates	Fringes
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CEMENT MASON/CONCRETE FINISHER...\$ 33.49 23.67

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PLUM0038-001 07/01/2018

SAN FRANCISCO COUNTY

	Rates	Fringes
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PLUMBER (Plumber, Steamfitter, Refrigeration Fitter).....	\$ 72.00	41.94
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PLUM0038-005 07/01/2018

SAN FRANCISCO COUNTY

	Rates	Fringes
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Landscape/Irrigation Fitter (Underground/Utility Fitter).....	\$ 61.20	30.17
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PLUM0062-001 01/01/2019

MONTEREY AND SANTA CRUZ COUNTIES

	Rates	Fringes
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PLUMBER & STEAMFITTER.....	\$ 43.05	33.44
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PLUM0159-001 07/01/2018

CONTRA COSTA COUNTY

	Rates	Fringes
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Plumber and steamfitter		
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(1) Refrigeration.....	\$ 59.42	35.94
(2) All other work.....	\$ 55.92	34.44

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PLUM0246-001 01/01/2019

FRESNO, KINGS & MADERA COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER.....	\$ 40.15	32.64

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PLUM0246-004 01/01/2017

FRESNO, MERCED & SAN JOAQUIN COUNTIES

	Rates	Fringes
PLUMBER (PIPE TRADESMAN).....	\$ 13.00	10.74

PIPE TRADESMAN SCOPE OF WORK:

Installation of corrugated metal piping for drainage, as well as installation of corrugated metal piping for culverts in connection with storm sewers and drains; Grouting, dry packing and diapering of joints, holes or chases including paving over joints, in piping; Temporary piping for dirt work for building site preparation; Operating jack hammers, pavement breakers, chipping guns, concrete saws and spades to cut holes, chases and channels for piping systems; Digging, grading, backfilling and ground preparation for all types of pipe to all points of the jobsite; Ground preparation including ground leveling, layout and planting of shrubbery, trees and ground cover, including watering, mowing, edging, pruning and fertilizing, the breaking of concrete, digging, backfilling and tamping for the preparation and completion of all work in connection with lawn sprinkler and landscaping; Loading, unloading and distributing materials at jobsite; Putting away materials

in storage bins in jobsite secure storage area; Demolition of piping and fixtures for remodeling and additions; Setting up and tearing down work benches, ladders and job shacks; Clean-up and sweeping of jobsite; Pipe wrapping and waterproofing where tar or similar material is applied for protection of buried piping; Flagman

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PLUM0342-001 07/01/2018

ALAMEDA & CONTRA COSTA COUNTIES

	Rates	Fringes
PIPEFITTER		
CONTRA COSTA COUNTY.....	\$ 58.68	42.40
PLUMBER, PIPEFITTER, STEAMFITTER		
ALAMEDA COUNTY.....	\$ 58.68	42.40

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PLUM0355-004 07/01/2018

ALAMEDA, CALAVERAS, CONTRA COSTA, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, STANISLAUS, AND TUOLUMNE COUNTIES:

	Rates	Fringes
Underground Utility Worker		
/Landscape Fitter.....	\$ 27.10	16.30

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PLUM0393-001 07/01/2018

SAN BENITO AND SANTA CLARA COUNTIES

	Rates	Fringes
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PLUMBER/PIPEFITTER.....\$ 62.66 41.93

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PLUM0442-001 01/01/2019

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE  
COUNTIES

Rates Fringes

PLUMBER & STEAMFITTER.....\$ 42.25 30.64

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PLUM0467-001 07/01/2018

SAN MATEO COUNTY

Rates Fringes

Plumber/Pipefitter/Steamfitter...\$ 65.11 35.25

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ROOF0027-002 01/01/2019

FRESNO, KINGS, AND MADERA COUNTIES

Rates Fringes

ROOFER.....\$ 28.21 14.21

FOOTNOTE: Work with pitch, pitch base of pitch impregnated  
products or any material containing coal tar pitch, on any  
building old or new, where both asphalt and pitchers are  
used in the application of a built-up roof or tear off:  
\$2.00 per hour additional.

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ROOF0040-002 09/21/2018

## SAN FRANCISCO &amp; SAN MATEO COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 39.88	18.72

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ROOF0081-001 08/01/2018

## ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Roofer.....	\$ 39.40	17.58

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ROOF0081-004 08/01/2018

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS AND  
TUOLUMNE COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 39.40	17.58

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ROOF0095-002 08/30/2018

## MONTEREY, SAN BENITO, SANTA CLARA, AND SANTA CRUZ COUNTIES:

	Rates	Fringes
ROOFER		
Journeyman.....	\$ 42.59	18.89
Kettle person (2 kettles);		
Bitumastic, Enameler, Coal		
Tar, Pitch and Mastic		
worker.....	\$ 44.59	18.89

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SFCA0483-001 01/01/2019

ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA  
COUNTIES:

	Rates	Fringes
SPRINKLER FITTER (FIRE) .....	\$ 63.52	31.17

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SFCA0669-011 04/01/2018

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY,  
SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS AND TUOLUMNE  
COUNTIES:

	Rates	Fringes
SPRINKLER FITTER .....	\$ 38.85	21.87

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SHEE0104-001 07/02/2018

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO, SANTA  
CLARA

AREA 2: MONTEREY & SAN BENITO

AREA 3: SANTA CRUZ

	Rates	Fringes
SHEET METAL WORKER		
AREA 1:		
Mechanical Contracts		

under \$200,000.....\$	51.87	37.91
All Other Work.....\$	59.11	38.51
AREA 2.....\$	48.90	32.70
AREA 3.....\$	51.21	30.26

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SHEE0104-003 07/01/2018

CALAVERAS AND SAN JOAQUIN COUNTIES:

	Rates	Fringes
SHEET METAL WORKER.....\$	40.34	32.80

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SHEE0104-005 07/01/2018

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SHEET METAL WORKER (Excluding metal deck and siding).....\$	38.40	35.69

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SHEE0104-007 07/01/2018

FRESNO, KINGS, AND MADERA COUNTIES:

	Rates	Fringes
SHEET METAL WORKER.....\$	38.49	35.65

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SHEE0104-015 07/01/2017

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN  
MATEO, SANTA CLARA AND SANTA CRUZ COUNTIES:

	Rates	Fringes
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SHEET METAL WORKER (Metal

Decking and Siding only).....\$ 37.53 32.10

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SHEE0104-018 07/01/2018

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN  
JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
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Sheet metal worker (Metal

decking and siding only).....\$ 39.93 32.70

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TEAM0094-001 07/01/2018

	Rates	Fringes
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Truck drivers:

GROUP 1.....	\$ 31.68	27.86
GROUP 2.....	\$ 31.98	27.86
GROUP 3.....	\$ 32.28	27.86
GROUP 4.....	\$ 32.63	27.86
GROUP 5.....	\$ 32.98	27.86

#### FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without  
auger); Dumpcrete truck; Skid truck (debris box); Dry  
pre-batch concrete mix trucks; Dumpster or similar type;  
Slurry truck: Use dump truck yardage rate.

Heater planer; Asphalt burner; Scarifier burner; Industrial  
lift truck (mechanical tailgate); Utility and clean-up  
truck: Use appropriate rate for the power unit or the  
equipment utilized.

## TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-axle unit); Nipper truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump machine; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck jumbo; Winch truck and "A" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 24 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self-propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 25 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbed Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information

on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of

each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"