## CITY OF ALAMEDA

## SPECIFICATIONS AND PLANS

## **FOR**

# Alameda South Shore Lagoons 3 and 5 Dredging Project (REBID)

No. P.W. 09-19-49

PREBID MEETING: Thursday, February 20, 2020, 11:00 a.m.

LOCATION: At corner of Lagoon 3 (on north side of Otis

Drive, directly across from Walgreen's entrance, 200 ft west of Otis Dr. /Park St.

intersection), Alameda, CA 94501

BID DUE DATE: Wednesday, March 4, 2020, by 2:00 p.m.

LOCATION: Public Works Department

950 W. Mall Square, Room 110

Alameda, CA 94501

### **CITY ENGINEER'S APPROVAL**

THE PROJECT SPECIFICATIONS CONTAINED HEREIN, FOR THE ALAMEDA SOUTH SHORE LAGOONS 3 AND 5 DREDGING PROJECT, NO. P.W. 09-19-49, HAVE BEEN APPROVED BY THE CITY ENGINEER IN ACCORDANCE WITH CITY OF ALAMEDA ORDINANCE NO. 3154 AND CALIFORNIA GOVERNMENT CODE 830.6.

Scott Wikstrom, P.E. C56266

City Engineer

City of Alameda, CA

2/11/2020

Date

#### TABLE OF CONTENTS

		Page No.
Section I.	Proposal and Contract Requirements	1
Section II.	Legal Relations and Responsibility	5
Section III.	Scope of Work	21
Section IV.	Control	24
Section V.	Control of Material	28
Section VI.	Prosecution and Progress	29
Section VII.	Measurements and Payment	32
Section VIII.	Special Provisions	35
Section IX.	Quantities	36
Section X.	Materials	37
Section XI.	Description and Location of Work	38
Section XII.	Construction Details	39
Section XIII.	Mandatory Pre-Construction Meeting Submittals	45
Exhibit A	Bidder's Proposal	
Exhibit B	Sample Contractor Agreement	
Exhibit C	Emergency Form	
Exhibit D	Performance Bond Form	
Exhibit E	Payment Bond Form	
Exhibit F	Not Used	
Exhibit G	List of Submittals	
Exhibit H	Not Used	
Exhibit I	City's Integrated Pest Management Plan	

#### TECHNICAL SPECIFICATIONS

(See separate Table of Contents for listing of Technical Specifications, Sections: 00850-02881).

#### ATTACHMENTS

Attachment A	Alameda Truck Routes
Attachment B	Photographs of 2018 Lagoon Lowering – Lagoon 3 and 5 Corners
Attachment C	Existing 2014 CEQA Mitigated Negative Declaration
Attachment D	CARWQCB 401 Water Quality Certification &
	USACE Nationwide Permit
Attachment E	Soil Quality Evaluation & Laboratory Analytical Results
Attachment F	Questions and Answers Generated from Initial Bid Solicitation
Attachment G	Supporting Seawall Reports and Drawings Requested During Initial Bid
	Solicitation

# DRAWINGS

<u>Title</u>	<u>Drawing No.</u>
Lagoons 3 and 5 Dredging Project	9427 15

#### CITY OF ALAMEDA, CALIFORNIA

# SPECIFICATIONS, SPECIAL PROVISIONS AND PLANS FOR PUBLIC WORK

#### SECTION I. PROPOSAL AND CONTRACT REQUIREMENTS

A. <u>GENERAL INFORMATION</u>. The City of Alameda will receive sealed bid at the time and place specified in the advertisement calling for bids for:

# Alameda South Shore Lagoons 3 and 5 Dredging Project (Rebid) NO. P.W. 09-19-49

Electronic specifications and bidder's forms for bidding this project can only be obtained at the City of Alameda website, <a href="https://www.alamedaca.gov/BUSINESS/Bid-on-City-Contracts">https://www.alamedaca.gov/BUSINESS/Bid-on-City-Contracts</a>, or by calling (510) 747-7900. There is no cost for the specifications. It is the responsibility of each prospective bidder to check the website periodically for updates, such as Addenda.

- B. <u>EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK.</u> The bidder is required to examine carefully the site and the proposal, plans, specifications and contract forms for the work contemplated, and it will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, the special provisions and the contract.
- C. <u>DESIGNATIONS</u>. As used herein "City" shall mean the City of Alameda; "Council" or "City Council" shall mean the Council of the City; "City Manager" shall mean the City Manager of the City; "Engineer" or "City Engineer" shall mean the City Engineer or City Engineer's designee of the City; "Director" shall mean the Public Works Director of the City; and "Contractor" shall mean the bidder who is awarded the contract for the work.
- D. <u>PROPOSAL FORM.</u> All bids must be made upon blank forms which are included in these specifications (Exhibit A). All bids must include all items in Exhibit A. All bidders must have completed at least three projects of similar nature and dollar value equivalent to or exceeding this project. Furnish details of those projects on the Reference Form included in Exhibit A.

All bids must give the prices proposed, **both in writing and in figures.** Bids must be signed by the Bidder. If the proposal is signed by an individual, that individual's name and business address must be shown. If made by a firm or partnership, the name and the post office address of each member of the firm or partnership must be shown. If made by a corporation, the proposal must show the name of the state under the laws of which the corporation was chartered and the names, titles, and business addresses of the president, secretary and treasurer.

E. <u>PRESENTING AND MARKING OF BIDS.</u> Bids must be presented to the Public Works Department, 950 W. Mall Square, Room 110, Alameda, California, under sealed cover, plainly marked on the outside, "Alameda South Shore Lagoons 3 and 5 Dredging Project (REBID), No. P.W. 09-19-49", not later than 2:00 p.m. on Wednesday, March 4, 2020. Bids will be opened in the Public Works Department, 950 W. Mall Square, Room 110, Alameda, California, at 2:01 p.m. on Wednesday, March 4, 2020.

A MANDATORY PREBID MEETING for all prospective bidders who did not attend the previous pre-bid meeting on January 6, 2020 will be held at Scout Park, at the corner of Lagoon 3 (on the north side of Otis Drive, directly across from the Walgreen's entrance, approximately 200 ft west of Otis Dr. /Park St. intersection – see Title Sheet of drawings), Alameda, CA 94501. Park on Otis Street. Do not park on Oak Street or Powell Street (narrow residential streets). The prebid meeting will be held on Thursday February 20, 2020 at 11:00 am. For those who did attend the previous meeting, they can consider this optional. City reserves the right to hold additional prebid meetings as necessary for contractors to visit the site.

F. <u>BIDDER'S GUARANTY</u>. All bids shall be accompanied by one of the following forms of bidder's guaranty: cash, a cashier's check, a certified check, or a bidder's bond executed by an admitted surety insurer, made payable to the City of Alameda. The security shall be in an amount equal to at least ten percent (10%) of the amount bid. A bid shall not be considered unless one of the forms of bidder's security is enclosed with it. If, in lieu of depositing cash, a cashier's check, or a certified check, the bidder submits a bidder's bond, the said bond shall, in form, be satisfactory to the City Attorney of the City of Alameda. A Bid Bond form is provided in **Exhibit A**.

Said bidder's guaranty which is submitted according to the above paragraph shall, in the event of the failure, for any reason, of the successful bidder or bidders to execute the contract as awarded, be deemed to be liquidated damages to be retained in full by the City of Alameda, but shall not be construed as a penalty for failure to execute said contract. The full amount of the said bidder's guaranty shall also be retained in full by the City of Alameda as consideration payable to the City of Alameda for engineering, accounting and clerical services in formulating specifications for such bid or bids, for advertising costs to the City of Alameda in connection with such bid or bids, and further, as consideration for the award of such contract to such bidder or bidders.

Any bid bond submitted under this Section shall incorporate therein by reference, or otherwise, all of the provisions of **Section I, Item F**, of these specifications.

- G. <u>RETURN OF BIDDER'S GUARANTIES</u>. Within ten (10) days after the award of the contract, the Public Works staff will return the proposal guaranties accompanying the bids which are not to be considered in making the award. All other proposal guaranties will be held until the contract has been finally executed, after which they will be returned to the respective bidders whose bids they accompanied.
- H. TAXES. Bids must include all state and federal taxes applicable to the transaction.

- I. <u>SUBCONTRACTORS</u>. All contractors shall comply with the State Subletting and Subcontracting Fair Practices Act, located in Sections 4100 through 4112 of the California Public Contract Code. A copy of said Act is available in the office of the City Engineer. Said Act is hereby made a part of the specifications on the above-mentioned job and all contractors submitting bids shall accompany the bid with information regarding subcontractors as therein provided. All Subcontractors shall have a current City of Alameda business license.
- J. <u>REJECTION OR RETURN OF BIDS</u>. Bids may be rejected if they show any alterations of form, additions not called for, conditional or alternative bids, incomplete bids, erasures or irregularities of any kind. The right is reserved to reject any and all bids. The City reserves the right to return bids unopened.
- K. <u>BID PROTEST</u>. Any bid protest must be submitted in writing to the Public Works Director, City of Alameda Public Works Department, City Hall West, 950 West Mall Square, Room 110, Alameda, CA 94501 before 5:00 p.m. of the 5th business day following bid opening.
  - 1. The initial protest document shall contain a complete statement of the basis for the protest.
  - 2. The protest shall refer to the specific portion of the document which forms the basis for the protest.
  - 3. The protest shall include the name, address, and telephone number of the person representing the protesting party.
  - 4. The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
  - 5. The Public Works Director will issue a decision on the protest. If the Public Works Director determines that a protest is frivolous, the party originating the protest may be determined to be irresponsible and that party may be determined to be ineligible for future contract awards.
  - 6. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest and failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
- L. <u>AWARD OF CONTRACT</u>. The award of contract, if it be awarded, will be to the responsible bidder who submits the lowest and best bid and whose proposal complies with all requirements described herein. The award, if made, will be made within ninety (90) days after the opening of the bids. All bids will be compared on the basis of the Engineer's estimate of quantities of work to be done. In the event of a delay the City reserves the right to hold the Bidder to its bid for 90 days from the date the contract is awarded.

The Engineer's Estimate for this project is \$500,000.

Bid protests, contracts, bonds, insurance, and other documents identified in these specifications and these special provisions are to be delivered to the following City address: City of Alameda, City Hall West, Public Works Department, 950 West Mall Square, Room 110, Alameda, CA 94501.

M. <u>EXECUTION OF CONTRACT</u>. The contract, in form and content satisfactory to the City, will be awarded at a regular City Council meeting (first and third Tuesdays of each month, except August). At least five (5) business days prior to the anticipated award date, the Contractor will be notified of apparent award status and requested to provide the documents necessary to complete the contract process. Required documentation shall include two (2) copies of the contract executed by the Contractor, proof of insurance and Payment and Performance bonds. The Contractor will be given five (5) business days from the date the City Council awards the contract to obtain the relevant bonds and insurance along with any other documents required for submission.

No proposal shall be considered binding upon the City until the execution of the contract. Failure to execute a contract and file acceptable bonds and insurance as provided herein within the time frame outlined above shall be just cause for the annulment of the award and the forfeiture of the bidder's guaranty.

N. <u>CONTRACT BONDS</u>. The Contractor shall furnish two good and sufficient bonds. One of the bonds shall be executed in a sum equal to at least one hundred percent (100%) of the contract price, which shall be furnished as required by the Terms of Section 3247 to 3252 of the Civil Code of the State of California (**see Exhibit E**). The other bond shall guaranty faithful performance of the said contract by the Contractor and shall be executed in a sum equal to at least one hundred percent (100%) of the contract price (**see Exhibit D**). Bonds shall be furnished by a surety company satisfactory to the City of Alameda.

Whenever any surety or sureties on any such bonds, or any bonds required by law for the protection of the claims of laborers and materials, become insufficient or the City Engineer has cause to believe that such surety or sureties have become insufficient, a demand in writing may be made of the Contractor for further bond or bonds or additional surety not exceeding that originally required, as is considered necessary, taking into account the extent of the work remaining to be done. Thereafter no payment shall be made upon such contract to the Contractor, or any assignee of the Contractor, until such further bond or bonds or additional surety has been furnished. Faithful performance bonds, whether by individual or corporate surety, shall in addition to other terms and conditions, contain the conditions that (1) death of the named principal shall not operate as a release of the obligation hereunder of the surety, and (2) extensions of time, if any, granted by the City to Contractor for performance of the work covered by said bond shall extend for a like time the period of limitations during which surety shall remain bound by the said undertaking.

#### SECTION II. LEGAL RELATIONS AND RESPONSIBILITIES

A. <u>LAWS TO BE OBSERVED</u>. The Contractor shall keep himself fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Alameda which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

# B. <u>DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING</u> WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS.

- 1. Effective January 1, 2015, no Contractor or Subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at <a href="https://www.dir.ca.gov/Public-Works/Contractor-Registration.html">https://www.dir.ca.gov/Public-Works/Contractor-Registration.html</a>.
- 2. 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.
- 3. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
- 4. The Prime Contractor is required to post job site notices prescribed by regulations. See 8 Calif. Code Regulation §16451(d).
- 5. Effective April 1, 2015, All Contractors and Subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner at: <a href="https://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html">https://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html</a>.

#### C. PREVAILING WAGES:

- 1. The Contractor is aware of the requirements of California Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" projects. Since this Project involves a "public work" project, as defined by the Prevailing Wage Laws, Contractor shall fully comply with such Prevailing Wage Laws. Contractor's failure to comply with the Prevailing Wage Law may constitute a default under the contract for performance of the work which would entitle the City to rescind the contract or exercise other remedies as provided by law or the contract.
- 2. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov/dlsr/. In the alternative, the Contractor may view a copy of the prevailing rates of per diem wages at the City's Public Works

Department, Building 1, 950 W. Mall Square, Room 110, Alameda. The Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Project site. The Contractor shall defend, indemnify, and hold the City, its elected officials, officers, employees, volunteers, and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with the Prevailing Wage Laws and/or the City's Labor Compliance Program (hereinafter referred to as "LCP"), if any.

- 3. If this project is funded in whole or in part with Federal monies and subject to the provisions of the Davis-Bacon Act, the successful bidder shall pay not less than the wage rates determined by the Secretary of Labor. The Federal wage rates shall apply unless the State wage rates are higher. The Federal Wage Rates applicable to the contract are those current within ten (10) days of the bid due date.
- 4. The Contractor and all subcontractors shall pay and shall cause to be paid each worker engaged in work on the Project not less than the general prevailing rate of *per diem* wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such workers.
- 5. The Contractor and all subcontractors shall pay and shall cause to be paid to each worker needed to execute the work on the Project travel and subsistence payments, as such travel and subsistence payments are defined in the applicable collective bargaining Contracts filed with the Department of Industrial Relations in accordance with Labor Code § 1773.8.
- 6. If during the period any bid for work on this Project remains open, the Director of Industrial Relations determines that there has been a change in any prevailing rate of *per diem* wages in the locality in which this public work is to be performed, such change shall not alter the wage rates in the Notice calling for Bids or the contract subsequently awarded.
- 7. Pursuant to Labor Code §1775, the Contractor shall as a penalty to the City, forfeit Fifty Dollars (\$50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of *per diem* wages, determined by the Director, for such craft or classification in which such worker is employed for any public work done under the Contract by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commission. In addition, the difference between such prevailing rate of *per diem* wage and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing rate of *per diem* wage shall be paid to each work by the Contractor.
- 8. Any worker employed to perform work on the Project, which work is not covered by any craft or classification listed in the general prevailing rate of *per diem* wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the craft or classification which most nearly corresponds to the work on the Project to be performed by them, and such minimum wage rate shall be retroactive to time of initial employment of such person in such craft or classification.
- 9. For those crafts or job classifications requiring special prevailing wage determinations, please contact the Division of Labor Statistics and Research, Prevailing Wage Unit, P.O. Box 420603, San Francisco, CA 94142-0603, (415) 703-4774 or check out the web site at www.dir.ca.gov.

#### D. HOURS OF LABOR.

- 1. As provided in Article 3 (commencing at §1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any Subcontractor on any subcontract under this Contract, upon the work or upon any part of the work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provision hereinabove set forth, work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work provided that the employees' compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.
- 2. The Contractor shall pay to the City a penalty of Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor, or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one (1) calendar week, in violation of the provisions of Article 3 (commencing at §1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation for the workers so employed by Contractor is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.
- 3. Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half ( $1\frac{1}{2}$ ) times the above specified rate of *per diem* wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Contract applicable to each particular craft, classification, or type of worker employed.

#### E. CERTIFIED PAYROLL.

- 1. Contractor's attention is directed to California Labor Code Section 1776, which requires Contractor and any subcontractors to keep an accurate payroll record and which imposes inspection requirements and penalties for non-compliance. Contractor is responsible for the submission of copies of payrolls by all subcontractors. Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the Contractor or subcontractor or his/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 each payroll period contains the name, social security number, and address of each employee, his or her correct classification, including applicable area and group code, hourly rates of wages paid, daily and weekly number of hours worked, deductions made and actual wages paid, and that such information is correct and complete;
  - b. That such 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; 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.

- 2. If the Contractor or a subcontractor does not work during the payroll period, a Statement of Non-Working Days must be submitted for each day not worked.
- 3. In the event of noncompliance with the requirements of such section after 10 Days written notice specifying in what respects compliance is required, the CONTRACTOR shall forfeit as a penalty to the CITY, \$25.00 for each calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments then due.

#### F. APPRENTICES.

- 1. 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 on contracts greater than \$30,000 or 20 working days. The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.
- 2. Section 1777.5 requires the Contractor or subcontractor employing workers 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, if they have not previously applied and are covered by the local apprenticeship standards.
- 3. The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if: (1) the Contractor 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; or (2) if the Contractor is not a signatory to an apprenticeship fund and if the funds administrator is unable to accept Contractor' required contribution. The Contractor or subcontractor shall pay a like amount to the California Apprenticeship Council.
- 4. 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.
- G. <u>LABOR DISCRIMINATION</u>. No discrimination shall be made in the employment of persons upon public works because of the race, color, sex, religion, age, national origin, sexual orientation, or physical disability of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of the provisions of the Labor Code, and, in particular, Section 1735.
- H. <u>REGISTRATION OF CONTRACTORS</u>. Before submitting bids, contractors shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California. All Contractors must have an "A" license or a "C" license that allows them to complete the work specified herein, in a professional manner consistent with these specifications. All subcontractors shall be appropriately licensed for the work they are to perform.
- I. PERMITS AND LICENSES. The Contractor shall procure all permits and licenses,

including City of Alameda business licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. However, the contractor will be reimbursed for construction permit fees. The estimated cost shown as an allowance in the bid proposal is only for bidding purposes. Payment shall be made for the actual cost of the permit. The cost for a City of Alameda business license is not reimbursable. Each Subcontractor shall have a current City of Alameda business license.

The following permit(s) and/or license(s) are required for this project:

- 1. City of Alameda Business License from the City of Alameda, 2263 Santa Clara Avenue, Finance Department, Room 220, Alameda.
- 2. Nationwide Permit from the Corps of Engineers, San Francisco District (previously obtained by the City).
- 3. 401 Water Quality Certification from the California Water Quality Control Board (previously obtained by the City).
- 4. California Environmental Quality Act (CEQA) Mitigated Negative Declaration (previously obtained by the City in 2014 as part of 2014 multiple lagoon dredging project).
- J. <u>PATENTS</u>. The Contractor shall assume all costs arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work, and agrees to indemnify and hold harmless the City of Alameda, its officers, employees and agents from all suits at law or actions of any nature, damages, royalties and costs on account of the use of any patented materials, equipment, devices or processes.
- K. <u>RESPONSIBILITY FOR DAMAGES</u>. The City of Alameda, its officers, employees and agents shall not be answerable or accountable in any manner for any loss or damage to the work or any part thereof, nor to any material or equipment used in performing the work, nor for injury or damage to any person or persons, either workers or the public, nor for damage to adjoining property from any cause whatsoever during the progress of the work nor at any time before final acceptance.
- L. <u>CONTRACTOR'S RESPONSIBILITY FOR THE WORK</u>. Except as provided above, until formal acceptance of the work by the City, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof, except such injuries or damages occasioned by acts of the Federal Government or the public enemy. The Contractor will not be responsible for the cost of repairing or restoring damage to the work, which damage is determined to have been proximately caused by an act of God, in excess of 5% of the contracted amount.
- M. <u>SAFETY PROVISIONS</u>. The Contractor shall conform to the rules and regulations pertaining to safety established by the California Division of Occupational Safety and Health of the Industrial Relations Department (CAL-OSHA).

- N. <u>NO PERSONAL LIABILITY</u>. Neither the City Council, City Manager, the City Engineer, nor any other City officer, authorized assistant or agent shall be personally responsible for any liability arising under this contract.
- O. <u>RESPONSIBILITY OF CITY</u>. The City of Alameda shall not be held responsible for the care or protection of any material or parts of the work prior to final acceptance, except as expressly provided in these specifications.
- P. <u>PUBLIC CONVENIENCE AND SAFETY</u>. The Contractor shall so conduct operations as to cause the least possible obstruction and inconvenience to public traffic. The Contractor shall furnish, erect and maintain such fences, barriers, lights and signs as are necessary or as required by the Engineer to give adequate warning to the public at all times that the work is in progress and of any dangerous conditions to be encountered as a result of the work or of the presence of the Contractor's equipment or machinery.

If the work involves the construction of a street or highway, the following additional provisions shall apply:

All traffic shall be permitted to pass through the work, unless other existing streets are stipulated as detours in the special provisions. Residents and businesses along the affected street or highway shall be provided passage as far as practicable; convenient access to driveways, houses and public buildings along the street or highway shall be maintained and temporary crossings shall be provided and maintained in good condition. No more than one cross or intersecting street or highway shall be closed at any time without the approval of the Engineer.

Contractor shall submit to the Engineer at the pre-construction meeting a Traffic Control Plan for any work that will impact vehicular traffic in the area. The Contractor must have an approved plan prior to commencing of work. All Traffic Control Plans must be in conformance with Caltrans regulations and guidelines.

The Contractor shall furnish, install and maintain such facilities as barricades, traffic signs, and flagmen, as may be necessary to advise the public of construction hazards and to control traffic.

The Traffic Control Plan shall cover, at minimum, all phases of work scheduled to occur in the first twenty (20) working days that will impact vehicular, pedestrian and bicycle traffic in the area. The Traffic Control Plan shall allow residents on the streets impacted ample "on street" parking within one (1) block of their homes. The Contractor shall have an approved Traffic Control Plan prior to commencing of work in the field. Contractor shall submit subsequent additions to the Traffic Control Plan in a timely manner to allow for the Engineer's review and shall be in conformance with Caltrans regulations and guidelines.

At least 72 hours prior to beginning work on a section of street, curb or sidewalk that will affect use of the parking lane, the Contractor shall notify, by approved "No Parking - Tow Away" signs on barricades, all affected property owners, residents, businesses and agencies adjacent to that section of street. The "No-Parking" signs shall state the days, dates, and hours of

parking lane closure, and shall be placed along the street on each side at no more than 50 feet spacing. The Contractor shall notify the Engineer at least one (1) working day in advance of the intent to post No-Parking signs, so that the timely posting can be verified by the Inspector. The Contractor is permitted to list up to one (1) working day before and one (1) working day after the scheduled days of work, as shown in the latest approved schedule on signs, in order to bracket the approved scheduled date of work. The Contractor shall remove the "No Parking" signs as soon as the parking lane is re-opened to parking.

If the Contractor is unable to meet the scheduled and noticed time for the work, the Contractor shall immediately notify the Engineer and remove the posted "No-Parking" signs. The Contractor shall submit a new scheduling request in writing to the Engineer. Upon written approval of the Engineer, the Contractor shall post signs at least 72 hours prior to beginning work per the revised schedule.

#### Work hours are limited between 8:30 A.M. and 4:00 P.M.

Contractors must coordinate with the Alameda Unified School District and any private schools on streets/haul routes that are in the vicinity of schools. The names of streets and the nearest schools are listed below. The work may or may not be affected, depending upon the schools' summer schedules:

<b>Dredging Area</b>	Nearest School	<b>Location</b>
Lagoon 3	Alameda High School	Central / Walnut
Lagoon 5	Otis Elementary School	Otis / High

- Q. NOTICES TO CONTRACTOR. Any notice required to be given to the Contractor by the City of Alameda or by the City Engineer or by any officer of said City may be given to said Contractor at the address shown in the Contractor's proposal. Such notice may be given by mailing a copy of said notice to the Contractor to such address by United States certified mail. Evidence of such mailing shall be deemed the equivalent of personal services of said notice.
- R. UTILITIES. The location of railroad tracks, utility facilities and other structures shall be the responsibility of the Contractor. The Contractor shall contact the owners of those tracks, facilities and structures for any information that may be required. The Contractor shall contact Underground Services Alert (USA) at 800-642-2444 forty-eight (48) hours prior to commencement of work.

Where existing sewers and storm drains cross or interfere in any way with construction under this contract, they shall be left in place and the Contractor shall work around them, or where feasible and practical, the Contractor may, with the permission of the City Engineer, remove and replace them at his/her own expense. Precautions shall be exercised to provide bearing under existing sewer lines so encountered to preclude settlement during or after the term of the contract. In the event that some of these sewers are abandoned, they may, with the permission of the City Engineer, be removed and not replaced. The Contractor shall provide submittals for the Engineer's review and approval for supporting utilities.

The owners of pipes, wires, conduits, vaults and other utilities (other than sewers) located in the City streets which could conflict with the proposed work will be notified by the City Engineer to remove or adjust the same, without cost to the Contractor, to such extent as will allow the prosecution of the work described herein according to the necessities thereof and in accordance with these specifications. Wherever and whenever the Contractor anticipates working in an area from which utilities must be removed at the expense of others, he/she shall notify the City Engineer sufficiently in advance (a minimum of ten (10) working days) to permit the owners thereof to rearrange or abandon such utilities, and he/she shall cooperate with the owners thereof in the performance of the work under this contract.

The work will be so prosecuted that a minimum of damage will result to utility services. In the event that utility services are damaged or interrupted, the Contractor shall immediately, at his/her own expense, restore such services in a manner satisfactory to the City Engineer. In the event that an interruption of utility services is sustained for a period of longer than one-half hour, it shall be the responsibility of the Contractor to notify the occupants of the premises to which said services are connected, so that no damage will accrue on or to said premises.

The Contractor shall perform all work in such manner as to prevent damage to utilities lying outside of or below a required excavation of trench area.

- S. <u>SOUND CONTROL REQUIREMENTS</u>. Sound control shall conform to Section 4-10 of the Alameda Municipal Code, which prohibits weekday construction activities between 7:00 pm and 7:00 am.
- T. <u>CONSTRUCTION SITE CONTROLS</u>. This project is less than 1 acre in size and therefore a Storm Water Pollution Prevention Plan (SWPPP) is not required. However, within five (5) business days of the date the work is to commence pursuant to the NTP the Contractor shall submit an Erosion/Stormwater Water Pollution Control Plan (WPCP) to the City Engineer for review. The WPCP shall include appropriate erosion and sediment control measures to effectively prevent the entry of soil, dirt, debris and other pollutants to storm water runoff, the storm drain system, lagoons and the bay/estuary during construction. No work in the field under this Contract may begin until the City Engineer has approved the Contractor's WPCP.

Erosion and sediment control plans/sheets shall indicate the specifications and maintenance schedules for the installation and upkeep of the erosion control mechanisms. Specifications shall be provided for the erosion control practices, perimeter protection(s), any silt fencing and fiber rolls to be used, storm drain inlet protections, stabilized construction entrance(s) and exits, site and excavation dewatering activities, vehicle tire wash area(s), vehicle and equipment servicing area(s), and the materials handling and storage area(s). These specifications should meet the same level of erosion and sediment control effectiveness established by practices identified in the San Francisco Bay Regional Water Quality Control Board's Erosion and Sediment Control Field Manual (510-622-2465), the Association of Bay Area Government's Manual of Standards for Erosion and Sediment Control (510-464-7900) and/or the California Stormwater Quality Association's Stormwater Best Management Practice Handbook – Construction (2003) (www.cabmphandbooks.com). Contact City Public Works Department Clean Water Program Specialist Jim Barse (510-747-7930) for additional assistance

in obtaining copies of these reference documents.

The Contractor is responsible for ensuring that all of his/her workers and subcontractors are aware of and implement the specific stormwater quality control measures under the approved WPCP. The Contractor(s) shall avoid creating excess dust when breaking asphalt/concrete and during excavation and grading. If water is to be used as a measure for dust control, use as little as possible. All wash water shall be kept out of streets, gutters and storm drains. Controls shall be implemented before construction begins and maintained until the end of construction at which time they shall be removed.

Failure to comply with the following approved construction Best Management Practices ("BMPs") shall result in the issuance of correction notices, citations and/or a project stop order:

- Gather all construction debris on a regular basis and place it in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution. After breaking old pavement, remove all pieces to avoid contact with rainfall or runoff.
- Remove on-site piles from the site on a regular basis. Only temporary storage is allowed. All temporary soil or other stockpiles on site shall be securely covered with a tarp, plastic sheeting or similar material.
- Remove all dirt/mud, gravel, rubbish, refuse and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site daily and prior to rain. Clean up leaks, drips and spills immediately. Avoid unnecessary driving on unpaved areas during wet weather.
- 4. Install and maintain stabilized construction entrances to minimize the tracking of dirt, mud, dust and debris onto the public right-of-way.
- Broom-sweep the sidewalk and public street pavement adjoining the project site daily and prior to rain. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the completion of work the street shall be washed and the wash water collected and disposed offsite.
- Install filter materials (such as block and gravel bags, sandbags, filter fabric) at 6. the storm drain inlets surrounding the project site. Such inlet protections shall be installed before: the start of the rainy season (October 1st), site de-watering activities, saw-cutting activities, or any other activity that may result in the discharge of material to the storm drain. Filter materials shall be maintained and/or replaced as necessary to minimize short-cutting and to remove sediment deposits and buildup. Accumulated sediment/debris shall be disposed of properly.
- Vacuum saw-cutting slurry and remove from site. Do not allow saw-cut slurry to enter the storm water conveyance system.
- Create a contained and covered area on the site for the storage of cement bags, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by wind, exposure to rainfall or in the event of a material spill.
- Never clean machinery, tools, brushes, etc. or rinse containers into a street, gutter, storm drain or stream. See the Building Maintenance and Remodeling BMP flyer and ACCWP BMP brochures for more information. Contact the Public Works Department at 747-7930 for

assistance with obtaining these documents.

- Ensure that concrete/gunite supply trucks or concrete/plaster finishing operations do not discharge wash water into street gutters or drains. Concrete trucks shall have a selfcontained washout system or discharge to a dedicated, secure site washout in order to avoid the possibility of debris on city streets or discharge of wash water to the storm water conveyance system.
- Minimize removal of natural vegetation or ground cover from the site in order to 11. minimize the potential for erosion and sedimentation problems. Re-plant the area, and stabilize all cut and fill slopes as soon as possible after grading is completed. At a minimum, 4,000 pounds/acre of straw with tackifier should be placed on all exposed soils including those within active work areas and flat lots.
- 12. Provide erosion "prevention" and perimeter protection measures (soil stabilization) such as fiber rolls, silt fence, and/or sediment traps or basins. Ensure control measures are adequately maintained and in operable condition. Sediment controls, including inlet protection, are necessary but should be a secondary defense behind good erosion control and site perimeter measures.
- 13. Design site de-watering operations to prevent the discharge of any sediment, debris or other pollutants to the municipal storm water conveyance system.
- Maintain and if necessary, repair, all erosion prevention and sediment control measures throughout the contract term. Replacement supplies should be kept on site. Site inspections shall be conducted before and after each storm event, and every 24 hours for extended storm events, to identify areas that contribute to erosion and sediment problems or any other pollutant discharges. If additional measures are needed, inform the City Engineer immediately and document all inspection findings and actions taken.
- Conduct visual observations before, during, and after storm events. Any breach, malfunction, leakage, or spill observed that could result in the discharge of pollutants to surface waters that might not be visually detectable in stormwater shall trigger the collection of a sample of discharge. The following procedures shall be followed during sampling:

#### Sampling Procedures:

- For all construction activity, identify a sampling and analysis strategy and sampling schedule for potential discharges discovered through visual monitoring.
- Any breach, malfunction, leakage, or spill observed during visual monitoring which could result in the discharge of pollutants to surface waters that would not be visually detectable in stormwater shall trigger the collection of a sample of discharge.
- Samples shall be collected at all discharge locations which drain the areas identified by the visual observations and which can be safely accessed.
- Personnel trained in water quality sampling procedures shall collect stormwater samples.
- An uncontaminated sample shall be collected for comparison with the discharge sample.
- Sampling shall be conducted during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.
- The uncontaminated sample shall be compared to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and TDS.
- All field and/or analytical data shall be kept in the WPCP document, which is to remain

at the construction site at all times.

- Contact the City of Alameda Public Works Department at 510-747-7930 in the 16. event of any slope failure, sediment pond overflow, or any other malfunction resulting in sediment-laden runoff. The City shall, in turn, report such incidents to the Regional Water Quality Control Board.
- 17. Clearly mark with the words, "No Dumping! Drains to Bay" or the equivalent, using methods approved by the City of Alameda, onto the on-site storm drain inlets. All on-site storm drains must be inspected and, if necessary, cleaned, at least once a year immediately prior to the rainy season. Additional cleaning may be required by the City of Alameda.
- Require all concrete trucks used in the performance of the work to have a self-18. contained washout system, rather than do washout on the site. The idea is to avoid:
  - An undesirable pile of concrete on the jobsite, and
  - The possibility of debris on city streets. b.

The objective of these Standard Conditions is to ensure that the City's municipal storm water Permit, the National Pollutant Discharge Elimination System (NPDES) Permit provisions and additional Regional Water Quality Control Board requirements are adequately enforced.

These recommendations are intended to be used in conjunction with the State's Best Management Practices Municipal and Construction Handbooks, local program guidance materials from municipalities, Section 13, "Water Pollution Control" of the 2018 State of California Standard Specifications, and any other appropriate documents on storm water quality controls for construction. If you need assistance in checking these documents, contact Clean Water Program Specialist at 510-747-7930.

Failure to comply with the above program will result in issuance of noncompliance notices, citations, project stop orders or fines. The fine for noncompliance of the above program is two hundred and fifty dollars (\$250.00) per occurrence per day. The State under the Federal Clean Water Act can also impose a fine on the Contractor.

U. RECYCLING OF CONSTRUCTION AND DEMOLITION DEBRIS REQUIRED. The Contractor shall prepare and submit to Green Halo Systems at alameda.wastetracking.com a Waste Management Plan to recycle at least 65% of construction and/or demolition debris to an approved materials recycling location that has proven and verified recycling rates. Source separation of inserts (concrete, rock, brick, asphalt, etc.) is encouraged where possible. The 65% recycling rate shall be determined by total weight of materials.

The Contractor shall also submit to alameda.wastetracking.com a Summary Report, containing proof of actual recycling results of construction and/or demolition debris hauled from the project (ex. processing facility tonnage receipts verifying at least 65% recycling rate). Proof of an approved Waste Management Plan must be provided to the City Engineer before construction starts and proof of an approved Summary Report must be provided before project acceptance. The Contractor shall submit a request, along with proof in writing, to the City Engineer in the case of the Contractor's inability to comply with this requirement.

- V. <u>CLEAN AIR ACT OF 1970, ET SEQ. AND FEDERAL WATER POLLUTION CONTROL ACT AS AMENDED BY THE CLEAN WATER ACT OF 1977.</u> The Contractor agrees to comply with federal clean air and water standards during the performance of this contract and specifically agrees to the following:
  - The term "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 and the subcontractors for the construction, supply and service contracts entered into by the Contractor;
  - Any facility to be utilized in the accomplishment of this contract is not listed on the Environmental Protection Agency's List of Violating Facilities pursuant to 40 CFR, Part 15.20;
  - In the event a facility utilized in the accomplishment of this contract becomes listed on the EPA list, this contract may be canceled, terminated, or suspended in whole or in part;
  - It will comply with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Water Pollution Control Act relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308, respectively, and all regulations and guidelines issued thereunder;
  - It will promptly notify the Government of the receipt of any notice from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility utilized or to be utilized in the accomplishment of this contract is under consideration for listing on the EPA List of Violating Facilities;
  - It will include the provisions of Paragraph a. through g. in every subcontract or purchase order entered into for the purpose of accomplishing this contract, unless otherwise exempted pursuant to the EPA regulations implementing the Air or Water Acts above (40 CFR, Part 15.5), so that such provisions will be binding on each subcontractor or vendor;

In the event that the Contractor or the subcontractor for the construction, supply and service contracts entered into for the purpose of accomplishing this contract were exempted from complying with the above requirements under the provisions of 40 CFR, Part 15.5 (a), the exemption shall be nullified should the facility give rise to a criminal conviction (see 40 CFR 15.20) during the accomplishment of this contract. Furthermore, with the nullification of the exemption, the above requirements shall be effective. The Contractor shall notify the Government, as soon as the Contractor's or the subcontractors' facility is listed for having given rise to a criminal conviction noted in 40 CFR, Part 15.20.

W. <u>SUBMITTALS AND REQUEST FOR INFORMATION (RFI'S)</u>. The Contractor shall submit an RFI within five (5) business days of an event or question of fact arising under the Contract. The Engineer in charge of the project shall have ten (10) business days to respond to an RFI or any Submittal required to be made under the Contract.

#### X. COMPLIANCE WITH THE CITY'S INTEGRATED PEST MANAGEMENT POLICY:

The Contractor shall follow the requirements of the City's Integrated Pest Management (IPM) Policy to ensure the City is in compliance with its Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, issued by the California Regional Water Quality Control Board. Contractor shall follow the City's IPM Policy and utilize generally accepted IPM Best Management Practices (BMPs) to the maximum extent practicable for the control or management of pests in and around City buildings and facilities, parks and golf courses, urban landscape areas, rights-of-way, and other City properties.

Contractor will ensure that applicators will use the most current IPM technologies available to ensure the long-term prevention or suppression of pest problems and to minimize negative impacts on the environment, non-target organisms, and human health. Contractor will consider the options or alternatives listed below in the following order, before recommending the use of or applying any pesticide on City property:

- 1. No controls (e.g., tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds)
- 2. Physical or mechanical controls (e.g., hand labor, mowing, exclusion)
- 3. Cultural controls (e.g., mulching, disking, alternative vegetation), good housekeeping (e.g. cleaning desk area)
- 4. Biological controls (e.g., natural enemies or predators)
- 5. Reduced-risk chemical controls (e.g., soaps or oils)
- 6. Other chemical controls

Contractor shall ensure that only appropriate licensed applicators who are authorized and trained in pesticide application and who shall implement the City department's IPM standard operating procedures may apply pesticides to or within City property.

#### **Restricted Chemicals**

The term pesticide applies to herbicides, insecticides, fungicides, rodenticides and other substances used to control pests. Antimicrobial agents are not included in this definition of pesticides.

Contractor shall avoid the use of pesticides that threaten water quality, human health and the environment. Thus, the Contractor shall not use or promote the use of the following chemicals:

- 1. Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA),
- 2. Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)
- 3. Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin),
- 4. Carbamates (e.g., carbaryl),
- 5. Fipronil,
- 6. Copper-based pesticides unless:

- a) Their use is judicious,
- b) Other approaches and techniques have been considered, and;
- c) Threat of impact to water-quality is prevented.

#### **General Pesticide Usage Practices**

Contractor shall ensure implementation of the following practices:

- 1. All pesticide applications shall be performed according to the manufacturer's instructions as detailed on the product label, and in accordance with all applicable state and local laws and regulations set forth to protect the environment, the public, and the applicator; and properly dispose of unused pesticides and their containers.
- 2. Pesticides that are not approved for aquatic use will not be applied to areas immediately adjacent to water bodies where through drift, drainage, or erosion, there is a reasonable possibility of a pesticide being transported into surface water.
- 3. Applicators will always avoid applications of pesticides that directly contact water, unless the pesticide is registered under Federal and California law for aquatic use.
- 4. Obtain coverage under the Statewide General NPDES Permit prior to discharging pollutants from the use of aquatic pesticides directly to the waters of the United States, or onto aquatic plants growing in waters of the United States (as required by the State Water Quality Resources Control Board).

#### **Posting of Warning Notices Prior to Pesticide Application**

1. If a pesticide with a "Warning" or "Danger" label indicator must be applied, the Contractor shall post sufficient copies of warning notices (Notice of Scheduled Chemical Application for Pest Management) and MSDS to effectively alert the public (i.e., at all entrances to a building) no less than 48 hours in advance of the pesticide application. The warning notice must be completely filled out, including name of the pesticide (both chemical and brand name), time and date of application, and with a fully legible re-entry time.

#### **Annual Pesticide Use Summary Report**

Contractor shall track pesticide use on City properties and provide an annual pesticide use summary report of pesticide application on City properties. The annual pesticide use summary report shall be submitted to the City's Public Works Department Clean Water Program staff by a date to be determined in the scope of work and shall include the following information:

- 1. Product name and manufacturer
- 2. Active ingredient
- 3. The total quantity of each pesticide used during the prior fiscal year (from July 1 to June 30)
- 4. Target pest(s) for pesticide application(s).
- 5. Reasons for increases in use of pesticides that threaten water quality, specifically organophosphorous pesticides, pyrethroids, carbamatesl, fipronil, and copper-based

pesticides.

#### **Best Management Practices (BMPs)**

To protect water quality, the Contractor shall implement the BMPs and control measures described below:

- 1. Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of pesticides and training of pest control advisors and applicators.
- 2. Use the most effective, least toxic pesticides that will do the job, provided there is a choice. The agency will take into consideration the LD50, overall risk to the applicator, and impact to the environment (chronic and acute effects).
- 3. Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging pesticides in stormwater runoff. Avoid application of pesticides if rain is expected (this does not apply to the use of pre- emergent herbicide applications when required by the label for optimal results.)
- 4. Employ techniques to minimize off-target application (i.e. spray drift) of pesticides, including consideration of alternative application techniques. For example, when spraying is required, increase drop size, lower application pressure, use surfactants and adjuvants, use wick application, etc.
- 5. Apply pesticides only when wind speeds are low.
- 6. Mix and apply only as much material as is necessary for treatment. Calibrate application equipment prior to and during use to ensure desired application rate.
- 7. Do not mix or load pesticides in application equipment adjacent to a storm drain inlet, culvert, or watercourse.
- 8. Properly inspect applicator equipment to prevent accidental pesticide leaks, spills and hazards to applicators and the environment.
- Meet local fire department and Alameda County Agricultural Commissioner storage requirements for pesticide products. Provide secondary containment for liquids if required.
- 10. Prepare spill kits, store the kits near pesticides, and train employees to use them.
- 11. Store pesticides and other chemicals indoors in a locked and posted storage unit, as per California Code of Regulations.
- 12. Store pesticides in labeled containers, as per California Code of Regulations.
- 13. Rinse empty pesticide/herbicide containers, and empty in the spray, as per California Code of Regulations.
- 14. Dispose of triple-rinsed empty pesticide containers according to recommendations of the Alameda County Agricultural Commissioner and the manufacturer.
- 15. Try to find a qualified user for any unwanted pesticides, or return to the manufacturer if unopened. If disposal is required, contact Alameda County's Household Hazard Waste Collection Program at (510) 670-6460 between 8:30 AM and 5:00 PM., Monday through Friday, to make appropriate disposal arrangements, or to recycle the material.
- 16. If changing pesticides or cleaning spray tanks, use tank rinse water as the product, over a targeted area within the application site.
- 17. Irrigate slowly to prevent runoff, and do not over-water.

#### SECTION III. SCOPE OF WORK

A. <u>WORK TO BE DONE</u>. The work to be done includes, but is not limited to, furnishing all labor, tools, equipment, materials, except as herein specified, and doing all work associated with dredging / sediment removal from the corners of the Alameda South Shore Lagoons 3 and 5. The project g will include dredging/excavation, hauling, and disposal activities. An estimated total of 630 cubic yards from Lagoon 3, and 170 cubic yards from Lagoon 5, for a total of 800 cubic yards of dredged materials is to be removed from the two lagoons. See laboratory testing results on samples taken for the project included in the attachments.

The lagoons are a stormwater facility. Contractor shall coordinate with City Engineering and Maintenance Services Staff for access and maintaining security of facility, and schedule work accordingly. Work will be done during the annual draining of the lagoons for maintenance. Even when the lagoons are drained, there is still residual water present and as such dewatering and drying of the excavated material may require the use of desiccants (such as diatomaceous earth or portland cement) to transport and deliver the material to a proper disposal facility.

#### The Engineer's Estimate for this project is \$500,000.

The Initial Project Submittal Package shall address the entire project, and shall include all items listed in Section 01300, "Submittals," of the Technical Specifications. See also Exhibit G, "List of Submittals." Contractor shall not commence work in the field until Engineer has approved the Initial Project Submittal Package.

The Notice to Proceed (NTP) for this project is scheduled to be issued May 4, 2020.

The window for this work will begin Monday, May 4, 2020 in coordination with the annual lagoon lowering / maintenance program and must be completed by Friday, May 29, 2020. The Contractor shall have nineteen (19) working days (Monday, May 25, 2020 is Memorial Day and Contractor shall not work this day) in consecutive order from the date the work is to commence pursuant to the Notice to Proceed to complete the work. All work must be completed within this timeframe.

Contractor shall not work during City holidays; 2020 holidays include:

New Year's Day Wednesday, January 1, 2020 Martin Luther King, JR. Monday, January 20, 2020 Presidents Day Monday, February 17, 2020

Presidents Day Monday, February 17, 2020 Memorial Day Monday, May 25, 2020 Day before Independence Day Friday, July 3, 2020

Labor Day Monday, September 7, 2020
Veteran's Day Wednesday, November 11, 2020
Thanksgiving Day Thursday, November 26, 2020

Day after Thanksgiving Day Friday, November 27, 2020 Christmas Day Friday, December 25, 2020

The following City events are planned for Calendar Year 2020:

**Event Date** 

Spring Festival (Park Street) May 9 and 10, 2020

July 4th Parade July 4, 2020

Art and Wine Faire (Park Street)

Island Jam

Classic Car Show (Park Street)

July 25 and 26, 2020

June 13 and 14, 2020

October 10, 2020

Trick or Treat at Webster Street TBD

Santa on Webster Street 3<sup>rd</sup> weekend in December

Concerts at the Cove 2nd Friday in June, July and August 2020

Farmer's Market (Webster Street at Haight Avenue)

Every Tuesday and Saturday (year-round) from 9 a.m. to 1 p.m.

B. <u>ALTERATIONS</u>. The City of Alameda reserves the right to increase or decrease the quantity of any item or portion of work, or to omit portions of the work as may be deemed necessary or expedient by the Engineer; also to make such alterations or deviations, increases or decreases, additions or omissions in the plans and specifications, as may be determined during the progress of the work to be necessary and advisable.

C. <u>EXTRA AND FORCE ACCOUNT WORK</u>. New and unforeseen work will be classed as extra work when such work cannot be covered by any of the various items or combination of items for which there is a bid price.

The Contractor shall do no extra work except upon written order from the Engineer. Extra work as herein before defined under Section 4-1.05, "Changes and Extra Work," of the State of California Standard Specifications, when ordered and accepted, shall be paid for under a written work order in accordance with the terms therein provided. Payment for extra work will be made as agreed upon in writing pursuant to an extra work order signed by both parties, or by force account.

Work performed on force account shall be paid on a time and materials basis plus ten percent (10%). For work done by a subcontractor, an additional five percent (5%) markup is allowed to reimburse the contractor for additional administration cost and no other additional payment will be made; provided, however, that the City reserves the right to furnish such materials required as it deems expedient, and the Contractor shall have no claim for profit on the cost of such materials. Payment for work performed on force account pursuant to this subsection shall include full compensation to the Contractor for contributions made to the State as required by the provisions of the Unemployment Reserve Act, Chapter 352, Statutes of 1935, as amended; for taxes paid to the Federal Government as required by the Social Securities Act, approved August 14, 1935, as amended; for premiums paid on any other insurance of any nature which the Contractor may be required to carry or which he may elect to carry, and for additional premiums paid on faithful performance and labor and materials bonds required by reason of increase in the amount of work to be performed over and above that called for in the original contract. The price paid for labor shall include any compensation insurance paid by the Contractor.

All force account work shall be recorded and tracked daily upon Time and Material Tentative Extra Work Order report sheets furnished by the Contractor to the Engineer and signed by both parties, which daily reports shall thereafter be considered the true record of force account work done. Verification of time and materials shall be made on a daily basis by the Inspector or by his/her designee.

- D. <u>REMOVAL OF OBSTRUCTIONS</u>. The Contractor shall remove and dispose of all structures, debris, or other obstruction of any character to the construction of the project if and as required by the Engineer.
- E. <u>CLEAN UP</u>. Contractor shall leave the work site in an acceptable clean manner at the end of each work day. Upon completion and before making application for acceptance of the work, the Contractor shall clean the street or road, borrow pits, and all ground occupied by the Contractor in connection with the work, of all rubbish, excess materials, temporary structures, and equipment; and all parts of the work shall be left in a neat and presentable condition.

#### SECTION IV. CONTROL

A. AUTHORITY OF THE ENGINEER. The Engineer shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed; the manner of performance and rate of progress of the work; the interpretation of the plans and specifications; the acceptable fulfillment of the contract on the part of Contractor; and all questions as to claims and compensation.

The Engineer's decision shall be final and he/she shall have executive authority to enforce and make effective such decisions and orders that the Contractor fails to carry out promptly.

PLANS. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made to any plans or drawings after the same have been approved by the Engineer, except by direction of the Engineer.

Working drawings of plans for any structure not included in the plans furnished by the Engineer shall be approved by the Engineer before any work involving these plans shall be performed, unless approval is waived in writing by the Engineer.

Notwithstanding the foregoing, the Contractor agrees that approval by the Engineer of the Contractor's working plans does not relieve the Contractor of any responsibility for the accuracy of the dimensions and details thereof, and that the Contractor shall be responsible for agreement and conformity of his/her working plans with the approved plans and specifications.

The Contractor shall provide as-built drawings at the completion of the work. As-built drawings shall be prepared by a licensed engineer or surveyor and approved by the City Engineer.

As-built drawings must be in digital format. Any difficulty in providing the digital asbuilt drawings must be documented and presented to the City Engineer, who may permit manual as-built drawings on 22" x 34" vellum. Release of retention is subject to the approval of the asbuilt drawings by the Engineer.

Full compensation for furnishing all working drawings and digital as-built drawings shall be considered as included in the prices paid for the various contract items of work, and no additional allowance will be made therefor.

- CONFORMITY WITH PLANS AND ALLOWABLE DEVIATION. Finish surfaces in C. all cases shall conform with the lines, grades, cross sections, and dimensions shown on the approved plans. Deviations from the approved plans, as may be required by the exigencies of construction will be determined in all cases by the Engineer and authorized in writing.
- D. COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS. These specifications, the plans, special provisions (including technical provisions) and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be cooperative, to describe, and to

provide for a complete work. Plans shall govern over specifications; special provisions shall govern over both specifications and plans.

E. <u>INTERPRETATION OF PLANS AND SPECIFICATIONS AND ADDENDA THERETO</u>. Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained in these specifications, plans, and the special provisions, the Contractor shall apply to the Engineer for such further explanation as may be necessary to carry out the work. Upon such application by the Contractor or prospective bidder, or in the event that it appears expedient to the Engineer to further explain, clarify, or amend these specifications, special provisions and plans, the Engineer shall issue addenda thereto and such addenda shall constitute a part hereof, and shall be binding on the Contractor. It is up to the Contractor to check before the bid date that Contractor has all paperwork to complete the bid.

It is the responsibility of each prospective bidder to check the website listed on page 1 of these specifications periodically for Addenda updates. If the addendum is issued after the mandatory pre-bid meeting is held, the addendum will be forwarded by email, to all attendees who have furnished contact information. Do not rely upon third party providers of the original plans and specs to issue all addenda. Contractor shall acknowledge receipt of all addenda on the Bid and those Bids that do not have acknowledgment of all addenda will be considered non-responsive.

In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.

- F. <u>SUPERINTENDENCE</u>. Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders will be given by the Engineer in writing and shall be received and obeyed by the superintendent or foreman in charge of the particular work in reference to which orders are given.
- G. <u>CONSTRUCTION STAKING & LAYOUT.</u> Construction staking and layout shall be at the contractor's expense and performed by the contractor's surveyor or engineer qualified to do surveying work.

The Contractor shall preserve all stakes and points set for lines, grades, or measurements of the work in their proper places until authorized to remove them by the Engineer. All expenses incurred in replacing stakes that have been removed without proper authority shall be paid by the Contractor.

H. <u>INSPECTION</u>. The Engineer shall at all times have access to the work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship, and character of materials used and employed in the work.

The Contractor shall give at least 48 hours notice in writing when he will require inspection on subgrade, formwork, concrete paving, etc. Inspection will routinely be carried out at pre-scheduled time established at the pre-construction meeting. Inspection will only be carried out for substantial quantities of work ready for inspection.

The Contractor shall contact the City's representative by 11:00 a.m. the day prior to any special inspections so the City can schedule the inspections. If the contractor does not perform work that requires the special inspection as previously communicated to City's representative then the contractor will be responsible for all costs associated with special inspection regardless of the fact that the special inspector did not perform any services.

Whenever the Contractor varies the period during which work is carried on each day, he shall give due notice to the Engineer, so that proper inspection may be provided. Any work done in the absence of the Engineer is subject to rejection.

The inspection of the work shall not relieve the Contractor of any of his/her obligations to fulfill the contract as prescribed. Defective work shall be made good and unsuitable materials may be rejected, notwithstanding the fact that such defective work and unsuitable materials have been previously overlooked by the Engineer and accepted or estimated for payment.

Working hours in the field are restricted to <u>8:30 AM through 4:00 PM</u>, Monday through Friday, excluding City Holidays, and shall constitute "normal working hours." The Public Works Department Inspectors work on Friday's and can be reached at 510-747-7900. In some locations, as noted on the Plans, normal working hours may be further restricted to avoid traffic and/or school-related conflicts. Any work in the field performed outside of these hours, including but not limited to construction, clean up, placement of traffic control devices, and mobilization/demobilization, shall be subject to removal and the Contractor fined \$5,000 per incident, unless such work has been previously authorized by the Engineer in writing.

Inspection hours for construction shall be from <u>8 AM through 5 PM</u>, Monday through Friday, excluding City Holidays, and shall constitute "normal inspection hours." The Public Works Department Inspectors work on Fridays and can be reached at 510-747-7900. Unless prior written authorization has been received from the Engineer, the Contractor shall not perform any work outside of these hours except for general clean up, demobilization, and placement of no-parking signs. The Contractor shall pay the salary and benefits, including overtime, of the City employee(s) for inspection of any work performed outside of the normal inspection hours. Projects financed in whole or in part with state funds shall be subject to inspection at all times by the Director of Public Works of the State of California, or his agents.

I. <u>REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK</u>. All work which is defective in its construction or deficient in any of the requirements of these specifications shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed for such correction.

Any work done beyond the lines and grades shown on the plans or established by the Engineer, or any extra work done without written authority, shall be considered as unauthorized and will not be paid for.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this article, the Engineer shall have the authority to cause

defective work to be remedied, or removed and replaced, and unauthorized work to be removed, and to deduct the cost thereof from any monies due or to become due the Contractor.

The fact that the work and materials have been inspected from time to time, and payments on account have been made, does not relieve the Contractor from the responsibility of replacing and making good any defective work or materials that may be discovered within one year from the date of the completion of the work by the Contractor and its acceptance by the City.

- J. <u>FINAL INSPECTION</u>. Whenever the work provided and contemplated by the contract shall have been satisfactorily completed, the Engineer will make the final inspection.
- K. <u>FINAL GUARANTEE</u>. It is understood that the Contractor is skilled in the trade or calling necessary to perform the work set forth within the plans and specifications, and that the City of Alameda, not being skilled in such matters, relies upon the Contractor to do and perform all work, acts, and things necessary to carry out the contract in the most skilled and desirable manner, and the Contractor guarantees the workmanship and materials to be the best of their kind. The acceptance of any part or of the whole of the work by the City does not operate to release the Contractor or the Contractor's surety from said guarantee.

The Contractor shall be held responsible for and must make good any defects through faulty, improper or inferior workmanship or materials arising from or discovered in any part of the contract work within one year of the completion and acceptance of the same. The bond for faithful performance, furnished by the Contractor, shall cover such defects and protect the City of Alameda against any and all such defects.

Nothing in this section supersedes contractor obligations for repair and replacement of work pursuant to the Public Contract Code.

#### SECTION V. CONTROL OF MATERIAL

A. SAMPLES AND TESTS. At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of all materials to be used in the work for testing or examination as desired by the Engineer.

All tests of materials furnished by the Contractor shall be made in accordance with commonly recognized standards of national organizations and such special methods and tests as are prescribed in these specifications.

The Contractor shall furnish such samples of materials as are requested by the Engineer without charge. No material shall be used until it has been approved by the Engineer. Samples will be secured and tested whenever necessary to determine the quality of material.

В. DEFECTIVE MATERIALS. All materials not conforming to the requirements of these specifications shall be considered as defective, and all such materials, whether in place or not, shall be rejected. They shall be removed immediately from the site of the work unless otherwise permitted by the Engineer.

Upon failure on the part of the Contractor to comply with any order of the Engineer made under the provisions of this article, the Engineer shall have the authority to remove and replace defective material and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

#### SECTION VI. PROSECUTION AND PROGRESS

PROGRESS OF THE WORK AND TIME FOR COMPLETION. The Contractor shall submit the Initial Submittal Package to the City Engineer for review. The Initial Submittal Package shall address the entire project, and shall include all items listed in Section 01300. "Submittals," of the Technical Specifications. Contractor shall not commence work in the field until Engineer has approved the Initial Submittal Package.

The Contractor shall not commence construction on any section of the work until such time that he/she shall have on the ground, or can furnish definite assurance to the Engineer that there will be available when required, all the materials necessary to complete the section of the work upon which construction is to begin.

The Contractor shall submit a three week look-ahead work schedule every Monday and upon the issuance of any change order that alters the contract's schedule. Engineer shall have ten (10) working days to respond to the updated work schedule, and Contractor shall abide by most recently approved schedule until a new one has been approved in writing by the Engineer.

The Contractor shall submit additions to the Traffic Control Plan ten (10) working days in advance of any work that was not covered by the Traffic Control Plan submitted in the Initial Project Submittal Package.

In order to minimize disturbances to residents and public the Contractor shall:

- 1. Backfill and resurface failed area locations the same working day as the start of break out.
- 2. Resurface planed AC areas within three (3) working days from the day the areas were planed. The streets shall be swept, repeatedly if necessary, to minimize loose material.
- 3. Schedule removal and reconstruction of curb, gutter, and culverts so that only one side of the street is under construction on any one day, and parking and unimpeded pedestrian passage remains available on the opposite side of the street.
- 4. Not apply the slurry seal on streets the same day that trash and recycling pickup is scheduled.
- В. SUBLETTING AND ASSIGNMENT. The Contractor shall give his/her personal attention to the fulfillment of the contract and shall keep the work under his/her control.

Subcontractors will not be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor, and their work shall be subject to the provisions of the contract and specifications.

Where a portion of the work sublet by the Contractor is not being prosecuted in a manner satisfactory to the Public Works Director, the subcontractor shall be removed immediately on the requisition of the Engineer and shall not again be employed on the work.

This contract may be assigned only on written consent of the City Council.

- C. <u>CHARACTER OF WORKER</u>. If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the Engineer or shall appear to the Engineer to be incompetent or to act in a disorderly manner, said worker shall be discharged immediately on the requisition of the Engineer and such person shall not again be employed on the work.
- D. <u>TEMPORARY SUSPENSION OF WORK</u>. The Engineer shall have the authority to suspend the work wholly or in part for such period as he/she may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the work, or for such time as he/she may deem necessary, due to the failure on the part of the Contractor to carry out orders given or to perform any of the provisions of the work. The Contractor shall immediately obey such orders of the Engineer and shall not resume suspended work until ordered in writing by the Engineer.
- E. <u>TIME OF COMPLETION AND LIQUIDATED DAMAGES</u>. It is agreed by the parties to the contract that in case all the work called for under the contract is not completed before or upon the expiration of the contract's term as set forth in these specifications, damage will be sustained by the City of Alameda, and that it is and will be impracticable to 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 Alameda the sum of \$3,500.00 per day for each and every day's delay beyond the time prescribed to complete the work; and the Contractor agrees to pay such liquidated damages as herein provided, and in case the same are not paid, agrees that the City of Alameda may deduct the amount thereof from any money 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 time specified, the City Council shall have the right to extend the time for completion or not, as may seem best to serve the interest of the City; and if it decides to extend the time limit for the completion of the contract, it shall further have the right to charge the Contractor, his heirs, assigns, or sureties, and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the contract, and which accrue during the period of such extensions, except that the cost of final surveys and preparation of final estimate shall not be included in such charges.

The Contractor shall not be assessed with liquidated damages nor the cost of engineering and inspection during any delay in the completion of the work caused by acts of God or of the public enemy, acts of the City, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather or delays of subcontractors due to such causes; provided that the Contractor shall within ten (10) days from the beginning of such delay notify the Engineer in writing of the causes of delay. The Engineer shall ascertain the facts and the

extent of the delay and his findings of the facts thereon shall be final and conclusive.

SUSPENSION OF CONTRACT. If, at any time, in the opinion of the City Council, the F. Contractor has failed to supply an adequate working force, or material of proper quality, or has failed in any other respect to prosecute the work with the diligence and force specified and intended in and by the terms of the contract, notice thereof in writing will be served upon him; and shall he neglect or refuse to provide means for a satisfactory compliance with the contract, as directed by the Engineer, within the time specified in such notice, the City Council in any such case shall have the power to suspend the operation of the contract. Upon receiving notice of such suspension, the Contractor shall discontinue said work, or such parts of it as the City Council may designate. Upon such suspension, the Contractor's control shall terminate, and thereupon the City Council or its duly authorized representative may take possession of all or any part of the Contractor's materials, tools, equipment and appliances upon the premises, and use the same for the purpose of completing said contract, and hire such force and buy or rent such additional machinery, tools, appliances, and equipment, and buy such additional materials and supplies at the Contractor's expense as may be necessary for the proper conduct of the work and for the completion thereof; or may employ other parties to substitute other machinery or materials, and purchase the materials contracted for, in such manner as the City Council may deem proper; or the City Council may annul and cancel the contract and relet the work or any part thereof. Any excess of cost arising therefrom over and above the contract price will be charged against the Contractor and his sureties, who will be liable therefor. In the event of such suspension, all monies due the Contractor or retained under the terms of this contract shall be forfeited to the City; but such forfeiture shall not release the Contractor or his sureties from liability for failure to fulfill the contract. The Contractor and his sureties will be credited with the amount of money so forfeited toward any excess of cost over and above the contract price, arising from the suspension of the operations of the contract and the completion of the work by the City as above provided; the Contractor will be so credited with any surplus remaining after all just claims for such completion have been paid.

In the determination of the question whether there has been any such noncompliance with the contract as to warrant the suspension or annulment thereof, the decision of the City Council shall be binding on all parties to the contract.

RIGHT-OF-WAY. The right-of-way sufficient for the work to be constructed will be G. provided by the City. The Contractor shall make his own arrangements, and pay all expenses for additional area required by him outside of the limits of right-of-way, unless otherwise provided in the special provisions. Contractor's staging area must be approved by the Engineer.

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#### SECTION VII. MEASUREMENTS AND PAYMENT

- A. <u>MEASUREMENTS AND PAYMENT</u>. Payment for work done under the contract shall be made on the basis of the sums as calculated from the finally measured quantities of work done and the agreed unit and lump sum prices. Payment shall be full compensation for furnishing all labor, materials, tools and equipment and doing all the work necessary to construct the items for which payment is being made, complete in place as shown on the plans and described in the specifications.
- B. <u>EXTRA AND FORCE ACCOUNT WORK</u>. Extra work as hereinbefore defined (Section III, Paragraph C) when ordered and accepted, shall be paid for under a written work order in accordance with the terms therein provided. Payment for extra work will be made as agreed upon in writing pursuant to an extra work order signed by both parties, or by force account.

Work performed on force account shall be paid on a time and materials basis plus ten percent (10%). For work done by a subcontractor, an additional five percent (5%) markup is allowed to reimburse the contractor for additional administration cost and no other additional payment will be made; provided, however, that the City reserves the right to furnish such materials required as it deems expedient, and the Contractor shall have no claim for profit on the cost of such materials. Such payment shall include full compensation to the Contractor for contributions made to the State as required by the provisions of the Unemployment Reserve Act, Chapter 352, Statutes of 1935, as amended; for taxes paid to the Federal Government as required by the Social Securities Act, approved August 14, 1935, as amended; for premiums paid on any other insurance of any nature which the Contractor may be required to carry or which he may elect to carry, and for additional premiums paid on faithful performance and labor and materials bonds required by reason of increase in the amount of work to be performed over and above that called for in the original contract. The price paid for labor shall include any compensation insurance paid by the Contractor.

C. <u>PROGRESS PAYMENTS</u>. The City shall, once each month, cause an estimate in writing to be made by the City Engineer of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used at the time of such estimate, and the value thereof. The City of Alameda shall retain five percent (5%) of such estimated value of the work done and fifty percent (50%) of the value of the materials so estimated to have been furnished and delivered and unused, as aforesaid, as part security for the fulfillment of the contract by the Contractor, and shall monthly pay to the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the contract. No such estimate or payment shall be required to be made, when, in the judgment of the City Engineer, the work is not proceeding in accordance with the provisions of the contract, or when in his judgment, the total value of the work done since the last estimate amounts to less than Three Hundred Dollars (\$300.00). No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

#### **Partial Payments**

Progress payments shall be in accordance with Section 9-1.16, "Progress Payments," of the State of California Standard Specifications, as currently amended, and these special provisions. The City, once in each month, shall cause an estimate in writing to be made by the Engineer. The estimate shall include the total amount of work done and acceptable materials furnished, provided the acceptable materials are listed as eligible for partial payment as materials in the special provisions and are furnished and delivered by the Contractor on the ground and not used or are furnished and stored for use on the Contract, if the storage is within the City and the Contractor furnishes evidence satisfactory to the Engineer that the materials are stored subject to or under the control of the City, to the time of the estimate, and the value thereof. The estimate shall also include any amounts payable for mobilization.

The amount of any material to be considered in making an estimate will in no case exceed the amount thereof which has been reported by the Contractor to the Engineer. Only materials to be incorporated in the work will be considered. The estimated value of the material established by the Engineer will in no case exceed the Contract price for the item of work for which the material is furnished.

Contractor warrants that upon signature of pay estimate, all work has been performed in strict compliance with the Contract Documents, and all work for which progress payments have been previously issued and payment has been received from City, shall be free and clear of all <a href="mailto:third-party">third-party</a> claims, stop notices, security interests, and encumbrances.

Payment of all, or any part, of an estimate in writing may be withheld on account of any of the following:

- 1. Defective work not remedied;
- 2. Third-party claims against Contractor or City arising from the acts or omissions of Contractor or subcontractors;
- 3. Stop Notices:
- 4. Failure of Contractor to make timely payments due to subcontractors for material or labor;
- 5. Damage to the City or others for which Contractor is responsible;
- 6. Failure of Contractor to maintain, update, and submit record documents;
- 7. Failure of Contractor to submit schedules or their updates as required by the Contract Documents;
- 8. Performance of the work by Contractor without properly processed shop drawings;
- 9. Liquidated damages assessed;
- 10. Any other failure of Contractor to perform its obligations under the Contract Documents.

SUBSTITUTION OF SECURITIES FOR WITHHELD ACCOUNTS. Pursuant to Chapter 13 (commending with Section 4590), Division 5, Title 1 of the Government Code of the State of California, securities may be substituted for any monies withheld by a public agency to ensure performance under a contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or

federally chartered bank as the escrow agent, who shall pay such monies to the Contractor upon satisfactory completion of the contract.

Securities eligible for substitution under this section shall include those listed in Section 22300 of the Public Contract Code of the State of California or bank or savings and loan certificates of deposit.

Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

Any escrow agreement entered into pursuant to this section shall contain, as a minimum, the following provisions:

- 1. The amount of securities to be deposited.
- 2. The terms and conditions of conversion to cash in case of the default of the Contractor.
- 3. The termination of the escrow upon completion of the contract.
- D. <u>NOTICE OF COMPLETION</u>. Whenever the work provided and contemplated by the contract shall have been satisfactorily completed, the Engineer will make the final inspection.

When such final inspection shows that the work has been completed in conformance with the plans, specifications and special provisions, the Engineer will recommend the formal acceptance of the work by the City Council; and upon such acceptance, Notice of Completion will be recorded. The said work shall not be deemed completed until the same is accepted by the City.

E. <u>PAYMENT OF THE RETENTION</u>. The City Engineer shall, after the completion of the contract, total all amounts retained under the provisions of the contract. Final payment of retention shall be in conformance with Public Contract Code Section 7107.

It is mutually agreed between the parties to the contract that no certificate given or payments made under the contract, except the final certificate of final payment, shall be conclusive evidence of the performance of the contract, either wholly or in part, against any claim of the Contractor; and no payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor further agrees that the payment of the final amount due under the contract, and the adjustment and payment for any work done in accordance with any alterations of the same, shall release the City of Alameda, its officers, employees and agents from any and all claims or liability on account of work performed under the contract or any alteration thereof.

#### SECTION VIII. SPECIAL PROVISIONS

STANDARD SPECIFICATIONS ADOPTION. The work embraced herein shall be performed in accordance with the standard specifications entitled "State of California, Department of Transportation, Standard Specifications", dated 2018 (latest revision), insofar as the same apply, which specifications are hereinafter referred to as the Standard Specifications, and in accordance with the following Special Provisions.

Whenever in the Standard Specifications the following terms are used, they shall be understood to mean and refer to the following:

Department of Public Works

Department of Transportation To the Engineering Division

Director of Public Works To the Public Works Director

Engineer To the City Engineer, acting either

> directly through or properly authorized agents, such agents acting within the scope of the particular

duties entrusted to them.

Laboratory To the designated Laboratory

> authorized by the City of Alameda to test materials and Work involved in

the contract.

State To the City of Alameda

Other terms appearing in the Standard Specifications, and these specifications, shall have the intent and meaning specified in Section I, Definition of Terms, of the Standard Specifications.

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 such conflicting portions.

## SECTION IX. QUANTITIES

The following preliminary estimate of the quantities of work to be done and materials to be furnished is approximate only, and the City of Alameda does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work or to omit portions of the work that may be deemed necessary or expedient to the Engineer.

Quantities shall be determined by the Contractor from plans and specifications, and /or pre-construction meeting and walk - through. Any discrepancy or conflict shall be reported to the Project Manager. Contractor shall be held responsible for any discrepancies or conflicts not reported to the Project Manager seventy-two (72) hours prior to the bid opening.

The basis of award of contract shall be by the City of Alameda for the lowest and best bid that will best serve the City's need. The contract shall be awarded with the entire project base bid only.

The City reserves the right to reject any, any portion, or all bids.

The base bid consists of five (5) bid items, as outlined below and detailed in the Technical Specifications and **Section XII, F:** "Extent of Contract."

TABULATION OF PRELIMINARY ESTIMATE OF QUANTITIES

Item			
No.	Description	Quantity	Unit
	_	·	
1.	Mobilization	1	Lump Sum
2.	Water Pollution Control Plan	1	Lump Sum
3.	Traffic Control Plan	1	Lump Sum
4.	Soil Desiccant	60	Tons
5.	Excavation	800	Cubic Yards

# SECTION X. MATERIALS

The Contractor shall furnish for use under these special provisions all materials required to complete the contract, except as described under Section VII of the specifications.	)

#### SECTION XI. DESCRIPTION AND LOCATION OF WORK

A. <u>DESCRIPTION OF WORK</u> The work to be done consists of doing all work associated with **the Alameda South Shore Lagoons 3 and 5 Dredging Project**, which is summarized in Section III - "Scope of Work" and which is described in detail in the plans and Technical Specifications.

All work is to be in conformance with the plans and specifications as required by the Engineer. The contract shall include all work necessary to make the job complete as herein specified or as shown on the plans. The contract will be awarded with Base Bid only.

B. <u>PLANS</u> The following drawings are incorporated into these Specifications:

TITLE	DRAWING NO	O. CASE
Lagoons 3 and 5 Dredging Project	9427	15

#### SECTION XII. CONSTRUCTION DETAILS

The construction details covered under this Section XII shall be Special Provisions as set forth in Section VIII.

A. <u>MAINTAINING TRAFFIC</u>. Attention is directed to Section 7-1.03, "Public Convenience", and 7-1.04, "Public Safety", of the State of California Standard Specifications, and to **Section II**, **Article P** of these specifications.

The Contractor shall furnish, install and maintain such facilities as barricades, traffic signs, and flagmen, as may be necessary to advise the public of construction hazards and to control traffic.

The Contractor will not be permitted to detour traffic from the work area at any time. The Contractor will be required to maintain two-way traffic at all times. Any lane closure shall be subject to the prior approval of the City Engineer.

The full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress on working days.

Prior to commencement of work, the Contractor shall provide the Engineer with sketches for approval, indicating the method of signing and necessary delineators for proposed lane closures.

The Contractor shall cooperate with local authorities relative to handling traffic through the area and shall make his own arrangement relative to keeping the work area clear of parked vehicles.

The provisions of Section 7-1.04, "Public Safety," of the Standard Specifications, regarding State-furnished signs, are hereby revised to provide that all signs and other warning devices shall be provided by the Contractor and shall become his/her property after the completion of the contract. The Contractor shall refer to the current "Manual of Warning Signs, Lights and Devices for Use in the Performance of Work Upon Highways" and the "Uniform Sign Chart" issued by the Department of Transportation, Division of Operations.

Flagmen, if necessary, shall be properly equipped and trained in accordance with "Instructions to Flagmen", published by the California Department of Transportation. Section 12-2.04 is revised to provide that all flagmen shall be furnished by the Contractor at his/her expense.

The provisions in this section may be modified or altered if, in the opinion of the Engineer, public traffic will be better served and work expedited. Said modifications or alterations shall not be adopted until approved in writing by the Engineer.

No additional compensation will be allowed the Contractor for providing for the free passage of traffic through the work. Construction work hours are restricted between 8:30 AM to

#### **4:00 PM**, Monday through Friday.

Whenever vehicle or equipment is parked on the shoulder within 6 feet of a traffic lane, the shoulder area shall be closed with florescent traffic cones or portable delineators placed on a taper in advance of the parked vehicle or equipment and along the edge of the pavement at 25-foot intervals to a point no less that 25 feet past the last vehicle or piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) or C24 (CA) (Shoulder Work Ahead) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed where directed by the Engineer.

Contractor shall be responsible for posting "No Parking-Tow Away" Signs for the seventy-two (72) hours prior to construction. Contractor must obtain these signs at his/her own expense from the Department of Public Works inspector assigned to this project. No parking signs shall be posted only when work is being performed by the Contractor at the posted locations. No Parking signs shall display a date range no longer than 2 weeks at any given time. A revision in date range requires re-posting.

All vehicular, bicycle, and pedestrian traffic shall be permitted to pass through the work, unless other existing streets stipulated in the special provisions. Contractor must comply with ADA requirements, by providing pedestrian access on the sidewalk and crosswalk during construction.

The Contractor shall furnish, install and maintain such facilities as barricades, traffic signs, and flagmen, as may be necessary to advise the public of construction hazards and to control traffic. A traffic control plan identifying the size and location of such facilities shall be submitted to the Engineer for approval a minimum of two weeks prior to beginning construction. Any work being performed without proper signing in place shall be stopped until the unsatisfactorily condition is corrected. Contractor shall submit to the Engineer a traffic control plan signed and stamped by a Traffic Engineer registered in the State of California for any work that will impact vehicular, bicycle, and pedestrian traffic in the area and shall be developed to show the actual field conditions and not a typical plan. The contractor must have an approved plan prior to commencing of work. All Traffic Control Plans must be in conformance with Manual on Uniform Traffic Control Devices-CA (MUTCD-CA) regulations and guidelines. Contractor shall submit Traffic Control Plan for approval to the Engineer at the pre-construction meeting. Any work being performed without proper signing in place shall be stopped until the unsatisfactory condition is corrected.

The Contractor shall place barriers at each end of all excavations and at such places along excavations as may be necessary to warn all pedestrian and vehicular traffic of excavations. Lights shall also be placed along excavations (from sunset each day to sunrise of the next day) until excavation is entirely restored. Material for backfill or for protection of excavation in public roads from surface drainage shall be neatly placed and stored in containers so as to cause the least possible interference with public travel. Free access must be maintained to all fire hydrants, water valves and meters, and private driveways.

No trench or excavation shall be left open at the end of any day's work. Daily traffic

control measures shall continue until cleanup activities have been satisfactorily completed and all of the Contractor's equipment has been removed from the traveled way area.

The provision of this section will not relieve the Contractor from his/her responsibility to provide such additional devices or take such measures as may be necessary to comply with the provision in Section 7-1.04, "Public Safety," of the Standard Specifications.

See Section II, P. for traffic control guidelines. This section also outlines times construction is allowed on certain streets in the City. (Night work is not allowed.)

<u>Payment</u> Please refer to Section 01100, Measurement and Payment, of the Technical Specifications for payment.

B. <u>ORDER OF WORK</u>. Order of work shall conform to provisions of Section 10-1.02, "Work Sequencing," of the Standard Specifications and these Special Provisions.

The Contractor shall coordinate his work with all other contractors or utility companies working in the construction area.

Any work done without proper inspection and approval will be subject to rejection. In the case of rejection, the Contractor shall remove the rejected work, and the striping/marking work shall be reinstalled in accordance with these requirements and based on the direction of the Engineer. The City will not compensate the Contractor for any work associated with replacing striping/marking to the satisfaction of the Engineer, including but not limited to: the full removal of the rejected traffic striping and pavement marking work; the installation of new striping/marking, including blacking out any of the removed and rejected striping/marking; and the re-posting of temporary "No Parking" signs in accordance with the provisions of the Section 7-1.03, "Public Convenience", and 7-1.04, "Public Safety" of the Standard Specifications. All of these costs shall be borne by the Contractor.

- C. <u>EQUAL AND/OR APPROVED EQUAL</u> Wherever the term "or equal" and/or "approved equal" are used following a trade name or the mention of any patented product in the specifications, they shall be deemed to read "or their equals in quality and utility" where two or more such trade names or patented products are mentioned. If any trade name or patented product or process is mentioned in these specifications and is not followed by any such term as "or equal", such trade name or patented product or process shall be deemed to be followed by the words "or its equal in quality and utility" or "or their equals in quality and utility" if more than one is mentioned. Trade names, proprietary products and methods are used merely as standards of quality and utility and to designate the type of material and processes desired. Materials and processes of equal quality and utility may be furnished or used so long as such substitution causes no delay to product delivery and/or installation and the Contractor has received written approval therefor by the Engineer. The Contractor shall allow 30 days for the Engineer's review of the proposed substitution.
- D. EXISTING IMPROVEMENTS. Existing fence, lawn, or other improvements within the

area of the work shall be carefully removed without damage and replaced in their present location and condition upon completion of the work, in a manner satisfactory to the Engineer and the owner.

Existing lawn shall be removed only where necessary and shall be replaced if considered by the Engineer to be in good condition. Otherwise, the Contractor shall furnish four inches (4") of new loam and plant new lawn, all as approved by the Engineer. All ground surface and replaced lawn shall be left smoothly graded to the original grade.

All existing irrigation system including electric wire, pipelines, sprinkler heads, damaged as a direct or indirect result of construction activity, shall be replaced by the Contractor at his/her expense at appropriate locations in a manner satisfactory to the Engineer and the owner. Any existing improvements that are damaged or disturbed due to carelessness by the Contractor shall be replaced or adjusted to the satisfaction of the Engineer.

Existing fence or other improvements within the area of the work shall be carefully removed without damage and replaced in their present location and condition upon completion of the work, in a manner satisfactory to the Engineer and the owner.

The Contractor shall not disturb or destroy any permanent survey points and/or monuments without the written consent of the City of Alameda. Any permanent survey points and/or monuments disturbed or destroyed, as a direct or indirect result of construction activity shall be replaced to the satisfaction of the Engineer by a licensed surveyor at the Contractor's expense.

All decorative landscaping (shrubs, plants, trees, lawn, etc.) and/or hardscaped ground surfaces (exposed aggregate, bricks and mortar, painted concrete, etc.) that are removed, damaged, or destroyed as a direct or indirect result of any work done for this project shall be replaced by the contractor at his expense and in the manner that is satisfactory to the engineer and the owner.

Unless specified separately by bid items, payment for existing improvements should be included in various bid items and no additional payment will be made.

E. <u>UTILITY RELOCATION</u>. All existing utilities and pipelines are <u>not</u> shown on the Drawings. The Contractor shall exercise care in avoiding damage to all utilities, as he/she will be held responsible for their repair if damaged. Utilities are piping, conduits, wire, cable, poles, ducts, manholes, pull boxes and the like, located at the project site.

The Contractor shall be responsible for locating, protecting and supporting all utilities, which are to remain whether shown or not shown on the plans. Full compensation for this work shall be considered as included in the prices paid for the various contract items of work, and no additional allowance will be made.

The Contractor shall contact all affected utility owners and request them to locate their respective utilities prior to the start of "potholing" procedures. The utility owner shall be given

seven days written notice prior to commencing potholing. If a utility owner is not equipped to locate its utility, the Contractor shall locate it.

The location of all affected utility underground pipes; conduits and other utilities shall be clearly marked on the pavement or with suitable markers if not on pavement. In addition to the location of metallic pipes and conduits, non-metallic pipe, ducts and conduits shall also be similarly located using surface indicators and shall then be similarly marked.

After the utility survey is completed, potholing shall commence to determine the actual location of the utilities. Prior to excavating for any new pipelines or structures, the Contractor shall locate and uncover all existing utilities to a point one foot below the utility. Pothole for all utilities where crossings, interferences, or connections to the new pipelines are shown on the Drawings, marked by the utility companies, or indicated by surface signs. The Contractor shall submit a report identifying each underground utility and its depth and station. Any variation in the actual elevations and the indicated elevations shall be brought to the Engineer's attention.

Any necessary relocations of utilities, whether shown on the Drawings or not, shall be coordinated with the affected utility. The Contractor shall perform the relocation only if instructed to do so in writing from the utility and the Engineer. Payment for work not shown on the Drawings shall be in accordance with Section VII, Article B, of these specifications or for a price previously agreed upon in writing, by the Contractor and the Engineer. If the Contractor does not expose all required utilities, he shall not be entitled to additional compensation for work necessary to avoid interferences, nor for repair to damaged utilities.

Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury to workmen or damage to electrical ducts or conduits. Similar precautions shall be exercised around gas lines, telephone and television cables.

Backfill and pave with one inch of cutback after completing potholing.

If interferences occur at locations other than shown on the Drawings, the Contractor shall notify the Engineer, and a method for correcting said interferences shall be supplied by the Engineer. Payment for interferences that are not shown on the plans, nor for which there are surface indications, shall be in accordance with the provisions of the General Conditions.

Planned utility service shutdowns shall be accomplished during periods of minimum use. In some cases this may require night or weekend work, at no additional cost to the City. The Contractor shall program his work so that service will be restored in the minimum possible time, and shall cooperate with the utility companies in reducing shutdowns of utility systems to a minimum.

No utility shall be disconnected without prior written approval from the utility owner. When it is necessary to disconnect a utility, the Contractor shall give the utility owner not less than 72 hours notice when requesting written approval. The Contractor shall program his work so that service will be restored in the minimum possible time.

There are existing overhead electric and telephone transmission lines along the pipeline routes. These overhead utilities are not shown on the Drawings. Extreme caution shall be used when working in the vicinity of overhead utilities so as to prevent injury to workmen or damage to the utilities. The Contractor shall be required to comply with the applicable provisions of the California Construction Safety Orders when working anywhere on this project.

Existing gas, water, sewer and telephone house laterals are not specifically shown on the Drawings but do exist along the pipeline routes. Protect all service laterals from damage due to construction operations. If any laterals are damaged, notify the Engineer and the affected utility immediately. The cost of repair shall be borne by the Contractor.

F. <u>EXTENT OF CONTRACT</u>. The Contractor shall furnish all labor, material as herein specified, tools and equipment necessary and shall do all the work necessary to construct and put in complete order for use the project contemplated by these specifications, the various items, and in the approximate quantities tabulated in the Bidder's Proposal, **Exhibit A**.

# 1. MOBILIZATION (BID ITEM NO. 1)

Refer to **Section II, Item I** (Permits and Licenses), **Section XIII** (Mandatory Pre-Construction Meeting Submittals), and **Section 01100** (Measurement & Payment) of the Technical Specifications.

#### 2. WATER POLLUTION CONTROL PLAN (BID ITEM NO. 2)

Refer to **Section 01100** (Measurement & Payment) and **Section 01600** (Environmental Protection) of the Technical Specifications.

#### 3. TRAFFIC CONTROL PLAN (BID ITEM NO.3)

Refer to **Section 01100** (Measurement & Payment), **Section 01300** (Submittals), **Section 01500** (Temporary Facilities), and **Section 02881** (Dredging) of the Technical Specifications.

#### 4. SOIL DESICCANT (BID ITEM NO.4)

Refer to **Section 01100** (Measurement & Payment) and **Section 02881** (Dredging) of the Technical Specifications.

## 5. EXCAVATION (BID ITEM NO.5)

Refer to **Section 01100** (Measurement & Payment) and **Section 02881** (Dredging) of the Technical Specifications.

#### SECTION XIII. MANDATORY PRE-CONSTRUCTION MEETING SUBMITTALS

A. REQUIRED REPORTS. Contractor shall submit the following mandatory reports to the City Engineer at the pre-construction meeting:

# See Section 01300, "Submittals," of the Technical Specifications

The Contractor shall not proceed with construction until these reports have been approved by the City Engineer and the Contractor has received such approval in writing (included in your Notice to Proceed letter).

# Exhibit A

# **BIDDER'S PROPOSAL**

Bidder's Proposal Form
Proposed Subcontractor Form
Equal Employment Opportunity Certification
Security for Compensation Certificate
Project Reference Form

Bidder's Bond

## **IMPORTANT INSTRUCTIONS**

- 1. Any erasure or interlineation may invalidate bid.
- 2. If corporation is bidder, affix seal of corporation.
- 3. If bidder is:
  - (a) An individual doing business under his own name, sign his own name only.
  - (b) An individual using a firm name, sign: Example, "John Doe, an individual doing business as Blank Company."
  - (c) A co-partnership, sign: Example, "Blank Company, by John Doe, President" (or other title).
- 4. If a firm or co-partnership, give the names of all individual co-partners composing the firm. If a corporation, state legal name of corporation; also name of president, secretary and treasurer thereof.
- 5. If a bid is sent by mail, write the word "Proposal" plainly on the envelope.

# **EXHIBIT A**

# BIDDER'S PROPOSAL

Specifi Provisi	ications and Specialions	I	Proposal to the COUNCIL of the CITY OF ALAMEDA:		
No. 09	9-19-49				
Filed:			The undersigned declares that he has carefully examined the location of the proposed work and the Plans and Specifications		
	da South Shore Lag ing Project, Alamed		referred to herein, an proposes to furnish a materials, machinery equipment required to the work, and to do a work, in accordance Plans, Specifications Special Provisions for prices set forth in the schedule:	d hereby Il labor, , tools and o perform Il the said with said and or the unit	
Item	Approximate	Items with Unit Prices	Unit	Total	
No.	Quantity	Written in Words	Price	Price	
1.	1 LS	Mobilization  @			
		Per Lump Sum	<u> </u>	\$	
2.	1 LS	Water Pollution Control	Plan		
		@			
		Per Lump Sum	\$	\$	
3.	1 LS	Traffic Control Plan			
		@			
		Per Lump Sum	<u> </u>	\$	

Item	Approximate	Items with Unit Prices	Unit	Total	
No.	Quantity	Written in Words	Price	Price	
4.	60 TON	Soil Desiccant			
		@			
		Per Ton	<u> </u>	\$	_
7.	800 CY	Excavation			
		@			
		Per Cubic Yard	. \$	\$	_
TOTAl	L BID		\$_		
	L BID (WRITTEN	IN WORDS):			_

The undersigned agrees to execute the contract required in said Specifications, to the satisfaction of the Council of the City of Alameda, with the necessary bonds, if any be required, within ten days, not including Sundays or legal holidays, after receiving notice that the contract has been awarded and is ready for signature; and further agrees that, in case of his default in any of the foregoing provisions, the proceeds of any check which may accompany his bid in lieu of a bid bond shall become the property of the City of Alameda as agreed and liquidated damages.

	Firm Name (Please Prin	<u> </u>
	Signature of Person on Behalf of Fir	m
	Business Addres	ss
Dated:	Contact Numb	per
Name	Title	Address
(Of Officers or Partners)	Title	Tituress
Incorporated under the	a laws of the State of	
Contractor's License N	lo Expira	tion Date:
Department of Industr	ial Relations (DIR) No.:	

The signature above certifies that the foregoing information given on this document is true and correct under penalty of perjury. (Section 7028.15 California Business and Professionals Code.)

# PROPOSED SUBCONTRACTOR FORM

The Bidder shall list the name, address, license number and Department of Industrial Relations number of each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions in Section 2-1.01, "General," and Section 2-1.10, "Subcontractor List," of the Standard Specifications. If no subcontractors are proposed in the performance of this contract, write "None" in the first cell.

		BUSINESS	DESCRIPTION	
<b>COMPANY NAME</b>	CA LICENSE NO.	ADDRESS	OF WORK	DIR NO.

(This form may be duplicated if necessary to list additional subcontractors)

The bidder's execution on the signature portion of this proposal shall also constitute an endorsement and execution of those certifications which are a part of this proposal)

#### EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder, proposed subcontractor
hereby certified that he has, has not, participated in a previous contract or subcontract subject to the equal
pportunity 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 report due under the applicable filling 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.

# SECURITY FOR COMPENSATION CERTIFICATE

(Required by Paragraph 1861, California Labor Code)

To:	
which requires every employer to be i undertake self-insurance in accordance	Section 3700 of the Labor Code of the State of California insured against liability for worker's compensation or to with the provisions of that Code, and I will comply with a performance of the work of this contract.
	(Signature of Bidder)
Business Address	

# PROJECT REFERENCE FORM

The Bidder must have completed at least three projects of similar nature and dollar value equivalent to or exceeding this project. Details of those projects must be provided below.

ı.	Project Name:		
	Owner:		
	Construction Cost: \$		
	Construction Time:	Calendar Days	
	Owner's Representative:		
	Owner's Telephone No.:		
	Date of Substantial Completion:		
2.	Project Name:		
	Owner:		
	Construction Cost: \$		
	Construction Time:		
	Owner's Representative:		
	Owner's Telephone No.:		
	Date of Substantial Completion:		
3.	Project Name:		
	Owner:		
	Construction Cost: \$		
	Construction Time:	Calendar Days	
	Owner's Representative:		
	Owner's Telephone No.:		
	Date of Substantial Completion:		

Contractor	Name:		
COHITACION	Daille.		

	BIDDE	R'S BOND
We,		
hereafter referred to as bid of the Principal su	bmitted to the Obligee for ourselves, jointly, a	um of ten percent (10%) of the total amount of the for the work described below, for the payment of and severally, THE CONDITION OF THIS
WHEREAS, the Princi	pal is submitted to the O	bbligee, for
(Copy here the exact description o	f work, including locations as it app	ears on the proposal)
for which bids are to be Presenting and Marking		Proposal and Contract Requirements, Paragraph E,
manner required under for signature, enters in and files two bonds w other to guarantee pays be null and void; other In the event su the Surety shall pay attorney's fee to be fixed. The surety; for Surety and its Bond sh	the specifications, after to a written contract, in ith Obligee, one to guar ment for labor and mater wise, it shall remain in for it is brought upon this ball cost incurred by the ed by the court. value received, hereby all be in no way impaired	is awarded the contract and, within the time and a the prescribed forms are presented to Contractor the prescribed form, in accordance with the bid, rantee faithful performance of the contract an the rials as provided by law, then this obligation shall ull force. bond by the Obligee and judgement is recovered, the Obligee in such suite, including a reasonable stipulates and agrees that the obligations of said and or affected by any extension of the time within said Surety does hereby waive notice of any such
Dated:	, 2020	
		Principal
	_	Surety

By:

# CERTIFICATE OF ACKNOWLEDGMENT

	of Cali	ifornia Jameda									
Coul	ity Of A	ianicua									
On	this		day	of		in	the	year	2020	before	me
				_, a Notary	Public, pe	rsona	lly app	peared _			
									Attorney	-in-fact	
subs in hi the p	cribed t s/her/th erson(s	o the with eir author ), or the e	the basis on the instrum rized capacentity upon ALTY OF	ent and acl city(ies), and behalf of w	knowledge ad that by I which the p	d to n his/he erson	ne that er/their (s) acte	he/she/ signatued, exec	they exeure(s) on uted the	cuted the the instru instrumen	same iment t.
foreg	going pa	aragraph i	s true and o	correct.							
Sign	ature						(Seal)				
			Notary Publ	ic							

# **Exhibit B**

# SAMPLE CONTRACT AGREEMENT/ ADDITIONAL INSURED CERTIFICATE

Sample of Contract Agreement

Additional Insured Certificates

# **CONTRACTOR AGREEMENT**

THIS AGREEMENT ("Agreement") is entered into this day of
20, by and between the CITY OF ALAMEDA, a municipal corporation (the "City"), an
COMPANY, a (California corporation, partnership, sole proprietor, individual) whose address i
Address, ("Contractor"), in reference to the following:

#### **RECITALS:**

- A. The City of Alameda is a municipal corporation duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California and the Charter of the City.
- B. The City is in need of the following services: Dredging/Sediment removal from the corners of the Alameda South Shore Lagoons 3 and 5, in Alameda California. City staff issued a Formal Bid on DATE, after a submittal period of NUMBER days received NUMBER of timely submitted bids, and the bids were opened on DATE. Staff reviewed the bids and selected the lowest responsive and responsible bidder.
- C. Contractor possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement on the terms and conditions described herein.
- D. City and Contractor desire to enter into an agreement for Dredging/Sediment removal from the corners of the Alameda South Shore Lagoons 3 and 5, in Alameda California., upon the terms and conditions herein.

NOW, THEREFORE, it is mutually agreed by and between the undersigned parties as follows:

#### 1. <u>TERM</u>:

The Contractor shall have 19 consecutive working days (noting Memorial Day falls within the construction window and no work shall be performed that day) from the date the work is to commence pursuant to the Notice to Proceed to diligently prosecute the work to completion.

# 2. <u>SERVICES TO BE PERFORMED</u>:

Contractor agrees, at its own cost and expense, to furnish all labor, tools, equipment, materials, except as otherwise specified, and to do all work strictly in accordance with Specifications, Special Provisions and Plans, which Specifications, Special Provisions and Plans are hereby referred to and expressly made a part hereof with the same force and effect as if the same were fully incorporated herein. The Contractor acknowledges that the work plan included in Exhibit "A" is tentative and does not commit the City to request Contractor to perform all tasks included therein.

#### 3. COMPENSATION TO CONTRACTOR:

Contractor shall be compensated for services performed pursuant to this Agreement in the amount and manner set forth in Contractor's bid, which is attached hereto as Exhibit "A" and incorporated herein by this reference. Payment will be made in the same manner that claims of a like character are paid by the City, with checks drawn on the treasury of said City, from CIP Fund 91807.

Payment will be made by the City in the following manner: On the first day of each month, Contractor shall submit a written estimate of the total amount of work done the previous month. However, the City reserves the right to adjust budget within and between tasks. Pricing and accounting of charges are to be according to the bid packet pricing, unless mutually agreed to in writing.

Payment shall be made for 95% of the value of the work completed as determined by the City. The City shall retain 5% of the value of the work as partial security for the completion of the work by Contractor. Retained amounts shall be paid to Contractor within sixty days of acceptance by the City of the project. Payment shall not be construed as acceptance of defective work. No interest will be paid to Contractor on retained funds.

Total compensation for work is \$	, with a	percent
contingency in the amount of \$	for a total not to exceed of \$	•
Use of contingency shall be for items of work	outside the original scope and i	requires prior
written authorization by the City.		

Prompt Payment Of Withheld Funds To Subcontractors: The City shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the City 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 all subcontractors within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the City. Any delay or postponement of payment may take place only for good cause and with the City's prior written approval. Any violation of these provisions shall subject the violating prime contractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business Professions Code. This requirement 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 contractor, or deficient subcontractor's performance, or noncompliance by a subcontractor, including but not limited to remedies under California Public Contract Code Section 9204. This clause applies to both DBE and non-DBE subcontractors.

# 4. <u>TIME IS OF THE ESSENCE</u>:

Contractor and the City agree that time is of the essence regarding the performance of this Agreement.

It is agreed by the parties to the Agreement that in case all the work called for under the Agreement is not completed before or upon the expiration of the time limit as set forth in

paragraph 1 above, damage will be sustained by the City, and that it is and will be impracticable to determine the actual damage which the City will sustain in the event of and by reason of such delay. It is therefore agreed that the Contractor will pay to the City the sum of three thousand five hundred DOLLARS (\$3,500) per day for each and every day's delay beyond the time prescribed to complete the work; and the Contractor agrees to pay such liquidated damages as herein provided, and in case the same are not paid, agrees that the City may deduct the amount thereof from any money due or that may become due the Contractor under the Agreement.

It is further agreed that in case the work called for under the Agreement is not finished and completed in all parts and requirements within the time specified, the City shall have the right to extend the time for completion or not, as may seem best to serve the interest of the City; and if the City decides to extend the time limit for the completion of the Agreement, it shall further have the right to charge the Contractor, his or her heirs, assigns, or sureties, and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual costs and overhead expenses which are directly chargeable to the Agreement, and which accrue during the period of such extensions.

The Contractor shall not be assessed with liquidated damages during any delay in the completion of the work caused by an act of God or of the public enemy, acts of the City, fire, flood, epidemic, quarantine restriction, strikes, freight embargoes, and unusually severe weather or delays of subcontractors due to such causes; provided that the Contractor shall, within one (1) day from the beginning of such delay, notify the City in writing of the causes of delay. The City shall ascertain the facts in good faith and the extent of the delay, and its findings of the facts thereon shall be final and conclusive.

#### 5. STANDARD OF CARE:

Contractor agrees to perform all services hereunder in a manner commensurate with the prevailing standards of like professionals in the San Francisco Bay Area and agrees that all services shall be performed by qualified and experienced personnel who are not employed by the City nor have any contractual relationship with City.

# 6. <u>INDEPENDENT PARTIES</u>:

Contractor hereby declares that it is engaged as an independent business and it agrees to perform its services as an independent contractor. The manner and means of conducting the work are under the control of Contractor, except to the extent they are limited by statute, rule or regulation and the express terms of this Agreement. No civil service status or other right of employment will be acquired by virtue of Contractor's services. None of the benefits provided by City to its employees, including but not limited to unemployment insurance, workers' compensation plans, vacation and sick leave are available from City to Contractor, its employees or agents. Deductions shall not be made for any state or federal taxes, FICA payments, PERS payments, or other purposes normally associated with an employer-employee relationship from any fees due Contractor. Payments of the above items, if required, are the responsibility of Contractor.

# 7. <u>IMMIGRATION REFORM AND CONTROL ACT (IRCA)</u>:

Contractor assumes any and all responsibility for verifying the identity and employment authorization of all of its employees performing work hereunder, pursuant to all applicable IRCA or other federal, or state rules and regulations. Contractor shall indemnify, defend, and hold City harmless from and against any loss, damage, liability, costs or expenses arising from any noncompliance of this provision by Contractor.

# 8. NON-DISCRIMINATION:

Consistent with City's policy that harassment and discrimination are unacceptable employer/employee conduct, Contractor agrees that harassment or discrimination directed toward a job applicant, a City employee, or a citizen by Contractor or Contractor's employee on the basis of race, religious creed, color, national origin, ancestry, handicap, disability, marital status, pregnancy, sex, age, or sexual orientation will not be tolerated. Contractor agrees that any and all violations of this provision shall constitute a material breach of this Agreement.

#### 9. HOLD HARMLESS:

Contractor shall indemnify, defend, and hold harmless the City, its City Council, boards, commissions, officials, employees, and volunteers ("Indemnitees") from and against any and all loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees ("Claims"), arising from or in any manner connected to Contractor's negligent act or omission, whether alleged or actual, regarding performance of services or work conducted or performed pursuant to this Agreement. If Claims are filed against Indemnitees which allege negligence on behalf of the Contractor, Contractor shall have no right of reimbursement against Indemnitees for the costs of defense even if negligence is not found on the part of Contractor. However, Contractor shall not be obligated to indemnify Indemnitees from Claims arising from the sole negligence or willful misconduct of Indemnitees.

# 10. <u>INSURANCE</u>:

On or before the commencement of the terms of this Agreement, Contractor shall furnish the City's Risk Manager with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of insurance coverage in compliance with paragraphs 10A, B, C and D. Such certificates, which do not limit Contractor's indemnification, shall also contain substantially the following statement: "Should any of the above insurance covered by this certificate be canceled or coverage reduced before the expiration date thereof, the insurer affording coverage shall provide fourteen (14) days' advance written notice to the City of Alameda, "Attention: Risk Manager."

It is agreed that Contractor shall maintain in force at all times during the performance of this Agreement all appropriate coverage of insurance required by this Agreement with an insurance company that is acceptable to the City Risk Manager and licensed to do insurance business in the State of California. Endorsements naming the City, its City Council, boards, commissions, officials, employees, and volunteers as additional insured shall be submitted with the insurance certificates.

#### A. COVERAGE:

Contractor shall maintain the following insurance coverage:

(1) <u>Workers' Compensation</u>:

Statutory coverage as required by the State of California.

(2) Liability:

Commercial general liability coverage in the following minimum limits:

Bodily Injury: \$1,000,000 each occurrence

\$2,000,000 aggregate - all other

Property Damage: \$1,000,000 each occurrence

\$2,000,000 aggregate

If submitted, combined single limit policy with aggregate limits in the amounts of \$2,000,000 will be considered equivalent to the required minimum limits shown above.

#### (3) Automotive:

Comprehensive automobile liability coverage (any auto) in the following minimum limits:

Bodily injury: \$1,000,000 each occurrence Property Damage: \$1,000,000 each occurrence

or

Combined Single Limit: \$2,000,000 each occurrence

(4) Pollution Prevention:

Legal liability required for hazardous materials excavation in the amount of \$2,000,000 each occurrence.

#### B. SUBROGATION WAIVER:

Contractor agrees that in the event of loss due to any of the perils for which it has agreed to provide comprehensive general and automotive liability insurance, Contractor shall look solely to its insurance for recovery. Contractor hereby grants to the City, on behalf of any insurer providing comprehensive general and automotive liability insurance to either Contractor or City with respect to the services of Contractor herein, a waiver of any right to subrogation which any such insurer of said Contractor may acquire against City by virtue of the payment of any loss under such insurance.

## C. <u>FAILURE TO SECURE</u>:

If Contractor at any time during the term hereof should fail to secure or maintain the foregoing insurance, the City shall be permitted to obtain such insurance in the Contractor's name or as an agent of the Contractor and shall be compensated by the Contractor for the costs of the insurance premiums at the maximum rate permitted by law and computed from the date written notice is received that the premiums have not been paid.

#### D. ADDITIONAL INSURED:

City, its City Council, boards, commissions, officials, employees, and volunteers shall be named as an additional insured under all insurance coverages, except worker's compensation insurance. The naming of an additional insured shall not affect any recovery to which such additional insured would be entitled under this policy if not named as such additional insured. An additional insured named herein shall not be held liable for any premium, deductible portion of any loss, or expense of any nature on this policy or any extension thereof. Any other insurance held by an additional insured shall not be required to contribute anything toward any loss or expense covered by the insurance provided by this policy.

#### E. SUFFICIENCY OF INSURANCE:

Contractor shall furnish the following bonds from a bonding company acceptable to the City Risk Manager. Faithful Performance Bond and Labor and Material Bond are only required for work over \$25,000. Therefore, those estimates that are under \$25,000 will not need to budget for the bond premiums and those estimates over \$25,000 will need to be sure to budget for the bond premiums.

The insurance limits required by City are not represented as being sufficient to protect Contractor. Contractor is advised to consult Contractor's insurance broker to determine adequate coverage for Contractor.

# 11. **BONDS**:

Contractor shall furnish the following bonds from a bonding company acceptable to the City Risk Manager:

#### A. Faithful Performance:

A bond in the amount of 100% of the total contract price guaranteeing the faithful performance of this contract, and

## B. <u>Labor and Materials</u>:

A bond for labor and materials in the amount of 100% of the total contract price.

# 12. PROHIBITION AGAINST TRANSFERS:

Contractor shall not assign, sublease, hypothecate, or transfer this Agreement, or any interest therein, directly or indirectly, by operation of law or otherwise, without prior written consent of the City Manager. Any attempt to do so without said consent shall be null and void, and any assignee, sublessee, hypothecate or transferee shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer. However, Contractor's claims for money from the City under this Agreement may be assigned to a bank, trust company or other financial institution without prior written consent. Written notice of such assignment shall be promptly furnished to the City by Contractor.

The sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor, or of the interest of any general partner or joint venturer or syndicate member or cotenant, if Contractor is a partnership or joint venture or syndicate or cotenancy,

which shall result in changing the control of Contractor, shall be construed as an assignment of this Agreement. Control means fifty percent (50%) or more of the voting power of the corporation.

# 13. <u>SUBCONTRACTOR APPROVAL</u>:

Unless prior written consent from the City is obtained, only those people and subcontractors whose names are listed in Contractor's bid shall be used in the performance of this Agreement.

Requests for additional subcontracting shall be submitted in writing, describing the scope of work to be subcontracted and the name of the proposed subcontractor. Such request shall set forth the total price or hourly rates used in preparing estimated costs for the subcontractor's services. Approval of the subcontractor may, at the option of the City, be issued in the form of a Work Order.

In the event that Contractor employs subcontractors, such subcontractors shall be required to furnish proof of workers' compensation insurance and shall also be required to carry general and automobile liability insurance in reasonable conformity to the insurance carried by Contractor. In addition, any work or services subcontracted hereunder shall be subject to each provision of this Agreement.

#### 14. PERMITS AND LICENSES:

Contractor, at its sole expense, shall obtain and maintain during the term of this Agreement, all appropriate permits, certificates and licenses, including a City Business License that may be required in connection with the performance of services hereunder.

# 15. **REPORTS**:

Each and every report, draft, work product, map, record and other document reproduced, prepared or caused to be prepared by Contractor pursuant to or in connection with this Agreement shall be the exclusive property of the City.

No report, information nor other data given to or prepared or assembled by Contractor pursuant to this Agreement shall be made available to any individual or organization by Contractor without prior approval by the City.

Contractor shall, at such time and in such form as the City may require, furnish reports concerning the status of services required under this Agreement.

#### 16. RECORDS:

Contractor shall maintain complete and accurate records with respect to sales, costs, expenses, receipts and other such information required by the City that relate to the performance of services under this Agreement.

Contractor shall maintain adequate records of services provided in sufficient detail to permit an evaluation of services. All such records shall be maintained in accordance with

generally accepted accounting principles and shall be clearly identified and readily accessible. Contractor shall provide free access to such books and records to the representatives of the City or its designees at all proper times, and gives the City the right to examine and audit same, and to make transcripts therefrom as necessary, and to allow inspection of all work, data, documents, proceedings and activities related to this Agreement. Such records, together with supporting documents, shall be kept separate from other documents and records and shall be maintained for a period of three (3) years after receipt of final payment.

If supplemental examination or audit of the records is necessary due to concerns raised by the City's preliminary examination or audit of records, and the City's supplemental examination or audit of the records discloses a failure to adhere to appropriate internal financial controls, or other breach of contract or failure to act in good faith, then Contractor shall reimburse the City for all reasonable costs and expenses associated with the supplemental examination or audit.

#### 17. NOTICES:

All notices, demands, requests or approvals to be given under this Agreement shall be given in writing and conclusively shall be deemed served when delivered personally or on the second business day after the deposit thereof in the United States Mail, postage prepaid, registered or certified, addressed as hereinafter provided.

All notices, demands, requests, or approvals from Contractor to the City shall be addressed to the City at:

City of Alameda Public Works Department 950 W. Mall Square, Suite 110 Alameda, CA 94501

ATTENTION: Andrew Nowacki

Ph: (510) 747-7900 / Fax: (510) 769-6030

Email: anowacki@alamedaca.gov

All notices, demands, requests, or approvals from the City to Contractor shall be addressed to Contractor at:

[Contractor Name]
[Department]
[Address]

Alameda, CA 94501 ATTENTION; [Title]

Ph: (510) xxx-xxxx / Fax: (510) xxx-xxxx

Email:

## **SAFETY:**

The Contractor will be solely and completely responsible for conditions of all vehicles owned or operated by Contractor, including the safety of all persons and property during

performance of the services and tasks under this Agreement. This requirement will apply continuously and not be limited to normal working hours. In addition, Contractor will comply with all safety provisions in conformance with U.S. Department of Labor Occupational Safety and Health Act, any equivalent state law, and all other applicable federal, state, county and local laws, ordinances, codes, and any regulations that may be detailed in other parts of the Agreement. Where any of these are in conflict, the more stringent requirements will be followed. The Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions will not relieve it from compliance with the obligations and penalties set forth herein.

The Contractor will immediately notify the City's Risk Manager within 24 hours of any incident of death, serious personal injury or substantial property damage that occurs in connection with the performance of this Agreement. The Contractor will promptly submit to the City a written report of all incidents that occur in connection with this Agreement. This report must include the following information: (i) name and address of injured or deceased person(s); (ii) name and address of Contractor's employee(s) involved in the incident; (iii) name and address of Contractor's liability insurance carrier; (iv) a detailed description of the incident; and (v) a police report.

## 19. <u>LAWS TO BE OBSERVED</u>:

Contractor shall comply with all applicable laws, state, federal, and all ordinances, rules and regulations enacted or issued by City. In addition, the Contractor shall keep himself fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Alameda which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

# 20. <u>DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND</u> PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS:

Effective January 1, 2015, no Contractor or Subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at https://efiling.dir.ca.gov/PWCR

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.

The Prime Contractor is required to post job site notices prescribed by regulations. See 8 Calif. Code Regulation §16451(d).

Effective April 1, 2015, All Contractors and Subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner at: <a href="https://apps.dir.ca.gov/ecpr/das/altlogin">https://apps.dir.ca.gov/ecpr/das/altlogin</a>

# 21. HOURS OF LABOR:

As provided in Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any Subcontractor on any subcontract under this Contract, upon the work or upon any part of the work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provision hereinabove set forth, work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work provided that the employees' compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.

The Contractor shall pay to the City a penalty of Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor, or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one (1) calendar week, in violation of the provisions of Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation for the workers so employed by Contractor is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half (1½) times the above specified rate of *per diem* wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Contract applicable to each particular craft, classification, or type of worker employed.

## 22. APPRENTICES:

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 on contracts greater than \$30,000 or 20 working days. The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

Section 1777.5 requires the Contractor or subcontractor employing workers 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, if they have not previously applied and are covered by the local apprenticeship standards.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if: (1) the Contractor 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; or (2) if the Contractor is not a signatory to an apprenticeship fund and if the funds administrator is unable to accept Contractor' required contribution. The Contractor or subcontractor shall pay a like amount to the California Apprenticeship Council.

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.

# 23. <u>LABOR DISCRIMINATION</u>:

No discrimination shall be made in the employment of persons upon public works because of the race, color, sex, religion, age, national origin, sexual orientation, or physical disability of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of the provisions of the Labor Code, and, in particular, Section 1735.

#### 24. REGISTRATION OF CONTRACTORS:

Before submitting bids, contractors shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California.

## 25. URBAN RUNOFF MANAGEMENT:

The Contractor shall avoid creating excess dust when breaking asphalt or concrete and during excavation and grading. If water is used for dust control, contractor shall use as little as necessary. Contractor shall take all steps necessary to keep wash water out of the streets, gutters and storm drains.

The Contractor shall develop and implement erosion and sediment control to prevent pollution of storm drains. Such control includes but is not limited to:

- a. Use storm drain inlet protection devices such as sand bag barriers, filter fabric fences, block and gravel filters. (Block storm drain inlets prior to the start of the rainy season (October 15), on site de-watering activities and saw-cutting activities; shovel or vacuum saw-cut slurry and remove from the site).
- b. Cover exposed piles of soil or construction material with plastic sheeting. All construction materials must be stored in containers.
- c. Sweep and remove all materials from paved surfaces that drain to streets, gutters and storm drains prior to rain as well as at the end of the each work day. At the completion of the project, the street shall be washed and the wash water shall be collected and disposed of offsite in an appropriate location.
- d. After breaking old pavement, Contractor shall remove all debris to avoid contact with rainfall or runoff.

e. Contractor shall maintain a clean work area by removing trash, litter, and debris at the end of each workday. Contractor shall also clean up any leaks, drips, and other spills as they occur.

The objective is to ensure that the City and County of Alameda County-Wide Clean Water Program is adequately enforced. These controls should be implemented prior to the start of construction, up-graded as required, maintained during construction phases to provide adequate protection, and removed at the end of construction.

These recommendations are intended to be used in conjunction with the State's Best Management Practices Municipal and Construction Handbooks, local program guidance materials from municipalities, Section 7.1.01 of the Standard Specifications and any other appropriate documents on storm water quality controls for construction.

Failure to comply with this program will result in the issuance of noncompliance notices, citations, project stop orders or fines. The fine for noncompliance of the above program is two hundred and fifty dollars (\$250.00) per occurrence per day. The State under the Federal Clean Water Act can also impose a fine on the contractor, pursuant to Cal. Water Code §13385.

#### **26.** COMPLIANCE WITH MARSH CRUST ORDINANCE:

Contractor shall perform all excavation work in compliance with the City's Marsh Crust Ordinance as set forth at Section 13-56 of the Municipal Code. Prior to performing any excavation work, Contractor shall verify with the Building Official whether the excavation work is subject to the Marsh Crust Ordinance. Contractor shall apply for and obtain permits from Building Services on projects deemed to be subject to the Marsh Crust Ordinance.

# 27. <u>COMPLIANCE WITH THE CITY'S INTEGRATED PEST MANAGEMENT POLICY:</u>

The Contractor shall follow the requirements of the City's Integrated Pest Management (IPM) Policy to ensure the City is in compliance with its Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, issued by the San Francisco Bay Regional Water Quality Control Board.

- Contractor shall use the most current IPM technologies available to ensure the long-term prevention or suppression of pest problems and to minimize negative impacts on the environment, non-target organisms, and human health for the control or management of pests in and around City buildings and facilities, parks and golf courses, urban landscape areas, rights-of-way, and other City properties.
- Contractor will consider the City IPM Policy's hierarchy of options or alternatives listed below, in the following order before recommending the use of or applying any pesticide on City property: (1)
  - a. No controls (e.g. tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds);
  - b. Physical or mechanical controls (e.g. hand labor, mowing, exclusion);

- c. Cultural controls (e.g. mulching, disking, alternative vegetation) and good housekeeping (e.g. cleaning desk area);
- d. Biological controls (e.g., natural enemies or predators);
- e. Reduced-risk chemical controls (e.g., soaps or oils);
- f. Other chemical controls.
- Prior to applying chemical controls the contractor shall complete a checklist for the City's pre-approval that explains why a chemical control is necessary. For annual contracts that require regular application of chemical controls the contractor shall submit one checklist prior to the initiation of the project demonstrating that the hierarchy has been reviewed and no other options exist. (Attached as Exhibit C). Additionally, the Contractor shall provide documentation to the City's project manager of the implementation of the IPM techniques hierarchy described in the City's IPM Policy.
- Contractor shall avoid the use of the following pesticides that threaten water quality, human health and the environment:
  - a. Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA)
  - b. Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)
  - c. Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin), carbamates (e.g., carbaryl), and fipronil
  - d. Copper-based pesticides unless their use is judicious, other approaches and techniques have been considered, and the threat of impact to water quality is prevented.
- Contractor shall sign the Contractor Verification Form (attached as Exhibit B) indicating the intent to implement the City's IPM Policy, and return a signed copy to the City's project manager.
- Contractor shall provide to the City's project manager an annual Report of all pesticide usage in support of City operations including pesticide name, active ingredient(s), target pest(s), the total amounts used and the reasons for any increase in use of any pesticide.
- Contractor shall provide a copy of any current IPM certifications(s) to the City's project manager prior to initiation of the service work.

A copy of the City's IPM Policy may be obtained from the City's project manager and is also on file with the City Clerk.

If this agreement pertains to the use of any items listed above, the Contractor will need to fill out and send in the Contractor Verification Form and Contractor Check List. ADD EXHIBIT B IF PEST CONTROL.

## 28. PURCHASES OF MINED MATERIALS REQUIREMENT:

Contractor shall ensure that all purchases of mined materials such as construction aggregate, sand and gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation identified on the AB3098 List per the Surface Mining and Reclamation Act of 1975 (SMARA).

Within five days of award of contract, Contractor shall submit a report to City which lists the intended suppliers for the above materials and demonstrates that the suppliers are in compliance with the SMARA requirements. The AB3098 List is maintained by the Department of Conservation's Office of Mine Reclamation (OMR) and can be viewed at: <a href="https://www.conservation.ca.gov/OMR/ab\_3098\_list/index.htm">www.conservation.ca.gov/OMR/ab\_3098\_list/index.htm</a>. Note that the list changes periodically and should be reviewed accordingly.

## 29. <u>TERMINATION</u>:

In the event Contractor fails or refuses to perform any of the provisions hereof at the time and in the manner required hereunder, Contractor shall be deemed in default in the performance of this Agreement. If such default is not cured within a period of two (2) business days after receipt by Contractor from the City of written notice of default, specifying the nature of such default and the steps necessary to cure such default, the City may terminate the Agreement forthwith by giving to the Contractor written notice thereof.

The City shall have the option, at its sole discretion and without cause, of terminating this Agreement by giving seven (7) days' prior written notice to Contractor as provided herein. Upon termination of this Agreement, each party shall pay to the other party that portion of compensation specified in this Agreement that is earned and unpaid prior to the effective date of termination.

## 30. ATTORNEY'S FEES:

In the event of the bringing of any action or suit by a party hereto against the other party by reason of any breach of any covenants, conditions, obligation or provision arising out of this Agreement, the prevailing party shall be entitled to recover from the non-prevailing party all of its costs and expenses of the action or suit, including reasonable attorneys' fees, experts' fees, all court costs and other costs of action incurred by the prevailing party in connection with the prosecution or defense of such action and enforcing or establishing its rights hereunder (whether or not such action is prosecuted to a judgment). For the purposes of this Agreement, reasonable fees of attorneys of the Alameda City Attorney shall be based on the fees regularly charged by private attorneys with the equivalent number of years of experience in the subject matter area of the law for which the Alameda City Attorney's services were rendered who practice in Alameda County in law firms with approximately the same number of attorneys as employed by the Alameda City Attorney's Office.

## 31. CONFLICT OF LAW:

This Agreement shall be interpreted under, and enforced by the laws of the State of California excepting any choice of law rules which may direct the application of laws of another jurisdiction. The Agreement and obligations of the parties are subject to all valid laws, orders, rules, and regulations of the authorities having jurisdiction over this Agreement (or the successors of those authorities.) Any suits brought pursuant to this Agreement shall be filed with the courts of the County of Alameda, State of California.

## **32. ADVERTISEMENT:**

Contractor shall not post, exhibit, display or allow to be posted, exhibited, displayed any signs, advertising, show bills, lithographs, posters or cards of any kind pertaining to the services performed under this Agreement unless prior written approval has been secured from the City to do otherwise.

## 33. WAIVER:

A waiver by City of any breach of any term, covenant, or condition contained herein, shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

## 34. <u>INTEGRATED CONTRACT</u>:

This Agreement represents the full and complete understanding of every kind or nature whatsoever between the parties hereto, and all preliminary negotiations and agreements of whatsoever kind or nature are merged herein. No verbal agreement or implied covenant shall be held to vary the provisions hereof. Any modification of this Agreement will be effective only by written execution signed by both the City and Contractor.

## 35. <u>INSERTED PROVISIONS</u>:

Each provision and clause required by law to be inserted into the Agreement shall be deemed to be enacted herein, and the Agreement shall be read and enforced as though each were included herein. If through mistake or otherwise, any such provision is not inserted or is not correctly inserted, the Agreement shall be amended to make such insertion on application by either party.

## 36. <u>CAPTIONS</u>:

The captions in this Agreement are for convenience only, are not a part of the Agreement and in no way affect, limit or amplify the terms or provisions of this Agreement.

Signatures on next page

IN WITNESS WHEREOF, the parties have caused the Agreement to be executed on the day and year first above written.

COMPANY NAME (A California Corporation, partnership, sole proprietor, individual)	CITY OF ALAMEDA, a Municipal Corporation
(Name) (Title)	Eric J. Levitt City Manager
	RECOMMENDED FOR APPROVAL
(Name) (Title)	Liam Garland Public Works Director
Contractor License No  DIR No	APPROVED AS TO FORM: City Attorney
	Lisa Maxwell Assistant City Attorney

## COMMERCIAL GENERAL LIABILITY

CG 20 10 10 93

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

## ADDITIONAL INSURED - OWNERS, LESSEES or CONTRACTORS FORM B

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: City of Alameda Public Works Department 950 West Mall Square, Room 110 Alameda, CA 94501-7558



(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

#### REF:

The City of Alameda, its City Council, boards and commissions, officers & employees are additional insured for work done on their behalf by the named insured.

### PRIMARY INSURANCE:

IT IS UNDERSTOOD AND AGREED THAT THIS INSURANCE IS PRIMARY AND ANY OTHER INSURANCE MAINTAINED BY THE ADDITIONAL INSURED SHALL BE EXCESS ONLY AND NOT CONTRIBUTING WITH THIS INSURANCE.

## SEVERABILITY OF INTEREST:

IT IS AGREED THAT EXCEPT WITH RESPECT TO THE LIMIT OF INSURANCE, THIS COVERAGE SHALL APPLY AS IF EACH ADDITIONAL INSURED WERE THE ONLY INSURED AND SEPARATELY TO EACH INSURED AGAINST WHOM CLAIM IS MADE OR SUIT IS BROUGHT.

## WAIVER OF SUBROGATION:

IT IS UNDERSTOOD AND AGREED THAT THE COMPANY WAIVES THE RIGHT OF SUBROGATION AGAINST THE ABOVE ADDITIONAL INSURED (S), BUT ONLY AS RESPECTS THE JOB OR PREMISES DESCRIBED IN THE CERTIFICATE ATTACHED HERETO.

## NOTICE OF CANCELLATION:

IT IS UNDERSTOOD AND AGREED THAT IN THE EVENT OF CANCELLATION OF THE POLICY FOR ANY REASON OTHER THAN NON-PAYMENT OF PREMIUM, 30 DAYS WRITTEN NOTICE WILL BE SENT TO THE CERTIFICATE HOLDER BY MAIL. IN THE EVENT THE POLICY IS CANCELED FOR NON-PAYMENT OF PREMIUM, 10 DAYS WRITTEN NOTICE WILL BE SENT TO THE ABOVE.

#### **COMMERCIAL AUTO**

CG 20 48 02 99

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

## **DESIGNATED INSURED**

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM GARAGE COVERAGE FORM MOTOR CARRIER COVERAGE FORM TRUCKERS COVERAGE FORM



With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement. This endorsement identifies person(s) or organization(s) who are "insureds" under the Who Is An Insured Provisions of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective:	Countersigned By:
Named Insured:	(Authorized Representative)

## **SCHEDULE**

City of Alameda Public Works Department 950 West Mall Square, Room 110 Alameda, CA 94501-7558

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

REF:			
KLT.			

The City of Alameda, its City Council, boards and commissions, officers & employees are additional insured for work done on their behalf by the named insured.

#### NOTICE OF CANCELLATION:

IT IS UNDERSTOOD AND AGREED THAT IN THE EVENT OF CANCELLATION OF THE POLICY FOR ANY REASON OTHER THAN NON-PAYMENT OF PREMIUM, 30 DAYS WRITTEN NOTICE WILL BE SENT TO THE CERTIFICATE HOLDER BY MAIL. IN THE EVENT THE POLICY IS CANCELED FOR NON-PAYMENT OF PREMIUM, 10 DAYS WRITTEN NOTICE WILL BE SENT TO THE ABOVE.

CA 20 48 02 99

## Exhibit C EMERGENCY FORM

## **EMERGENCY FORM**

During the course of the work and/or while the contractor has responsibility for the project, emergencies may arise where it is necessary to repair or replace safety devices, or install additional safety devices, or take preventative measures necessary for public safety. Such corrections as may be necessary are the contractor's responsibility and he, or his representative, will be called upon in such emergencies.

Please fill in the following information and submit it to the Deputy Public Works Director/City Engineer.

CONTRACTOR'S NAME	
CONTRACTOR'S PHONE NUMBER	
PROJECT SUPERINTENDENT	
CONTACT IN THE EVENT OF EMERGENCY:	
Name:	
Phone Number:	
In cases where the contractor, or his representative, cannot be of the necessary actions, the City Public Works Department will be not repairs, corrections, or changes will be made. The contractor will be action. Charges will include the cost of labor at applicable rates, the factor, the rental of any equipment or safety devices placed during damaged or stolen, or otherwise not returned to the City, will be billed to	tified and the necessary billed for such remedial City's normal overhead the emergency that are
Scheduled starting date	
Scheduled completion date	
Job Name	
EMERGENCY CONTACT INFORMATION – CITY OF ALAMEI	
PROJECT MANAGER (NAME & PHONE NO.)	
PROJECT INSPECTOR (NAME & PHONE NO.)	
OTHER STAFF (NAME & PHONE NO.)	

# EXHIBIT D PERFORMANCE BOND FORM

## Performance Bond Form

## PERFORMANCE BOND

## KNOW ALL MEN BY THESE PRESENTS: that

, hereinafter called Principal, and
_
to
Dollars. (\$)
t of which sum well and truly to be made, severally, firmly by these presents.
that whereas, the Principal entered into a ay of, 2020, a f for the construction of:
1

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

## PERFORMANCE BOND FORM

PROVIDED, FURTHER, that the 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 WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation 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.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR

shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied. IN WITNESS WHEREOF, this instrument is executed on \_\_\_\_\_ counterparts, each one (Number) of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_, 2020. ATTEST: Principal By: \_\_\_\_\_(SEAL) Principal Secretary (Witness as to Principal) (Address) (Address) (Surety) ATTEST: Surety Secretary By: \_\_\_\_\_Attorney-in-fact (SEAL) (Witness as to Surety) (Address) (Address)

NOTE: Date of BOND must not be prior to date of Contract.

If the CONTRACTOR is Portnership all portners should execute

If the CONTRACTOR is Partnership, all partners should execute BOND.

**IMPORTANT**: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

## Exhibit E PAYMENT BOND FORM

## PAYMENT BOND FORM

a, hereinafter called Principal, and	
hereinafter called Surety, are held and firmly bound unto	
hereinafter called OWNER, in the penal sum of Dollars. (\$)	
in lawful money of the United States, for the payment of which sum well and truly to be may we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.	ıde,
THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered int certain contract with the OWNER, dated the day of	
2020, a copy of which is hereto attached and made a part hereof for the construction of:	

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

## PAYMENT BOND FORM

PROVIDED, FURTHER, that the 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 WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation 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.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on		ed on co	interparts, each one	
of which sh	all be deemed an original, t	his the	day of	, 2020.
ATTEST:		-		
			Principal	
		By:		(SEAL)
	Principal Secretary			
	(Witness as to Principal)		(Address)	
	(Address)			
			(Surety)	
ATTEST:		<u>-</u>		
		D.,,	Surety Secre	
	(Witness as to Surety)	By:	Attorney-in-	fact (SEAL)
	(Address)		(Address)	

**NOTE**: Date of BOND must not be prior to date of Contract.

If the CONTRACTOR is Partnership, all partners should execute BOND.

**IMPORTANT**: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

## **Exhibit F**

## **NOT USED**

## Exhibit G

## LIST OF SUBMITTALS

## **List of Submittals**

## ALAMEDA SOUTH SHORE LAGOONS 3 AND 5 DREDGING PROJECT P.W. No. 09-19-49

Shall include but not limited to the following:

Item	Section Reference	Due Date/Frequency
Bidder's Proposal	Exhibit A	With Bid Package
2. Contract Bonds	Section I, Paragraph N	Within 10 days of award
3. Certified Payroll	Section II, Paragraph E	Submitted weekly
4. Emergency Form	Exhibit C	Preconstruction meeting
5. Insurance	Contract, Exhibit E	Within 10 days of award
6. Licenses/Permits	Section II, Paragraph I	Preconstruction meeting
7. All Other Items Listed	Section 01300 of Technical	Preconstruction meeting and
Under Section 01300	Specifications	weekly meetings as
1.03, "Submittals"		applicable

The above list is not exhaustive and the Contractor shall follow the requirements in the documents for submittals.

## **EXHIBIT H**

**Not USED** 

## **EXHIBIT I**

## INTEGRATED PEST MANAGEMENT POLICY WITH CONTRACTOR VERIFICATION FORM AND CONTRACTOR CHECK LIST

## City of Alameda Contractor Verification Form Implementation of City of Alameda Integrated Pest Management Policy

The City of Alameda (City) is mandated to:

- (a) Minimize its reliance on pesticides that threaten water quality, and
- (b) Require the effective use of Integrated Pest Management (IPM) in all municipal operations and on all municipal property.

To ensure compliance with this mandate, all City operations need to verifiably implement the practices and policies described in the City's IPM Policy adopted June 15, 2010. A copy of this IPM Policy is included with this form. The implementation of the IPM Policy is applicable to all municipal contractors that provide landscaping, structural pest control, or other pest management services in support of City operations and/or on municipal property.

The undersigning parties acknowledge that all elements of the City's IPM Policy will be implemented throughout the period of contractual services provided to City operations and on municipal property. Specific actions to document this performance shall include:

Ш	Pest Management Contractor shall management Considerations Checklish	provide to City project manager for pre-approval the Pes			
	Pest Management Contractor shall a	void the use of the following pesticides that threaten water			
		nment: chemicals as identified by the Environmental Protection			
	Agency (EPA)	( d ('' D'' 11 'C 14')			
		(e.g., those containing Diazinon, chlorpyrifos or malathion) cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin			
		othrin, permethrin, and tralomethrin), carbamates (e.g.			
		ess their use is judicious, other approaches and techniques			
_		e threat of impact to water quality is prevented.			
	Pest Management Contractor shall provide to the City's project manager an annual Report of all				
	pesticide usage in support of City operations including product name and manufacturer, active ingredient(s), target pest(s), the total amounts used and reasons for any increase in use of any				
	pesticide.	i amounts used and reasons for any increase in use of any			
	*	are currently IPM certified through either the EcoWise or			
_		ner program, the contractor shall provide written evidence of			
City D	Departmental Representative	Contractor Representative			
	Print Name	Print Name			
	Date	Date			
	City Department	City Contractor			

## City of Alameda Pest Management Contractor Checklist: Pest Management Options Considerations

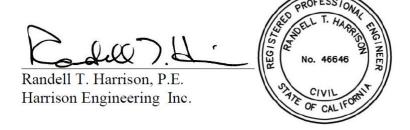
Contractor will consider the City IPM Policy's hierarchy of options or alternatives listed below, in the following order before recommending the use of or applying any pesticide on City property. Please provide a written explanation in each section below of why the specific pest management option is not appropriate:

(1) No controls (e.g. tolerating the pest infestation, use of resistant plant varieties or allo cycle of weeds)	wing normal life
Comment:	
(2) Physical or mechanical controls (e.g. hand labor, mowing, exclusion)	
Comment:	
(3) Cultural controls (e.g. mulching, disking, alternative vegetation), good housekeepindesk area)	ng (e.g. cleaning
Comment:	
(4) Biological controls (e.g., natural enemies or predators)	
Comment:	
(5) Reduced-risk chemical controls (e.g., soaps or oils)	
Comment:	

(6) Other chemical controls		
Comment:		
Contractor Representative		
Print Name		
Date	-	
City Contractor	-	

## TECHNICAL SPECIFICATIONS

THESE TECHNICAL SPECIFICATIONS WERE PREPARED UNDER THE DIRECTION OF:



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TECHN	VICAL SPECIFICATIONS	1
SECTIO	ON 00850 DRAWING INDEX	1
SECTIO	ON 01100 MEASUREMENT & PAYMENT	1
PART 1	: GENERAL	1
1.01	RELATED DOCUMENTS	
1.03	WORK COVERED BY CONTRACT PRICE	
SECTIO	ON 01300 SUBMITTALS	1
PART 1	: GENERAL	1
1.01	RELATED DOCUMENTS	1
1.02	SUMMARY	
1.03	SUBMITTALS	1
PART 2	PRODUCTS (NOT USED)	2
PART 3	S: EXECUTION	2
3.01	SUBMITTAL PROCEDURES	2
3.02	CONTRACTOR'S CONSTRUCTION SCHEDULE	
3.03	SUBMITTAL SCHEDULE	
3.04	DAILY CONSTRUCTION REPORTS	
3.05	SHOP DRAWINGS	
3.06	ENGINEER'S ACTION	
3.07	REQUIRED CEQA MITIGATION MEASURES	
	ON 01500 TEMPORARY FACILITIES	
PART 1		
1.01	RELATED DOCUMENTS	1
1.02	SUMMARY	
1.03	QUALITY ASSURANCE	
1.04	PROJECT CONDITIONS	1
PART 2	PRODUCTS	2
2.01	TRAFFIC CONTROL	2
PART 3	S: EXECUTION	2
3.01	TRAFFIC CONTROL	2
3.02	INSTALLATION	
3.03	TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION	6
3.04	PERMITS AND CODES	6
SECTIO	ON 01600 ENVIRONMENTAL PROTECTION	1
PART 1	: GENERAL	1
1.01	RELATED DOCUMENTS	1
1.02	SUMMARY	
1.03	SUBCONTRACTORS	1

1.04	NOTIFICATION			
1.05	FINES AND PENALTIES			
PART 2	: PRODUCTS (NOT USED)			
PART 3	: EXECUTION			
3.01	GENERAL 1			
3.02	PROTECTION OF ENVIRONMENTAL RESOURCES			
3.03	POST CONSTRUCTION CLEAN UP			
3.04	RESTORATION OF LANDSCAPE DAMAGE			
3.05	WATER POLLUTION CONTROL PLAN (WPCP)			
3.06	MAINTENANCE OF POLLUTION CONTROL FACILITIES			
3.07	TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL			
	ON 01700 GENERAL SAFETY REQUIREMENTS			
PART 1				
1.01	RELATED DOCUMENTS			
1.02	SUMMARY			
1.03	REFERENCES			
PART 2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
PART 3	: EXECUTION			
3.01	GENERAL SAFETY REQUIREMENTS - U.S. ARMY CORPS OF ENGINEERS			
MAN	-			
3.02	ACCIDENT PREVENTION			
3.03	CONTRACTOR'S SAFETY PROGRAM			
3.04	ACCIDENT INVESTIGATION AND REPORTING			
3.05	DAILY INSPECTIONS			
SECTION 01770 CLOSEOUT PROCEDURES				
PART 1	: GENERAL			
1.01	SUMMARY			
1.02	SUBSTANTIAL COMPLETION			
1.03	FINAL COMPLETION			
1.04	LIST OF INCOMPLETE ITEMS (PUNCH LIST)			
PART 2	: PRODUCTS			
2.01	MATERIALS2			
PART 3	: EXECUTION2			
3.01	FINAL CLEANING			
SECTIO	ON 02881 DREDGING			
PART 1	: GENERAL			
1.01	SCOPE OF WORK			
	SITE CONDITIONS			

## No. P.W. 09-19-49

1.03	SUBMITTALS	4
1.04	REGULATORY REQUIREMENTS	5
1.05	PROTECTION OF FACILITIES	6
1.06	QUALITY ASSURANCE	7
1.07	PREPARATION	7
PART 2	: PRODUCTS	7
2.01	WEIGHT HANDLING EQUIPMENT	7
2.02	DREDGING PLANT	9
PART 3	: EXECUTION	9
3.01	SURVEYING	9
3.02	DREDGING	9
3.03	OPERATION	. 10
3.04	OVERDEPTH	. 10
3.05	WORK IN THE VICINITY OF PROTECTED HABITAT, STRUCTURES AND	
UTIL	ITY CROSSINGS	. 11
3.06	DEWATERING	
3.07	DISPOSAL OF DREDGED MATERIALS	
3.08	MISPLACED EXCAVATED MATERIAL	
3.09	TRANSPORTING AND DISPOSAL SITE	. 12
3.10	RESTORATION OF LANDSCAPE DAMAGE	. 12
3.11	COMPLETION OF DREDGING	. 13
3.12	METHOD OF MEASUREMENT	
3.13	INCREASED OR DECREASED QUANTITIES	. 13

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## SECTION 00850 DRAWING INDEX

## PART 1: DRAWINGS DEVELOPED SPECIFICALLY FOR THIS CONTRACT

The following drawings, dated October 2019, accompany the Specification, and any changes, drawings, and directions that may from time to time be furnished by the Engineer, are a part thereof and are referred to throughout the Contract Documents as "the Drawings". These drawings are the property of the City of Alameda and shall not be used for any purpose other than that contemplated by this Contract.

Sheet No.	Title
1 of 4	TITLE SHEET
2 of 4	LAYOUT (LAGOON 3)
3 of 4	SECTIONS (LAGOON 3)
4 of 4	LAYOUT PLAN AND SECTIONS (LAGOON 5)

\*\*\*END OF SECTION\*\*\*

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## SECTION 01100 MEASUREMENT & PAYMENT

## ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT

### PART 1: GENERAL

### 1.01 RELATED DOCUMENTS

**A.** Drawings and general provisions of Contract, including General and Supplementary Conditions and Specification sections, apply to work of this section.

## 1.02 SPECIAL DEFINITION

**A.** The terms "dredging" and "excavation" are use synonymously herein and on the project plans and shall be treated as having the same meaning.

### 1.03 WORK COVERED BY CONTRACT PRICE

- **A.** All of the work to be performed under this bid proposal shall be measured as indicated by the bid items as the unit prices designated in Exhibit A of the proposal. Payment for the specific items of work area further defined as follows:
  - 1. The contract Lump Sum price paid for "Mobilization" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in mobilization and demobilization, complete in place, including submittals, mobilizing equipment and personnel to the job site, compliance with the permit requirements, performance and payment bonds, City business license and other permits that may be required, public notifications, and implementation of mitigation and permit requirements, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The Lump Sum Payment shall be made in partial payments in accordance with Public Contract Code, as follows:

- (1) When 5 percent of the original contract amount is earned, 50 percent of the amount bid for mobilization, or 5 percent of the original contract amount, whichever is lesser, may be paid.
- (2) When 10 percent of the original contract amount is earned, 75 percent of the amount bid for mobilization or 7.5 percent of the original contract amount, whichever is lesser, may be paid.
- (3) When 20 percent of the original contract amount is earned, 95 percent of the amount bid for mobilization, or 9.5 percent of the original contract amount, whichever is lesser, may be paid.
- (4) When 50 percent of the original contract amount is earned, 100 percent of the amount bid for mobilization, or 10 percent of the original contract amount, whichever is lesser, may be paid.
- (5) Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent of the original contract amount will be paid.

2. The contract Lump Sum price paid for "Water Pollution Control Plan" (WPCP) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in water pollution control, complete in place, including preparing and implement and the WPCP, providing a QSP inspector, furnishing and implementing best management practices (BMPs), maintenance, removal and disposal of BMPs, storm water sampling and analysis, conducting water pollution control training, monitoring, inspecting and correcting water pollution control practices at the job site, as specified in the Standard Specifications and these Special Provisions, and directed by the Engineer.

The City pays for "Water Pollution Control Plan (WPCP)" as follows:

- 1. Total of 75 percent of the item total upon approval and implementation of the WPCP.
- 2. Total of 100 percent of the item total upon Contract acceptance
- 3. The contract Lump Sum price paid for "Traffic Control Plan" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in planning and implementing traffic control, complete in place, including preparation of a traffic control plan for vehicles and pedestrians, implementing the detours, providing temporary construction area signs, barricades, longitudinal channelizing devices, temporary delineation, temporary curb ramps, cones, delineators, flaggers, and notifying affected residents, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The Contractor shall be paid on pro rata basis for the work done per month, and said payment shall be for providing all labor, material, equipment, devices, supervision, and all incidentals as are needed to provide traffic control as specified herein, and as may be required to complete the work.

**4.** The contract price paid per ton for "Soil Desiccant" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and mixing "Soil Desiccant", complete in place, including dust control, public safety measures, disposal, and cleanup, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

No adjustment of compensation will be made for any increase or decrease in the quantities of "Soil Desiccant" required, regardless of the reason for the increase or decrease. The provisions in Section 4-1.05 "CHANGES AND EXTRA WORK," of the Standard Specifications shall not apply to "Soil Desiccant".

5. The contract price paid per cubic yard for "Excavation" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the dredging or excavation of sediment, complete in place, including dewatering, hauling, disposal, and dump fees, as shown on the

plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Additional material sampling and testing may be required by the commercial landfill prior to acceptance of the material. The cost for additional sampling and testing shall be considered as included in the Cubic Yard price paid for Excavation and no additional payment will be made therefor.

This bid item shall include all costs associated with dredging the project to the required depth, water pollution control, trucking of material, disposal at an off-site commercial landfill, operation and maintenance, manpower, fueling, progress surveys, field engineering, environmental protection, and all other work incidental to the dredging and disposal operations. Disposal includes all water control, temporary loading, hauling, unloading, dumping, street watering/sweeping, storage, environmental restoration and all other items incidental to the work in accordance with the contract documents and permits issued for this project. The Contractor shall make their own determination as to their own specific needs with respect to transporting the dredged material to commercial disposal facility in strict accordance with the project permits and shall take all such necessary costs and factors into consideration in developing their bid price.

Full compensation for complying with the requirements of the U. S. Army Corps of Engineers' Permit and the State of California Regional Water Quality Control Board's Water Quality Certification (see attachments); the California Environmental Quality Act (CEQA) Mitigated Negative Declaration; and the requirements of any other agencies with jurisdiction over these matters shall be included in the contract prices paid for excavation and no additional payment will be made therefore.

No payment will be made for any material excavated beyond the lines and grades shown on the plans. Contractor shall dredge to the elevations shown on the plans, and shall remove all sloughed materials that fall into the finished dredged areas, or other areas in or near the dredging site. The Engineer will conduct a post dredge survey to verify final lines and grades for payment.

Any over-dredging, in excess of allowable over-depth, or dredging in areas outside the design dredge template which result in any fines or penalties levied by any permitting agency shall be the sole financial responsibility of the Contractor and shall include but not be limited to any City Staff time and City Consultants.

\*\*\*END OF SECTION\*\*\*

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## SECTION 01300 SUBMITTALS

## ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT

### PART 1: GENERAL

## 1.01 RELATED DOCUMENTS

**A.** Drawings and General Provisions of this Contract, including General and Supplementary Conditions apply to this Section.

## 1.02 SUMMARY

**A.** This Section specifies administrative and procedural requirements for submittals required for performance of the Work.

#### 1.03 SUBMITTALS

- **A.** Initial Submittal Package. The Contractor shall submit the Initial Project Submittal Package directly to the Engineer for review at the Pre-Construction Meeting. The City will have 10 working days to review and respond to the Initial Submittal Package. The Contractor shall not commence work in the field until the Engineer has approved all of the required items in the Initial Submittal Package.
  - 1. Contractor's Construction Schedule
  - 2. Public Notice
  - **3.** Material submissions
  - 4. Permits
  - 5. Contractor's Equipment List and Clean Air Act Certification(s)
  - **6.** List of all Subcontractors
  - 7. Access and Staging Plan
  - 8. Construction Traffic Control Plan
  - 9. Dewatering Management Plan
  - 10. Site Health and Safety Plan
  - 11. Water Pollution Control Plan (WPCP)
  - 12. Waste Management Plan
- **B.** Subsequent Submittals. Submit the following reports directly to the Engineer, and allow at least 10 working days for review:
  - 1. Progress Schedules
  - 2. Underground Service Alert (USA) Verification of Underground Utilities
  - **3.** Daily Construction Reports to be submitted weekly
  - 4. Revisions to any of the above plans
- **C.** Administrative submittals: Refer to Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
  - 1. Agreement
    - a. Performance, and Payment bonds
    - **b.** Insurance certificates (naming the Owner and the Owner's agents)

- c. List of all Subcontractors
- **d.** Performance, and Payment bonds
- 2. Permits
  - **a.** Applications for Payment(s)
    - i. Certified Payrolls
    - ii. Lien Releases

PART 2: PRODUCTS (NOT USED)

**PART 3: EXECUTION** 

### 3.01 SUBMITTAL PROCEDURES

- **A.** Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
    - a. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- **B.** Submittal Preparation: Place a permanent label or title block on each Submittal for identification. Indicate the name of the entity that prepared each Submittal on the label or title block.
  - 1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
  - **2.** Include the following information on the label for processing and recording action taken.
    - a. Project name.
    - **b.** Date.
    - **c.** Name and address of Engineer.
    - **d.** Name and address of Contractor.
    - e. Name and address of Subcontractor.
    - **f.** Name and address of supplier.
    - g. Name of manufacturer.
    - **h.** Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Engineer using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

## 3.02 CONTRACTOR'S CONSTRUCTION SCHEDULE

- **A.** Prepare a fully developed, Gantt (bar type) schedule for the Contractor's construction operation. Contractor's schedule shall be capable of electronic transmission and shall be in a format substantially similar to project management software such as Microsoft Project® or other acceptable electronic media capable of providing the Engineer with electronic copies of any and all submitted schedules.
  - 1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
  - **2.** Within each time bar indicate estimated completion percentage in twenty (20) percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
  - **3.** Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
  - 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
  - **5.** Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
  - **6.** Indicate completion in advance of the date established for substantial Completion. Indicate substantial Completion on the schedule to allow time for the Engineer's procedures necessary for certification of substantial Completion.
- **B.** Phasing: Provide notations on the schedule to show how the sequence of the Work is affected by requirements for phased completion to permit work by separate Contractors.
- **C.** Work Stages: Indicate important stages of construction for each major portion of the Work, including testing and installation.
- **D.** Distribution: Following response to the initial submittal, print and distribute copies to the Engineer, City, Subcontractors, and other parties required to comply with scheduled dates. Post copies in the temporary field office.
  - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have

completed their assigned portion of the Work and are no longer involved in construction activities.

**E.** Schedule Updating: Revise the schedule where revisions have been recognized or made or milestones are reached in the project. Issue the updated schedule within three (3) days of such event, but in no circumstance less than weekly.

#### 3.03 SUBMITTAL SCHEDULE

- **A.** After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule at the pre-construction meeting.
  - **1.** Prepare the schedule in chronological order; include submittals required during construction. Provide the following information:
    - **a.** Scheduled date for the first submittal.
    - **b.** Submittal category.
    - **c.** Name of Subcontractor.
    - **d.** Description of the part of the Work covered.
    - e. Scheduled date for re-submittal
    - **f.** Scheduled date the Engineer's final release or approval.
- **B.** Distribution: Following response to initial submittal, print and distribute copies to the Engineer, City, Subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the temporary field office.
  - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.

#### 3.04 DAILY CONSTRUCTION REPORTS

- **A.** The Contractor shall prepare a daily construction report, recording the following information concerning events at the site; and submit duplicate copies to the Engineer at weekly intervals or as requested by the Engineer:
  - 1. List of Subcontractors at the site.
  - **2.** Approximate count of personnel at the site.
  - 3. High and low temperatures, general weather conditions.
  - **4.** Accidents and unusual events.
  - **5.** Meetings and significant decisions.
  - **6.** Stoppages, delays, shortages, losses.
  - 7. Material reports.
  - **8.** Emergency procedures.
  - **9.** Any Orders and or requests of governing authorities.
  - 10. Change Orders received and implemented.
  - 11. Equipment or system tests and start-ups.
  - 12. Substantial Completions authorized.
  - 13. Photographs of project.
  - **14.** Any potential extra work
  - **15.** Any significant change in lagoon water level
  - 16. Water quality observations and testing

#### 3.05 SHOP DRAWINGS

- **A.** The Contractor shall submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- **B.** The Contractor shall submit shop drawings, which include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. The following information must be included:
  - 1. Dimensions.
  - 2. Identification of products and materials included.
  - **3.** Compliance with specified standards.
  - **4.** Notation of coordination requirements.
  - 5. Notation of dimensions established by field measurement.
  - **6.** Sheet Size: Except for templates, patterns and similar full- size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 36" x 48".
  - 7. Initial submittal: Submit one correctable translucent reproducible print and one blue line- or black-line print for the Engineer's review; the reproducible print will be returned to the Contractor.
  - **8.** Final submittal: Submit three (3) blue line- or black-line prints; Submit five (5) prints where required for maintenance manuals. Two (2) prints will be retained; the remainder will be returned.
    - a. One of the prints returned shall be marked-up and maintained as a "Record Document".
  - **9.** Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.

## 3.06 ENGINEER'S ACTION

- **A.** Except for submittals for the record, information or similar purposes, where action and return is required or requested, the Engineer will review each submittal, mark to indicate action taken, and return promptly.
- **B.** Action Stamp: The Engineer will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
  - 1. Final Unrestricted Release: Where submittals are marked "No Exception Taken," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
  - 2. Final-But-Restricted Release: When submittals are marked "Approved as Noted," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
  - **3.** Returned for Resubmittal: When a submittal is marked "Revise and Resubmit," do not proceed with that part of the work covered by the

submittal, including purchasing, fabrication, delivery, or other activity. The Contractor is to revise or prepare a new submittal in accordance with the notations; resubmit without delay to the Engineer. The Contractor shall repeat if necessary to obtain a different action mark.

- a. Do not permit submittals marked "Revise and Resubmit" to be used at the Project site, or elsewhere Work is in progress.
- **4.** Other Action: When a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned to the Contractor, marked "Action Not Required".

## 3.07 REQUIRED CEQA MITIGATION MEASURES

The CEQA Mitigated Negative Declaration (MND) was prepared for a larger project that was originally intended to include this project. As such, the Contractor is advised that the MND discussions are not all applicable to this project. However, the mitigation measures are all applicable as they apply to the project work. The following mitigation measures have been modified from the MND measures and are required to be implemented by the Contractor (Also see Attachment C of Contract Documents):

## A. Mitigation Measure BIO-1: Protection for Nesting Birds

If nesting birds are encountered during project activities, work shall be halted until the birds have fledged or a disturbance-free buffer has been established. Buffer sizes will be established in consultation with Tetra Tech and the California Department of Fish and Wildlife and/or United States Fish and Wildlife Service. If for any reason a bird nest must be removed during the nesting season, the project proponent shall provide written documentation providing concurrence from the appropriate resource agencies (e.g., California Department of Fish and Wildlife and United States Fish and Wildlife Service) authorizing the nest relocation.

## **B.** Mitigation Measure CUL-1: Cultural Resources

Pursuant to CEQA Guidelines section 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during the project, all work within 100 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

## C. Mitigation CUL-2: Accidental Discovery of Human Remains

In the event that human skeletal remains are discovered as part of the project, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage

Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 100-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously and determine whether there are areas that may be sensitive.

## D. Mitigation Measure HAZ-1: Site Health and Safety Plan

A site Health and Safety Plan (HASP) shall be prepared by the contractor in accordance with federal and state OSHA requirements, and appropriate personal protective equipment shall be used and waste management procedures implemented based on the plan. The HASP will include procedures required to handle and mitigate potential risk to due to lead fibers and other contaminants that could be entrained in airborne particulates in a breathing zone during excavation. This plan will describe training requirements and certifications needed for personnel who would be involved with the removal of lead-contaminated material. Adherence to this plan will reduce the potential hazard posed by contaminated sediment to the public and environment to less than significant.

## E. Mitigation Measure HAZ-2: Management of Soil

The City has obtained representative samples of dredged material to confirm the appropriate disposal methods. All soil encountered during project activities shall be assumed to contain elevated levels of contaminants and shall be managed appropriately. Access to the support and work areas will be controlled by fences, and signage to prevent entry by unauthorized personnel and vehicles. Soil will be covered during transport to the landfill.

## F. Mitigation Measure HW-1: Water Pollution Control Plan (WPCP)

Erosion control measures and Best Management Practices (BMPs) shall be implemented to minimize the effects of erosion, sedimentation, and leakage of vehicle and equipment fluids and shall be developed further in the project-specific WPCP prepared by the contractor, in accordance with the requirements of the General Construction Permit. The BMPs described in the WPCP shall require review and approval by the Regional Water Quality Control Board (RWQCB). BMPs implemented as part of the proposed project could include the measures described below. The measures could be altered, supplemented, or deleted during the RWQCB review process. Implementation of these measures shall help meet the relevant water quality objectives included in the Basin Plan (for example, maintain beneficial uses of receiving waters, not create floating material or visible film at the water surface, and prevent toxic substances in concentrations that would adversely affect aquatic life in receiving waters) (SWRCB 2011).

## G. Mitigation Measure HW-2: Dewatering Management Plan

The contractor shall prepare a project-specific dewatering plan to address potential impacts of dewatering discharges during construction on the water quality of receiving water bodies and to comply with the NPDES requirements. The discharges shall be handled in accordance with the General Construction Permit. A management plan for dewatering shall be prepared to comply with the NPDES requirements. The discharges shall be handled in accordance with the General Construction Permit and shall be

developed and approved before dredging. The dewatering management plan shall specify methods for collecting, transporting, treating, and discharging all water produced by construction site dewatering. Applicable BMPs shall be identified in the dewatering management plan to ensure that discharges to receiving waters meet applicable water quality objectives.

## H. Mitigation Measure TRA-1: Construction Traffic Control Plan

The project contractor shall prepare and successful implement a construction traffic control plan that will include project-specific measures to reduce potential impacts on traffic flows on roadways affected by project construction. This plan will be reviewed and approved by the City of Alameda prior to commencement of project activities. The plan shall include the following:

- Construction access will not be allowed from Powell Street, all access for Lagoon 3 work shall be from Otis Drive only.
- Flaggers or signs will guide vehicle and other traffic (pedestrian and bicycles) through or around the construction zone. At all times, the contractor will maintain access for emergency response vehicles.
- Large truck and delivery trips shall be scheduled outside the peak morning and evening commute hours, and outside on-site peak traffic hours (for parking lot use).
- Along major arterials, truck trips will be scheduled outside the peak morning, peak evening, and event commute periods to the extent feasible.
- Construction, particularly related to lane closures, will be coordinated with local transit service providers.
- On-going and up-to-date information relating to the construction schedule and affected roadways and intersections, particularly lane closures, and a contact person, shall be provided to the public, for example on the City of Alameda website.
- Where it is feasible and safe to do so, existing pedestrian and bicycle access and circulation will be maintained at all times. If access and circulation cannot be maintained, detours will be designated and posted for pedestrians and bicyclists.
- All construction equipment and materials will be stored in designated contractor staging areas on or adjacent to the worksite, in a manner that minimizes obstruction of traffic.
- Public roadways will be repaired or restored to their original conditions upon completion of construction.
- The traffic control plan will conform to the California Manual on Uniform Traffic Control Devices: Part 6, "Temporary Traffic Control." Traffic plans may require approval from City emergency response providers. Traffic circulation patterns and associated signage will be approved by the City.

\*\*\*END OF SECTION\*\*\*

## SECTION 01500 TEMPORARY FACILITIES

#### ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT

#### PART 1: GENERAL

#### 1.01 RELATED DOCUMENTS

**A.** Drawings and general provisions of Contract, including General and Supplementary Conditions and other Specification Sections, apply to this Section.

#### 1.02 SUMMARY

- **A.** This Section specifies requirements for temporary services and facilities, including traffic control, utilities, construction and support facilities, security and protection.
- **B.** Temporary construction and support facilities may be required and the Contractor is notified that there are no Staging Areas and/or Temporary Support Facilities available at the project site. Construction facilities and materials are to be staged in a manner such that materials and/or equipment is limited and stored on the site in such a manner that minimally impacts non-construction areas on the subject property.
  - 1. Traffic Control.
  - 2. Sanitary facilities, including drinking water.
  - **3.** Temporary enclosures.
- **C.** Security and protection facilities required include but are not limited to:
  - **1.** Environmental protection.
  - 2. Emergency Spill Response Kit.

## 1.03 QUALITY ASSURANCE

- **A.** Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:
  - **1.** Building Code requirements.
  - 2. Health and safety regulations.
  - 3. Utility company regulations.
  - **4.** Police, Fire Department and Rescue Squad rules.
  - **5.** Environmental protection regulations.

#### 1.04 PROJECT CONDITIONS

**A.** Conditions of Use: The Contractor shall keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

#### **PART 2: PRODUCTS**

## 2.01 TRAFFIC CONTROL

Products used for traffic control shall comply with the current Caltrans "Authorized Material List for Highway Safety Features".

#### **PART 3: EXECUTION**

#### 3.01 TRAFFIC CONTROL

Traffic control during construction shall be the responsibility of the Contractor. All traffic control devices shall be in accordance with the latest edition of the California Manual on Uniform Traffic Control Devices (2014 California MUTCD, Revision 4) herein after referred to as Traffic Control Manual. The Traffic Control Manual may be obtained online at:

## http://www.dot.ca.gov/trafficops/camutcd/

In general, the work shall be done so that traffic disruption is minimized. It is expected that Waterton Street may be closed to traffic during actual dredging operations and reopened at the end of each working day. Construction access will not be allowed from Powell Street, all access for Lagoon 3 work shall be from Otis Drive only.

If the Temporary Traffic Control (TTC) zone affects an accessible and detectable pedestrian facility, the accessibility and detectability shall be maintained along the alternate pedestrian route.

The Contractor shall be responsible for preparing and implementing a pedestrian access plan for review and approval by the Engineer. A temporary path shall be required during construction to provide access from the existing pathway, around the construction area. Plan and implementation shall be incompliance with:

- Caltrans "Temporary Pedestrian Facilities Handbook, June 2014"
- 2018 Caltrans Revised Standard Plans RSP T30 through RSP T34
- California Manual on Uniform Traffic Control Devices, (2014 California MUTCD, Revision 4)
- 2015 Standard Specifications:
  - Section 7-1.02A, "General," requires the contractor to comply with current laws, regulations, and decrees.
  - o Section 7-1.04, "Public Safety," requires that the contractor provide for the safety of the public during construction.
  - Section 12, "Temporary Traffic Control" directs the contractor's attention to the "California Manual on Uniform Traffic Control Devices" (2014 California MUTCD, Revision 3). Attention is directed to Part 6 (Section 6G.05 for bicyclists) and (Section 5D.01 for pedestrians) of the 2014 California MUTCD, Revision 3, issued by the State of California, Department of Transportation

- O Section 12-4, "Maintaining Traffic" requires the contractor to maintain pedestrian access.
- Section 16-2, "Miscellaneous Temporary Facilities," requires the contractor to construct temporary pedestrian facilities in compliance with the 2014 California MUTCD, Revision 4, Part 6, Chapter 6D, "Pedestrian and Worker Safety."

When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Where pedestrians with visual disabilities normally use the closed sidewalk, a barrier that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.

Detailed traffic control plans shall be prepared professionally in accordance with the California Manual of Uniform Traffic Control Device (2014 California MUTCD, Revision 4) current online edition.

- Specify if the work will be scheduled one block at a time or several blocks at a time
- Specify if side streets will remain open or if the work will affect the intersections.
- Specify how the traffic will be handled with flaggers.

The traffic control plan shall identify a traffic coordinator responsible for responding to complaints related to traffic, parking, and driveway access.

The Contractor shall submit in writing a complete traffic control plan (1"=100' scale min. drawing) to the Engineer at the preconstruction meeting. The traffic control plan shall include all locations, which involve all project improvements and shall indicate each stage of work, signage, flagman, detour routes, and any other pertinent information. The traffic control plans shall be prepared professionally in accordance with the California Manual of Uniform Traffic Control Device (2014 California MUTCD, Revision 3) current online edition. The traffic control plan shall be reviewed and approved by the Engineer before the Contractor shall be allowed to begin work. The City reserves the right to modify any portion of the plan.

Lane closure is not permitted on Otis Drive or other major/collector/arterial roadways, unless approved by the Engineer.

The Contractor shall initially (on the first working day) notify the U.S. Postal Service, garbage collection, fire and police dispatch, and the Engineer of the need for road closure(s) and areas of construction delays. After the first working day the Contractor shall keep the Engineer and fire and police dispatch updated on road closure(s) and areas of construction delays on a daily basis. U.S. Postal Service and garbage collection must be updated on road closure(s) and areas of construction delays on a weekly basis.

At the end of any working day when work operations have obscured existing traffic striping, the striping shall be restored via permanent reflective painting or other interim materials subject to the approval of the Engineer. Temporary delineation shall be of the same color and type, including nighttime reflectivity.

At the end of each day's work, and other times when construction operations are suspended, all equipment and other obstructions shall be removed from that portion of roadway open for use by public traffic. No longitudinal joint shall be left during non- working hours.

Where existing road signs are in conflict with the proposed work, the Contractor shall relocate such signs to temporary or permanent locations as directed by the Engineer.

If it becomes necessary, in the opinion of the Engineer, to properly move traffic through the construction area, flagmen shall be present to slow down and reroute traffic, in which case flagmen shall be on duty the entire period the roadway is constructed. Where flagmen are not visible to each other, additional flagmen shall be added as required by the Engineer or the Contractor shall use radios.

Contractor shall take all necessary measures to obtain a normal flow of traffic to prevent accidents and to protect the work throughout the construction stages until completion of the work. The Contractor shall make the necessary arrangements to provide and maintain barriers, cones, guards, barricades, and construction warnings and regulatory signs. The Contractor shall take measures necessary to protect all other portions of the work during construction and until completion, providing and maintaining all necessary barriers, barricade lights, guards, temporary crossovers and watchmen.

In addition to the foregoing traffic control and safety measures, the Contractor shall undertake immediately to implement any measures requested by the Engineer, as they deem necessary to ensure the proper flow of traffic and the protection of the public and the safety of the workers. The Contractor shall maintain at all times the ability to respond to calls from the Police and Fire Departments during non-working hours to replace or provide additional traffic control or safety devices as shall be required by the Police Department.

Contractor shall be responsible for placing all barricades for perimeter street closures and detours as required.

Contractor shall provide weekly updates to the Engineer at least a week in advance of the anticipated traffic impacts. The Contractor must notify the Engineer in writing immediately of any changes. Any changes to the weekly update after the initial notification are subject to approval by the Engineer.

Two notifications are required before work starts at each project location. 10-business days and 3- business days prior to the beginning of work at each project location, the Contractor shall notify all residents, businesses, and agencies by an approved, written notice (door hanger) detailing limits of work to be done and the hours of work.

The Contractor shall be responsible for posting "No Parking" signs a minimum of 72 hours in advance of work. Cones shall not be used as barricades. The Contractor shall check and maintain (e.g., re-install missing signs, reposition displaced barricades, etc.) postings on a regular basis prior to start of work.

If traffic is to be detoured over a centerline or detoured in advance of the work, detour plans must be submitted to and approved by the Engineer prior to starting work. Police, Fire and Public Works Department shall be notified at least two days in advance of any work which will interfere with the normal flow of vehicular or pedestrian traffic. Intersection closure may only occur if the two adjacent intersections remain open, unless otherwise approved by the

Engineer. The Contractor shall coordinate his traffic control/diversion plan with the Engineer, a minimum of 3 weeks prior to starting work, to assure that traffic is diverted in a safe and convenient manner.

Truck routes shall be approved by the Engineer prior to start of work.

Personal vehicles of the Contractor's employees shall not be parked within the area of work.

A minimum of one (paved) traffic lane, not less than 10 ft. wide unless otherwise shown on the plans, shall remain open for use by public traffic during construction operations. When construction operations are not actively in progress, not less than two such lanes shall be open to public traffic. No work that interferes with public traffic shall be performed between 4:00 p.m. and 8:30 a.m.

Start of work shall be no earlier than 8:30 a.m. No work process, including starting, warm up, and delivery of equipment, shall be done outside of the hours of 8:30 a.m. to 4:00 p.m. The use of vehicle horns to alert residents to move their vehicles out of the construction zone is not permitted. The Contractor should attempt to locate vehicle owners by knocking on doors.

The full width of the traveled way shall be open for use by the public traffic on Saturdays, Sundays and designated legal holidays, and when construction operations are not actively in progress, unless specified otherwise. Lane closures, if approved by the Engineer, shall only be allowed between 8:30 am and 4 pm, Monday through Friday.

Minor deviations from the requirements of this section concerning hours of work may be permitted upon the written request of the Contractor if in the opinion of the Engineer, public traffic will be better served and the work expedited. Such deviations shall not be adopted until the Engineer provides written approval.

If any component in the traffic control system is damaged, displaced or ceases to operate or function as specified, from any cause during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

Work shall be accomplished in such a manner as to provide access to all intersecting streets and adjacent properties whenever possible. The Contractor shall endeavor to cooperate with all residents occupying properties fronting on the streets in the matter of access and egress. Contractor shall maintain a clear and accessible pedestrian corridor around the work site to the extent feasible.

An alternate circulation path shall be provided whenever the existing pedestrian access route in the public right-of-way is blocked by construction, alteration, maintenance, or other temporary conditions. Where possible, the alternate circulation path shall parallel the disrupted pedestrian access route, on the same side of the street.

The Contractor shall make provisions to allow use of the opposing sidewalk by pedestrians during construction. Signs shall be posted at each corner of a block where sidewalk work is being done with the following wording in 3 inch black letters on an orange background: "SIDEWALK CLOSED TO THROUGH TRAFFIC, USE OTHER SIDE".

## 3.02 INSTALLATION

- **A.** The Contractor shall use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. The Contractor shall relocate and modify facilities as required.
- **B.** The Contractor shall provide each facility ready for use when needed to avoid delay. The Contractor shall maintain and modify as required. The Contractor shall not remove any facility until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

## 3.03 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- **A.** The Contractor shall locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
- **B.** The Contractor shall maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the City.
- C. The Contractor shall install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.
- **D.** The Contractor shall provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.

## 3.04 PERMITS AND CODES

- **A.** The Contractor shall procure, and pay for, any and all permits and licenses required for the work of this Section, prior to commencing the project work.
- **B.** Comply with all applicable codes, ordinances, rules, regulations and laws of all local, municipal, and state authorities having jurisdiction over the work, without additional cost to the City.

\*\*\*END OF SECTION\*\*\*

## SECTION 01600 ENVIRONMENTAL PROTECTION

#### **ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT**

## PART 1: GENERAL

## 1.01 RELATED DOCUMENTS

- **A.** Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
- **B.** Permits issued for this work shall be included in Attachment D and shall be fully integrated into the performance of the work set forth herein. As such, the Contractor must fully adhere to the provisions set forth therein and shall hold the City harmless for any failure to adhere to a permit condition.

#### 1.02 SUMMARY

**A.** This Section specifies requirements for environmental protection.

#### 1.03 SUBCONTRACTORS

**A.** Assurance of compliance with this specification by Subcontractors will be the responsibility of the Contractor.

#### 1.04 NOTIFICATION

**A.** The Engineer shall notify the Contractor in writing of any observed noncompliance with the Federal, State or local laws or regulations, permits and other elements of the Contractor's environmental protection plan. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective actions and take such actions as may be approved. If the Contractor fails to comply promptly, the City may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted, nor costs or damages allowed to the Contractor for any such suspension.

#### 1.05 FINES AND PENALTIES

**A.** The Contractor shall be solely responsible for any and all permit violations and fines levied thereto as a result of their construction or operations. The Contractor indemnifies the City, its staff, and elected officials, from any fines or penalties levied and shall defend said fines or penalties as its sole cost with the City's cost relating to any defense of said fines or penalties to be assessed to the Contractor.

## PART 2: PRODUCTS (NOT USED)

#### **PART 3: EXECUTION**

## 3.01 GENERAL

**A.** The State of California Water Quality Control Board and the US Army Corps of Engineers have issued permits, orders of conditions and strict regulations for this project, and the California Environmental Quality Act (CEQA) Mitigated Negative Declaration with mitigation measures applies. In addition to any orders, the following restrictions apply:

- 1. Absolutely no release is allowed into any waterway of any petroleum product, epoxies, resins, admixtures, touch-up coatings, concrete, waste water of any kind, any foreign particular which is associated with any of the activities, non-stormwater discharge, or the like by the Contractor or their Subcontractors. Accidental releases shall be reported to the appropriate authority, the Engineer, and, if applicable, the Coast Guard. The Contractor assumes all responsibilities for fines or penalties levied and agrees to fully indemnify the City, its staff and elected officials, for any accidental, negligent or intention discharge of any foreign material into any waterway associated with the work prescribed herein.
- 2. Prior to beginning any work the Contractor shall submit, in writing, as part of the Water Pollution Control Plan a contingency plan, subject to approval by the Engineer, which will set forth the procedures to be followed in the event of an accidental release. This plan will require, as a minimum, that the Contractor have on site, sufficient sorbent pads and booms to contain an accidental spill. Absolutely no work shall begin on the project until this plan has been approved by the City and or the Engineer.
- 3. Debris from construction operations is to be cleaned up on a regular basis and disposed of off-site at a properly designated facility at the Contractor's expense. Any floating debris and cuttings shall be contained in the work area by floating booms and shall not be allowed to drift about any waterway. Organic debris (epoxies, etc.) are considered releases and shall be cleaned up immediately in accordance with the approved plan.
- 4. Any materials stored or stockpiled on the site will be assessed for its potential to create a run off problem. Such materials shall be stored and/or protected in such a way that run off from the stockpiles will not create a nuisance or damage downgradient resource areas. Any and all property located at or used in conjunction with this project shall be returned to pre-construction conditions prior to completion of project and release of demobilization retainage.
- **B.** The CEQA Mitigated Negative Declaration (MND) was prepared for a larger project that was originally intended to include this project. As such, the Contractor is advised that the MND discussions are not all applicable to this project. However, the mitigation measures are all applicable as they apply to this project work.
- C. The Contractor shall provide and maintain environmental protective measures as required by the Contract Documents. In addition, the Contractor shall provide environmental proactive measures required to correct conditions, such as oil spill or debris that may occur during the dredging operations. The Contractor shall comply with federal, state and local regulations pertaining to water, air and noise pollution.

#### 3.02 PROTECTION OF ENVIRONMENTAL RESOURCES

**A.** The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications.

- **B.** Work and Staging Area Limits: Prior to any construction the Contractor shall mark the areas that are required to accomplish all work to be performed under this contract. Monuments and markers shall be protected before construction operations commence. The Contractor shall convey to his personnel the purpose of marking and/or protection of all necessary objects.
- **C.** Disposal of Uncontaminated Solid Wastes: Solid wastes shall be placed in containers, which are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination.
- **D.** Disposal of Solid Waste by Removal from the Work Site: The Contractor shall transport all uncontaminated solid waste off of the work site and dispose of it in compliance with Federal, State and local requirements for solid waste disposal.
- **E.** Disposal of Discarded Materials: Discarded materials other than those which can be included in the solid waste category will be handled as directed by the Engineer. The Contractor shall comply with Title 40 CFR, Part 260-265.
- **F.** Protection of Water Resources: The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Special management techniques shall be implemented to control water pollution resulting from the construction activities, which are included in this contract.
- **G.** Protection of Fish and Wildlife Resources: The Contractor shall keep construction activities under surveillance, management and control to minimize interference with, disturbance to, and damage of fish and wildlife.
- **H.** Protection of Air Resources: The Contractor shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes, and work operated or performed by the Contractor in accomplishing the specified construction shall be in strict accordance with the California and all Federal emission and performance laws and standards. Ambient Air Quality Standards set by the Environmental Protection Agency, specifically as they apply in the State of California shall be maintained for all construction operations and activities. Special management techniques as set out below shall be implemented to control air pollution by the construction activities, which are included in this contract.
- **I.** Particulates: Dust particles, aerosols, and gaseous by-products from all construction activities, processing and preparation of materials shall be controlled at all times, including weekends, holidays and hours when work is not in progress.
- **J.** Hydrocarbons and Carbon Monoxide: Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and California allowable limits at all times.
- **K.** Odors: Odors shall be controlled at all times for all construction activities, processing and preparation of materials.
- **L.** Protection of Sound Intrusions: The Contractor shall keep construction activities under surveillance, and control to minimize damage to the environment by noise. The Contractor shall use methods and devices to control noise emitted by equipment.
- **M.** Ownership of any fuel on the project site at all times will be under the control of the Contractor. The Contractor will contact, coordinate and comply with any local, county,

state or federally mandated regulations, codes or rules set forth regarding the storage, use and or disposition of any petroleum products. Under no circumstances are any permanent fuel facilities to be constructed on the project site. Any fuel spills shall be the sole responsibility of the Contractor.

## 3.03 POST CONSTRUCTION CLEAN UP

**A.** The Contractor shall clean up all areas affected by construction to pre-construction conditions prior to completion of project.

## 3.04 RESTORATION OF LANDSCAPE DAMAGE

**A.** The Contractor shall restore all landscape features of staging, storing or other areas damaged or destroyed during construction operations outside the limits of the approved work areas. Such restorations shall be in accordance with the plan submitted for the approval of the Engineer. This work will be accomplished at the Contractor's expense.

## 3.05 WATER POLLUTION CONTROL PLAN (WPCP)

- A. The Contractor shall prepare and submit (at the preconstruction meeting) a Water Pollution Control Plan (WPCP) for the Project, prepared by a Qualified SWPPP Developer (QSD), to be approved by the Engineer prior to commencing of any field work. The work performed in connection with the WPCP shall conform to the provisions in these Special Provisions and as directed by the Engineer.
- B. The WPCP shall identify appropriate water pollution control measures or Best Management Practices (BMPs) to reduce pollutants in storm water discharges from the Project's site in connection with construction activities. Once the WPCP is accepted by the Engineer, Contractor shall implement the provisions of the WPCP, maintain and update the plan, as deemed necessary and with the approval of the Engineer, throughout the construction phase. A copy of the WPCP shall be made readily available onsite throughout the construction period and shall include name and telephone number of the Contractor designated personnel responsible for the WPCP activities.
- C. All aspects of water pollution control for the project shall comply with applicable federal, state, and local requirements. In the event of conflicting requirements, the more stringent requirements shall apply.
- D. The Contractor is advised that the acceptance of the WPCP by the Engineer does not relieve the Contractor or Subcontractor(s) of their responsibility to comply with other State, County and Local governmental requirements, including those for storm water management or non-point source runoff controls. The Engineer reserves the right to amend the WPCP as initially approved if, during construction, conditions (such as change in construction operations, construction staging modification, change in site conditions, or unanticipated offsite drainage impacts) occur that affect the ability of the Contractor to implement the plan effectively or the ability of the plan to meet the objectives for water pollution control. Contractor shall implement any amendments to the WPCP issued by the Engineer and incorporate the WPCP amendments into the on-site documents.
- E. WPCP implementation shall be continued during any suspension of work activities.
- F. The Contractor shall have a Qualified SWPPP Practitioner (QSP) perform the required inspections, sample collection and analysis.

#### 3.06 MAINTENANCE OF POLLUTION CONTROL FACILITIES

**A.** The Contractor shall maintain all constructed facilities and portable pollution control devices for the duration of the contract or for that length of time construction activities create the particular pollutants.

## 3.07 TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL

**A.** The Contractor shall train his personnel in all phases of environmental protection. The training shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities to ensure adequate and continuous environmental pollution control.

\*\*\* END OF SECTION \*\*\*

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## SECTION 01700 GENERAL SAFETY REQUIREMENTS

#### **ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT**

#### PART 1: GENERAL

#### 1.01 RELATED DOCUMENTS

**A.** Drawings and general provisions of Contract, including General and Supplementary Conditions and Specification sections, apply to work of this section.

#### 1.02 SUMMARY

- **A.** The work covered in this section consists of furnishing all plant, labor, equipment and appliances in performing all operations in connection with safety of persons and property during construction. The safety requirements specified in this section are in addition to those contained in the sections pertaining to the specific items of work involved or indicated on the drawings. Where there is a conflict between the requirements of this section and sections pertaining to the specific items of work, the requirements of this section shall govern. Specific requirements of this section include:
  - 1. The Contractor shall provide safety controls for protection of persons and property in compliance with all applicable Federal, State and Municipal statutes and/or regulations.
  - 2. The Contractor shall maintain accurate records and report to the Engineer exposure data and all accidents.
  - 3. The Contractor shall promptly correct noncompliance with safety provisions where they are observed or when notified.
  - 4. The Contractor shall develop a safety program and submit proposals for effective accident prevention.
  - 5. The Contractor shall attend project meetings relative to administration of the overall safety program.

#### 1.03 REFERENCES

- 1. U.S. Army Corps of Engineers Engineer Manual (EM): Safety and Health Requirements Manual, EM 385-1-1, 2003 Edition
- 2. Occupational Safety and Health Act (OSHA)

## PART 2: PRODUCTS (NOT USED)

#### PART 3: EXECUTION

# 3.01 GENERAL SAFETY REQUIREMENTS - U.S. ARMY CORPS OF ENGINEERS MANUAL:

**A.** The Contractor shall comply with all pertinent provisions of the Corps of Engineers Manual, EM 385-1-1, 2003 edition.

#### 3.02 ACCIDENT PREVENTION

- **A.** The Contractor shall comply with the California Occupational Safety and Health Act (Labor Code Section 6300 et seq.) and Title 8 of the Code of Regulations, and will also take, or cause to be taken, such additional measures as may be necessary for the prevention of accidents.
- **B.** Prior to commencement of Work the Contractor shall (1) submit proposals in writing for effectuating provisions for accident prevention, and (2) meet in conference with the City to discuss and develop mutual understandings relative to administration of an overall safety program.
- **C.** During the performance of Work under the Contract, the Contractor shall institute controls and procedures for the control and safety of persons visiting the job-Site.
- **D.** The Contractor shall maintain an accurate record of, and shall report to the City in writing, exposure data and all accidents resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment incident to Work performed under the Contract.
- **E.** The City will notify the Contractor of any noncompliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. If the Contractor fails or refuses to comply immediately, the matter will be referred to the proper authority. No part of the time lost due to any stop order issued by proper authority shall be made the subject or claim for extension of time or for extra costs or damages by the Contractor.
- **F.** Compliance with the provisions of this Part by SubContractors will be the responsibility of the Contractor.

## 3.03 CONTRACTOR'S SAFETY PROGRAM

- **A.** The Contractor shall have a written safety program in place for this project. At a minimum, it shall include a drug and alcohol policy, accident reporting criteria and example forms along with an agenda for daily safety meetings safe operations practices for all trades associated in this project.
- **B.** A safety officer shall as appointed by an officer of the Contractor's Corporation shall be named and charged with any and all safety activities relating the this project.
- **C.** The Engineer shall not be responsible for implementing and/or providing any safety training and/or direction regarding the Contractor's operations as they relate to the project's safety.
- **D.** If the Contractor is a currently accepted participant in the Dredging Contractors of America (DCA)/United States Army Corps of Engineers (USACE) Dredging Safety Management Program (DSMP), as determined by the DCA/USACE Joint Committee, and holds a current valid Certificate of Compliance for both the Contractor Program and the Dredge(s) to be used to perform the work required under this contract, the Contractor may, in lieu of the submission of an Accident Prevention Plan (APP), make available for review, upon request, the Contractor's current Safety Management System (SMS) documentation, submit to the Engineer the current valid Company Certificate of Compliance for its SMS, submit the current dredge(s) Certificate of Compliance based on third party audit, and

- submit for review and acceptance, site-specific addenda to the SMS as specified in the solicitation.
- **E.** Accident Prevention Program: At the preconstruction meeting the Contractor shall furnish his Accident Prevention Program and three copies thereof to the Engineer or his authorized representative for review and approval. The program shall be prepared in the following format:
  - a. Administrative Plan
  - b. Job Hazard Analysis
  - c. A copy of company policy statement of accident prevention and any other guidance statements normally provided new employees.
  - d. When marine plant and equipment are in use the Contractor shall assure that oil transfer operations to or from his plant comply with all Federal, State, county, and Municipal laws, codes and regulations. Particular attention is invited to 33 CFR Subchapter 0, Pollution. The Contractor shall incorporate in his accident prevention program, sufficient information to demonstrate that all fuel transfers will be made in accordance with 33 CFR 156 and any other applicable laws, codes and regulations. (CENABEN 1984 APR)
  - e. The Contractor shall not commence physical work at the project site until the program has been approved by the Engineer or his authorized representative. As an additional measure to implementation of the Accident Prevention Program, the Contractor shall meet with representatives of the Engineer as soon as practicable after receipt of Notice to Proceed and before start of work to discuss and develop a mutual understanding relative to administration of the overall safety program. Minutes of the meeting shall be prepared, signed by the Contractor and the Engineer or his authorized representative. At the Engineer's discretion, the Contractor may submit his Job Hazard Analysis only for the phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. EM 385-1-1, Section 1.

#### 3.04 ACCIDENT INVESTIGATION AND REPORTING

- **A.** Accidents shall be investigated by immediate supervisor of the employee(s) involved and reported to the Engineer or the Engineer's inspector within one working day after the accident. Paragraph 01.D, EM 385-1-1.
- **B.** The Contractor shall insure that all accidents which involve loss of life, occupational disease of the employee, injury incapacitating any person for normal work beyond the day of injury, or damage to property, materials, supplies, or equipment, of \$1,000.00 or more, and which relate to the dredge, any attendant plant, the dredge working area, or the disposal area, shall be recorded, investigated, and reported to the Engineer or his authorized representative.
- **C.** Each accident shall be verbally reported to the Engineer's inspector at the earliest practicable time, but within 24 hours. Each accident involving loss of life or traumatic injury to any person shall be reported to the Engineer's inspector verbally, telephonically, or by radio immediately.

- **D.** The Contractor shall promptly investigate each accident and submit a written, signed report on ENG Form 3394 to the Engineer's inspector within 48 hours.
- **E.** A factual record of each accident shall be entered in the Contractor's official daily log book.

#### 3.05 DAILY INSPECTIONS

- **A.** The Contractor shall institute a daily inspection program to assure all safety requirements are being fulfilled. Reports of daily inspections shall be maintained in the Contractor's official daily log book. The reports shall be records of the daily inspections and resulting actions. Each report shall include, as a minimum, the following:
  - 1. Phase(s) of construction underway during the inspection.
  - 2. Locations of areas inspections were made.
- **B.** Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

\*\*\* END OF SECTION \*\*\*

## SECTION 01770 CLOSEOUT PROCEDURES

#### ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT

## **PART 1: GENERAL**

#### 1.01 SUMMARY

- **A.** This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Warranties.
  - 3. Final cleaning.
- **B.** See Contract Documents "Measurement and Payment" for requirements for Applications for Payment for Substantial and Final Completion.
- **C.** See technical sections for specific closeout and special cleaning requirements for the Work in those Sections.

## 1.02 SUBSTANTIAL COMPLETION

- **A.** Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Owner of pending insurance changeover requirements.
  - **3.** Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - **4.** Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs and photographic negatives, damage or settlement surveys, property surveys, and similar final record information.
  - **5.** Terminate and remove temporary facilities from Project site, along with construction tools, and similar elements.
  - **6.** Complete final cleaning requirements, including touchup painting.
  - **7.** Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- **B.** Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.
  - **1.** Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

**2.** Results of completed inspection will form the basis of requirements for Final Completion.

## 1.03 FINAL COMPLETION

- **A.** Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
  - **1.** Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
  - 2. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  - **3.** Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- **B.** Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
  - **1.** Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

#### 1.04 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

**A.** Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

#### **PART 2: PRODUCTS**

#### 2.01 MATERIALS

**A.** Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## **PART 3: EXECUTION**

#### 3.01 FINAL CLEANING

- **A.** General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- **B.** Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

- **1.** Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
- 2. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
- **3.** Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- **4.** Remove tools, construction equipment, machinery, and surplus material from Project site.
- **5.** Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
- **C.** Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

\*\*\*END OF SECTION\*\*\*

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## SECTION 02881 DREDGING

#### ALAMEDA SOUTH SHORE LAGOONS 3 & 5 DREDGING PROJECT

## PART 1: GENERAL

#### 1.01 SCOPE OF WORK

- **A.** Excavation shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Special Provisions. Attention is directed to Section 14-10, "Solid Waste Disposal and Recycling," of the Standard Specifications and these Special Provisions.
- **B.** The Contractor's attention is directed to the "Alameda Lagoon Dredging Project Soil Quality Evaluation", dated July 19, 2019, prepared by Cornerstone Earth Group Inc.; which identifies contaminants in the material to be excavated which will require special disposal. Additional material sampling and testing may be required by the commercial landfill prior to acceptance of the material. The cost for additional sampling and testing shall be considered as included in the Cubic Yard price paid for Excavation and no additional payment will be made therefor.
- **C.** This section shall consist of providing all labor, materials, equipment, insurance, licenses, transportation to and from, dredging operations and equipment, and any related services necessary for the dredging and disposal of bottom sediments dredged from the Alameda South Shore Lagoons 3 & 5 Dredging Project with including offsite disposal, as indicated on the plans and in these special provisions.
- **D.** The physical conditions indicated on the Contract Documents are the results of site investigations by surveys and probing. Existing utilities are not shown on the plans. The Contractor shall be responsible for locating any utilities crossing the project site. A copy of the analyses performed on the sediment samples taken from the Lagoons along with a map showing the approximate sample locations are available from the City of Alameda. The material to be dredged is believed to consist of a layer of soft sediment. Also there are areas known to contain culverts and rock erosion protection, the locations of these obstructions are shown on the project plans. The Contractor shall be subject to the following constraints:
  - 1. The Lagoons will be dewatered (to the extent possible, see photos in Attachment B) by the City beginning on April 9, 2020. Dewatering will be complete by May 4, 2020 and will remain available for the Contractor in that condition until May 29, 2020. All work must be completed by May 29, 2020.
  - 2. Contractor shall inform the Engineer ten (10) calendar days in advance of performing dredging. This notification shall include which area is to be dredged and the day on which these areas are to be dredged.
  - 3. The Contractor shall inform the City and the Engineer of the scheduled dredging.
  - **4.** At the end of each working day, the Contractor shall position the equipment such that equipment is safe and secure. Locations of the proposed storage areas shall be submitted for approval.
  - **5.** Contractor shall inform the Engineer of all proposed changes to the Dredge Operation Plan, which will be prepared by the Engineer

- **6.** The contractor shall provide transportation to and from the dredging operations and equipment for City and other regulatory agencies' representatives as required.
- **7.** Dredging operations shall cease immediately whenever violations of requirements are detected. Operation shall not resume until methods of compliance are approved.
- 8. Should the Contractor, during the progress of the work, lose, dump, throw overboard, sink, or misplace any material, plant, machinery, or appliance, which in the opinion of the Engineer may be dangerous to or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. The Contractor shall give immediate notice, with description and location of such obstructions, to the Engineer and, when required, shall mark or buoy such obstructions until the same are removed. Should he refuse, neglect, or delay compliance with the above requirements, such obstructions may be removed by the City, and the cost of such removal may be deducted from any money due or to become due the Contractor, or may be recovered under his bond. The liability of the Contractor for the removal of a vessel wrecked or sunk without fault or negligence shall be limited to that provided in Sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899.
- **E.** Dredging shall include debris removal as needed.
- **F.** The Contractor shall make arrangements for all equipment and facilities including staging areas, access areas and transportation of equipment, material and personnel to and from the limits of work.
- **G.** The Contractor shall be responsible for determining the means, methods, and sequence of Work in accordance with all requirements set forth in the Contract Documents.
- **H.** The Contractor shall be responsible for determining an approach to accessing and dredging the lagoons, dewatering any dredged materials, and final placement of any dredge materials.

## 1.02 SITE CONDITIONS

- **A.** The Contractor shall satisfy himself as to the nature and location of the work; the general and local conditions, particularly those bearing upon availability of transportation, disposal, availability of labor, water, electric power, access, uncertainties of weather, physical constraints at the site, the the hardness and condition of the materials to be dredged, the character of facilities needed during the work and all other matters which can in any way affect the work or the cost thereof under this contract. The Contractor shall further satisfy himself as to the character, quality, hardness and quantity of subsurface materials to be encountered at the site. Any failure by the Contractor to acquaint himself with all the available information shall not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.
- **B.** The Contractor is advised that laboratory testing results on samples taken for the project are included in the attachments of these provisions.

- C. The Contractor may anticipate underground obstructions such as utility lines, concrete foundations, and debris. No extra payment shall be allowed for the removal, replacement, repair or possible increased cost caused by such underground obstructions. Any such lines or obstructions indicated on the Drawings show only the approximate location and shall be verified in the field by the Contractor. The City shall endeavor to familiarize the Contractor with all known underground obstructions, but this shall not relieve the Contractor from full responsibility to anticipate and locate all underground obstructions. The Contractor shall be responsible for verifying prior to bidding the project that the access to the areas will accommodate his equipment.
- **D.** Fixed Docks, Booms, Culverts and Vessels: Prior to the Notice to Proceed, both the Contractor and the City will traverse the entire area, and determine which private vessels and floating booms require relocation prior to dredging. A list of these vessels and booms will be given to the City, and coordinated with the dredging schedule. Thereafter the individual homeowners will be notified, who will in turn remove their vessels to a safe location prior to dredging in their respective areas. The City will remove the floating booms. If Homeowners opt not to relocate their vessels for dredging, the dredging will only proceed with dredging up to a distance no closer than twenty (20) feet from the fixed dock faces. Any and all damage to any structure, private or otherwise, resulting from Contractor's operations shall be the sole responsibility of the Contractor.

#### E. Dredge Access:

- 1. Primary access to the work areas will be mutually determined by the Engineer and Contractor.
- **2.** All exposed surfaces (parking areas, staging areas) shall be watered and swept two (2) times per day.
- **3.** Staging area use shall correspond to the location of the activities that are being undertaken; however, it is possible that more than one staging area shall be used, depending on the level and location of project dredging activities.
- **4.** Activities within the staging areas shall include:
  - **a.** Construction mobilization (set up fencing and project materials storage)
  - **b.** Installation of temporary signage to denote location of the staging area, per approval with City public works and emergency services providers to ensure visibility
  - **c.** Temporary parking for haul trucks and other project-related vehicles
  - **d.** Removing equipment and returning the site to pre-project conditions after project activities are completed.
- **5.** The dredging operations shall access and stage the work from the following locations adjacent to the lagoons:
  - a. Lagoon 3: Accessed via Otis Drive. No access from Powell Street is allowed.
  - **b.** Lagoon 5: Accessed via Waterton Street and Mound Street.
- **6.** Access to the support and work areas shall be controlled by fences, and signage to prevent entry by unauthorized personnel and vehicles.
- 7. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of

- Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- **8.** A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.
- **9.** Any additional site access that the Contractor requires shall be secured in writing by the Contractor. Any fees associated with this access is the Contractor's responsibility. The Contractor shall provide a copy of the access agreement, including a restoration plan.
- **10.** Trucks and equipment receiving dredge spoils shall be parked on tarps/pavement coverings, etc. that shall collect incidental sediment/spoils and prevent accumulation on the paved surfaces.

#### 1.03 SUBMITTALS

- **A.** The Contractor shall provide all records, operational plans and any other information required by the special provisions, dredging permits, regulatory agencies and the Engineer. The Contractor shall provide all items in the time frame as stated. Failure to provide these items in a timely manner will cause delays in the project or may cause the dredging operation to be shut down. No adjustment in time of work will be made if after the notice to proceed has been issued, any such delays are caused by the negligence or non-performance of the Contractor.
- **B.** The Dredge Operation Plan will be prepared by the Engineer. The Contractor shall cooperate to furnish information necessary to complete the document.
- C. Submit Contractor's Quality Control Plan for dredging operations and disposal.
- **D.** The Contractor shall prepare and successful implement a construction traffic control plan that shall include project-specific measures to reduce potential impacts on traffic flows on roadways affected by project construction. This plan shall be reviewed and approved by the City of Alameda prior to commencement of project activities. The plan shall include the following:
  - 1. Flaggers or signs shall guide vehicle and other traffic (pedestrian and bicycles) through or around the construction zone. At all times, the Contractor shall maintain access for emergency response vehicles.
  - 2. Large truck and delivery trips shall be scheduled outside the peak morning and evening commute hours, and outside on-site peak traffic hours (for parking lot use).
  - **3.** Along major arterials, truck trips shall be scheduled outside the peak morning, peak evening, and event commute periods to the extent feasible.
  - **4.** Construction, particularly related to lane closures, shall be coordinated with local transit service providers.
  - **5.** On-going and up-to-date information relating to the construction schedule and affected roadways and intersections, particularly lane closures, and a contact person, shall be provided to the public, for example on the City of Alameda website.

- **6.** Where it is feasible and safe to do so, existing pedestrian and bicycle access and circulation shall be maintained at all times. If access and circulation cannot be maintained, detours shall be designated and posted for pedestrians and bicyclists.
- 7. All construction equipment and materials shall be stored in designated contractor staging areas on or adjacent to the worksite, in a manner that minimizes obstruction of traffic.
- **8.** Public roadways, retaining walls, fences, curbs and sidewalks shall be repaired or restored to their original conditions upon completion of construction.
- **9.** The traffic control plan shall conform to the California Manual on Uniform Traffic Control Devices: Part 6, "Temporary Traffic Control." Traffic plans shall require approval from City emergency response providers. Traffic circulation patterns and associated signage shall be approved by the City.

## 1.04 REGULATORY REQUIREMENTS

- **A.** The Contractor shall be responsible for knowing and conforming to the requirements of the U. S. Army Corps of Engineers, the California Regional Water Quality Control Board, and any other federal, state, county or local agency code, ordinance, or regulation that may apply. The U.S. Army Corps of Engineers and California Regional Water Quality Control Board Certification permits are attached as attachments to these specifications.
- **B.** Contractor shall comply with the following Army Corps of Engineers submittal requirements:
  - 1. Dredge Operation Plan, which will be prepared by the Engineer.
  - 2. Solid Debris Management Plan, which will be prepared by the Engineer.
  - 3. Disposal verification log sheet.
  - **4.** Disposal summary sheet.
  - **5.** Notification to start work sheet.
- **C.** The Contractor shall cooperate with the Engineer and provide information on the landfill location for the Solid Debris Management Plan which will be prepared and submitted by the Engineer.
- **D.** The Contractor shall not receive a Notice to Proceed until the Dredge Operation Plan and Solid Debris Management Plan have been approved by the Corps of Engineers, Water Boards, and the City.
- **E.** The Contractor is responsible for securing and paying for all permits and licenses in connection with operating their equipment, floating or otherwise.
- **F.** The Contractor is responsible for maintaining water quality standards and shall conform to the requirements of the California Regional Water Quality Control Board, San Francisco Bay Region.
  - 1. Dredging shall be limited to the design depths shown on the plans, with no more than one-foot of overdredge.
  - 2. No overflow or decant water shall be discharged from any barge, with the exception of spillage incidental to clam shell or excavator dredge operations.

- **3.** The Contractor shall notify the City if any spill or adverse condition occurs immediately.
- **G.** Fines imposed by any Regulatory Agency caused by the Contractor, due to negligence or wrong doing on the part of the Contractor, in the execution of the Dredging Work shall be paid by the Contractor.
- **H.** The Contractor shall be prepared for and allow for Corps of Engineers and/or Waterboard inspection at any time during dredging operation.

## 1.05 PROTECTION OF FACILITIES

- **A.** At all times, the Contractor shall be solely and completely responsible for the condition of the job site, including safety of persons, boats, docks, and all property, and for all necessary independent engineering reviews of these conditions.
- **B.** Take care to insure the integrity and freedom from damage of all buildings, curbs, fences, gates, floats, marine fenders, wharves, boats, and other facilities adjoining or near the sites. Any damage caused by the Contractor's operations to any existing property shall be replaced or repaired in kind to the satisfaction of the Engineer, and at no cost to the City.
- **C.** Erect and maintain temporary lights, navigation lights, barricades, warning signs, buoys and guards necessary to protect the public from injury in accordance with applicable rules and regulations.
- **D.** During the dredging operations the Contractor shall take all necessary measures to protect all boats and other facilities in the vicinity of the work area. The Contractor, at his own expense, shall have personnel available at all times to immediately wash off or clean as necessary any dredged material dropped or splashed on any boat.
- **E.** Contractor shall wash down and hose off all materials dropped on the boats, floats, gangways, sidewalks, and street areas immediately and leave such facilities in the same condition as they were at the start of work. Contractor shall inspect the above facilities at the end of each work day and clean off any materials missed as work progressed. Clean up shall be to the satisfaction of the Engineer.
- **F.** Keep all pavements and areas adjacent to and leading from the site clean and free of mud, dirt, and debris at all times.
- **G.** Do not close or obstruct sidewalk, roadways, channels or navigation ways without proper permits and authorization in writing from the City.
- **H.** Contractor shall not tie, moor, connect or make contact with the City or resident facilities, including all docks, breakwater walls, bridges, culverts, etc., with any of the Contractor's equipment unless specifically required for disconnection, transportation, and reconnection of existing facilities. All of the Contractor's equipment shall be kept clear of the existing facilities.
- **I.** Protect adjacent structures and utilities from damage resulting from operations including, but not limited to, settlement, consolidation, displacement, cracking, vibration, undermining washout, and uplift caused by dredging or other operations.

#### 1.06 QUALITY ASSURANCE

- **A.** The City shall provide periodic inspection of the Work.
- **B.** Contractor shall follow documented quality control plan for dredging and disposal.

#### 1.07 PREPARATION

- **A.** Prior to start of dredging, submit schedule of hours of operations for approval by the Engineer.
- **B.** Contractor shall inform the Corps of Engineers, with a copy to the City, when a dredge episode actually commences, suspends (suspension is when the dredge contractor leaves the site for more than 48 hours for reasons other than equipment maintenance), or restarts. Each notification should include the Corps permit number. The information can be sent in writing to the U.S. Army Corps of Engineers, Regulatory Branch, San Francisco District, 1455 Market Street, San Francisco, CA 94105, or by fax to (415) 977-8343, or via telephone at (415) 977-8447.

## **PART 2: PRODUCTS**

### 2.01 WEIGHT HANDLING EQUIPMENT

- **A.** Cranes must be equipped with:
  - 1. Load indicating devices (LIDs) and a boom angle or radius indicator, or load moment indicating devices (LMIs).
  - 2. Anti-two block prevention devices.
  - **3.** Boom hoist hydraulic relief valve, disconnect, or shutoff (stops hoist when boom reaches a predetermined high angle).
  - **4.** Boom length indicator (for telescoping booms).
  - **5.** Device to prevent uncontrolled lowering of a telescoping hydraulic boom.
  - **6.** Device to prevent uncontrolled retraction of a telescoping hydraulic boom.
- **B.** The Contractor shall notify the Project Engineer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.
- C. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.
- **D.** The Contractor shall comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes and ASME B30.8 for floating cranes and floating derricks.
- **E.** The presence of Owner's or Engineer's personnel does not relieve the Contractor of an obligation to comply with all applicable safety regulations. The City shall investigate all complaints of unsafe or unhealthful working conditions received in writing from contractor employees, federal civilian employees, or military personnel.

- **F.** Each load shall be rigged/attached independently to the hook/master-link in such a fashion that the load cannot slide or otherwise become detached. Christmas-tree lifting (multiple rigged materials) is not allowed.
- **G.** Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.
- **H.** When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11 and ASME B30.5 or ASME B30.22 as applicable.
- **I.** Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.
- **J.** A fire extinguisher having a minimum rating of 10BC and a minimum nominal capacity of 5lb of extinguishing agent shall be available at all operator stations or crane cabs. Portable fire extinguishers shall be inspected, maintained, and recharged as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- **K.** All employees shall be kept clear of loads about to be lifted and of suspended loads.
- **L.** A weight handling equipment operator shall not leave his position at the controls while a load is suspended.
- M. Only Contractor crane operators who have met the requirements of 29 CFR 1910.94, 29 CFR 1910.120, 29 CFR 1926.65, 29 CFR 1926.500, USACE EM 385-1-1, ASME B30.5, and ASME B30.22 and other local and state requirements shall be authorized to operate the crane.
- **N.** The Contractor shall use cribbing when performing lifts on outriggers.
- **O.** The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- **P.** A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
- **Q.** A substantial and durable rating chart containing legible letters and figures shall be provided with each crane and securely mounted onto the crane cab in a location allowing easy reading by the operator while seated in the control station.
- **R.** Certification records, which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.
- **S.** Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.
- **T.** The Contractor shall certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

#### 2.02 DREDGING PLANT

- **A.** All dredging under this contract shall be performed using a mechanical type excavator, hydraulic dredges are not allowed.
- **B.** The plant and equipment list submitted with the Contractor's Proposal shall be the minimum which the Contractor shall place and keep on the job unless otherwise determined by the Owners and Project Engineer. The listing of plant and equipment is not to be construed as an agreement on the part of the Owners that the equipment is adequate to perform the work.
- **C.** Plant and equipment employed on the work shall be in satisfactory operating condition and capable of safely and efficiently performing the work under exposed environmental conditions and as set forth in the specification and shall be subject to inspection by the Project Engineer at all times.

#### **PART 3: EXECUTION**

#### 3.01 SURVEYING

- **A.** The Contractor is responsible for all aspects of construction control surveying and staking for the project. The Engineer shall provide the Contractor with the survey control data in AutoCAD format or other format that the Contractor may request.
- **B.** The City shall perform a post-dredge survey in June to confirm final payment quantities and as referenced in the regulatory permits. The pre-dredge survey has already been performed by the City and is acceptable to the Army Corps of Engineers.

#### 3.02 DREDGING

- **A.** Commence dredging operations after all necessary permits and other authorizations have been obtained and after receipt of written notification by the City to proceed with the work.
- **B.** Cease operations immediately if adjacent piers, aprons, wharfs or structures appear to be in danger. Notify the Engineer. Do not resume operations until directed to do so.
- **C.** Notify the Engineer of any unforeseen conditions.
- **D.** To the Engineer's satisfaction, repair all damage caused by the dredging operations to restore the site to its previous condition at no cost to the City or City tenant.
- **E.** Dredging shall be conducted to the required line and grade. The Contractor shall take all reasonable precautions and measures necessary to minimize turbidity and disturbances to the environment.
- **F.** If the Contractor discovers underwater obstructions, the Contractor shall immediately give the Engineer written notification of the existence of such obstruction. Where the engineer determines that the removal of the obstruction is essential to accommodate the project improvement, the Contractor shall remove the obstruction.
- **G.** Provide state-of-the-art mufflers, silencers and noise control features for all equipment.
- **H.** Contractor shall record and maintain Electronic Positioning Data Records. These records are to be submitted weekly to the Engineer and the Corps of Engineers.

- **I.** Contractor shall maintain strict overflow control in accordance with the following requirements.
  - 1. No material shall be permitted to overflow or spill during transportation from the dredging site to the disposal site.

#### 3.03 OPERATION

- **A.** The Contractor will be required to keep all staging areas and loading areas, clean at all times. A crew of workers will be dedicated to removing mud splatter immediately. Any damage, cleaning or detailing of shoreline, City equipment, or boats will be at the Contractor's expense. The Contractor will be required to file and receive approval for operations and staffing plan for protecting and cleaning of in-place improvements.
- **B.** Water draining from excavated material shall be managed in accordance with the Contractor's Water Pollution Control Plan (WPCP). At no time shall storm water or non-stormwater discharges be allowed to flow into sanitary sewer lines unless properly permitted and as approved by the Engineer.
- C. Noise-generating activities will only occur Monday to Friday between approximately 7:00 a.m. and 7:00 p.m. No noise-generating activities are anticipated during evenings, weekends, or holidays. Section 4-10.7 of the Alameda Noise Ordinance states that construction that occurs during these hours is exempt from the noise limits in the ordinance. Therefore, project activities will conform to the specifications of the noise ordinance.
  - 1. The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise. The Contractor shall use methods and devices to control noise emitted by equipment.
  - 2. All equipment shall have sound control devices no less effective than the original equipment and all motorized equipment shall have muffled exhaust.
  - **3.** Noise generating construction equipment shall be shielded from occupied residences by noise-attenuating buffers.
  - **4.** The Contractor shall not use any machine, mechanism, device or contrivance at the Alameda Lagoons that produces a noise level exceeding 85 dBA, measured 50 feet from the source and when measured at a point of reception within the adjacent housing at the Alameda Lagoons does not exceed 55 dBA during the daytime. The "burst" noise level within the housing area shall not exceed 70 dBA.
  - **5.** Construction activities shall be allowed Monday-Friday from 8:30 a.m. to 4:00 p.m.
  - **6.** No operation of equipment requiring backup alarms shall occur outside of 7:00 a.m. to 7:00 p.m.

#### 3.04 OVERDEPTH

**A.** Excavation shall be carried to the exact depth indicated on the drawings and as directed by the Engineer in writing. Should the Contractor, through their negligence or other fault, excavate below the designated lines, they may be required to replace such excavations with approved materials at their expense if structures are endangered.

- **B.** Overdepth: There will be no payment for overdepth dredging on this project.
- **C.** Excessive dredging: Payment will not be made for material taken from beyond the dredge limits.

# 3.05 WORK IN THE VICINITY OF PROTECTED HABITAT, STRUCTURES AND UTILITY CROSSINGS

- **A.** The Contractor shall exercise caution when working in the vicinity of protected habitat, structures and utility crossings. The Contractor shall constantly monitor operations, and the position of the dredge cut, as well as the natural caving of sideslopes. It is intended that all dredging fall within the footprint of the lagoon dredge template. Dredging will not be allowed to presume until alignment issues are resolved. Repair of any damage resulting from excessive or improper excavation in the bottom or side slopes of the channel shall be the responsibility of the Contractor. Where dredging to the required elevation might endanger any structure, the Engineer or his authorized representative may reduce the required excavation in the vicinity of such structure.
- **B.** The Contractor shall provide at least project dimensions over all utility crossings. The Contractor shall submit for approval by the Engineer or his authorized representative a detailed plan of operation at each pipeline or utility crossing where construction surveys indicated project channel does not exist. The plan shall contain emergency measures to be taken in the event of an accident. The Contractor shall notify the owners of pipelines or utilities at least three calendar days prior to operating within 150 feet of a pipeline or utility. The City will not be responsible for any damage to structure or utilities due to the Contractor's deviation from the approved plan.
- **C.** Any unidentified pipelines or structures, which may be found within the limits of work shall not be disturbed nor shall dredging be performed at these locations unless, and until, approved by the Engineer.

#### 3.06 DEWATERING

- **A.** The Contractor shall comply with all permits for this project, including restrictions and conditions issued by the San Francisco Regional Water Board.
- **B.** The Contractor shall assume responsibility for the site and dewatering activities and shall maintain such responsibility during the life of the contract in a manner acceptable to the Engineer, at all times protecting and maintaining the existing conditions in adjacent areas.
- C. The Contractor will be responsible for determining the means and methods for dewatering the dredged material as required for transport and/or placement including all permits governing discharge of effluent. The Contractor is responsible for determining what level and type of dewatering is necessary, and for obtaining any permits, if required. The effluent from the dewatering operation shall be discharged in compliance with applicable federal, state, and local regulations and permits.
- **D.** The Contractor shall prepare a project-specific dewatering plan to address potential impacts of dewatering discharges during construction on the water quality of receiving water bodies and to comply with the NPDES requirements. The discharges shall be handled in accordance with the General Construction Permit.

**E.** A management plan for dewatering shall be prepared to comply with the NPDES requirements. The discharges shall be handled in accordance with the General Construction Permit and shall be developed and approved before dredging. The dewatering management plan shall specify methods for collecting, transporting, treating, and discharging all water produced by construction site dewatering. Applicable BMPs shall be identified in the dewatering management plan to ensure that discharges to receiving waters meet applicable water quality objectives.

#### 3.07 DISPOSAL OF DREDGED MATERIALS

- **A.** All dredge materials shall be transported from the dredge site to an approved commercial landfill site. Any material deposited other than in the places designated or approved by the Engineer will not be paid for and the Contractor may be required to remove such misplaced material and deposit it where directed at his own expense.
- **B.** During transportation from the dredge site to the disposal site no material and no water shall be permitted to spill from the trucks.
- **C.** All chemical waste, such as oil and grease, shall be retained in special tanks designed for that use and pumped off for proper disposal by the Contractor. No additional payment will be made therefore.

#### 3.08 MISPLACED EXCAVATED MATERIAL

**A.** Any material that is deposited elsewhere than in places designated or approved by the Project Engineer or his authorized representative will not be paid for and the Contractor may be required to remove such misplaced material and deposit it where directed at his expense. Misplaced excavated material may constitute a violation of applicable Federal, State, and Local statutes and the Contractor shall be liable for any civil and/or criminal penalties imposed by these statutes.

#### 3.09 TRANSPORTING AND DISPOSAL SITE

- **A.** All trucks and equipment actively receiving dredge spoils shall be parked on tarps/pavement covering that is able to collect incidental sediment/spoils and prevent accumulation on the paved surfaces.
- **B.** All trucks transporting dredged material shall be lined and in such condition that liquids are contained.
- **C.** Dredge materials shall be allowed to sufficiently dry prior to transport. Desiccant may be used as necessary and as directed by the Engineer. Desiccant shall be bentonite clay, unless otherwise approved by the Engineer. The Contractor shall verify acceptable conditions for material delivery from the commercial landfill site to receive the material.
- **D.** Materials shall be transported in sealed trucks as necessary to prevent any leakage of materials during trucking.

#### 3.10 RESTORATION OF LANDSCAPE DAMAGE

**A.** Any tree, grassed area or other landscape scarred or damaged by the Contractor's equipment shall be restored as nearly as possible to its original condition at the Contractor's expense. The City shall determine the methods of restoration to be used.

Contractor shall also be responsible for restoring any roadways, sidewalks, curbs, utilities, irrigation systems, etc.

**B.** or other structures damaged during dredging, transport, and disposal.

#### 3.11 COMPLETION OF DREDGING

**A.** If it is determined that the site was not dredged in accordance to the contract plans and special provisions, the Contractor shall perform any work necessary to comply with the plans and special provisions at no additional cost to the City.

#### 3.12 METHOD OF MEASUREMENT

- **A.** Payment surveys shall be performed by the Engineer, comparing the pre- and post-dredge surveys and planned grading limits.
- **B.** The City has performed a pre-dredge survey showing top of sediment prior to the start of dredging to determine the existing sediment quantity in the area(s) to be dredged. The Contractor shall verity all existing conditions and notify the City of any differences, including sediment quantity and characteristics, prior to the start of work.
- **C.** The Total amount of material removed will be measured by the cubic yards (CY) of material removed by dredging, measured in-place by field verifying that the sediment has been removed, to the lines and grades as specified on the plans.
- **D.** No additional payment shall be made for over depth dredging unless approved in advanced by the Engineer.

#### 3.13 INCREASED OR DECREASED QUANTITIES

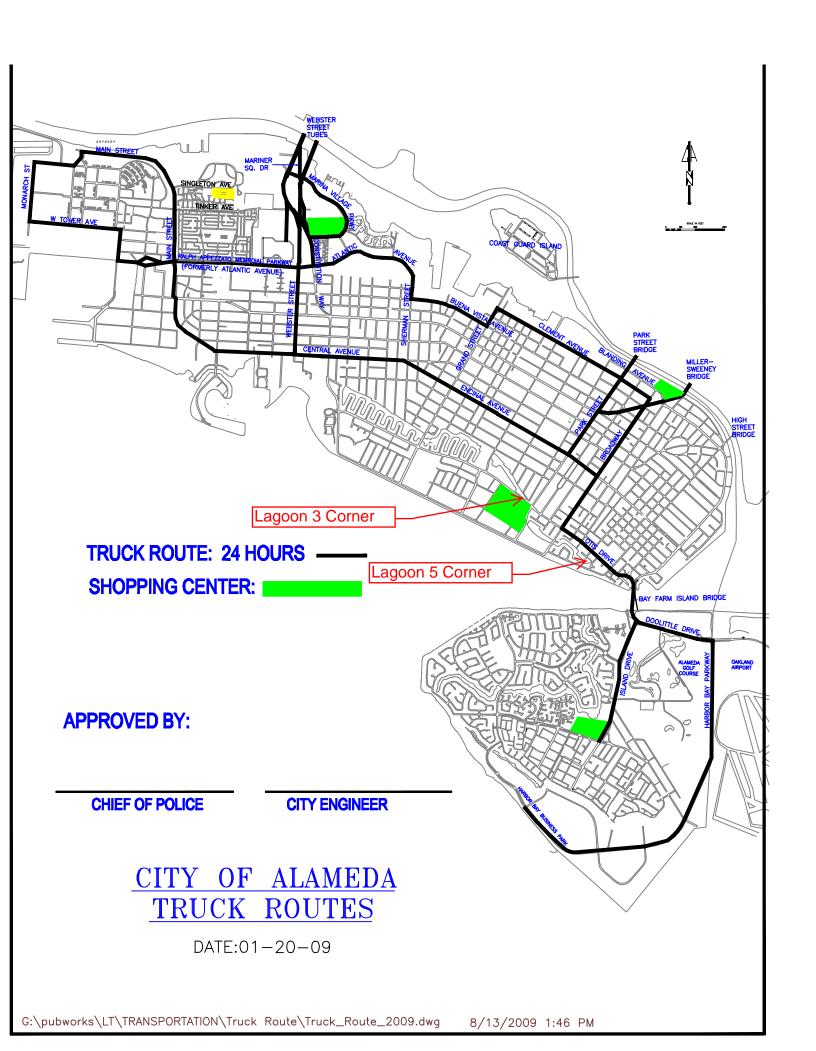
**A.** The City reserves the right to make such alterations, deviations, additions to or deletions from the plans and specifications, with no additional compensation or change in the lump sum or unit bid prices. The City also reserves the right to increase or decrease the quantity of any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated.

\*\*\*END SECTION\*\*\*

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### **ATTACHMENT A**

### **Alameda Truck Routes**



### **ATTACHMENT B**

## Photographs of 2018 Lagoon Lowering – Lagoon 3 and 5 Corners





### **ATTACHMENT C**

**Existing 2014 CEQA Mitigated Negative Declaration** 



### City of Alameda

## Public Works Department Dredged Material Management Program

#### MITIGATED NEGATIVE DECLARATION

This Mitigated Negative Declaration has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA), Public Resources Code, Section 21000 et seq, and the *State CEQA Guidelines*, California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.

#### PROJECT DESCRIPTION

#### Background and Environmental Setting

The proposed project will remove accumulated sediments from an internal lagoon system located on Alameda Island in the City of Alameda, California. The lagoons are a result of a development project in the 1950s to create land for new residential development to take advantage in the suburbanization taking place in many parts of the U.S. Addressing a post-World War II population decrease, city planners viewed the development of the south shore of Alameda Island as a way to revitalize the city and attract new residents and businesses. Eventually, more than 4,000 housing units and approximately 550,000 square feet of commercial and retail space was constructed. Approximately 350 acres of landfill was added to the tidal flats, creating a residential community and associated services and facilities, including a shopping center, post office, two schools, and several neighborhood parks.

An identifying feature of this community is an internal lagoon system to be used for aesthetic and recreation purposes, primarily for the residents whose properties are located along the lagoons. This residential frontage is located mostly at rear-yard locations, and includes lagoon frontage, docks, patio decks, and associated waterfront amenities. Recreational craft include kayaks, paddleboats, canoes, and additional non-motorized craft. Motorized water craft are not allowed, except for maintenance purposes.

The lagoons are comprised of salt water pumped from San Francisco Bay through a pumping system linking the lagoons through a series of culverts and are partially drained on an annual basis for approximately 1 month for maintenance and water quality reasons. There is no direct surface access between the lagoons and the bay, nor is there surface access between the lagoons, except between Lagoons 1 and 2 under the Grand Street Bridge. The average lagoon depth is approximately 3 feet, and the maximum depth is approximately 6 feet. There is no direct public access to the lagoons since they were created primarily for private, residential recreation access. Public viewing access is available at mid-block locations along Broadway, Willow Street, Otis Drive, and several other locations.

The lagoons provide an internal network for wildlife viewing, small non-motorized water craft recreation, swimming, and aesthetic purposes. The lagoons, and associated banks and adjacent residential vegetation, also serve as habitat for various species of wildlife, including nesting and migratory birds and small estuarine fish. Local domestic and feral wildlife also utilize the lagoon environment. The lagoon banks are planted with native and non-native species typical of residential rear-yard environments and include trees and large shrubs that are capable of shedding leaves and needles into the lagoon environment.

The lagoons are supplied with bay water via an intake pipe and pump into Lagoon 1. The water then moves by gravity through the five lagoons. There is a weir at Willow Street, between Lagoons 2 and 3, and a weir at Bayview Drive, at the end of Lagoon 5, that regulates the water level. The lagoon system serves as a storm water detention and settling basin. Approximately 1,000 acres (1.6 square miles) of the city drains into the lagoons via overland drainage and storm drain pipes. The lagoons are lowered slightly before each major storm so that the stormwater can be detained and settled before it proceeds through the Bayview weir, through storm drain pipes, and out to the bay.

There are five lagoons, situated as follows (refer to Figures 1 through 3)

- Lagoon 1 Westline to Grand Street
- Lagoon 2 Grand St. to Willow Street
- Lagoon 3 Willow St. to Park Street
- Lagoon 4 Park St. to Broadway
- Lagoon 5 Broadway to Court Street

The lagoon waters are owned by the Alameda West Lagoon Home Owners Association (AWLHOA), and maintenance responsibilities are shared with the City of Alameda Public Works Department.

#### Purpose and Need

The primary objective of the project is to remove accumulated sediments from the lagoon system which has been causing the depth of surface water to decrease over the past few decades, potentially affecting the lagoon's water quality, wildlife habitats, and ability to function as a stormwater detention facility. The lagoon system is a component of a residential community and does not have a natural outflow. The lagoon system functions as a stormwater detention facility, allowing detention of stormwaters and settlement of solids. Sediments also enter the lagoon system from the intake pipe. The slow pace of the flow through the lagoons, and outflow over regulated weirs, encourages deposition of sediments and eliminates the opportunity of scouring. As a result, accumulating sediment and debris require removal through excavation and dredging.

The AWLHOA and the City of Alameda Public Works department have been working together to address the accumulation of sediment and water quality degradation in the internal lagoon system. The depths of surface water in the lagoons have been decreasing over the past few decades as more sediment accumulates. The City has conducted bathymetry surveys to map the bottom of the lagoons to define priority areas for sediment removal. The City has conducted sediment sampling for potential contaminants to determine where the dredge spoils could be disposed.

The City is now working with the Dredged Material Management Office (DMMO) to obtain the necessary approvals from state and federal agencies charged with ensuring water quality to begin dredging activities. Removal of these dredged materials and sediments will result in a positive impact to the water quality of the lagoons, as well as their habitat suitability for various wildlife species, and the capacity of the lagoons to treat future stormwater events.

#### The Dredged Material Management Office Program

The Dredged Material Management Office (DMMO) is a joint program of the San Francisco Bay Conservation and Development Commission (BCDC), San Francisco Bay Regional Water Quality Control Board (RWQCB), State Lands Commission (SLC), the San Francisco District U.S. Army Corps

of Engineers (USACE), and the U.S. Environmental Protection Agency (EPA). Also participating are the California Department of Fish and Wildlife, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service, which provide advice and expertise to the DMMO process. The purpose of the DMMO is to cooperatively review sediment quality sampling plans, analyze the results of sediment quality sampling and make suitability determinations for material proposed for disposal in San Francisco Bay. The goal of this interagency group is to increase efficiency and coordination between the member agencies and to foster a comprehensive and consolidated approach to handling dredged material management issues.

#### **Dredging and Excavation Activities**

The project will include dredging, excavation, hauling, and disposal activities. An estimated total of 12,000 cubic yards of dredged materials would be removed from approximately 28 priority areas within the five lagoons. These priority areas have been determined based on bathymetry surveys that mapped the bottom of the lagoons to locate areas where sediment removal was deemed critical. The dredging contract will be put out to bid with a base bid of the highest priority areas among these 28 areas, and additive alternates of the remaining priority areas, that will be included depending on what can be accomplished within the budgeted funds.

Dredging and excavation activities will be performed via mechanical/excavator dredge with placement of the material into barge mounted scows for dewatering. Dredging would include a compressor, crane, generator set, pump, and one additional piece of heavy equipment. During dredging, surface water will be removed along with sediment. The dredged material will be dewatered before removal so that temporary draw down of surface water would be limited to small quantities removed with the dredged sediment. The majority of dewatering activities associated with the project will occur as the dredged material is brought from the bottom of the lagoons during removal. Dewatering activities are not expected to generate water requiring containment or disposal on land. Excess water brought up with the dredged material will be allowed to drain back into the lagoon at the priority area where the dredging occurred, before being loaded on the barge. If a silt screen is required to contain Total Suspended Solids (TSS) concentrations above background levels, dewatering of the dredged material would occur within that area.

Based on the sediment sample results it was determined that the sediment was not appropriate for disposal in the San Francisco Bay. Therefore, once dewatered, the barge will be brought near shore and a land based excavator will remove the material and place into trucks to be hauled to a disposal site at Alameda Point.

The dredging activities will primarily occur in one or two lagoons at a time, with one set of dredging equipment and one staging area in operation for each lagoon. The barge will move throughout the lagoon and dredge for materials, then when dredging is completed for that lagoon, the equipment will be moved to the next lagoon, along with relocation to a new staging area, if warranted. It is anticipated that the total time for dredging activities would not exceed more than approximately 3-4 weeks for each lagoon. Since the lagoons are of different size and dimension the time allotted to each lagoon is expected to vary, with dredging activities in Lagoon 1, occuring over a longer period than those for smaller lagoons, such as Lagoons 4 and 5. The City will establish access points for each lagoon and the road section may be closed off briefly for the launch of equipment. During excavation and hauling, at least one lane in each direction will remain open.

The project will propose segregation of the lagoon where the sediment removal is taking place by installation of floating silt curtains, if necessary. The solids would be those solids which were placed into suspension by the excavation operation. These solids would settle readily without polymer however polymer could be used if settling was not occurring quickly. A recirculation pump and polymer dosing system may be installed to pump the water with suspended solids from within the segregated lagoon and a

small amount of polymer would be added to settle the solids in the segregated lagoon. A polymer that passes aquatic toxicity tests would be used and typically these types of polymers/flocculants are the same products as those used in treatment of water to produce potable water. The polymer dosage would be limited by the results of the aquatic toxicity testing. The flocculated solids would consist of flocculated fine grained sediments which would settle to the bottom of the lagoon, consolidate and remain in place. Since the project goals are based on achieving a certain elevation these consolidated fine sediments would be required to fall within the design elevation final grade. If necessary, the flocced solids would be pumped through a small geotextile filter bag to capture the majority of the solids prior to sending the filtrate back to the segregated lagoon.

The project site is not on a list compiled pursuant to Government Code Section 65962.5.

#### Haul Routes and Disposal

Hauling and staging operations would require use of Alameda surface streets, include those within primarily residential areas. During the approximately 3 month dredging period, approximately 12,000 cubic yards of dredged materials will be transported by truck from the various staging areas to the disposal site at Alameda Point, IR Site 1. The hauling trucks proposed will carry an average of 16 cubic yards per load; this is the maximum legal capacity using California tandem trucks. Therefore, for 12,000 cubic yards, up to 800 total truckloads will be required, resulting in approximately 1,600 total truck trips to and from the haul disposal site. This will result in an average of approximately 22-25 truck trips per day.

Trucks will deliver the material to the disposal site at Alameda Point by way of an established truck haul route. This truck route has been reviewed and approved by the city's Public Works and Police Departments and has been used for various other projects in addition to the current project. The location of the route is intended to mitigate impacts to residential uses by making use of major thoroughfares in Alameda that already support higher volumes of truck, bus, and other vehicular traffic. Trucks hauling the dredged materials to the disposal site will occur within business hours, and will be limited during school and business rush hours between 7:00 AM to 9:00 AM and after 3:00 PM to limit potential conflicts with school and business traffic.

Since the project will be staged at multiple locations along the lagoons, project access to the truck route will be required to access residential streets leading to and adjacent to the truck route. The nearest truck route to the project is Encinal Avenue, State Route 61. From there, the trucks would travel on Central Avenue (also part of State Route 61, until Webster Street). Central Ave becomes Main Street, which runs all the way to the north entrance of Alameda Point at Navy Way. Since no established truck routes are located on Alameda Point, the trucks would enter via West Atlantic Avenue instead of Navy Way. The other routes into Alameda Point are not recommended as they might be difficult for large trucks (Pacific Avenue and Oriskany Avenue), or go through high pedestrian residential areas (Midway Avenue).

The disposal site for dredged and excavated materials is at Alameda Point is Installation Restoration (IR) Site 1, located on the far northeasterly portion, within the unused former runway complex. This site is also used for other disposal activities and is more than 1 mile from the nearest residential uses.

#### **Staging Areas**

The project will require multiple staging areas for truck loading and dredge launching since the crane and barge system will traverse the lagoons at various timelines throughout the project schedule. The lagoons are connected by culverts, except for the connection between Lagoons 1 and 2, so they will each would be staged separately. The exact locations of staging areas will be selected based on their proximity to the lagoon, as well as adjacent streets and bridges providing access to the truck route for disposal. Physical

features, such as low power lines on many of the adjoining streets, will be a factor as well for identifying the precise locations for truck loading and dredge launching.

Staging area use will correspond to the location of the activities that are being undertaken; however, it is possible that more than one staging area will be used, depending on the level and location of project dredging activities.

Activities within the staging areas will include:

- Construction mobilization (set up fencing and project materials storage)
- Installation of temporary signage to denote location of the staging area, per approval with City public works and emergency services providers to ensure visibility
- Temporary parking for haul trucks and other project-related vehicles
- Removing equipment and returning the site to pre-project conditions after project activities are completed.

The project will use staging areas at various locations providing the most direct access to the lagoons for dredging:

- (1) Lagoon 1: Accessed via the west side of the Grand Street Bridge. Another option is the end of Bay Street.
- (2) Lagoon 2: Accessed under the Grand Street Bridge to the west side of the bridge for unloading, depending on the size of barge. Alternative access could also be obtained via the ends of Lafayette Street and Union Street.
- (3) Lagoon 3: Accessed via Powell Street, with an alternative option at Cedar Street, a dead end with access limited by a large palm tree.
- (4) Lagoon 4: Accessed via Broadway.
- (5) Lagoon 5: Accessed via Broadway, with options to use Waterton Street to Otis Drive.

The staging areas are in preliminary design and could be adjusted based on field conditions at the time of project construction in coordination with local emergency response agencies.

#### Project Schedule

The project will be performed on a timetable commencing in June 2014, with estimated completion in August 2014. Project activities will include staging, dredging, excavation, and hauling. The majority if not all of the dredging will be accomplished during the time that the lagoons are at normal water level. The annual one month period for lagoon draining can be adjusted to work around the schedule of the contractor. Project activities will occur on a weekly basis, with project hours within 7:00 a.m. and 3:00 p.m., Monday through Friday. No evening or holiday hours are anticipated. Project hours would be extended, if needed, subject to public hearing and approval by the Alameda City Manager.

Noise-generating activities will only occur Monday to Friday between approximately 7:00 a.m. and 3:00 p.m. No noise-generating activities are anticipated during evenings, weekends, or holidays. Section 4-10.7 of the Alameda Noise Ordinance states that construction that occurs during these hours is exempt from

the noise limits in the ordinance. Therefore, project activities will conform to the specifications of the noise ordinance.

The City of Alameda will specify the following provisions that will minimize noise into its agreement with contractors.

- The contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise. The contractor shall use methods and devices to control noise emitted by equipment.
- All equipment shall have sound control devices no less effective than the original equipment and all motorized equipment shall have muffled exhaust.
- Noise generating construction equipment shall be shielded from occupied residences by noise-attenuating buffers.
- The contractor shall not use any machine, mechanism, device or contrivance at the Alameda Lagoons that produces a noise level exceeding 85 dBA, measured 50 feet from the source and when measured at a point of reception within the adjacent housing at the Alameda Lagoons does not exceed 55 dBA during the daytime. The "burst" noise level within the housing area shall not exceed 70 dBA.
- Construction activities shall be allowed Monday-Friday from 7:00 a.m. to 3:00 p.m.
- Construction activities and equipment operations within 300 feet of occupied residences shall only be performed from 8:00 a.m. to 3:00 p.m. on Monday through Saturday.
- No operation of equipment requiring backup alarms shall occur outside of 7:00 a.m. to 3:00 p.m.
- No work will occur on the following legal holidays: New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving (Thursday and Friday), and Christmas.

#### **DETERMINATION**

This project will not have a significant impact on the environment. This determination is based upon the criteria of the CEQA Guidelines, Section 15064 (Determining Significant Effects), 15065 (Mandatory Findings of Significance), and 15070 (Decision to Prepare a Mitigated Negative Declaration). The City of Alameda has prepared an Initial Study for this project, per the requirements of the CEQA Guidelines (C.C.R. Title 14 § 15000 et. seq.), and determined that the project will not have a significant impact on the environment for the following reasons:

The proposed project will result in no impact on agricultural and forest resources, land use and planning, mineral and energy resources, population and housing, public services, or utilities and service systems.

The proposed project will have less than significant impacts on aesthetics, biological resources, noise, recreation; and no significant adverse impacts on air quality, cultural resources, hydrology and water quality, hazards and hazardous materials, and traffic and transportation, because avoidance, minimization and mitigation measures will reduce potential impacts to a less than significant level. The measures are included in the attached Mitigation Monitoring and Reporting Program, and have been adopted by the City of Alameda for inclusion in the proposed project.

#### PUBLIC REVIEW AND COMMENT

The Initial Study and draft Mitigated Negative Declaration were made available for a public review and comment period that began on February 25, 2014 and ended on March 27, 2014. Public review was done pursuant to CEQA Guidelines Sec. 15072 and 15073. Agencies and members of the public were provided notice of the availability of these documents per the following:

- 1) The State Clearinghouse distributed copies of the documents to various responsible and trustee agencies for a review period that began on February 26, 2014 and ended on March 27, 2014. These state agencies included:
  - a. California Resources Agency
  - b. Department of Conservation
  - c. Department of Fish and Wildlife, Region 3
  - d. Office of Historic Preservation
  - e. Department of Parks and Recreation
  - f. San Francisco Bay Conservation and Development Commission
  - g. Department of Water Resources
  - h. California Highway Patrol
  - i. Caltrans, District 4
  - j. Caltrans, Division of Aeronautics
  - k. Air Resources Board
  - 1. State Water Resources Control Board, Division of Financial Assistance
  - m. Regional Water Quality Control Board, Region 2
  - n. Native American Heritage Commission
  - o. State Lands Commission

No comment letters were received by any of these agencies.

- 2) Notice of Intent to Adopt a Mitigated Negative Declaration, filed with the Alameda County Clerk, February 25, 2014, for a period of 30 days.
- 3) City of Alameda Website: http://alamedaca.gov/public-works/draft-mitigated-negative-declaration-dredged-material-management-program, beginning on February 26, 2014. Electronic copies of the documents were provided on this site.
- 4) Public Notice, *Draft Mitigated Negative Declaration, Dredged Material Management Program*, mailed to approximately 1,300 property owners and residents located within 300 feet of the project boundary, on February 25, 2014. A copy of the mailing list is attached to this document by reference, and is available in the project file at the Alameda Public Works Department, 950 West Mall Square, Room 110, Alameda, CA 94501-7575
- 5) Hard copies of the documents were provided to the Alameda Public Works Department and the Alameda Public Library on February 26, 2014, at the addresses below:

City of Alameda Public Works Department 950 West Mall Square, Room 110 Alameda, California, 94501 Alameda Public Library 1550 Oak Street Alameda, CA 94501

One comment letter from the public was received on March 18, 2014. The commenter had concerns about potential impacts from noise and odors, as well as concerns regarding potential damage to lagoon walls and residence foundations from project activities. These comments were considered during preparation of the final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program.

The Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, Initial Study, and all supporting reference documents and technical studies are available for review at the Alameda Public Works Department, located at the following address:

Alameda Public Works Department 950 West Mall Square, Room 110 Alameda CA 94501-7575

MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	MEASURES Responsibility for Schedule Schedule Responsibility Completed		City of Alameda During project activities. The Public Works Public Works	reas, staging areas) shall be watered Project Contractor. Project Contractor to ensure that construction, and these measures are in a directed by	place during project the activities.	shall be st once per	roads shall be limited to 15 miles per	dewalks to be paved shall be Building pads shall be laid as soon as eding or soil binders are used.	either by shutting equipment off when num idling time to 5 minutes (as ne toxics control measure Title 13, of Regulations [CCR]). Clear signage on workers at all access points.	l be maintained and properly tuned in specifications. All equipment shall be nissions evaluator.	posted with the telephone number and ency regarding dust complaints. This corrective action within 48 hours. The lalso be visible to ensure compliance
	MITIGATION MEASURES	Air Quality Mitigation Measures	Mitigation Measure AIR-1: (Bay Area Air Quality Management District) BAAQMD Construction Mitigation Measures	<ul> <li>All exposed surfaces (parking areas, staging areas) shall be watered two times per day.</li> </ul>	<ul> <li>All haul trucks transporting soil, sand, or other loose material off site shall be covered.</li> </ul>	<ul> <li>All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day.</li> </ul>	<ul> <li>All vehicle speeds on unpaved roads shall be limited to 15 hour.</li> </ul>	<ul> <li>All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as possible after grading unless seeding or soil binders are used.</li> </ul>	<ul> <li>Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</li> </ul>	<ul> <li>All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.</li> </ul>	A publicly visible sign would be posted with the telephone number an person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance

MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	ON MONITORING AND REPORTING PROGRAM for Adopted Mitigation and Improvement Meas	TING PROGRAM		
MITIGATION MEASURES	Responsibility for Implementation	Schedule	Monitoring/Report Responsibility	Status/Date Completed
Biological Resources Mitigation Measures				
Mitigation Measure BIO-1: Protection for Nesting Birds  If nesting birds are encountered during project activities, work shall be halted until the birds have fledged or a disturbance-free buffer has been established. Buffer sizes will be established in consultation with Tetra Tech and the California Department of Fish and Wildlife and/or United States Fish and Wildlife Service. If for any reason a bird nest must be removed during the nesting season, the project proponent shall provide written documentation providing concurrence from the appropriate resource agencies (e.g., California Department of Fish and Wildlife and United States Fish and Wildlife Service) authorizing the nest relocation.	City of Alameda Public Works Department and Project Contractor.	During project activities.	Public Works Department, in consultation with the California Department of Fish and Wildlife and/or United States Fish and Wildlife Service as necessary.	Considered complete after end of project construction, and as directed by the Public Works Department.
Cultural Resource Mitigation Measures				
Mitigation Measure CUL-1: Cultural Resources Record Search Prior to commencement of project activities, a record search will be conducted to confirm that there are no recorded cultural resources in or adjacent to the final project area. Pursuant to CEQA Guidelines section 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during the project, all work within 100 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.  In considering any suggested measure proposed by the consulting	City of Alameda Public Works Department and Cultural Resources Consultant.	Prior to commencement of project activities.	Public Works Department in coordination with approved Cultural Resources consultant.	City of Alameda shall accept the findings and any subsequent mitigation measures of the Cultural Resources record search prior to commencement of project activities.
archaeologist in order to mitigate impacts to nistorical resources or unique				

## Page 3 of 7

MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	RING AND REPORT	ING PROGRAM rovement Measures)		
MITIGATION MEASURES	Responsibility for Implementation	Schedule	Monitoring/Report Responsibility	Status/Date Completed
archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological resources is carried out.				
Mitigation CUL-2: Accidental Discovery of Human Remains In the event that human skeletal remains are discovered as part of the project, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 100-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities.  Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously and determine whether there are areas that may be sensitive.	City of Alameda Public Works Department.	During project activities.	Public Works Department and Alameda County Coroner, in consultation with the Native American Heritage Commission as necessary.	Completion of notification and consultation requirements of Pub. Res. Code Sec. 5097.98, Section7050.5(c) of the California Health and Safety Code, and NAGPRA Regulations at 43 CFR 10.4.
Hazards and Hazardous Materials Mitigation Measures				
A site Health and Safety Plan (HASP) shall be prepared by the contractor in accordance with federal and state OSHA requirements, and appropriate personal protective equipment shall be used and waste management procedures implemented based on the plan. The HASP will include procedures required to handle and mitigate potential risk to due to lead fibers and other contaminants that could be entrained in airborne particulates in a breathing zone during excavation. This plan will describe training requirements and certifications needed for personnel who would be involved with the removal of	City of Alameda Public Works Department and Project Contractor.	Prior to project activities.	The Public Works Department shall approve the HASP prior to commencement of project activities.	Considered complete after end of project construction, and as directed by the Public Works Department.

	Status/Date Completed		Considered complete after end of project construction, and as directed by the Public Works Department.		Considered complete after construction of project.
	Monitoring/Report Responsibility		The Public Works Department shall coordinate with Project Contractor to ensure that these measures are in place during project activities.		The Regional Water Quality Control Board shall approve the BMPs as described in the SWPPP. The Public Works Department shall coordinate with Project Contractor to ensure that these measures are in place during project activities.
TING PROGRAM rovement Measures)	Schedule		Prior to and during project activities		Prior to and during project activities
RING AND REPORT	Responsibility for Implementation		City of Alameda Public Works Department and Project Contractor		City of Alameda Public Works Department and Project Contractor
MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	MITIGATION MEASURES	lead-contaminated material. Adherence to this plan will reduce the potential hazard posed by contaminated sediment to the public and environment to less than significant.	Mitigation Measure HAZ-2: Management of Soil  The project sponsor shall obtain representative samples of dredged material to confirm the appropriate disposal methods. All soil encountered during project activities shall be assumed to contain elevated levels of contaminants and shall be managed appropriately until laboratory testing confirms suitability. Access to the support and work areas will be controlled by fences, and signage to prevent entry by unauthorized personnel and vehicles. Dust generation is not a major concern because the sediment will be placed on trucks to be transported off site as the moisture evaporates. Soil will be covered during transport to the Alameda Point Site 1 landfill.	Hydrology And Water Quality Mitigation Measures	<b>Mitigation Measure HW-1: Best Management Practices (BMPs) and Erosion Control Measures</b> Erosion Control measures and BMPs shall be implemented to minimize the effects of erosion, sedimentation, and leakage of vehicle and equipment fluids and shall be developed further in the project-specific SWPPP prepared by the contractor, in accordance with the requirements of the General Construction Permit. The BMPs described in the SWPPP shall require review and approval by the Regional Water Quality Control Board (RWQCB). BMPs implemented as part of the proposed project could include the measures described below. The measures could be altered, supplemented, or deleted during the RWQCB review process. Implementation of these measures shall help meet the relevant water quality objectives included in the Basin Plan (for example, maintain beneficial uses of receiving waters, not create floating material or visible film at the water surface, and prevent toxic substances in concentrations that would adversely affect aquatic life in receiving waters) (SWRCB 2011).

	Status/Date Completed	Considered complete after end of project construction, and as directed by the Public Works Department.  Considered complete after end of project construction, and as directed by the Public Works Department.
	Monitoring/Report Responsibility	The Public Works Department shall approve the dewatering plan prior to commencement of project activities.  The Public Works Department shall approve the methodology, materials and equipment for management of siltation prior to commencement of project activities.
ING PROGRAM rovement Measures)	Schedule	Prior to commencement of project activities.  Prior to and during project activities.
ON MONITORING AND REPORTING PROGRAM for Adopted Mitigation and Improvement Measi	Responsibility for Implementation	City of Alameda Public Works Department and Project Contractor.  City of Alameda Public Works Department and Project Contractor
MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	MITIGATION MEASURES	Mitigation Measure HW-2: Management of Dewatering Discharges  The contractor shall prepare a project-specific dewatering plan to address potential impacts of dewatering discharges during construction on the water quality of receiving water bodies and to comply with the NPDES requirements. The discharges shall be handled in accordance with the General Construction Permit  A management plan for dewatering shall be prepared to comply with the NPDES requirements. The discharges shall be handled in accordance with General Construction Permit and shall be developed and approved before dredging. The dewatering management plan shall specify methods for collecting, transporting, treating, and discharging all water produced by construction site dewatering management plan to ensure that discharges to receiving waters meet applicable water quality objectives.  Mitigation Measure HW-3: Management of Siltation from Dredging Activities  The dredging associated with the project has the potential to cause an increase of suspended solids in the lagoons if suspended solids are not properly managed during dredging of the priority areas. The project contractor shall segregate the priority areas by installing silt curtains during dredging from silt curtain will help prevent suspended solids from increasing TSS concentrations ad dring dredging exceed background concentrations during dredging exceed background concentrations and reason increasing TSS concentrations are an an areas of the lagoon no being dredged. If the solids do not settle, a small polymer system on a barge will use a small amount of polymer re-circulate to aid the settling of suspended solids.

	Monitoring/Report Status/Date Responsibility Completed		The Public Works Department, Fire Chief, and Police Chief shall review and approve the Construction Traffic construction Traffic commencement of project activities.  Control Plan prior to commencement of project activities.  Department.  Department.
ING PROGRAM  ovement Measures)	Schedule		Prior to and during project activities.
RING AND REPORTI	Responsibility for Implementation		City of Alameda Public Works Department and Project Contractor
MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	MITIGATION MEASURES	Traffic and Transportation Mitigation Measures	<ul> <li>Mitigation Measure TRA-1: Construction Traffic Control Plan  The project contractor shall prepare and successful implement a construction traffic control plan that will include project-specific measures to reduce potential impacts on traffic flows on roadways affected by project construction. This plan will be reviewed and approved by the City of Alameda prior to commencement of project activities. These roadways will include, but not be limited to Willow Street, Grand Street, and Broadway. The plan shall include the following:  Flaggers or signs will guide vehicle and other traffic (pedestrian and bicycles) through or around the construction zone. At all times, the contractor will maintain access for emergency response vehicles.</li> <li>Large truck and delivery trips shall be scheduled outside the peak morning and evening commute hours, and outside on-site peak traffic hours (for parking lot use).</li> <li>Along major arterials, truck trips will be scheduled outside the peak morning, peak evening, and event commute periods to the extent feasible.</li> <li>Construction, particularly related to lane closures, will be coordinated with local transit service providers.</li> <li>On-going and up-to-date information relating to the construction schedule and affected roadways and intersections, particularly lane closures, and a contact person, shall be provided to the public, for example on the City of Alameda website.</li> <li>Where it is feasible and safe to do so, existing pedestrian and bicycle access and circulation will be maintained at all times. If access and circulation will be maintained detours will be estored in designated and posted for pedestrians and bicyclists.</li> <li>All construction equipment and materials will be stored in designated contractor staging areas on or adjacent to the worksite, in a manner that minimizes obstruction of traffic.</li> </ul>

MITIGATION MONITORING AND REPORTING PROGRAM (Includes Text for Adopted Mitigation and Improvement Measures)	RING AND REPORT Mitigation and Imp	ING PROGRAM rovement Measures)		
MITIGATION MEASURES	Responsibility for Implementation	Schedule	Monitoring/Report Responsibility	Status/Date Completed
<ul> <li>Public roadways will be repaired or restored to their original conditions upon completion of construction.</li> <li>The traffic control plan will conform to the California Manual on Uniform Traffic Control Devices: Part 6, "Temporary Traffic Control." Traffic plans may require approval from City emergency response providers. Traffic circulation patterns and associated signage will be approved by the City.</li> </ul>				

### **ATTACHMENT D**

## CARWQCB Water Quality Certification & USACE Nationwide Permit





#### San Francisco Bay Regional Water Quality Control Board

Sent via electronic mail: No hard copy to follow

December 23, 2019 CIWQS Reg. Meas. 427393 CIWQS Place ID 805709

City of Alameda Public Works Department 950 West Mall Square, Room 110 Alameda, CA 94501

Attn.: Andrew Nowacki, Associate Engineer

E-mail: ANowacki@alamedaca.gov

Subject: Water Quality Certification, Sediment Removal from Alameda South

Shore Lagoons, City of Alameda, Alameda County

Dear Mr. Nowacki:

We have reviewed the application submitted by The City of Alameda (City) on November 11, 2018, and the supplemental information submitted by Harrison Engineering Inc. on October 14, 2019. We hereby issue a Clean Water Act (CWA) section 401 water quality certification (Certification) for the City to remove sediment from portions of Lagoons 3 and 5 of the Alameda South Shore Lagoons, a system of five constructed lagoons connected by culverts, located near the southwestern shoreline of Alameda Island (Figure 1). The City has received a U.S. Army Corps of Engineers (USACE) Nationwide Permit No. 3 (USACE File No. 2013-00402S) pursuant to CWA section 404 (33 USC 1344) and section 10 of the Rivers and Harbors Act of 1899 (33 USC 403). The City applied to the San Francisco Bay Regional Water Quality Control Board (Water Board) for a Certification verifying that the sediment removal action described below (Project) will not violate State water quality standards.

#### **Project**

The Project involves removing a total of approximately 800 cubic yards (cy) of sediment comprising 630 cy from 0.27 acres in the southeastern corner of Lagoon 3 and 170 cy from 0.06 acres in the eastern corner of Lagoon 5 (Figures 2 and 3). The Project depth comprises a design depth of -2 feet mean lower low water (MLLW) plus an additional 1-foot overdredge allowance. The Project footprints within the two lagoons are associated with sedimentation near outfall pipes and culverts under roads, which restricts the flow of water through the lagoons, decreases the available detention volume for storm water runoff, and reduces their ability to support recreational boating. All sediment removed during the Project will be taken to a permitted non-hazardous solid waste landfill for disposal.

Water in the lagoon system is largely salt water pumped from San Francisco Bay through a pipeline with an intake approximately 400 feet offshore of the westernmost lagoon (Lagoon 1). In addition, approximately 1,000 acres (1.6 square miles) of the city drains into the lagoons via overland drainage and storm drain pipes. The water moves by gravity from northwest to southeast through a series of culverts connecting the five lagoons. Water levels in the lagoons are lowered slightly before each major storm so that stormwater can be detained before it flows over a weir at the end of Lagoon 5 and through storm drain pipes to the Bay. The City partially drains the lagoons annually for approximately one month in late spring or summer to maintain culverts and to allow homeowners to maintain their docks and lagoon walls. The average lagoon depth is approximately 3 feet, and the maximum depth is approximately 6 feet.

#### **Method of Sediment Removal**

The City proposes to remove the sediment in the spring/summer of 2020 when the lagoon water levels are lowered for maintenance of the lagoon system. The corner areas of Lagoons 3 and 5 will be drained until mostly dry and the sediment excavated using land-based equipment such as an excavator. A skid-steer (Bobcat) loader could also be lowered into the lagoon if necessary to access areas out of reach of the excavator. Dewatering of the excavated sediment may be necessary depending on the weather and may require the addition of desiccants such as diatomaceous earth or Portland cement prior to loading into trucks for offsite disposal.

#### **Sediment Chemistry Testing**

Three composite sediment samples from Lagoon 3 and one composite sample from Lagoon 5 collected from the dredge footprint areas to Project dredge depth were tested for chemical contaminants in June 2019.

The composite sediment samples were analyzed for 17 metals, organochlorine pesticides, PCBs, total petroleum hydrocarbons (TPH) as diesel (TPHd), oil (TPHo), and gasoline (TPHg), semi-volatile organic compounds (which include 16 priority pollutant PAHs), and volatile organic compounds. Because homeowners may be exposed to sediment in the Project area when maintaining their docks and lagoon walls, concentrations of detected contaminants were compared to the lower of human health risk-based thresholds generated by the Water Board<sup>1</sup>, U.S. EPA<sup>2</sup>, and the Department of Toxic Substances Control (DTSC)<sup>3</sup>.

TPHd, TPHo, copper, molybdenum, vanadium, and zinc exceeded their respective Tier 1 Environmental Screening Levels (ESLs) in the composite samples collected in Lagoon 3. TPHd, TPHo, copper, lead, vanadium, two PAH compounds, and PCB Arochlor 1254 exceeded screening criteria in composite sample collected in Lagoon 5. Multiple

<sup>&</sup>lt;sup>1</sup> Environmental Screening Level (ESL), San Francisco Bay Regional Water Quality Control Board, January 2019.

<sup>&</sup>lt;sup>2</sup> Regional Screening Levels, U.S. EPA, April 2019.

<sup>&</sup>lt;sup>3</sup> DTSC Recommended Screening Level, residential soil, Human and Ecological Risk Office Note 3, April 2019.

contaminants in both lagoons exceeded San Francisco Bay ambient sediment contaminant concentrations<sup>4</sup>. The City proposes to dispose of the sediment removed from Lagoons 3 and 5 in a permitted non-hazardous solid waste landfill.

#### **California Environmental Quality Act**

On April 15, 2014, the City Council of the City of Alameda, as lead agency, adopted a Mitigated Negative Declaration (MND) (State Clearinghouse (SCH) No. 2014022059) for the Project and filed a Notice of Determination at the SCH on April 21, 2014. The Water Board, as a Responsible Agency under CEQA, has reviewed the MND and finds that the any potentially significant environmental effects that are within the Water Board's purview and jurisdiction have been identified and will be mitigated to less-than-significant levels. Specifically, significant impacts pertaining to water quality will be mitigated to less-than-significant levels through implementation of mitigation measures identified in the MND, all of which are required to be implemented and reported on by this Certification.

#### **Certification and General Waste Discharge Requirements**

I hereby certify that any discharge from the Project, as conditioned by this Certification, will comply with the applicable provisions of CWA sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards), and with other applicable requirements of State law. CWA section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the CWA and with any other appropriate requirement of State law. Section 401 further provides that State certification conditions shall become conditions of any federal license or permit for the project. The conditions of this Certification must be met to ensure that the Project will comply with water quality standards, any applicable effluent limitation, standard of performance, prohibition, effluent standard, or pretreatment standard required pursuant to the CWA sections listed above and to ensure that the Project will comply with any other appropriate requirements.

This discharge of dredged or fill material is also considered to be a discharge of waste to waters within the jurisdiction of the Water Board. Pursuant to Article 4 of Chapter 4, Division 7 of the California Water Code (Wat. Code § 13260 et seq.), the Water Board must issue waste discharge requirements for these discharges. Therefore, this Certification also enrolls the above referenced Project under the State Water Resources Control Board's Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification" (General Order). The only substantive requirement of the General Order is to comply with the limitations and monitoring requirements contained in this Certification. Fees paid to satisfy California Code of Regulations, title 23, section 3833(b) (fees associated

<sup>&</sup>lt;sup>4</sup> Updated Ambient Concentrations of Toxic Chemicals in San Francisco Bay Sediments, San Francisco Estuary Institute, Richmond, CA, July 2015.

with this Certification) shall also be deemed to satisfy fees required by the General Order. The following conditions are associated with this Certification:

- 1. Dredging shall be limited to the project depth of -2 feet MLLW, plus an additional 1-foot overdredge allowance.
- 2. None of the sediment removed from the lagoons shall be permitted to leak or spill from trucks hauling it from the Project site to the landfill disposal site.
- No unauthorized Project-related materials or wastes shall be allowed to enter or be placed where they may be washed by rainfall or runoff into, waters of the State.
- 4. **Dredge Operation Plan**: The City shall submit a Dredge Operation Plan, acceptable to the Executive Officer, to Water Board staff no earlier than 60 calendar days and no later than 20 calendar days prior to commencement of dredging. The Plan shall include, in addition to the requirements of NWP 3 Special Condition 1.a:
  - A description of the containment method for preventing sediment and associated contaminants from being released outside the dredge footprint.
  - A description of the dewatering process that would be used if determined necessary and associated best management practices (BMPs) for protecting water quality.
  - Information on equipment staging and associated BMPs for protecting water quality (e.g., how will dredging equipment get into and out of the lagoons, how will it be fueled and maintained, how and where will the dredged material be loaded onto trucks, what dust or erosion control measures will be implemented if necessary, and other pertinent information, as needed).
- 5. Post-Dredge Report: The City shall provide an electronic copy of the Post-Dredge Report to Water Board staff within 60 days of completion of sediment removal operations. The report may be submitted via email, compact disc, or by uploading to the Water Board's FTP site (instructions for accessing and uploading documents will be provided by Water Board staff upon request). The report shall contain the dates of sediment removal, maps of the footprint, the calculated final volume of sediment removed, the disposal location(s), and the volumes per location if more than one site was used.
- 6. The City or its representative shall notify Water Board staff immediately by telephone and e-mail whenever an adverse condition occurs due to this activity. An adverse condition includes, but is not limited to, a violation or threatened violation of conditions of this Certification, or a release of petroleum products or

toxic chemicals to waters of the State. Pursuant to Water Code section 13267, a written notification of adverse condition shall be submitted to the Water Board within 30 days of occurrence. The written notification shall identify the adverse condition, describe the action necessary to remedy the condition, and specify a timetable, subject to the modifications of the Water Board, for remedial actions.

- 7. This Certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
- 8. This Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- 9. Certification is conditioned upon total payment of the full fee required in State regulations (23 CCR section 3833). The application fee for the Project (\$1,638) was paid in full on October 29, 2019. Additional annual discharge fees are required and will be invoiced annually for the previous fiscal year until the Project is complete or the Certification expires. The annual discharge fee is based on the volume dredged during the previous fiscal year (July 1–June 30), calculated using Post-Dredge Report results provided to the Water Board per Condition 5.

#### Conclusion

This Certification applies to the Project as proposed in the application materials. Please be advised that failure to implement the Project as proposed is a violation of this Certification. Any violation of 401 water quality certification conditions is subject to administrative civil liability pursuant to Water Code sections 13268 and 13350. Failure to meet any condition of this Certification may subject The City to civil liability imposed by the Water Board to a maximum of \$5000 per violation day for violations of Water Code section 13267 technical report requirements and \$5,000 per violation day or \$10 for each gallon of waste discharged in violation of this Certification.

We anticipate no further action on the application for this Certification. Should new information come to our attention that indicates a water quality problem with this project, the Water Board may issue individual waste discharge requirements pursuant to 23 CCR section 3857.

If you have any questions, please contact Kevin Lunde at (510) 622-2431, or by email, to <a href="mailto:kevin.lunde@waterboards.ca.gov">kevin.lunde@waterboards.ca.gov</a>.

Sincerely,

Digitally signed by Xavier Fernandez Date: 2019.12.23 11:37:21 -08'00'

For Michael Montgomery Executive Officer

#### Attachments:

Figure 1. Location Map

Figure 2. Lagoon 3 Footprint

Figure 3. Lagoon 5 Footprint

cc w/attachments (all via email):

SWRCB, DWQ (Stateboard401@waterboards.ca.gov)

CDFW, Santa Rosa, CA (Arn Aarreberg, Arn.Aarreberg@wildlife.ca.gov)

USACE, San Francisco, CA (Jessica Vargas, <u>Jessica.M.Vargas@usace.army.mil</u>)

USEPA, San Francisco, CA (Jennifer Siu, Siu.Jennifer@epa.gov)

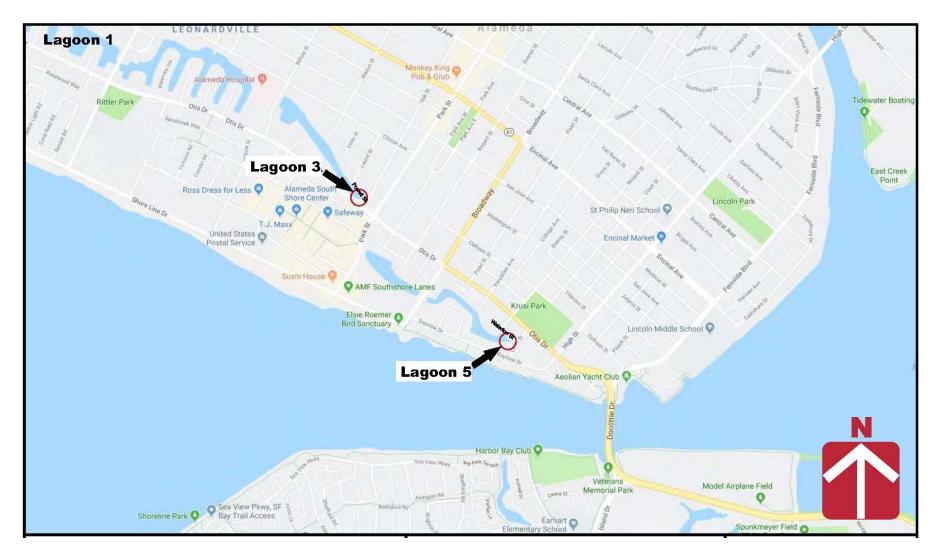


Figure 1. Location Map

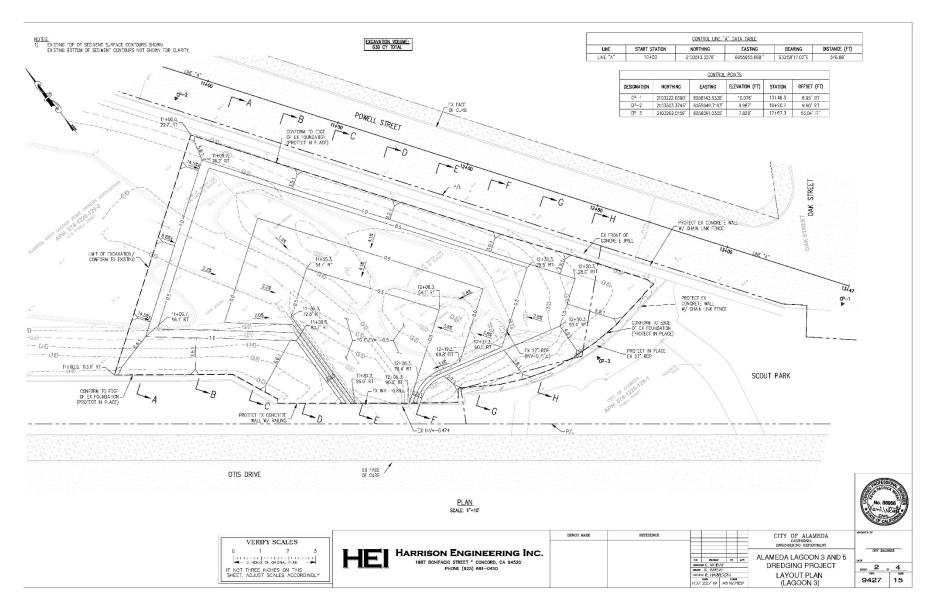


Figure 2. Lagoon 3 Footprint

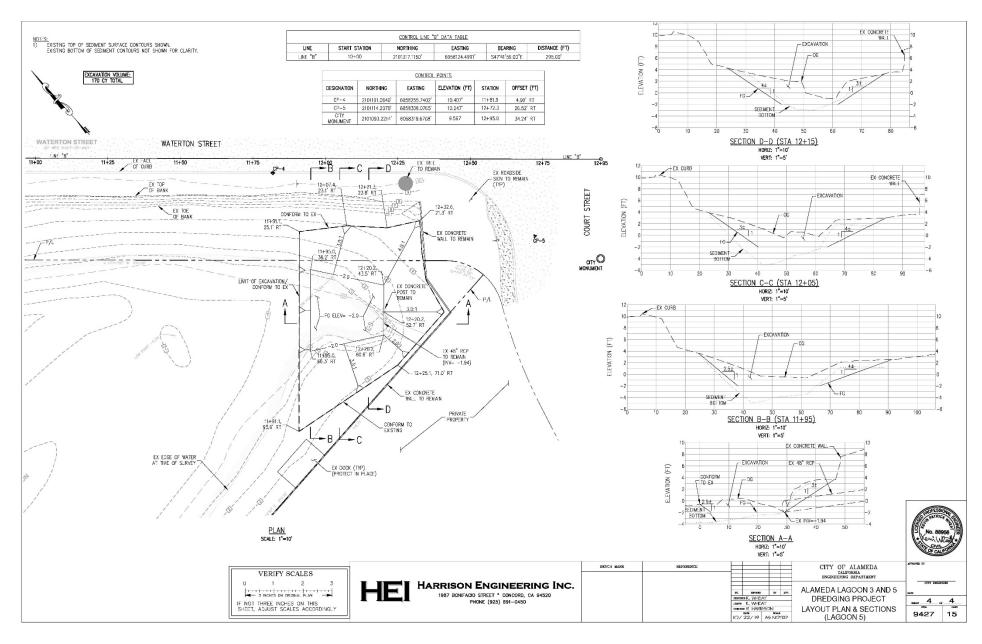


Figure 3. Lagoon 5 Footprint



#### **DEPARTMENT OF THE ARMY**

SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102-3406

### JAN 08 2019

Regulatory Division

Subject: File Number 2013-00402S: Alameda Lagoons Dredging Project

Andrew Nowacki City of Alameda – Public Works Department 950 West Mall Square, Room 110 Alameda, California 94501

Dear Mr. Nowacki:

This correspondence is in reference to your submittal of October 23, 2018, concerning Department of the Army (DA) authorization to dredge accumulated sediment from the Alameda Lagoons located in the City of Alameda, Alameda County, California.

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction will include dredging, using a mechanical excavator dredge, approximately 1,100 cubic yards of sediment to design depths of -2 feet mean lower low water (MLLW) plus an overdepth allowance of 1 foot from Lagoon 3 and Lagoon 5 within the Alameda Lagoons. Dredged sediment would be hauled offsite to an upland landfill. All work shall be completed in accordance with the plans and drawings titled "USACE File #2013-00402S, Alameda Lagoons Dredging Project, December 2018, Figure 1 to 5," provided as enclosure 1.

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act (RHA) generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

Based on a review of the information in your submittal, the project qualifies for authorization under Department of the Army Nationwide Permit (NWP) 3 for Maintenance (82 Fed. Reg. 1860, January 6, 2017), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 *et seq.*), and Section 10 of the Rivers and Harbors Act (RHA) of 1899, as amended (33 U.S.C. § 403 *et seq.*). The project must be in compliance with the terms of the NWP cited on our website (www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17\_03.pdf), the general conditions of the Nationwide Permit Program

(www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17\_GC.pdf), and the San Francisco District regional conditions

(www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17\_RC.pdf). You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law.

This verification will remain valid until March 18, 2022, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. § 330.5(c) or (d). This verification will remain valid if, during the time period between now and March 18, 2022, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs would be announced by Public Notice posted on our website

(www.spn.usace.army.mil/Missions/Regulatory/Public-Notices.aspx). Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, enclosure 2, verifying that you have complied with the terms and conditions of the permit. Please return the Certificate of Compliance along with the post-dredge survey specified in the special conditions.

This authorization will not be effective until you have obtained a Section 401 water quality certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB). If the RWQCB fails to act on a valid request for certification within 60 days after receipt of a complete application, the Corps will presume a waiver of water quality certification has been obtained. You shall submit a copy of the certification to the Corps prior to the commencement of work.

In order to ensure compliance with this NWP authorization, the following special conditions shall be implemented:

1. The permittee will be required to provide the following information to the Corps:

- a. **Dredge Operation Plan:** Submit, for approval by this office, no earlier than 60 calendar days and no later than 20 calendar days before the proposed commencement of dredging, a plan which includes the following: **Corps file number**, a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; proposed dredging start and completion dates; quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The Dredge Operation Plan shall also provide the following information: The controls being established to insure that dredging operations occur within the limits defined by the basin or channel dimensions and typical channel section.
- b. **Pre-Dredge Survey:** Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot that delineates and labels the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged to the design depth; and estimated quantities for overdepth dredging. **All surveys shall be signed by the permittee to certify their accuracy. Please include the Corps file number.**
- c. Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during any dredging operation is retained and properly disposed in areas not under Corps jurisdiction. At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; Corps file number; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved. (Please note that failure to provide all of the information requested in a, b, and c above may result in delays to your project. When your Dredge Operation Plan has been approved, you will receive a written authorization to commence with your project.)
- d. **Post-Dredge Survey:** Submit, within 30 days of the last disposal activity ("last" is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot that delineates and labels the areas dredged and provides the dredged depths. Also, include the Corps file number, actual dates of dredging commencement and completion, actual quantities dredged for the project to the design depth, and actual quantities of overdepth. The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic yards) between the Pre- and

Post-Dredge Surveys and explain any variation in quantities greater than 15% beyond estimated quantities or dredging deeper than is permitted (design plus overdepth allowance). All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy.

e. The permittee or dredge contractor shall inform this office when: 1) a dredge episode actually commences, 2) when dredging is suspended (suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), 3) when dredging is restarted, and 4) when dredging is complete. Each notification should include the Corps file number. Details for submitting these notifications will be provided in the verification letter (to whom and how).

You may refer any questions on this matter to Jessica Vargas by telephone at 415-503-2936 or by e-mail at Jessica.M.Vargas@usace.army.mil. All correspondence should be addressed to the Operations and Readiness Division, Dredged Material Management Office (DMMO), referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: http://www.spn.usace.army.mil/Missions/Regulatory.aspx

Sincerely,

Rick M. Bottoms, Ph.D. Chief, Regulatory Division

**Enclosures** 

Copy Furnished (electronically):

CA RWQCB, Oakland, CA Attn: Beth Christian (elizabeth.christian@waterboards.ca.gov)

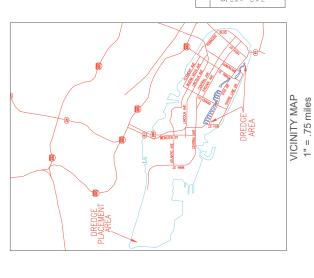
## PUBLIC WORKS DEPARTMENT **CITY OF ALAMEDA**

# **SOUTH SHORE LAGOON DREDGING PROJECT**

cleengineering

HALF SCALE PLANS

No. P.W. 11-13-26



### **DRAWING INDEX**

NO. P.W. 11-13-26

**DREDGING PROJECT** 

SOUTH SHORE LAGOON PUBLIC WORKS DEPARTMENT **CITY OF ALAMEDA** 



ENGINEER
CLE ENGINEERING, INC.
CLE ENGINEERING, INC.
NOVATO, 6.9. 9949
CONTACT, IOHY DERUCERIS P.E.
TEL (800) 668-5120

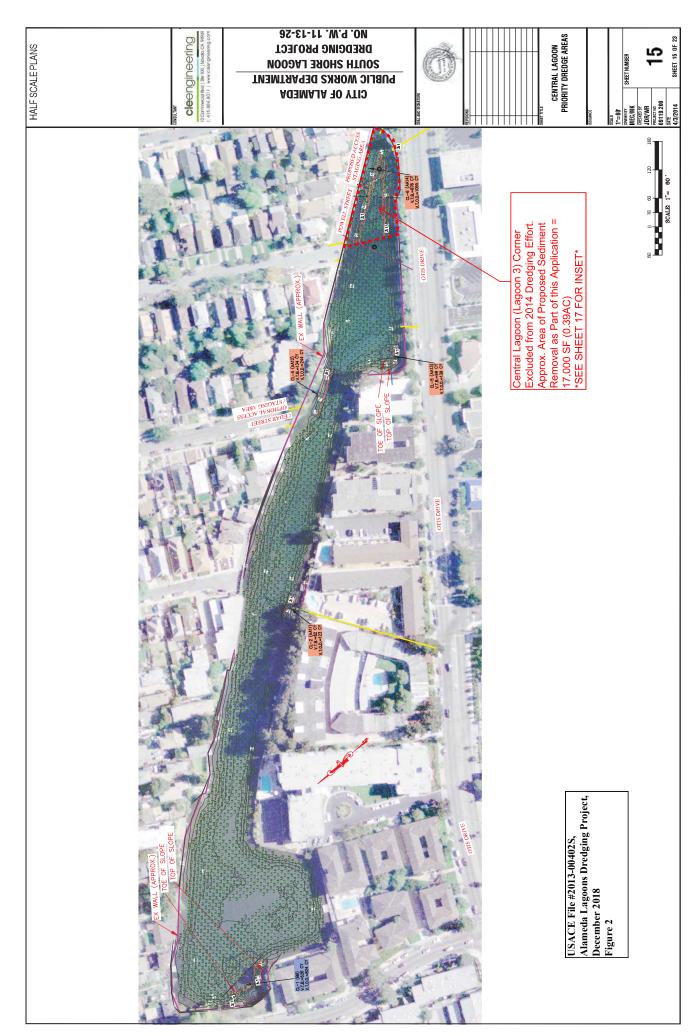
SHEET, DRAWING INDEX

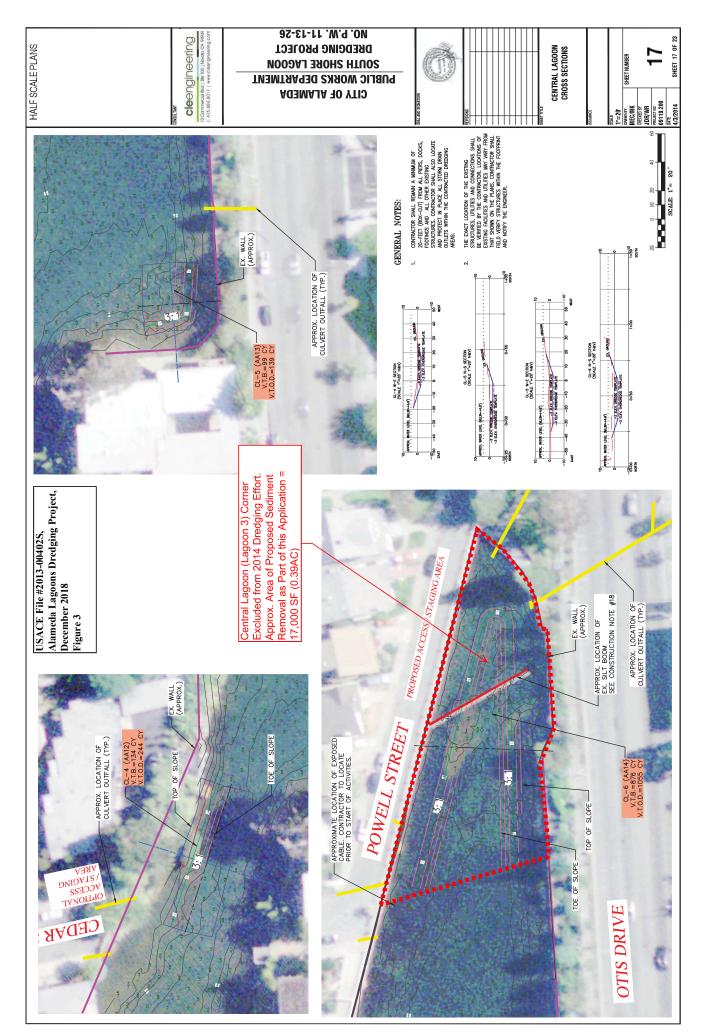
USACE File #2013-00402S,

LOCATION MAP

Alameda Lagoons Dredging Project, December 2018 Figure 1

	SHEET NUMBER		,	•	-			SHEET 1 OF 23		
NIS	DRAWNBY	MEC/MK	CHECKED BY	JDR/WR	PROJECT NO	09119.200	DATE	4/3/14		





### NO. P.W. 11-13-26 **DREDGING PROJECT** SOUTH SHORE LAGOON PUBLIC WORKS DEPARTMENT **CITY OF ALAMEDA**

cleengineering

HALF SCALE PLANS





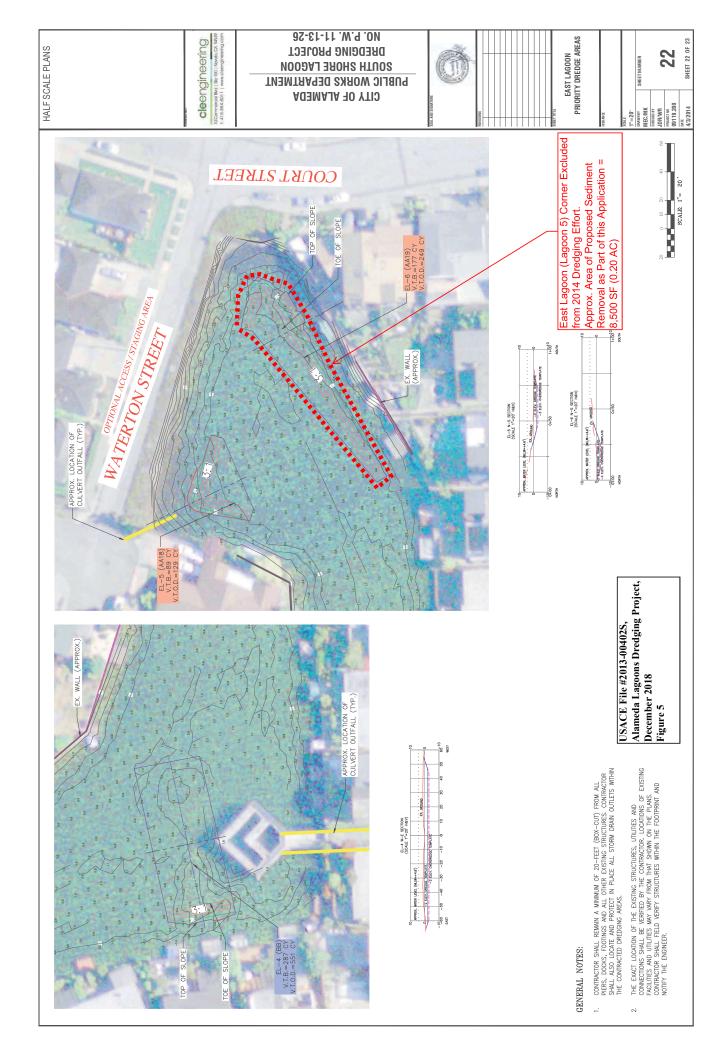


EAST LAGOON PRIORITY DREDGE AREAS

East Lagoon (Lagoon 5) Corner Excluded from 2014 Dredging Effort.
Approx. Area of Proposed Sediment Removal as Part of this Application = 8,500 SF (0.20 AC)
\*SEE SHEET 22 FOR INSET\*

SHEET 20 OF 23

USACE File #2013-00402S,
Alameda Lagoons Dredging Project,
December 2018
Figure 4



### Enclosure 2

Permittee: Andrew Nowacki, Alameda County – Department of Public Works

File Number: 2013-00402S

### Certification of Compliance for Nationwide Permit

"I hereby certify that the work authorized by the above referenced File Number and all required
mitigation have been completed in accordance with the terms and conditions of this Nationwide
Permit authorization."

(Permittee)	(Date)	

Return to:

Jessica Vargas U.S. Army, Corps of Engineers San Francisco District Operations and Readiness Division, CESPN-OR-DM 450 Golden Gate Ave., 4<sup>th</sup> Floor, Suite 0134 P.O. Box 36152 San Francisco, CA 94102-3406

### **ATTACHMENT E**

### Soil Quality Evaluation & Laboratory Analytical Results



Date: July 19, 2019 Project No.: 167-33-1

Prepared For: Mr. Randell Harrison

HARRISON ENGINEERING, INC.

1987 Bonifacio Street Concord, California 94520

Re: | Alameda Lagoon Dredging Project Soil Quality Evaluation

Lagoons 3 and 5 Alameda, California

Dear Mr. Harrison:

We are pleased to present this letter summarizing laboratory analytical results of soil samples collected at Central Lagoon (Lagoon 3) and East Lagoon (Lagoon 5) in Alameda, California (Site, Figures 1 and 2). This work was performed for Harrison Engineering in accordance with our April 25, 2019 Agreement (Agreement).

### SITE DESCRIPTION

The project Site is located at the southeastern corner of Lagoon 3 and the eastern corner of Lagoon 5 in Alameda, California. Based on information provided by you, we understand the South Shore Lagoon System, comprised of five lagoons, was created in the 1950's. By 2010, significant accumulation of sediment was present at various locations throughout the system. In 2014, dredging was performed at target locations, with the exception of two locations (Lagoon 3 and 5) that contained sediment not suitable for reuse as fill.

Harrison Engineering is assisting the City of Alameda with the permitting for the dredging, and with design documents for the work. It is anticipated that soil excavated as part of this dredging work will be transported off-Site for disposal purposes.

### **PURPOSE**

The purpose of this work was to collect soil samples for laboratory analyses to evaluate disposal alternatives.

### **SOIL QUALITY EVALUATION**

### Soil Sampling

A Cornerstone field engineer collected three 4-point composite soil samples from three lagoon locations L3-1, L3-3, and L5-1) on May 23, 2019. An additional 4-point composite sample at location L3-2 was collected on June 4, 2019. At each location, our staff engineer collected 4 soil samples from various depths up to approximately 2 feet below the soil/sediment surface using hand sampling equipment. The samples were collected in 1½-inch diameter by 6-inch stainless steel sampling tubes. The ends of the liner were covered in Teflon film, fitted with plastic end caps, taped, and labeled with a unique identification number. Samples analyzed for volatile organic compounds (VOCs) were collected in three, 5-gram Core N' One capsules. Samples



were then placed in an ice-chilled cooler and transported to a state-certified analytical laboratory with chain of custody documentation. The sampling locations are presented on Figures 2A and 2B.

The composite soil samples were analyzed for 17 California Assessment Manual (CAM) metals (EPA Test Method 6010B), organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs) (EPA Test Method 8081/8082), total petroleum hydrocarbons (TPH) as diesel (TPHd) and oil (TPHo) (EPA Test Method 8015B), semi-volatile organic compounds (semi-VOCs) (EPA Test Method 8270C), and TPH as gasoline and volatile organic compounds (VOCs, EPA Test Method 8260B). Solubility analyses (Soluble Threshold Limit Concentration [STLC]) were performed on selected soil samples that had total chromium and/or lead detected exceeding 10 times the STLC limit.

### **Soil Analytical Results**

Cornerstone compared detected contaminants of potential concern to the lower of Tier 1 ESLs<sup>1</sup>, RSLs<sup>2</sup> using a Hazard Quotient of 1 for non-carcinogenic compounds, and DTSC's Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 3<sup>3</sup>. Arsenic concentrations were compared to natural background/ambient concentrations determined by Duverge (2011). In addition, analytical results were compared to California's hazardous waste criteria (STLC).

Data summary tables, analytical data sheets, and chain of custody documentation are attached to this letter. A summary of the analytical results is provided below.

- Lead concentrations detected in the three composite soil samples collected from Lagoon 3 ranged from 200 milligrams per kilogram (mg/kg) to 440 mg/kg, exceeding the Tier 1 ESL of 32 mg/kg for residential soil. Further analysis with STLC extractions of samples L3-1 L3-2, and L3-3 detected lead at 3.1 milligrams per liter (mg/L), 4.3 mg/L, and 0.48 mg/L, respectively. The STLC California hazardous waste limit is 5 mg/L.
- Lead was detected in the Lagoon 5 composite sample at a concentration of 140 mg/kg.
   STLC extraction/analysis detected 2.1 mg/kg soluble lead.
- Copper, molybdenum, vanadium and zinc were detected exceeding the Tier 1 ESLs in the soil samples.
- The remaining detected metal concentrations were below their respective residential screening criteria and/or within typical background concentrations.
- TPHd was detected at levels exceeding the Tier 1 ESL of 260 mg/kg for all four sample composites. The concentrations ranged from 420 mg/kg at location L3-1 to 9,300 mg/kg at location L3-3.

<sup>&</sup>lt;sup>1</sup> Environmental Screening Level (ESL), San Francisco Bay, Regional Water Quality Control Board, January 2019.

<sup>&</sup>lt;sup>2</sup> Regional Screening Levels (RSLs), US Environmental Protection Agency, April 2019.

<sup>&</sup>lt;sup>3</sup> Department of Toxic Substance Control Recommended Screening Level (SL), residential soil, HERO Note 3, April 2019



- TPHo was detected exceeding the Tier 1 ESL of 1,600 mg/kg in 3 of 4 composite samples. The concentrations ranged from 1,300 mg/kg in L3-1 to 25,000 mg/kg in L3-3.
- The polycyclic aromatic hydrocarbons (PAHs) benzo[a]pyrene, benzo[b]fluoranthene and fluoranthene were detected at concentrations of 2.0 mg/kg, 2.4 mg/kg and 3.0 mg/kg, respectively, in sample L5-1. The Tier 1 ESLs for benzo[a]pyrene, benzo[b]fluoranthene and fluoranthene are 0.11 mg/kg, 1.1 mg/kg and 0.69 mg/kg, respectively. The semi-VOC bis(2-ethylhexyl)phthalate was detected at a concentration of 6.4 mg/kg, exceeding the Tier 1 ESL of 0.80 mg/kg. No other PAHs or semi-VOCs were detected exceeding screening criterial.
- Aroclor 1254, a polychlorinated biphenyl (PCB), was detected at a concentration of 0.77 mg/kg at location L5-1, which exceeded the DTSC screening level of 0.24 mg/kg.
- No organochlorine pesticides were detected exceeding the screening criteria.
- No VOCs or TPHg were detected, with the exception of 0.29 mg/kg acetone detected in sample LS5-1. The residential screening criteria for acetone is 0.92 mg/kg.

### **CONCLUSIONS**

TPHd, TPHo, copper, lead, molybdenum, vanadium and zinc exceeded their respective Tier 1 ESLs in the composite samples collected at Lagoon 3. TPHd, TPHo, copper, lead, vanadium, benzo[a]pyrene, benzo[b]fluoranthene, and arochlor (PCB) 1254 exceeded their respective screening criteria in the composite sample collected at Lagoon 5. We recommend providing these results to the selected receiving facility and obtaining their written approval prior to disposal.

### LIMITATIONS

This letter, an instrument of professional service, was prepared for the sole use of Harrison Engineering and the City of Alameda and may not be reproduced or distributed without written authorization from Cornerstone. The chemical data presented in this report may change over time and are only valid for this time and location. Harrison Engineering and City of Alameda understand that Cornerstone reviewed and relied on the information presented in these reports and cannot be responsible for their accuracy.

Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.



### **CLOSING**

Should you have any questions regarding this letter, or if we may be of further service, please contact us at your convenience.

Sincerely,

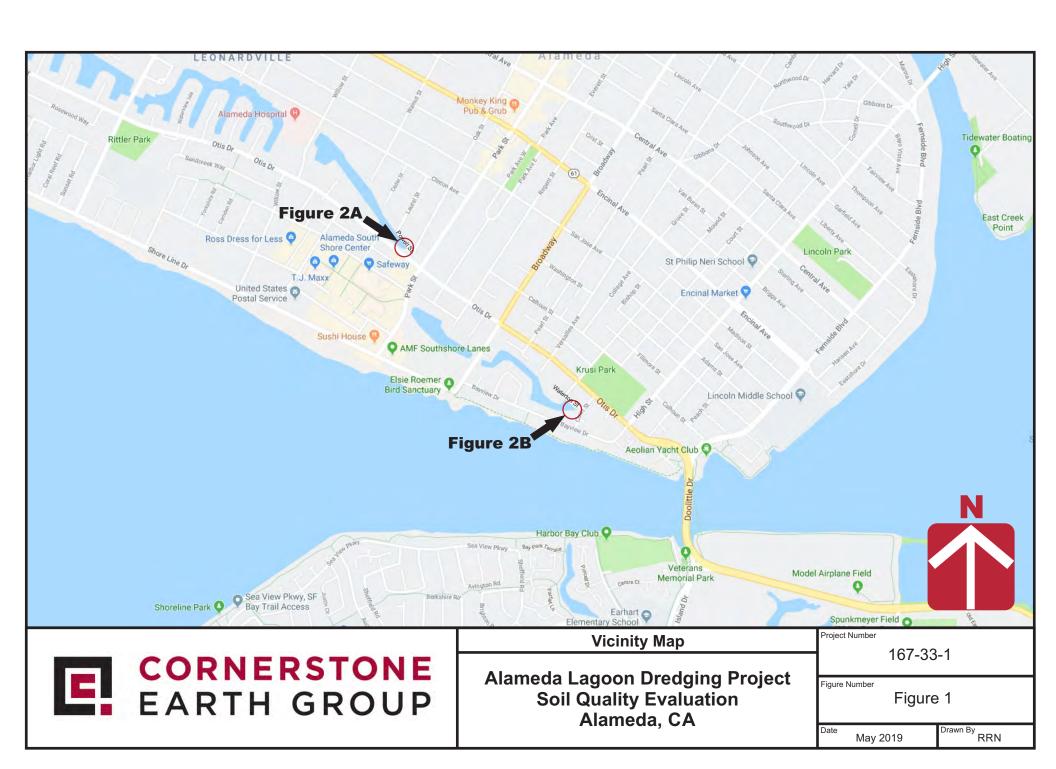
**Cornerstone Earth Group, Inc.** 

**Peter Langtry, P.G., C.E.G.** Senior Principal Geologist

Attachments: Figures

Data Summary Tables Laboratory Data Sheets

Copies: Addressee (1 by email)

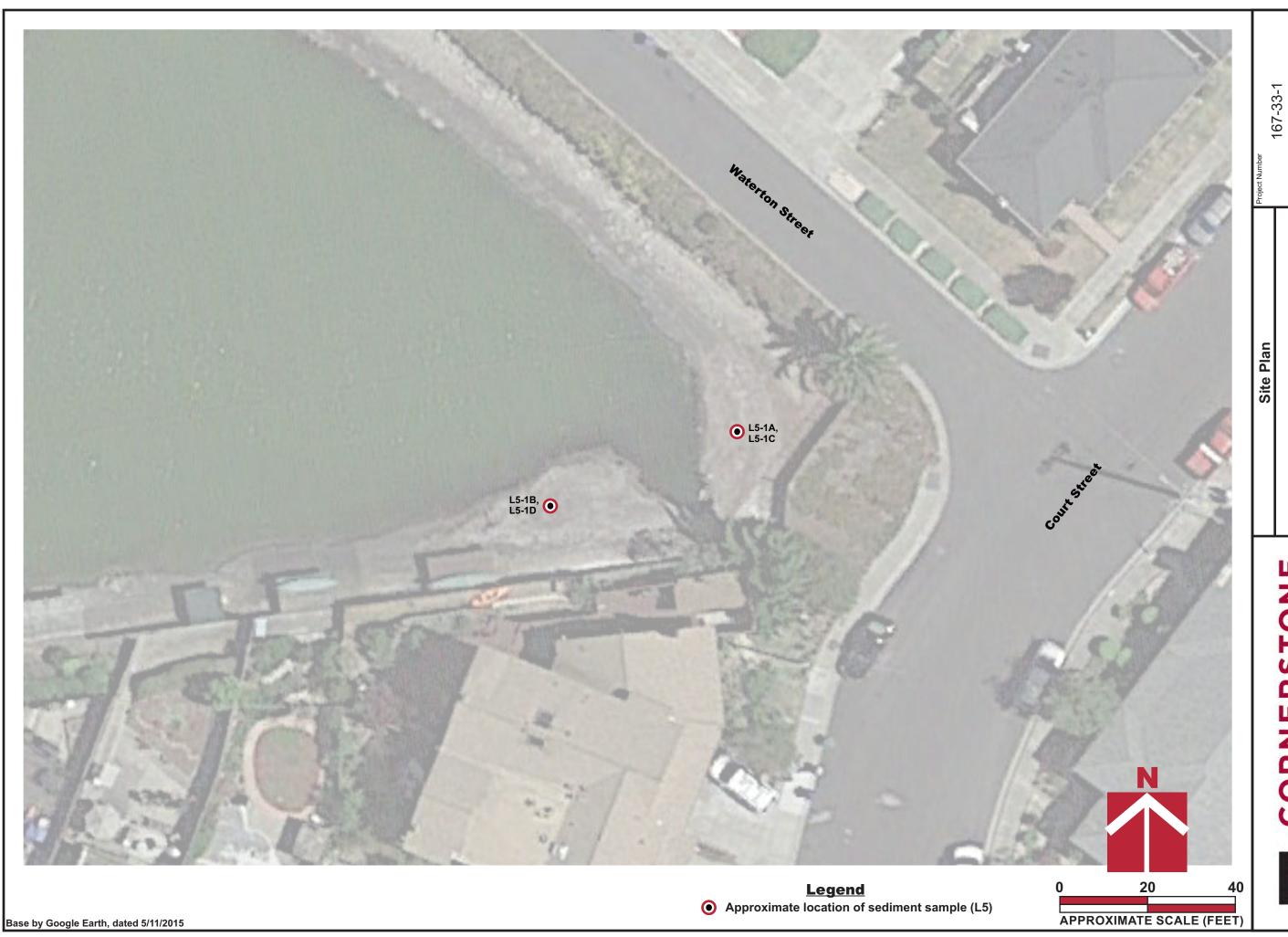




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Figure 2A

ШΩ AR.



Alameda Lagoon Dredging Project Soil Quality Evaluation Alameda, CA

Figure 2B

AR.

Table 1. Analytical Results of Selected Soil Samples - OCPs, Petroleum Hydrocarbons, VOCs, sVOCs, and PCBs

(Concentrations in mg/kg)

			Organochlorine Pesticides					Total Petroleum Hydrocarbons			Semi-VOCs				VOCs	PCBs
Sample ID	Date	Sample Location	4,4´-DDD	4,4´-DDE	DDT Total	cis- Chlordane	trans- Chlordane	TPHg	TPHd	ТРНо	Benzo[a]p yrene	Benzo[b] fluoranthene	Fluoran- thene	Bis(2-ethylhexyl) phthalate	Acetone	PCB 1254
L3-1 COMP	5/23/2019	Lagoon 3	0.029	0.043	0.072	0.025	0.021	<0.53	420	1,300	<0.47	<0.47	<0.47	<2.3	< 0.110	0.17
L3-2 COMP	6/4/2019	Lagoon 3	0.03	0.033	0.063	< 0.017	< 0.017	<0.53	880	4,500	<1.1	<0.65	<1.1	6.4	< 0.110	0.10
L3-3 COMP	5/23/2019	Lagoon 3	< 0.0096	<0.085		< 0.037	< 0.037	<1.4	9,300	25,000	<2.6	<2.6	<2.6	<3.3	< 0.27	0.051
L5-1 COMP	5/23/2019	Lagoon 5	0.52	0.29	0.81	< 0.017	<0.017	<1.0	1,100	3,900	2.0	2.4	3.0	<3.3	0.29	0.77
Scr	eening Criteria		2.7	0.33	1	0.0085	1.7	260	260	1,600	0.11	1.1	0.69	0.80	0.92	0.24
	Basis		ESL <sup>1</sup>	ESL <sup>1</sup>	TTLC	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	ESL <sup>1</sup>	DTSC <sup>2</sup>

- 1 Tier 1 Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, January 2019
- 2 Department of Toxic Substance Control Recommended Screening Level (SL), residential soil, HERO Note 3 April 2019
- < Not detected at or above laboratory reporting limit
- TTLC Total Threshold Limit Concentration
- NE Not Established
- --- Not Analyzed
- **BOLD** Concentration exceeds selected environmental screening criteria
- Note: Red font indicates the laboratory reporting limit exceeds one or more of the selected screening levels.

### Table 2. Analytical Results of Selected Soil Samples

(Concentrations in mg/kg)

Sample ID	Date	Sample Location	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Copper (STLC) mg/L	Lead	Lead (STLC) mg/L	Mercury	Molybdenum	Nickel	Vanadium	Zinc
L3-1 COMP	5/23/2019	Lagoon 3	6.1	26	1.7	51	7.4	790	<0.20	440	3.1	0.32	3.7	46	38	420
L3-2 COMP	6/4/2019	Lagoon 3	<6.2	57	0.96	46	7.0	200		240	4.3	0.12	7.2	41	44	410
L3-3 COMP	5/23/2019	Lagoon 3	<3.6	44	< 0.45	59	7.7	760		200	0.48	0.30	7.1	52	42	580
L5-1 COMP	5/23/2019	Lagoon 5	<9.5	42	<1.2	47	5.9	370		140	2.1	0.20	5.0	42	41	290
Scree	ening Criteria	·	11	390	1.9	160	23	180	5	32	5	13.0	6.9	86	18	340
	Basis		Duverge <sup>1</sup>	ESL <sup>2</sup>	STLC	ESL <sup>2</sup>	STLC	ESL <sup>2</sup>								

- 1 Duverge, 2011. Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region
- 2 Tier 1 Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, January 2019
- < Not detected at or above laboratory reporting limit
- NE Not Established
- --- Not Analyzed
- **BOLD** Concentration exceeds selected environmental screening criteria

### **ANALYTICAL REPORT**

Eurofins TestAmerica, Pleasanton 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

Laboratory Job ID: 720-93353-1

Client Project/Site: Alameda Lagoon Dredging

Revision: 1

### For:

Cornerstone Earth Group 1270 Springbrook Road, Suite 101 Walnut Creek, California 94597

Attn: Peter Langtry

Akanaf Sal

Authorized for release by: 7/10/2019 3:03:08 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919

afsaneh.salimpour@testamericainc.com

·····LINKS ······

Review your project results through

Total Access

**Have a Question?** 



Visit us at: 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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1,

### **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	6
Client Sample Results	7
Surrogate Summary	12
QC Sample Results	15
QC Association Summary	34
Lab Chronicle	37
Certification Summary	38
Method Summary	39
Sample Summary	40
Chain of Custody	41
Receipt Checklists	43

### **Definitions/Glossary**

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging

Qualifiers

**GC/MS VOA** 

\* ISTD response or retention time outside acceptable limits

GC/MS Semi VOA

F1 MS and/or MSD Recovery is outside acceptance limits.

F2 MS/MSD RPD exceeds control limits

**GC Semi VOA** 

Qualifier Qualifier Description

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.

p The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

X Surrogate is outside control limits

**Metals** 

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable

F1 MS and/or MSD Recovery is outside acceptance limits.

F2 MS/MSD RPD exceeds control limits

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

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 Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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 (Radiochemistry)

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)

Job ID: 720-93353-1

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### **Case Narrative**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

### Job ID: 720-93353-1

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative 720-93353-1

### Comments

No additional comments.

### Receipt

The samples were received on 6/5/2019 2:33 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

### GC/MS VOA

Method(s) 8260B: Internal standard (ISTD) response for the following sample was outside control limits: L3-2D (720-93353-4). The sample(s) was re-extracted and/or re-analyzed with concurring results, and the second set of data has 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 720-267071 and analytical batch 720-267128 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270C: The following sample was diluted due to the abundance of non-target analytes: L3-2 (720-93353-5). 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 following sample required a dilution due to the nature of the sample matrix: L3-2 (720-93353-5). 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: L3-2 (720-93353-5). Elevated reporting limits (RLs) are provided.

Method(s) 8082: The following sample appears to contain polychlorinated biphenyls (PCBs); however, due to weathering or other environmental processes, the PCBs in the sample do not closely match any of the laboratory's Aroclor standards used for instrument calibration: L3-2 (720-93353-5). The sample has been quantified and reported as Aroclor 1254. Due to the poor match with the Aroclor standard, there is increased qualitative and quantitative uncertainty associated with this result.

Method(s) 8082: The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: L3-2 (720-93353-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Method(s) 7471A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 720-267253 and analytical batch 720-267340 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) 7471A: The following samples were diluted to bring the concentration of target analytes within the calibration range: (720-93133-A-5-H MS ^2) and (720-93133-A-5-I MSD ^2). 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.

### **General Chemistry**

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### **Case Narrative**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

### Job ID: 720-93353-1 (Continued)

### Laboratory: Eurofins TestAmerica, Pleasanton (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### **Organic Prep**

Method(s) 3546: 8015\_3546: Due to the matrix, the following sample could not be concentrated to the final method required volume: L3-2 (720-93353-5). The reporting limits (RLs) are elevated proportionately. The sample final volume was 5 mL.

 $No \ additional \ analytical \ or \ quality \ issues \ were \ noted, \ other \ than \ those \ described \ above \ or \ in \ the \ Definitions/Glossary \ page.$ 

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### **Detection Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

### Client Sample ID: L3-2D

No Detections.

Client Sample ID: L3-2

### Lab Sample ID: 720-93353-4

Lab	Sample	ID: 72	0-93353-5
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Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	6.4		5.6		mg/Kg	10	₩	8270C	Total/NA
Diesel Range Organics [C10-C28]	880		43		mg/Kg	5	₩	8015B	Total/NA
Motor Oil Range Organics [C24-C36]	4500		1100		mg/Kg	5	₩	8015B	Total/NA
4,4'-DDE	33		17		ug/Kg	5	\$	8081A	Total/NA
4,4'-DDD	30		17		ug/Kg	5	₽	8081A	Total/NA
PCB-1254	100		85		ug/Kg	1	₩	8082	Total/NA
Barium	57		3.1		mg/Kg	4	₽	6010B	Total/NA
Cadmium	0.96		0.77		mg/Kg	4	₩	6010B	Total/NA
Chromium	46		3.1		mg/Kg	4	₩	6010B	Total/NA
Cobalt	7.0		1.2		mg/Kg	4	₩	6010B	Total/NA
Copper	200		9.3		mg/Kg	4	₩	6010B	Total/NA
Lead	240		3.1		mg/Kg	4	₩	6010B	Total/NA
Molybdenum	7.2		3.1		mg/Kg	4	₩	6010B	Total/NA
Nickel	41		3.1		mg/Kg	4	₩	6010B	Total/NA
Vanadium	44		3.1		mg/Kg	4	₽	6010B	Total/NA
Zinc	410		9.3		mg/Kg	4	₩.	6010B	Total/NA
Mercury	0.12		0.025		mg/Kg	1	₽	7471A	Total/NA

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

**Client Sample ID: L3-2D** 

Date Collected: 06/04/19 10:05

Date Received: 06/05/19 14:33

Naphthalene

Styrene

N-Propylbenzene

1,1,1,2-Tetrachloroethane

Lab Sample ID: 720-93353-4

Matrix: Solid

Percent Solids: 58.6

Job ID: 720-93353-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		11		ug/Kg	<u></u>	06/05/19 16:46	06/06/19 23:31	1
Acetone	ND		110		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Benzene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Dichlorobromomethane	ND		11		ug/Kg		06/05/19 16:46	06/06/19 23:31	1
Bromobenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Chlorobromomethane	ND		42		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Bromoform	ND	*	11		ug/Kg		06/05/19 16:46	06/06/19 23:31	1
Bromomethane	ND		21		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
2-Butanone (MEK)	ND		110		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
n-Butylbenzene	ND	*	11		ug/Kg	Φ.	06/05/19 16:46	06/06/19 23:31	1
sec-Butylbenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
tert-Butylbenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Carbon disulfide	ND		11		ug/Kg		06/05/19 16:46	06/06/19 23:31	1
Carbon tetrachloride	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Chlorobenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Chloroethane	ND		21		ug/Kg		06/05/19 16:46	06/06/19 23:31	
Chloroform	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Chloromethane	ND		21		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
2-Chlorotoluene	ND	*	11		ug/Kg		06/05/19 16:46	06/06/19 23:31	,
4-Chlorotoluene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Chlorodibromomethane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,2-Dichlorobenzene	ND	*	11		ug/Kg		06/05/19 16:46	06/06/19 23:31	,
1,3-Dichlorobenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
1,4-Dichlorobenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,3-Dichloropropane	ND		11		ug/Kg		06/05/19 16:46	06/06/19 23:31	
1,1-Dichloropropene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,2-Dibromo-3-Chloropropane	ND	*	21		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Ethylene Dibromide	ND		11		ug/Kg		06/05/19 16:46	06/06/19 23:31	
Dibromomethane	ND		21		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Dichlorodifluoromethane	ND		21		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
1,1-Dichloroethane	ND		11		ug/Kg		06/05/19 16:46	06/06/19 23:31	
1,2-Dichloroethane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
1,1-Dichloroethene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
cis-1,2-Dichloroethene	ND		11		ug/Kg	· · · · · · · · · · · · · · · · · · ·	06/05/19 16:46	06/06/19 23:31	
trans-1,2-Dichloroethene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
1,2-Dichloropropane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
cis-1,3-Dichloropropene	ND		11		ug/Kg		06/05/19 16:46	06/06/19 23:31	
trans-1,3-Dichloropropene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Ethylbenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
Hexachlorobutadiene	ND	*	11		ug/Kg		06/05/19 16:46	06/06/19 23:31	,
2-Hexanone	ND		110		ug/Kg	₩	06/05/19 16:46	06/06/19 23:31	
Isopropylbenzene	ND	*	11		ug/Kg	₩	06/05/19 16:46	06/06/19 23:31	
4-Isopropyltoluene	ND	*	11		ug/Kg		06/05/19 16:46	06/06/19 23:31	,
Methylene Chloride	ND		21		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
4-Methyl-2-pentanone (MIBK)	ND		110		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	
i mony z pontanone (MIDIX)	יייי		110		~g,11g		50/00/10 10. <del>7</del> 0	30/00/18 20.01	

Eurofins TestAmerica, Pleasanton

06/06/19 23:31

06/06/19 23:31

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06/06/19 23:31

06/05/19 16:46

06/05/19 16:46

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06/05/19 16:46

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ug/Kg

ug/Kg

ug/Kg

ug/Kg

ND \*

ND \*

ND \*

ND \*

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93353-4

06/05/19 16:46

06/06/19 23:31

Matrix: Solid

Percent Solids: 58.6

Job ID: 720-93353-1

Client Sample ID: L3-2D

Date Collected: 06/04/19 10:05 Date Received: 06/05/19 14:33

Toluene-d8 (Surr)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Tetrachloroethene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Toluene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,2,3-Trichlorobenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,2,4-Trichlorobenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,1,1-Trichloroethane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,1,2-Trichloroethane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Trichloroethene	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Trichlorofluoromethane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,2,3-Trichloropropane	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,2,4-Trimethylbenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
1,3,5-Trimethylbenzene	ND	*	11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Vinyl acetate	ND		42		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Vinyl chloride	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Xylenes, Total	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
2,2-Dichloropropane	ND		11		ug/Kg	₽	06/05/19 16:46	06/06/19 23:31	1
Gasoline Range Organics (GRO) -C4-C12	ND		530		ug/Kg	*	06/05/19 16:46	06/06/19 23:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	67	*	45 - 131				06/05/19 16:46	06/06/19 23:31	1
1,2-Dichloroethane-d4 (Surr)	99		60 - 140				06/05/19 16:46	06/06/19 23:31	1

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93353-5

Matrix: Solid

Percent Solids: 57.2

Job ID: 720-93353-1

Client Sample ID: L3-2

Date Collected: 06/04/19 10:05 Date Received: 06/05/19 14:33

Analyte	Result	Qualifier RL	MDL (	Jnit	D	Prepared	Analyzed	Dil F
Phenol	ND	1.1	r	ng/Kg	<u> </u>	06/07/19 12:36	06/12/19 12:56	
Bis(2-chloroethyl)ether	ND	1.1	r	ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
2-Chlorophenol	ND	1.1	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
1,3-Dichlorobenzene	ND	1.1	r	ng/Kg		06/07/19 12:36	06/12/19 12:56	
1,4-Dichlorobenzene	ND	1.1	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Benzyl alcohol	ND	2.9	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
1,2-Dichlorobenzene	ND	1.1	r	ng/Kg		06/07/19 12:36	06/12/19 12:56	
2-Methylphenol	ND	1.1		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Methylphenol, 3 & 4	ND	1.1		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
N-Nitrosodi-n-propylamine	ND	2.2		ng/Kg		06/07/19 12:36	06/12/19 12:56	
Hexachloroethane	ND	2.2		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Nitrobenzene	ND	1.1		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Isophorone	ND	1.1		ng/Kg		06/07/19 12:36	06/12/19 12:56	
2-Nitrophenol	ND	2.2		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
2,4-Dimethylphenol	ND	2.2		ng/Kg ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Bis(2-chloroethoxy)methane	ND	2.9		ng/Kg		06/07/19 12:36	06/12/19 12:56	
2,4-Dichlorophenol	ND	5.6		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
1,2,4-Trichlorobenzene	ND	1.1		ng/Kg ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Naphthalene	ND	2.2				06/07/19 12:36	06/12/19 12:56	
4-Chloroaniline	ND ND	2.9		ng/Kg	т ф			
				ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
Hexachlorobutadiene	ND	1.1		ng/Kg		06/07/19 12:36	06/12/19 12:56	
4-Chloro-3-methylphenol	ND	2.9		ng/Kg		06/07/19 12:36	06/12/19 12:56	
2-Methylnaphthalene	ND	1.1		ng/Kg	*	06/07/19 12:36	06/12/19 12:56	
Hexachlorocyclopentadiene	ND	2.9		ng/Kg	<u></u>	06/07/19 12:36	06/12/19 12:56	
2,4,6-Trichlorophenol	ND	2.9		ng/Kg	φ.	06/07/19 12:36	06/12/19 12:56	
2,4,5-Trichlorophenol	ND	1.1		ng/Kg	₩.	06/07/19 12:36	06/12/19 12:56	
2-Chloronaphthalene	ND	1.1		ng/Kg		06/07/19 12:36	06/12/19 12:56	
2-Nitroaniline	ND	5.6		ng/Kg	<b>*</b>	06/07/19 12:36	06/12/19 12:56	
Dimethyl phthalate	ND	2.9		ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Acenaphthylene	ND	1.1		ng/Kg		06/07/19 12:36	06/12/19 12:56	
3-Nitroaniline	ND	2.9	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Acenaphthene	ND	1.1	r	ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
2,4-Dinitrophenol	ND	11	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
4-Nitrophenol	ND	5.6	r	ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
Dibenzofuran	ND	1.1	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
2,4-Dinitrotoluene	ND	2.2	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
2,6-Dinitrotoluene	ND	2.2	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Diethyl phthalate	ND	2.9	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
4-Chlorophenyl phenyl ether	ND	2.9	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Fluorene	ND	1.1	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
1-Nitroaniline	ND	5.6	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
2-Methyl-4,6-dinitrophenol	ND	5.6	r	ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
N-Nitrosodiphenylamine	ND	1.1	r	ng/Kg	φ.	06/07/19 12:36	06/12/19 12:56	
1-Bromophenyl phenyl ether	ND	2.9	r	ng/Kg	₽	06/07/19 12:36	06/12/19 12:56	
Hexachlorobenzene	ND	2.2		ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
Pentachlorophenol	ND .	5.6		ng/Kg		06/07/19 12:36	06/12/19 12:56	
Phenanthrene	ND	2.2		ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
Anthracene	ND	1.1		ng/Kg	₩	06/07/19 12:36	06/12/19 12:56	
Di-n-butyl phthalate	ND	2.9		ng/Kg		06/07/19 12:36	06/12/19 12:56	

Eurofins TestAmerica, Pleasanton

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Job ID: 720-93353-1

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Client Sample ID: L3-2

Analyte

Date Collected: 06/04/19 10:05 Date Received: 06/05/19 14:33 Lab Sample ID: 720-93353-5

Matrix: Solid

Percent Solids: 57.2

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fa
Fluoranthene	ND		1.1	mg/Kg	<u>\$</u>	06/07/19 12:36	06/12/19 12:56	10
Pyrene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Butyl benzyl phthalate	ND		2.9	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
3,3'-Dichlorobenzidine	ND		2.9	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Benzo[a]anthracene	ND		5.6	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Bis(2-ethylhexyl) phthalate	6.4		5.6	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Chrysene	ND		2.2	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Di-n-octyl phthalate	ND		2.9	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Benzo[b]fluoranthene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Benzo[a]pyrene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Benzo[k]fluoranthene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Indeno[1,2,3-cd]pyrene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Benzo[g,h,i]perylene	ND		2.2	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Benzoic acid	ND		5.6	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Pyridine	ND		2.2	mg/Kg	\$	06/07/19 12:36	06/12/19 12:56	10
Azobenzene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Dibenz(a,h)anthracene	ND		1.1	mg/Kg	₽	06/07/19 12:36	06/12/19 12:56	10
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
Nitrobenzene-d5	50		21 - 98			06/07/19 12:36	06/12/19 12:56	1
2-Fluorobiphenyl	63		30 - 112			06/07/19 12:36	06/12/19 12:56	1
Terphenyl-d14	109		59 - 134			06/07/19 12:36	06/12/19 12:56	1
2-Fluorophenol	57		28 - 98			06/07/19 12:36	06/12/19 12:56	1
Phenol-d5	63		23 - 101			06/07/19 12:36	06/12/19 12:56	1
2,4,6-Tribromophenol	80		37 - 114			06/07/19 12:36	06/12/19 12:56	1

Diesel Range Organics [C10-C28]	880		43	mg/Kg	#	06/07/19 09:59	06/11/19 21:25	5
Motor Oil Range Organics [C24-C36]	4500		1100	mg/Kg	₩	06/07/19 09:59	06/11/19 21:25	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
p-Terphenyl	0	DX	40 - 130			06/07/19 09:59	06/11/19 21:25	5

RL

MDL Unit

D

Prepared

Result Qualifier

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		17		ug/Kg	<del>-</del>	06/07/19 16:21	06/11/19 18:07	5
Dieldrin	ND		17		ug/Kg	₽	06/07/19 16:21	06/11/19 18:07	5
Endrin aldehyde	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
Endrin	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
Endrin ketone	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
Heptachlor	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
Heptachlor epoxide	ND		17		ug/Kg	\$	06/07/19 16:21	06/11/19 18:07	5
4,4'-DDT	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
4,4'-DDE	33		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
4,4'-DDD	30		17		ug/Kg	₽	06/07/19 16:21	06/11/19 18:07	5
Endosulfan I	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
Endosulfan II	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	5
alpha-BHC	ND		17		ug/Kg	ф	06/07/19 16:21	06/11/19 18:07	5
beta-BHC	ND		17		ug/Kg	☼	06/07/19 16:21	06/11/19 18:07	5

Eurofins TestAmerica, Pleasanton

Analyzed

3

6

8

10

11

13

14

15

Dil Fac

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93353-5

Matrix: Solid

Job ID: 720-93353-1

Client Sample ID: L3-2	
Date Collected: 06/04/19 10:05	

Method: 7471A - Mercury (CVAA)

Analyte

Mercury

Method: 8081A - Organochlor	rine Pesticides (G	C) (Continu	ed)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
gamma-BHC (Lindane)	ND		17		ug/Kg	*	06/07/19 16:21	06/11/19 18:07	
lelta-BHC	ND		17		ug/Kg	₽	06/07/19 16:21	06/11/19 18:07	
Endosulfan sulfate	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	
Methoxychlor	ND		17		ug/Kg	₩	06/07/19 16:21	06/11/19 18:07	
oxaphene	ND		340		ug/Kg	φ.	06/07/19 16:21	06/11/19 18:07	
Chlordane (technical)	ND		340		ug/Kg	₽	06/07/19 16:21	06/11/19 18:07	
sis-Chlordane	ND		17		ug/Kg	₽	06/07/19 16:21	06/11/19 18:07	
rans-Chlordane	ND		17		ug/Kg	₽	06/07/19 16:21	06/11/19 18:07	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil F
etrachloro-m-xylene			21 - 145				06/07/19 16:21	06/11/19 18:07	
OCB Decachlorobiphenyl	84		21 - 136				06/07/19 16:21	06/11/19 18:07	
lethod: 8082 - Polychlorinate	ad Rinhanyls (PCF	Re) hy Gae (	Chromatograph	v					
nalyte		Qualifier	RL	-	Unit	D	Prepared	Analyzed	Dil F
CB-1016	ND		85		ug/Kg	— <del>-</del>	06/07/19 16:18	06/11/19 19:26	
CB-1221	ND		85		ug/Kg	₩	06/07/19 16:18	06/11/19 19:26	
CB-1232	ND.		85		ug/Kg	₩	06/07/19 16:18	06/11/19 19:26	
	ND		85		ug/Kg		06/07/19 16:18	06/11/19 19:26	
					ug/Kg	-11	00/07/19 10.10	00/11/19 19.20	
					ua/Ka	75	06/07/10 16:10	06/11/10 10:26	
PCB-1248	ND		85		ug/Kg	<b>\$</b>	06/07/19 16:18	06/11/19 19:26	
PCB-1242 PCB-1248 PCB-1254	ND <b>100</b>		85 85		ug/Kg	₩	06/07/19 16:18	06/11/19 19:26	
PCB-1248 PCB-1254	ND		85						
PCB-1248 PCB-1254 PCB-1260	ND 100 ND %Recovery	Qualifier	85 85 85 <i>Limits</i>		ug/Kg	₩	06/07/19 16:18	06/11/19 19:26	Dil F
PCB-1248	ND 100 ND	Qualifier	85 85 85		ug/Kg	₩	06/07/19 16:18 06/07/19 16:18	06/11/19 19:26 06/11/19 19:26	Dil F
PCB-1248 PCB-1254 PCB-1260 Surrogate	ND 100 ND %Recovery	Qualifier	85 85 85 <i>Limits</i>		ug/Kg	₩	06/07/19 16:18 06/07/19 16:18 <b>Prepared</b>	06/11/19 19:26 06/11/19 19:26 <b>Analyzed</b>	Dil F
CB-1248 CB-1254 CB-1260 Currogate Etrachloro-m-xylene CCB Decachlorobiphenyl	ND 100 ND ND 97 77	Qualifier	85 85 85 <b>Limits</b> 45 - 132		ug/Kg	₩	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18	06/11/19 19:26 06/11/19 19:26 <b>Analyzed</b> 06/11/19 19:26	Dil F
CB-1248 CB-1254 CB-1260 urrogate etrachloro-m-xylene CB Decachlorobiphenyl lethod: 6010B - Metals (ICP)	ND 100 ND PRECOVERY 97 77	<i>Qualifier</i> Qualifier	85 85 85 <b>Limits</b> 45 - 132	MDL	ug/Kg	₩	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18	06/11/19 19:26 06/11/19 19:26 <b>Analyzed</b> 06/11/19 19:26	Dil I
CB-1248 CB-1254 CB-1260 urrogate etrachloro-m-xylene CB Decachlorobiphenyl lethod: 6010B - Metals (ICP) nalyte	ND 100 ND PRECOVERY 97 77		85 85 <b>Limits</b> 45 - 132 42 - 146	MDL	ug/Kg ug/Kg	*	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony	ND 100 ND %Recovery 97 77 Result		85 85 <b>Limits</b> 45 - 132 42 - 146	MDL	ug/Kg ug/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed	
CB-1248 CB-1254 CB-1260  currogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP)  nalyte ntimony  rsenic	ND 100 ND %Recovery 97 77 Result ND		85 85 <b>Limits</b> 45 - 132 42 - 146 <b>RL</b> 3.1	MDL	ug/Kg ug/Kg  Unit mg/Kg	<b>D</b>	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  currogate cetrachloro-m-xylene cCB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony creenic carium	ND 100 ND %Recovery 97 77 Result ND ND		85 85 <b>Limits</b> 45 - 132 42 - 146 <b>RL</b> 3.1	MDL	ug/Kg ug/Kg  Unit mg/Kg mg/Kg	— <u>D</u>	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic tarium eryllium	ND 100 ND %Recovery 97 77 Result ND ND ND		85 85 <b>Limits</b> 45 - 132 42 - 146 <b>RL</b> 3.1 6.2 3.1	MDL	ug/Kg ug/Kg  Unit mg/Kg mg/Kg mg/Kg	— D = 0	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic tarium eryllium tadmium	ND 100 ND %Recovery 97 77  Result ND ND 57		85 85 85 Limits 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62	MDL	ug/Kg ug/Kg  Unit mg/Kg mg/Kg mg/Kg mg/Kg	D 0	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic arium eryllium admium chromium	ND 100 ND %Recovery 97 77 Result ND ND 57 ND 0.96		85 85 85 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62 0.77 3.1	MDL	ug/Kg ug/Kg  Unit mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic arium eryllium admium hromium obalt	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0		85 85 85 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62 0.77 3.1 1.2	MDL	ug/Kg ug/Kg  Unit mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic arium eryllium admium hromium obalt opper	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.00 200		85 85 85 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3	MDL	ug/Kg ug/Kg  Unit  mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic arium eryllium admium hromium obalt opper ead	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0 200 240		85 85 85 Limits 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3 3.1	MDL	Unit  mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  urrogate etrachloro-m-xylene CB Decachlorobiphenyl  lethod: 6010B - Metals (ICP) nalyte ntimony rsenic earium eryllium chromium cobalt copper ead lolybdenum	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0 200 240 7.2		85 85 85 Limits 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3 3.1	MDL	ug/Kg ug/Kg  Unit mg/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1260  currogate etrachloro-m-xylene CB Decachlorobiphenyl  Method: 6010B - Metals (ICP) malyte ntimony crsenic darium eryllium chromium chobalt copper ead lolybdenum lickel	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0 200 240 7.2		85 85 85 Limits  45 - 132 42 - 146  RL  3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3 3.1 3.1 3.1	MDL	ug/Kg ug/Kg  Unit mg/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24 06/11/19 16:24	
CB-1248 CB-1254 CB-1254 CB-1260  currogate etrachloro-m-xylene CB Decachlorobiphenyl  Method: 6010B - Metals (ICP) malyte ntimony crsenic carium erryllium chromium cobalt copper ead dolybdenum lickel elenium	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0 200 240 7.2 41 ND		85 85 85 Limits  45 - 132 42 - 146  RL  3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3 3.1 3.1 3.1 6.2	MDL	ug/Kg ug/Kg  Unit mg/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Malyzed 06/11/19 16:24 06/11/19 16:24	
CCB-1248 CCB-1254 CCB-1254 CCB-1260  Currogate Cetrachloro-m-xylene CCB Decachlorobiphenyl  Method: 6010B - Metals (ICP)  Inalyte Intimony Interval  Ceryllium Cadmium Chromium Cobalt Copper Lead Molybdenum Lickel	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0 200 240 7.2 41 ND ND		85 85 85 Limits 45 - 132 42 - 146 RL 3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3 3.1 3.1 3.1 6.2 1.5	MDL	ug/Kg ug/Kg  Unit mg/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Malyzed 06/11/19 16:24 06/11/19 16:24	
PCB-1248 PCB-1254 PCB-1260 Surrogate Fetrachloro-m-xylene	ND 100 ND %Recovery 97 77  Result ND ND 57 ND 0.96 46 7.0 200 240 7.2 41 ND		85 85 85 Limits  45 - 132 42 - 146  RL  3.1 6.2 3.1 0.62 0.77 3.1 1.2 9.3 3.1 3.1 3.1 6.2	MDL	ug/Kg ug/Kg  Unit mg/Kg		06/07/19 16:18 06/07/19 16:18 Prepared 06/07/19 16:18 06/07/19 16:18 06/07/19 16:18 Prepared 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50 06/10/19 17:50	06/11/19 19:26 06/11/19 19:26 Analyzed 06/11/19 19:26 06/11/19 19:26 Malyzed 06/11/19 16:24 06/11/19 16:24	

Analyzed

Prepared

06/12/19 09:10 06/12/19 12:37

RL

0.025

MDL Unit

mg/Kg

Result Qualifier

0.12

Dil Fac

Job ID: 720-93353-1

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Matrix: Solid Prep Type: Total/NA

				Percent Su
		BFB	DCA	TOL
Lab Sample ID	Client Sample ID	(45-131)	(60-140)	(58-140)
720-93353-4	L3-2D	67 *	99	82
LCS 720-267016/5	Lab Control Sample	90	83	93
LCS 720-267016/7	Lab Control Sample	91	89	95
LCSD 720-267016/6	Lab Control Sample Dup	92	91	93
LCSD 720-267016/8	Lab Control Sample Dup	90	87	95
MB 720-267016/4	Method Blank	90	88	94
Surrogate Legend				

BFB = 4-Bromofluorobenzene

DCA = 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

_				Percent Sur	rogate Reco	very (Accept	ance Limits)
		NBZ	FBP	TPHL	2FP	PHL	TBP
Lab Sample ID	Client Sample ID	(21-98)	(30-112)	(59-134)	(28-98)	(23-101)	(37-114)
720-93312-A-5-I MS	Matrix Spike	77	82	121	81	87	91
'20-93312-A-5-J MSD	Matrix Spike Duplicate	74	77	117	77	81	87
20-93353-5	L3-2	50	63	109	57	63	80
.CS 720-267071/2-A	Lab Control Sample	77	81	118	85	86	98
MB 720-267071/1-A	Method Blank	76	83	121	89	89	90

### Surrogate Legend

NBZ = Nitrobenzene-d5

FBP = 2-Fluorobiphenyl

TPHL = Terphenyl-d14

2FP = 2-Fluorophenol

PHL = Phenol-d5

TBP = 2,4,6-Tribromophenol

### Method: 8015B - Diesel Range Organics (DRO) (GC)

**Matrix: Solid** Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		TPH1	
Lab Sample ID	Client Sample ID	(40-130)	
720-93313-A-1-B MS	Matrix Spike	59	
720-93313-A-1-C MSD	Matrix Spike Duplicate	74	
720-93353-5	L3-2	0 D X	
LCS 720-267066/2-A	Lab Control Sample	96	
MB 720-267066/1-A	Method Blank	82	
Surrogate Legend			
TPH = p-Terphenyl			

Job ID: 720-93353-1

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		TCX2	DCBP1	
Lab Sample ID	Client Sample ID	(21-145)	(21-136)	
720-93216-D-3-J MS	Matrix Spike	70	92 p	

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid Prep Type: Total/NA

	Percent Surrogate Recovery (Acceptance Limits)					
		TCX1	DCBP1			
Lab Sample ID	Client Sample ID	(21-145)	(21-136)			
720-93216-D-3-M MSD	Matrix Spike Duplicate	75	94			
Surrogate Legend						
TCX = Tetrachloro-m-xy	ene					
DCBP = DCB Decachlor	obiohenyl					

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid Prep Type: Total/NA

-		Percent Surrogate Recovery (Acceptance Limits)						
		TCX2	DCBP2					
Lab Sample ID	Client Sample ID	(21-145)	(21-136)					
720-93353-5	L3-2	67	84					
Surrogate Legend								
TCX = Tetrachloro-r	n-xylene							
DCBP = DCB Decad	chlorobiphenyl							

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		TCX1	DCBP2	
Lab Sample ID	Client Sample ID	(21-145)	(21-136)	
LCS 720-267082/2-A	Lab Control Sample	88	103	
MB 720-267082/1-A	Method Blank	85	101	
Surrogate Legend				
TCX = Tetrachloro-m-xy	ylene			
DCBP = DCB Decachlo	robiphenyl			

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid Prep Type: Total/NA

=				Percent Surrogate Recovery (Acceptance Limits)
		TCX1	DCBP1	
Lab Sample ID	Client Sample ID	(45-132)	(42-146)	
720-93353-5	L3-2	97	77	
LCS 720-267083/2-A	Lab Control Sample	83	98	
MB 720-267083/1-A	Method Blank	89	102	
Surrogate Legend				

### **Surrogate Summary**

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Job ID: 720-93353-1

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### **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

### Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-267016/4

Matrix: Solid

**Client Sample ID: Method Blank Prep Type: Total/NA** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Methyl tert-butyl ether	ND		5.0		ug/Kg			06/06/19 20:02	
Acetone	ND		50		ug/Kg			06/06/19 20:02	
Benzene	ND		5.0		ug/Kg			06/06/19 20:02	
Dichlorobromomethane	ND		5.0		ug/Kg			06/06/19 20:02	
Bromobenzene	ND		5.0		ug/Kg			06/06/19 20:02	
Chlorobromomethane	ND		20		ug/Kg			06/06/19 20:02	
Bromoform	ND		5.0		ug/Kg			06/06/19 20:02	
Bromomethane	ND		10		ug/Kg			06/06/19 20:02	
2-Butanone (MEK)	ND		50		ug/Kg			06/06/19 20:02	
n-Butylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
sec-Butylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
tert-Butylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
Carbon disulfide	ND		5.0		ug/Kg			06/06/19 20:02	
Carbon tetrachloride	ND		5.0		ug/Kg			06/06/19 20:02	
Chlorobenzene	ND		5.0		ug/Kg			06/06/19 20:02	
Chloroethane	ND		10		ug/Kg			06/06/19 20:02	
Chloroform	ND		5.0		ug/Kg			06/06/19 20:02	
Chloromethane	ND		10		ug/Kg			06/06/19 20:02	
2-Chlorotoluene	ND		5.0		ug/Kg			06/06/19 20:02	
4-Chlorotoluene	ND		5.0		ug/Kg			06/06/19 20:02	
Chlorodibromomethane	ND		5.0		ug/Kg			06/06/19 20:02	
1,2-Dichlorobenzene	ND		5.0		ug/Kg			06/06/19 20:02	
1,3-Dichlorobenzene	ND		5.0		ug/Kg			06/06/19 20:02	
1,4-Dichlorobenzene	ND		5.0		ug/Kg			06/06/19 20:02	
1,3-Dichloropropane	ND		5.0		ug/Kg			06/06/19 20:02	
1,1-Dichloropropene	ND		5.0		ug/Kg			06/06/19 20:02	
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			06/06/19 20:02	
Ethylene Dibromide	ND		5.0		ug/Kg			06/06/19 20:02	
Dibromomethane	ND		10		ug/Kg			06/06/19 20:02	
Dichlorodifluoromethane	ND		10		ug/Kg			06/06/19 20:02	
1,1-Dichloroethane	ND		5.0		ug/Kg			06/06/19 20:02	
1,2-Dichloroethane	ND		5.0		ug/Kg			06/06/19 20:02	
1,1-Dichloroethene	ND		5.0		ug/Kg			06/06/19 20:02	
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			06/06/19 20:02	
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			06/06/19 20:02	
1,2-Dichloropropane	ND		5.0		ug/Kg			06/06/19 20:02	
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			06/06/19 20:02	
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			06/06/19 20:02	
Ethylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
Hexachlorobutadiene	ND		5.0		ug/Kg			06/06/19 20:02	
2-Hexanone	ND		50		ug/Kg			06/06/19 20:02	
Isopropylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
4-Isopropyltoluene	ND		5.0		ug/Kg			06/06/19 20:02	
Methylene Chloride	ND		10		ug/Kg			06/06/19 20:02	
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			06/06/19 20:02	
Naphthalene	ND		10		ug/Kg			06/06/19 20:02	
N-Propylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
Styrene	ND		5.0		ug/Kg			06/06/19 20:02	

Job ID: 720-93353-1

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

### Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-267016/4

**Matrix: Solid** 

Analysis Batch: 267016

Client Sample ID: Method Blank **Prep Type: Total/NA** 

-	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			06/06/19 20:02	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			06/06/19 20:02	1
Tetrachloroethene	ND		5.0		ug/Kg			06/06/19 20:02	1
Toluene	ND		5.0		ug/Kg			06/06/19 20:02	•
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			06/06/19 20:02	•
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			06/06/19 20:02	•
1,1,1-Trichloroethane	ND		5.0		ug/Kg			06/06/19 20:02	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			06/06/19 20:02	•
Trichloroethene	ND		5.0		ug/Kg			06/06/19 20:02	
Trichlorofluoromethane	ND		5.0		ug/Kg			06/06/19 20:02	
1,2,3-Trichloropropane	ND		5.0		ug/Kg			06/06/19 20:02	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			06/06/19 20:02	•
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			06/06/19 20:02	
Vinyl acetate	ND		20		ug/Kg			06/06/19 20:02	•
Vinyl chloride	ND		5.0		ug/Kg			06/06/19 20:02	•
Xylenes, Total	ND		5.0		ug/Kg			06/06/19 20:02	•
2,2-Dichloropropane	ND		5.0		ug/Kg			06/06/19 20:02	
Gasoline Range Organics (GRO) -C4-C12	ND		250		ug/Kg			06/06/19 20:02	

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Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		45 - 131	_		06/06/19 20:02	1
1,2-Dichloroethane-d4 (Surr)	88		60 - 140			06/06/19 20:02	1
Toluene-d8 (Surr)	94		58 <sub>-</sub> 140			06/06/19 20:02	1

Lab Sample ID: LCS 720-267016/5

Matrix: Solid

Analysis Batch: 267016

**Client Sample ID: Lab Control Sample Prep Type: Total/NA** 

Allalysis Datcil. 207010							
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Methyl tert-butyl ether	50.0	45.9		ug/Kg		92	70 - 144
Acetone	250	236		ug/Kg		95	30 - 162
Benzene	50.0	47.7		ug/Kg		95	70 - 130
Dichlorobromomethane	50.0	48.7		ug/Kg		97	70 - 140
Bromobenzene	50.0	49.2		ug/Kg		98	70 - 130
Chlorobromomethane	50.0	51.4		ug/Kg		103	70 - 130
Bromoform	50.0	55.7		ug/Kg		111	59 - 158
Bromomethane	50.0	43.6		ug/Kg		87	59 - 132
2-Butanone (MEK)	250	227		ug/Kg		91	59 - 159
n-Butylbenzene	50.0	43.5		ug/Kg		87	70 - 142
sec-Butylbenzene	50.0	46.4		ug/Kg		93	70 - 136
tert-Butylbenzene	50.0	46.4		ug/Kg		93	70 - 130
Carbon disulfide	50.0	46.0		ug/Kg		92	60 - 140
Carbon tetrachloride	50.0	50.3		ug/Kg		101	70 - 142
Chlorobenzene	50.0	49.6		ug/Kg		99	70 - 130
Chloroethane	50.0	44.0		ug/Kg		88	65 - 130
Chloroform	50.0	46.2		ug/Kg		92	77 - 127
Chloromethane	50.0	44.2		ug/Kg		88	55 <sub>-</sub> 140

### **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

### Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-267016/5

**Matrix: Solid** 

Analysis Batch: 267016

**Client Sample ID: Lab Control Sample Prep Type: Total/NA** 

	Spike	LCS		- 0/-	%Rec.	
Analyte	Added		Qualifier Unit	D %Rec	Limits	
2-Chlorotoluene	50.0	44.8	ug/Kg	90	70 - 138	
4-Chlorodihamamathana	50.0	45.2	ug/Kg	90	70 - 136	
Chlorodibromomethane	50.0	55.4	ug/Kg	111	70 - 146	
1,2-Dichlorobenzene	50.0	48.4	ug/Kg	97	70 <sub>-</sub> 130	
1,3-Dichlorobenzene	50.0	48.9	ug/Kg	98	70 <sub>-</sub> 131	
1,4-Dichlorobenzene	50.0	47.7	ug/Kg	95	70 - 130	
1,3-Dichloropropane	50.0	46.2	ug/Kg	92	70 - 140	
1,1-Dichloropropene	50.0	47.2	ug/Kg	94	70 - 130	
1,2-Dibromo-3-Chloropropane	50.0	52.5	ug/Kg	105	60 - 145	
Ethylene Dibromide	50.0	50.7	ug/Kg	101	70 - 140	
Dibromomethane	50.0	46.2	ug/Kg	92	70 - 139	
Dichlorodifluoromethane	50.0	41.6	ug/Kg	83	37 - 158	
1,1-Dichloroethane	50.0	46.7	ug/Kg	93	70 - 130	
1,2-Dichloroethane	50.0	43.4	ug/Kg	87	70 - 130	
1,1-Dichloroethene	50.0	47.5	ug/Kg	95	74 - 122	
cis-1,2-Dichloroethene	50.0	44.9	ug/Kg	90	70 - 138	
trans-1,2-Dichloroethene	50.0	48.8	ug/Kg	98	67 - 130	
1,2-Dichloropropane	50.0	48.8	ug/Kg	98	73 - 127	
cis-1,3-Dichloropropene	50.0	50.6	ug/Kg	101	68 - 147	
trans-1,3-Dichloropropene	50.0	49.6	ug/Kg	99	70 - 155	
Ethylbenzene	50.0	46.2	ug/Kg	92	80 - 137	
Hexachlorobutadiene	50.0	57.3	ug/Kg	115	70 - 132	
2-Hexanone	250	227	ug/Kg	91	62 - 158	
Isopropylbenzene	50.0	49.4	ug/Kg	99	70 - 130	
4-Isopropyltoluene	50.0	48.1	ug/Kg	96	70 - 133	
Methylene Chloride	50.0	45.6	ug/Kg	91	70 - 134	
4-Methyl-2-pentanone (MIBK)	250	229	ug/Kg	92	60 - 160	
Naphthalene	50.0	49.3	ug/Kg	99	60 - 147	
N-Propylbenzene	50.0	44.8	ug/Kg	90	70 - 130	
Styrene	50.0	49.3	ug/Kg	99	70 - 130	
1,1,1,2-Tetrachloroethane	50.0	51.7	ug/Kg	103	70 - 130	
1,1,2,2-Tetrachloroethane	50.0	41.0	ug/Kg	82	70 - 146	
Tetrachloroethene	50.0	55.6	ug/Kg	111	70 - 132	
Toluene	50.0	46.3	ug/Kg	93	75 - 120	
1,2,3-Trichlorobenzene	50.0	54.4	ug/Kg	109	60 - 140	
1,2,4-Trichlorobenzene	50.0	55.1	ug/Kg	110	60 - 140	
1,1,1-Trichloroethane	50.0	47.6	ug/Kg	95	70 - 130	
1,1,2-Trichloroethane	50.0	48.9	ug/Kg	98	70 - 130	
Trichloroethene	50.0	51.2	ug/Kg	102	70 - 133	
Trichlorofluoromethane	50.0	49.1	ug/Kg	98	60 - 140	
1,2,3-Trichloropropane	50.0	44.3	ug/Kg	89	70 - 146	
1,1,2-Trichloro-1,2,2-trifluoroetha	50.0	52.8	ug/Kg	106	60 - 140	
ne					70. 100	
1,2,4-Trimethylbenzene	50.0	45.7	ug/Kg	91	70 - 130	
1,3,5-Trimethylbenzene	50.0	45.6	ug/Kg	91	70 - 131	
Vinyl acetate	50.0	45.7	ug/Kg	91	38 - 176	
Vinyl chloride	50.0	41.8	ug/Kg	84	58 - 125	
m-Xylene & p-Xylene	50.0	47.5	ug/Kg	95	70 - 146	
o-Xylene	50.0	48.0	ug/Kg	96	70 - 140	

### **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-267016/5 **Matrix: Solid** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Analysis Batch: 267016

LCS LCS Spike %Rec. Added Result Qualifier Limits 2,2-Dichloropropane 50.0 47.4 70 - 162 ug/Kg

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	90		45 - 131
1,2-Dichloroethane-d4 (Surr)	83		60 - 140
Toluene-d8 (Surr)	93		58 - 140

Lab Sample ID: LCS 720-267016/7 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 267016

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)	1000	909		ug/Kg		91	70 - 122	 

-C4-C12

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	91		45 - 131
1,2-Dichloroethane-d4 (Surr)	89		60 - 140
Toluene-d8 (Surr)	95		58 <sub>-</sub> 140

Lab Sample ID: LCSD 720-267016/6 **Client Sample ID: Lab Control Sample Dup Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 267016

Analysis Batch: 267016									
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Methyl tert-butyl ether	50.0	50.4		ug/Kg		101	70 - 144	9	20
Acetone	250	285		ug/Kg		114	30 - 162	19	30
Benzene	50.0	47.9		ug/Kg		96	70 - 130	0	20
Dichlorobromomethane	50.0	50.7		ug/Kg		101	70 - 140	4	20
Bromobenzene	50.0	49.8		ug/Kg		100	70 - 130	1	20
Chlorobromomethane	50.0	53.4		ug/Kg		107	70 - 130	4	20
Bromoform	50.0	61.3		ug/Kg		123	59 <sub>-</sub> 158	9	20
Bromomethane	50.0	43.7		ug/Kg		87	59 - 132	0	20
2-Butanone (MEK)	250	268		ug/Kg		107	59 <sub>-</sub> 159	16	20
n-Butylbenzene	50.0	43.0		ug/Kg		86	70 - 142	1	20
sec-Butylbenzene	50.0	44.9		ug/Kg		90	70 - 136	3	20
tert-Butylbenzene	50.0	45.0		ug/Kg		90	70 - 130	3	20
Carbon disulfide	50.0	46.4		ug/Kg		93	60 - 140	1	20
Carbon tetrachloride	50.0	50.0		ug/Kg		100	70 - 142	1	20
Chlorobenzene	50.0	49.0		ug/Kg		98	70 - 130	1	20
Chloroethane	50.0	43.6		ug/Kg		87	65 - 130	1	20
Chloroform	50.0	47.1		ug/Kg		94	77 - 127	2	20
Chloromethane	50.0	43.9		ug/Kg		88	55 - 140	1	20
2-Chlorotoluene	50.0	44.4		ug/Kg		89	70 - 138	1	20
4-Chlorotoluene	50.0	45.1		ug/Kg		90	70 - 136	0	20
Chlorodibromomethane	50.0	58.2		ug/Kg		116	70 - 146	5	20
1,2-Dichlorobenzene	50.0	49.7		ug/Kg		99	70 - 130	3	20
1,3-Dichlorobenzene	50.0	49.0		ug/Kg		98	70 - 131	0	20

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Page 18 of 43

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

# Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-267016/6

**Matrix: Solid** 

Analysis Batch: 267016

Client Sample ID: Lab Control Sample Dup

**Prep Type: Total/NA** 

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dichlorobenzene	50.0	48.5		ug/Kg		97	70 - 130	2	20
1,3-Dichloropropane	50.0	49.3		ug/Kg		99	70 - 140	6	20
1,1-Dichloropropene	50.0	47.2		ug/Kg		94	70 - 130	0	20
1,2-Dibromo-3-Chloropropane	50.0	61.0		ug/Kg		122	60 - 145	15	20
Ethylene Dibromide	50.0	54.5		ug/Kg		109	70 - 140	7	20
Dibromomethane	50.0	49.5		ug/Kg		99	70 - 139	7	20
Dichlorodifluoromethane	50.0	40.9		ug/Kg		82	37 - 158	2	20
1,1-Dichloroethane	50.0	46.7		ug/Kg		93	70 - 130	0	20
1,2-Dichloroethane	50.0	45.4		ug/Kg		91	70 - 130	5	20
1,1-Dichloroethene	50.0	48.2		ug/Kg		96	74 - 122	2	20
cis-1,2-Dichloroethene	50.0	44.8		ug/Kg		90	70 - 138	0	20
trans-1,2-Dichloroethene	50.0	49.5		ug/Kg		99	67 - 130	1	20
1,2-Dichloropropane	50.0	49.7		ug/Kg		99	73 - 127	2	20
cis-1,3-Dichloropropene	50.0	53.0		ug/Kg		106	68 - 147	5	20
trans-1,3-Dichloropropene	50.0	52.9		ug/Kg		106	70 <sub>-</sub> 155	6	20
Ethylbenzene	50.0	45.4		ug/Kg		91	80 - 137	2	20
Hexachlorobutadiene	50.0	57.3		ug/Kg		115	70 - 132	0	20
2-Hexanone	250	271		ug/Kg		109	62 - 158	18	20
Isopropylbenzene	50.0	48.7		ug/Kg		97	70 - 130	1	20
4-Isopropyltoluene	50.0	47.1		ug/Kg		94	70 - 133	2	20
Methylene Chloride	50.0	47.3		ug/Kg		95	70 - 134	4	20
4-Methyl-2-pentanone (MIBK)	250	268		ug/Kg		107	60 - 160	16	20
Naphthalene	50.0	57.0		ug/Kg		114	60 - 147	14	20
N-Propylbenzene	50.0	43.7		ug/Kg		87	70 - 130	2	20
Styrene	50.0	49.7		ug/Kg		99	70 - 130	1	20
1,1,1,2-Tetrachloroethane	50.0	52.3		ug/Kg		105	70 - 130	1	20
1,1,2,2-Tetrachloroethane	50.0	44.4		ug/Kg		89	70 - 146	8	20
Tetrachloroethene	50.0	55.1		ug/Kg		110	70 - 132	1	20
Toluene	50.0	45.3		ug/Kg		91	75 - 120	2	20
1,2,3-Trichlorobenzene	50.0	60.4		ug/Kg		121	60 - 140	11	20
1,2,4-Trichlorobenzene	50.0	59.5		ug/Kg		119	60 - 140	8	20
1,1,1-Trichloroethane	50.0	47.3		ug/Kg		95	70 - 130	0	20
1,1,2-Trichloroethane	50.0	52.6		ug/Kg		105	70 - 130	7	20
Trichloroethene	50.0	51.1		ug/Kg		102	70 <sub>-</sub> 133	0	20
Trichlorofluoromethane	50.0	49.4		ug/Kg		99	60 - 140		20
1,2,3-Trichloropropane	50.0	47.8		ug/Kg		96	70 - 146	8	20
1,1,2-Trichloro-1,2,2-trifluoroetha	50.0	53.6		ug/Kg		107	60 - 140	1	20
ne	30.0	00.0		ug/itg		107	00 - 140		20
1,2,4-Trimethylbenzene	50.0	44.8		ug/Kg		90	70 - 130	2	20
1,3,5-Trimethylbenzene	50.0	45.0		ug/Kg		90	70 <sub>-</sub> 131	1	20
Vinyl acetate	50.0	49.5		ug/Kg		99	38 - 176	8	20
Vinyl chloride	50.0	41.9		ug/Kg		84	58 - 125	0	20
m-Xylene & p-Xylene	50.0	46.7		ug/Kg		93	70 <sub>-</sub> 146	1	20
o-Xylene	50.0	47.8		ug/Kg		96	70 - 140	0	20
	<del></del>			5 5				-	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene	92	45 - 131

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

# Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-267016/6

**Matrix: Solid** 

Analysis Batch: 267016

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Job ID: 720-93353-1

LCSD LCSD

Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 60 - 140 91 Toluene-d8 (Surr) 93 58 - 140

Lab Sample ID: LCSD 720-267016/8

**Matrix: Solid** 

Analysis Batch: 267016

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

LCSD LCSD %Rec. RPD Spike Added Result Qualifier Unit %Rec Limits **RPD** Limit 1000 91 914 ug/Kg 70 - 122 Gasoline Range Organics (GRO) -C4-C12

LCSD LCSD

%Recovery Qualifier Surrogate Limits 90 45 - 131 4-Bromofluorobenzene 87 60 - 140 1,2-Dichloroethane-d4 (Surr) Toluene-d8 (Surr) 95 58 - 140

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-267071/1-A Client Sample ID: Method Blank

**Matrix: Solid** 

Prep Type: Total/NA

Analysis Batch: 267128								Prep Batch:	267071
Analyte		MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg	_ <u>-</u>	06/07/19 10:43	06/08/19 00:13	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2-Chlorophenol	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzyl alcohol	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
1,2-Dichlorobenzene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2-Methylphenol	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
N-Nitrosodi-n-propylamine	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Hexachloroethane	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Nitrobenzene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Isophorone	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2-Nitrophenol	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,4-Dimethylphenol	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Naphthalene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
4-Chloroaniline	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Hexachlorobutadiene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2-Methylnaphthalene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging

Project/Site: Alameda Lagoon Dredging

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-267071/1-A Client Sample ID: Method Blank

Matrix: Solid Prep Type: Total/NA
Analysis Batch: 267128 Prep Batch: 267071

	MB	MR							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2-Nitroaniline	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Dimethyl phthalate	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Acenaphthylene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
3-Nitroaniline	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Acenaphthene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,4-Dinitrophenol	ND		0.66		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
4-Nitrophenol	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Dibenzofuran	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,4-Dinitrotoluene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2,6-Dinitrotoluene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Diethyl phthalate	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Fluorene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
4-Nitroaniline	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
2-Methyl-4,6-dinitrophenol	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Hexachlorobenzene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Pentachlorophenol	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Phenanthrene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Anthracene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Fluoranthene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Pyrene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzo[a]anthracene	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Chrysene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzo[a]pyrene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzo[g,h,i]perylene	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Benzoic acid	ND		0.33		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Pyridine	ND		0.13		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Azobenzene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		06/07/19 10:43	06/08/19 00:13	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
Nitrobenzene-d5	76		21 - 98	•	06/07/19 10:43	06/08/19 00:13	1	
2-Fluorobiphenyl	83		30 - 112		06/07/19 10:43	06/08/19 00:13	1	
Terphenyl-d14	121		59 - 134		06/07/19 10:43	06/08/19 00:13	1	
2-Fluorophenol	89		28 - 98		06/07/19 10:43	06/08/19 00:13	1	
Phenol-d5	89		23 - 101		06/07/19 10:43	06/08/19 00:13	1	

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Page 21 of 43

7/10/2019 (Rev. 1)

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# **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-267071/1-A

**Matrix: Solid** 

Fluorene

(Continued)

Analysis Batch: 267128

Client Sample ID: Method Blank

Prep Type: Total/NA

**Prep Batch: 267071** 

MB MB Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 2,4,6-Tribromophenol 90 37 - 114 06/07/19 10:43 06/08/19 00:13

Lab Sample ID: LCS 720-267071/2-A	A				Client	Sample	ID: Lab Control San	nple
Matrix: Solid							Prep Type: Total	I/NA
Analysis Batch: 267128							Prep Batch: 267	7071
	Spike	LCS	LCS				%Rec.	
Analyta	hobbA	Pocult	Qualifier	Unit	n	% Pac	Limite	

•	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Phenol	2.67	2.25		mg/Kg		84	48 - 110	
Bis(2-chloroethyl)ether	2.67	2.27		mg/Kg		85	40 - 110	
2-Chlorophenol	2.67	2.29		mg/Kg		86	45 - 110	
1,3-Dichlorobenzene	2.67	1.98		mg/Kg		74	38 - 110	
1,4-Dichlorobenzene	2.67	2.02		mg/Kg		76	40 - 110	
Benzyl alcohol	2.67	2.33		mg/Kg		87	47 - 110	
1,2-Dichlorobenzene	2.67	2.07		mg/Kg		78	39 _ 110	
2-Methylphenol	2.67	2.37		mg/Kg		89	50 <sub>-</sub> 110	
Methylphenol, 3 & 4	2.67	2.37		mg/Kg		89	51 - 110	
N-Nitrosodi-n-propylamine	2.67	2.29		mg/Kg		86	46 - 110	
Hexachloroethane	2.67	2.02		mg/Kg		76	40 - 110	
Nitrobenzene	2.67	2.26		mg/Kg		85	45 - 110	
Isophorone	2.67	2.41		mg/Kg		90	49 - 110	
2-Nitrophenol	2.67	2.36		mg/Kg		88	41 - 105	
2,4-Dimethylphenol	2.67	2.32		mg/Kg		87	52 <sub>-</sub> 100	
Bis(2-chloroethoxy)methane	2.67	2.25		mg/Kg		84	46 - 110	
2,4-Dichlorophenol	2.67	2.50		mg/Kg		94	49 - 100	
1,2,4-Trichlorobenzene	2.67	2.17		mg/Kg		81	43 - 110	
Naphthalene	2.67	2.24		mg/Kg		84	44 - 110	
4-Chloroaniline	2.67	2.18		mg/Kg		82	42 - 110	
Hexachlorobutadiene	2.67	2.18		mg/Kg		82	44 - 110	
4-Chloro-3-methylphenol	2.67	2.65		mg/Kg		99	58 <sub>-</sub> 104	
2-Methylnaphthalene	2.67	2.30		mg/Kg		86	49 - 110	
Hexachlorocyclopentadiene	2.67	1.89		mg/Kg		71	24 - 106	
2,4,6-Trichlorophenol	2.67	2.38		mg/Kg		89	50 <sub>-</sub> 105	
2,4,5-Trichlorophenol	2.67	2.43		mg/Kg		91	53 - 106	
2-Chloronaphthalene	2.67	2.25		mg/Kg		84	52 <sub>-</sub> 110	
2-Nitroaniline	2.67	2.47		mg/Kg		92	51 <sub>-</sub> 115	
Dimethyl phthalate	2.67	2.49		mg/Kg		93	56 <sub>-</sub> 103	
Acenaphthylene	2.67	2.40		mg/Kg		90	53 _ 102	
3-Nitroaniline	2.67	2.13		mg/Kg		80	50 - 110	
Acenaphthene	2.67	2.30		mg/Kg		86	53 - 103	
2,4-Dinitrophenol	5.33	3.70		mg/Kg		69	10 _ 115	
4-Nitrophenol	5.33	4.76		mg/Kg		89	54 - 117	
Dibenzofuran	2.67	2.31		mg/Kg		87	55 - 101	
2,4-Dinitrotoluene	2.67	2.54		mg/Kg		95	54 - 115	
2,6-Dinitrotoluene	2.67	2.47		mg/Kg		93	54 - 107	
Diethyl phthalate	2.67	2.45		mg/Kg		92	56 - 107	
4-Chlorophenyl phenyl ether	2.67	2.35		mg/Kg		88	57 - 106	

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54 - 103

2.41

mg/Kg

2.67

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-267071/2-A

Matrix: Solid

Analysis Batch: 267128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 267071

	Spike	LCS	LCS			%Rec.	
Analyte	Added	Result	Qualifier Unit	D	%Rec	Limits	
4-Nitroaniline	2.67	2.34	mg/Kg		88	49 - 115	
2-Methyl-4,6-dinitrophenol	5.33	4.99	mg/Kg		94	31 - 122	
N-Nitrosodiphenylamine	2.67	2.54	mg/Kg		95	56 - 104	
4-Bromophenyl phenyl ether	2.67	2.62	mg/Kg		98	53 - 104	
Hexachlorobenzene	2.67	2.58	mg/Kg		97	55 - 103	
Pentachlorophenol	5.33	4.90	mg/Kg		92	46 - 115	
Phenanthrene	2.67	2.55	mg/Kg		96	57 - 106	
Anthracene	2.67	2.58	mg/Kg		97	55 - 105	
Di-n-butyl phthalate	2.67	2.66	mg/Kg		100	58 - 109	
Fluoranthene	2.67	2.76	mg/Kg		104	56 - 104	
Pyrene	2.67	2.69	mg/Kg		101	52 <sub>-</sub> 115	
Butyl benzyl phthalate	2.67	2.77	mg/Kg		104	57 <sub>-</sub> 115	
3,3'-Dichlorobenzidine	2.67	2.28	mg/Kg		85	47 _ 110	
Benzo[a]anthracene	2.67	2.70	mg/Kg		101	55 - 103	
Bis(2-ethylhexyl) phthalate	2.67	2.85	mg/Kg		107	58 - 115	
Chrysene	2.67	2.59	mg/Kg		97	58 - 103	
Di-n-octyl phthalate	2.67	2.75	mg/Kg		103	58 - 109	
Benzo[b]fluoranthene	2.67	2.70	mg/Kg		101	57 <sub>-</sub> 109	
Benzo[a]pyrene	2.67	2.68	mg/Kg		100	57 - 106	
Benzo[k]fluoranthene	2.67	2.77	mg/Kg		104	55 <sub>-</sub> 110	
Indeno[1,2,3-cd]pyrene	2.67	2.60	mg/Kg		98	56 - 108	
Benzo[g,h,i]perylene	2.67	2.71	mg/Kg		102	56 _ 115	
Benzoic acid	2.67	2.31	mg/Kg		87	10 - 128	
Pyridine	5.33	2.97	mg/Kg		56	30 - 110	
Azobenzene	2.67	2.40	mg/Kg		90	52 - 103	
Dibenz(a,h)anthracene	2.67	2.59	mg/Kg		97	57 - 106	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	77		21 - 98
2-Fluorobiphenyl	81		30 - 112
Terphenyl-d14	118		59 - 134
2-Fluorophenol	85		28 - 98
Phenol-d5	86		23 - 101
2,4,6-Tribromophenol	98		37 - 114

Lab Sample ID: 720-93312-A-5-I MS

Matrix: Solid

**Analysis Batch: 267128** 

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Prep Batch: 267071

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Phenol	ND		2.51	2.34		mg/Kg		93	48 - 110	
Bis(2-chloroethyl)ether	ND	F1	2.51	3.66	F1	mg/Kg		145	40 - 110	
2-Chlorophenol	ND		2.51	2.23		mg/Kg		89	45 - 110	
1,3-Dichlorobenzene	ND		2.51	1.78		mg/Kg		71	38 - 110	
1,4-Dichlorobenzene	ND		2.51	1.81		mg/Kg		72	40 - 110	
Benzyl alcohol	ND		2.51	2.23		mg/Kg		89	47 - 110	
1,2-Dichlorobenzene	ND		2.51	1.93		mg/Kg		77	39 - 110	

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# **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93312-A-5-I MS

**Matrix: Solid** 

Benzo[a]anthracene

Client Sample ID: Matrix Spike Prep Type: Total/NA

Analysis Batch: 267128									Prep Bat	
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
2-Methylphenol	ND		2.51	2.29		mg/Kg		91	50 - 110	
Methylphenol, 3 & 4	ND		2.51	2.35		mg/Kg		94	51 - 110	
N-Nitrosodi-n-propylamine	ND		2.51	2.24		mg/Kg		89	46 - 110	
Hexachloroethane	ND		2.51	1.43		mg/Kg		57	40 - 110	
Nitrobenzene	ND		2.51	2.12		mg/Kg		84	45 - 110	
Isophorone	ND		2.51	2.18		mg/Kg		87	49 - 110	
2-Nitrophenol	ND		2.51	2.08		mg/Kg		83	41 - 105	
2,4-Dimethylphenol	ND		2.51	2.13		mg/Kg		85	52 - 100	
Bis(2-chloroethoxy)methane	ND		2.51	2.11		mg/Kg		84	46 - 110	
2,4-Dichlorophenol	ND		2.51	2.38		mg/Kg		95	49 - 100	
1,2,4-Trichlorobenzene	ND		2.51	2.03		mg/Kg		81	43 - 110	
Naphthalene	ND		2.51	2.05		mg/Kg		82	44 - 110	
4-Chloroaniline	ND		2.51	1.09		mg/Kg		43	42 _ 110	
Hexachlorobutadiene	ND		2.51	2.07		mg/Kg		82	44 - 110	
4-Chloro-3-methylphenol	ND		2.51	2.59		mg/Kg		103	58 <sub>-</sub> 104	
2-Methylnaphthalene	ND		2.51	2.26		mg/Kg		88	49 _ 110	
Hexachlorocyclopentadiene	ND	F1	2.51	ND	F1	mg/Kg		0	24 - 106	
2,4,6-Trichlorophenol	ND		2.51	2.34		mg/Kg		93	50 - 105	
2,4,5-Trichlorophenol	ND		2.51	2.39		mg/Kg		95	53 - 106	
2-Chloronaphthalene	ND		2.51	2.18		mg/Kg		87	52 _ 110	
2-Nitroaniline	ND		2.51	2.36		mg/Kg		94	51 <sub>-</sub> 115	
Dimethyl phthalate	ND		2.51	2.24		mg/Kg		89	56 - 103	
Acenaphthylene	ND		2.51	2.39		mg/Kg		93	53 - 102	
3-Nitroaniline	ND		2.51	2.04		mg/Kg		81	50 - 110	
Acenaphthene	ND		2.51	2.17		mg/Kg		86	53 - 103	
2,4-Dinitrophenol	ND		5.03	ND		mg/Kg		14	10 - 115	
4-Nitrophenol	ND		5.03	4.46		mg/Kg		89	54 - 117	
Dibenzofuran	ND		2.51	2.22		mg/Kg		88	55 - 101	
2,4-Dinitrotoluene	ND		2.51	2.22		mg/Kg		88	54 - 115	
2,6-Dinitrotoluene	ND		2.51	2.24		mg/Kg		89	54 - 107	
Diethyl phthalate	ND		2.51	2.36		mg/Kg		94	56 <sub>-</sub> 107	
4-Chlorophenyl phenyl ether	ND		2.51	2.27		mg/Kg		90	57 - 106	
Fluorene	ND		2.51	2.37		mg/Kg		94	54 - 103	
4-Nitroaniline	ND		2.51	2.06		mg/Kg		82	49 - 115	
2-Methyl-4,6-dinitrophenol	ND	F1	5.03	ND	F1	mg/Kg		14	31 - 122	
N-Nitrosodiphenylamine	ND		2.51	2.53		mg/Kg		101	56 <sub>-</sub> 104	
4-Bromophenyl phenyl ether	ND		2.51	2.46		mg/Kg		98	53 <sub>-</sub> 104	
Hexachlorobenzene	ND		2.51	2.45		mg/Kg		97	55 <sub>-</sub> 103	
Pentachlorophenol	ND		5.03	3.43		mg/Kg		68	46 - 115	
Phenanthrene		F1 F2	2.51	4.07	F1	mg/Kg		162	57 <sub>-</sub> 106	
Anthracene	ND		2.51	2.73		mg/Kg		104	55 <sub>-</sub> 105	
Di-n-butyl phthalate	ND		2.51	2.51		mg/Kg		100	58 - 109	
Fluoranthene		F1 F2	2.51	4.12	F1	mg/Kg		152	56 - 104	
Pyrene		F1 F2	2.51	4.94		mg/Kg		178	52 - 115	
Butyl benzyl phthalate	ND		2.51	2.80		mg/Kg		103	57 - 115	
3,3'-Dichlorobenzidine	ND	F1	2.51	0.960	F1	mg/Kg		38	47 - 110	
-,- =:-:::::::::::::::::::::::::::::::::	.,,,,			3.550		9.1.9				

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55 - 103

2.97 F1

ND F1

mg/Kg

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93312-A-5-I MS

**Matrix: Solid** 

Analysis Batch: 267128

Client Sample ID: Matrix Spike

Prep Type: Total/NA

**Prep Batch: 267071** 

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	ND		2.51	3.08		mg/Kg		103	58 - 115	
Chrysene	ND	F1	2.51	2.91	F1	mg/Kg		116	58 - 103	
Di-n-octyl phthalate	ND	F1	2.51	2.77	F1	mg/Kg		110	58 <sub>-</sub> 109	
Benzo[b]fluoranthene	0.42	F1	2.51	3.39	F1	mg/Kg		118	57 - 109	
Benzo[a]pyrene	0.44	F1	2.51	3.25	F1	mg/Kg		112	57 <sub>-</sub> 106	
Benzo[k]fluoranthene	ND		2.51	2.78		mg/Kg		105	55 <sub>-</sub> 110	
Indeno[1,2,3-cd]pyrene	0.49		2.51	2.77		mg/Kg		91	56 - 108	
Benzo[g,h,i]perylene	1.0		2.51	3.51		mg/Kg		100	56 <sub>-</sub> 115	
Benzoic acid	ND		2.51	ND		mg/Kg		43	10 - 128	
Pyridine	ND		5.03	2.57		mg/Kg		51	30 - 110	
Azobenzene	ND		2.51	2.28		mg/Kg		91	52 - 103	
Dibenz(a,h)anthracene	ND		2.51	2.11		mg/Kg		78	57 - 106	

MS MS

Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	77		21 - 98
2-Fluorobiphenyl	82		30 - 112
Terphenyl-d14	121		59 - 134
2-Fluorophenol	81		28 - 98
Phenol-d5	87		23 - 101
2,4,6-Tribromophenol	91		37 - 114

Lab Sample ID: 720-93312-A-5-J MSD

**Matrix: Solid** 

Analysis Batch: 267128

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 267071** 

Sample Sample Spike MSD MSD %Rec. RPD Qualifier Added Result Qualifier Limit Analyte Result Unit %Rec Limits RPD Phenol ND 2.62 2.32 mg/Kg 88 48 - 110 35 ND 2.62 40 - 110 35 Bis(2-chloroethyl)ether F1 3.76 F1 mg/Kg 143 3 2-Chlorophenol ND 2.62 2.22 mg/Kg 85 45 - 110 35 1,3-Dichlorobenzene ND 2.62 1 80 69 38 - 110 35 mg/Kg 1,4-Dichlorobenzene ND 2.62 1.80 mg/Kg 69 40 - 110 35 Benzyl alcohol ND 2.62 2.21 mg/Kg 84 47 - 110 35 1,2-Dichlorobenzene ND 2.62 1.90 mg/Kg 73 39 - 110 35 ND 2.62 2.30 88 50 - 110 35 2-Methylphenol mg/Kg Methylphenol, 3 & 4 ND 2.62 2.35 mg/Kg 90 51 - 110 35 N-Nitrosodi-n-propylamine ND 2.62 2.19 mg/Kg 84 46 - 110 35 ND 2.62 57 35 Hexachloroethane 1.49 mg/Kg 40 - 110 ND 2.62 79 45 - 110 35 Nitrobenzene 2.08 mg/Kg ND 2.62 2.18 83 49 - 110 35 Isophorone mg/Kg 2-Nitrophenol ND 2.62 2.05 78 41 - 105 35 mg/Kg ND 2.62 82 52 - 100 35 2,4-Dimethylphenol 2.14 mg/Kg Bis(2-chloroethoxy)methane ND 2.62 2.07 79 46 - 110 35 mg/Kg 2,4-Dichlorophenol NΠ 2.62 2.34 mg/Kg 89 49 - 100 35 1,2,4-Trichlorobenzene ND 2.62 2.02 mg/Kg 77 43 - 110 35 Naphthalene ND 2.62 2.05 78 44 - 110 0 35 mg/Kg 4-Chloroaniline ND 2.62 1.24 mg/Kg 47 42 - 110 13 35 Hexachlorobutadiene ND 2.62 2.03 mg/Kg 78 44 - 110 35

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Page 25 of 43

Client: Cornerstone Earth Group

Job ID: 720-93353-1 Project/Site: Alameda Lagoon Dredging

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93312-A-5-J MSD

**Matrix: Solid** 

Client Sample	ID: Matrix \$	Spike Duplicate
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Prep Type: Total/NA

Analysis Batch: 267128								Prep Batch: 2670		
	Sample Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4-Chloro-3-methylphenol	ND	2.62	2.62		mg/Kg		100	58 - 104		35
2-Methylnaphthalene	ND	2.62	2.25		mg/Kg		84	49 - 110	0	35
Hexachlorocyclopentadiene	ND F1	2.62	ND	F1	mg/Kg		0	24 _ 106	NC	35
2,4,6-Trichlorophenol	ND	2.62	2.31		mg/Kg		88	50 - 105	1	35
2,4,5-Trichlorophenol	ND	2.62	2.35		mg/Kg		90	53 - 106	2	35
2-Chloronaphthalene	ND	2.62	2.10		mg/Kg		80	52 _ 110	4	35
2-Nitroaniline	ND	2.62	2.35		mg/Kg		90	51 <sub>-</sub> 115	0	35
Dimethyl phthalate	ND	2.62	2.21		mg/Kg		84	56 <sub>-</sub> 103	2	35
Acenaphthylene	ND	2.62	2.28		mg/Kg		85	53 - 102	5	35
3-Nitroaniline	ND	2.62	2.02		mg/Kg		77	50 _ 110	1	35
Acenaphthene	ND	2.62	2.12		mg/Kg		81	53 - 103	2	35
2,4-Dinitrophenol	ND	5.24	ND		mg/Kg		14	10 - 115	3	35
4-Nitrophenol	ND	5.24	4.45		mg/Kg		85	54 - 117	0	35
Dibenzofuran	ND	2.62	2.21		mg/Kg		84	55 - 101	1	35
2,4-Dinitrotoluene	ND	2.62	2.13		mg/Kg		81	54 - 115	4	35
2,6-Dinitrotoluene	ND	2.62	2.20		mg/Kg		84	54 - 107	2	35
Diethyl phthalate	ND	2.62	2.35		mg/Kg		90	56 - 107	0	35
4-Chlorophenyl phenyl ether	ND	2.62	2.24		mg/Kg		86	57 <sub>-</sub> 106	1	35
Fluorene	ND	2.62	2.25		mg/Kg		86	54 - 103	5	35
4-Nitroaniline	ND	2.62	1.93		mg/Kg		74	49 - 115	7	35
2-Methyl-4,6-dinitrophenol	ND F1	5.24	ND	F1	mg/Kg		12	31 - 122	10	35
N-Nitrosodiphenylamine	ND	2.62	2.47		mg/Kg		94	56 - 104	3	35
4-Bromophenyl phenyl ether	ND	2.62	2.44		mg/Kg		93	53 - 104	1	35
Hexachlorobenzene	ND	2.62	2.38		mg/Kg		91	55 - 103	3	35
Pentachlorophenol	ND	5.24	3.67		mg/Kg		70	46 - 115	7	35
Phenanthrene	ND F1 F2	2.62	2.65	F2	mg/Kg		101	57 <sub>-</sub> 106	42	35
Anthracene	ND	2.62	2.46		mg/Kg		90	55 <sub>-</sub> 105	11	35
Di-n-butyl phthalate	ND	2.62	2.51		mg/Kg		96	58 - 109	0	35
Fluoranthene	0.30 F1 F2	2.62	2.76	F2	mg/Kg		94	56 - 104	39	35
Pyrene	0.47 F1 F2	2.62	3.07		mg/Kg		99	52 <sub>-</sub> 115	47	35
Butyl benzyl phthalate	ND	2.62	3.14		mg/Kg		113	57 - 115	12	35
3,3'-Dichlorobenzidine	ND F1	2.62	0.761	F1	mg/Kg		29	47 - 110	23	35
Benzo[a]anthracene	ND F1	2.62	2.57		mg/Kg		92	55 <sub>-</sub> 103	14	35
Bis(2-ethylhexyl) phthalate	ND	2.62	3.12		mg/Kg		100	58 <sub>-</sub> 115	1	35
Chrysene	ND F1	2.62	2.46		mg/Kg		94	58 - 103	17	35
Di-n-octyl phthalate	ND F1	2.62	2.91	F1	mg/Kg		111	58 - 109	5	35
Benzo[b]fluoranthene	0.42 F1	2.62	2.95		mg/Kg		96	57 - 109	14	35
Benzo[a]pyrene	0.44 F1	2.62	2.75		mg/Kg		88	57 <sub>-</sub> 106	17	35
Benzo[k]fluoranthene	ND	2.62	2.70		mg/Kg		98	55 - 110	3	35
Indeno[1,2,3-cd]pyrene	0.49	2.62	2.48		mg/Kg		76	56 - 108	11	35
Benzo[g,h,i]perylene	1.0	2.62	3.07		mg/Kg		79	56 - 115	13	35
Benzoic acid	ND	2.62	ND		mg/Kg		48	10 - 128	15	35
Pyridine	ND	5.24	2.59		mg/Kg		49	30 - 110	13	35
Azobenzene	ND ND	2.62	2.59				49 86	50 <sub>-</sub> 110	1	35
					mg/Kg					
Dibenz(a,h)anthracene	ND	2.62	2.01		mg/Kg		71	57 <sub>-</sub> 106	5	35

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93312-A-5-J MSD

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

**Prep Batch: 267071** 

Analysis	Batch:	267128	

Matrix: Solid

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	74		21 - 98
2-Fluorobiphenyl	77		30 - 112
Terphenyl-d14	117		59 - 134
2-Fluorophenol	77		28 - 98
Phenol-d5	81		23 - 101
2,4,6-Tribromophenol	87		37 - 114

Med Med

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: Method Blank

Prep Type: Total/NA

**Prep Batch: 267066** 

Prep Type: Total/NA

Lab Sample ID: MB 720-267066/1-A

**Matrix: Solid** 

Analysis Batch: 267142

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		2.0		mg/Kg		06/07/19 09:59	06/08/19 13:54	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		06/07/19 09:59	06/08/19 13:54	1

мв мв

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	82	40 - 130	06/07/19 09:59	06/08/19 13:54	1

Lab Sample ID: LCS 720-267066/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

Analysis Batch: 26/142							Prep	Batch: 4	267066
	Spike	LCS	LCS				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics	167	144		mg/Kg		86	50 - 150		

[C10-C28]

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
p-Terphenyl	96	-	40 - 130

Lab Sample ID: 720-93313-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 267142 Prep Batch: 267066

Sample Sample Spike MS MS %Rec. Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits Diesel Range Organics 156 396 65 50 - 150 290 mg/Kg

[C10-C28]

MS MS Surrogate %Recovery Qualifier Limits p-Terphenyl 59 40 - 130

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

# Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 720-93313-A-1-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 267142 **Prep Batch: 267066** 

Sample Sample Spike MSD MSD RPD Result Qualifier RPD Limit Analyte Added Result Qualifier Unit %Rec Limits 162 52 50 - 150 30 Diesel Range Organics 290 378 mg/Kg 5

[C10-C28]

MSD MSD Surrogate %Recovery Qualifier Limits p-Terphenyl 74 40 - 130

# Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 720-267082/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 267221 Prep Batch: 267082

Analysis Batch: 267221								Prep Batch:	267082
	МВ	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Dieldrin	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Endrin aldehyde	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Endrin	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Endrin ketone	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Heptachlor	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Heptachlor epoxide	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
4,4'-DDT	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
4,4'-DDE	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
4,4'-DDD	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Endosulfan I	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Endosulfan II	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
alpha-BHC	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
beta-BHC	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
delta-BHC	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Endosulfan sulfate	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Methoxychlor	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Toxaphene	ND		40		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
Chlordane (technical)	ND		40		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
cis-Chlordane	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1
trans-Chlordane	ND		2.0		ug/Kg		06/07/19 12:14	06/11/19 10:35	1

MB MB

%Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 21 - 145 06/07/19 12:14 06/11/19 10:35 Tetrachloro-m-xylene 85 101 21 - 136 06/07/19 12:14 06/11/19 10:35 DCB Decachlorobiphenyl

Lab Sample ID: LCS 720-267082/2-A

Matrix: Solid							Prep 7	Гуре: Total/NA
Analysis Batch: 267221							Prep	Batch: 267082
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Aldrin	16.7	14.1		ug/Kg		85	65 - 120	
Dieldrin	16.7	15.5		ug/Kg		93	72 _ 120	
Endrin aldehyde	16.7	16.5		ug/Kg		99	68 - 120	

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Client Sample ID: Lab Control Sample

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 720-267082/2-A

**Matrix: Solid** 

Analysis Batch: 267221

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA **Prep Batch: 267082** 

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•	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Endrin	16.7	17.1		ug/Kg		102	68 - 120	
Endrin ketone	16.7	16.5		ug/Kg		99	75 - 136	
Heptachlor	16.7	15.6		ug/Kg		94	69 - 120	
Heptachlor epoxide	16.7	15.6		ug/Kg		94	68 - 120	
4,4'-DDT	16.7	15.9		ug/Kg		95	63 - 127	
4,4'-DDE	16.7	16.3		ug/Kg		98	76 - 126	
4,4'-DDD	16.7	16.1		ug/Kg		96	75 - 128	
Endosulfan I	16.7	16.3		ug/Kg		98	62 - 120	
Endosulfan II	16.7	16.5		ug/Kg		99	65 - 120	
alpha-BHC	16.7	14.8		ug/Kg		89	46 - 122	
beta-BHC	16.7	16.5		ug/Kg		99	78 - 136	
gamma-BHC (Lindane)	16.7	15.4		ug/Kg		92	72 - 120	
delta-BHC	16.7	14.6		ug/Kg		88	43 - 125	
Endosulfan sulfate	16.7	16.4		ug/Kg		99	72 - 121	
Methoxychlor	16.7	17.4		ug/Kg		104	71 - 132	
cis-Chlordane	16.7	15.5		ug/Kg		93	70 - 120	
trans-Chlordane	16.7	16.2		ug/Kg		97	68 - 120	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	88		21 - 145
DCB Decachlorobiphenyl	103		21 - 136

Lab Sample ID: 720-93216-D-3-J MS

**Matrix: Solid** 

Client Sample ID: Matrix Spike Prep Type: Total/NA

**Prep Batch: 267082** 

Analysis Batch: 267221	Cample	Commis	Cuika	ме	MS				Prep Batch: 267082
	-	Sample	Spike				_	0/ 5	%Rec.
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits
Aldrin	ND		16.2	12.3		ug/Kg		76	53 - 120
Dieldrin	ND		16.2	12.9		ug/Kg		79	46 - 130
Endrin aldehyde	ND		16.2	13.4		ug/Kg		83	40 - 120
Endrin	ND		16.2	14.3		ug/Kg		88	32 - 143
Endrin ketone	ND		16.2	13.6		ug/Kg		84	40 - 120
Heptachlor	ND		16.2	11.8		ug/Kg		73	52 - 120
Heptachlor epoxide	ND		16.2	12.6		ug/Kg		77	40 - 120
4,4'-DDT	ND		16.2	14.2		ug/Kg		87	17 - 144
4,4'-DDE	ND		16.2	14.5		ug/Kg		89	40 - 120
4,4'-DDD	ND		16.2	13.9		ug/Kg		86	40 - 120
Endosulfan I	ND		16.2	13.6		ug/Kg		84	40 - 120
Endosulfan II	ND		16.2	13.9		ug/Kg		85	40 - 120
alpha-BHC	ND		16.2	13.4		ug/Kg		83	40 - 120
beta-BHC	ND		16.2	15.9		ug/Kg		98	40 - 120
gamma-BHC (Lindane)	ND		16.2	13.8		ug/Kg		85	58 - 120
delta-BHC	ND		16.2	13.4		ug/Kg		82	40 - 120
Endosulfan sulfate	ND		16.2	14.6		ug/Kg		90	40 - 120
Methoxychlor	ND		16.2	15.1		ug/Kg		93	40 - 120
cis-Chlordane	ND		16.2	13.0		ug/Kg		80	40 - 120
trans-Chlordane	ND		16.2	13.8		ug/Kg		85	40 - 120

Client: Cornerstone Earth Group

MS MS

Project/Site: Alameda Lagoon Dredging

Job ID: 720-93353-1

## Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 720-93216-D-3-J MS

**Matrix: Solid** 

Analysis Batch: 267221

Client Sample ID: Matrix Spike

Prep Type: Total/NA

**Prep Batch: 267082** 

 Surrogate
 %Recovery
 Qualifier
 Limits

 Tetrachloro-m-xylene
 70
 21 - 145

 DCB Decachlorobiphenyl
 92
 p
 21 - 136

Lab Sample ID: 720-93216-D-3-M MSD

**Matrix: Solid** 

Analysis Batch: 267221

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 267082

Analysis Batch: 26/221									Prepi	Saton: 2	0/002
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aldrin	ND		16.3	13.1		ug/Kg		81	53 - 120	6	20
Dieldrin	ND		16.3	13.7		ug/Kg		84	46 - 130	6	20
Endrin aldehyde	ND		16.3	14.4		ug/Kg		88	40 - 120	7	20
Endrin	ND		16.3	15.3		ug/Kg		94	32 - 143	7	20
Endrin ketone	ND		16.3	14.5		ug/Kg		89	40 - 120	6	20
Heptachlor	ND		16.3	12.5		ug/Kg		77	52 - 120	6	20
Heptachlor epoxide	ND		16.3	13.2		ug/Kg		81	40 - 120	5	20
4,4'-DDT	ND		16.3	14.8		ug/Kg		91	17 - 144	4	20
4,4'-DDE	ND		16.3	15.2		ug/Kg		93	40 - 120	5	20
4,4'-DDD	ND		16.3	14.7		ug/Kg		90	40 - 120	6	20
Endosulfan I	ND		16.3	14.3		ug/Kg		88	40 - 120	5	20
Endosulfan II	ND		16.3	14.7		ug/Kg		90	40 - 120	6	30
alpha-BHC	ND		16.3	13.5		ug/Kg		83	40 - 120	0	20
beta-BHC	ND		16.3	17.4		ug/Kg		106	40 - 120	9	20
gamma-BHC (Lindane)	ND		16.3	14.0		ug/Kg		86	58 - 120	1	20
delta-BHC	ND		16.3	13.8		ug/Kg		84	40 - 120	3	20
Endosulfan sulfate	ND		16.3	15.4		ug/Kg		94	40 - 120	5	20
Methoxychlor	ND		16.3	15.6		ug/Kg		96	40 - 120	4	20
cis-Chlordane	ND		16.3	13.8		ug/Kg		85	40 - 120	6	20
trans-Chlordane	ND		16.3	14.4		ug/Kg		88	40 - 120	5	20

MSD MSD

 Surrogate
 %Recovery
 Qualifier
 Limits

 Tetrachloro-m-xylene
 75
 21 - 145

 DCB Decachlorobiphenyl
 94
 21 - 136

#### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-267083/1-A

Analysis Batch: 267162

**Matrix: Solid** 

MB MB

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 267083

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac PCB-1016 ND 50 ug/Kg 06/07/19 12:16 06/10/19 20:21 PCB-1221 ND 50 06/07/19 12:16 06/10/19 20:21 ug/Kg PCB-1232 ND 50 ug/Kg 06/07/19 12:16 06/10/19 20:21 PCB-1242 ND 50 06/07/19 12:16 06/10/19 20:21 ug/Kg PCB-1248 ND 50 ug/Kg 06/07/19 12:16 06/10/19 20:21 PCB-1254 ND 50 ug/Kg 06/07/19 12:16 06/10/19 20:21 PCB-1260 ND 50 ug/Kg 06/07/19 12:16 06/10/19 20:21

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

# Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 720-267083/1-A

Matrix: Solid

Analysis Batch: 267162

Client Sample ID: Method Blank

Prep Type: Total/NA

**Prep Batch: 267083** 

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	89		45 - 132	06/07/19 12:16	06/10/19 20:21	1
DCB Decachlorobiphenyl	102		42 - 146	06/07/19 12:16	06/10/19 20:21	1

Lab Sample ID: LCS 720-267083/2-A

**Matrix: Solid** 

Analysis Batch: 267162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

**Prep Batch: 267083** 

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
PCB-1016	 133	114		ug/Kg		86	65 - 121	
PCB-1260	133	125		ug/Kg		94	68 - 127	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	83		45 - 132
DCB Decachlorobiphenyl	98		42 - 146

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-267213/1-A

Matrix: Solid

Analysis Batch: 26728

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 267213

Analysis Batch: 267284								Prep Batch:	267213
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Arsenic	ND		1.0		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Barium	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Beryllium	ND		0.10		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Cadmium	ND		0.13		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Chromium	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Cobalt	ND		0.20		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Copper	ND		1.5		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Lead	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Molybdenum	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Nickel	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Selenium	ND		1.0		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Silver	ND		0.25		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Thallium	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Vanadium	ND		0.50		mg/Kg		06/10/19 17:50	06/11/19 14:33	1
Zinc	ND		1.5		mg/Kg		06/10/19 17:50	06/11/19 14:33	1

Lab Sample ID: LCS 720-267213/2-A

**Matrix: Solid** 

Analysis Batch: 267284

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 267213

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	50.0	46.1		mg/Kg		92	80 - 120	
Arsenic	50.0	52.0		mg/Kg		104	80 - 120	
Barium	50.0	53.7		mg/Kg		107	80 - 120	
Beryllium	50.0	50.1		mg/Kg		100	80 - 120	
Cadmium	50.0	50.5		mg/Kg		101	80 - 120	

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Client: Cornerstone Earth Group

Job ID: 720-93353-1 Project/Site: Alameda Lagoon Dredging

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-267213/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 267284 **Prep Batch: 267213** Spike LCS LCS

	Spike	LUS	LUG				/ortec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	50.0	52.4		mg/Kg		105	80 - 120	
Cobalt	50.0	54.0		mg/Kg		108	80 - 120	
Copper	50.0	52.5		mg/Kg		105	80 - 120	
Lead	50.0	46.7		mg/Kg		93	80 - 120	
Molybdenum	50.0	53.3		mg/Kg		107	80 _ 120	
Nickel	50.0	51.8		mg/Kg		104	80 - 120	
Selenium	50.0	50.3		mg/Kg		101	80 - 120	
Silver	25.0	25.6		mg/Kg		102	80 _ 120	
Thallium	50.0	51.6		mg/Kg		103	80 - 120	
Vanadium	50.0	49.9		mg/Kg		100	80 - 120	
Zinc	50.0	50.2		mg/Kg		100	80 _ 120	

Lab Sample ID: 720-93355-A-1-G MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

Prep Type: Total/NA

Analysis Batch: 267284									Prep I	Batch: 2	67213
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND	F1	39.7	14.7	F1	mg/Kg		37	75 - 125	2	20
Arsenic	5.4		39.7	46.6		mg/Kg		104	75 - 125	1	20
Barium	220	F2	39.7	234	4 F2	mg/Kg		46	75 - 125	27	20
Beryllium	0.60		39.7	45.6		mg/Kg		113	75 - 125	3	20
Cadmium	ND		39.7	42.2		mg/Kg		106	75 - 125	1	20
Chromium	51	F1	39.7	93.7		mg/Kg		107	75 - 125	16	20
Cobalt	10		39.7	55.4		mg/Kg		114	75 - 125	5	20
Copper	30		39.7	72.7		mg/Kg		108	75 - 125	15	20
Lead	6.5		39.7	41.6		mg/Kg		88	75 - 125	1	20
Molybdenum	ND		39.7	40.7		mg/Kg		100	75 - 125	0	20
Nickel	51	F1	39.7	94.5		mg/Kg		111	75 - 125	19	20
Selenium	ND		39.7	41.5		mg/Kg		101	75 - 125	1	20
Silver	ND		19.8	19.8		mg/Kg		100	75 - 125	1	20
Thallium	ND		39.7	41.1		mg/Kg		104	75 - 125	3	20
Vanadium	44	F1	39.7	95.5	F1	mg/Kg		130	75 - 125	20	20
Zinc	64	F1	39.7	98.8		mg/Kg		88	75 - 125	13	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-267253/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 267340 Prep Batch: 267253 MB MB

Analyte Result Qualifier RLMDL Unit Prepared Analyzed Dil Fac 0.017 Mercury ND mg/Kg 06/12/19 09:10 06/12/19 11:49

Lab Sample ID: LCS 720-267253/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 267340 Prep Batch: 267253 LCS LCS Spike %Rec.

Analyte Added Result Qualifier Unit Limits 0.833 0.728 87 80 - 120 Mercury mg/Kg

# **QC Sample Results**

Client: Cornerstone Earth Group Job ID: 720-93353-1

Project/Site: Alameda Lagoon Dredging

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 720-93133-A-5-H MS ^2 **Matrix: Solid** 

Analysis Batch: 267340

Client Sample ID: Matrix Spike **Prep Type: Total/NA Prep Batch: 267253** 

-	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Mercury	1.7	F1	0.908	1.78	F1	mg/Kg	₩	8	75 - 125	
_										

Lab Sample ID: 720-93133-A-5-I MSD ^2 Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 267340									Prep	Batch: 2	67253
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	1.7	F1	0.895	2.17	F1	mg/Kg	₽	51	75 - 125	20	20

Prep Type: Total/NA

# **QC Association Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

# **GC/MS VOA**

<b>Prep</b>	Batch:	266919
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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-4	L3-2D	Total/NA	Solid	5035	

# Analysis Batch: 267016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-4	L3-2D	Total/NA	Solid	8260B/CA_LUFT	266919
				MS	
MB 720-267016/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT	
				MS	
LCS 720-267016/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT	
				MS	
LCS 720-267016/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT	
				MS	
LCSD 720-267016/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT	
				MS	
LCSD 720-267016/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT	
				MS	

## GC/MS Semi VOA

## **Prep Batch: 267071**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	3546	
MB 720-267071/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-267071/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-93312-A-5-I MS	Matrix Spike	Total/NA	Solid	3546	
720-93312-A-5-J MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

## Analysis Batch: 267128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-267071/1-A	Method Blank	Total/NA	Solid	8270C	267071
LCS 720-267071/2-A	Lab Control Sample	Total/NA	Solid	8270C	267071
720-93312-A-5-I MS	Matrix Spike	Total/NA	Solid	8270C	267071
720-93312-A-5-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8270C	267071

## Analysis Batch: 267331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	8270C	267071

# **GC Semi VOA**

## **Prep Batch: 267066**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	3546	
MB 720-267066/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-267066/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-93313-A-1-B MS	Matrix Spike	Total/NA	Solid	3546	
720-93313-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

## **Prep Batch: 267082**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	3546	
MB 720-267082/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-267082/2-A	Lab Control Sample	Total/NA	Solid	3546	

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Page 34 of 43

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

# GC Semi VOA (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93216-D-3-J MS	Matrix Spike	Total/NA	Solid	3546	
720-93216-D-3-M MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

#### Prep Batch: 267083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	3546	
MB 720-267083/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-267083/2-A	Lab Control Sample	Total/NA	Solid	3546	

## Analysis Batch: 267142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-267066/1-A	Method Blank	Total/NA	Solid	8015B	267066
LCS 720-267066/2-A	Lab Control Sample	Total/NA	Solid	8015B	267066
720-93313-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B	267066
720-93313-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	267066

#### **Analysis Batch: 267162**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-267083/1-A	Method Blank	Total/NA	Solid	8082	267083
LCS 720-267083/2-A	Lab Control Sample	Total/NA	Solid	8082	267083

#### Analysis Batch: 267221

ı	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
Ī	MB 720-267082/1-A	Method Blank	Total/NA	Solid	8081A	267082
l	LCS 720-267082/2-A	Lab Control Sample	Total/NA	Solid	8081A	267082
7	720-93216-D-3-J MS	Matrix Spike	Total/NA	Solid	8081A	267082
L	720-93216-D-3-M MSD	Matrix Spike Duplicate	Total/NA	Solid	8081A	267082

# Analysis Batch: 267222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	8081A	267082

## Analysis Batch: 267242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	8082	267083

## Analysis Batch: 267248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	8015B	267066

#### **Metals**

## **Prep Batch: 267213**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep B	Batch
720-93353-5	L3-2	Total/NA	Solid	3050B	
MB 720-267213/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-267213/2-A	Lab Control Sample	Total/NA	Solid	3050B	
720-93355-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

# **QC Association Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

## **Metals**

# **Prep Batch: 267253**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	7471A	
MB 720-267253/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-267253/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-93133-A-5-H MS ^2	Matrix Spike	Total/NA	Solid	7471A	
720-93133-A-5-I MSD ^2	Matrix Spike Duplicate	Total/NA	Solid	7471A	

## Analysis Batch: 267284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-267213/1-A	Method Blank	Total/NA	Solid	6010B	267213
LCS 720-267213/2-A	Lab Control Sample	Total/NA	Solid	6010B	267213
720-93355-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	267213

## Analysis Batch: 267291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	6010B	267213

# Analysis Batch: 267340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	Total/NA	Solid	7471A	267253
MB 720-267253/1-A	Method Blank	Total/NA	Solid	7471A	267253
LCS 720-267253/2-A	Lab Control Sample	Total/NA	Solid	7471A	267253
720-93133-A-5-H MS ^2	Matrix Spike	Total/NA	Solid	7471A	267253
720-93133-A-5-I MSD ^2	Matrix Spike Duplicate	Total/NA	Solid	7471A	267253

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#### **Lab Chronicle**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Date Collected: 06/04/19 10:05

Date Received: 06/05/19 14:33

**Client Sample ID: L3-2D** 

Lab Sample ID: 720-93353-4

Matrix: Solid

Percent Solids: 58.6

Job ID: 720-93353-1

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			266919	06/05/19 16:46	LRC	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	267016	06/06/19 23:31	AJS	TAL PLS

Client Sample ID: L3-2 Lab Sample ID: 720-93353-5

Date Collected: 06/04/19 10:05 **Matrix: Solid** Date Received: 06/05/19 14:33 Percent Solids: 57.2

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			267071	06/07/19 12:36	BMT	TAL PLS
Total/NA	Analysis	8270C		10	267331	06/12/19 12:56	LPL	TAL PLS
Total/NA	Prep	3546			267066	06/07/19 09:59	BMT	TAL PLS
Total/NA	Analysis	8015B		5	267248	06/11/19 21:25	JXL	TAL PLS
Total/NA	Prep	3546			267082	06/07/19 16:21	BMT	TAL PLS
Total/NA	Analysis	8081A		5	267222	06/11/19 18:07	MQL	TAL PLS
Total/NA	Prep	3546			267083	06/07/19 16:18	BMT	TAL PLS
Total/NA	Analysis	8082		1	267242	06/11/19 19:26	JZT	TAL PLS
Total/NA	Prep	3050B			267213	06/10/19 17:50	SUN	TAL PLS
Total/NA	Analysis	6010B		4	267291	06/11/19 16:24	BKR	TAL PLS
Total/NA	Prep	7471A			267253	06/12/19 09:10	MAA	TAL PLS
Total/NA	Analysis	7471A		1	267340	06/12/19 12:37	MAG	TAL PLS

#### Laboratory References:

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# **Accreditation/Certification Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

# **Laboratory: Eurofins TestAmerica, Pleasanton**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program		EPA Region	Identification Number	Expiration Date
California	State Prog	gram	9	2496	01-31-20
				020 <b></b>	
The following analytes the agency does not of	are included in this report, bu fer certification.	it the laboratory is not (	certified by the governii	ng authority. This list may inci	ude analytes for whic

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# **Method Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

ethod	Method Description	Protocol	Laboratory
260B/CA_LUFTM	8260B / CA LUFT MS	SW846	TAL PLS
70C	Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	SW846	TAL PLS
)15B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
081A	Organochlorine Pesticides (GC)	SW846	TAL PLS
082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PLS
)10B	Metals (ICP)	SW846	TAL PLS
171A	Mercury (CVAA)	SW846	TAL PLS
050B	Preparation, Metals	SW846	TAL PLS
546	Microwave Extraction	SW846	TAL PLS
)35	Closed System Purge and Trap	SW846	TAL PLS
171A	Preparation, Mercury	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 PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

# **Sample Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
720-93353-4	L3-2D	Solid	06/04/19 10:05	06/05/19 14:33	
720-93353-5	L3-2	Solid	06/04/19 10:05	06/05/19 14:33	

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	Project Manager: Peter Langtry	nager: Per	ter Langtry			Site Sar	Site Sampler: NKM	KM			Date: 6/4/19	/4/19			COC No:	): (	
Cornerstone Earth Group, Inc.	Tel/Fax: 925-988-9500 ext.	2-988-950	ext.			Lab Contact:	ntact:				Lab: T	Lab: Test America	rica		)	of 1 COCs	
1220 Oakland Boulevard, Suite 220		Analysis Turnar	urnaround Time	Time						_					Laborate	Laboratory's Job No.	
Walnut Creek, CA 94596						*********									***************************************		
(925)-988-9500 Phone	TA	TAT if different from Below	rom Below				(At								normal September 1		
(925)-988-9501 FAX		1	1 week				747/8			(80							
Project Name: Alameda Lagoon Dredging			3 days						pjo	978 \					physiological deg		
Site: Alameda, CA, Lagoons 3 & 5			2 days			a	-			√d∃)					namodraji visti		
Project Number: 167-33-1			1 day			ıdw	******		-	soo					No colo sergene		
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sa	17 CAM Met TPH d/mo (E	OCPs (EPA	SVOCs (EPA	V bns gH9T					Labor	Laboratory's Sample Specific Notes:	)tes:
L3-2								-	4								
L3-2A )	61/11/9	9:55	liner	soil	_				~								
L3-2B \ Composite		70:01	liner	soil	-		<u> </u>								Compos	stite A-D samples into or	ле 4-
L3-2C	**************************************	£5:6	liner	soil	-										point co	point composite	
L3-2D	1	So:Q	liner	soil	7					\ \					T		
						ļ											
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															T		
								-							Τ		
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									720-9	3353 (	hain of	720-93353 Chain of Custody	<b>-</b>				
, 17 mm ( mm )			5					٦	-	-	-	-	-	-			
Preservation Used: (1=106), 2= HCl; 3= H2SO4; 4=HNO3; 3=NaOH; 0= Other	4=HNO3; 3	=NaOH; 6=	= Other	4					7	-	1	1		$\exists$			
rossible Hazard laentification  Non-Hazard Flammable	Skin Irritant		Poison B	X	Unknown	oan □	Sample Disposal	le Disposal Return To Client	ent		Dispos	☐ Disposal By Lab	р q	□ Arch	Archive For	Months	
Special Instructions/QC Requirements & Comments: If additional sample is needed, please use the liner.	nts: If addit	ional samp	le is needed	, please	ıse the li	ner.	Ple	ase ema	il result	to: nn	nall@cc	rnersto	neearth.c	om; plar	ıgtry@corne	Please email results to: nmall@cornerstoneearth.com; plangtry@cornerstoneearth.com	
Relinquished by: $\mathcal{K} \not\supset \mathcal{C}$	Company: Cornerstone Earth Group	Earth Gro	dn	Date/Time: (2/5/19	ime: 19 (0:1	Rec	Received by:	2				Company	2.is		Date/Time:	ne: (0 ( /	
Relinquished by:	Company:	3	9	Date/Time	ne:	Receix	yked by	32	<u> </u>	2	3	Company	) ( )		Date/Time	5-191432	~
Relingu/shed by:	Company:			Date/Time:	ne:	Rece	Received by:					Company:	iá		Date/Time:		
						$\blacksquare$						$\downarrow$	,		-		7

CORNERSTONE EARTH GROUP

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# Salimpour, Afsaneh

**From:** Peter Langtry <plangtry@cornerstoneearth.com>

Salimpour, Afsaneh

**Sent:** Tuesday, July 02, 2019 8:14 AM

Subject:moisture contentsAttachments:J93190-1 UDS Level 2 Report Final Report.pdf; J93190-2 UDS Level 2 Report Final

Report.pdf; J93353-1 UDS Level 2 Report Final Report.pdf; J93353-2 UDS Level 2 Report

Final Report.pdf

# -External Email-

Afsaneh, is it too late to run moisture contents on the samples for these reports? Client asked them to be reported as dry weight.

720-93190-15 720-93353-5

Sincerely,

To:

Peter Langtry, P.G., C.E.G. Senior Principal Geologist

## **Cornerstone Earth Group**

1220 Oakland Boulevard, Suite 220 | Walnut Creek, CA 94596 T 925-988-9500, Ext. 217 | F 925-988-9501 C 925.817.8814 E plangtry@cornerstoneearth.com

www.cornerstoneearth.com



720-93353 Chain of Custody

Client: Cornerstone Earth Group

Job Number: 720-93353-1

Login Number: 93353

List Source: Eurofins TestAmerica, Pleasanton

List Number: 1 Creator: Mullen, Joan

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# **ANALYTICAL REPORT**

Eurofins TestAmerica, Pleasanton 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

Laboratory Job ID: 720-93190-1

Client Project/Site: Alameda Lagoon Dredging

Revision: 1

#### For:

Cornerstone Earth Group 1270 Springbrook Road, Suite 101 Walnut Creek, California 94597

Attn: Peter Langtry

Akanaf Sal

Authorized for release by: 7/10/2019 12:26:11 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919

afsaneh.salimpour@testamericainc.com

.....LINKS .....

Review your project results through

Total Access

**Have a Question?** 



Visit us at: 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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# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	6
Client Sample Results	8
Surrogate Summary	23
QC Sample Results	25
QC Association Summary	
Lab Chronicle	48
Certification Summary	50
Method Summary	51
Sample Summary	52
Chain of Custody	53
Receint Checklists	57

10

# **Definitions/Glossary**

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging

Job ID: 720-93190-1

#### **Qualifiers**

**GC/MS VOA** 

Qualifier Qualifier Description

\* ISTD response or retention time outside acceptable limits

#### GC/MS Semi VOA

F1 MS and/or MSD Recovery is outside acceptance limits.

F2 MS/MSD RPD exceeds control limits

#### **GC Semi VOA**

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.

F1 MS and/or MSD Recovery is outside acceptance limits.

p The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

X Surrogate is outside control limits

#### **Metals**

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

F1 MS and/or MSD Recovery is outside acceptance limits.

F2 MS/MSD RPD exceeds control limits

# **Glossary**

Abbreviation	These commonly	used abbreviations ma	v or mav	not be	present in this	report

Example 2 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 Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

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 (Radiochemistry)

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)

Eurofins TestAmerica, Pleasanton

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## **Case Narrative**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Job ID: 720-93190-1

Job ID: 720-93190-1

Laboratory: Eurofins TestAmerica, Pleasanton

**Narrative** 

Job Narrative 720-93190-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/24/2019 11:49 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

#### **GC/MS VOA**

Method(s) 8260B: Internal standard (ISTD) response for the following samples were outside control limits: L5-1C (720-93190-3), L3-1C (720-93190-8) and L3-3A (720-93190-11). The sample(s) was re-extracted and/or re-analyzed with concurring results, and the second set of data has 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 were diluted due to the abundance of non-target analytes: L5-1 COMP (720-93190-5) and (720-93195-B-1-D). Elevated reporting limits (RLs) are provided.

Method(s) 8270C: The following samples were diluted due to the nature of the sample matrix: (720-93195-B-1-E MS) and (720-93195-B-1-F MSD). Because of this dilution, matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C: The following samples were diluted due to the abundance of non-target analytes: L3-1 COMP (720-93190-10) and L3-3 COMP (720-93190-15). 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 following samples required a dilution due to the nature of the sample matrix: L5-1 COMP (720-93190-5), L3-1 COMP (720-93190-10) and L3-3 COMP (720-93190-15). 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 matrix spike duplicate (MSD) recoveries for preparation batch 720-266319 and analytical batch 720-266524 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) 8081A: Surrogate recovery for the following sample was outside control limits: L3-3 COMP (720-93190-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8081A: The following samples were diluted due to the abundance of non-target analytes: L5-1 COMP (720-93190-5) and L3-3 COMP (720-93190-15). Elevated reporting limits (RLs) are provided.

Method(s) 8082: The following sample(s) contained more than one Aroclor with insufficient separation to quantify individually. The PCBs present are quantified as the predominant Aroclor: L5-1 COMP (720-93190-5), L3-1 COMP (720-93190-10) and L3-3 COMP (720-93190-15).

Method(s) 8082: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: L5-1 COMP (720-93190-5), L3-1 COMP (720-93190-10), L3-3 COMP (720-93190-15), (LCS 720-266320/2-A), (MB 720-266320/1-A), (720-93176-A-2-E), (720-93176-A-2-C MS) and (720-93176-A-2-D MSD).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## **Case Narrative**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

# Job ID: 720-93190-1 (Continued)

## Laboratory: Eurofins TestAmerica, Pleasanton (Continued)

#### Metals

Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 720-266550 and analytical batch 720-266621 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.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Organic Prep**

Method(s) 3546: Due to the matrix, the following samples could not be concentrated to the final method required volume: L5-1 COMP (720-93190-5) and L3-3 COMP (720-93190-15). The reporting limits (RLs) are elevated proportionately. the sample final volume was 5mL.

Method(s) 3546: Due to the matrix, the following sample could not be concentrated to the final method required volume: L5-1 COMP (720-93190-5). The reporting limits (RLs) are elevated proportionately. The sample final volume was 5 mL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Job ID: 720-93190-1

**Client Sample ID: L5-1C** 

Lab Sample ID: 720-93190-3

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Acetone	290	200	ug/Kg	1 🛱	8260B/CA_LUFT	Total/NA
					MS	

# **Client Sample ID: L5-1 COMP**

# Lab Sample ID: 720-93190-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	3.0		1.8		mg/Kg	2	₩	8270C	Total/NA
Pyrene	3.4		1.8		mg/Kg	2	₩	8270C	Total/NA
Benzo[b]fluoranthene	2.4		1.8		mg/Kg	2	₩	8270C	Total/NA
Benzo[a]pyrene	2.0		1.8		mg/Kg	2	₩	8270C	Total/NA
Diesel Range Organics [C10-C28]	1100		63		mg/Kg	5	₩	8015B	Total/NA
Motor Oil Range Organics [C24-C36]	3900		1600		mg/Kg	5	₽	8015B	Total/NA
4,4'-DDE	290		25		ug/Kg	5	₩.	8081A	Total/NA
4,4'-DDD	520		25		ug/Kg	5	₩	8081A	Total/NA
PCB-1254	770		130		ug/Kg	1	₩	8082	Total/NA
Barium	42		4.7		mg/Kg	4		6010B	Total/NA
Chromium	47		4.7		mg/Kg	4	₩	6010B	Total/NA
Cobalt	5.9		1.9		mg/Kg	4	₩	6010B	Total/NA
Copper	370		14		mg/Kg	4	₩	6010B	Total/NA
Lead	140		4.7		mg/Kg	4	₩	6010B	Total/NA
Molybdenum	5.0		4.7		mg/Kg	4	₽	6010B	Total/NA
Nickel	42		4.7		mg/Kg	4	₩	6010B	Total/NA
Vanadium	41		4.7		mg/Kg	4	₩	6010B	Total/NA
Zinc	290		14		mg/Kg	4	₽	6010B	Total/NA
Mercury	0.20		0.044		mg/Kg	1	₩.	7471A	Total/NA

**Client Sample ID: L3-1C** 

# Lab Sample ID: 720-93190-8

No Detections.

# **Client Sample ID: L3-1 COMP**

# Lab Sample ID: 720-93190-10

Analyte	Result C	Qualifier RI	. MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.55	0.4	,	mg/Kg	5	₩	8270C	Total/NA
Diesel Range Organics [C10-C28]	420	15	5	mg/Kg	5	₩	8015B	Total/NA
Motor Oil Range Organics [C24-C36]	1300	370	)	mg/Kg	5	₩	8015B	Total/NA
4,4'-DDE	43	2.9	)	ug/Kg	1	₽	8081A	Total/NA
4,4'-DDD	29	2.9	)	ug/Kg	1	₩	8081A	Total/NA
cis-Chlordane	25	2.9	)	ug/Kg	1	₩	8081A	Total/NA
trans-Chlordane	21	2.9	)	ug/Kg	1	₩	8081A	Total/NA
PCB-1254	170	7:	3	ug/Kg	1	₩	8082	Total/NA
Arsenic	6.1	3.8	3	mg/Kg	4	₩	6010B	Total/NA
Barium	26	1.9	)	mg/Kg	4	₽	6010B	Total/NA
Cadmium	1.7	0.4	•	mg/Kg	4	₩	6010B	Total/NA
Chromium	51	1.9	)	mg/Kg	4	₩	6010B	Total/NA
Cobalt	7.4	0.7	5	mg/Kg	4	₩	6010B	Total/NA
Copper	790	5.0	6	mg/Kg	4	₩	6010B	Total/NA
Lead	440	1.9	)	mg/Kg	4	₩	6010B	Total/NA
Molybdenum	3.7	1.9	)	mg/Kg	4	₩	6010B	Total/NA
Nickel	46	1.9	)	mg/Kg	4	₩	6010B	Total/NA
Vanadium	38	1.9	)	mg/Kg	4	₩	6010B	Total/NA
Zinc	420	5.0	5	mg/Kg	4	₩	6010B	Total/NA
Mercury	0.32	0.02		mg/Kg	1	₩	7471A	Total/NA

This Detection Summary does not include radiochemical test results.

# **Detection Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-11

Job ID: 720-93190-1

No Detections.

Client Sample ID: L3-3 COMP

**Client Sample ID: L3-3A** 

Lab Sample ID: 720-93190-15

Analyte	Result	Qualifier RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	9300	370		mg/Kg	20	₩	8015B	Total/NA
Motor Oil Range Organics [C24-C36]	25000	9300		mg/Kg	20	₩	8015B	Total/NA
4,4'-DDE	85	37		ug/Kg	5	☼	8081A	Total/NA
PCB-1254	200	190		ug/Kg	1	₩	8082	Total/NA
Barium	44	7.1		mg/Kg	4	☼	6010B	Total/NA
Chromium	59	7.1		mg/Kg	4	☼	6010B	Total/NA
Cobalt	7.7	2.8		mg/Kg	4	₩	6010B	Total/NA
Copper	760	21		mg/Kg	4	☼	6010B	Total/NA
Lead	200	7.1		mg/Kg	4	☼	6010B	Total/NA
Molybdenum	7.1	7.1		mg/Kg	4	₽	6010B	Total/NA
Nickel	52	7.1		mg/Kg	4	☼	6010B	Total/NA
Vanadium	42	7.1		mg/Kg	4	₩	6010B	Total/NA
Zinc	580	21		mg/Kg	4	₩	6010B	Total/NA
Mercury	0.30	0.055		mg/Kg	1	₩	7471A	Total/NA

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-3

**Matrix: Solid** 

Job ID: 720-93190-1

**Client Sample ID: L5-1C** Date Collected: 05/23/19 14:05

N-Propylbenzene

1,1,1,2-Tetrachloroethane

Styrene

Pate Received: 05/24/19 11:49						Percent Solid	ds: 35.2
Method: 8260B/CA_LUFTMS Analyte	- 8260B / CA LUFT MS Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether		20	ug/Kg	<u>₩</u>	05/24/19 16:25		1
Acetone	290	200	ug/Kg	☼		05/29/19 21:49	1
Benzene	ND	20	ug/Kg	₩		05/29/19 21:49	1
Dichlorobromomethane	ND	20	ug/Kg	· · · · · · · · · · · · · · · · · · ·		05/29/19 21:49	1
Bromobenzene	ND *	20	ug/Kg	₩		05/29/19 21:49	1
Chlorobromomethane	ND	81	ug/Kg	☆		05/29/19 21:49	1
Bromoform	ND *	20	ug/Kg	· · · · · ·		05/29/19 21:49	· · · · · · · · · · · · · · · · · · ·
Bromomethane	ND	40	ug/Kg	☆		05/29/19 21:49	
2-Butanone (MEK)	ND	200	ug/Kg	₩		05/29/19 21:49	1
n-Butylbenzene	ND *	20	ug/Kg			05/29/19 21:49	· · · · · · · · · · · · · · · · · · ·
sec-Butylbenzene	ND *	20	ug/Kg	₩		05/29/19 21:49	1
tert-Butylbenzene	ND *	20	ug/Kg	₩		05/29/19 21:49	1
Carbon disulfide	ND	20	ug/Kg	 ☆		05/29/19 21:49	
Carbon tetrachloride	ND	20	ug/Kg	☆		05/29/19 21:49	1
Chlorobenzene	ND *	20	ug/Kg	- T		05/29/19 21:49	1
Chloroethane	ND	40	ug/Kg	· · · · · · · · · · · · · · · · · · ·		05/29/19 21:49	
Chloroform	ND ND	20	ug/Kg			05/29/19 21:49	1
Chloromethane	ND ND	40	ug/Kg ug/Kg	Ϋ́		05/29/19 21:49	
2-Chlorotoluene	ND *	20		· · · · · · ·		05/29/19 21:49	1 1
4-Chlorotoluene	ND *	20	ug/Kg	~ ⇔		05/29/19 21:49	1
Chlorodibromomethane	ND ND	20	ug/Kg	*		05/29/19 21:49	
			ug/Kg	· · · · · · ›			1
1,2-Dichlorobenzene	ND *	20	ug/Kg	*		05/29/19 21:49	1
1,3-Dichlorobenzene	ND *	20	ug/Kg	Ţ.		05/29/19 21:49	1
1,4-Dichlorobenzene	ND *	20	ug/Kg	· · · · · · · · · · · ·		05/29/19 21:49	1
1,3-Dichloropropane	ND	20	ug/Kg	*		05/29/19 21:49	1
1,1-Dichloropropene	ND	20	ug/Kg	₩		05/29/19 21:49	1
1,2-Dibromo-3-Chloropropane	ND *	40	ug/Kg			05/29/19 21:49	1
Ethylene Dibromide	ND	20	ug/Kg	<b>☆</b>		05/29/19 21:49	1
Dibromomethane	ND	40	ug/Kg	₩		05/29/19 21:49	1
Dichlorodifluoromethane	ND	40	ug/Kg	<del>.</del>		05/29/19 21:49	
1,1-Dichloroethane	ND	20	ug/Kg	ψ.		05/29/19 21:49	1
1,2-Dichloroethane	ND	20	ug/Kg			05/29/19 21:49	1
1,1-Dichloroethene	ND	20	ug/Kg			05/29/19 21:49	1
cis-1,2-Dichloroethene	ND	20	ug/Kg	<b>*</b>		05/29/19 21:49	1
trans-1,2-Dichloroethene	ND	20	ug/Kg			05/29/19 21:49	1
1,2-Dichloropropane	ND	20	ug/Kg			05/29/19 21:49	1
cis-1,3-Dichloropropene	ND	20	ug/Kg	<b>₽</b>		05/29/19 21:49	1
trans-1,3-Dichloropropene	ND	20	ug/Kg	<b>₽</b>		05/29/19 21:49	1
Ethylbenzene	ND *	20	ug/Kg			05/29/19 21:49	1
Hexachlorobutadiene	ND *	20	ug/Kg	<b>*</b>		05/29/19 21:49	1
2-Hexanone	ND	200	ug/Kg	☼		05/29/19 21:49	1
Isopropylbenzene	ND *	20	ug/Kg			05/29/19 21:49	1
4-Isopropyltoluene	ND *	20	ug/Kg	₩		05/29/19 21:49	1
Methylene Chloride	ND	40	ug/Kg	₩		05/29/19 21:49	1
4-Methyl-2-pentanone (MIBK)	ND	200	ug/Kg	₩	05/24/19 16:25	05/29/19 21:49	1
Naphthalene	ND *	40	ug/Kg	☆	05/24/19 16:25	05/29/19 21:49	1
				, L		05/00/40 04 40	

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© 05/24/19 16:25 05/29/19 21:49

© 05/24/19 16:25 05/29/19 21:49

© 05/24/19 16:25 05/29/19 21:49

20

20

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ug/Kg

ug/Kg

ug/Kg

ND \*

ND \*

ND

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Date Received: 05/24/19 11:49

Toluene-d8 (Surr)

Lab Sample ID: 720-93190-3

05/24/19 16:25 05/29/19 21:49

Matrix: Solid

Percent Solids: 35.2

Job ID: 720-93190-1

Client Sample ID: L5-1C	Lab Sample
Date Collected: 05/23/19 14:05	

81

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued) Analyte Dil Fac Result Qualifier MDL Unit D Prepared Analyzed 1,1,2,2-Tetrachloroethane  $\overline{\mathsf{ND}}$ 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 Tetrachloroethene ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 ND 20 05/24/19 16:25 05/29/19 21:49 Toluene ug/Kg 1,2,3-Trichlorobenzene ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 1,2,4-Trichlorobenzene ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 20 1.1.1-Trichloroethane ND ug/Kg 05/24/19 16:25 05/29/19 21:49 1,1,2-Trichloroethane ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 Trichloroethene ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 Trichlorofluoromethane ND 20 05/24/19 16:25 05/29/19 21:49 ug/Kg 1,2,3-Trichloropropane ND 20 05/24/19 16:25 05/29/19 21:49 ug/Kg 1,1,2-Trichloro-1,2,2-trifluoroethane ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 1,2,4-Trimethylbenzene ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 1,3,5-Trimethylbenzene ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 Vinyl acetate ND 81 ug/Kg 05/24/19 16:25 05/29/19 21:49 Vinyl chloride ND 20 05/24/19 16:25 05/29/19 21:49 ug/Kg 20 Xylenes, Total ND ug/Kg 05/24/19 16:25 05/29/19 21:49 2,2-Dichloropropane ND 20 ug/Kg 05/24/19 16:25 05/29/19 21:49 Gasoline Range Organics (GRO) ND 1000 ug/Kg 05/24/19 16:25 05/29/19 21:49 -C4-C12 Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene 65 45 - 131 05/24/19 16:25 05/29/19 21:49 1,2-Dichloroethane-d4 (Surr) 98 60 - 140 05/24/19 16:25 05/29/19 21:49

58 - 140

**6** 

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-5

**Matrix: Solid** 

Job ID: 720-93190-1

Client Sample ID: L5-1 COMP Date Collected: 05/23/19 14:15

Date Received: 05/24/19 11:49 Percent Solids: 37.4 Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) MDL Unit Dil Fac Analyte Result Qualifier RL D Prepared Analyzed □ 5/28/19 14:49 □ 5/30/19 21:15
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□ 5/30/19 Phenol ND 1.8 mg/Kg ND 2 Bis(2-chloroethyl)ether 1.8 mg/Kg 05/28/19 14:49 05/30/19 21:15 ND 2 2-Chlorophenol 1.8 mg/Kg © 05/28/19 14:49 05/30/19 21:15 ND © 05/28/19 14:49 05/30/19 21:15 2 1,3-Dichlorobenzene 1.8 mg/Kg 2 1,4-Dichlorobenzene ND 1.8 mg/Kg © 05/28/19 14:49 05/30/19 21:15 Benzyl alcohol ND 4.5 mg/Kg © 05/28/19 14:49 05/30/19 21:15

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Benzyi aiconoi	ND	4.5	mg/Kg	₩ 05/28/19 14:49 05/30/19 21:15
1,2-Dichlorobenzene	ND	1.8	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
2-Methylphenol	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Methylphenol, 3 & 4	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
N-Nitrosodi-n-propylamine	ND	3.4	mg/Kg	
Hexachloroethane	ND	3.4	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Nitrobenzene	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Isophorone	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2-Nitrophenol	ND	3.4	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2,4-Dimethylphenol	ND	3.4	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Bis(2-chloroethoxy)methane	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2,4-Dichlorophenol	ND	8.7	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
1,2,4-Trichlorobenzene	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Naphthalene	ND	3.4	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
4-Chloroaniline	ND	4.5	mg/Kg	5 05/28/19 14:49 05/30/19 21:15
Hexachlorobutadiene	ND	1.8	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
4-Chloro-3-methylphenol	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2-Methylnaphthalene	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Hexachlorocyclopentadiene	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2,4,6-Trichlorophenol	ND	4.5	mg/Kg	
2,4,5-Trichlorophenol	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2-Chloronaphthalene	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2-Nitroaniline	ND	8.7	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Dimethyl phthalate	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Acenaphthylene	ND	1.8	mg/Kg	05/28/19 14:49 05/30/19 21:15
3-Nitroaniline	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Acenaphthene	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
2,4-Dinitrophenol	ND	17	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
4-Nitrophenol	ND	8.7	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Dibenzofuran	ND	1.8	mg/Kg	05/28/19 14:49 05/30/19 21:15
2,4-Dinitrotoluene	ND	3.4	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
2,6-Dinitrotoluene	ND	3.4	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Diethyl phthalate	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
4-Chlorophenyl phenyl ether	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Fluorene	ND	1.8	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
4-Nitroaniline	ND	8.7	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
2-Methyl-4,6-dinitrophenol	ND	8.7	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
N-Nitrosodiphenylamine	ND	1.8	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
4-Bromophenyl phenyl ether	ND	4.5	mg/Kg	☼ 05/28/19 14:49 05/30/19 21:15
Hexachlorobenzene	ND	3.4	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
Pentachlorophenol	ND	8.7	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
Phenanthrene	ND	3.4	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
Anthracene	ND	1.8	mg/Kg	© 05/28/19 14:49 05/30/19 21:15
Di-n-butyl phthalate	ND	4.5	mg/Kg	© 05/28/19 14:49 05/30/19 21:15

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-5

Matrix: Solid

Percent Solids: 37.4

Job ID: 720-93190-1

Client Sample ID: L5-1 COMP Date Collected: 05/23/19 14:15 Date Received: 05/24/19 11:49

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	3.0		1.8	mg/Kg	₩	05/28/19 14:49	05/30/19 21:15	2
Pyrene	3.4		1.8	mg/Kg	≎	05/28/19 14:49	05/30/19 21:15	2
Butyl benzyl phthalate	ND		4.5	mg/Kg	₽	05/28/19 14:49	05/30/19 21:15	2
3,3'-Dichlorobenzidine	ND		4.5	mg/Kg	₽	05/28/19 14:49	05/30/19 21:15	2
Benzo[a]anthracene	ND		8.7	mg/Kg	₽	05/28/19 14:49	05/30/19 21:15	2
Bis(2-ethylhexyl) phthalate	ND		8.7	mg/Kg		05/28/19 14:49	05/30/19 21:15	2
Chrysene	ND		3.4	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Di-n-octyl phthalate	ND		4.5	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Benzo[b]fluoranthene	2.4		1.8	mg/Kg		05/28/19 14:49	05/30/19 21:15	2
Benzo[a]pyrene	2.0		1.8	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Benzo[k]fluoranthene	ND		1.8	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Indeno[1,2,3-cd]pyrene	ND		1.8	mg/Kg		05/28/19 14:49	05/30/19 21:15	2
Benzo[g,h,i]perylene	ND		3.4	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Benzoic acid	ND		8.7	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Pyridine	ND		1.8	mg/Kg		05/28/19 14:49	05/30/19 21:15	2
Azobenzene	ND		1.8	mg/Kg	☼	05/28/19 14:49	05/30/19 21:15	2
Dibenz(a,h)anthracene	ND		1.8	mg/Kg	₽	05/28/19 14:49	05/30/19 21:15	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	70		21 - 98			05/28/19 14:49	05/30/19 21:15	2
2-Fluorobiphenyl	80		30 - 112			05/28/19 14:49	05/30/19 21:15	2
Terphenyl-d14	97		59 - 134			05/28/19 14:49	05/30/19 21:15	2
2-Fluorophenol	79		28 - 98			05/28/19 14:49	05/30/19 21:15	2
Phenol-d5	82		23 - 101			05/28/19 14:49	05/30/19 21:15	2
2,4,6-Tribromophenol	76		37 - 114			05/28/19 14:49	05/30/19 21:15	2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1100		63		mg/Kg	<u></u>	05/24/19 15:44	05/31/19 01:01	5
Motor Oil Range Organics [C24-C36]	3900		1600		mg/Kg	₩	05/24/19 15:44	05/31/19 01:01	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl		DX	40 - 130				05/24/19 15:44	05/31/19 01:01	5

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND ND	25		ug/Kg	<u> </u>	05/24/19 15:28	05/30/19 13:21	- 5
Dieldrin	ND	25		ug/Kg	≎	05/24/19 15:28	05/30/19 13:21	5
Endrin aldehyde	ND	25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
Endrin	ND	25		ug/Kg	φ.	05/24/19 15:28	05/30/19 13:21	5
Endrin ketone	ND	25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
Heptachlor	ND	25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
Heptachlor epoxide	ND	25		ug/Kg	φ.	05/24/19 15:28	05/30/19 13:21	5
4,4'-DDT	ND	25		ug/Kg	₩	05/24/19 15:28	05/30/19 13:21	5
4,4'-DDE	290	25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
4,4'-DDD	520	25		ug/Kg	₩	05/24/19 15:28	05/30/19 13:21	5
Endosulfan I	ND	25		ug/Kg	₩	05/24/19 15:28	05/30/19 13:21	5
Endosulfan II	ND	25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
alpha-BHC	ND	25		ug/Kg	₽	05/24/19 15:28	05/30/19 13:21	5
beta-BHC	ND	25		ug/Kg	≎	05/24/19 15:28	05/30/19 13:21	5

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Client Sample ID: L5-1 COMP

Date Collected: 05/23/19 14:15

Date Received: 05/24/19 11:49

Tetrachloro-m-xylene

Analyte

Mercury

DCB Decachlorobiphenyl

Lab Sample ID: 720-93190-5

05/24/19 15:28 05/29/19 15:06

05/24/19 15:28 05/29/19 15:06

**Matrix: Solid** 

Percent Solids: 37.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		25		ug/Kg	<u> </u>	05/24/19 15:28	05/30/19 13:21	5
delta-BHC	ND		25		ug/Kg	φ.	05/24/19 15:28	05/30/19 13:21	5
Endosulfan sulfate	ND		25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
Methoxychlor	ND		25		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
Toxaphene	ND		510		ug/Kg	₩.	05/24/19 15:28	05/30/19 13:21	5
Chlordane (technical)	ND		510		ug/Kg	☼	05/24/19 15:28	05/30/19 13:21	5
cis-Chlordane	ND		25		ug/Kg	₩	05/24/19 15:28	05/30/19 13:21	5
trans-Chlordane	ND		25		ug/Kg	₩	05/24/19 15:28	05/30/19 13:21	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	44	p	21 - 145				05/24/19 15:28	05/30/19 13:21	5
DCB Decachlorobiphenyl	108	D	21 - 136				05/24/19 15:28	05/30/19 13:21	5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		130		ug/Kg	<u></u>	05/24/19 15:28	05/29/19 15:06	1
PCB-1221	ND		130		ug/Kg	☼	05/24/19 15:28	05/29/19 15:06	1
PCB-1232	ND		130		ug/Kg	₽	05/24/19 15:28	05/29/19 15:06	1
PCB-1242	ND		130		ug/Kg	φ.	05/24/19 15:28	05/29/19 15:06	1
PCB-1248	ND		130		ug/Kg	☼	05/24/19 15:28	05/29/19 15:06	1
PCB-1254	770		130		ug/Kg	☼	05/24/19 15:28	05/29/19 15:06	1
PCB-1260	ND		130		ug/Kg	☼	05/24/19 15:28	05/29/19 15:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analvzed	Dil Fac

45 - 132

42 - 146

81

64

Result Qualifier

0.20

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND ND	4.7		mg/Kg	<u> </u>	05/30/19 09:44	05/30/19 20:02	4
Arsenic	ND	9.5		mg/Kg	₩	05/30/19 09:44	05/30/19 20:02	4
Barium	42	4.7		mg/Kg	₩	05/30/19 09:44	05/30/19 20:02	4
Beryllium	ND	0.95		mg/Kg	₩.	05/30/19 09:44	05/30/19 20:02	4
Cadmium	ND	1.2		mg/Kg	₩	05/30/19 09:44	05/30/19 20:02	4
Chromium	47	4.7		mg/Kg	☼	05/30/19 09:44	05/30/19 20:02	4
Cobalt	5.9	1.9		mg/Kg	₩.	05/30/19 09:44	05/30/19 20:02	4
Copper	370	14		mg/Kg	☼	05/30/19 09:44	05/30/19 20:02	4
Lead	140	4.7		mg/Kg	☼	05/30/19 09:44	05/30/19 20:02	4
Molybdenum	5.0	4.7		mg/Kg	₩.	05/30/19 09:44	05/30/19 20:02	4
Nickel	42	4.7		mg/Kg	₩	05/30/19 09:44	05/30/19 20:02	4
Selenium	ND	9.5		mg/Kg	₩	05/30/19 09:44	05/30/19 20:02	4
Silver	ND	2.4		mg/Kg	₽	05/30/19 09:44	05/30/19 20:02	4
Thallium	ND	4.7		mg/Kg	₩	05/30/19 09:44	05/30/19 20:02	4
Vanadium	41	4.7		mg/Kg	☼	05/30/19 09:44	05/30/19 20:02	4
Zinc	290	14		mg/Kg		05/30/19 09:44	05/30/19 20:02	4

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Analyzed

Prepared

□ 5/31/19 17:26 □ 06/03/19 15:08
□ 05/31/19 17:26 □ 06/03/19 15:08
□ 05/31/19 17:26 □ 06/03/19 15:08
□ 05/31/19 17:26 □ 06/03/19 15:08
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□ 05/31/19 □ 06/03/19 □ 06/

0.044

MDL Unit

mg/Kg

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-8

Matrix: Solid

Percent Solids: 63.7

Job ID: 720-93190-1

Client Sample ID: L3-1C

Date Collected: 05/23/19 13:10 Date Received: 05/24/19 11:49

Method: 8260B/CA_LUFTMS Analyte	- 8260B / CA LUFT MS Result Qualifier	RL	MDL Unit	D	Dropared	Analyzod	Dil Fa
<u> </u>	ND Result Qualifier	- <del>KL</del> 11 -		— <del>¤</del>	Prepared	Analyzed 05/29/19 22:19	DII Fa
Methyl tert-butyl ether Acetone	ND ND	110	ug/Kg	~ ☆		05/29/19 22:19	
Aceione Benzene	ND ND	110	ug/Kg	~ ☆		05/29/19 22:19	
			ug/Kg				
Dichlorobromomethane	ND ND *	11	ug/Kg	₩		05/29/19 22:19	
Bromobenzene		11	ug/Kg			05/29/19 22:19	
Chlorobromomethane	ND	42	ug/Kg	<del></del> .		05/29/19 22:19 05/29/19 22:19	
Bromoform	ND	11	ug/Kg	<b>☆</b>			
Bromomethane	ND	21	ug/Kg	☆		05/29/19 22:19	
2-Butanone (MEK)	ND	110	ug/Kg	ب <del>ر</del> 		05/29/19 22:19	
n-Butylbenzene	ND *	11	ug/Kg			05/29/19 22:19	
sec-Butylbenzene	ND *	11	ug/Kg	₩.		05/29/19 22:19	
tert-Butylbenzene	ND *	11	ug/Kg			05/29/19 22:19	
Carbon disulfide	ND	11	ug/Kg	<b>*</b>		05/29/19 22:19	
Carbon tetrachloride	ND	11	ug/Kg	<del>.</del>		05/29/19 22:19	
Chlorobenzene	ND	11	ug/Kg			05/29/19 22:19	
Chloroethane	ND	21	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
Chloroform	ND	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
Chloromethane	ND	21	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
2-Chlorotoluene	ND *	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
4-Chlorotoluene	ND *	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
Chlorodibromomethane	ND	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
1,2-Dichlorobenzene	ND *	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
1,3-Dichlorobenzene	ND *	11	ug/Kg	☆	05/24/19 16:25	05/29/19 22:19	
1,4-Dichlorobenzene	ND *	11	ug/Kg	☆	05/24/19 16:25	05/29/19 22:19	
1,3-Dichloropropane	ND	11	ug/Kg	Ф	05/24/19 16:25	05/29/19 22:19	
1,1-Dichloropropene	ND	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
1,2-Dibromo-3-Chloropropane	ND *	21	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
Ethylene Dibromide	ND	11	ug/Kg		05/24/19 16:25	05/29/19 22:19	
Dibromomethane	ND	21	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
Dichlorodifluoromethane	ND	21	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
1.1-Dichloroethane	ND	11	ug/Kg	· · · · · · · · · · · · · · · · · · ·	05/24/19 16:25	05/29/19 22:19	
1,2-Dichloroethane	ND	11	ug/Kg	₩		05/29/19 22:19	
1.1-Dichloroethene	ND	11	ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	
cis-1,2-Dichloroethene	ND	·····	ug/Kg	 \$		05/29/19 22:19	
trans-1,2-Dichloroethene	ND	11	ug/Kg	₩		05/29/19 22:19	
1,2-Dichloropropane	ND	11	ug/Kg	₩		05/29/19 22:19	
cis-1,3-Dichloropropene	ND	·····	ug/Kg	 ☆		05/29/19 22:19	
trans-1,3-Dichloropropene	ND	11	ug/Kg	₩		05/29/19 22:19	
Ethylbenzene	ND	11	ug/Kg	 		05/29/19 22:19	
Hexachlorobutadiene	ND *	11	ug/Kg			05/29/19 22:19	
				≎		05/29/19 22:19	
2-Hexanone	ND ND	110	ug/Kg	*			
Isopropylbenzene	ND *	11	ug/Kg	· · · · · · <sup>½</sup> ·		05/29/19 22:19	
4-Isopropyltoluene	ND *	11	ug/Kg	<i>\</i> \ }\		05/29/19 22:19	
Methylene Chloride	ND	21	ug/Kg	₩ ₩		05/29/19 22:19	
4-Methyl-2-pentanone (MIBK)	ND	110	ug/Kg			05/29/19 22:19	
Naphthalene	ND *	21	ug/Kg	: <del>D</del> :		05/29/19 22:19	
N-Propylbenzene	ND *	11	ug/Kg	ή. Ή		05/29/19 22:19	
Styrene	ND	11	ug/Kg			05/29/19 22:19	
1,1,1,2-Tetrachloroethane	ND	11	ug/Kg	₽	05/24/19 16:25	05/29/19 22:19	

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Client Sample ID: L3-1C Lab Sample ID: 720-93190-8

Date Collected: 05/23/19 13:10

Date Received: 05/24/19 11:49

Matrix: Solid
Percent Solids: 63.7

Method: 8260B/CA_LUFTMS Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*			ug/Kg	<u></u>	05/24/19 16:25	05/29/19 22:19	1
Tetrachloroethene	ND		11		ug/Kg	☼	05/24/19 16:25	05/29/19 22:19	1
Toluene	ND		11		ug/Kg		05/24/19 16:25	05/29/19 22:19	1
1,2,3-Trichlorobenzene	ND	*	11		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
1,2,4-Trichlorobenzene	ND	*	11		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
1,1,1-Trichloroethane	ND		11		ug/Kg		05/24/19 16:25	05/29/19 22:19	1
1,1,2-Trichloroethane	ND		11		ug/Kg	☼	05/24/19 16:25	05/29/19 22:19	1
Trichloroethene	ND		11		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
Trichlorofluoromethane	ND		11		ug/Kg	☼	05/24/19 16:25	05/29/19 22:19	1
1,2,3-Trichloropropane	ND	*	11		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		11		ug/Kg	☼	05/24/19 16:25	05/29/19 22:19	1
1,2,4-Trimethylbenzene	ND	*	11		ug/Kg		05/24/19 16:25	05/29/19 22:19	1
1,3,5-Trimethylbenzene	ND	*	11		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
Vinyl acetate	ND		42		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
Vinyl chloride	ND		11		ug/Kg	₽	05/24/19 16:25	05/29/19 22:19	1
Xylenes, Total	ND		11		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
2,2-Dichloropropane	ND		11		ug/Kg	☼	05/24/19 16:25	05/29/19 22:19	1
Gasoline Range Organics (GRO) -C4-C12	ND		530		ug/Kg	₩	05/24/19 16:25	05/29/19 22:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	71		45 - 131				05/24/19 16:25	05/29/19 22:19	1
1,2-Dichloroethane-d4 (Surr)	108		60 - 140				05/24/19 16:25	05/29/19 22:19	1
Toluene-d8 (Surr)	85		58 <sub>-</sub> 140				05/24/19 16:25	05/29/19 22:19	1

Job ID: 720-93190-1

	0	
	0	



13

14

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-10

**Matrix: Solid** 

Percent Solids: 67.5

Job ID: 720-93190-1

Client Sample ID: L3-1 COMP Date Collected: 05/23/19 13:20

Date Received: 05/24/19 11:49 Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) MDL Unit Dil Fac Analyte Result Qualifier Prepared RL D Analyzed 0.47 Phenol ND mg/Kg 05/28/19 14:49 06/01/19 00:14 ND 5 Bis(2-chloroethyl)ether 0.47 mg/Kg 05/28/19 14:49 06/01/19 00:14 5 2-Chlorophenol ND 0.47 mg/Kg 05/28/19 14:49 06/01/19 00:14 ND © 05/28/19 14:49 06/01/19 00:14 5 1,3-Dichlorobenzene 0.47 mg/Kg 5 1,4-Dichlorobenzene ND 0.47 mg/Kg © 05/28/19 14:49 06/01/19 00:14 ND mg/Kg © 05/28/19 14:49 06/01/19 00:14 5 Benzyl alcohol 1.2 ND © 05/28/19 14:49 06/01/19 00:14 1,2-Dichlorobenzene 0.47 mg/Kg

1,2-Dichlorobenzene	ND	0.47	mg/Kg	□ 05/28/19 14:49 06/01/19 00:14 5
2-Methylphenol	ND	0.47	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Methylphenol, 3 & 4	ND	0.47	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
N-Nitrosodi-n-propylamine	ND	0.92	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Hexachloroethane	ND	0.92	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Nitrobenzene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Isophorone	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2-Nitrophenol	ND	0.92	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2,4-Dimethylphenol	ND	0.92	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Bis(2-chloroethoxy)methane	ND	1.2	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2,4-Dichlorophenol	ND	2.3	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
1,2,4-Trichlorobenzene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Naphthalene	ND	0.92	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
4-Chloroaniline	ND	1.2	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Hexachlorobutadiene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
4-Chloro-3-methylphenol	ND	1.2	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2-Methylnaphthalene	ND	0.47	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Hexachlorocyclopentadiene	ND	1.2	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
2,4,6-Trichlorophenol	ND	1.2	mg/Kg	
2,4,5-Trichlorophenol	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2-Chloronaphthalene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2-Nitroaniline	ND	2.3	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Dimethyl phthalate	ND	1.2	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Acenaphthylene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
3-Nitroaniline	ND	1.2	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Acenaphthene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2,4-Dinitrophenol	ND	4.7	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
4-Nitrophenol	ND	2.3	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Dibenzofuran	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2,4-Dinitrotoluene	ND	0.92	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2,6-Dinitrotoluene	ND	0.92	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Diethyl phthalate	ND	1.2	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
4-Chlorophenyl phenyl ether	ND	1.2	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Fluorene	ND	0.47	mg/Kg	
4-Nitroaniline	ND	2.3	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
2-Methyl-4,6-dinitrophenol	ND	2.3	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
N-Nitrosodiphenylamine	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
4-Bromophenyl phenyl ether	ND	1.2	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Hexachlorobenzene	ND	0.92	mg/Kg	
Pentachlorophenol	ND	2.3	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Phenanthrene	ND	0.92	mg/Kg	☼ 05/28/19 14:49 06/01/19 00:14 5
Anthracene	ND	0.47	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5
Di-n-butyl phthalate	ND	1.2	mg/Kg	© 05/28/19 14:49 06/01/19 00:14 5

**Client Sample ID: L3-1 COMP** 

Lab Sample ID: 720-93190-10 Date Collected: 05/23/19 13:20

**Matrix: Solid** Percent Solids: 67.5 Date Received: 05/24/19 11:49

Analyte	Result Qualifie	er RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND ND	0.47	mg/Kg	<u>₩</u>	05/28/19 14:49	06/01/19 00:14	į
Pyrene	0.55	0.47	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	į
Butyl benzyl phthalate	ND	1.2	mg/Kg	₽	05/28/19 14:49	06/01/19 00:14	Ę
3,3'-Dichlorobenzidine	ND	1.2	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	į
Benzo[a]anthracene	ND	2.3	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	į
Bis(2-ethylhexyl) phthalate	ND	2.3	mg/Kg	₽	05/28/19 14:49	06/01/19 00:14	
Chrysene	ND	0.92	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	į
Di-n-octyl phthalate	ND	1.2	mg/Kg	☼	05/28/19 14:49	06/01/19 00:14	į
Benzo[b]fluoranthene	ND	0.47	mg/Kg	Φ.	05/28/19 14:49	06/01/19 00:14	
Benzo[a]pyrene	ND	0.47	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	Ę
Benzo[k]fluoranthene	ND	0.47	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	Ę
Indeno[1,2,3-cd]pyrene	ND	0.47	mg/Kg	φ.	05/28/19 14:49	06/01/19 00:14	
Benzo[g,h,i]perylene	ND	0.92	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	Ę
Benzoic acid	ND	2.3	mg/Kg	☼	05/28/19 14:49	06/01/19 00:14	Ę
Pyridine	ND	0.47	mg/Kg		05/28/19 14:49	06/01/19 00:14	
Azobenzene	ND	0.47	mg/Kg	☼	05/28/19 14:49	06/01/19 00:14	Ę
Dibenz(a,h)anthracene	ND	0.47	mg/Kg	₩	05/28/19 14:49	06/01/19 00:14	į
Surrogate	%Recovery Qualifie	er Limits			Prepared	Analyzed	Dil Fa
Nitrobenzene-d5	48	21 - 98			05/28/19 14:49	06/01/19 00:14	
2-Fluorobiphenyl	59	30 - 112			05/28/19 14:49	06/01/19 00:14	
Terphenyl-d14	71	59 - 134			05/28/19 14:49	06/01/19 00:14	
2-Fluorophenol	63	28 - 98			05/28/19 14:49	06/01/19 00:14	
Phenol-d5	67	23 - 101			05/28/19 14:49	06/01/19 00:14	
2,4,6-Tribromophenol	54	37 - 114			05/28/19 14:49	06/01/19 00:14	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	420		15		mg/Kg	<u> </u>	05/24/19 15:44	05/31/19 01:30	5
Motor Oil Range Organics [C24-C36]	1300		370		mg/Kg	☼	05/24/19 15:44	05/31/19 01:30	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl		$\overline{DX}$	40 - 130				05/24/19 15:44	05/31/19 01:30	5

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND -	2.9	ug/Kg	<u> </u>	05/24/19 15:28	05/30/19 13:38	1
Dieldrin	ND	2.9	ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
Endrin aldehyde	ND	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
Endrin	ND	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
Endrin ketone	ND	2.9	ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
Heptachlor	ND	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
Heptachlor epoxide	ND	2.9	ug/Kg	φ.	05/24/19 15:28	05/30/19 13:38	1
4,4'-DDT	ND	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
4,4'-DDE	43	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
4,4'-DDD	29	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
Endosulfan I	ND	2.9	ug/Kg	☼	05/24/19 15:28	05/30/19 13:38	1
Endosulfan II	ND	2.9	ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
alpha-BHC	ND	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
beta-BHC	ND	2.9	ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1

**Client Sample ID: L3-1 COMP** 

Lab Sample ID: 720-93190-10 Date Collected: 05/23/19 13:20 **Matrix: Solid** 

Date Received: 05/24/19 11:49 Percent Solids: 67.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		2.9		ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
delta-BHC	ND		2.9		ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
Endosulfan sulfate	ND		2.9		ug/Kg	☼	05/24/19 15:28	05/30/19 13:38	1
Methoxychlor	ND		2.9		ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
Toxaphene	ND		58		ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
Chlordane (technical)	ND		58		ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
cis-Chlordane	25		2.9		ug/Kg	₩	05/24/19 15:28	05/30/19 13:38	1
trans-Chlordane	21		2.9		ug/Kg	₽	05/24/19 15:28	05/30/19 13:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64	p	21 - 145				05/24/19 15:28	05/30/19 13:38	1
DCB Decachlorobiphenyl	131		21 - 136				05/24/19 15:28	05/30/19 13:38	1

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND -	73		ug/Kg	<u> </u>	05/24/19 15:28	05/29/19 15:23	1
PCB-1221	ND	73		ug/Kg	₩	05/24/19 15:28	05/29/19 15:23	1
PCB-1232	ND	73		ug/Kg	☼	05/24/19 15:28	05/29/19 15:23	1
PCB-1242	ND	73		ug/Kg	₩.	05/24/19 15:28	05/29/19 15:23	1
PCB-1248	ND	73		ug/Kg	☼	05/24/19 15:28	05/29/19 15:23	1
PCB-1254	170	73		ug/Kg	☼	05/24/19 15:28	05/29/19 15:23	1
PCB-1260	ND	73		ug/Kg	<b>*</b>	05/24/19 15:28	05/29/19 15:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	91		45 - 132	05/24/19 15:28	05/29/19 15:23	1
DCB Decachlorobiphenyl	72		42 - 146	05/24/19 15:28	05/29/19 15:23	1

Method: 6010B - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.9		mg/Kg	<u></u>	05/30/19 09:44		4
Arsenic	6.1		3.8		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Barium	26		1.9		mg/Kg	☼	05/30/19 09:44	05/30/19 20:07	4
Beryllium	ND		0.38		mg/Kg		05/30/19 09:44	05/30/19 20:07	4
Cadmium	1.7		0.47		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Chromium	51		1.9		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Cobalt	7.4		0.75		mg/Kg		05/30/19 09:44	05/30/19 20:07	4
Copper	790		5.6		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Lead	440		1.9		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Molybdenum	3.7		1.9		mg/Kg		05/30/19 09:44	05/30/19 20:07	4
Nickel	46		1.9		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Selenium	ND		3.8		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Silver	ND		0.94		mg/Kg	φ.	05/30/19 09:44	05/30/19 20:07	4
Thallium	ND		1.9		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Vanadium	38		1.9		mg/Kg	₩	05/30/19 09:44	05/30/19 20:07	4
Zinc	420		5.6		mg/Kg		05/30/19 09:44	05/30/19 20:07	4

Method: 7471A - Mercury (CVA	<b>A</b> )								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.32		0.021		mg/Kg	₩	05/31/19 17:26	06/03/19 15:11	1

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-11

**Matrix: Solid** 

Dil Fac

1

1

cent Solids: 26.4

Job ID: 720-93190-1

Client Sample ID: L3-3A Date Collected: 05/23/19 12:15

Pate Collected: 05/23/19 12 Pate Received: 05/24/19 11:								Percent Solid
Method: 8260B/CA_LUFTN	/IS - 8260B / CA	LUFT MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
Methyl tert-butyl ether	ND		27		ug/Kg	<u> </u>	05/24/19 16:25	05/29/19 22:49
Acetone	ND		270		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
Benzene	ND		27		ug/Kg	≎	05/24/19 16:25	05/29/19 22:49
Dichlorobromomethane	ND		27		ug/Kg	☆	05/24/19 16:25	05/29/19 22:49
Bromobenzene	ND	*	27		ug/Kg	≎	05/24/19 16:25	05/29/19 22:49
Chlorobromomethane	ND		110		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
Bromoform	ND	*	27		ug/Kg		05/24/19 16:25	05/29/19 22:49
Bromomethane	ND		55		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
2-Butanone (MEK)	ND		270		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
n-Butylbenzene	ND	*	27		ug/Kg		05/24/19 16:25	05/29/19 22:49
sec-Butylbenzene	ND	*	27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
tert-Butylbenzene	ND	*	27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
Carbon disulfide	ND		27		ug/Kg		05/24/19 16:25	05/29/19 22:49
Carbon tetrachloride	ND		27		ug/Kg	≎	05/24/19 16:25	05/29/19 22:49
Chlorobenzene	ND	*	27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
Chloroethane	ND		55		ug/Kg		05/24/19 16:25	05/29/19 22:49
Chloroform	ND		27		ug/Kg	≎	05/24/19 16:25	05/29/19 22:49
Chloromethane	ND		55		ug/Kg	≎	05/24/19 16:25	05/29/19 22:49
2-Chlorotoluene	ND	*	27		ug/Kg	 ф	05/24/19 16:25	05/29/19 22:49
4-Chlorotoluene	ND	*	27		ug/Kg	≎	05/24/19 16:25	05/29/19 22:49
Chlorodibromomethane	ND		27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49
1,2-Dichlorobenzene	ND	*	27		ug/Kg	φ.	05/24/19 16:25	05/29/19 22:49
1,3-Dichlorobenzene	ND	*	27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49

Bromomomano	110	00	49/119	00/2 1/10 10:20 00/20/10 22:10
2-Butanone (MEK)	ND	270	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
n-Butylbenzene	ND *	27	ug/Kg	
sec-Butylbenzene	ND *	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
tert-Butylbenzene	ND *	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
Carbon disulfide	ND	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
Carbon tetrachloride	ND	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
Chlorobenzene	ND *	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
Chloroethane	ND	55	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Chloroform	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Chloromethane	ND	55	ug/Kg	
2-Chlorotoluene	ND *	27	ug/Kg	
4-Chlorotoluene	ND *	27	ug/Kg	
Chlorodibromomethane	ND	27	ug/Kg	
1,2-Dichlorobenzene	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
1,3-Dichlorobenzene	ND *	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
1,4-Dichlorobenzene	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
1,3-Dichloropropane	ND	27	ug/Kg	
1,1-Dichloropropene	ND	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
1,2-Dibromo-3-Chloropropane	ND *	55	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Ethylene Dibromide	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Dibromomethane	ND	55	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Dichlorodifluoromethane	ND	55	ug/Kg	
1,1-Dichloroethane	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
1,2-Dichloroethane	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
1,1-Dichloroethene	ND	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
cis-1,2-Dichloroethene	ND	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
trans-1,2-Dichloroethene	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
1,2-Dichloropropane	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
cis-1,3-Dichloropropene	ND	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
trans-1,3-Dichloropropene	ND	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
Ethylbenzene	ND *	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
Hexachlorobutadiene	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
2-Hexanone	ND	270	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Isopropylbenzene	ND *	27	ug/Kg	☼ 05/24/19 16:25 05/29/19 22:49 1
4-Isopropyltoluene	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Methylene Chloride	ND	55	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
4-Methyl-2-pentanone (MIBK)	ND	270	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Naphthalene	ND *	55	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
N-Propylbenzene	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
Styrene	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1
1,1,1,2-Tetrachloroethane	ND *	27	ug/Kg	© 05/24/19 16:25 05/29/19 22:49 1

Eurofins TestAmerica, Pleasanton

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Date Received: 05/24/19 11:49

Toluene-d8 (Surr)

Lab Sample ID: 720-93190-11

05/24/19 16:25 05/29/19 22:49

Matrix: Solid

Percent Solids: 26.4

Job ID: 720-93190-1

Client Sample ID: L3-3A	Lab S
Date Collected: 05/23/19 12:15	

80

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	27		ug/Kg	₽	05/24/19 16:25	05/29/19 22:49	1
Tetrachloroethene	ND		27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
Toluene	ND	*	27		ug/Kg	₽	05/24/19 16:25	05/29/19 22:49	1
1,2,3-Trichlorobenzene	ND	*	27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
1,2,4-Trichlorobenzene	ND	*	27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
1,1,1-Trichloroethane	ND		27		ug/Kg	₽	05/24/19 16:25	05/29/19 22:49	1
1,1,2-Trichloroethane	ND		27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
Trichloroethene	ND		27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49	1
Trichlorofluoromethane	ND		27		ug/Kg		05/24/19 16:25	05/29/19 22:49	1
1,2,3-Trichloropropane	ND	*	27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		27		ug/Kg	₩	05/24/19 16:25	05/29/19 22:49	1
1,2,4-Trimethylbenzene	ND	*	27		ug/Kg		05/24/19 16:25	05/29/19 22:49	1
1,3,5-Trimethylbenzene	ND	*	27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
Vinyl acetate	ND		110		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
Vinyl chloride	ND		27		ug/Kg		05/24/19 16:25	05/29/19 22:49	1
Xylenes, Total	ND		27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
2,2-Dichloropropane	ND		27		ug/Kg	☼	05/24/19 16:25	05/29/19 22:49	1
Gasoline Range Organics (GRO) -C4-C12	ND		1400		ug/Kg	₽	05/24/19 16:25	05/29/19 22:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	69	*	45 - 131				05/24/19 16:25	05/29/19 22:49	1
1,2-Dichloroethane-d4 (Surr)	104		60 - 140				05/24/19 16:25	05/29/19 22:49	1

58 - 140

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13

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-15

Matrix: Solid

Percent Solids: 25.8

Job ID: 720-93190-1

Client Sample ID: L3-3 COMP Date Collected: 05/23/19 12:31

Date Received: 05/24/19 11:49

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fa
Phenol		2.6	mg/Kg	<u>₩</u>	05/28/19 14:49	06/01/19 00:40	1
Bis(2-chloroethyl)ether	ND	2.6	mg/Kg	☆	05/28/19 14:49	06/01/19 00:40	1
2-Chlorophenol	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
1,3-Dichlorobenzene	ND	2.6	mg/Kg		05/28/19 14:49	06/01/19 00:40	1
1,4-Dichlorobenzene	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
Benzyl alcohol	ND	6.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
1,2-Dichlorobenzene	ND	2.6	mg/Kg		05/28/19 14:49	06/01/19 00:40	1
2-Methylphenol	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
Methylphenol, 3 & 4	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	. 1
N-Nitrosodi-n-propylamine	ND	5.0	mg/Kg		05/28/19 14:49	06/01/19 00:40	
Hexachloroethane	ND	5.0	mg/Kg	₽	05/28/19 14:49	06/01/19 00:40	1
Nitrobenzene	ND	2.6		т ф	05/28/19 14:49	06/01/19 00:40	1
			mg/Kg				
Isophorone	ND ND	2.6 5.0	mg/Kg	<b>☆</b>	05/28/19 14:49	06/01/19 00:40	1
2-Nitrophenol			mg/Kg		05/28/19 14:49	06/01/19 00:40	1
2,4-Dimethylphenol	ND	5.0	mg/Kg	 	05/28/19 14:49	06/01/19 00:40	1
Bis(2-chloroethoxy)methane	ND	6.6	mg/Kg		05/28/19 14:49	06/01/19 00:40	1
2,4-Dichlorophenol	ND	13	mg/Kg		05/28/19 14:49	06/01/19 00:40	1
1,2,4-Trichlorobenzene	ND	2.6	mg/Kg		05/28/19 14:49	06/01/19 00:40	
Naphthalene	ND	5.0	mg/Kg	<b>*</b>	05/28/19 14:49	06/01/19 00:40	1
4-Chloroaniline	ND	6.6	mg/Kg	<b>*</b>	05/28/19 14:49	06/01/19 00:40	1
Hexachlorobutadiene	ND	2.6	mg/Kg	₩.	05/28/19 14:49	06/01/19 00:40	1
4-Chloro-3-methylphenol	ND	6.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2-Methylnaphthalene	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
Hexachlorocyclopentadiene	ND	6.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2,4,6-Trichlorophenol	ND	6.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2,4,5-Trichlorophenol	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2-Chloronaphthalene	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2-Nitroaniline	ND	13	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
Dimethyl phthalate	ND	6.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
Acenaphthylene	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
3-Nitroaniline	ND	6.6	mg/Kg	₩.	05/28/19 14:49	06/01/19 00:40	1
Acenaphthene	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2,4-Dinitrophenol	ND	25	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
4-Nitrophenol	ND	13	mg/Kg	ф.	05/28/19 14:49	06/01/19 00:40	1
Dibenzofuran	ND	2.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2,4-Dinitrotoluene	ND	5.0	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
2,6-Dinitrotoluene	ND	5.0	mg/Kg		05/28/19 14:49	06/01/19 00:40	1
Diethyl phthalate	ND	6.6	mg/Kg	₩	05/28/19 14:49	06/01/19 00:40	1
4-Chlorophenyl phenyl ether	ND	6.6	mg/Kg	₽	05/28/19 14:49		1
Fluorene	ND	2.6	mg/Kg	 \$		06/01/19 00:40	1
4-Nitroaniline	ND	13	mg/Kg	☼	05/28/19 14:49	06/01/19 00:40	1
2-Methyl-4,6-dinitrophenol	ND	13	mg/Kg	≎	05/28/19 14:49		1
N-Nitrosodiphenylamine	ND	2.6	mg/Kg			06/01/19 00:40	· · · · · · · · · · · · · · · · · · ·
4-Bromophenyl phenyl ether	ND	6.6	mg/Kg	₽	05/28/19 14:49		1
Hexachlorobenzene	ND	5.0		₽		06/01/19 00:40	1
			mg/Kg	<del></del> .		06/01/19 00:40	
Pentachlorophenol	ND ND	13 5.0	mg/Kg				1
Phenanthrene	ND	5.0	mg/Kg	φ. ×		06/01/19 00:40	1
Anthracene Di-n-butyl phthalate	ND ND	2.6 6.6	mg/Kg mg/Kg			06/01/19 00:40 06/01/19 00:40	<u>.</u> 1

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14

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Dibenz(a,h)anthracene

Client Sample ID: L3-3 COMP Lab Sample ID: 720-93190-15

Date Collected: 05/23/19 12:31

Matrix: Solid

Date Received: 05/24/19 11:49

Percent Solids: 25.8

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued) **MDL** Unit Prepared Dil Fac **Analyte** Result Qualifier RL Analyzed ₩ Fluoranthene  $\overline{\mathsf{ND}}$ 2.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 Pyrene ND 2.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 ND 6.6 10 Butyl benzyl phthalate mg/Kg 05/28/19 14:49 06/01/19 00:40 3,3'-Dichlorobenzidine ND 6.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 Benzo[a]anthracene ND 06/01/19 00:40 10 13 mg/Kg 05/28/19 14:49 Bis(2-ethylhexyl) phthalate ND 13 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 06/01/19 00:40 Chrysene ND 5.0 mg/Kg 05/28/19 14:49 10 ND 6.6 05/28/19 14:49 06/01/19 00:40 10 Di-n-octyl phthalate mg/Kg 05/28/19 14:49 06/01/19 00:40 Benzo[b]fluoranthene ND 2.6 10 mg/Kg Benzo[a]pyrene ND 2.6 05/28/19 14:49 06/01/19 00:40 10 mg/Kg Benzo[k]fluoranthene ND 2.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 Indeno[1,2,3-cd]pyrene ND 2.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 ND 5.0 10 Benzo[g,h,i]perylene mg/Kg 05/28/19 14:49 06/01/19 00:40 Benzoic acid ND 13 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 Pyridine ND 2.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10 Azobenzene ND 2.6 mg/Kg 05/28/19 14:49 06/01/19 00:40 10

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	50	21 - 98	05/28/19 14:49	06/01/19 00:40	10
2-Fluorobiphenyl	61	30 - 112	05/28/19 14:49	06/01/19 00:40	10
Terphenyl-d14	83	59 - 134	05/28/19 14:49	06/01/19 00:40	10
2-Fluorophenol	55	28 - 98	05/28/19 14:49	06/01/19 00:40	10
Phenol-d5	59	23 - 101	05/28/19 14:49	06/01/19 00:40	10
2,4,6-Tribromophenol	66	37 - 114	05/28/19 14:49	06/01/19 00:40	10

2.6

mg/Kg

ND

Method: 8015B - Diesel Range Organics (DRO) (GC) Result Qualifier Unit Dil Fac RL MDL **Prepared** Analyzed 370 20 **Diesel Range Organics [C10-C28]** 9300 mg/Kg 05/24/19 15:44 05/31/19 01:59 **Motor Oil Range Organics** 25000 9300 mg/Kg 05/24/19 15:44 05/31/19 01:59 20 [C24-C36]

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND ND	37	ug/Kg	₩	05/24/19 15:28	05/30/19 13:54	5
Dieldrin	ND	37	ug/Kg	≎	05/24/19 15:28	05/30/19 13:54	5
Endrin aldehyde	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
Endrin	ND	37	ug/Kg	ф.	05/24/19 15:28	05/30/19 13:54	5
Endrin ketone	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
Heptachlor	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
Heptachlor epoxide	ND	37	ug/Kg		05/24/19 15:28	05/30/19 13:54	5
4,4'-DDT	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
4,4'-DDE	85	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
4,4'-DDD	ND	37	ug/Kg		05/24/19 15:28	05/30/19 13:54	5
Endosulfan I	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
Endosulfan II	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
alpha-BHC	ND	37	ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
beta-BHC	ND	37	ug/Kg	☼	05/24/19 15:28	05/30/19 13:54	5

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05/28/19 14:49 06/01/19 00:40

Job ID: 720-93190-1

6

8

10

12

. .

10

14

Client Sample ID: L3-3 COMP

Date Collected: 05/23/19 12:31 Date Received: 05/24/19 11:49

Tetrachloro-m-xylene

DCB Decachlorobiphenyl

Method: 7471A - Mercury (CVAA)

Analyte

Mercury

Lab Sample ID: 720-93190-15

05/24/19 15:28 05/29/19 15:40

05/24/19 15:28 05/29/19 15:40

Matrix: Solid

Percent Solids: 25.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		37		ug/Kg	<u> </u>	05/24/19 15:28	05/30/19 13:54	5
delta-BHC	ND		37		ug/Kg	φ.	05/24/19 15:28	05/30/19 13:54	5
Endosulfan sulfate	ND		37		ug/Kg	₩	05/24/19 15:28	05/30/19 13:54	5
Methoxychlor	ND		37		ug/Kg	☼	05/24/19 15:28	05/30/19 13:54	5
Toxaphene	ND		740		ug/Kg	₩.	05/24/19 15:28	05/30/19 13:54	5
Chlordane (technical)	ND		740		ug/Kg	☼	05/24/19 15:28	05/30/19 13:54	5
cis-Chlordane	ND		37		ug/Kg	₩	05/24/19 15:28	05/30/19 13:54	5
trans-Chlordane	ND		37		ug/Kg	₽	05/24/19 15:28	05/30/19 13:54	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	76	p	21 - 145				05/24/19 15:28	05/30/19 13:54	5
DCB Decachlorobiphenyl	1080	X	21 - 136				05/24/19 15:28	05/30/19 13:54	5

Analyte	Result Qualit	fier RL	MDL I	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND ND	190	ī	ug/Kg	₽	05/24/19 15:28	05/29/19 15:40	1
PCB-1221	ND	190	ι	ug/Kg	☼	05/24/19 15:28	05/29/19 15:40	1
PCB-1232	ND	190	ι	ug/Kg	₽	05/24/19 15:28	05/29/19 15:40	1
PCB-1242	ND	190	ι	ug/Kg	φ.	05/24/19 15:28	05/29/19 15:40	1
PCB-1248	ND	190	ι	ug/Kg	☼	05/24/19 15:28	05/29/19 15:40	1
PCB-1254	200	190	ι	ug/Kg	☼	05/24/19 15:28	05/29/19 15:40	1
PCB-1260	ND	190	ι	ug/Kg	☼	05/24/19 15:28	05/29/19 15:40	1
Surrogate	%Recovery Quali	fier Limits				Prepared	Analyzed	Dil Fac

45 - 132

42 - 146

104

69

Result Qualifier

0.30

	33	12 - 1 10			00/2 // 10 /0/20	00.20.10.10.10	•
Method: 6010B - Metals (IC Analyte	P)  Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	7.1	mg/Kg	<u> </u>	05/30/19 09:44	05/30/19 20:11	4
Arsenic	ND	14	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Barium	44	7.1	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Beryllium	ND	1.4	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Cadmium	ND	1.8	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Chromium	59	7.1	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Cobalt	7.7	2.8	mg/Kg	₽	05/30/19 09:44	05/30/19 20:11	4
Copper	760	21	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Lead	200	7.1	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Molybdenum	7.1	7.1	mg/Kg	₽	05/30/19 09:44	05/30/19 20:11	4
Nickel	52	7.1	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Selenium	ND	14	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Silver	ND	3.5	mg/Kg	₽	05/30/19 09:44	05/30/19 20:11	4
Thallium	ND	7.1	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Vanadium	42	7.1	mg/Kg	☼	05/30/19 09:44	05/30/19 20:11	4
Zinc	580	21	mg/Kg	₽	05/30/19 09:44	05/30/19 20:11	4

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Analyzed

Prepared

□ 5/31/19 17:26 □ 06/03/19 15:13
□ 05/31/19 17:26 □ 06/03/19 15:13
□ 05/31/19 17:26 □ 06/03/19 15:13
□ 05/31/19 17:26 □ 06/03/19 15:13
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□ 05/31/19 □ 06/03/19 □ 06/03/19 □ 06/03/19 □ 06/03/19
□ 05/31/19 □ 06/03/19 □ 0

0.055

MDL Unit

mg/Kg

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Matrix: Solid Prep Type: Total/NA

Lab Sample ID         Client Sample ID         (45-131)         (60-140)         (58-140)           720-93190-3         L5-1C         65 * 98         81           720-93190-8         L3-1C         71         108         85           720-93190-11         L3-3A         69 * 104         80
720-93190-3 L5-1C 65 * 98 81 720-93190-8 L3-1C 71 108 85
720-93190-8 L3-1C 71 108 85
720-93190-11 L3-3A 69 * 104 80
LCS 720-266511/5 Lab Control Sample 94 89 95
LCS 720-266511/7 Lab Control Sample 93 92 94
LCSD 720-266511/6 Lab Control Sample Dup 96 98 95
LCSD 720-266511/8 Lab Control Sample Dup 91 93 95
MB 720-266511/4 Method Blank 88 92 94

BFB = 4-Bromofluorobenzene

DCA = 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

		Percent Surrogate Recovery (Acceptance Limit						
		NBZ	FBP	TPHL	2FP	PHL	TBP	
Lab Sample ID	Client Sample ID	(21-98)	(30-112)	(59-134)	(28-98)	(23-101)	(37-114)	
720-93190-5	L5-1 COMP	70	80	97	79	82	76	
720-93190-10	L3-1 COMP	48	59	71	63	67	54	
20-93190-15	L3-3 COMP	50	61	83	55	59	66	
20-93195-B-1-E MS	Matrix Spike	74	83	107	79	84	74	
20-93195-B-1-F MSD	Matrix Spike Duplicate	67	81	99	71	77	72	
CS 720-266434/2-A	Lab Control Sample	63	64	92	61	64	72	
IB 720-266434/1-A	Method Blank	63	66	91	69	71	44	

Surrogate Legend

NBZ = Nitrobenzene-d5

FBP = 2-Fluorobiphenyl

TPHL = Terphenyl-d14

2FP = 2-Fluorophenol

PHL = Phenol-d5

TBP = 2,4,6-Tribromophenol

Method: 8015B - Diesel Range Organics (DRO) (GC)

**Matrix: Solid** Prep Type: Total/NA

		TPH1	
Lab Sample ID	Client Sample ID	(40-130)	
720-93190-5	L5-1 COMP	0 D X	
720-93190-10	L3-1 COMP	0 D X	
720-93190-15	L3-3 COMP	0 D X	
720-93196-A-5-B MS	Matrix Spike	113	
720-93196-A-5-C MSD	Matrix Spike Duplicate	119	
LCS 720-266339/2-A	Lab Control Sample	120	
MB 720-266339/1-A	Method Blank	98	
Surrogate Legend			

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Page 23 of 57

Job ID: 720-93190-1

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Method: 8081A - Organochlorine Pesticides (GC)

**Matrix: Solid** Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)				
	TCX2	DCBP1				
Client Sample ID	(21-145)	(21-136)				
Matrix Spike	97	71				
Matrix Spike Duplicate	102	83				
Lab Control Sample	81	99				
Method Blank	80	105				
	Matrix Spike Matrix Spike Duplicate Lab Control Sample	Client Sample ID(21-145)Matrix Spike97Matrix Spike Duplicate102Lab Control Sample81Method Blank80	Client Sample ID         (21-145)         (21-136)           Matrix Spike         97         71           Matrix Spike Duplicate         102         83           Lab Control Sample         81         99           Method Blank         80         105			

DCBP = DCB Decachlorobiphenyl **Method: 8081A - Organochlorine Pesticides (GC)** 

**Matrix: Solid** Prep Type: Total/NA

			Percent 9	ance Limits)	
		TCX1	DCBP1		
Lab Sample ID	Client Sample ID	(21-145)	(21-136)		
720-93190-5	L5-1 COMP	44 p	108 p		
720-93190-10	L3-1 COMP	64 p	131		
720-93190-15	L3-3 COMP	76 p	1080 X		

TCX = Tetrachloro-m-xylene DCBP = DCB Decachlorobiphenyl

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

**Matrix: Solid** Prep Type: Total/NA

			Percent St	urrogate Recovery (Acceptance Limits)
		TCX1	DCBP1	
Lab Sample ID	Client Sample ID	(45-132)	(42-146)	
720-93176-A-2-C MS	Matrix Spike	86	97	
720-93176-A-2-D MSD	Matrix Spike Duplicate	84	87	
720-93190-5	L5-1 COMP	81	64	
720-93190-10	L3-1 COMP	91	72	
720-93190-15	L3-3 COMP	104	69	
LCS 720-266320/2-A	Lab Control Sample	86	104	
MB 720-266320/1-A	Method Blank	87	101	

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Page 24 of 57

Job ID: 720-93190-1

# **QC Sample Results**

Client: Cornerstone Earth Group Job ID: 720-93190-1 Project/Site: Alameda Lagoon Dredging

# Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-266511/4

**Matrix: Solid** 

**Analysis Batch: 266511** 

Client Sample ID: Method Blank

**Prep Type: Total/NA** 

Analyte	MB M Result Q		MDL U	Init C	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND ND	5.0		g/Kg	- Frepareu	05/29/19 19:21	1
Acetone	ND ND	50		g/Kg g/Kg		05/29/19 19:21	1
Benzene	ND ND	5.0		g/Kg g/Kg		05/29/19 19:21	1
Dichlorobromomethane	ND	5.0		g/Kg		05/29/19 19:21	
Bromobenzene	ND	5.0		g/Kg g/Kg		05/29/19 19:21	1
Chlorobromomethane	ND	20		g/Kg g/Kg		05/29/19 19:21	1
Bromoform	ND	5.0		g/Kg g/Kg		05/29/19 19:21	
Bromomethane	ND ND	10		g/Kg g/Kg		05/29/19 19:21	1
2-Butanone (MEK)	ND ND	50		g/Kg g/Kg		05/29/19 19:21	1
n-Butylbenzene	ND	5.0		g/Kg g/Kg		05/29/19 19:21	· · · · · · · · · · · · · · · · · · ·
sec-Butylbenzene	ND ND	5.0		g/Kg g/Kg		05/29/19 19:21	1
tert-Butylbenzene	ND ND	5.0		g/Kg g/Kg		05/29/19 19:21	1
Carbon disulfide	ND	5.0		g/Kg g/Kg		05/29/19 19:21	
Carbon tetrachloride	ND ND	5.0		g/Kg g/Kg		05/29/19 19:21	1
Chlorobenzene	ND ND	5.0		g/Kg g/Kg		05/29/19 19:21	1
Chloroethane						05/29/19 19:21	1
Chloroform	ND ND	10 5.0		g/Kg		05/29/19 19:21	1
	ND ND	10		g/Kg			1
Chlorotelupa				g/Kg		05/29/19 19:21	1
2-Chlorotoluene	ND ND	5.0 5.0		g/Kg		05/29/19 19:21	1
4-Chlorotoluene Chlorodibromomethane				g/Kg		05/29/19 19:21	1
	ND	5.0		g/Kg		05/29/19 19:21	1
1,2-Dichlorobenzene	ND	5.0		g/Kg		05/29/19 19:21	1
1,3-Dichlorobenzene	ND	5.0		g/Kg		05/29/19 19:21	1
1,4-Dichlorobenzene	ND	5.0		g/Kg		05/29/19 19:21	1
1,3-Dichloropropane	ND	5.0		g/Kg		05/29/19 19:21	1
1,1-Dichloropropene	ND	5.0		g/Kg		05/29/19 19:21	1
1,2-Dibromo-3-Chloropropane	ND	10		g/Kg		05/29/19 19:21	1
Ethylene Dibromide	ND	5.0		g/Kg		05/29/19 19:21	1
Dibromomethane	ND	10		g/Kg		05/29/19 19:21	1
Dichlorodifluoromethane	ND	10		g/Kg		05/29/19 19:21	
1,1-Dichloroethane	ND	5.0		g/Kg		05/29/19 19:21	1
1,2-Dichloroethane	ND	5.0		g/Kg		05/29/19 19:21	1
1,1-Dichloroethene	ND	5.0		g/Kg		05/29/19 19:21	1
cis-1,2-Dichloroethene	ND	5.0		g/Kg		05/29/19 19:21	1
trans-1,2-Dichloroethene	ND	5.0		g/Kg		05/29/19 19:21	1
1,2-Dichloropropane	ND	5.0		g/Kg		05/29/19 19:21	1
cis-1,3-Dichloropropene	ND	5.0		g/Kg		05/29/19 19:21	1
trans-1,3-Dichloropropene	ND	5.0		g/Kg		05/29/19 19:21	1
Ethylbenzene	ND	5.0		g/Kg		05/29/19 19:21	1
Hexachlorobutadiene	ND	5.0		g/Kg		05/29/19 19:21	1
2-Hexanone	ND	50		g/Kg		05/29/19 19:21	1
Isopropylbenzene	ND	5.0		g/Kg		05/29/19 19:21	1
4-Isopropyltoluene	ND	5.0		g/Kg		05/29/19 19:21	1
Methylene Chloride	ND	10		g/Kg		05/29/19 19:21	1
4-Methyl-2-pentanone (MIBK)	ND	50		g/Kg		05/29/19 19:21	1
Naphthalene	ND	10		g/Kg		05/29/19 19:21	1
N-Propylbenzene	ND	5.0	uç	g/Kg		05/29/19 19:21	1
Styrene	ND	5.0	ug	g/Kg		05/29/19 19:21	1

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-266511/4 **Matrix: Solid** 

**Analysis Batch: 266511** 

Client Sample ID: Method Blank

**Prep Type: Total/NA** 

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			05/29/19 19:21	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			05/29/19 19:21	1
Tetrachloroethene	ND		5.0		ug/Kg			05/29/19 19:21	1
Toluene	ND		5.0		ug/Kg			05/29/19 19:21	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			05/29/19 19:21	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			05/29/19 19:21	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			05/29/19 19:21	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			05/29/19 19:21	1
Trichloroethene	ND		5.0		ug/Kg			05/29/19 19:21	1
Trichlorofluoromethane	ND		5.0		ug/Kg			05/29/19 19:21	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			05/29/19 19:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			05/29/19 19:21	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			05/29/19 19:21	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			05/29/19 19:21	1
Vinyl acetate	ND		20		ug/Kg			05/29/19 19:21	1
Vinyl chloride	ND		5.0		ug/Kg			05/29/19 19:21	1
Xylenes, Total	ND		5.0		ug/Kg			05/29/19 19:21	1
2,2-Dichloropropane	ND		5.0		ug/Kg			05/29/19 19:21	1
Gasoline Range Organics (GRO)	ND		250		ug/Kg			05/29/19 19:21	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	88		45 - 131		05/29/19 19:21	1
1,2-Dichloroethane-d4 (Surr)	92		60 - 140		05/29/19 19:21	1
Toluene-d8 (Surr)	94		58 - 140		05/29/19 19:21	1

Lab Sample ID: LCS 720-266511/5

**Matrix: Solid** 

-C4-C12

Analysis Batch: 266511

<b>Client Sample</b>	ID: Lab Control Sample
	Prep Type: Total/NA

•	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Methyl tert-butyl ether	50.0	46.6		ug/Kg		93	70 - 144	
Acetone	250	248		ug/Kg		99	30 - 162	
Benzene	50.0	45.8		ug/Kg		92	70 - 130	
Dichlorobromomethane	50.0	46.9		ug/Kg		94	70 - 140	
Bromobenzene	50.0	44.4		ug/Kg		89	70 - 130	
Chlorobromomethane	50.0	50.4		ug/Kg		101	70 - 130	
Bromoform	50.0	50.9		ug/Kg		102	59 - 158	
Bromomethane	50.0	43.9		ug/Kg		88	59 - 132	
2-Butanone (MEK)	250	240		ug/Kg		96	59 <sub>-</sub> 159	
n-Butylbenzene	50.0	42.7		ug/Kg		85	70 - 142	
sec-Butylbenzene	50.0	44.4		ug/Kg		89	70 - 136	
tert-Butylbenzene	50.0	43.5		ug/Kg		87	70 - 130	
Carbon disulfide	50.0	47.1		ug/Kg		94	60 - 140	
Carbon tetrachloride	50.0	48.3		ug/Kg		97	70 - 142	
Chlorobenzene	50.0	47.0		ug/Kg		94	70 - 130	
Chloroethane	50.0	43.9		ug/Kg		88	65 - 130	
Chloroform	50.0	44.7		ug/Kg		89	77 - 127	
Chloromethane	50.0	43.0		ug/Kg		86	55 <sub>-</sub> 140	

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Page 26 of 57

# **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

# Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-266511/5

**Matrix: Solid** 

o-Xylene

Analysis Batch: 266511

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

•	Spike	LCS	LCS		%Rec.	
Analyte	Added	Result	Qualifier Unit	D %Rec	Limits	
2-Chlorotoluene	50.0	42.1	ug/Kg	84	70 - 138	
4-Chlorotoluene	50.0	42.9	ug/Kg	86	70 - 136	
Chlorodibromomethane	50.0	52.2	ug/Kg	104	70 - 146	
1,2-Dichlorobenzene	50.0	45.8	ug/Kg	92	70 - 130	
1,3-Dichlorobenzene	50.0	46.3	ug/Kg	93	70 - 131	
1,4-Dichlorobenzene	50.0	45.6	ug/Kg	91	70 - 130	
1,3-Dichloropropane	50.0	47.7	ug/Kg	95	70 - 140	
1,1-Dichloropropene	50.0	46.7	ug/Kg	93	70 - 130	
1,2-Dibromo-3-Chloropropane	50.0	50.0	ug/Kg	100	60 - 145	
Ethylene Dibromide	50.0	51.3	ug/Kg	103	70 - 140	
Dibromomethane	50.0	47.5	ug/Kg	95	70 - 139	
Dichlorodifluoromethane	50.0	46.2	ug/Kg	92	37 - 158	
1,1-Dichloroethane	50.0	45.0	ug/Kg	90	70 - 130	
1,2-Dichloroethane	50.0	44.7	ug/Kg	89	70 - 130	
1,1-Dichloroethene	50.0	45.5	ug/Kg	91	74 - 122	
cis-1,2-Dichloroethene	50.0	44.9	ug/Kg	90	70 - 138	
trans-1,2-Dichloroethene	50.0	45.7	ug/Kg	91	67 - 130	
1,2-Dichloropropane	50.0	45.9	ug/Kg	92	73 - 127	
cis-1,3-Dichloropropene	50.0	47.6	ug/Kg	95	68 - 147	
trans-1,3-Dichloropropene	50.0	49.6	ug/Kg	99	70 - 155	
Ethylbenzene	50.0	45.0	ug/Kg	90	80 - 137	
Hexachlorobutadiene	50.0	44.5	ug/Kg	89	70 - 132	
2-Hexanone	250	253	ug/Kg	101	62 - 158	
Isopropylbenzene	50.0	48.0	ug/Kg	96	70 - 130	
4-Isopropyltoluene	50.0	46.0	ug/Kg	92	70 - 133	
Methylene Chloride	50.0	45.7	ug/Kg	91	70 - 134	
4-Methyl-2-pentanone (MIBK)	250	249	ug/Kg	99	60 - 160	
Naphthalene	50.0	47.4	ug/Kg	95	60 - 147	
N-Propylbenzene	50.0	42.1	ug/Kg	84	70 - 130	
Styrene	50.0	49.2	ug/Kg	98	70 - 130	
1,1,1,2-Tetrachloroethane	50.0	48.1	ug/Kg	96	70 - 130	
1,1,2,2-Tetrachloroethane	50.0	41.3	ug/Kg	83	70 - 130 70 - 146	
Tetrachloroethene	50.0	50.9	ug/Kg	102	70 - 140 70 - 132	
Toluene	50.0	45.5	ug/Kg	91	75 - 120	
1,2,3-Trichlorobenzene	50.0	45.8	ug/Kg ug/Kg	92	60 <sub>-</sub> 140	
1,2,4-Trichlorobenzene	50.0	47.0		94	60 - 140	
1,1,1-Trichloroethane	50.0		ug/Kg		70 - 130	
	50.0	45.3	ug/Kg	91 95		
1,1,2-Trichloroethane		47.5	ug/Kg		70 <sub>-</sub> 130	
Trichloroethene	50.0	48.6	ug/Kg	97	70 - 133	
Trichlorofluoromethane	50.0	46.6	ug/Kg	93	60 <sub>-</sub> 140	
1,2,3-Trichloropropane	50.0	42.9	ug/Kg	86	70 <sub>-</sub> 146	
1,1,2-Trichloro-1,2,2-trifluoroetha	50.0	49.9	ug/Kg	100	60 - 140	
ne 1,2,4-Trimethylbenzene	50.0	44.0	ug/Kg	88	70 - 130	
1,3,5-Trimethylbenzene	50.0	43.4	ug/Kg ug/Kg	87	70 - 130 70 - 131	
Vinyl acetate	50.0	48.6	ug/Kg ug/Kg	97	38 - 176	
Vinyl chloride	50.0					
		41.1	ug/Kg	82	58 - 125 70 - 146	
m-Xylene & p-Xylene	50.0	46.2	ug/Kg	92	70 - 146	

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70 - 140

95

47.5

ug/Kg

50.0

# QC Sample Results

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-266511/5

**Matrix: Solid** 

**Analysis Batch: 266511** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Spike LCS LCS %Rec. **Analyte** Added Result Qualifier Unit %Rec Limits 50.0 49.6 2,2-Dichloropropane ug/Kg 99 70 - 162

LCS LCS Qualifier Surrogate %Recovery I imits 4-Bromofluorobenzene 94 45 - 131 1,2-Dichloroethane-d4 (Surr) 89 60 - 140 Toluene-d8 (Surr) 95 58 - 140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

**Matrix: Solid** 

**Analysis Batch: 266511** 

Lab Sample ID: LCS 720-266511/7

Lab Sample ID: LCSD 720-266511/6

Spike LCS LCS %Rec. Added Result Qualifier Unit D Limits Analyte %Rec Gasoline Range Organics (GRO) 1000 968 ug/Kg 97 70 - 122

-C4-C12

LCS LCS Surrogate %Recovery Qualifier I imite 4-Bromofluorobenzene 93 45 - 131 1,2-Dichloroethane-d4 (Surr) 92 60 - 140 Toluene-d8 (Surr) 94 58 - 140

**Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid Prep Type: Total/NA Analysis Batch: 266511** 

Spike LCSD LCSD %Rec. **RPD** Added RPD Analyte Result Qualifier Unit %Rec Limits Limit D Methyl tert-butyl ether 50.0 49.6 ug/Kg 99 70 - 144 6 20 250 111 Acetone 277 ug/Kg 30 - 16211 30 Benzene 50.0 46.4 ug/Kg 93 70 - 130 20 Dichlorobromomethane 50.0 48.1 96 70 - 140 3 20 ug/Kg Bromobenzene 50.0 45.5 ug/Kg 91 70 - 130 20 Chlorobromomethane 50.0 52.2 ug/Kg 104 70 - 130 3 20 50.0 9 20 **Bromoform** 55.8 ug/Kg 112 59 - 158 Bromomethane 50.0 44.6 89 59 - 1322 20 ug/Kg 2-Butanone (MEK) 250 270 ug/Kg 108 59 - 159 12 20 n-Butylbenzene 50.0 42.9 86 70 - 142 0 20 ug/Kg 50.0 88 20 sec-Butylbenzene 43 9 70 - 136 ug/Kg tert-Butylbenzene 50.0 87 70 - 130 20 43.6 ug/Kg Carbon disulfide 50.0 48.0 96 60 - 140 20 ug/Kg Carbon tetrachloride 50.0 48.9 98 70 - 14220 ug/Kg 50.0 47.5 95 20 Chlorobenzene 70 - 130ug/Kg Chloroethane 50.0 44.4 ug/Kg 89 65 - 13020 Chloroform 50.0 45.8 92 77 - 127 2 20 ug/Kg Chloromethane 50.0 44.3 ug/Kg 89 55 - 140 3 20 2-Chlorotoluene 50.0 42.2 84 70 - 138 20 ug/Kg 4-Chlorotoluene 50.0 43.2 ug/Kg 86 70 - 136 20 Chlorodibromomethane 50.0 54.8 ug/Kg 110 70 - 146 5 20 50.0 93 20 1,2-Dichlorobenzene 46.6 ug/Kg 70 - 130 1,3-Dichlorobenzene 50.0 46.9 ug/Kg 70 - 13120

Client: Cornerstone Earth Group

Job ID: 720-93190-1 Project/Site: Alameda Lagoon Dredging

# Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-266511/6

**Matrix: Solid** 

**Analysis Batch: 266511** 

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Analyte	Spike Added		LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene		46.3	Qualifier	ug/Kg		93	70 <sub>-</sub> 130	2	20
1,3-Dichloropropane	50.0	49.9		ug/Kg		100	70 - 130	5	20
1,1-Dichloropropene	50.0	47.2		ug/Kg ug/Kg		94	70 - 140 70 - 130	1	20
1,2-Dibromo-3-Chloropropane	50.0	57.6		ug/Kg ug/Kg		115	60 <sub>-</sub> 145	14	20
Ethylene Dibromide	50.0	54.3					70 - 140	6	20
Dibromomethane	50.0	49.8		ug/Kg		109 100	70 - 140 70 - 139	5	20
				ug/Kg					
Dichlorodifluoromethane	50.0	47.9		ug/Kg		96	37 - 158 70 - 130	4	20
1,1-Dichloroethane	50.0	45.7		ug/Kg		91		1	
1,2-Dichloroethane	50.0	45.5		ug/Kg		91	70 <sub>-</sub> 130	2	20
1,1-Dichloroethene	50.0	46.9		ug/Kg		94	74 - 122	3	20
cis-1,2-Dichloroethene	50.0	45.6		ug/Kg		91	70 - 138	1	20
trans-1,2-Dichloroethene	50.0	46.7		ug/Kg		93	67 - 130	2	20
1,2-Dichloropropane	50.0	47.0		ug/Kg		94	73 - 127	2	20
cis-1,3-Dichloropropene	50.0	49.4		ug/Kg		99	68 - 147	4	20
trans-1,3-Dichloropropene	50.0	51.6		ug/Kg		103	70 - 155	4	20
Ethylbenzene	50.0	45.2		ug/Kg		90	80 - 137	0	20
Hexachlorobutadiene	50.0	46.1		ug/Kg		92	70 - 132	4	20
2-Hexanone	250	288		ug/Kg		115	62 - 158	13	20
Isopropylbenzene	50.0	47.7		ug/Kg		95	70 - 130	1	20
4-Isopropyltoluene	50.0	45.7		ug/Kg		91	70 - 133	1	20
Methylene Chloride	50.0	48.1		ug/Kg		96	70 - 134	5	20
4-Methyl-2-pentanone (MIBK)	250	277		ug/Kg		111	60 - 160	11	20
Naphthalene	50.0	53.7		ug/Kg		107	60 - 147	12	20
N-Propylbenzene	50.0	42.0		ug/Kg		84	70 - 130	0	20
Styrene	50.0	49.8		ug/Kg		100	70 - 130	1	20
1,1,1,2-Tetrachloroethane	50.0	48.8		ug/Kg		98	70 - 130	2	20
1,1,2,2-Tetrachloroethane	50.0	44.3		ug/Kg		89	70 - 146	7	20
Tetrachloroethene	50.0	52.0		ug/Kg		104	70 - 132	2	20
Toluene	50.0	45.4		ug/Kg		91	75 - 120	0	20
1,2,3-Trichlorobenzene	50.0	50.0		ug/Kg		100	60 - 140	9	20
1,2,4-Trichlorobenzene	50.0	49.5		ug/Kg		99	60 - 140	5	20
1,1,1-Trichloroethane	50.0	46.2		ug/Kg		92	70 - 130	2	20
1,1,2-Trichloroethane	50.0	48.8		ug/Kg		98	70 <sub>-</sub> 130	3	20
Trichloroethene	50.0	49.6		ug/Kg		99	70 <sub>-</sub> 133	2	20
Trichlorofluoromethane	50.0	47.6		ug/Kg		95	60 - 140	2	20
1,2,3-Trichloropropane	50.0	46.4		ug/Kg		93	70 - 146	8	20
1,1,2-Trichloro-1,2,2-trifluoroetha	50.0	51.4		ug/Kg		103	60 - 140	3	20
ne	33.3	• • • • • • • • • • • • • • • • • • • •		~gg				· ·	
1,2,4-Trimethylbenzene	50.0	43.9		ug/Kg		88	70 - 130	0	20
1,3,5-Trimethylbenzene	50.0	43.5		ug/Kg		87	70 - 131	0	20
Vinyl acetate	50.0	51.0		ug/Kg		102	38 - 176	5	20
Vinyl chloride	50.0	41.8		ug/Kg		84	58 - 125	2	20
m-Xylene & p-Xylene	50.0	46.4		ug/Kg		93	70 - 146	0	20
o-Xylene	50.0	47.3		ug/Kg		95	70 - 140	0	20
2,2-Dichloropropane	50.0	49.3		ug/Kg		99	70 - 162	0	20

LCSD LCSD

%Recovery Qualifier Surrogate Limits 4-Bromofluorobenzene 96 45 - 131

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Method: 8260B/CA LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-266511/6

**Matrix: Solid** 

Analysis Batch: 266511

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Job ID: 720-93190-1

LCSD LCSD

Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 60 - 140 98 Toluene-d8 (Surr) 95 58 - 140

Lab Sample ID: LCSD 720-266511/8 **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 266511

-	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)	1000	960		ug/Kg		96	70 - 122	1	20

-C4-C12

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene	91	45 - 131
1,2-Dichloroethane-d4 (Surr)	93	60 - 140
Toluene-d8 (Surr)	95	58 <sub>-</sub> 140

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-266434/1-A

**Matrix: Solid** 

**Analysis Batch: 266556** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

Prep Batch: 266434

7 maryono Batom 200000	МВ	MB								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Phenol	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2-Chlorophenol	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
1,3-Dichlorobenzene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
1,4-Dichlorobenzene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Benzyl alcohol	ND		0.17		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
1,2-Dichlorobenzene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2-Methylphenol	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Methylphenol, 3 & 4	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
N-Nitrosodi-n-propylamine	ND		0.13		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Hexachloroethane	ND		0.13		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Nitrobenzene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Isophorone	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2-Nitrophenol	ND		0.13		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2,4-Dimethylphenol	ND		0.13		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2,4-Dichlorophenol	ND		0.33		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Naphthalene	ND		0.13		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
4-Chloroaniline	ND		0.17		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Hexachlorobutadiene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2-Methylnaphthalene	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		05/28/19 14:49	05/30/19 14:13	1	

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Page 30 of 57

7/10/2019 (Rev. 1)

Client: Cornerstone Earth Group Job ID: 720-93190-1

Project/Site: Alameda Lagoon Dredging

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-266434/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 266556

, , , , , , , , , , , , , , , , , , , ,	МВ	MB						
Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
2-Nitroaniline	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Dimethyl phthalate	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Acenaphthylene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
3-Nitroaniline	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Acenaphthene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
2,4-Dinitrophenol	ND		0.66	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
4-Nitrophenol	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Dibenzofuran	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
2,4-Dinitrotoluene	ND		0.13	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
2,6-Dinitrotoluene	ND		0.13	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Diethyl phthalate	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
4-Chlorophenyl phenyl ether	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Fluorene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
4-Nitroaniline	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
2-Methyl-4,6-dinitrophenol	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
N-Nitrosodiphenylamine	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
4-Bromophenyl phenyl ether	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Hexachlorobenzene	ND		0.13	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Pentachlorophenol	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Phenanthrene	ND		0.13	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Anthracene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Di-n-butyl phthalate	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Fluoranthene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Pyrene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Butyl benzyl phthalate	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
3,3'-Dichlorobenzidine	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Benzo[a]anthracene	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Bis(2-ethylhexyl) phthalate	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Chrysene	ND		0.13	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Di-n-octyl phthalate	ND		0.17	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Benzo[b]fluoranthene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Benzo[a]pyrene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Benzo[k]fluoranthene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Indeno[1,2,3-cd]pyrene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Benzo[g,h,i]perylene	ND		0.13	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Benzoic acid	ND		0.33	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Pyridine	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Azobenzene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1
Dibenz(a,h)anthracene	ND		0.067	mg/Kg		05/28/19 14:49	05/30/19 14:13	1

MB	MB

Surrogate	%Recovery Qualifier	Limits	Prepared Analyzed	Dil Fac
Nitrobenzene-d5	63	21 - 98	05/28/19 14:49 05/30/19 14:1	3 1
2-Fluorobiphenyl	66	30 - 112	05/28/19 14:49 05/30/19 14:1	3 1
Terphenyl-d14	91	59 - 134	05/28/19 14:49 05/30/19 14:1	3 1
2-Fluorophenol	69	28 - 98	05/28/19 14:49 05/30/19 14:1	3 1
Phenol-d5	71	23 - 101	05/28/19 14:49 05/30/19 14:1	3 1

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**Prep Batch: 266434** 

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# **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-266434/1-A

**Matrix: Solid** 

Analysis Batch: 266556

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266434

MB MB

Prepared Analyzed <u>D</u> 05/28/19 14:49 05/30/19 14:13

Dil Fac

Lab Sample ID: LCS 720-266434/2-A

**Matrix: Solid** 

**Analysis Batch: 266556** 

Client	Sample	e ID:	Lab	Con	trol	Samp	le
			<b>Prep</b>	Typ	e: T	otal/N	IA

Prep Batch: 266434

%Rec.

Analyte Added Result Qualifier Unit %Rec Limits Phenol 2.67 1.82 48 - 110 mg/Kg 68 Bis(2-chloroethyl)ether 2.67 1.88 mg/Kg 70 40 - 110 2-Chlorophenol 2.67 1.65 mg/Kg 62 45 - 110 53 1,3-Dichlorobenzene 2.67 1.42 mg/Kg 38 - 110 1,4-Dichlorobenzene 2.67 1.46 mg/Kg 55 40 - 110

LCS LCS

Spike

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1,4-DICHIOTODEHZEHE	2.07	1.40	mg/rxg	55	40 - 110	
Benzyl alcohol	2.67	1.77	mg/Kg	67	47 - 110	
1,2-Dichlorobenzene	2.67	1.49	mg/Kg	56	39 - 110	
2-Methylphenol	2.67	1.76	mg/Kg	66	50 - 110	
Methylphenol, 3 & 4	2.67	1.87	mg/Kg	70	51 - 110	
N-Nitrosodi-n-propylamine	2.67	1.40	mg/Kg	53	46 - 110	
Hexachloroethane	2.67	1.50	mg/Kg	56	40 - 110	
Nitrobenzene	2.67	1.90	mg/Kg	71	45 - 110	
Isophorone	2.67	2.00	mg/Kg	75	49 - 110	
2-Nitrophenol	2.67	1.89	mg/Kg	71	41 - 105	
2,4-Dimethylphenol	2.67	1.89	mg/Kg	71	52 - 100	
Bis(2-chloroethoxy)methane	2.67	1.95	mg/Kg	73	46 - 110	
2,4-Dichlorophenol	2.67	1.88	mg/Kg	70	49 - 100	
1,2,4-Trichlorobenzene	2.67	1.60	mg/Kg	60	43 - 110	
Naphthalene	2.67	1.74	mg/Kg	65	44 - 110	
4-Chloroaniline	2.67	1.40	mg/Kg	52	42 - 110	
Hexachlorobutadiene	2.67	1.53	mg/Kg	57	44 - 110	
4-Chloro-3-methylphenol	2.67	2.13	mg/Kg	80	58 - 104	
2-Methylnaphthalene	2.67	1.78	mg/Kg	67	49 - 110	
Hexachlorocyclopentadiene	2.67	1.24	mg/Kg	47	24 - 106	
2,4,6-Trichlorophenol	2.67	1.88	mg/Kg	70	50 - 105	
2,4,5-Trichlorophenol	2.67	1.92	mg/Kg	72	53 - 106	
2-Chloronaphthalene	2.67	1.76	mg/Kg	66	52 - 110	
2-Nitroaniline	2.67	2.13	mg/Kg	80	51 - 115	
Dimethyl phthalate	2.67	1.93	mg/Kg	72	56 - 103	
Acenaphthylene	2.67	1.80	mg/Kg	67	53 - 102	
3-Nitroaniline	2.67	2.03	mg/Kg	76	50 - 110	
Acenaphthene	2.67	1.89	mg/Kg	71	53 - 103	
2,4-Dinitrophenol	5.33	3.07	mg/Kg	58	10 - 115	
4-Nitrophenol	5.33	4.60	mg/Kg	86	54 - 117	
Dibenzofuran	2.67	1.87	mg/Kg	70	55 <sub>-</sub> 101	
2,4-Dinitrotoluene	2.67	2.07	mg/Kg	78	54 - 115	
2,6-Dinitrotoluene	2.67	2.06	mg/Kg	77	54 - 107	
Diethyl phthalate	2.67	2.06	mg/Kg	77	56 - 107	
4-Chlorophenyl phenyl ether	2.67	1.99	mg/Kg	75	57 <sub>-</sub> 106	
Fluorene	2.67	1.90	mg/Kg	71	54 - 103	

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab	Samp	le ID	): LC	S 72	0-2664	134/2-A

**Matrix: Solid** 

**Analysis Batch: 266556** 

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 266434

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
4-Nitroaniline	2.67	2.14		mg/Kg		80	49 - 115	
2-Methyl-4,6-dinitrophenol	5.33	3.93		mg/Kg		74	31 - 122	
N-Nitrosodiphenylamine	2.67	2.02		mg/Kg		76	56 - 104	
4-Bromophenyl phenyl ether	2.67	1.94		mg/Kg		73	53 - 104	
Hexachlorobenzene	2.67	2.11		mg/Kg		79	55 - 103	
Pentachlorophenol	5.33	3.34		mg/Kg		63	46 - 115	
Phenanthrene	2.67	2.13		mg/Kg		80	57 - 106	
Anthracene	2.67	2.13		mg/Kg		80	55 - 105	
Di-n-butyl phthalate	2.67	2.20		mg/Kg		83	58 - 109	
Fluoranthene	2.67	2.08		mg/Kg		78	56 - 104	
Pyrene	2.67	2.26		mg/Kg		85	52 - 115	
Butyl benzyl phthalate	2.67	2.32		mg/Kg		87	57 <sub>-</sub> 115	
3,3'-Dichlorobenzidine	2.67	1.90		mg/Kg		71	47 - 110	
Benzo[a]anthracene	2.67	2.15		mg/Kg		80	55 - 103	
Bis(2-ethylhexyl) phthalate	2.67	2.28		mg/Kg		85	58 - 115	
Chrysene	2.67	2.11		mg/Kg		79	58 - 103	
Di-n-octyl phthalate	2.67	2.20		mg/Kg		83	58 - 109	
Benzo[b]fluoranthene	2.67	2.13		mg/Kg		80	57 <sub>-</sub> 109	
Benzo[a]pyrene	2.67	2.12		mg/Kg		80	57 - 106	
Benzo[k]fluoranthene	2.67	2.16		mg/Kg		81	55 - 110	

2.67

2.67

2.67

5.33

2.67

2.67

2.19

2.12

1.61

2.68

2.21

2.22

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	63		21 - 98
2-Fluorobiphenyl	64		30 - 112
Terphenyl-d14	92		59 - 134
2-Fluorophenol	61		28 - 98
Phenol-d5	64		23 - 101
2,4,6-Tribromophenol	72		37 - 114

Lab Sample ID: 720-93195-B-1-E MS

**Matrix: Solid** 

Indeno[1,2,3-cd]pyrene

Dibenz(a,h)anthracene

Benzo[g,h,i]perylene

Benzoic acid

Azobenzene

Pyridine

**Analysis Batch: 266556** 

Client Sample ID: Matrix Spike Prep Type: Total/NA Prep Batch: 266434

56 - 108

56 - 115

10 - 128

30 - 110

52 - 103

57 - 106

79

60

50

83

	Sample Sample	Spike	MS	MS				%Rec.	
Analyte	Result Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Phenol	ND ND	2.52	2.22		mg/Kg		88	48 - 110	
Bis(2-chloroethyl)ether	ND	2.52	2.03		mg/Kg		81	40 - 110	
2-Chlorophenol	ND	2.52	1.99		mg/Kg		79	45 - 110	
1,3-Dichlorobenzene	ND	2.52	1.62		mg/Kg		65	38 - 110	
1,4-Dichlorobenzene	ND	2.52	1.70		mg/Kg		67	40 - 110	
Benzyl alcohol	ND	2.52	ND		mg/Kg		80	47 - 110	
1.2-Dichlorobenzene	ND	2.52	1.75		ma/Ka		70	39 - 110	

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Page 33 of 57

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# **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93195-B-1-E MS

Matrix: Solid

Analysis Batch: 266556

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Prep Batch: 266434

Matrix: Solid Analysis Batch: 266556	Sample	•	Spike		MS	11 14	D. 0/ D	Prep Type: Total/N Prep Batch: 26643 %Rec.
Analyte 2-Methylphenol	ND	Qualifier	2.52 Added	2.09	Qualifier	Unit	$-\frac{D}{83}$	Limits 50 - 110
	ND ND					mg/Kg		
Methylphenol, 3 & 4			2.52	2.26		mg/Kg	90	51 - 110
N-Nitrosodi-n-propylamine	ND		2.52	ND		mg/Kg	73	46 - 110
Hexachloroethane	ND		2.52	ND		mg/Kg	74	40 - 110
Nitrobenzene	ND		2.52	2.15		mg/Kg	85	45 - 110
Isophorone	ND		2.52	2.17		mg/Kg	86	49 - 110
2-Nitrophenol	ND		2.52	ND		mg/Kg	73	41 - 105
2,4-Dimethylphenol	ND		2.52	ND		mg/Kg	74	52 - 100
Bis(2-chloroethoxy)methane	ND		2.52	ND		mg/Kg	87	46 - 110
2,4-Dichlorophenol	ND		2.52	ND		mg/Kg	80	49 - 100
1,2,4-Trichlorobenzene	ND		2.52	1.85		mg/Kg	74	43 - 110
Naphthalene	ND		2.52	ND		mg/Kg	88	44 - 110
4-Chloroaniline	ND		2.52	ND		mg/Kg	58	42 - 110
Hexachlorobutadiene	ND		2.52	1.83		mg/Kg	73	44 - 110
4-Chloro-3-methylphenol	ND		2.52	ND		mg/Kg	93	58 - 104
2-Methylnaphthalene	ND		2.52	2.13		mg/Kg	75	49 - 110
Hexachlorocyclopentadiene	ND	F1	2.52	ND	F1	mg/Kg	0	24 - 106
2,4,6-Trichlorophenol	ND		2.52	ND		mg/Kg	81	50 - 105
2,4,5-Trichlorophenol	ND		2.52	2.11		mg/Kg	84	53 - 106
2-Chloronaphthalene	ND		2.52	2.06		mg/Kg	82	52 - 110
2-Nitroaniline	ND		2.52	ND		mg/Kg	78	51 - 115
Dimethyl phthalate	ND		2.52	ND		mg/Kg	81	56 - 103
Acenaphthylene	1.3		2.52	3.41		mg/Kg	86	53 - 102
3-Nitroaniline	ND		2.52	ND		mg/Kg	79	50 - 110
Acenaphthene	ND		2.52	2.22		mg/Kg	88	53 - 103
2,4-Dinitrophenol	ND		5.04	ND		mg/Kg	68	10 - 115
4-Nitrophenol	ND		5.04	ND		mg/Kg	85	54 - 117
Dibenzofuran	ND		2.52	2.12		mg/Kg	84	55 <sub>-</sub> 101
2,4-Dinitrotoluene	ND		2.52	ND		mg/Kg	73	54 - 115
2,6-Dinitrotoluene	ND		2.52	ND		mg/Kg	78	54 - 107
Diethyl phthalate	ND		2.52	ND		mg/Kg	82	56 - 107
4-Chlorophenyl phenyl ether	ND		2.52	ND		mg/Kg	91	57 - 106
Fluorene	ND		2.52	2.39		mg/Kg	78	54 - 103
4-Nitroaniline	ND		2.52	ND.		mg/Kg	83	49 - 115
2-Methyl-4,6-dinitrophenol	ND		5.04	ND		mg/Kg	54	31 - 122
N-Nitrosodiphenylamine	ND		2.52	2.10		mg/Kg	83	56 - 104
4-Bromophenyl phenyl ether	ND		2.52	ND		mg/Kg	78	53 - 104
Hexachlorobenzene	ND ND		2.52	ND ND				55 <sub>-</sub> 103
						mg/Kg	79	
Pentachlorophenol	ND	E4 E0	5.04	ND		mg/Kg	73	46 - 115
Phenanthrene		F1 F2	2.52	5.55		mg/Kg	57	57 <sub>-</sub> 106
Anthracene	ND		2.52	2.80		mg/Kg	77	55 - 105
Di-n-butyl phthalate	ND	E4 E0	2.52	ND		mg/Kg	84	58 - 109
Fluoranthene		F1 F2	2.52	5.69		mg/Kg	59	56 - 104
Pyrene		F1 F2	2.52	7.54		mg/Kg	73	52 - 115
Butyl benzyl phthalate	ND		2.52	ND		mg/Kg	99	57 - 115
3,3'-Dichlorobenzidine	ND		2.52	ND	F1	mg/Kg	28	47 - 110
Benzo[a]anthracene	ND	F1	2.52	ND		mg/Kg	84	55 - 103

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Prep Batch: 266434

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

# Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93195-B-1-E MS **Client Sample ID: Matrix Spike Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 266556

-	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	ND		2.52	ND	-	mg/Kg		111	58 - 115	
Chrysene	2.7	F1	2.52	4.80		mg/Kg		83	58 - 103	
Di-n-octyl phthalate	ND	F1	2.52	ND	F1	mg/Kg		113	58 - 109	
Benzo[b]fluoranthene	3.7		2.52	5.22		mg/Kg		62	57 - 109	
Benzo[a]pyrene	3.4	F1	2.52	5.38		mg/Kg		80	57 <sub>-</sub> 106	
Benzo[k]fluoranthene	ND	F1	2.52	3.63		mg/Kg		96	55 <sub>-</sub> 110	
Indeno[1,2,3-cd]pyrene	1.8	F1	2.52	4.03		mg/Kg		89	56 - 108	
Benzo[g,h,i]perylene	ND		2.52	4.53		mg/Kg		84	56 <sub>-</sub> 115	
Benzoic acid	ND		2.52	ND		mg/Kg		100	10 - 128	
Pyridine	ND		5.04	2.86		mg/Kg		57	30 - 110	
Azobenzene	ND		2.52	2.25		mg/Kg		89	52 - 103	
Dibenz(a,h)anthracene	ND	F1	2.52	2.79	F1	mg/Kg		111	57 <sub>-</sub> 106	

MS MS

Sample Sample

ND

ND

ND

ND

ND

Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	74		21 - 98
2-Fluorobiphenyl	83		30 - 112
Terphenyl-d14	107		59 - 134
2-Fluorophenol	79		28 - 98
Phenol-d5	84		23 - 101
2,4,6-Tribromophenol	74		37 - 114

Lab Sample ID: 720-93195-B-1-F MSD

**Matrix: Solid** 

2,4-Dichlorophenol

Naphthalene

4-Chloroaniline

1,2,4-Trichlorobenzene

Hexachlorobutadiene

**Analysis Batch: 266556** 

Analyte	Result Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Phenol	ND	2.61	2.09		mg/Kg		80	48 - 110	6	35
Bis(2-chloroethyl)ether	ND	2.61	1.96		mg/Kg		75	40 - 110	4	35
2-Chlorophenol	ND	2.61	1.95		mg/Kg		75	45 - 110	2	35
1,3-Dichlorobenzene	ND	2.61	1.57		mg/Kg		60	38 - 110	3	35
1,4-Dichlorobenzene	ND	2.61	1.62		mg/Kg		62	40 - 110	4	35
Benzyl alcohol	ND	2.61	ND		mg/Kg		75	47 - 110	2	35
1,2-Dichlorobenzene	ND	2.61	1.77		mg/Kg		68	39 - 110	1	35
2-Methylphenol	ND	2.61	2.07		mg/Kg		79	50 - 110	1	35
Methylphenol, 3 & 4	ND	2.61	2.25		mg/Kg		86	51 - 110	0	35
N-Nitrosodi-n-propylamine	ND	2.61	ND		mg/Kg		66	46 - 110	6	35
Hexachloroethane	ND	2.61	ND		mg/Kg		68	40 - 110	4	35
Nitrobenzene	ND	2.61	2.01		mg/Kg		77	45 - 110	7	35
Isophorone	ND	2.61	1.93		mg/Kg		74	49 - 110	12	35
2-Nitrophenol	ND	2.61	ND		mg/Kg		66	41 - 105	7	35
2,4-Dimethylphenol	ND	2.61	ND		mg/Kg		73	52 - 100	3	35
Bis(2-chloroethoxy)methane	ND	2.61	ND		mg/Kg		83	46 - 110	1	35

2.61

2.61

2.61

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2.61

Spike

MSD MSD

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49 - 100

43 - 110

44 - 110

42 - 110

44 - 110

74

73

89

53

Client Sample ID: Matrix Spike Duplicate

%Rec.

Prep Type: Total/NA

Prep Batch: 266434

Page 35 of 57

ND

1.90

ND

ND

1.80

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

35

35

35

35

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Project/Site: Alameda Lagoon Dredging

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93195- Matrix: Solid Analysis Batch: 266556	B-1-F MSD	)				Client	Sample ID: N	Matrix Spi Prep Ty Prep Ba	pe: Tot	al/NA
Allalysis Batch. 200550	Sample	Sample	Spike	MSD	MSD			%Rec.	attii. 2	RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D %Rec	Limits	RPD	Limit
4-Chloro-3-methylphenol	ND		2.61	ND		mg/Kg	<del></del>	58 - 104	15	35
2-Methylnaphthalene	ND		2.61	2.22		mg/Kg	75	49 - 110	4	35
Hexachlorocyclopentadiene	ND	F1	2.61	ND	F1	mg/Kg	0	24 - 106	NC	35
2,4,6-Trichlorophenol	ND		2.61	ND		mg/Kg	73	50 - 105	6	35
2,4,5-Trichlorophenol	ND		2.61	1.90		mg/Kg	73	53 - 106	11	35
2-Chloronaphthalene	ND		2.61	2.13		mg/Kg	81	52 - 110	3	35
2-Nitroaniline	ND		2.61	ND		mg/Kg	60	51 - 115	23	35
Dimethyl phthalate	ND		2.61	ND		mg/Kg	77	56 - 103	1	35
Acenaphthylene	1.3		2.61	3.82		mg/Kg	98	53 - 102	11	35
3-Nitroaniline	ND		2.61	ND		mg/Kg	67	50 - 110	12	35
Acenaphthene	ND		2.61	2.30		mg/Kg	88	53 - 103	4	35
2,4-Dinitrophenol	ND		5.22	ND		mg/Kg	62	10 - 115	6	35
4-Nitrophenol	ND		5.22	ND		mg/Kg	76	54 - 117	8	35
Dibenzofuran	ND		2.61	2.15		mg/Kg	82	55 - 101	1	35
2,4-Dinitrotoluene	ND		2.61	ND		mg/Kg	64	54 - 115	9	35
2,6-Dinitrotoluene	ND		2.61	ND		mg/Kg	65	54 - 107	15	35
Diethyl phthalate	ND		2.61	ND		mg/Kg	79	56 - 107	1	35
4-Chlorophenyl phenyl ether	ND		2.61	ND		mg/Kg	85	57 <sub>-</sub> 106	3	35
Fluorene	ND		2.61	2.82		mg/Kg	91	54 - 103	16	35
4-Nitroaniline	ND		2.61	ND		mg/Kg	67	49 - 115	17	35
2-Methyl-4,6-dinitrophenol	ND		5.22	ND		mg/Kg	44	31 - 122	18	35
N-Nitrosodiphenylamine	ND		2.61	2.04		mg/Kg	78	56 - 104	3	35
4-Bromophenyl phenyl ether	ND		2.61	ND		mg/Kg	75	53 - 104	0	35
Hexachlorobenzene	ND		2.61	ND		mg/Kg	75	55 - 103	2	35
Pentachlorophenol	ND		5.22	ND		mg/Kg	68	46 - 115	4	35
Phenanthrene	4.1	F1 F2	2.61	10.1	F1 F2	mg/Kg	230	57 - 106	58	35
Anthracene	ND		2.61	3.29		mg/Kg	93	55 - 105	16	35
Di-n-butyl phthalate	ND		2.61	ND		mg/Kg	80	58 - 109	2	35
Fluoranthene	4.2	F1 F2	2.61	8.89	F1 F2	mg/Kg	180	56 - 104	44	35
Pyrene	5.7	F1 F2	2.61	10.9	F1 F2	mg/Kg	199	52 - 115	36	35
Butyl benzyl phthalate	ND		2.61	ND		mg/Kg	84	57 - 115	13	35
3,3'-Dichlorobenzidine	ND	F1	2.61	ND	F1	mg/Kg	31	47 - 110	14	35
Benzo[a]anthracene	ND	F1	2.61	ND	F1	mg/Kg	127	55 - 103	23	35
Bis(2-ethylhexyl) phthalate	ND		2.61	ND		mg/Kg	87	58 - 115	20	35
Chrysene	2.7	F1	2.61	5.75	F1	mg/Kg	116	58 <sub>-</sub> 103	18	35
Di-n-octyl phthalate	ND	F1	2.61	ND		mg/Kg	96	58 - 109	13	35
Benzo[b]fluoranthene	3.7		2.61	6.50		mg/Kg	109	57 - 109	22	35
Benzo[a]pyrene	3.4	F1	2.61	6.46	F1	mg/Kg	119	57 <sub>-</sub> 106	18	35
Benzo[k]fluoranthene	ND		2.61	4.14		mg/Kg	112	55 - 110	13	35
Indeno[1,2,3-cd]pyrene	1.8	F1	2.61	4.68		mg/Kg	111	56 - 108	15	35
Benzo[g,h,i]perylene	ND		2.61	5.40		mg/Kg	115	56 - 115	18	35
Benzoic acid	ND		2.61	ND		mg/Kg	95	10 - 128	2	35
Pyridine	ND		5.22	2.46		mg/Kg	47	30 - 110	15	35
•										

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52 - 103

57 - 106

84

113

2.20

2.94 F1

mg/Kg

mg/Kg

2.61

2.61

ND

ND F1

Azobenzene

Dibenz(a,h)anthracene

2

35

Client: Cornerstone Earth Group Job ID: 720-93190-1

Project/Site: Alameda Lagoon Dredging

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: 720-93195-B-1-F MSD	Client Sample ID: Matrix Spike Duplicate
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 266556	Prep Batch: 266434

MSD MSD %Recovery Qualifier Surrogate Limits Nitrobenzene-d5 67 21 - 98 2-Fluorobiphenyl 81 30 - 112 99 59 - 134

Terphenyl-d14 2-Fluorophenol 71 28 - 98 Phenol-d5 77 23 - 101 2,4,6-Tribromophenol 72 37 - 114

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-266339/1-A **Matrix: Solid** 

**Analysis Batch: 266530** 

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac ND 2.0 05/24/19 15:44 05/30/19 13:15 Diesel Range Organics [C10-C28] mg/Kg Motor Oil Range Organics [C24-C36] ND 50 mg/Kg 05/24/19 15:44 05/30/19 13:15

Spike

Added

167

Spike

LCS LCS

MS MS

499

Result Qualifier

154

Result Qualifier

Unit

Unit

mg/Kg

mg/Kg

MB MB Surrogate %Recovery Qualifier

Limits p-Terphenyl 98 40 - 130

Lab Sample ID: LCS 720-266339/2-A **Matrix: Solid** 

Analysis Batch: 266530

**Analyte** 

**Diesel Range Organics** [C10-C28] LCS LCS

Surrogate %Recovery Qualifier Limits p-Terphenyl 40 - 130 120

Lab Sample ID: 720-93196-A-5-B MS

Matrix: Solid

**Analysis Batch: 266532** 

Analyte Result Qualifier Added 110 312 **Diesel Range Organics** [C10-C28]

Sample Sample

MS MS Surrogate %Recovery Qualifier Limits p-Terphenyl 113 40 - 130

Dil Fac

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: 266339

%Rec.

Limits

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266339

Analyzed

05/24/19 15:44 05/30/19 13:15

Prepared

%Rec

D %Rec

123

92

50 - 150

Client Sample ID: Matrix Spike Prep Type: Total/NA

**Prep Batch: 266339** 

%Rec. Limits

50 - 150

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93196-A-5-C MSD

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Sample Sample

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

**Prep Batch: 266339 RPD** %Rec. Limits

Result Qualifier Added RPD Limit Analyte Result Qualifier Unit %Rec 77 313 132 50 - 150 30 110 528 mg/Kg 6 **Diesel Range Organics** 

MSD MSD

[C10-C28]

**Matrix: Solid** 

**Analysis Batch: 266532** 

MSD MSD

Qualifier Surrogate %Recovery Limits p-Terphenyl 119 40 - 130

Spike

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 720-266319/1-A

**Matrix: Solid** 

**Analysis Batch: 266524** 

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 266319** 

MB MB Qualifier MDL Unit Prepared **Analyte** Result RL Analyzed Dil Fac Aldrin  $\overline{\mathsf{ND}}$ 2.0 05/24/19 10:22 05/30/19 10:18 ug/Kg Dieldrin ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 Endrin aldehvde ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 Endrin ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 Endrin ketone ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 ND 2.0 05/24/19 10:22 05/30/19 10:18 Heptachlor ug/Kg Heptachlor epoxide ND 20 ug/Kg 05/24/19 10:22 05/30/19 10:18 4,4'-DDT ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 4,4'-DDE ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 4.4'-DDD ND 2.0 05/24/19 10:22 05/30/19 10:18 ug/Kg Endosulfan I ND 2.0 05/24/19 10:22 05/30/19 10:18 ug/Kg Endosulfan II ND 2.0 05/24/19 10:22 05/30/19 10:18 ug/Kg alpha-BHC ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 ND 2.0 05/24/19 10:22 05/30/19 10:18 beta-BHC ug/Kg gamma-BHC (Lindane) ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 delta-BHC ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 Endosulfan sulfate ND 20 ug/Kg 05/24/19 10:22 05/30/19 10:18 Methoxychlor ND 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 ND 40 Toxaphene ug/Kg 05/24/19 10:22 05/30/19 10:18 40 Chlordane (technical) ND ug/Kg 05/24/19 10:22 05/30/19 10:18 ND cis-Chlordane 2.0 ug/Kg 05/24/19 10:22 05/30/19 10:18 trans-Chlordane ND 2.0 05/24/19 10:22 05/30/19 10:18 ug/Kg

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 80 21 - 145 05/24/19 10:22 05/30/19 10:18 Tetrachloro-m-xylene 105 21 - 136 05/24/19 10:22 05/30/19 10:18 DCB Decachlorobiphenyl

Lab Sample ID: LCS 720-266319/2-A

**Matrix: Solid** 

**Analysis Batch: 266524** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA **Prep Batch: 266319** 

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Aldrin 16.7 14.4 86 65 - 120 ug/Kg ug/Kg Dieldrin 167 16.4 98 72 - 120Endrin aldehyde 16.7 17.1 ug/Kg 103 68 - 120

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

## Method: 8081A - Organochlorine Pesticides (GC) (Continued)

_ab Sample	ID: LCS	720-266319/2-A
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**Matrix: Solid** 

**Analysis Batch: 266524** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA **Prep Batch: 266319** 

Spike LCS LCS %Rec. Added Result Qualifier Analyte Unit %Rec Limits Endrin 16.7 16.3 98 68 - 120 ug/Kg Endrin ketone 16.7 16.9 75 - 136 ug/Kg 101 Heptachlor 16.7 15.0 ug/Kg 90 69 - 120 96 Heptachlor epoxide 16.7 16.0 ug/Kg 68 - 120 4,4'-DDT 63 - 127 16.7 15.6 ug/Kg 94 4,4'-DDE 97 16.7 16.2 ug/Kg 76 - 126 4,4'-DDD 16.7 101 75 - 128 16.8 ug/Kg Endosulfan I 16.7 15.8 ug/Kg 95 62 - 120Endosulfan II 16.7 16.8 ug/Kg 101 65 - 120alpha-BHC 16.7 14.1 84 46 - 122 ug/Kg beta-BHC 16.7 15.7 ug/Kg 94 78 - 136 gamma-BHC (Lindane) 16.7 87 72 - 120 14.4 ug/Kg delta-BHC 16.7 13.8 ug/Kg 83 43 - 125 97 Endosulfan sulfate 16.7 16.2 ug/Kg 72 - 121 Methoxychlor 16.7 17.2 ug/Kg 103 71 - 132 cis-Chlordane 16.7 15.3 ug/Kg 92 70 - 120 trans-Chlordane 91 16.7 15.2 ug/Kg 68 - 120

LCS LCS Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 81 21 - 145 DCB Decachlorobiphenyl 99 21 - 136

ND

ND

ND

ND

ND

ND

ND

ND

Lab Sample ID: 720-93176-A-1-B MS

**Matrix: Solid** 

alpha-BHC

beta-BHC

delta-BHC

Methoxychlor

cis-Chlordane

trans-Chlordane

gamma-BHC (Lindane)

Endosulfan sulfate

Analysis Batch: 266524	Sample	Sample	Spike	MS	MS				Prep Batch: 266319 %Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Aldrin	ND		15.6	16.0		ug/Kg		103	53 - 120
Dieldrin	ND		15.6	16.9		ug/Kg		108	46 - 130
Endrin aldehyde	ND		15.6	13.2		ug/Kg		85	40 - 120
Endrin	ND		15.6	16.8		ug/Kg		108	32 - 143
Endrin ketone	ND		15.6	13.8		ug/Kg		88	40 - 120
Heptachlor	ND		15.6	16.7		ug/Kg		107	52 - 120
Heptachlor epoxide	ND		15.6	17.3		ug/Kg		111	40 - 120
4,4'-DDT	ND		15.6	14.9		ug/Kg		85	17 - 144
4,4'-DDE	2.8		15.6	18.8		ug/Kg		102	40 - 120
4,4'-DDD	ND	F1	15.6	15.7		ug/Kg		101	40 - 120
Endosulfan I	ND		15.6	16.6		ug/Kg		106	40 - 120
Endosulfan II	ND		15.6	15.5		ug/Kg		99	40 - 120

15.6

15.6

15.6

15.6

15.6

15.6

15.6

15.6

15.5

16.9

16.7

15.2

14.9

15.3

16.8

16.7

ug/Kg

ug/Kg

ug/Kg

ug/Kg

ug/Kg

ug/Kg

ug/Kg

ug/Kg

40 - 120

40 - 120

58 - 120

40 - 120

40 - 120

40 - 120

40 - 120 40 - 120

99

108

107

97

95

98

103

102

Page 39 of 57

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Client: Cornerstone Earth Group Job ID: 720-93190-1

Project/Site: Alameda Lagoon Dredging

# Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 720-93176-A-1-B MS

**Matrix: Solid** 

Analysis Batch: 266524

Client Sample ID: Matrix Spike

Prep Type: Total/NA **Prep Batch: 266319** 

MS MS Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 97 21 - 145 DCB Decachlorobiphenyl 71 21 - 136

Lab Sample ID: 720-93176-A-1-C MSD

**Matrix: Solid** 

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analysis Batch: 266524									Prep Ba	tch: 26	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aldrin	ND		15.9	14.2		ug/Kg		89	53 - 120	12	20
Dieldrin	ND		15.9	17.4		ug/Kg		109	46 - 130	3	20
Endrin aldehyde	ND		15.9	13.9		ug/Kg		87	40 - 120	5	20
Endrin	ND		15.9	17.9		ug/Kg		113	32 - 143	6	20
Endrin ketone	ND		15.9	15.7		ug/Kg		99	40 - 120	13	20
Heptachlor	ND		15.9	16.8		ug/Kg		106	52 - 120	1	20
Heptachlor epoxide	ND		15.9	18.3		ug/Kg		115	40 - 120	6	20
4,4'-DDT	ND		15.9	13.8		ug/Kg		77	17 - 144	7	20
4,4'-DDE	2.8		15.9	20.1		ug/Kg		109	40 - 120	7	20
4,4'-DDD	ND	F1	15.9	19.3	F1	ug/Kg		121	40 - 120	20	20
Endosulfan I	ND		15.9	17.9		ug/Kg		113	40 - 120	8	20
Endosulfan II	ND		15.9	16.9		ug/Kg		106	40 - 120	9	30
alpha-BHC	ND		15.9	16.3		ug/Kg		102	40 - 120	5	20
beta-BHC	ND	F1	15.9	19.3	F1	ug/Kg		121	40 - 120	13	20
gamma-BHC (Lindane)	ND		15.9	18.1		ug/Kg		114	58 - 120	8	20
delta-BHC	ND		15.9	16.6		ug/Kg		104	40 - 120	9	20
Endosulfan sulfate	ND		15.9	15.7		ug/Kg		99	40 - 120	6	20
Methoxychlor	ND		15.9	13.2		ug/Kg		83	40 - 120	15	20
cis-Chlordane	ND		15.9	17.4		ug/Kg		105	40 - 120	4	20
trans-Chlordane	ND		15.9	17.5		ug/Kg		105	40 - 120	5	20

MSD MSD

Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 102 21 - 145 DCB Decachlorobiphenyl 83 21 - 136

#### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-266320/1-A

**Matrix: Solid** 

**Analysis Batch: 266474** 

**Client Sample ID: Method Blank** Prep Type: Total/NA

**Prep Batch: 266320** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1
PCB-1221	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1
PCB-1232	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1
PCB-1242	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1
PCB-1248	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1
PCB-1254	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1
PCB-1260	ND		50		ug/Kg		05/24/19 10:24	05/29/19 13:07	1

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Page 40 of 57

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

# Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 720-266320/1-A

**Matrix: Solid** 

**Analysis Batch: 266474** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

**Prep Batch: 266320** 

MR MR

Surrogate	%Recovery	Qualifier	Limits	Prepared Analyzed	Dil Fac
Tetrachloro-m-xylene	87		45 - 132	05/24/19 10:24 05/29/19 13:07	1
DCB Decachlorobiphenyl	101		42 - 146	05/24/19 10:24 05/29/19 13:07	1

Lab Sample ID: LCS 720-266320/2-A

**Matrix: Solid** 

Analysis Batch: 266474

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

**Prep Batch: 266320** %Rec.

Spike LCS LCS Analyte Added Result Qualifier Unit Limits D %Rec PCB-1016 133 119 89 65 - 121 ug/Kg PCB-1260 133 143 ug/Kg 107 68 - 127

LCS LCS

Surrogate	%Recovery Qualifier	Limits
Tetrachloro-m-xylene	86	45 - 132
DCB Decachlorobiphenyl	104	42 - 146

Lab Sample ID: 720-93176-A-2-C MS

**Matrix: Solid** 

**Analysis Batch: 266474** 

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA **Prep Batch: 266320** 

%Rec.

Sample Sample Spike MS MS Result Qualifier Added Result Qualifier Unit D %Rec Limits Analyte PCB-1016 131 116 89 69 - 120 ND ug/Kg PCB-1260 ND 131 135 103 ug/Kg 73 - 114

MS MS

Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	86		45 - 132
DCB Decachlorobiphenyl	97		42 - 146

Lab Sample ID: 720-93176-A-2-D MSD

**Matrix: Solid** 

**Analysis Batch: 266474** 

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

**Prep Batch: 266320** 

**RPD** %Rec.

MSD MSD Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit PCB-1016 ND 132 110 ug/Kg 83 69 - 120 20 5 PCB-1260 ND 132 121 ug/Kg 92 73 - 114 20

MSD MSD

MB MB

Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	84		45 - 132
DCB Decachlorobiphenyl	87		42 - 146

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-266550/1-A

**Matrix: Solid** 

**Analysis Batch: 266621** 

Client Sample ID: Method Blank Prep Type: Total/NA

**Prep Batch: 266550** 

Analyzed Dil Fac **Analyte** Result Qualifier RL MDL Unit Prepared Antimony  $\overline{\mathsf{ND}}$ 2.0 mg/Kg 05/30/19 09:44 05/30/19 17:58 Arsenic ND 4.0 mg/Kg 05/30/19 09:44 05/30/19 17:58

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 720-266550/1-A

**Matrix: Solid** 

**Analysis Batch: 266621** 

Client Sample ID: Method Blank **Prep Type: Total/NA** 

**Prep Batch: 266550** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Beryllium	ND		0.40		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Cadmium	ND		0.50		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Chromium	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Cobalt	ND		0.80		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Copper	ND		6.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Lead	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Molybdenum	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Nickel	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Selenium	ND		4.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Silver	ND		1.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Thallium	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Vanadium	ND		2.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4
Zinc	ND		6.0		mg/Kg		05/30/19 09:44	05/30/19 17:58	4

Lab Sample ID: LCS 720-266550/2-A

**Matrix: Solid** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Analysis Batch: 266621	Spike	LCS	LCS				Prep Batch: 266550 %Rec.
Analyte	Added		Qualifier	Unit	D	%Rec	Limits
Antimony	50.0	48.1		mg/Kg		96	80 - 120
Arsenic	50.0	46.2		mg/Kg		92	80 - 120
Barium	50.0	48.4		mg/Kg		97	80 - 120
Beryllium	50.0	46.5		mg/Kg		93	80 - 120
Cadmium	50.0	47.0		mg/Kg		94	80 - 120
Chromium	50.0	47.9		mg/Kg		96	80 - 120
Cobalt	50.0	47.7		mg/Kg		95	80 - 120
Copper	50.0	48.8		mg/Kg		98	80 - 120
Lead	50.0	50.1		mg/Kg		100	80 - 120
Molybdenum	50.0	47.6		mg/Kg		95	80 - 120
Nickel	50.0	48.0		mg/Kg		96	80 - 120
Selenium	50.0	45.7		mg/Kg		91	80 - 120
Silver	25.0	22.8		mg/Kg		91	80 - 120
Thallium	50.0	48.5		mg/Kg		97	80 - 120
Vanadium	50.0	47.6		mg/Kg		95	80 - 120
Zinc	50.0	47.4		mg/Kg		95	80 - 120

Lab Sample ID: 720-93162-D-1-E MS

**Matrix: Solid** 

Analysis Batch: 266621

Client Sample ID: Matrix Spike Prep Type: Total/NA **Prep Batch: 266550** 

Analysis Buton: 200021	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Antimony	ND	F1	37.0	11.9	F1	mg/Kg		32	75 - 125
Arsenic	3.5		37.0	43.3		mg/Kg		108	75 - 125
Barium	330		37.0	177	4	mg/Kg		-427	75 - 125
Beryllium	0.47	F1	37.0	47.2	F1	mg/Kg		126	75 - 125
Cadmium	ND		37.0	40.7		mg/Kg		109	75 - 125
Chromium	43	F1 F2	37.0	89.1		mg/Kg		125	75 - 125
Cobalt	8.9		37.0	48.6		mg/Kg		107	75 <sub>-</sub> 125

37.0

18.5

37.0

37.0

37.0

40.1

21.9

38.4

88.9

105

21.0

37.9

110

96.5 F1

Job ID: 720-93190-1

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Method: 6010B - Metals (ICP) (Continued)

ND

ND

ND

44 F1

66

ND

ND

44

66

MB MB

Lab Sample ID: 720-93162-D-1-E MS

**Matrix: Solid** 

**Analyte** 

Copper

Molybdenum

Lead

Nickel

Silver

Zinc

Selenium

Thallium

Vanadium

**Analysis Batch: 266621** 

**Client Sample ID: Matrix Spike** 

75 - 125

75 - 125

Prep Type: Total/NA **Prep Batch: 266550** 

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits 18 F1 63.3 37.0 mg/Kg 122 75 - 125 3.7 37.0 44.0 109 75 - 125mg/Kg ND 37.0 38.2 mg/Kg 103 75 - 125 45 F1 85.9 37.0 mg/Kg 110 75 - 125

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

104 75 - 125 mg/Kg 123 mg/Kg 75 - 125 mg/Kg 106 75 - 125

106

118

116

105

146

122

Lab Sample ID: 720-93162-D-1-F MSD

**Matrix: Solid** 

**Analysis Batch: 266621** 

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 266550** 

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit %Rec Antimony ND F1 36.2 13.1 F1 36 75 - 125 10 20 mg/Kg 3.5 36.2 75 - 125 20 Arsenic 43.5 mg/Kg 110 0 330 36.2 195 4 -387 75 - 125 20 Barium mq/Kq 10 Beryllium 0.47 F1 36.2 45.5 124 75 - 125 4 20 mg/Kg Cadmium ND 36.2 39.9 mg/Kg 110 75 - 125 2 20 Chromium 43 F1 F2 36.2 111 F1 F2 mg/Kg 187 75 - 125 21 20 Cobalt 8.9 36.2 49.9 mg/Kg 113 75 - 125 3 20 18 F1 36.2 63.9 F1 126 75 - 125 20 Copper mg/Kg 1 Lead 3.7 36.2 44.2 mg/Kg 112 75 - 125 20 Molybdenum ND 36.2 37.9 105 75 - 125 20 mg/Kg 36.2 75 - 125 Nickel 45 F1 96.4 F1 mg/Kg 141 12 20 Selenium ND 36.2 39.3 mg/Kg 106 75 - 125 2 20

18.1

36.2

36.2

36.2

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-266676/1-A

**Matrix: Solid** 

Silver

Zinc

Thallium

Vanadium

**Analysis Batch: 266774** 

**Client Sample ID: Method Blank** 

75 - 125

75 - 125

75 - 125

75 - 125

Prep Type: Total/NA **Prep Batch: 266676** 

8

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac  $\overline{\mathsf{ND}}$ 0.017 05/31/19 17:26 06/03/19 14:52 Mercury mg/Kg

Lab Sample ID: LCS 720-266676/2-A

**Matrix: Solid** 

**Analysis Batch: 266774** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA **Prep Batch: 266676** Spike LCS LCS %Rec Added Result Qualifier Unit %Rec Limits

Analyte Mercury

0.765

mg/Kg

92 80 - 120

Eurofins TestAmerica, Pleasanton

0.833

20

20

20

# **QC Sample Results**

Client: Cornerstone Earth Group Job ID: 720-93190-1

Project/Site: Alameda Lagoon Dredging

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 720-93195- Matrix: Solid Analysis Batch: 266774		Sample	Spike	MS	MS		CI	lient Sa	Prep Type	atrix Spike e: Total/NA ch: 266676
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Mercury	0.40		0.833	1.18		mg/Kg		94	75 - 125	

Lab Sample ID: 720-93195- Matrix: Solid Analysis Batch: 266774	A-1-B MSD	)				Client S	Samp	le ID: N	latrix Spil Prep Ty Prep Ba	pe: Tot	al/NA
Alialysis Datcii. 200774	Sample	Sample	Spike	MSD	MSD				%Rec.	ittii. 20	RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.40	-	0.833	1.25		ma/Ka		102	75 - 125	6	20

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Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

## **GC/MS VOA**

## **Prep Batch: 266341**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-3	L5-1C	Total/NA	Solid	5035	
720-93190-8	L3-1C	Total/NA	Solid	5035	
720-93190-11	L3-3A	Total/NA	Solid	5035	

## **Analysis Batch: 266511**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-3	L5-1C	Total/NA	Solid	8260B/CA_LUFT MS	266341
720-93190-8	L3-1C	Total/NA	Solid	8260B/CA_LUFT MS	266341
720-93190-11	L3-3A	Total/NA	Solid	8260B/CA_LUFT MS	266341
MB 720-266511/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-266511/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-266511/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-266511/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-266511/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

## **GC/MS Semi VOA**

## **Prep Batch: 266434**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	3546	_
720-93190-10	L3-1 COMP	Total/NA	Solid	3546	
720-93190-15	L3-3 COMP	Total/NA	Solid	3546	
MB 720-266434/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-266434/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-93195-B-1-E MS	Matrix Spike	Total/NA	Solid	3546	
720-93195-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

## **Analysis Batch: 266556**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	8270C	266434
MB 720-266434/1-A	Method Blank	Total/NA	Solid	8270C	266434
LCS 720-266434/2-A	Lab Control Sample	Total/NA	Solid	8270C	266434
720-93195-B-1-E MS	Matrix Spike	Total/NA	Solid	8270C	266434
720-93195-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8270C	266434

#### **Analysis Batch: 266660**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-10	L3-1 COMP	Total/NA	Solid	8270C	266434
720-93190-15	L3-3 COMP	Total/NA	Solid	8270C	266434

## **GC Semi VOA**

#### **Prep Batch: 266319**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	3546	<u> </u>
720-93190-10	L3-1 COMP	Total/NA	Solid	3546	

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

# **GC Semi VOA (Continued)**

## Prep Batch: 266319 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-15	L3-3 COMP	Total/NA	Solid	3546	
MB 720-266319/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-266319/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-93176-A-1-B MS	Matrix Spike	Total/NA	Solid	3546	
720-93176-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

#### **Prep Batch: 266320**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	3546	
720-93190-10	L3-1 COMP	Total/NA	Solid	3546	
720-93190-15	L3-3 COMP	Total/NA	Solid	3546	
MB 720-266320/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-266320/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-93176-A-2-C MS	Matrix Spike	Total/NA	Solid	3546	
720-93176-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

## Prep Batch: 266339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	3546	
720-93190-10	L3-1 COMP	Total/NA	Solid	3546	
720-93190-15	L3-3 COMP	Total/NA	Solid	3546	
MB 720-266339/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-266339/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-93196-A-5-B MS	Matrix Spike	Total/NA	Solid	3546	
720-93196-A-5-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

## **Analysis Batch: 266474**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	8082	266320
720-93190-10	L3-1 COMP	Total/NA	Solid	8082	266320
720-93190-15	L3-3 COMP	Total/NA	Solid	8082	266320
MB 720-266320/1-A	Method Blank	Total/NA	Solid	8082	266320
LCS 720-266320/2-A	Lab Control Sample	Total/NA	Solid	8082	266320
720-93176-A-2-C MS	Matrix Spike	Total/NA	Solid	8082	266320
720-93176-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	266320

## Analysis Batch: 266524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	8081A	266319
720-93190-10	L3-1 COMP	Total/NA	Solid	8081A	266319
720-93190-15	L3-3 COMP	Total/NA	Solid	8081A	266319
MB 720-266319/1-A	Method Blank	Total/NA	Solid	8081A	266319
LCS 720-266319/2-A	Lab Control Sample	Total/NA	Solid	8081A	266319
720-93176-A-1-B MS	Matrix Spike	Total/NA	Solid	8081A	266319
720-93176-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8081A	266319

## **Analysis Batch: 266530**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	8015B	266339
720-93190-10	L3-1 COMP	Total/NA	Solid	8015B	266339
720-93190-15	L3-3 COMP	Total/NA	Solid	8015B	266339

Eurofins TestAmerica, Pleasanton

Page 46 of 57

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# **QC Association Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-1

## **GC Semi VOA (Continued)**

## **Analysis Batch: 266530 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-266339/1-A	Method Blank	Total/NA	Solid	8015B	266339
LCS 720-266339/2-A	Lab Control Sample	Total/NA	Solid	8015B	266339

#### **Analysis Batch: 266532**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93196-A-5-B MS	Matrix Spike	Total/NA	Solid	8015B	266339
720-93196-A-5-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	266339

#### **Metals**

#### **Prep Batch: 266550**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	3050B	
720-93190-10	L3-1 COMP	Total/NA	Solid	3050B	
720-93190-15	L3-3 COMP	Total/NA	Solid	3050B	
MB 720-266550/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-266550/2-A	Lab Control Sample	Total/NA	Solid	3050B	
720-93162-D-1-E MS	Matrix Spike	Total/NA	Solid	3050B	
720-93162-D-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

## Analysis Batch: 266621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	6010B	266550
720-93190-10	L3-1 COMP	Total/NA	Solid	6010B	266550
720-93190-15	L3-3 COMP	Total/NA	Solid	6010B	266550
MB 720-266550/1-A	Method Blank	Total/NA	Solid	6010B	266550
LCS 720-266550/2-A	Lab Control Sample	Total/NA	Solid	6010B	266550
720-93162-D-1-E MS	Matrix Spike	Total/NA	Solid	6010B	266550
720-93162-D-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	266550

#### **Prep Batch: 266676**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	7471A	_
720-93190-10	L3-1 COMP	Total/NA	Solid	7471A	
720-93190-15	L3-3 COMP	Total/NA	Solid	7471A	
MB 720-266676/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-266676/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-93195-A-1-A MS	Matrix Spike	Total/NA	Solid	7471A	
720-93195-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

#### **Analysis Batch: 266774**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	Total/NA	Solid	7471A	266676
720-93190-10	L3-1 COMP	Total/NA	Solid	7471A	266676
720-93190-15	L3-3 COMP	Total/NA	Solid	7471A	266676
MB 720-266676/1-A	Method Blank	Total/NA	Solid	7471A	266676
LCS 720-266676/2-A	Lab Control Sample	Total/NA	Solid	7471A	266676
720-93195-A-1-A MS	Matrix Spike	Total/NA	Solid	7471A	266676
720-93195-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	266676

Page 47 of 57

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Client Sample ID: L5-1C

Date Collected: 05/23/19 14:05 Date Received: 05/24/19 11:49 Lab Sample ID: 720-93190-3

Matrix: Solid

Percent Solids: 35.2

ı		Batch	Batch		Dilution	Batch	Prepared		
	Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
	Total/NA	Prep	5035			266341	05/24/19 16:25	DAID	TAL PLS
	Total/NA	Analysis	8260B/CA_LUFTMS		1	266511	05/29/19 21:49	AJS	TAL PLS

Client Sample ID: L5-1 COMP

Date Collected: 05/23/19 14:15 Date Received: 05/24/19 11:49 Lab Sample ID: 720-93190-5

Matrix: Solid Percent Solids: 37.4

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			266434	05/28/19 14:49	BMT	TAL PLS
Total/NA	Analysis	8270C		2	266556	05/30/19 21:15	MQL	TAL PLS
Total/NA	Prep	3546			266339	05/24/19 15:44	BMT	TAL PLS
Total/NA	Analysis	8015B		5	266530	05/31/19 01:01	DCH	TAL PLS
Total/NA	Prep	3546			266319	05/24/19 15:28	BMT	TAL PLS
Total/NA	Analysis	8081A		5	266524	05/30/19 13:21	MQL	TAL PLS
Total/NA	Prep	3546			266320	05/24/19 15:28	BMT	TAL PLS
Total/NA	Analysis	8082		1	266474	05/29/19 15:06	DCH	TAL PLS
Total/NA	Prep	3050B			266550	05/30/19 09:44	MAA	TAL PLS
Total/NA	Analysis	6010B		4	266621	05/30/19 20:02	BKR	TAL PLS
Total/NA	Prep	7471A			266676	05/31/19 17:26	MAG	TAL PLS
Total/NA	Analysis	7471A		1	266774	06/03/19 15:08	MAG	TAL PLS

Client Sample ID: L3-1C

Date Collected: 05/23/19 13:10 Date Received: 05/24/19 11:49 **Lab Sample ID: 720-93190-8** 

Matrix: Solid

Percent Solids: 63.7

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			266341	05/24/19 16:25	DAID	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	266511	05/29/19 22:19	AJS	TAL PLS

Client Sample ID: L3-1 COMP

Date Collected: 05/23/19 13:20 Date Received: 05/24/19 11:49 **Lab Sample ID: 720-93190-10** 

Matrix: Solid

Percent Solids: 67.5

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			266434	05/28/19 14:49	BMT	TAL PLS
Total/NA	Analysis	8270C		5	266660	06/01/19 00:14	LPL	TAL PLS
Total/NA	Prep	3546			266339	05/24/19 15:44	BMT	TAL PLS
Total/NA	Analysis	8015B		5	266530	05/31/19 01:30	DCH	TAL PLS
Total/NA	Prep	3546			266319	05/24/19 15:28	BMT	TAL PLS
Total/NA	Analysis	8081A		1	266524	05/30/19 13:38	MQL	TAL PLS
Total/NA	Prep	3546			266320	05/24/19 15:28	BMT	TAL PLS
Total/NA	Analysis	8082		1	266474	05/29/19 15:23	DCH	TAL PLS
Total/NA	Prep	3050B			266550	05/30/19 09:44	MAA	TAL PLS
Total/NA	Analysis	6010B		4	266621	05/30/19 20:07	BKR	TAL PLS

## **Lab Chronicle**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-10

**Matrix: Solid** 

Percent Solids: 67.5

Job ID: 720-93190-1

Client Sample ID: L3-1 COMP Date Collected: 05/23/19 13:20

Date Received: 05/24/19 11:49

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			266676	05/31/19 17:26	MAG	TAL PLS
Total/NA	Analysis	7471A		1	266774	06/03/19 15:11	MAG	TAL PLS

Client Sample ID: L3-3A Lab Sample ID: 720-93190-11

Date Collected: 05/23/19 12:15 **Matrix: Solid** Date Received: 05/24/19 11:49 Percent Solids: 26.4

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			266341	05/24/19 16:25	DAID	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	266511	05/29/19 22:49	AJS	TAL PLS

Lab Sample ID: 720-93190-15 Client Sample ID: L3-3 COMP

Date Collected: 05/23/19 12:31 **Matrix: Solid** Date Received: 05/24/19 11:49 Percent Solids: 25.8

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			266434	05/28/19 14:49	BMT	TAL PLS
Total/NA	Analysis	8270C		10	266660	06/01/19 00:40	LPL	TAL PLS
Total/NA	Prep	3546			266339	05/24/19 15:44	BMT	TAL PLS
Total/NA	Analysis	8015B		20	266530	05/31/19 01:59	DCH	TAL PLS
Total/NA	Prep	3546			266319	05/24/19 15:28	BMT	TAL PLS
Total/NA	Analysis	8081A		5	266524	05/30/19 13:54	MQL	TAL PLS
Total/NA	Prep	3546			266320	05/24/19 15:28	BMT	TAL PLS
Total/NA	Analysis	8082		1	266474	05/29/19 15:40	DCH	TAL PLS
Total/NA	Prep	3050B			266550	05/30/19 09:44	MAA	TAL PLS
Total/NA	Analysis	6010B		4	266621	05/30/19 20:11	BKR	TAL PLS
Total/NA	Prep	7471A			266676	05/31/19 17:26	MAG	TAL PLS
Total/NA	Analysis	7471A		1	266774	06/03/19 15:13	MAG	TAL PLS

#### **Laboratory References:**

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

## **Accreditation/Certification Summary**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

# Laboratory: Eurofins TestAmerica, Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

AuthorityProgramEPA Region<br/>State ProgramIdentification Number<br/>2496Expiration Date<br/>01-31-20The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.Analyte

Job ID: 720-93190-1

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## **Method Summary**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Preparation, Mercury

Method **Method Description** Protocol Laboratory 8260B/CA\_LUFTN 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 TAL PLS Polychlorinated Biphenyls (PCBs) by Gas Chromatography 8082 SW846 6010B Metals (ICP) SW846 TAL PLS 7471A Mercury (CVAA) SW846 TAL PLS 3050B Preparation, Metals SW846 TAL PLS 3546 Microwave Extraction SW846 TAL PLS 5035 TAL PLS Closed System Purge and Trap SW846

#### **Protocol References:**

7471A

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### **Laboratory References:**

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Job ID: 720-93190-1

TAL PLS

SW846

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## **Sample Summary**

Solid

Solid

Solid

Client: Cornerstone Earth Group

Lab Sample ID

720-93190-3

720-93190-5

720-93190-8

720-93190-10

720-93190-11

720-93190-15

Project/Site: Alameda Lagoon Dredging

L5-1C

L3-1C

L3-3A

L5-1 COMP

L3-1 COMP

L3-3 COMP

Client Sample ID

Mat	rix	Collected	Received	Asset ID
Soli	d	05/23/19 14:05	05/24/19 11:49	
Soli	d	05/23/19 14:15	05/24/19 11:49	
Soli	d	05/23/19 13:10	05/24/19 11:49	

05/23/19 13:20 05/24/19 11:49

05/23/19 12:15 05/24/19 11:49

05/23/19 12:31 05/24/19 11:49

Job ID: 720-93190-1

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	Project Manager:		Peter Langtry			ite Sam	Site Sampler: NKM	W	Date	Date: 5/23/19		COC No:	
Cornerstone Earth Group, Inc.	Tel/Fax: 925-988-9500 ext.	88-9500 e	xt.		Ī	Lab Contact:	tact:		Lab	Lab: Test America	-	of 2 COCs	s
1220 Oakland Boulevard, Suite 220	An	alysis Tur	Analysis Turnaround Time	ime				E				Job No	
Walnut Creek, CA 94596													
(925)-988-9500 Phone	TAT if	TAT if different from Below	,	St-day			(W)						
(925)-988-9501 FAX		w I	1 week	7		.,/0	i bi i c		(80				
Project Name: Alameda Lagoon Dredging		30	3 days			J F U 3	-		******				
Site: Alameda, CA, Lagoons 3 & 5		2 d	2 days				(510	(D0		720-93	720-93190 Chain of Custody	Sustody	- Inn
Project Number: 167-33-1		1 d	l day		•		8A9	(1808 (728 /					
Samala Haariffastian	Sample S	Sample Time	Sample	Metric	# of	litered Sa	7 CAM Met PH d/mo (E Aq3) sB3	VOCs (EPA	TLC - Extra				ž
L5-1	╫─		1		7		L	5				accuracy somption opening motors	cinc notes.
L5-1A	5/23 16	10:61	liner	lios	-								
L5-1B	Ш	01:H	liner	soil	_		<u> </u>					Compostite A-D samples into one 4-	s into one 4-
L5-1C	5)	(4:05	CN0/ liner	soil	7		<	<u>=</u>	×			point composite	
L5-1D	h	14:15	liner	soil	/			<u> </u>				Γ	
L3-1													
L3-1A	2/13	13:00	liner	soil	_								
L3-1B	. –	13:15	liner	soil	-		<u> </u>	=				Compostite A-D samples into one 4-	s into one 4-
L3-1C	13	13:10	CNº/ liner	lios	J				×			point composite	
L3-1D	થ	13:20	liner	soil	_							T	
					$\top$								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3;	-HNO3; 5=N	5=NaOH; 6= Other	)ther		1	#	+						
Possible Hazard Identification  Non-Hazard Elammable	Skin Irritant	Poi	Ì		Unknown	Sam	Sample Disposal	l <b>e Disposal</b> Return To Client	Disp	Disposal By Lab	Archi	Archive For Months	
1s/QC Requirements & Co	ts: If addition	al sample	is needed,	please u	se the lir	er.							
								,	7				
Relinquished by: 7 C.	Company: Cornerstone Earth	rth Group		Date/Time	= 8 	Mece.	Received by:	2	Lavenda	Company:	5	Date/Time: 1/06	
Relinguished by:	Company:	ń		Date/Time:			Received by:			Company:	5	Date/Time:	841
Relinquished by:	Company:			Date/Time:	ີ່	Recei	Received by:			Company:		Date/Time:	

# 190431

720-43190 Chain of Custody Record

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Cornerstone Earth Groun Inc	Project Manager: Peter Langtry		Site Sampler: NKM	Date: 5/23/19	
1220 Oakland Boulevard, Suite 220	Analysis Turnaround Time			Lab. 1 cst Alliel fea	Laboratory's Job No.
Walnut Creek, CA 94596					
(925)-988-9500 Phone	TAT if different from Below	- d24	(A1'		<i>(</i> .
(925)-988-9501 FAX	1 week	7			
Project Name: Alameda Lagoon Dredging	3 days		pjo		
Site: Alameda, CA, Lagoons 3 & 5	2 days		19 HG		
Project Number: 167-33-1	1 day		als (E 8082) 8081) (S808) (S870)		
	e Sample		CAM Met H d/mo (E Bs (EPA : 'OCs (EPA : 'PG : EPA :		
псацоп	mare rillie	Marris Cont.	S C C C C C C C C C C C C C C C C C C C		Laboratory's Sample Specific Notes:
L3-2   MM			5 (1)	1	
L3-2A	liner soil	The second secon	The state of the s		
L3-2B	liner soil		X		Compostite A-D samples into one 4-
L3-2C	liner soil				point composite
L3-28	liner soil	West Control			
L3-3				)	
L3-3A	5/23 12:15 soil	1 2NO	X		
L3-3B	5/23 (2,22 soil	1 JANI7			Compostite A-D samples into one 4-
L3-3C	5/23 12:31 soil	l iver l			point composite
L3-3D	\$23 (1:26 soil	l'urce 1			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6=	4=HNO3; 5=NaOH; 6= Other				
Possible Hazard Identification  Non-Hazard Flammable	Skin Irritant Poison B	Unknown	sample Disposal ☐ Return To Client	Disposal By Lab Archive For	For Months
ons/QC Requirements & Co	nts: If additional sample is needed	, please use the lii			
Relinquighed by:	Company: Cornerstone Earth Group	Date/Time: Shyle II:00	Received by: James Charles	Company:	Date/Timg:
Relinquished by:	Company:	Date/Time: 5/24// (91149	Received by:	Company:	Date-Tithe:
Relinquished by:	Company:	Date/Ťime:	Received by:	Company:	Date/Time:

**726 - 93/96**Chain of Custody Record

CORNERSTONE EARTH GROUP

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## Salimpour, Afsaneh

# 720-93190-7 rev

From:

Peter Langtry <plangtry@cornerstoneearth.com>

Sent:

Tuesday, June 04, 2019 6:53 AM

To:

Salimpour, Afsaneh

Subject:

RE: Eurofins TestAmerica report and EDD files from 720-93190-1 Alameda Lagoon

Dredging

#### -External Email-

Afsaneh, please analyze the STLC extracts for L5-1 and L3-3 for lead, and the STLC extract for L3-1 for copper and lead on a standard response.

Thanks!

Sincerely,

Peter Langtry, P.G., C.E.G. Senior Principal Geologist

#### **Cornerstone Earth Group**

1220 Oakland Boulevard, Suite 220 | Walnut Creek, CA 94596 T 925-988-9500, Ext. 217 | F 925-988-9501 C 925.817.8814 E plangtry@cornerstoneearth.com

#### www.cornerstoneearth.com

From: Afsaneh Salimpour <afsaneh.salimpour@testamericainc.com>

Sent: Monday, June 3, 2019 5:11 PM

To: Peter Langtry < plangtry@cornerstoneearth.com >

Subject: Eurofins TestAmerica report and EDD files from 720-93190-1 Alameda Lagoon Dredging

Hello,

Attached please find the report and EDD files for job 720-93190-1; Alameda Lagoon Dredging

Please feel free to contact me if you have any questions.

Thank you.

Afsaneh F Salimpour

Project Manager

Eurofins TestAmerica, Pleasanton

Phone: 925-484-1919



720-93190 Chain of Custody

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## Salimpour, Afsaneh

From: Peter Langtry <plangtry@cornerstoneearth.com>

**Sent:** Tuesday, July 02, 2019 8:14 AM **To:** Salimpour, Afsaneh

Subject:moisture contentsAttachments:J93190-1 UDS Level 2 Report Final Report.pdf; J93190-2 UDS Level 2 Report Final

Report.pdf; J93353-1 UDS Level 2 Report Final Report.pdf; J93353-2 UDS Level 2 Report

Final Report.pdf

## -External Email-

Afsaneh, is it too late to run moisture contents on the samples for these reports? Client asked them to be reported as dry weight.

The specific value of  $\frac{720 - 93190 - 15}{720 - 93353 - 5}$ 

Sincerely,

Peter Langtry, P.G., C.E.G. Senior Principal Geologist

#### **Cornerstone Earth Group**

1220 Oakland Boulevard, Suite 220 | Walnut Creek, CA 94596 T 925-988-9500, Ext. 217 | F 925-988-9501 C 925.817.8814 E plangtry@cornerstoneearth.com

www.cornerstoneearth.com



720-93190 Chain of Custody

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Client: Cornerstone Earth Group

Job Number: 720-93190-1

Login Number: 93190

List Source: Eurofins TestAmerica, Pleasanton

List Number: 1

Creator: Arauz, Dennis

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	
s 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 <a href="mailto:smaller">&lt;6mm (1/4").</a>	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## **ANALYTICAL REPORT**

Eurofins TestAmerica, Pleasanton 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

Laboratory Job ID: 720-93353-2

Client Project/Site: Alameda Lagoon Dredging

For:

eurofins

Cornerstone Earth Group 1270 Springbrook Road, Suite 101 Walnut Creek, California 94597

Attn: Peter Langtry

Authorized for release by: 7/1/2019 4:14:20 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919

afsaneh.salimpour@testamericainc.com

·····LINKS ······

**Review your project** results through Total Access

**Have a Question?** 



Visit us at: 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.

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Laboratory Job ID: 720-93353-2

# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Method Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	14

## **Definitions/Glossary**

Client: Cornerstone Earth Group Job ID: 720-93353-2

Project/Site: Alameda Lagoon Dredging

## **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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	Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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 (Radiochemistry)

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)

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#### **Case Narrative**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Job ID: 720-93353-2

Job ID: 720-93353-2

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative 720-93353-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/5/2019 2:33 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

#### Metals

Method(s) 6010B: The serial dilution performed for the following sample associated with batch 720-268560 was outside control limits for Lead-22%: (720-93353-A-5-J SD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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## **Detection Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Client Sample ID: L3-2

Job ID: 720-93353-2

Lab Sample ID: 720-93353-5

Analyte	Result Qualif	fier RL	MDL Unit	Dil Fac D Method	Prep Type
Lead	4.3	0.050	mg/L	1 6010B	STLC Citrate

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging
Job ID: 720-93353-2

Client Sample ID: L3-2 Lab Sample ID: 720-93353-5

Date Collected: 06/04/19 10:05

Date Received: 06/05/19 14:33

Matrix: Solid

 Method: 6010B - Metals (ICP) - STLC Citrate

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Lead
 4.3
 0.050
 0.050
 07/01/19 13:56
 07/01/19 14:59
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## QC Sample Results

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-2

Dil Fac

Dil Fac

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-268548/1-A

**Matrix: Solid** 

Analyte

Lead

Analysis Batch: 268560

MB MB

Sample Sample

4.3

Result Qualifier

Result Qualifier  $\overline{\mathsf{ND}}$ 

RL 0.0050

RL

0.050

Spike

Added

10.0

Spike

Added

10.0

**MDL** Unit mg/L

Prepared Analyzed 07/01/19 13:56 07/01/19 14:25

**Client Sample ID: Lab Control Sample** 

**Prep Batch: 268548** 

Prep Batch: 268548

Lab Sample ID: LCS 720-268548/2-A **Matrix: Solid Analysis Batch: 268560** 

Analyte Lead

**Matrix: Solid** 

Spike Added 1.00

LCS LCS 0.897

Result Qualifier

**MDL** Unit

MSD MSD

12.9

Result Qualifier

Unit D %Rec mg/L 90

Analyzed

**Prep Type: Total Recoverable** 

**Analysis Batch: 268560** 

Lab Sample ID: LB4 720-267174/1-G

LB4 LB4

Analyte Result Qualifier Lead  $\overline{\mathsf{ND}}$ 

Lab Sample ID: 720-93353-5 MS **Matrix: Solid** 

**Analysis Batch: 268560** 

Analyte Lead

Lab Sample ID: 720-93353-5 MSD **Matrix: Solid** 

Analysis Batch: 268560

Sample Sample Result Qualifier **Analyte** 4.3 Lead

Client Sample ID: Method Blank **Prep Type: STLC Citrate** Prep Batch: 268548

%Rec.

Limits

80 - 120

Client Sample ID: Method Blank

**Prep Type: Total Recoverable** 

07/01/19 13:56 07/01/19 14:35 mg/L Client Sample ID: L3-2 **Prep Type: STLC Citrate** 

Prepared

Prep Batch: 268548 MS MS %Rec. Limits Result Qualifier D %Rec Unit 12.7 75 - 125 mg/L

Unit

mg/L

Client Sample ID: L3-2 **Prep Type: STLC Citrate** 

Prep Batch: 268548 %Rec. **RPD** Limits **RPD** Limit

%Rec 87 75 - 125 20

## **QC Association Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93353-2

## **Metals**

## Leach Batch: 267174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep B	3atch
720-93353-5	L3-2	STLC Citrate	Solid	CA WET Citrate	
LB4 720-267174/1-G	Method Blank	STLC Citrate	Solid	CA WET Citrate	
720-93353-5 MS	L3-2	STLC Citrate	Solid	CA WET Citrate	
720-93353-5 MSD	L3-2	STLC Citrate	Solid	CA WET Citrate	

## **Prep Batch: 268548**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	STLC Citrate	Solid	3005A	267174
LB4 720-267174/1-G	Method Blank	STLC Citrate	Solid	3005A	267174
MB 720-268548/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 720-268548/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
720-93353-5 MS	L3-2	STLC Citrate	Solid	3005A	267174
720-93353-5 MSD	L3-2	STLC Citrate	Solid	3005A	267174

## Analysis Batch: 268560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93353-5	L3-2	STLC Citrate	Solid	6010B	268548
LB4 720-267174/1-G	Method Blank	STLC Citrate	Solid	6010B	268548
MB 720-268548/1-A	Method Blank	Total Recoverable	Solid	6010B	268548
LCS 720-268548/2-A	Lab Control Sample	Total Recoverable	Solid	6010B	268548
720-93353-5 MS	L3-2	STLC Citrate	Solid	6010B	268548
720-93353-5 MSD	L3-2	STLC Citrate	Solid	6010B	268548

7/1/2019

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## **Lab Chronicle**

Client: Cornerstone Earth Group Job ID: 720-93353-2

Project/Site: Alameda Lagoon Dredging

Date Received: 06/05/19 14:33

Client Sample ID: L3-2 Lab Sample ID: 720-93353-5 Date Collected: 06/04/19 10:05

**Matrix: Solid** 

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			267174	06/10/19 12:18	SUN	TAL PLS
STLC Citrate	Prep	3005A			268548	07/01/19 13:56	SUN	TAL PLS
STLC Citrate	Analysis	6010B		1	268560	07/01/19 14:59	MAG	TAL PLS

#### **Laboratory References:**

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

## **Accreditation/Certification Summary**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Job ID: 720-93353-2

## Laboratory: Eurofins TestAmerica, Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program		EPA Region	Identification Num	ber Expiration Date
California	State Pro	gram	9	2496	01-31-20
The following analytes the agency does not o	are included in this repo	ort, but the laboratory	y is not certified by th	e governing authority.	This list may include an

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## **Method Summary**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Job ID: 720-93353-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL PLS
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PLS
CA WET Citrate	California - Waste Extraction Test with Citrate Leach	CA-WET	TAL PLS

#### **Protocol References:**

CA-WET = California Waste Extraction Test, from Title 22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### **Laboratory References:**

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

## **Sample Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Job ID: 720-93353-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
720-93353-5	L3-2	Solid	06/04/19 10:05	06/05/19 14:33	

Relinquished by: 1 C	Company: Cornerstone Earth Group	Date/Time: (C/5/14 (U:1)	Received by:	Company:	Date/Time:	1101
Relinquished by:	Company:	Date/Time:	Accepted by:	Company:	Date/Time:	1919
Relinqu/shed by:	Company:	Date/Time:	Received by:	Company:	Date/Time:	

CORNERSTONE EARTH GROUP Cornerstone Earth Group, Inc. Tel 1220 Oakland Boulevard, Suite 220	Project Ma	Project Manager: Peter L. Tel/Fax: 925-988-9500 ext. Analysis Turna	P Project Manager: Peter Langtry Tel/Fax: 925-988-9500 ext. Analysis Turnaround Time		hain o	Chain of Custody Record Site Sampler: NKM Lab Contact:	Date: 6/4/19 Lab: Test America	COC No: 1
Walnut Creek, CA 94596 (925)-988-9500 Phone (925)-988-9501 FAX Project Name: Alameda Lagoon Dredging Site: Alameda, CA, Lagoons 3 & 5 Project Number: 167-33-1	TA TA Sample Date	TAT if different from Below    week	from Below  1 week 3 days 2 days 1 day  Sample Type	Matrix	C # Filtered Sample	17 CAM Metals (EPA 6010B/7471A) TPH d/mo (EPA8015) STLC - Extract and Hold OCPs (EPA 8081) TPH d/mo (EPA8081)		Laboratory's Sample Specific Notes:
		9:55	liner	Soil	-			
L3-2D ( Cowypos, t.C. L3-2D )		9:57 10:05	liner liner	Soil Soil	5			Compositie A-D samples into one 4-
						720-933	720-93353 Chain of Custody	
Preservation Used: (1= 1cg), 2= HCl; 3= H2SO4; 4=HNO3;  Possible Hazard Identification  Non-Hazard  Flammable  Skin Irritan	4=HNO3; 5	=NaOH; 6	= Other			Sample Disposal  Return To Client		Archive For Months
ns/QC Req	Company: Company: Company: Company: Company: Company:	ts: If additional sample Company: Cornerstone Earth Group Company: Company: Company:	dr	Date/Time:	se the line  e: [0:1]  e: 743	(eccived	Company: Company: Company: Company: Company: Company: Company:	Cornerstoneea

Client: Cornerstone Earth Group

Job Number: 720-93353-2

Login Number: 93353

List Source: Eurofins TestAmerica, Pleasanton

List Number: 1

Creator: Mullen, Joan

Creator: Mullen, Joan		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**TestAmerica** 

## **ANALYTICAL REPORT**

Eurofins TestAmerica, Pleasanton 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

Laboratory Job ID: 720-93190-2

Client Project/Site: Alameda Lagoon Dredging

For:

eurofins

Cornerstone Earth Group 1270 Springbrook Road, Suite 101 Walnut Creek, California 94597

Attn: Peter Langtry

Authorized for release by: 6/5/2019 1:37:29 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919

afsaneh.salimpour@testamericainc.com

·····LINKS ······

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Visit us at: 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.

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Laboratory Job ID: 720-93190-2

# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
QC Sample Results	9
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Chacklists	18

## **Definitions/Glossary**

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging
Job ID: 720-93190-2

Glossary

TEF

TEQ

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Eurofins TestAmerica, Pleasanton

6/5/2019

## **Case Narrative**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Job ID: 720-93190-2

Job ID: 720-93190-2

Laboratory: Eurofins TestAmerica, Pleasanton

**Narrative** 

Job Narrative 720-93190-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/24/2019 11:49 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### **General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## **Detection Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Client Sample ID: L5-1 COMP						Li	ab	Sample II	D: 720-93190-5
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	2.1		0.050		mg/L	1	_	6010B	STLC Citrate
Client Sample ID: L3-1 COMP						Lal	b S	Sample ID:	720-93190-10
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3.1		0.050		mg/L	1	_	6010B	STLC Citrate
Client Sample ID: L3-3 COMP						La	b S	Sample ID:	720-93190-15
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.48		0.050		mg/L	1	_	6010B	STLC Citrate

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Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-5

Matrix: Solid

Job ID: 720-93190-2

Client Sample ID: L5-1 COMP Date Collected: 05/23/19 14:15

Date Received: 05/24/19 11:49

Method: 6010B - Metals (ICP) - STLC Citrate Analyte Result Qualifier RL Dil Fac MDL Unit D Prepared Analyzed 0.050 06/05/19 08:57 06/05/19 11:43 Lead 2.1 mg/L

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-10

Matrix: Solid

Job ID: 720-93190-2

Client Sample ID: L3-1 COMP

Date Collected: 05/23/19 13:20 Date Received: 05/24/19 11:49

Method: 6010B - Metals (ICP) - STLC Citrate											
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
	Lead	3.1		0.050		mg/L		06/05/19 08:57	06/05/19 11:58	1	
	Copper	ND		0.20		mg/L		06/05/19 08:57	06/05/19 11:58	1	

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Client Sample ID: L3-3 COMP

Date Collected: 05/23/19 12:31

Lab Sample ID: 720-93190-15

Matrix: Solid

Date Received: 05/24/19 11:49

Method: 6010B - Metals (ICP) - STLC Citrate												
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
	Lead	0.48		0.050		mg/L		06/05/19 08:57	06/05/19 12:03	1		

Job ID: 720-93190-2

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## **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Client Sample ID: Lab Control Sample

**Prep Type: Total Recoverable** 

Client Sample ID: Method Blank

Client Sample ID: Matrix Spike

**Prep Type: STLC Citrate** 

**Prep Type: STLC Citrate Prep Batch: 266880** 

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-266880/1-A						Client Sa	mple ID: Metho	od Blank
Matrix: Solid						Prep Ty	pe: Total Rec	overable
Analysis Batch: 266900							Prep Batch	: 266880
	MB	MB						
A b. d.	Daguile	Ovelifien	DI.	MDI IImit	_ n	Duamanad	A made mad	Dil Faa

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050		mg/L		06/05/19 08:57	06/05/19 10:00	1
Copper	ND		0.020		mg/L		06/05/19 08:57	06/05/19 10:00	1

Lab Sample ID: LCS 720-266880/2-A Matrix: Solid

Analysis Batch: 266900						-	Prep	Batch: 266880
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Lead	1.00	0.961		mg/L		96	80 - 120	
Copper	1.00	0.956		mg/L		96	80 - 120	

Lab Sample ID: LB4 720-266501/1-C

**Matrix: Solid** 

Analysis Batch: 266900

LB4	I R
LD4	LD4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.050		mg/L		06/05/19 08:57	06/05/19 11:38	1
Copper	ND		0.20		mg/L		06/05/19 08:57	06/05/19 11:38	1

Lab Sample ID: 440-239407-A-1-H MS

Matrix: Solid

Analysis Batch: 266900									Prep	Batch: 266880
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Lead	2.4		10.0	11.0		mg/L		86	75 - 125	
Copper	0.50		10.0	8.92		mg/L		84	75 <sub>-</sub> 125	

Lab Sample ID: 440-239407-A-	Sample ID: 440-239407-A-1-I MSD								J: Matrix S	oike Dur	olicate
Matrix: Solid									<b>Prep Type</b>	: STLC (	Citrate
Analysis Batch: 266900									Prep I	Batch: 2	66880
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		%Rec	Limits	RPD	Limit
Lead	2.4		10.0	11.3		mg/L		89	75 - 125	2	20
Copper	0.50		10.0	8.83		mg/L		83	75 - 125	1	20

## **QC Association Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

#### **Metals**

## Leach Batch: 266501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
720-93190-5	L5-1 COMP	STLC Citrate	Solid	CA WET Citrate
720-93190-10	L3-1 COMP	STLC Citrate	Solid	CA WET Citrate
720-93190-15	L3-3 COMP	STLC Citrate	Solid	CA WET Citrate
LB4 720-266501/1-C	Method Blank	STLC Citrate	Solid	CA WET Citrate

#### Leach Batch: 266658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-239407-A-1-H MS	Matrix Spike	STLC Citrate	Solid	CA WET Citrate	
440-239407-A-1-I MSD	Matrix Spike Duplicate	STLC Citrate	Solid	CA WET Citrate	

#### **Prep Batch: 266880**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	STLC Citrate	Solid	3005A	266501
720-93190-10	L3-1 COMP	STLC Citrate	Solid	3005A	266501
720-93190-15	L3-3 COMP	STLC Citrate	Solid	3005A	266501
LB4 720-266501/1-C	Method Blank	STLC Citrate	Solid	3005A	266501
MB 720-266880/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 720-266880/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
440-239407-A-1-H MS	Matrix Spike	STLC Citrate	Solid	3005A	266658
440-239407-A-1-I MSD	Matrix Spike Duplicate	STLC Citrate	Solid	3005A	266658

#### Analysis Batch: 266900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	STLC Citrate	Solid	6010B	266880
720-93190-10	L3-1 COMP	STLC Citrate	Solid	6010B	266880
720-93190-15	L3-3 COMP	STLC Citrate	Solid	6010B	266880
LB4 720-266501/1-C	Method Blank	STLC Citrate	Solid	6010B	266880
MB 720-266880/1-A	Method Blank	Total Recoverable	Solid	6010B	266880
LCS 720-266880/2-A	Lab Control Sample	Total Recoverable	Solid	6010B	266880
440-239407-A-1-H MS	Matrix Spike	STLC Citrate	Solid	6010B	266880
440-239407-A-1-I MSD	Matrix Spike Duplicate	STLC Citrate	Solid	6010B	266880

#### **Lab Chronicle**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-5

Lab Sample ID: 720-93190-10

Lab Sample ID: 720-93190-15

Matrix: Solid

**Matrix: Solid** 

Matrix: Solid

Job ID: 720-93190-2

Client Sample ID: L5-1 COMP

Date Collected: 05/23/19 14:15 Date Received: 05/24/19 11:49

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			266501	05/29/19 16:09	MAG	TAL PLS
STLC Citrate	Prep	3005A			266880	06/05/19 08:57	MAA	TAL PLS
STLC Citrate	Analysis	6010B		1	266900	06/05/19 11:43	BKR	TAL PLS

Client Sample ID: L3-1 COMP

Date Collected: 05/23/19 13:20

Date Received: 05/24/19 11:49

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			266501	05/29/19 16:09	MAG	TAL PLS
STLC Citrate	Prep	3005A			266880	06/05/19 08:57	MAA	TAL PLS
STLC Citrate	Analysis	6010B		1	266900	06/05/19 11:58	BKR	TAL PLS

**Client Sample ID: L3-3 COMP** 

Date Collected: 05/23/19 12:31

Date Received: 05/24/19 11:49

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			266501	05/29/19 16:09	MAG	TAL PLS
STLC Citrate	Prep	3005A			266880	06/05/19 08:57	MAA	TAL PLS
STLC Citrate	Analysis	6010B		1	266900	06/05/19 12:03	BKR	TAL PLS

**Laboratory References:** 

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

## **Accreditation/Certification Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

## **Laboratory: Eurofins TestAmerica, Pleasanton**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority Program EPA Region Identification Number Expiration Date
California State Program 9 2496 01-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method Prep Method Matrix Analysis Program 9 Analyte

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### **Method Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL PLS
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PLS
CA WET Citrate	California - Waste Extraction Test with Citrate Leach	CA-WET	TAL PLS

### Protocol References:

CA-WET = California Waste Extraction Test, from Title 22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

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### **Sample Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	1
720-93190-5	L5-1 COMP	Solid	05/23/19 14:15	05/24/19 11:49	_
720-93190-10	L3-1 COMP	Solid	05/23/19 13:20	05/24/19 11:49	
720-93190-15	L3-3 COMP	Solid	05/23/19 12:31	05/24/19 11:49	

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	Project Manager:		Peter Langtry	7		Site Sar	Site Sampler: NKM	KW		Pag	Date: 5/23/19			COC No:	
Cornerstone Earth Group, Inc.	Tel/Fax: 9		90 ext.		Ī	Lab Contact:	ntact:			13	Lab: Test America	erica		of 2	2 COCs
1220 Oakland Boulevard, Suite 220		Analysis	Analysis Turnaround Time	Time		F	F	E		L			F	112	ob No.
Walnut Creek, CA 94596													_		
(925)-988-9500 Phone	Τ/1	AT if differen	TAT if different from Below	S-day			(At								
(925)-988-9501 FAX			1 week	7			747/8		(80						
Project Name: Alameda Lagoon Dredging			3 days				-		-						
Site: Alameda, CA, Lagoons 3 & 5			2 days			9	~~~	(	H pu		7.	720-93190 Chain of Custody	hain of Cu	ıstody	
Project Number: 167-33-1			1 day			du	_	1808	act a						
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sa	17 CAM Met 19 om\b HqT	OCPs (EPA	SYOCs (EPA STLC - Extra TPHg and V					Laboratory's S	Laboratory's Sample Specific Notes:
L5-1															
L5-1A	5/23	10:61	liner	soil	_										
L5-1B		QI:HI	liner	soil	_		$\leq$	$\leq$						Compostite A-E	Compostite A-D samples into one 4-
L5-1C		(4:05	- CN0/ liner	soil	4		=		//X					point composite	
L5-1D	-	14:15	liner	soil	1		$\leq$		_					<b>r</b>	
L3-1															
L3-1A	5/23	(3:CD	) liner	soil	_										
L3-1B		13:15	liner	soil	-			<u></u>						Compostite A-E	Compostite A-D samples into one 4-
L3-1C		13:10	CN 0/ liner	soil	J		_		$\times$					point composite	Φ
L3-1D	7	13:20	liner	soil	-										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	4=HN03; 5	-NaOH;	j= Other		]	$\perp$	+			_			-		
Possible Hazard Identification  Non-Hazard	Skin Irritant		Poison B		<i>U</i> пкноwn	San	Sample Disposal	le Disposal Return To Client		∏ Pisia	☐ Disposal By Lab	ab a	☐ Archive For	» For	Months
Special Instructions/QC Requirements & Comments: If additional sample is needed, please use the liner.	nts: If addi	tional sam	ple is needer	d, please	use the li	ner.									
								`	37	1				*	
Relinquished by: 7	Company: Cornerstone Earth	e Earth Gro	Group	Date/Time:			Received by:	) MIN	Rayand	the	Company	ompany:		Date/Time:	9011
Relinguished by:	Company:	57		Date/Time:	ne: 190		Received by:		The second secon		Company	lany:		Date/Time:	8611 6
Relinquished by:	Company:			Date/Time:	ne:	Rece	Received by:				Company	any:		Date/Time:	-
						-					-				

720-43190 Chain of Custody Record

Cornerstone Earth Groun Inc	Project Manager: Peter Langtry Tel/Eav. 975-988-9500 evt		Site Sampler: NKM	Date: 5/23/19	CUC No:
1220 Oakland Boulevard. Suite 220	Analysis Turnaround Time			Lab. 193 America	do N
Walnut Creek, CA 94596					
(925)-988-9500 Phone	TAT if different from Below	5-d24	(A1		<i>.</i>
(925)-988-9501 FAX	1 week	7			
Project Name: Alameda Lagoon Dredging	3 days		plo		
Site: Alameda, CA, Lagoons 3 & 5	2 days		012) (20) (20)		
Project Number: 167-33-1	1 day		als (E 8082) 8081) 8081) 728 /		ega a derin
Sample Identification	Sample Sample Sample Date Time Two	Symple # of Addition.	Physical Sarting Physical Physical Sarting Physical Physical Sarting Physical Physi		I shoretory's Camule Creatific Motes
WW1 - 4:57					
L3-ZA	liner soil	The Control of the Co			
L3-2B	liner soil		X		Compostite A-D samples into one 4-
Г3-2С	liner soil				point composite
L3-28	liner soil				
L3-3					
L3-3A	5/23 12:15 soil	Livery 4	X		
L3-3B	5/23 (2,22 soil	1 BN17			Compostite A-D samples into one 4-
L3-3C	5/23 (2:31 soil	liner 1			point composite
L3-3D	\$23 12.26 soil	1 mer			
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other	4=HNO3; 5=NaOH; 6= Other				
Possible Hazard Identification  Non-Hazard Hammable	Skin Irritant Poison B	Unknown	Sample Disposal  Return To Client	Disposal By Lab Trchive For	ForMonths
ons/QC Requirements & Co	nts: If additional sample is needed	, please use the lir			
Relinquished by:	Company: Cornerstone Earth Group	Date/Time:	Received by:	Company:	5/24/19 1106
Relinguished by:	Company: 74 PLS	Date/Time: $5/2v///q^{1/4}c$	Received by:	Company:	Date Tilme:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

72c - 93/9c
Chain of Custody Record

CORNERSTONE EARTH GROUP

### Salimpour, Afsaneh

# 720-93190-7 rev

From:

Peter Langtry <plangtry@cornerstoneearth.com>

Sent:

Tuesday, June 04, 2019 6:53 AM

To:

Salimpour, Afsaneh

Subject:

RE: Eurofins TestAmerica report and EDD files from 720-93190-1 Alameda Lagoon

Dredging

### -External Email-

Afsaneh, please analyze the STLC extracts for L5-1 and L3-3 for lead, and the STLC extract for L3-1 for copper and lead on a standard response.

Thanks!

Sincerely,

Peter Langtry, P.G., C.E.G. Senior Principal Geologist

### **Cornerstone Earth Group**

1220 Oakland Boulevard, Suite 220 | Walnut Creek, CA 94596 T 925-988-9500, Ext. 217 | F 925-988-9501 C 925.817.8814 E plangtry@cornerstoneearth.com

### www.cornerstoneearth.com

From: Afsaneh Salimpour <afsaneh.salimpour@testamericainc.com>

Sent: Monday, June 3, 2019 5:11 PM

To: Peter Langtry < plangtry@cornerstoneearth.com >

Subject: Eurofins TestAmerica report and EDD files from 720-93190-1 Alameda Lagoon Dredging

Hello,

Attached please find the report and EDD files for job 720-93190-1; Alameda Lagoon Dredging

Please feel free to contact me if you have any questions.

Thank you.

Afsaneh F Salimpour

Project Manager

Eurofins TestAmerica, Pleasanton

Phone: 925-484-1919



720-93190 Chain of Custody

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Client: Cornerstone Earth Group

Job Number: 720-93190-2

Login Number: 93190

List Source: Eurofins TestAmerica, Pleasanton

List Number: 1 Creator: Arauz, Dennis

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# **ATTACHMENT F**

# **Questions and Answers Generated from Initial Bid Solicitation**

### **Answers to Questions from Prospective Bidders**

Alameda South Shore Lagoons 3 & 5 Dredging Project No. P.W. 09-19-49

No.	Question	Answer
1	Page 12 states Builder's Risk is required. Is this necessary for this dredging project?	No it is NOT required, Exhibit B is only a Sample of the Contract Agreement.
2	Can staging be done in Scout Park?	No. Stage within the parking lane of Otis Drive. Any disturbance to Scout Park must be fully restored. It is an active Alameda Recreation and Parks District park.
3	Can staging be done prior to the dredging window?	Yes, but contractor must state how much time is needed for staging prior to the dredging window, obtain permission from Public Works, and put out No Parking signs in the Otis Drive parking lane. Contractor must adhere to the Noise Ordinance and working hours at all times.
4	Can staging of equipment be done along Waterton Street at Lagoon 5?	Yes, but Waterton St must remain passable for the two residences that have driveways between Court St and Mound St. during and after work hours.
5	Can the sidewalk along Otis Drive be blocked during construction?	Yes, but appropriate signage must be used directing pedestrians safely across the Otis Dr/Park St and Otis Dr/Willow St intersections accordingly.
6	What license is required in order to bid this as a prime?	A - General Engineering Contractor license or C-12 Earthwork and Paving Contractor.
7	Is a Caltrans permit needed?	No. This section of Otis Drive is not a Caltrans route.
8	Please confirm that laboratory sample L5-1 COMP should be considered Hazardous based upon the Organochlornine Pesticides results (See Table 1 included in Attachment E: Soil Quality Evaluation & Laboratory Analytical Results ).	Response from Cornerstone Earth Group: Concentrations of pesticides detected do not exceed hazardous waste limits.
9	Please confirm that laboratory sample L5-1 COMP should be considered RCRA based upon the PCBs results (See Table 1 included in Attachment E: Soil Quality Evaluation & Laboratory Analytical Results ).	Response from Cornerstone Earth Group: There is not a RCRA limit for PCBs.
10	Is the source of the PCBs detected in the samples known?	Response from Cornerstone Earth Group: The source of the PCBs detected is unknown.
11	How much, if any, of the 800 Cubic Yards of Excavation should be considered California Hazardous? How much, if any, of the 800 Cubic Yards of Excavation should be considered RCRA? How much, if any, of the 800 Cubic Yards of Excavation should be considered TSCA?	Response from Cornerstone Earth Group: Based on analytical results, the soil appears acceptable for disposal as a non-hazardous (non-California and RCRA hazardous waste) and non-TSCA waste.
12	Please provide the as built information for existing seawalls or provide structural assessment for surcharge loading of the existing seawalls.	A 2011 ENGEO Incorporated report entitled, "Reconnaissance of Seawalls Fronting the City Rights-of-Way" is attached. This is the most recent available information. All available plans for Lagoon 3 and 5 seawalls are also attached (some are as-builts, some are not). This is all the information that is available at this time.
13	Is wind screen fencing or other measures allowed to be installed in order to diminish noise levels from equipment for nearby homes?	Contractor would need to submit a proposed plan for such fencing and have it approved by Public Works.
14	We would like to request the STLC analysis for the samples referenced in the June 4 email from Peter Langtry to Afsaneh Salimpour.	The STLC Analysis for samples referenced in the June 04, 2019 email (See Laboratory Analytical Results) has been provided by Cornerstone Earth Group and is attached.
15	Section 02881 / 3.02 H of the Technical Specifications states that the contractor shall record and maintain Electronic Positioning Data Records during dredging operations. This is typically only required of floating dredge plants. Please clarify.	No, Electronic Positioning Data Records are not necessary for this project.

### **Answers to Questions from Prospective Bidders**

Alameda South Shore Lagoons 3 & 5 Dredging Project No. P.W. 09-19-49

No.	Question	Answer
16	Section 02881 / 3.09 B of the Technical Specifications states that all trucks transporting dredged material must be lined for containment of liquid. Lining of trucks can add significant cost to trucking and disposal. If the excavated sediment is sufficiently dewatered prior to transport and the trucks are sealed using other methods satisfactory to the Engineer, may the contractor omit the lining requirement?	Yes, this is acceptable.
17	Can portland type 2 cement be used as the chosen soil desiccant? Please provide the criteria used in allowing other Soil Desiccant products aside Bentonite Clay in order to guide selection of other Soil Desicants.	Yes, type 2 cement can be used if adequate containment is provided for it. We will also consider other options that are non-hazardous and non-toxic. Any dessicants used must be in full compliance with the Health and Safety Plan.
18	Is there a construction water source available for use on site at Lagoon 3 and Lagoon 5?	Yes. At Lagoon 3 there is a hydrant at the intersection of Powell and Oak Street. At Lagoon 5 there is a hydrant at the intersection of Waterton and Court Street. Contractor will need to obtain a hydrant meter from EBMUD.
19	Will the contractor have access to perform a bathymetric survey of Lagoons 3 and 5 prior to draining?	Yes, with prior permission obtained from the Alameda West Lagoon Home Owners Association (AWLHOA).
20	Will the contractor be allowed to trim trees to facilitate access?	No.
21	The 401 Permit states that the sediment will be transported to a "non-hazardous solid waste landfill for disposal" Our initial analysis of the analytical results find them lacking some additional testing that would be required for acceptance as non-hazardous to several area landfills. Can the Engineer provide the intended landfill used for the permitting and planning process, and if not, is the contractor to assume all material to be removed will be accepted as non-hazardous and any material determined to be hazardous would be considered a material change?	The Contractor is responsible for all additional testing that may be required per Section 02881, "Dredging," of the Technical Specifications. The Contractor is also responsible for determining the landfill suitable for disposal based upon existing sampling data (and additional data as necessary) per Section 01100, "Measurement and Payment," of the Technical Specifications. As stated in previous answers above, based on existing sampling data Cornerstone Earth Group expects the material to be non-hazardous and to be disposed of in a landfill accordingly. If the material is determined to differ substantially in chemical composition from the sampling and test data provided, then the City may consider a material change.
22	Will the contractor be responsible for all additional sediment sampling required as part of the waste acceptance process?	Yes.
23	Will the selected contractor be allowed access to resample the lagoon prior to draining?	Yes, with prior permission obtained from the Alameda West Lagoon Home Owners Association (AWLHOA).
24	Has the final 401 Water Quality Certification been obtained?	Yes. It is attached.

## ATTACHMENT G

# **Supporting Seawall Reports and Drawings Requested During Initial Bid Solicitation**

(See Attachment F, Questions and Answers Generated from Initial Bid Solicitation)

- STLC Analysis for Samples Referenced in June 04, 2019 Email
- 2011 Reconnaissance of Seawalls Fronting the City Right-of-Way by ENGEO Incorporated
  - Lagoon 3 Available Seawall Plans
  - Lagoon 5 Available Seawall Plans

# STLC Analysis for Samples Referenced in June 04, 2019 Email

**TestAmerica** 

### **ANALYTICAL REPORT**

Eurofins TestAmerica, Pleasanton 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

Laboratory Job ID: 720-93190-2

Client Project/Site: Alameda Lagoon Dredging

### For:

eurofins

Cornerstone Earth Group 1270 Springbrook Road, Suite 101 Walnut Creek, California 94597

Attn: Peter Langtry

Authorized for release by: 6/5/2019 1:37:29 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919

afsaneh.salimpour@testamericainc.com

·····LINKS ······

**Review your project** results through Total Access

**Have a Question?** 



Visit us at: 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.

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Laboratory Job ID: 720-93190-2

# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
QC Sample Results	9
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receint Checklists	18

### **Definitions/Glossary**

Client: Cornerstone Earth Group
Project/Site: Alameda Lagoon Dredging
Job ID: 720-93190-2

Glossary

TEQ

Toxicity Equivalent Quotient (Dioxin)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Eurofins TestAmerica, Pleasanton

6/5/2019

### **Case Narrative**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Job ID: 720-93190-2

Job ID: 720-93190-2

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative 720-93190-2

### Comments

No additional comments.

### Receipt

The samples were received on 5/24/2019 11:49 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was  $1.2^{\circ}$  C.

### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### **General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

J-93190-2

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### **Detection Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Client Sample ID: L5-1 COMP						La	b Sample II	D: 720-93190-5
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Lead	2.1		0.050		mg/L	1	6010B	STLC Citrate
Client Sample ID: L3-1 COMP						Lab	Sample ID:	720-93190-10
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Lead	3.1		0.050		mg/L	1	6010B	STLC Citrate
Client Sample ID: L3-3 COMP						Lab	Sample ID:	720-93190-15
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Lead	0.48		0.050		ma/L		6010B	STLC Citrate

10

### **Client Sample Results**

Client: Cornerstone Earth Group

Client Sample ID: L5-1 COMP

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-5

Date Collected: 05/23/19 14:15 Date Received: 05/24/19 11:49

Matrix: Solid

Job ID: 720-93190-2

Method: 6010B - Metals (ICP) - STI	LC Citrate								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.1		0.050		mg/L		06/05/19 08:57	06/05/19 11:43	1

### **Client Sample Results**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Client Sample ID: L3-1 COMP

Lab Sample ID: 720-93190-10

Matrix: Solid

Job ID: 720-93190-2

Date Collected: 05/23/19 13:20

Date Received: 05/24/19 11:49

Method: 6010B - Metals (ICP) - STL	.C Citrate								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.1		0.050		mg/L		06/05/19 08:57	06/05/19 11:58	1
Copper	ND		0.20		ma/L		06/05/19 08:57	06/05/19 11:58	1

### **Client Sample Results**

Client: Cornerstone Earth Group

Client Sample ID: L3-3 COMP

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-15

Matrix: Solid

Job ID: 720-93190-2

Date Collected: 05/23/19 12:31 Date Received: 05/24/19 11:49

Method: 6010B - Metals (ICP) - STLC Citrate										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Lead	0.48		0.050		mg/L		06/05/19 08:57	06/05/19 12:03	1

### **QC Sample Results**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging

Lab Sample ID: MB 720-266880/1-A

Method: 6010B - Metals (ICP)

Job ID: 720-93190-2

Dil Fac

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 266880

	IVID	MID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050		mg/L		06/05/19 08:57	06/05/19 10:00	1
Copper	ND		0.020		mg/L		06/05/19 08:57	06/05/19 10:00	1

LCS LCS

0.961

0.956

RL

0.050

0.20

Result Qualifier

MDL Unit

MS MS

11.0

8.92

Result Qualifier

mg/L

mg/L

Unit

mg/L

mg/L

Unit

mg/L

mg/L

D

Prepared

06/05/19 08:57

%Rec

Spike

Spike

Added

10.0

10.0

MR MR

LB4 LB4

ND

ND

Sample Sample

2.4

0.50

Result Qualifier

Result Qualifier

Lab Sample ID: LCS 720-266880/2-A

**Matrix: Solid** 

Analysis Batch: 266900

**Matrix: Solid** 

Analysis Batch: 266900

Alialysis Batch. 200900		
Analyte		
		-

Lead Copper

Added 1.00 1.00

Lab Sample ID: LB4 720-266501/1-C **Matrix: Solid** 

Analysis Batch: 266900

Lead

Copper

**Matrix: Solid** 

Analyte

Copper			
_			

Lab Sample ID: 440-239407-A-1-H MS **Matrix: Solid** 

Allalysis	Daten.	200300

Analyte Lead

<u>_</u>
Lab Cample ID: 440 220407 A 4 LMCD
Lab Sample ID: 440-239407-A-1-I MSD

Analysis Batch: 266900

Г			
Lab	Sample	ID:	440-239407-

Client Sample ID: Lab Control Sample **Prep Type: Total Recoverable Prep Batch: 266880** 

%Rec.

I	D %	Rec	Limit	s	
		96	80 - 1	20	
		96	80 - 1	20	

Client Sample ID: Method Blank

**Prep Type: STLC Citrate** 

**Prep Batch: 266880** 

06/05/19 08:57	06/05/19 11:38	1
Client S	ample ID: Matrix S <sub>l</sub>	pike

Analyzed

06/05/19 11:38

**Prep Type: STLC Citrate Prep Batch: 266880** %Rec.

	84	75 _ 125
	86	75 - 125

Limits

Client Sample ID: Matrix Spike Duplicate **Prep Type: STLC Citrate Prep Batch: 266880** 

7 mary old Datom 200000									op Batom Booos		
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	2.4		10.0	11.3		mg/L		89	75 - 125	2	20
Copper	0.50		10.0	8.83		mg/L		83	75 - 125	1	20

### **QC Association Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

### **Metals**

### Leach Batch: 266501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep	Batch
720-93190-5	L5-1 COMP	STLC Citrate	Solid	CA WET Citrate	
720-93190-10	L3-1 COMP	STLC Citrate	Solid	CA WET Citrate	
720-93190-15	L3-3 COMP	STLC Citrate	Solid	CA WET Citrate	
LB4 720-266501/1-C	Method Blank	STLC Citrate	Solid	CA WET Citrate	

### Leach Batch: 266658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-239407-A-1-H MS	Matrix Spike	STLC Citrate	Solid	CA WET Citrate	
440-239407-A-1-I MSD	Matrix Spike Duplicate	STLC Citrate	Solid	CA WET Citrate	

### **Prep Batch: 266880**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	STLC Citrate	Solid	3005A	266501
720-93190-10	L3-1 COMP	STLC Citrate	Solid	3005A	266501
720-93190-15	L3-3 COMP	STLC Citrate	Solid	3005A	266501
LB4 720-266501/1-C	Method Blank	STLC Citrate	Solid	3005A	266501
MB 720-266880/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 720-266880/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
440-239407-A-1-H MS	Matrix Spike	STLC Citrate	Solid	3005A	266658
440-239407-A-1-I MSD	Matrix Spike Duplicate	STLC Citrate	Solid	3005A	266658

### Analysis Batch: 266900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-93190-5	L5-1 COMP	STLC Citrate	Solid	6010B	266880
720-93190-10	L3-1 COMP	STLC Citrate	Solid	6010B	266880
720-93190-15	L3-3 COMP	STLC Citrate	Solid	6010B	266880
LB4 720-266501/1-C	Method Blank	STLC Citrate	Solid	6010B	266880
MB 720-266880/1-A	Method Blank	Total Recoverable	Solid	6010B	266880
LCS 720-266880/2-A	Lab Control Sample	Total Recoverable	Solid	6010B	266880
440-239407-A-1-H MS	Matrix Spike	STLC Citrate	Solid	6010B	266880
440-239407-A-1-I MSD	Matrix Spike Duplicate	STLC Citrate	Solid	6010B	266880

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### **Lab Chronicle**

Client: Cornerstone Earth Group

Project/Site: Alameda Lagoon Dredging

Lab Sample ID: 720-93190-5

Lab Sample ID: 720-93190-10

Lab Sample ID: 720-93190-15

Lab TAL PLS

MAA

BKR

TAL PLS

TAL PLS

266880 06/05/19 08:57

266900 06/05/19 12:03

**Matrix: Solid** 

**Matrix: Solid** 

**Matrix: Solid** 

Job ID: 720-93190-2

Client Sample ID: L5-1 COMP

Date Collected: 05/23/19 14:15 Date Received: 05/24/19 11:49

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			266501	05/29/19 16:09	MAG	TAL PLS
STLC Citrate	Prep	3005A			266880	06/05/19 08:57	MAA	TAL PLS
STLC Citrate	Analysis	6010B		1	266900	06/05/19 11:43	BKR	TAL PLS

Client Sample ID: L3-1 COMP

Date Collected: 05/23/19 13:20

Date Received: 05/24/19 11:49

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			266501	05/29/19 16:09	MAG	TAL PLS
STLC Citrate	Prep	3005A			266880	06/05/19 08:57	MAA	TAL PLS
STLC Citrate	Analysis	6010B		1	266900	06/05/19 11:58	BKR	TAL PLS

1

**Client Sample ID: L3-3 COMP** 

Prep

Analysis

Date Collected: 05/23/19 12:31

Date Received: 0	5/24/19 11:4	19					
	Batch	Batch		Dilution	Batch	Prepared	
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst
STLC Citrate	Leach	CA WET Citrate			266501	05/29/19 16:09	MAG

**Laboratory References:** 

STLC Citrate

STLC Citrate

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

3005A

6010B

### **Accreditation/Certification Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

### Laboratory: Eurofins TestAmerica, Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority **EPA Region Expiration Date** California State Program 01-31-20 The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification. Matrix Analysis Method Prep Method Analyte

Eurofins TestAmerica, Pleasanton

### **Method Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL PLS
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PLS
CA WET Citrate	California - Waste Extraction Test with Citrate Leach	CA-WET	TAL PLS

### Protocol References:

CA-WET = California Waste Extraction Test, from Title 22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL PLS = Eurofins TestAmerica, Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

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### **Sample Summary**

Client: Cornerstone Earth Group Project/Site: Alameda Lagoon Dredging Job ID: 720-93190-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	1
720-93190-5	L5-1 COMP	Solid	05/23/19 14:15	05/24/19 11:49	_
720-93190-10	L3-1 COMP	Solid	05/23/19 13:20	05/24/19 11:49	
720-93190-15	L3-3 COMP	Solid	05/23/19 12:31	05/24/19 11:49	

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	Project Manager:		Peter Langtry	7		Site Sar	Site Sampler: NKM	KW		Pag	Date: 5/23/19			COC No:	
Cornerstone Earth Group, Inc.	Tel/Fax: 9		90 ext.		Ī	Lab Contact:	ntact:			13	Lab: Test America	erica		of 2	2 COCs
1220 Oakland Boulevard, Suite 220		Analysis	Analysis Turnaround Time	Time		F	F	E		L			F	112	ob No.
Walnut Creek, CA 94596													_		
(925)-988-9500 Phone	Τ/1	AT if differen	TAT if different from Below	S-day			(At								
(925)-988-9501 FAX			1 week	7			747/8		(80						
Project Name: Alameda Lagoon Dredging			3 days				-		-						
Site: Alameda, CA, Lagoons 3 & 5			2 days			9	~~~	(	H pu		7.	720-93190 Chain of Custody	hain of Cu	ıstody	
Project Number: 167-33-1			1 day			du	_	1808	act a						
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sa	17 CAM Met 19 om\b HqT	OCPs (EPA	SYOCs (EPA STLC - Extra TPHg and V					Laboratory's S	Laboratory's Sample Specific Notes:
L5-1															
L5-1A	5/23	10:61	liner	soil	_										
L5-1B		QI:HI	liner	soil	_		$\leq$	$\leq$						Compostite A-E	Compostite A-D samples into one 4-
L5-1C		(4:05	- CN0/ liner	soil	4		=		//X					point composite	
L5-1D	-	14:15	liner	soil	1		$\leq$		_					<b>r</b>	
L3-1															
L3-1A	5/23	(3:CD	) liner	soil	_										
L3-1B		13:15	liner	soil	-			<u></u>						Compostite A-E	Compostite A-D samples into one 4-
L3-1C		13:10	CN 0/ liner	soil	J		_		$\times$					point composite	Φ
L3-1D	7	13:20	liner	soil	-										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	4=HN03; 5	-NaOH;	j= Other		] ,	$\perp$	+			_			-		
Possible Hazard Identification  Non-Hazard	Skin Irritant		Poison B		<i>U</i> пкноwn	San	Sample Disposal	le Disposal Return To Client		∏ Pisia	☐ Disposal By Lab	ab a	☐ Archive For	» For	Months
Special Instructions/QC Requirements & Comments: If additional sample is needed, please use the liner.	nts: If addi	tional sam	ple is needer	d, please	use the li	ner.									
								`	37	1				*	
Relinquished by: 7	Company: Cornerstone Earth	e Earth Gro	Group	Date/Time:			Received by:	) MIN	Rayand	the	Company	ompany:		Date/Time:	9011
Relinguished by:	Company:	57		Date/Time:	ne: 190		Received by:		The second secon		Company	lany:		Date/Time:	8611 6
Relinquished by:	Company:			Date/Time:	ne:	Rece	Received by:				Company	any:		Date/Time:	-
						-					-				

720-43190 Chain of Custody Record

Cornerstone Earth Groun Inc	Project Manager: Peter Langtry Tel/Eav. 975-988-9500 evt		Site Sampler: NKM	Date: 5/23/19	CUC No:
1220 Oakland Boulevard. Suite 220	Analysis Turnaround Time			Lab. 193 America	do N
Walnut Creek, CA 94596					
(925)-988-9500 Phone	TAT if different from Below	5-d24	(A1		<i>.</i>
(925)-988-9501 FAX	1 week	7			
Project Name: Alameda Lagoon Dredging	3 days		plo		
Site: Alameda, CA, Lagoons 3 & 5	2 days		012) (20) (20)		
Project Number: 167-33-1	1 day		als (E 8082) 8081) 8081) 728 /		ega a derin
Sample Identification	Sample Sample Sample Date Time Two	Symple # of Addition.	Physical Sarting Physical Physical Sarting Physical Physical Sarting Physical Physi		I shoretory's Camule Creatific Motes
WW1 - 4:57					
L3-ZA	liner soil	The Control of the Co			
L3-2B	liner soil		X		Compostite A-D samples into one 4-
Г3-2С	liner soil				point composite
L3-28	liner soil				
L3-3					
L3-3A	5/23 12:15 soil	Livery 4	X		
L3-3B	5/23 (2,22 soil	1 BN17			Compostite A-D samples into one 4-
L3-3C	5/23 (2:31 soil	liner 1			point composite
L3-3D	\$23 12.26 soil	1 mer 1			
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other	4=HNO3; 5=NaOH; 6= Other				
Possible Hazard Identification  Non-Hazard Hammable	Skin Irritant Poison B	Unknown	Sample Disposal  Return To Client	Disposal By Lab Trchive For	ForMonths
ons/QC Requirements & Co	nts: If additional sample is needed	, please use the lir			
Relinquished by:	Company: Cornerstone Earth Group	Date/Time:	Received by:	Company:	5/24/19 1106
Relinguished by:	Company: 74 PLS	Date/Time: $5/2v///q^{1/4}c$	Received by:	Company:	Date Tilme:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

72c - 93/9c
Chain of Custody Record

CORNERSTONE EARTH GROUP

### Salimpour, Afsaneh

# 720-93190-7 rev

From:

Peter Langtry <plangtry@cornerstoneearth.com>

Sent:

Tuesday, June 04, 2019 6:53 AM

To:

Salimpour, Afsaneh

Subject:

RE: Eurofins TestAmerica report and EDD files from 720-93190-1 Alameda Lagoon

Dredging

### -External Email-

Afsaneh, please analyze the STLC extracts for L5-1 and L3-3 for lead, and the STLC extract for L3-1 for copper and lead on a standard response.

Thanks!

Sincerely,

Peter Langtry, P.G., C.E.G. Senior Principal Geologist

### **Cornerstone Earth Group**

1220 Oakland Boulevard, Suite 220 | Walnut Creek, CA 94596 T 925-988-9500, Ext. 217 | F 925-988-9501 C 925.817.8814 E plangtry@cornerstoneearth.com

### www.cornerstoneearth.com

From: Afsaneh Salimpour <afsaneh.salimpour@testamericainc.com>

Sent: Monday, June 3, 2019 5:11 PM

To: Peter Langtry < plangtry@cornerstoneearth.com >

Subject: Eurofins TestAmerica report and EDD files from 720-93190-1 Alameda Lagoon Dredging

Hello,

Attached please find the report and EDD files for job 720-93190-1; Alameda Lagoon Dredging

Please feel free to contact me if you have any questions.

Thank you.

Afsaneh F Salimpour

Project Manager

Eurofins TestAmerica, Pleasanton

Phone: 925-484-1919



720-93190 Chain of Custody

1

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**O** 

6

8

4 4

12

13

Client: Cornerstone Earth Group

Job Number: 720-93190-2

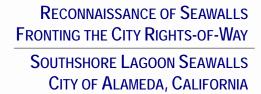
Login Number: 93190

List Source: Eurofins TestAmerica, Pleasanton

List Number: 1 Creator: Arauz, Dennis

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# **2011 Reconnaissance of Seawalls Fronting the City Right-of-Way by ENGEO Incorporated**





Submitted to: Mr. Barbara Hawkins City of Alameda Public Works Department 950 West Mall Square Alameda, California 94501-7575

Prepared by: ENGEO Incorporated

July 26, 2011

Project No. 9191.000.000

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Project No. **9191.000.000** 

July 26, 2011

Ms. Barbara Hawkins City of Alameda Public Works Department 950 West Mall Square Alameda, CA 94501-7575

Subject: Southshore Lagoon Seawalls

Alameda, California

RECONNAISSANCE OF SEAWALLS FRONTING THE CITY RIGHTS-OF-WAY

Dear Ms. Hawkins:

This report summarizes our findings from a reconnaissance of the Southshore Lagoon Seawalls that are located within the City rights-of-way located in Alameda, California. This report was prepared in accordance with our Consultant Agreement to "Evaluate Southshore Lagoon Seawalls Fronting the City Rights-of-Way in Alameda, California," dated January 24, 2011.

### PURPOSE AND SCOPE

The purpose of this report is to document the observed existing conditions of the seawalls and the site conditions in the vicinity of the seawalls that are located within the City right-of-way based solely on visual observations and review of historical documents. This study included a review of plans provided by the City of Alameda, geologic literature, maps and historical data, examination of aerial photographs and a reconnaissance via canoe of the lagoon side of the walls.

This report strictly provides information regarding our visual observations of the walls. We did not perform subsurface exploration or structural evaluation of the subject walls. No recommendations regarding the privately owned seawalls are presented in this report. This report was prepared for the exclusive use of the City of Alameda. This document may not be quoted or excerpted without the express written consent of ENGEO Incorporated.

### LOCATION AND DESCRIPTION

The Southshore Lagoons, located in the southeast portion of Alameda, comprise five lagoons that are interconnected via pipes and culverts. The northern shore of the lagoons formed the southern shoreline of the island until construction of the Southshore development in the late 1950s. The lagoons were created during construction of the Southshore development by filling a part of the San Francisco Bay. The lagoons have been designated from east to west as follows: East Lagoon Extension, East Lagoon, East Central Lagoon, West Central Lagoon and

9191.000.000 July 26, 2011 Page 2

West Lagoon (Figure 1). The subject seawalls form the perimeter of the lagoons and consist of several generations or eras of walls. Most of the walls within the public right-of-way are along the north shore of the lagoon with the exception of Otis Drive, which is adjacent to the southern boundary of the West Central Lagoon. The walls along the north shore of the lagoons are generally the oldest. The oldest of the northern walls likely date back to the late 1800s; many segments of the walls have been repaired or replaced since original construction. The wall along Otis Drive was likely constructed in the 1950s in support of the Southshore development.

The public rights-of-way with frontage on the lagoons are located adjacent to or at the terminus of the following streets:

- Weber Street
- St. Charles Street
- Sherman Street
- Union Street
- Chestnut Street
- Cedar Street
- Otis Drive
- Versailles Ave
- Court Street

- Caroline Street
- Bay Street
- Paru Street
- Lafayette Street
- Walnut Street
- Powell Street
- La Jolla Drive
- Waterton Street

### **DOCUMENT REVIEW**

Based on our discussions with City of Alameda staff and review of plans and documents regarding the seawalls provided by the City, there are no plans available and little information regarding the earliest generation of seawalls (most of those along the northern side of the lagoons). Based on review of the 1903 Coastal Survey map, the 1903 bay margin corresponds well with the existing northern margin of the southshore lagoons, indicating that the early walls may date back to the early part of the 19<sup>th</sup> Century.

The oldest seawall plan provided by the City is presumably for the repair of an older seawall at the foot of Caroline Street. The plan shows a section and rear elevation for a 12-foot-high reinforced concrete wall supported on a 6-foot-wide "T" footing with a 15-inch-wide, 12-inch-deep key. The section depicts that the wall is to have 4-inch weepholes and around 3 to 4 feet of embedment below the beach level. Based on the plans (File Number 1484-42), it likely dates back to the early part of the 1900s.

Other wall plans provided for our review depict various repairs to the seawalls and focus mainly on the barrier wall that sits atop the seawall. A plan from 1952 for repairs to the wall at Powell Street appears to indicate that the wall in 1952 had approximately 1 to 3 inches of concrete erosion at the face of the wall. The plan depicts placing 1 to 3 inches of grout to restore the face of the wall.

9191.000.000 July 26, 2011 Page 3

The most detailed seawall plans provided for our review are for the walls along the south shore of the lagoons that were constructed at the time of the Southshore development in the late 1950s. According to the plans, the seawalls at Otis Drive is supported on a 4-foot-wide "T" footing and has 3-inch-diameter weepholes for drainage.

We also reviewed a set of plans titled "Lagoon Seawall Rehabilitation" dated September 15, 2009. These plans primarily include applying a 4-inch-thick layer of shotcrete to the face of the retaining walls. The plans also include repairs to barrier walls and replacement of fences at the top of several walls.

### **GEOLOGY**

The site is located along the original south shore of Alameda on the east shore of the San Francisco Bay. According to geologic mapping by Helley and Graymer (1997), areas in the vicinity of the site located north of the seawalls are mapped as Holocene and Pleistocene Merritt Sand Deposits and areas located south of the lagoons are mapped as artificial fill.

### **GEOLOGIC MATERIALS**

### **Artificial Fill**

As a consequence of the land reclamation and construction of the Southshore Development, artificial fill was placed on preexisting marshland sometime between the late 1950s and the mid 1960s. According to Helley and Graymer (1997), the artificial fill is described as a man-made deposit of various materials and ages. The fill material is further described as being composed of a mixture of sand, gravel, and clay or clay-like material, much of which was dredged from San Francisco Bay (Helley and Graymer, 1997).

### **Merritt Sand Deposits**

Soils that constitute the native portions of Alameda are mapped as Holocene and Pleistocene deposits known locally as Merritt Sand. Merritt Sand generally comprises beach or near-shore deposits of medium dense to dense, fine-grained clean to slightly clayey sand or silty sand.

### SITE RECONNAISSANCE

An ENGEO engineer and engineering geologist conducted a reconnaissance of the lagoon side and landside of the seawalls within the City right-of-way on February 28, March 1, and April 18, 2011. The reconnaissance was performed from a canoe within the lagoons and on foot along the landside of the walls. During the reconnaissance, observations were made with respect to general wall heights, wall inclination, general condition of the wall (cracking, spalling, exposed reinforcement, concrete weathering, concrete erosion, and overall observed distress to the wall). The information from the reconnaissance has been summarized on Figures 2 through 5.

9191.000.000 July 26, 2011 Page 4

During our reconnaissance of the seawalls, we observed multiple generations of seawalls in various conditions. The differentiating characteristics from generation to generation of walls are described below:

- 1. Generation I Earliest Walls (likely dating back to circa 1890) These walls are exclusively located along the northern shore of the lagoons and predate the creation of the lagoons. Generation I walls are generally rock masonry and concrete walls with more batter (up to 20 degrees) and large gravel to cobble-sized, poorly graded aggregate, as observed within the face of the concrete. These walls typically have thickened bases, are up to 8 feet in height, and the concrete displays relatively severe spalling, weathering and erosion, with the most severe erosion near the water line. No reinforcing steel or weepholes were observed in any of the exposures of the earliest walls. In many cases, newer generations of walls have been constructed on top of these walls and only the lowermost portions of the Generation I walls remain.
- 2. Generation II Early Walls (likely dating to the 1920s and 1930s) These walls are exclusively located along the northern shore of the lagoons and predate the creation of the lagoons. Generation II walls comprise concrete walls with less batter (5 to 10 degrees) and more typically graded aggregate. Generation II walls are up to 10 feet in height. The aggregate appears to consist of a mixed lithology, including sandstone, graywacke, chert, and shale. These walls typically display relatively severe spalling, weathering and erosion. In some cases, highly corroded reinforcement was observed in highly eroded and spalling areas of the walls. In some cases, a thin layer of grout or mortar is present on the face of these walls and, where it is present, outlines of the 6- to 12-inch-wide formboards are evident.
- 3. Generation III Modern Walls (dating from the late 1950s to present) In general, these walls are present along the southern shore of the lagoons and were constructed near the same time as the Southshore Development. Some Generation III walls are found on the north side of the West Lagoon and are generally 2 to 4 feet in height. These walls are reinforced concrete walls that appear to have been constructed to more modern standards. These walls are vertical with square corners and a smooth surface finish. Aggregate in the walls is well graded and it appears that plywood sheets were used as the forms. These walls generally display very little spalling, weathering or erosion.

### **DISCUSSION**

In general, the walls along the northern shore of the lagoons showed significantly more surface distress than those along the southern shore. During our reconnaissance, we observed visual evidence of numerous deficiencies in the walls and, based on these observations, we grouped the walls into three general categories as follows:

- Walls with minor apparent distress
- Walls with moderate apparent distress
- Walls with significant apparent distress

9191.000.000 July 26, 2011 Page 5

We grouped walls into these categories based solely on our visual observations of conditions during our site visit. We observed several conditions that are indications of potential deficiencies in the walls. Following is a list of these general deficiencies:

- Weathering or erosion of the concrete facing
- Cracking of the wall face
- Exposed reinforcing steel
- Cold joints or discontinuities in the wall
- Structures constructed on or extremely close to the wall
- Heavy vegetation growing on/through the wall
- Evidence that the wall is overturning

Figures 2 through 5 show graphically how we categorized each of the walls on aerial photos of the four lagoons. The figures also include images that show the typical conditions and a code indicating the deficiencies evident in the photographs.

A significant amount of aggregate is exposed in the face of most of the concrete walls. In general the aggregate, where exposed, is poorly graded and has typical particle sizes approximately 1 to  $1\frac{1}{2}$  inches. Following is a description of our observations at each wall to go along with the images shown on the Figures:

### **Weber Street**

There are both extensive weathering and cracking of the wall face; a large continuous horizontal crack or weathered cold joint crosses the wall at its mid-height. A large concrete stairway is located on the western portion of this wall. The wall appears to have been repaired some time ago with a stucco or troweled-on sandy grout finish. This stucco finish has weathered and fallen off approximately 60 to 70 percent of the wall face. A corrugated metal storm drain pipe exits the wall approximately 2 feet from the top; the pipe is severely corroded and has been repaired with a newer, smaller diameter pipe slipped inside. The newer pipe does not extend to the outside face of the wall, and water can flow from the pipe to the wall backfill. Several smaller diameter pipes, approximately 4 inches in diameter, discharge approximately 4 feet below the top of wall; at the time of our visit, water was slowly flowing out of these pipes.

### **Caroline Street**

There are both extensive weathering and cracking of the wall face. Several cobble-sized aggregate pieces are visible in the weathered parts of the walls. A large concrete stairway is located on the western portion of this wall, and a concrete counterfort extends into the lagoon on the east side of the stairs. The wall appears to have been repaired with a stucco or troweled-on sandy grout finish some time ago. Based on the color, finish and grain size, there appears to be at least two generations of the stucco repair. This stucco finish has weathered and fallen off approximately 20 to 30 percent of the wall face. There are concrete gutters on either side of the

9191.000.000 July 26, 2011 Page 6

wall, and minor erosion to the concrete at the top of the wall from stormwater flowing over the wall and into the lagoon.

### St. Charles Street

This wall has a concrete barrier wall on top, and the retaining portion of the wall has an approximately 20-degree batter on the surface facing the lagoon. extensive weathering and cracking of the wall face, a large continuous horizontal crack or weathered cold joint crosses the wall approximately 1 foot below the top of the sea wall. A large concrete stairway is located in the middle portion of this wall. There are concrete gutters on either side of the wall, and minor erosion to the concrete at the top of the wall from the stormwater flowing over the wall and into the lagoon.

### **Bay Street**

This wall has a concrete barrier wall on top, and the retaining portion of the wall has an approximately 20-degree batter. There are both extensive weathering and cracking of the wall face; a large continuous weathered cold joint is located at the contact between the barrier wall and the sea wall. A large concrete stairway is located in the middle portion of this wall. Several chunks of concrete approximately 6 to 12 inches in width have broken from the barrier and retaining portions of the wall and are sitting at the foot of the wall in the lagoon. There are concrete gutters on either side of the wall, and severe erosion to the concrete at the top of the wall from the stormwater flowing over the wall and into the lagoon.

### **Sherman Street**

This wall is built of grouted stone masonry, with an approximately 20-degree batter. There is minor weathering and cracking, with more severe weathering at the waterline. A large concrete stairway is located in the middle portion of this wall.

### Paru Street

There are both extensive weathering and cracking of the wall face, and several cobble-sized aggregate pieces are visible in the weathered areas. A sanitary sewer pump station is located at the east end of the wall. There are severe vertical cracks to the wall near the manhole, and several chunks of concrete approximately 6 to 12 inches in width have broken from the front face of the wall and are sitting at the foot of the wall. We observed voids behind the wall immediately east of the pump station; the section of wall to the east of the pump station may be private. There are concrete gutters on either side of the wall, and a storm drain pipe exits the wall at the waterline.

9191.000.000 July 26, 2011 Page 7

### **Union Street**

This appears to be a Generation II type wall. There is extensive weathering at the waterline; much of the wall was obscured by vegetation.

### **Lafayette Street**

This wall is built of concrete, appears to be a Generation II type wall built on top of the footing from an older wall with a weathered cold joint at the contact. This wall has a concrete barrier wall on top. Surface water from the street discharges over the wall through cutouts near the top of the wall. There is a small-diameter hole in the pavement adjacent to the gutter and backside of the wall; surface water appears to be scouring this hole. There are both extensive weathering and cracking where the surface water discharges. There are stairs, parallel to the wall, at the midpoint of the wall.

### **Chestnut Street**

This wall has an approximately 20-degree batter and has a concrete barrier wall on top. The wall has several counterforts and reentrant corners. There are two concrete gutters for discharge of surface flow from the street, which appear to be in good shape. The wall appears to have been repaired with a stucco or troweled-on sandy grout finish some time ago. This stucco finish has weathered and fallen off along the waterline.

### Walnut Street

The conditions of the Walnut Street wall are covered in our report titled "Walnut Street Seawall, Geotechnical Report," dated April 5, 2011.

### **Cedar Street**

This wall has an approximately 20-degree batter and has a concrete barrier wall on top. There are both extensive weathering and cracking of the wall face. There are stairs, parallel to the wall, at the eastern end of the wall.

### **Powell Street**

There are both extensive weathering and cracking of the wall face, and several cobble-sized aggregate pieces are visible in the weathered areas. Several chunks of concrete approximately 6 to 12 inches in width have broken off and are sitting at the foot of the wall. The barrier at the top of the wall consists of concrete posts spaced approximately every 10 to 12 feet connected with a timber railing. Portions of the concrete posts and the railing are broken, and a chain link fence has been erected to provide a barrier at the top of the wall.

9191.000.000 July 26, 2011 Page 8

### **Otis Street**

This wall is built of modern concrete and appears to be a Generation III type wall. The wall has minor weathering and staining.

### La Jolla Drive

This wall appears to be a Generation II. There are both extensive weathering and cracking of the wall face; heavily rusted steel reinforcement is observed in portions of the wall where the weathering is extreme.

### Versailles Ave

This wall appears to be a Generation III wall. The wall has minor weathering and staining. There is a storm drain outfall at the waterline. This wall is approximately 4 feet tall with a gentle slope approximately 4 feet down to the lagoon. There are portions of older concrete in the lagoon near the base of this wall.

### **Waterton Street**

This section of City right-of-way is an embankment down to the lagoon. There is no revetment of the embankment. The slope face is heavily vegetated with bushes, and no evidence of surface erosion was visible at the time of our visit. There is no wall at this location.

### **Court Street**

This concrete wall is a Generation II type wall and is in good condition. The wall has minor weathering and staining. The wall has a chain-link fence at the top.

### RECOMMENDATIONS

During our site visits, we did not observe any walls that appeared to be in imminent risk of collapse. We did observe portions of walls with extreme weathering where vegetation was growing in the weathered aggregate in the wall face. In some cases, the weathering has extended into the wall deep enough that reinforcing steel was exposed. Due to the marine environment, exposed reinforcing steel can rust quickly resulting in reduction of wall performance. In order to extend the life of the retaining walls, we recommend the City implement the proposed shotcrete facing shown on the 2009 plan set previously referenced.

We recommend that voids in the retaining wall, such as those observed at the Weber Street storm drain outfall and adjacent to the pump station at Paru Street, should be filled and the wall repaired. In both cases, lean grout or controlled density fill would be appropriate for filling these voids. The Weber Street wall could be repaired by extending the outlet pipe beyond the front face of the wall. The concrete wall facing at Paru Street should be repaired after any voids are

filled. Additionally, we recommend filling the small hole in the pavement directly adjacent to the wall and gutter at Lafayette Street.

Most of the walls rely on cutouts at the tops of the retaining walls in order to discharge surface water flow past the walls. The outlets should be cleaned of vegetation during the rainy season to ensure proper drainage. In some locations, we observed gaps in the joint or cracks where the street gutters pass meet the walls to discharge. We recommend sealing these joints so water can not get behind the walls.

### **LIMITATIONS**

This report presents observations of the conditions of public retaining walls based solely on visual observations from the lagoons and from the tops of the walls. We did not perform any destructive testing of the walls or subsurface exploration in support of this report. This report was prepared for the use of the City of Alameda and is not intended to be used for design of wall repairs. It is the responsibility of the City to transmit relevant portions of this report to necessary parties as they deem appropriate; the City understands that we have not provided the information found in this report to other parties.

We strive to perform our professional services in accordance with generally accepted geotechnical engineering principles and practices currently employed in the area; no warranty is expressed or implied. There are risks of earth movement and property damages inherent in building on or with earth materials. We are unable to eliminate all risks; therefore, we are unable to guarantee or warrant the results of our services.

If you have any questions or comments regarding this report, please call and we will be glad to discuss them with you.

Sincerely,

**ENGEO** Incorporated

Jeff Fippin, GE

jf/dsh/jf:seawall

Daniel S./Haynosch, G.

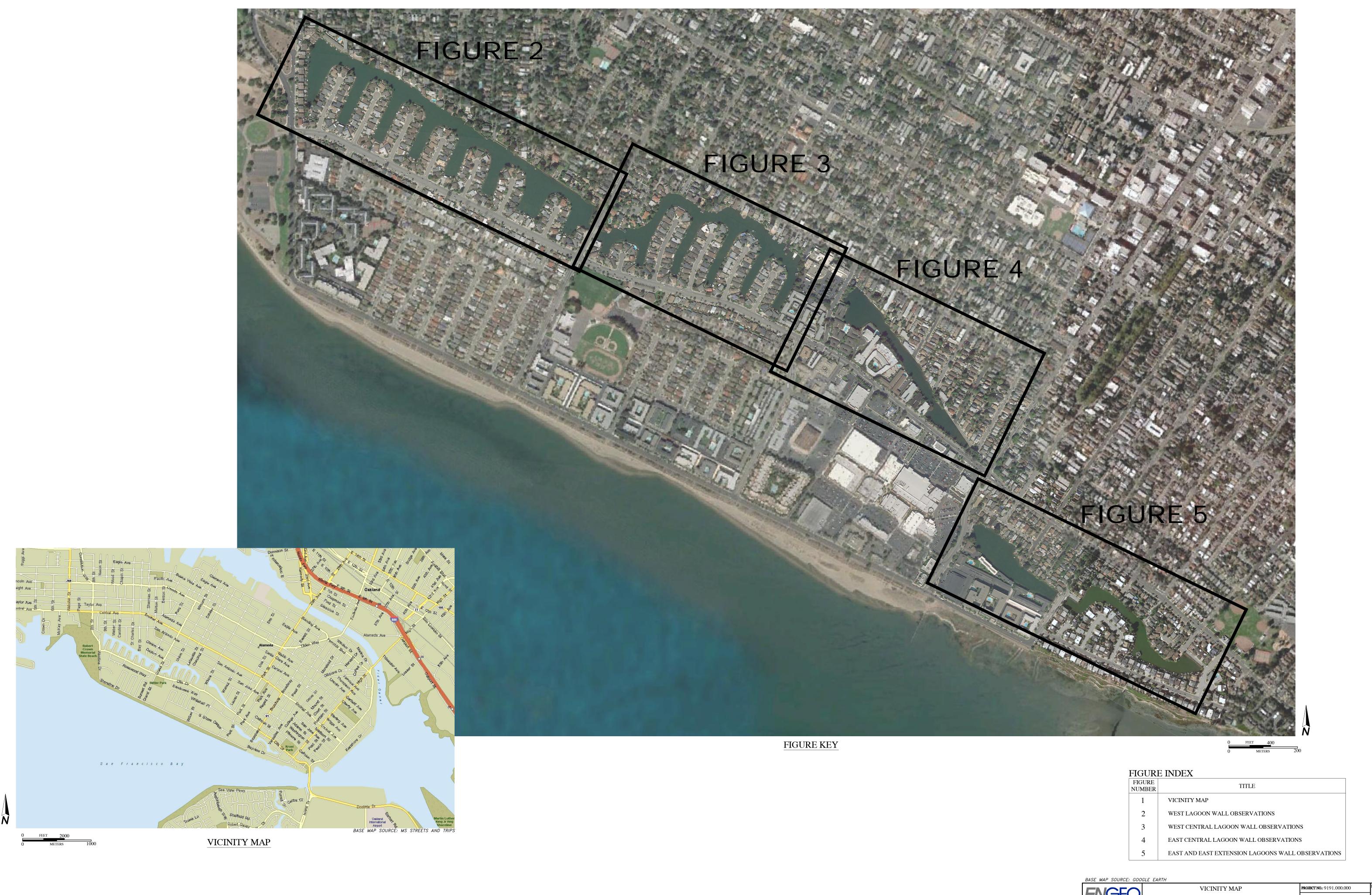
Attachments: Figure 1: Vicinity Map

Figure 2: West Lagoon Wall Observations

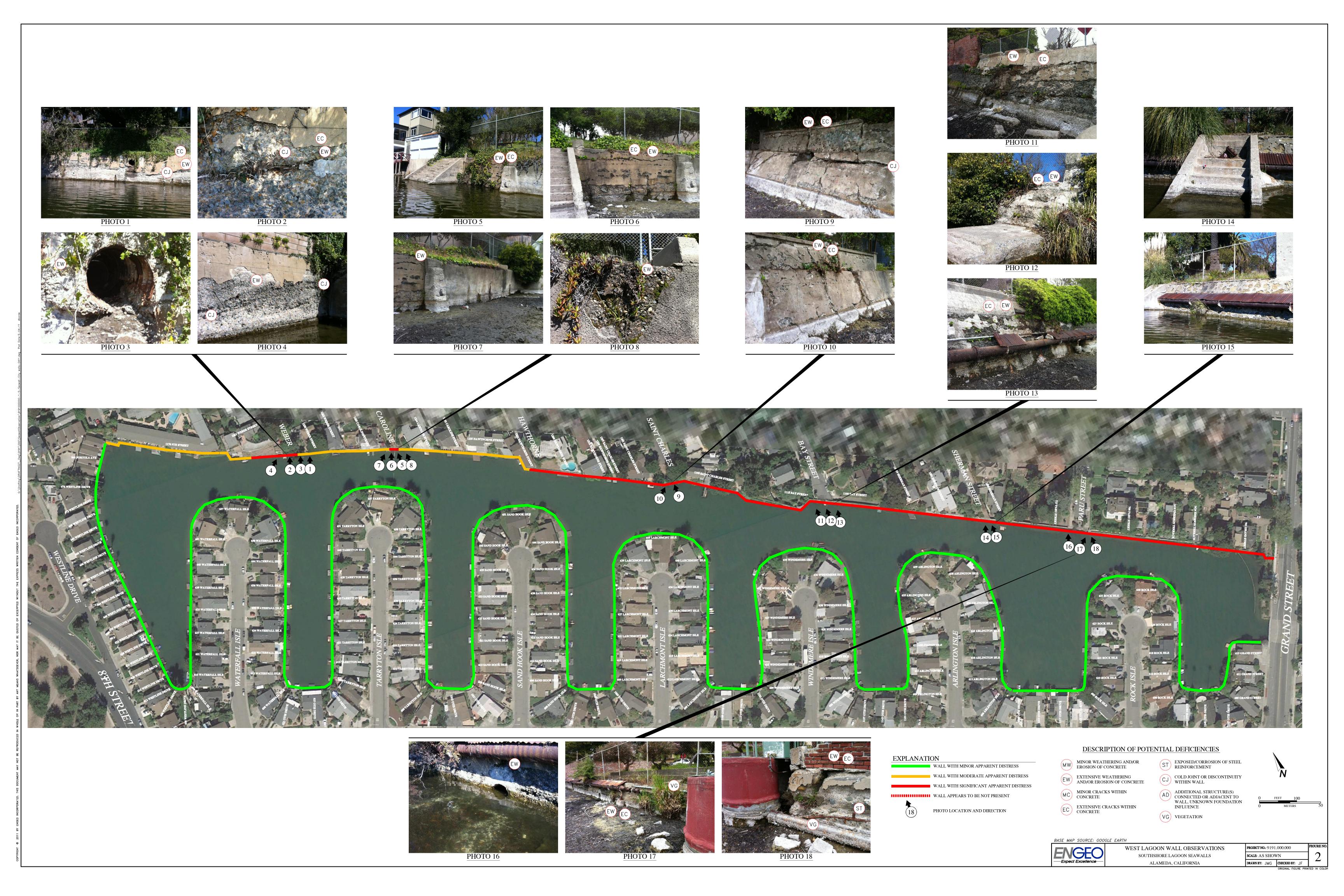
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Figure 3: West Central Lagoon Wall Observations Figure 4: East Central Lagoon Wall Observations

Figure 5: East and East Extension Lagoons Wall Observations

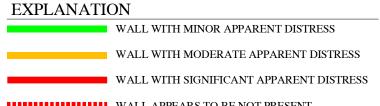


SOUTHSHORE LAGOON SEAWALLS ALAMEDA, CALIFORNIA











# DESCRIPTION OF POTENTIAL DEFICIENCIES

MW MINOR WEATHERING AND/OR EROSION OF CONCRETE

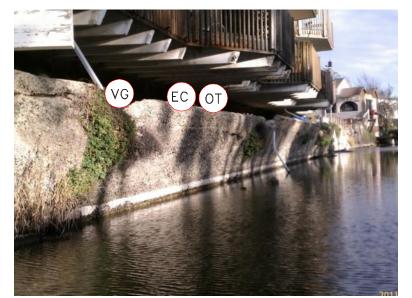
EW EXTENSIVE WEATHERING AND/OR EROSION OF CONCRETE

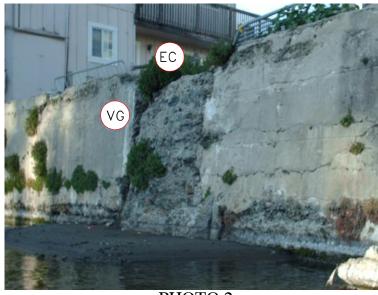
MC MINOR CRACKS WITHIN CONCRETE EC EXTENSIVE CRACKS WITHIN CONCRETE EXPOSED/CORROSION OF STEEL REINFORCEMENT

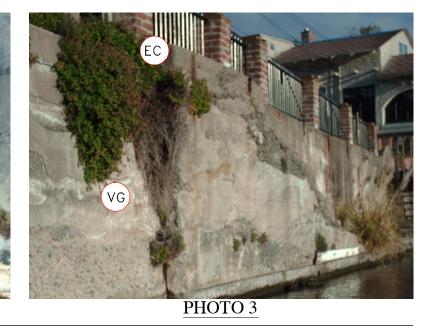
COLD JOINT OR DISCONTINUITY WITHIN WALL ADDITIONAL STRUCTURE(S)
CONNECTED OR ADJACENT TO
WALL, UNKNOWN FOUNDATION
INFLUENCE

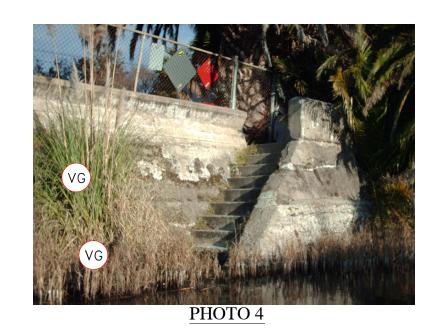




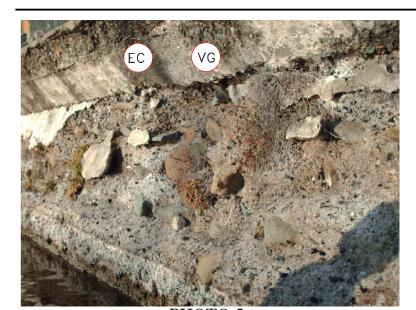


















## **EXPLANATION**

WALL WITH MINOR APPARENT DISTRESS WALL WITH MODERATE APPARENT DISTRESS WALL WITH SIGNIFICANT APPARENT DISTRESS WALL APPEARS TO BE NOT PRESENT



## DESCRIPTION OF POTENTIAL DEFICIENCIES

- MINOR WEATHERING AND/OR EROSION OF CONCRETE
- EW EXTENSIVE WEATHERING AND/OR EROSION OF CONCRETE
- MC MINOR CRACKS WITHIN CONCRETE
- ADDITIONAL STRUCTURE(S)
  CONNECTED OR ADJACENT TO
  WALL, UNKNOWN FOUNDATION
  INFLUENCE EC EXTENSIVE CRACKS WITHIN CONCRETE (VG) VEGETATION
  - OT OVERTURNING

ST EXPOSED/CORROSION OF STEEL REINFORCEMENT

CJ COLD JOINT OR DISCONTINUITY WITHIN WALL





ENGEO Expect Excellence

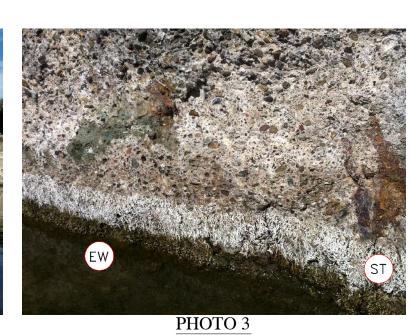
EAST CENTRAL LAGOON WALL OBSERVATIONS PROJECTNO::9191.000.000 SOUTHSHORE LAGOON SEAWALLS ALAMEDA, CALIFORNIA

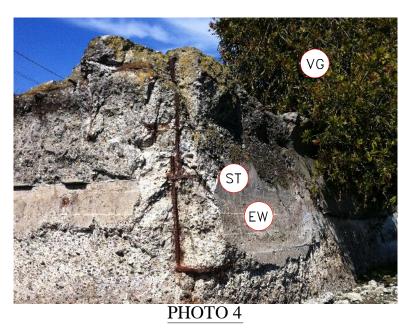
SCALE: AS SHOWN DRÁWN BY: JMG CHECKED BY: JF

ORIGINAL FIGURE PRINTED IN COLOR



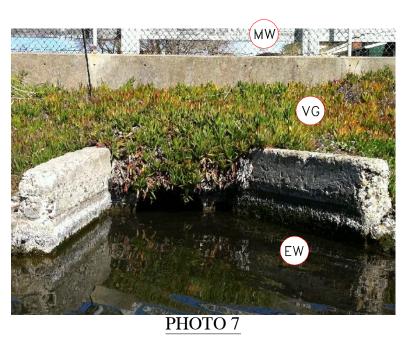




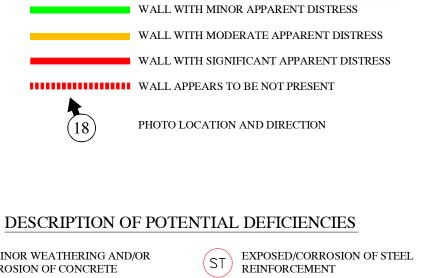












EXPLANATION





### DESCRIPTION OF POTENTIAL DEFICIENCIES

MW MINOR WEATHERING AND/OR EROSION OF CONCRETE

CJ COLD JOINT OR DISCONTINUITY WITHIN WALL EW EXTENSIVE WEATHERING AND/OR EROSION OF CONCRETE

MC MINOR CRACKS WITHIN CONCRETE

EC EXTENSIVE CRACKS WITHIN CONCRETE

ADDITIONAL STRUCTURE(S)
CONNECTED OR ADJACENT TO
WALL, UNKNOWN FOUNDATION
INFLUENCE

(VG) VEGETATION





EAST AND EAST EXTENSION LAGOONS WALL OBSERVATIONS
SOUTHSHORE LAGOON SEAWALLS
ALAMEDA. CALIFORNIA

PROJECT NO.: 9191.000,000
SCALE: AS SHOWN
THE AUNI BY. 1440 TOTAL DESCRIPTION OF THE PROJECT NO.: 9191.000,000 ALAMEDA, CALIFORNIA

DRAWN BY: JMG CHECKED BY: JF