

CITY OF ALAMEDA
SPECIFICATIONS AND PLANS
FOR
CYCLIC SEWER REPLACEMENT
PROJECT, PHASE 11

No. P.W. 06-13-16

May 2014

MANDATORY PREBID MEETINGS: Thursday, June 5, 2014 at 10:00 p.m.
LOCATION: Public Works Department
City Hall West
950 West Mall Square, Room 156
Alameda, CA 94501

BID DUE DATE: Thursday, June 12, 2014 at 2:00 pm
LOCATION: Public Works Department
City Hall West
950 West Mall Square, Room 110
Alameda, CA 94501

Ed Sommerauer
Acting City Engineer

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CITY OF ALAMEDA, CALIFORNIA

SPECIFICATIONS, SPECIAL PROVISIONS AND PLANS
FOR
PUBLIC WORK

SECTION I. PROPOSAL AND CONTRACT REQUIREMENTS

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

CYCLIC SEWER REPLACEMENT PROJECT, PHASE 11
NO. P.W. 06-13-16

Plans, specifications, and proposal forms for bidding this project can only be obtained at City Hall West, Public Works Department, 950 West Mall Square, Room 110, Alameda, CA 94501.

NONREFUNDABLE FEE OF \$75 PER SET
(\$100.00 FOR SHIPPING & HANDLING, IF MAILED)

Payment must be in the exact amount in either cash or check. Make checks payable to City of Alameda.

B. EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK. 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. DESIGNATIONS. 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. PROPOSAL FORM. All bids must be made upon blank forms which are included in these specifications.

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. PRESENTING AND MARKING OF BIDS. Bids must be presented to the Public Works Department, 950 West Mall Square, Room 110, Alameda, California, under sealed cover, plainly marked on the outside, "Cyclic Sewer Replacement Project, Phase 11, No. P.W. 06-13-16", not later than **2:00 p.m.** on the date set forth in the following paragraph.

A mandatory prebid meeting must be attended. The meeting will be held at City Hall West, Alameda Point, Building 1, 950 West Mall Square, Room 156, Alameda, California, 94501 at 10:00 a.m. on Thursday, June 5, 2014. City reserves the right to hold additional prebid meetings as necessary for contractors to visit the site.

Bids will be opened in the Public Works Department, 950 West Mall Square, Room 110, Alameda, California, **at 2:01 p.m. on Thursday, June 12, 2014.**

F. BIDDER'S GUARANTY. 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 H.

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. RETURN OF BIDDER'S GUARANTIES. 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. SUBCONTRACTORS. 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. REJECTION OR RETURN OF BIDS. 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. BID PROTEST. 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 10th 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. AWARD OF CONTRACT. 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. Once awarded, this contract may be mutually extended on a year-by-year basis, for up to four (4) additional years, based on satisfactory performance of all aspects of this contract. The plans and specifications for the next Fiscal Year will be provided to the contractor by March 1. The contractor will have 45 days to evaluate the next phase of the work. The Public Works Director shall, on or before April 15, submit written notice that the contract is to be extended upon the same terms and costs (plus an annual increase to consumer price index for the San Francisco Bay Area appropriate to the trades associated with the work for the previous calendar year) as the existing contract. 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.

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. EXECUTION OF CONTRACT. 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. CONTRACT BONDS. 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 F). 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 E). 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.

O. RESTRICTIONS ON LOBBYING. The project is subject to 24 CFR 87 which prohibits the payment of Federal funds to any person for influencing or attempting to influence, any public officer or employee in connection with the award, entering into, extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or agreement. If any funds other than Federal funds have been paid for the same purpose in connection with this Federal Aid contract, the recipient shall also submit an executed certification and, if required, a completed disclosure form as part of the contract documents.

Completed certification and disclosure of lobbying activities for all contracts and subcontracts exceeding \$100,000.00 shall be submitted within twelve (12) days of notice of selection as the apparent lowest responsible, responsive bidder.

SECTION II. LEGAL RELATIONS AND RESPONSIBILITIES

A. LAWS TO BE OBSERVED. 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. 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 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.

C. 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 (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.

D. 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. Certified payrolls shall be prepared and submitted weekly to the Labor Compliance Officer, Gail Carlson, Public Works Department, 950 W. Mall Square, Room 110, Alameda, CA 94501 by the Contractor and each subcontractor. 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.

E. 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.

F. LABOR DISCRIMINATION. 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.

G. 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.

H. 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. **A City of Alameda Business License from the City of Alameda, 2263 Santa Clara Avenue, Finance Department, Room 220, Alameda.**
2. **“No Parking, Tow Away” signs from City Hall, 2263 Santa Clara Avenue, Planning and Building Services, Room 190, Alameda.**

I. PATENTS. 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.

J. RESPONSIBILITY FOR DAMAGES. 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.

K. CONTRACTOR'S RESPONSIBILITY FOR THE WORK. 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.

L. SAFETY PROVISIONS. 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).

M. NO PERSONAL LIABILITY. 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.

N. RESPONSIBILITY OF CITY. 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.

O. PUBLIC CONVENIENCE AND SAFETY. 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.

The use of Flex-o-Lite Model No. 501, or approved equal, will be permitted only in specifically approved locations and only to the extent of 50 percent of the total amount of necessary lighting. Other models of lesser candle power may be permitted in some approved locations at a lesser percentage.

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 by the work, 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.

P. 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.

Q. 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 a minimum of 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.

R. SOUND CONTROL REQUIREMENTS. 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.

S. CONSTRUCTION SITE CONTROLS. Within five (5) business days of the date the work is to commence pursuant to the Notice to Proceed (NTP) the Contractor shall submit an Erosion/Stormwater Pollution Prevention Plan (SWPPP) to the City Engineer for review. The SWPPP 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 SWPPP.

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 SWPPP. 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:

1. 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.

2. 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.

3. 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.

5. 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.

6. Install filter materials (such as block and gravel bags, sandbags, filter fabric) at 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.

7. Vacuum saw-cutting slurry and remove from site. Do not allow saw-cut slurry to enter the storm water conveyance system.

8. 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.

9. 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.

10. 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 self-contained 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.

11. Minimize removal of natural vegetation or ground cover from the site in order to 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. **No site grading shall occur between October 1 and May 31 unless approved erosion and sedimentation control measures are in place.**

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.

14. 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.

15. 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 SWPPP document, which is to remain at the construction site at all times.

16. Contact the City of Alameda Public Works Department at 510-747-7930 in the 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.

18. Require all concrete trucks used in the performance of the work to have a self-contained washout system, rather than do washout on the site. The idea is to avoid:
- a. An undesirable pile of concrete on the jobsite, and
 - b. The possibility of debris on city streets.

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 7.1.01, of the 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.

T. RECYCLING OF CONCRETE AND ASPHALT MATERIALS. The Contractor shall dispose of at least 80% of the removed concrete, rock, brick, asphalt or other similar materials to an approved materials recycling location other than a landfill. The 80% shall be determined by weight of materials. All disposal and recycling weight/receipt tags shall be submitted to the Engineer. Attached is a suggested list of facilities that will accept construction and demolition waste materials (Exhibit B). The Contractor shall submit a request, along with proof in writing, to the City Engineer of the Contractor's inability to comply with this requirement. .

The City of Alameda Administrative Instruction 36 requires that contractors doing business with the City of Alameda shall comply with the guidelines for use of recycled materials (Exhibit J). The Contractor shall submit a Waste Reduction and Recycling Plan (WRRP, Exhibit K) prior to construction. The WRRP must be submitted for review and approved by the Public Works Staff before demolition. A Waste Reduction and Recycling Plan Final Summary Report (Exhibit L) must be filled out and signed by the Contractor at the project completion. The Contractor shall also submit a Waste Management Report (Exhibit M).

U. ASBESTOS AND LEAD BASED PAINTS. Reports of a survey of possible asbestos and lead based paints, in the path of construction, was prepared by ACC Environmental.

V. CLEAN AIR ACT OF 1970, ET SEQ. AND FEDERAL WATER POLLUTION CONTROL ACT AS AMENDED BY THE CLEAN WATER ACT OF 1977. 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. SUBMITTALS AND REQUEST FOR INFORMATION (RFI’S). 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, carbamates, 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.
9. 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. WORK TO BE DONE. The work to be done consists of furnishing all labor, tools, equipment, materials, except as herein specified, and doing all work associated with removing and installing sanitary sewer mains, sewer laterals, manholes, cleanouts, curb, gutter, sidewalk, driveway, street patch, SWPPP, traffic controls and all other associated work to complete the project at the followings locations:

Bay Street	Central Avenue to Clinton Avenue
Paru Street	Central Avenue to Clinton Avenue
Sherman Street	San Antonio Avenue to End
Hawthorne Street	San Antonio Avenue to End
St. Charles Street	San Antonio Avenue to End
Pacific Avenue	Main Street to Fourth Street
Thompson Avenue	East of High Street
Lincoln Avenue	Eighth Street to Grand Street (work needs to be coordinated with ongoing EBMUD water main replacement)

The Initial Project Submittal Package shall address the entire project, and shall include the Traffic Control Plan (first 20 working days at minimum), SWPPP, Waste Reduction and Recycling Plan, and the full project schedule. Contractor shall not commence work in the field until Engineer has approved the Initial Project Submittal Package.

The Contractor shall have two hundred (200) consecutive working days from the date the work is to commence pursuant to the Notice to Proceed to complete the work.

Contractor is advised to remove all equipment from the streets identified as route, detour, and/or staging areas for the 4th of July Parade, during the period of Thursday, July 3, 2 p.m. through 8 a.m. Monday, July 7. No removal of concrete, asphalt or pavement markings shall be allowed on these streets unless they are restored in full at least 24 hours prior to July 1. No crack sealing or slurry seal shall be applied on July 1 on these streets.

Contractor shall not work during City holidays. City holidays for 2014 include:

Independence Day	Friday, July 4, 2014
Labor Day	Monday, September 1, 2014
Veteran's Day	Tuesday, November 11, 2014
Thanksgiving Day	Thursday, November 27, 2014
Day after Thanksgiving Day	Friday, November 28, 2014
Christmas Day	Thursday, December 25, 2014
New Year's Day	Thursday, January 1, 2015

Martin Luther King, Jr.	Monday, January 19, 2015
Presidents Day	Monday, February 16, 2015
Memorial Day	Monday, May 25, 2015

The following City events are planned for Calendar Year 2014:

<u>Event</u>	<u>Date</u>
July 4th Parade	July 4, 2014
Art and Wine Faire (Park Street)	July 26 and 27, 2014
Webster Street Jam	September 6 and 7, 2014
Classic Car Show (Park Street)	October 12, 2014
Trick or Treat at Webster Street	October 31, 2014
Santa on Webster Street	December 13, 2014
Concerts at the Cove	2nd Friday in June, July and August 2014

Farmer's Market (Webster Street at Haight Avenue)
Every Tuesday and Saturday (year-round) from 9 a.m. to 1

B. ALTERATIONS. 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. EXTRA AND FORCE ACCOUNT WORK. 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 5-1.02, Extra Work, 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 and shall be reflected in that days inspection report.

D. REMOVAL OF OBSTRUCTIONS. 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. CLEAN UP. 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.

B. 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 as-built drawings must be documented and presented to the City Engineer, who may permit manual as-built drawings on 24"x30" vellum. Release of retention is subject to the approval of the as-built 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.

C. CONFORMITY WITH PLANS AND ALLOWABLE DEVIATION. Finish surfaces in 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 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. INTERPRETATION OF PLANS AND SPECIFICATIONS AND ADDENDA THERETO. 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.

Addenda will be forwarded by fax or email, followed by mail, to prospective bidders who have purchased a set of these specifications from the City's Public Works Department and have furnished contact information. If the addendum is issued after a pre-bid meeting is held, the addendum will also be forwarded by fax or email, followed by mail, to all attendees who have furnished contact information. All prospective bidders are responsible for inquiring at the Public Works Department (510-747-7930) within four (4) working days prior to the bid opening, to determine if any addenda have been issued. 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. SUPERINTENDENCE. 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. CONSTRUCTION STAKING & LAYOUT. 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.

AND/OR

G. LINES AND GRADES. All distances and measurements are given and will be made in a horizontal plane. Grades are given from the top of stakes or nails, unless otherwise noted on the plans.

Three consecutive points shown on the same rate of slope must be used in common, in order to detect any variation from a straight grade, and in case any discrepancy exists, it must be reported to the Engineer. If such discrepancy is not reported to the Engineer, the Contractor shall be responsible for any error in the finished 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. INSPECTION. 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 8 AM through 5 PM, 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 8 AM through 5 PM, Monday through Friday, excluding City Holidays, and shall constitute "normal inspection hours." The Public Works Department Inspectors work on Friday's 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. REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK. 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. FINAL INSPECTION. Whenever the work provided and contemplated by the contract shall have been satisfactorily completed, the Engineer will make the final inspection.

K. FINAL GUARANTEE. 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.

B. 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

A. PROGRESS OF THE WORK AND TIME FOR COMPLETION. The Contractor shall submit the Initial Project Submittal Package to the City Engineer for review. The Initial Project Submittal Package shall address the entire project, and shall include the Traffic Control Plan (first 20 working days at minimum), SWPPP, Waste Reduction and Recycling Plan, and the full project schedule. Contractor shall not commence work in the field until Engineer has approved the Initial Project 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.

B. 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. CHARACTER OF WORKER. 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. TEMPORARY SUSPENSION OF WORK. 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. TIME OF COMPLETION AND LIQUIDATED DAMAGES. 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 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.

F. SUSPENSION OF CONTRACT. If, at any time, in the opinion of the City Council, the 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.

G. RIGHT-OF-WAY. The right-of-way sufficient for the work to be constructed will be 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.

SECTION VII. MEASUREMENTS AND PAYMENT

A. MEASUREMENTS AND PAYMENT. 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. EXTRA AND FORCE ACCOUNT WORK. 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. PROGRESS PAYMENTS. 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 9-1.06 of the Standard Specifications "Partial Payments", 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 third-party 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 (commencing 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. NOTICE OF COMPLETION. 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. PAYMENT OF THE RETENTION. 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 7101.

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 done in accordance with the appropriate provisions of construction detail of the specifications entitled "State of California, Department of Transportation, Standard Specifications", 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 or Department of Transportation	To the Engineering Division
Director of Public Works	To the Public Works Director
Engineer	To the City Engineer, acting either directly or through 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. Refer to Section IV. Control D. Coordination of Plans, Specifications, and Special Provisions.

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 based bid, not including add alternates, depending on available funding.

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

The base bid consists of twenty-one (21) bid items, as outlined below and detailed in Section XII, L, and Extent of Contract, Section XII, M. The project also includes one add alternate, Add Alternate No. 1. There are three (3) bid items under Add Alternate No. 1.

TABULATION OF PRELIMINARY ESTIMATE OF QUANTITIES

Item No.	Description	Quantity	Unit
1.	Mobilization	1	Lump sum
2.	Maintaining Traffic	1	Lump sum
3.	Replace Existing SS Main with 8" Pipe (Open Trench)	13,500	Linear Foot
4.	Replace Existing SS Main with 8" Pipe (Pipe Burst)	1,000	Linear Foot
5.	Replace Existing SS Main with 6" Pipe (Open Trench)	1,250	Linear Foot
6.	Replace Existing SS Main with 6" Pipe (Pipe Burst)	1,000	Linear Foot
7.	Replace Existing SS Lateral with 4" Pipe (Open Trench)	16,700	Linear Foot

Item No.	Description	Quantity	Unit
8.	Install 4" 2-Way Kelly Cleanout	345	Each
9.	Install 6" 2-Way Kelly Cleanout	20	Each
10.	Install new Manhole (Type A)	47	Each
11.	Install New Manhole (Type C)	2	Each
12.	Standard Drop Inlet Manhole	2	Each
12.	Standard Drop Inlet Manhole (2 Drops)	4	Each
14.	Reconstruct Sidewalk	11,000	Square Foot
15.	Reconstruct Curb and Gutter	2,500	Linear Foot
16.	Asphalt Concrete Patch	1,400	Ton
17.	Asphalt Concrete Bridge	1,400	Ton
18.	Mechanical Sheeting and Shoring of Sewer Trench	11,000	Linear Foot
19.	Signage, Striping, and restoration of traffic loops	1	Lump Sum
20.	Replace Existing SS Lateral With 6" Pipe (Open Trench)	1,000	Linear Foot
21.	Permits	Allowance	Lump Sum

Item No.	Description	Quantity	Unit
Add Alternate No. 1			
1.	Stockpiling of Contaminated Soil	20	Ton
2.	Import Borrow	20	Ton
3.	Contaminated Ground Water	1,000	Gallon

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. DESCRIPTION OF WORK The work to be done consists of doing all work associated with the installation of sanitary sewer mains, sewer laterals, manholes, cleanouts, street patch, SWPPP, traffic control, removal and disposal of manholes, sewer lines, and all other associated work to complete the project at the following locations:

Bay Street	Central Avenue to Clinton Avenue
Paru Street	Central Avenue to Clinton Avenue
Sherman Street	San Antonio Avenue to End
Hawthorne Street	San Antonio Avenue to End
St. Charles Street	San Antonio Avenue to End
Pacific Avenue	Main Street to Fourth Street
Thompson Avenue	East of High Street
Lincoln Avenue	Eighth Street to Grand Street (work needs to be coordinated with ongoing EBMUD water main replacement)

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 may be awarded with Base Bid only or Base Bid with a sequential addition of Add Alternates at the discretion of the City or depending on available funding.

B. PLANS The following drawings are incorporated into these Specifications:

<u>TITLE</u>	<u>DRAWING</u>	<u>NO.</u>
Cyclic Sewer Repair Project, Phase 11, Portions of Lincoln Avenue, Bay Street, Sherman Street, Otis Drive, and Others	9365	35

The following Standard Plans by the State of California, Department of Transportation, 2010, California MUTCD 2012 Edition, and the City of Alameda Standard Drawings are incorporated into these Specifications:

Traffic Control System for Lane Closure on Multilane Conventional Highways (T11)

Traffic Control System for Half Road Closure on Multilane Conventional Highways and Expressways (T12)

Traffic Control System for Lane Closure on Two Lane Conventional Highways (T13)

Work in Center of Road with Low Traffic Volumes (TA-15)

Closure in the Center of an Intersection (TA-26)		
Closure at Side of an Intersection (TA-27)		
Sidewalk Detour or Diversion (TA-28)		
Crosswalk Closure and Pedestrian Detours (TA-29)		
Standard Plan, Curb, Gutter, Sidewalk and Driveway	6295B	34
Standard 4" House Lateral Two-Way Cleanout	8936	34
Standard 6" House Lateral Two-Way Cleanout	8397	34
Standard Pre-Cast Concrete Manhole Type A	2815	34
Standard Pre-Cast Concrete Manhole Type B or C	5432	
Standard Manhole Cover	1115	34
Standard Section for Repaving Trenches	2930	22
Standard Drop Inlet Manhole	4216	32
<u>CITY OF ALAMEDA STANDARD PLANS:</u>		
Details for Driveway Resurfacing	5857	22
Standard Plan Curb, Gutter, Sidewalk and Driveway	6297	24
Standard Plan Curb, Gutter, Sidewalk and Driveway (in Subsidence Areas)	6295B	24
Standard Plan 36" Culvert	2895	14
<u>STATE OF CALIFORNIA STANDARD PLANS:</u>		
Pavement Markers and Traffic Lines, Typical Details	A20-A	
Pavement Markers and Traffic Lines, Typical Details	A20-B	
Pavement Markers and Traffic Lines, Typical Details	A20-D	
Pavement Markings and Arrows	A24-A & A24-B	
Pavement Markings, Words and Crosswalks	A24-D	
Curb Ramp Details	A88-A	
Signal, Lighting and Electrical System Detectors	ES-5A & 5B	

SECTION XII. CONSTRUCTION DETAILS

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

A. MAINTAINING TRAFFIC. Attention is directed to Section 7-1.08, "Public Convenience", 7-1.09, "Public Safety", of the State of California Standard Specifications, and to Section II, Article O 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 traffic control plan 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 7-1.08 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 12-2.02 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 ;8:00 AM to 5:00 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 C23 (Road Work Ahead) or C24 (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 City’s Planning and Building Office or at the Department of Public Works. 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. 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.

Storage of construction material and equipment on City streets will not be permitted.

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 7-1.09, "Public Safety," of the Standard Specifications.

Contractor shall not work on multiple streets at a time unless approved by the engineer.

See Section II, O. for traffic control guidelines. This section also outlines times construction is allowed on certain streets in the City. (Night work, if requested by the Contractor, must be approved by the City Engineer.)

B. ORDER OF WORK. Order of work shall conform to provisions of Section 5-1.05, "Order of Work", 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.

At least three (3) working days prior to the placement of any new traffic striping and pavement markings, the Contractor shall layout cat-tracks for the traffic striping and pavement marking and contact the City inspector for inspection and approval of the cat-tracking. The City shall review, modify as necessary, and approve the cat-tracking prior to the Contractor proceeding with the striping/markings. The Contractor may not proceed with the striping/markings work until the cat-tracks have been approved by the Engineer or approved designee. The Contractor shall post temporary "No Parking" signs in accordance with the provisions of the Section 10-1.01, "PUBLIC CONVENIENCE AND PUBLIC SAFETY" of these Specifications.

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/markings 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/markings 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/markings, including blacking out any of the removed and rejected striping/markings; and the re-posting of temporary "No Parking" signs in accordance with the provisions of the Section 10-1.01, "PUBLIC CONVENIENCE AND PUBLIC SAFETY" of these Specifications. All of these costs shall be borne by the Contractor.

C. PORTLAND CEMENT CONCRETE. All concrete shall be Class "A" unless otherwise specified and shall meet the requirements of the Standard Specifications, Section 90. If it is found necessary to increase the slump of concrete at the site of the work it shall be done only by the addition of 16 pounds of cement (1/6 sack) per gallon of water. Such addition shall be made only at the direction of the Engineer and in his presence.

All edges of concrete shall be edged with a cement edger of the size 2-3/4" in width with a 3/16" radius. All joints or grooves that are indicated on the plans or required by the Engineer shall be marked with cement grooves or jointers 4" in width and having a groove 3/8" wide at the top and a depth of 1/4" to 1/2".

A power driven pavement saw shall be used to cut existing Portland cement concrete sidewalk, curb and gutter where it is necessary to remove the concrete. The depth of the cut shall be a minimum of 1-1/2" and straight; and, if two cuts are made, they shall be parallel. The cut shall be deep enough to permit complete breakage of the concrete without ragged edges. Sawcut debris is not permitted to enter the storm drain system and shall be vacuumed up by the contractor.

All concrete with exposed surfaces, such as sidewalk, curb, gutter, local depressions, driveway and catch basins tops shall be colored by adding to the mix a proportionate amount of the best quality lampblack, such proportion to be determined by the Engineer.

All new or previously existing concrete surfaces shall be left neat, clean and free from concrete droppings. The Contractor shall be responsible for preventing vandals or others from disfiguring or defacing the finished surfaces. Any new concrete surfaces disfigured due to pouring late in the day, or due to the failure on the part of the Contractor to provide adequate protection or covering to the new surfaces, shall be replaced at the Contractor's expense. The work shall conform to Section I.T. Construction Site Control and Section III. E. Clean Up.

The name of the Contractor and the year the work is performed shall be stamped upon both ends of each single piece of any concrete work, as called for by Section No. 22-5.3 of the Municipal Code. Contractor shall obtain a load slip from each delivery and give one copy of said slip to the Engineer at the point of deliver of the material.

All exposed surfaces shall be cured by the impervious membrane method to the satisfaction of the Engineer.

D. EQUAL AND/OR APPROVED EQUAL

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.

E. DISPOSAL OF EXCAVATED MATERIALS. Salvable materials will be disposed of as directed by the Engineer. The Contractor shall dispose of at least 80% of the removed concrete, rock, brick, asphalt or other similar materials to an approved materials recycling location other than a landfill. The 80% shall be determined by weight of materials. All disposal and recycling weight/receipt tags shall be submitted to the Engineer. In Exhibit C is a suggested list of facilities that will accept construction and demolition waste materials. The Contractor shall submit a request and proof in writing if unable to achieve this 80% goal. Other waste materials shall be disposed of in localities outside of the City of Alameda at the discretion of the Contractor.

F. 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.

G. TREE ROOTS. Where tree roots conflict with the grade for the placement or replacement of concrete work, the Contractor shall inform the City Maintenance Division immediately. When directed by the City Maintenance Division, the Contractor shall perform the necessary root removal and trimming to a minimum depth of ten inches (10") below the proposed concrete, to prepare the site for the concrete work. All cut roots shall be properly painted with an approved root-sealing compound. The Contractor shall then proceed with the work to completion. The cost of the Contractor cutting the tree roots involved shall be included in the cost of the work.

Prior to any lateral extension excavation, the area must be reviewed by the Engineer or his representative, and if required, the City Arborist shall supervise the excavation and any root cutting or shaving where tree conflicts exist.

If root trimming is not allowed by the City Maintenance Division, all trees that could be damaged from equipment will require protection from physical injury. Tree trunks are to be wrapped with orange plastic construction fencing from the base up to the first branch. The plastic fencing must be wrapped to a minimum thickness of two inches to protect from possible injury. Additional protection from larger equipment can be provided by strapping 2x4 boards over the orange fencing on the side of the tree where there is a potential for injury. When trenching is undertaken, the size of the equipment may require that upper scaffold stems are also wrapped and protected. Hand digging is the only acceptable method for excavating the soil within five feet of the base of trees.

H. UTILITY RELOCATION. The known existing utilities and pipelines except building connections (laterals) are shown on the Drawings in their approximate location. The Contractor shall exercise care in avoiding damage to all utilities, as he/she will be held responsible for their repair if damaged. There is no guarantee that all utilities or obstructions are shown, or that locations indicated are accurate. 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.

I. EXCAVATION AND BACKFILL Method of excavation, trench shoring and dewatering, if applicable, shall be the responsibility of the Contractor, subject to the approval of the Engineer. It should be presumed that the presence of high groundwater will require dewatering operations.

Contractor shall submit to the Engineer a submittal for the trenching plan, material data sheets of any shoring equipment to be used, and calculations signed, stamped & approved by a registered California Engineer. The Contractor must have an approved plan prior to commencing of any excavation and trenching work.

REFER TO THE ATTACHED GEOTECHNICAL REPORT FOR TRENCHING GUIDELINES.

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.

Any excavation shall be supported so that it will be safe and the ground alongside the excavation will not slide or settle, and all existing improvements, either on public or private property, will be fully protected from damage.

Any damage or collapse of pavement or improvements beyond the trench shoring or excavation limits, due to sliding, caving, or settling of ground during excavation, construction, or backfilling, or from construction equipment, shall be repaired to the satisfaction of the Engineer at the Contractor's expense. All supports shall be removed after construction is completed, unless otherwise directed by the Engineer, and shall be withdrawn in a manner that will prevent the caving of the sides of the excavation. All openings caused by the removal of supports shall be filled with suitable material properly compacted.

Approved local or imported material shall be used for backfill. When the material from the excavation is unsuitable for backfill; it shall be disposed of and a suitable material (free from large stones) and approved by the Engineer, shall be furnished by the Contractor for the backfill. Backfilling shall be accomplished by tapping or ramming with proper tools for the full depth to sub-grade elevation in six inch (6") layers or less. Relative compaction shall be ninety-five percent (95%) or more as determined by the Impact or Field Method Compaction Test. Flooding or jetting of backfill shall not be allowed.

Backfilling of trenches in pipe areas shall be accomplished by backfilling on both sides of the pipe simultaneously so that injurious side pressures do not occur. Backfilling around the pipe by bulldozer or other mechanical equipment will not be allowed.

Guidelines for site preparation, suitable backfill material, material requirements, fill placement and compaction are outlined in the Geotechnical Report.

Payment for excavation and backfill shall be included in the various bid items of these specifications. The contractor shall provide the engineer daily load tags for backfill material used.

J. SEWAGE PUMPING: The Contractor shall furnish, install, and operate pumps, conduits, and other equipment to divert the flow of sewage during the project construction.

The pumping system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum. Standby pumps shall be provided as required. Pumping shall be done by the Contractor in such a manner that it will not damage public or private property or create a nuisance or health menace. The pumped sewage shall be in an enclosed hose or pipe and shall be reinserted into the sanitary sewer system. Sewage shall not be allowed to free flow in gutters, streets, or over sidewalks, etc. Nor shall any sewage be allowed to flow into the storm inlets, the lagoon or conduits. Pumping and all related work shall be included in various items and shall not be considered for additional payment. Contractor shall submit a pump set up diagram showing the intake point and outfall point, including the pump size, pipe size for the sewage conveyance from the existing system.

Payment for sewage pumping whether on public right-of-way and private property shall be included in the various contract items of work.

K. CONTROL OF WATER All excavations shall be kept free from water and all construction shall be in the dry. The presence of high groundwater will require dewatering operations. The contractor shall furnish, install, maintain and operate all necessary pumping and other equipment for dewatering all excavations. The contractor shall at all times have on the project sufficient pumping equipment for immediate use, including standby pumps for use in case other pumps become inoperable. A sufficient number of pumps shall be provided as to hold the groundwater level at an elevation not less than two feet below the lowest elevation of the concrete or other material to be placed. Water shall be disposed of in such a manner as to cause

no injury or nuisance to public or private property, or be menace to the public health.

The dewatering operation shall be continuous, so that the excavated areas shall be kept free from water during construction, while concrete is setting and achieves full strength, and until backfill has been placed to a sufficient height to anchor the work against possible floatation.

Dewatering shall be continued during, backfilling operations such that the groundwater is at least one foot below the level of the compaction effort at all times. No compaction of saturated clay materials shall be allowed.

Dewatering devices must be adequately filtered to prevent the removal of fines from the soil.

The Contactor shall be responsible for any damage to foundations or any other parts of existing structures or the new work caused by failure of any part of the Contractor's protective works. After temporary protective works are no longer needed for dewatering purposes, they shall be removed by the Contractor.

If pumping is required on a 24- hour basis, requiring engine drives, then engines shall be equipped in a manner to keep noise to a minimum. Refer to Section II, Article R, of these specifications for noise control requirements.

The contractor shall be responsible for furnishing temporary drainage facilities to convey and dispose of surface water falling or passing over site.

No sediment shall be pumped from the excavation. Refer to Section II, Article S, of these specifications for construction site controls.

Payment for dewatering whether on public right-of-way and private property shall be included in the various contract items of work.

L. EXTENT OF CONTRACT. The Contractor shall furnish all labor, material has herein specified, tools and equipment necessary and shall do all the work necessary to construct and put in complete order for use the construction project contemplated by these specifications, the various items, and in the approximate quantities tabulated in the Proposal, Section XIV.

1. MOBILIZATION (Bid Item #1). Mobilization shall conform to the provisions in Section 11, "Mobilization," of the Standard Specifications and the following items.

- a. Signed Contract by the City and the Contractor
- b. Completion of all tasks and submittals of all documents (bond, insurance, schedule, etc.) required as conditions of issue the Notice to Proceed.
- c. Moving on to the site of all Contractors equipment required for operations.
- d. Installing temporary construction water supply, power, wiring, and lighting facilities as required.
- e. Providing field office trailers if needed by the Contractor.
- f. Providing all on-site communication facilities, including telephones, and radio pagers.

- g. Obtaining all required permits.
- h. Having all OSHA required notices and establishment of safety programs.
- i. Beginning work on the project or at the subject site as applicable.
- j. Obtaining approved traffic control plan from the City.

Payment for mobilization shall be at the contract lump sum price paid in accordance with Section 11-1.02 of the Standard Specifications.

2. MAINTAINING TRAFFIC (Bid Item #2). Maintaining traffic shall be in conformance with Section XII, A, "MAINTAINING TRAFFIC" of these specifications.

Payment for maintaining traffic including temporary traffic control, plans, signs, flagman, and traffic control satisfactory implementation shall be paid at the lump sum price and shall include full compensation for labor, materials, tool, equipment, and incidentals required for maintaining traffic during construction.

3. REPLACE EXISTING SANITARY SEWER MAIN WITH 8" PIPE (OPEN TRENCH) (Bid Item #3). REPLACE EXISTING SANITARY SEWER MAIN WITH 6" PIPE (OPEN TRENCH) (Bid Item #4). These bid items include excavation of trenches, laying and jointing of sanitary sewer pipe, backfilling trenches, testing and CCTV Inspection.

Pipe Material. For new pipe installation, pipe material shall be uniform from structure to structure.

For sanitary sewer pipe to be installed by open cut excavation, the Contractor shall use solid wall polyvinyl chloride pipe (PVC) sewer pipe for gravity systems and shall conform to ASTM D3034 for sizes 6" - 18". Pipe shall be supplied with integral bell gasket joints. Rubber gaskets shall conform to ASTM F477.

PVC sewer pipe for gravity systems shall be made of PVC material with cell classifications of 12454B or 12364B as defined by ASTM D1784. Standard gravity pipe systems shall utilize pipe having a SDR26 with a minimum pipe stiffness of 115 per ASTM D2412 test.

Inside: The inner wall pipe color shall be white, light green, light gray or natural as to facilitate clear video inspections. Yellow, black, and light purple are not acceptable.

Outside: The outer wall pipe color shall be black, white, light green, gray or natural. Yellow and light purple are not acceptable.

The interior colored surface of the HDPE pipe shall be resistant to sewer abrasives and chemicals (including hydrogen sulfide) and over time will not fade or experience color loss.

The Contractor shall conform to the manufacturer's specifications for fittings and joining pipes.

a. Excavation of Trench. The ground shall be excavated in open trenches, the sides of which shall be parallel to and at equal distances on each side of the sanitary sewer centerline. **Trench shall be saw cut along straight lines with no jagged edges.** At no time shall there be more than 200 lineal feet of the trench opened along any single sanitary sewer route, including the section opened ahead of the pipe laying and the section behind the pipe laying which has not been completely backfilled. Open trenches will be plated during non-working hours. This is to include asphalt concrete fillets around the perimeter of plates.

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. **See Category 3, Attachment A," TRENCH EXCAVATION CONSTRUCTION STANDARDS".**

Except where otherwise shown on the plans or otherwise approved by the Engineer, maximum trench width shall be as follows:

- For pipe size 4" use maximum trench width 28"
- For pipe size 8" use maximum trench width 36"
- For pipe size 10" use maximum trench width 36"

In addition, all excavation shall conform to Section XII. I., "Excavation and Backfill," and Drawing No. 3147B, Case 32.

Due to nature of soil along alignment excavation should be shored using recommended methods in Section XII, I., "Excavation & Backfill", Subsection "Excavation Stabilization & Temporary Slopes." 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.

Contractor shall submit proposal for review and approval to the Engineer for method of sheeting and shoring.

All storm drains, water pipes, gas pipes, EBMUD sewer pipes, and conduits or other structures must be properly supported where crossing or lying along the trench.

Contractor should expect to encounter 8" concrete patch over utility crossings. The 8" patch shall be saw cut, as necessary, when trenching for the new line.

b. Laying and Jointing of Sanitary Sewer Pipe. All pipes shall be laid in crushed gravel to the top of the pipe. The crushed gravel shall conform to the requirements for Class 1, Type A, permeable materials as described in Section 68, Article 1.025, of the Standard Specifications. Crushed gravel shall extend a minimum of twelve inches (12") below the pipe. The crushed gravel shall be placed by tamping or ramming with proper tools so as not to injure or disturb the pipe. If deemed necessary by the Engineer, the contractor will be required to use a vibratory plate to further compact the crushed gravel. The trench shall be filled simultaneously on both sides of the pipe so that injurious side pressures do not occur. If the trench material is unsuitable, excavation shall be to an additional depth below the pipe, as directed by the Engineer, and this excavation filled with crushed gravel so that the pipe may be well bedded and resting upon a satisfactory base. Pipe jointing shall be in conformance with manufacturer's recommendations.

Any settlement resulting from improper bedding placement will be addressed as stated in Section IV. Control, I. Removal of Defective and Unauthorized Work, of these specifications.

All pipes must be carefully handled at all times. Only suitable and proper equipment and appliances shall be used for the safe loading, hauling, unloading, handling, and placing of materials. Special care shall be exercised so that the preformed joints will not be damaged. Any pipe with a joint damaged or flattened will cause that pipe to be rejected. All rejected materials shall be promptly removed from the site.

All pipes shall be laid true to line and grade, without break or sudden offsets in the flow line. Pipe shall be protected during handling against impact shocks and free fall. As the work progresses, the interior of the pipe shall be cleared of all dirt and debris of every description.

The lubricant used for field assembly of all pipes shall have no detrimental effect on the gasket, joints, fittings or pipe, and shall be as recommended by the manufacturer.

Refer to the bid item related to replacement of existing sanitary sewer lateral for lateral to main connection information.

c. Trench Backfill shall be in conformance with Section XII.I. of these specifications and items a, and b. above.

d. Deflection Test. The deflection test for PVC pipe shall be performed by pulling a rigid ball or mandrel through the pipeline. The rigid ball or mandrel shall have a diameter equal to 95% of the inside diameter of the pipe being tested. When the rigid ball or mandrel cannot be pulled through the pipeline the Contractor shall locate and correct the defect to the satisfaction of the Engineer. After the defect is corrected, and trench rebackfilled and compacted, the section of line shall then be retested to compliance.

The use of a rerounder to force pipe into round is prohibited; any pipe that has been rerounded shall be removed and replaced.

e. Testing of PVC Sewer Lines. All newly constructed sanitary sewer mains, and laterals shall be tested for leakage only after the installation of all proposed lateral sewers to the main sewer system have been completed.

The contractor shall furnish all materials, equipment, tools and labor necessary to make leakage tests and to perform any work incidental thereto.

Leakage tests shall be performed on the entire sanitary sewer, installed, with the length of each test section limited to the pipe segment between adjacent manholes.

The contractor shall follow the detailed specifications and shall conform to the intent thereof to secure the highest quality of workmanship in the laying of the sanitary sewer line. All jointing of pipe shall be subject to rigorous inspection by the Engineer.

Testing of the lines shall be done at such time that the subbase has been compacted and accepted by the City Engineer.

The Low Pressure Air Test shall be the accepted method used to determine watertight integrity of the sanitary sewer line.

The Low Pressure Air Test shall be done in the presence of the Engineer and in accordance with the following procedure:

1. Plug and securely brace the ends of each reach of pipeline to be tested.
2. Pressurize line until internal air pressure reaches 4.0 pounds per square inch gage. When prevailing water is above the storm or sanitary sewer or force main line being tested, increase all pressures used in this test by 0.43 psi for each foot the water is above the flow line of the pipe.
3. Allow at least two minutes for the air pressure to stabilize, adding additional air as required to maintain 4.0 psig.
4. The Engineer shall observe the pressure gage attached to the pipeline and when the pressure decreases to 3.5 psig, a timing period shall be started. The timing period shall be stopped when the pressure has decreased to 2.5 psig or until the portion of line being tested is found to be "acceptable".
5. The portion of line being tested shall be termed "acceptable" if the time required in minutes for the pressure to decrease from 3.5 psig to 2.5 psig is not less than two minutes for the 4" pipe, five minutes for the 8" pipe, six minutes for the 10" pipe, seven and one-half minutes for the 12" pipe, eight and one-half minutes for the 14" pipe, nine minutes for the 16", ten minutes for the 18" pipe, or 11.5 minutes for 20" pipe.
6. If adjoining laterals are tested concurrently with the sanitary sewer main, one half of the above listed respective time for the largest lateral tested shall be added to the respective required time listed for the sanitary sewer main.

7. If the line fails to meet the above requirements, the source of the leak shall be located and corrected to the satisfaction of the Engineer. After the leak or leaks are corrected and the trench is rebackfilled and compacted, the section of line shall then be retested to compliance.

Because of the inherent danger involved in air testing, extreme care shall be exercised in placing and bracing the pipe plugs, and no one shall be allowed in the manhole during testing.

After completion of a test, the air pressure shall be released slowly through the valve, which is incorporated in the test equipment. Air test plugs shall not be removed until the air pressure is no longer measurable.

Caution shall also be taken to avoid over pressurizing and damaging an otherwise acceptable line.

f. CCTV Inspection. The Contractor shall perform CCTV inspection **before, and at the completion of construction.** After cleaning all new main and lateral lines, the main lines shall be visually inspected by means of a closed-circuit television. In addition, CCTV inspection **one year after completion of construction** shall be performed by the Contractor if trenchless excavation (Pipe Bursting) is used in lieu of open trench excavation.

The inspection will be done one section at a time and the section being inspected will be suitably isolated from the remainder of the sewer line as required.

Video recordings shall be made of the television inspections by the Contractor and two DVD copies shall be supplied to the Engineer. Three copies of printed inspection logs shall also be supplied to the Engineer.

Lighting, camera quality, and all other necessary equipment used to perform the television inspection shall be suitable to provide a clear in-focus picture of the entire inside periphery of the sewer pipe. Videotape playback shall be at the same speed it was recorded.

g. Sewer Cleaning. Sewer cleaning shall include removal of foreign material and objects from the line to permit for the proper testing of the sewer facilities. Multiple passes may be required and shall be included in the cost to perform the tests. The Contractor is responsible for any damage or clean-up on private property caused by negligent sewer cleaning operations.

Measurement and Payment. Measurements of all pipes for payment purposes shall be horizontal and made along the centerline between the center of new manhole structures and to the point of connection to the existing structure. The price paid per lineal foot for each size and type of pipe shall be full compensation for furnishing all labor, tools, equipment, and materials, and doing all the work involved in furnishing and installing the pipe, complete in place, including connection to existing manholes, including excavation, backfill, crushed gravel, saw

cutting for the trench, and items "d", "e", and "f" above. Removal of unsuitable material to the depth required for crushed gravel, including removal and offsite disposal of the existing sanitary sewer pipe, shall be included in the unit price bid for pipe.

4. REPLACE EXISTING SANITARY SEWER LATERAL WITH 4" PIPE (OPEN TRENCH) (Bid Item #5). The bid item include excavation of trenches, installation of new house laterals and backfilling for laterals that will be installed by the open excavation method.

Laterals shall be four inch (4") PVC, ASTM D1784/D2241, SDR 26 or less for open excavation, or Polyethylene, ASTM D1248/D3350/F14, SDR 17, or less for trenchless method. Lateral shall be installed at a minimum slope of 1/4" per foot. Laterals shall be connected with factory fabricated in-line bell and spigot type wyes for PVC pipe. Fittings shall be PVC SDR 17.

Shielded Couplings. Laterals shall be connected with stainless steel shielded sewer couplings, coupling to meet ASTM C 1173, gasket to meet ASTM C 425 Table 2, 300 series stainless steel shear band with a minimum thickness of .012", 316 series stainless steel clamps with nut & bolt take up, shear ring and clamps to meet all requirements of ASTM A-240, transitional sizes to utilize a one piece gasket. Recommended manufacturers shall include Mission Rubber Company FLEX SEAL – MR 56 44 ARC or approved equal. **Provide Submittal to Engineer for review.**

Laterals shall be laid in crushed rock to the top of the pipe. Recompact subbase to the Inspector's satisfaction.

Lateral serving commercial or residential lots consist of lower portion and an upper portion. The lower portion (lower lateral) is defined as being between the main line and the property line. The upper portion (upper lateral) is defined as being between the property line and the building. All undeveloped lots fronting the "project" will be provided a new lower lateral and cleanout where none previously existed. The location will be determined by the Engineer.

The Contractor shall be responsible for determining if an existing lower lateral is inactive. An inactive lower lateral does not connect to an upper lateral serving a building. Inactive lower laterals shall not be reconnected to the new sewer main and shall be removed completely at least two feet (2') from the new sewer main. The removed section of inactive lower lateral shall be disposed of by the Contractor and the remaining portion of the inactive lower lateral shall be plugged with Class C grout.

The Contractor shall complete replacement and site restoration within three consecutive working days after beginning construction on the lower lateral so as to inconvenience residents as little as possible. Service shall be maintained at all times. No temporary connections shall be made which are health hazard. All connections shall be made in such a manner that no rock, soil, piece of pipe, or other debris is allowed to enter the sewerage system.

When trenching, the Contractor will not be permitted to tunnel under curb and/or gutter and or sidewalk for lower lateral installation. The curb, and/or gutter, and/or sidewalk will be saw cut at the nearest score marks and then removed and disposed of off-site. Upon completion of lateral replacement work, the curb and/or gutter, and/or sidewalk will be replaced per Standard Drawing No. 6297, Case 24.

Excavation shall be supported so that it will be safe and the ground alongside the excavation will not slide or settle. All existing improvements including structures, fences, walls, and foundations will be fully protected from damage.

Any damage to the existing improvements beyond the trench shoring or excavation limits due sliding, caving, or settling of ground or backfill, or from construction equipment shall be repaired to the satisfaction of the property owner and the City Engineer.

All existing improvements including irrigation system, brick walkways, brick walls, fences, electrical wires, driveways, pipelines, sprinkler heads, and landscaping damaged as a direct or indirect result of construction activity shall be replaced by the contractor at his expense at appropriate locations in a manner satisfactory to the property owner and the City Engineer. Continuous dewatering will be required due to high groundwater. Dewatering shall be in conformance with Section XII, K "Control of Water".

Contractor shall take extra care where trees are in conflict or in close proximity to laterals. See Section XII G. TREE ROOTS.

The Contractor shall complete replacement and site restoration within three consecutive working days after beginning construction on the lower lateral so as to inconvenience residents as little as possible. Service shall be maintained at all times. No temporary connections shall be made which are health hazards. All connections shall be made in such a manner that no rock, soil, piece of pipe, or other debris is allowed to enter the sewerage system.

Payment shall be at the contract unit price per linear foot of 4" PVC House Sanitary Sewer Lateral and shall include full compensation for furnishing all labor, tools, equipment, and materials and doing all work specified herein for installing laterals, including excavation, backfill, crushed gravel bed, laying and joining pipes and fitting, saddles, and testing of the pipes.

5. INSTALL NEW 4" 2-WAY KELLY CLEANOUT (Bid Item #6) All laterals installed shall have cleanouts installed if one does not exist in accordance with Drawing 8396, Case 34, and the manufacturer's specifications. The Contractor shall locate all new cleanouts unless directed by the Engineer to do otherwise. In concrete and landscape areas, boxes shall be set to grade. Lids shall be marked "Sewer". Cleanouts shall be installed and connected to existing upper laterals.

New cleanouts shall not be installed in locations where existing cleanouts exist, unless instructed otherwise by the engineer. Where existing cleanouts exist, the Contractor shall reuse the existing cleanout and make all necessary connections to new sanitary sewer laterals at no extra cost.

Payment shall be at the contract unit price per cleanout and shall include full compensation for furnishing all labor, tools, equipment, and incidentals required for doing all work involved in installing cleanouts as herein specified, including boxes, excavation, backfill, pea gravel, and fittings.

6. INSTALL 6" 2-WAY KELLY CLEANOUT (Bid Item #7) Six-inch laterals installed shall have 6" cleanouts installed if one does not exist in accordance with Drawing 8397, Case 34, and the manufacturer's specifications. The Contractor shall locate all new cleanouts unless directed by the Engineer to do otherwise. In concrete and landscape areas, boxes shall be set to grade. Lids shall be marked "Sewer". Six-inch cleanouts shall be installed and connected to existing six-inch upper laterals.

New cleanouts shall not be installed in locations where existing cleanouts exist, unless instructed otherwise by the engineer. Where existing cleanouts exist, the Contractor shall reuse the existing cleanout and make all necessary connections to new sanitary sewer laterals at no extra cost.

Payment shall be at the contract unit price per cleanout and shall include full compensation for furnishing all labor, tools, equipment, and incidentals required for doing all work involved in installing cleanouts as herein specified, including boxes, excavation, backfill, pea gravel, and fittings.

7. INSTALL NEW MANHOLE (Bid Item #10, #11, #12, and #13) Manholes shall be Type A, Drawing 2815, Case 34 (unless specified otherwise). No concrete shall be placed until the Engineer has approved the depth of the excavation and the character of the foundation material. All corners and the pipe openings shall be rounded off and pointed up and all voids shall be filled with mortar. The manhole frames and covers shall be properly matched so that the covers will not rock or rattle, and after installation shall be painted with asphalt black paint, subject to the approval of the Engineer.

Manhole frame and cover shall be cast to the lines and dimensions as shown on Standard Drawing No. 1115, Case 34. Frame and cover shall be machine finished to prevent rocking of the cover. Provide manhole cover submittal to the engineer.

Existing sanitary sewer mains laterals tying into the manholes to be replaced will be reconnected to the new manholes by the Contractor.

Manhole channels shall be constructed as shown on the Plans and Standard Details, and with smooth transitions to ensure an unobstructed flow through manhole. All sharp edges or rough sections, which tend to obstruct flow, shall be removed. Where a full section of pipe is laid through a manhole, a neatly cut half pipe shall be laid to form the channel. The exposed edge of the pipe shall be completely covered with mortar. All mortar surfaces shall be trowled

smooth. Breaking out the top half section after installation is not acceptable. **Pre-cast manhole bases shall not be used.** All manhole bases shall be laid in crushed gravel at a minimum of twelve inches (12") below the base.

All pipe that is to be connected to a manhole shall have a flexible connection to account for any differential settlement. Flexible connection shall be used only to connect plastic pipe to plastic pipe, and not be installed at the manhole/pipe penetration. Flexible coupling shall be installed approximately 12" from the point of connection/penetration between pipe and manhole. Couplings to meet ASTM D 5926, ASTM C 1173 and CSA B 602. Acceptable manufacturers shall include Fernco, products include Fernco Flexible Couplings series 1056-88 or approved equal. Installation shall be as recommended by the manufacturer. **Provide submittal to Engineer for review.**

All sewer manholes shall be vacuum tested. Test shall be witnessed by the City Inspector. Contractor shall contact City 48-hours in advance of testing. Vacuum test procedure and requirements shall be as follows:

a. After completion of the manholes barrels but prior to backfilling and grade ring installation, all openings in the manholes are sealed with plugs and a rubber ring "donut" type plug inserted inside the opening of the cone.

b. A small vacuum pump shall be attached to a hose connected to the plug and 4 psi, plus .434 psi per foot of depth from channel to rim, of vacuum applied. The vacuum is permitted to stabilize at 0.5 psi less than above vacuum for one minute then the test is begun. The manhole must maintain vacuum such that no greater than 0.5 psi of vacuum is lost during the specified test period.

c. The specified test period is as follows:

Manhole Depth (ft)	Test Period (min)
0-5	4.5
5-10	5.5
10-15	6.0
Greater than 15	6.5

d. Manholes that fail the test shall be patched as required and retested.

e. A vacuum regulator shall be provided on the vacuum pump such that no greater than 15 psi can be applied to the manhole during the test. All manholes that do not meet the leakage test or are unsatisfactory from visual inspection shall be replaced to the satisfaction of the City Engineer.

Payment shall be at the contract unit price per Type A Manhole, in place, complete with concrete collar, frame and cover; such payment shall include full compensation for furnishing all labor, material, tools, equipment, trenching, bracing, sheeting, shoring, excavation, backfill, pipe and lateral connections flexible connections, adjusting to grade, and doing all work involved in constructing the manhole complete in place, as shown on the plans, including the removal and offsite disposal of existing manholes, excluding frames and covers as specified in the Standard Specifications and these Special Provisions.

8. RECONSTRUCT SIDEWALK (Bid Item #14), RECONSTRUCT CURB AND GUTTER (Bid Item #15) Concrete curb, gutter, sidewalk, residential and/or commercial driveways and approaches removed for installation of laterals, cleanouts, mains, and/or manholes, shall be reconstructed in accordance with Drawing 6297, Case 24, and in conformance with the applicable requirements of Section 73 of the Standard Specifications and these Special Provisions. Sidewalks shall be Portland cement concrete three inches (3") thick. Residential driveways and their approaches shall be of Portland cement concrete four inches (4") thick. Commercial driveways and their approaches shall be of Portland cement concrete six inches (6") thick. Concrete shall be saw cut and reconstructed to the limits shown on plan and established in the field by the Engineer. Concrete and saw cutting shall conform to Section XII. C.

Gutter shall be 8 inches (8") in thickness and 30 inches (30") in width, or as shown on plans, or as needed to conform with existing gutter.

All sidewalk constructed shall be given the same surface finish as the surrounding sidewalk, and the surface shall be colored by adding to the mix a proportionate amount of the best quality lampblack, such proportion to be determined by the Engineer (**add 1.5 pounds of Lump Black per cubic yard of Concrete**). Concrete, Curb, Gutter and Sidewalk replacements shall extend to the nearest score-mark or as directed by the engineer or his representative.

Damage to existing sidewalk, curb, gutter, or driveways beyond the limits shown on the plans, or reconstruction required by the Engineer, caused by carelessness or inefficiency of the Contractor, shall be repaired or replaced at the Contractor's expense.

Payment shall be at the contract unit price per square foot of concrete replacement for sidewalk which includes driveways, and approaches and at the contract unit price per linear foot of curb and gutter, including full compensation for all labor, tools, equipment, and materials, and doing all work involved in saw cutting, removal, and replacing concrete curb, gutter, sidewalk, driveways and approaches.

9. ASPHALT CONCRETE PATCH (Bid Item #16) Trenches opened for the installation of sewer mains, laterals, and manholes in pavement areas, shall be paved with four inches (4") minimum asphalt concrete on eighteen (18") inches of aggregate base over compacted backfill. If depth of existing asphalt concrete in the roadway is greater than four inches (4"), then the depth of the new asphalt concrete section shall equal existing. The work shall conform to Drawing No. 2930, Case 22 and as shown on the plans. Asphalt concrete shall be Type A, ½" maximum aggregate with medium gradation, and shall conform to applicable requirements of Section 39 of the Standard Specifications. Paving asphalt of the Viscosity Grade AR 4000 shall be used unless otherwise permitted by the Engineer. The AC shall be placed in 4" lifts. Aggregate base shall be provided and compacted in accordance with Drawing 2930, Case 22.

Aggregate base must be Class 2 in accordance with Section 26 of the Standard Specifications with maximum aggregate size of ¾". Asphalt overly along the trench sides within the one-foot saw cut limit shall be paid under Asphalt Concrete Bridge, see Bid Items.

At least 72 hours prior to beginning work on a section of street scheduled for asphalt concrete surfacing replacement, the Contractor shall notify all affected property owners, residents, business and agencies adjacent to that section of street, by flyer and by approved "No Parking - Tow Away" signs on barricades of the work to be done, dates and hours of work, and lack of access to and from driveways for brief periods. The "No-Parking" signs shall state the days, dates, and hours of lane closure, and shall be placed along the street on each side at no more than 50 feet spacing, including no-parking zones. The Contractor shall notify the Engineer at least one (1) working day in advance of the intent to post "No-Parking" signs and to distribute flyers, 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 and flyers, in order to bracket the approved scheduled date of work. The Contractor shall remove the "No Parking" signs as soon as the street is re-opened to traffic.

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 and notify residents with new flyers at least 72 hours prior to beginning work per the revised schedule.

Payment for asphalt concrete patch shall be paid at the contract unit price per square foot of trench, as specified for the street patch including 18" aggregate base. Said contract unit price shall include full compensation for labor, material, tools, equipment, and incidental associated with the work.

10. ASPHALT CONCRETE BRIDGE (Bid Item #17) An asphalt bridge for street patch, having a width of one foot, shall be constructed on either side of the pipe trench according to Drawing No. 2930, Case 22. Asphalt concrete shall be Type A, ½" maximum aggregate with medium gradation, and shall conform to applicable requirements of Section 39 of the Standard Specifications. Paving asphalt of the Viscosity Grade AR 4000 shall be used unless otherwise permitted by the Engineer. The four-inch (4") section shall be placed in two-inch lifts.

Payment for Asphalt Bridge for street patch shall be at the contract unit price per square foot of Asphalt Bridge, as specified for street patching. Said contract unit price shall include full compensation for furnishing all labor, tools, equipment and materials, and doing all the work involved in reconstructing the trenches complete and in place as herein specified, and all other incidental work connected herewith.

11. MECHANICAL SHEETING AND SHORING OF SEWER TRENCH (Bid Item #18) Due to the nature of soils along the sewer trench alignment, excavation should be shored using recommended shoring techniques. See Section XII.I. Excavation and Backfill. 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. Contractor shall submit sheeting and shoring proposal prepared, signed and stamped by a Civil or Structural Engineer, registered in the state of California for review and approval to the Engineer.

Sheeting and Shoring in this bid item shall be defined as mechanical trench stabilizing devices.

Payment for sheeting and shoring shall be at the contract unit price per linear foot of actual trench shored during construction and shall include full compensation for furnishing all labor, tools, calculations, equipment and, materials. The sheeting and shoring shall be measured along the center line of the trench. Measurement for shoring around manholes shall be along the trench length, plus the width that extends beyond the pipe trench width.

12. SIGNAGE, STRIPING AND RESTORATION OF TRAFFIC LOOPS (Bid Item #19) Traffic stripes and marking removed shall be installed in accordance to the Standard Specifications Section 84. New striping must match the preexisting striping. Thermoplastic pavement striping and marking shall conform to Section 84-2.02 and 84-2.04 of the Standard Specifications. Painted striping and marking shall conform to Section 84-3 of the Standard Specifications. Pavement marking damage or destroyed as a result of the work shall be replaced in kind in conformance with Section 85 of the Standard Specifications. **Pavement markings shall be replaced in full, partial replacement of words, symbols, limit lines and crosswalk lines will not be allowed.** Whenever the Contractor's operations obliterate pavement delineation (striping - either painted or pavement markers or both, stop bars and crosswalks), pavement delineation shall be temporarily replaced before opening the traveled way to public traffic. For lane or center lines temporary delineation shall consist of reflective traffic line tape applied in pieces not less than 4" long nor less than 4" wide, spaced no more than 12' apart on curve, nor more than 24' apart on tangents, or as required by the Engineer.

Traffic Loops

Loop detector lead-in cable shall be Type B. Conductor for each inductive detector loop shall be continuous and unspliced and shall be Cal-Tran Type 2, moisture and heat resistant insulated, No. 14 stranded copper wire.

All installation work, including loop and lead-in placement, sealing, connecting, and testing, shall be completed after all base repair and cold planing is completed, but prior to the installation of the final lift of (R) HMA or placement of slurry seal. No slotting of the final lift of (R) HMA or slurry seal will be permitted.

In lieu of the requirements in the fourth paragraph of Section 86-5.01A(5), "Installation Details", of the Standard Specifications, slots in asphalt concrete pavement shall be filled as follows:

After conductors are installed in the slots cut in the pavement, slots shall be filled with Over Kote® loop filler or approved equal, meeting Caltrans inductive loop filler specification #8040-41A-15.

The conductor shall megger the loops in the presence of the Engineer prior to the installation of the sealant. Minimum results of 100 megohms at 500 volts required. After the sealant is installed the loops will be meggered by the City with minimum results of 100 megohms at 500 volts required.

The Contractor shall test the detectors with a motor-driven cycle, as defined in the California Vehicle Code, that is licensed for street use by the Department of Motor Vehicles of the State of California. The unladen weight of the vehicle shall not exceed 220 pounds and the engine displacement shall not exceed 100 cubic centimeters. Special features, components, or vehicles designed to activate the detector will not be permitted. The Contractor shall provide an operator who shall drive the motor-driver cycle through the response or detection area of the detector at not less than three (3) miles per hour nor more than 25 miles per hour. The detector shall provide an indication in response to this test.

Inductive loop conductors shall run continuously from the lead-in at the nearest pull box through the loop and return to the lead-in. Splices will not be allowed.

Inductive loop detector conductors from individual loops shall be tagged in the pull box nearest the loop. Detector lead-in shall be tagged at the terminal board in the controller cabinet. Tags shall conform to Section 86-2.08 of the Standard Specifications. All loop conductor connections shall be soldered, taped with rubber tape, plastic tape, and sealed with Scotchkote® or approved equal.

Loop detector conductors shall be run in 2" conduit from detector handhole near gutter lip to pull box. Conductors shall be installed only in the presence of the Engineer. Loop lead-ins shall run continuously from the pull box nearest to the terminal board in the controller cabinet.

Contractor to field verify loop location and type.

Striping & Signage

Reflective traffic line tape shall be applied in accordance with the manufacturer's instructions. Temporary delineation shall be the same color as permanent delineation. Full compensation for temporary delineation shall be considered as included in the prices paid for the contract items of work that obliterated the existing delineation and no separate payment will be made therefore. Traffic tape shall be removed when required and disposed of as specified under Section XII, E., Disposal of Excavated Materials. Striping for all other locations within the project boundaries shall be replaced in kind across full width of roadway, as directed by the Engineer.

Layout of traffic striping and pavement markings shall be subject to approval by the Engineer prior to placement of striping/markings, in accordance with Section 10-1.02 ORDER OF WORK.

Payment for restoring existing traffic striping and marking, temporary striping and marking, new striping and marking, and restoration of traffic loops shall be at the contract lump sum price and shall include full compensation for labor, materials, tools, equipment, and incidentals to furnish and install striping and marking.

13. REPLACE EXISTING SANITARY SEWER LATERAL WITH 6" PIPE (OPEN TRENCH) (Bid Item #20) See Section L.4. REPLACE EXISTING SANITARY SEWER LATERAL WITH 4" PIPE (OPEN TRENCH) (Bid Item #4), 6" pipe shall be used in lieu of 4" pipe for this bid item. All other requirements shall apply as per that bid item.

14. EXTENT OF CONTRACT (ADD ALTERNATE NO. 1) STOCKPILING OF CONTAMINATED SOIL, IMPORT BORROW, CONTAMINATED GROUND WATER, [Add Alternate No.1 Bid Items No. 1, 2, and 3]. The Contractor hazardous waste handlers for both water and soil handling shall have 40 hour Hazwhopper training, with yearly eight (8) hour Hazwhopper update. The Contractor shall submit a site Safety Plan. Attached is a sample site safety plan, Attachment C. The Contractor shall retain a certified Industrial Hygienist. Attention is directed to the following specifications in the event contaminated soil is encountered during excavation.

A. STOCKPILING OF CONTAMINATED SOIL. In the event excavated soils are stockpiled onsite for the purpose of proper disposal at an accepting landfill, stockpiled soil shall be placed on and under 10-mil polyethylene sheeting and secured with a 6-foot high perimeter chain-link fence and lock. See quantities for estimated weight of contaminated excavated soil (based on soil weight at 130pcf). The Contractor shall be responsible for maintaining the integrity of the plastic sheeting during its use. If the sheeting is damaged during stockpiling and

removal operations, the Contractor shall be responsible for replacing the sheeting with equivalent or greater thickness than that specified and shall be responsible for the cost of inspecting, sampling, and/or removing and disposal of soil affected by pollutants due to the damage sheeting.

Weighmaster Certificates. Weighmaster certificates will be required for this work.

Payment shall be at the contract unit price per ton of soil stockpiled, including off-hauling and disposal at an accepting landfill and shall include full compensation for furnishing all labor, material, fencing, tools, equipment and incidentals, and for doing all work.

B. IMPORT BORROW. In the event the Engineer has determined that the contaminated soil shall be removed and disposed off-site, the Contractor shall back fill the affected excavation with on-site select material. Should import borrow be required, import borrow shall be of a quantity suitable for roadway construction and shall be free of organic or deleterious materials. It shall be granular with sand equivalent of 20 or higher, a maximum particle size of one inch (1") and no more than 15% passing the No. 200 sieve.

Payment of imported borrow shall be at the contract unit price per ton of import borrow and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals and for doing all work in placing import borrow.

C. CONTAMINATED GROUND WATER. Should contaminated ground water be encountered, contaminated ground water shall be stored, treated and disposed at a City approved discharge point either storm or sewer. The City will test water for constituents. The treated water will be discharged to either sanitary sewer or storm drain. The City will obtain necessary permits for discharging treated water to these facilities. The ground water shall be pumped into baker tanks and treated through a carbon treatment absorption system. Water samples will be collected from sample ports located up gradient and down gradient of the carbon system. All influent and effluent samples will be analyzed for TPH, BTEX, and heavy metal by the City.

Payment shall be at the contract unit price per gallon of contaminated water and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all work, including storage, pumping, treatment and disposal.

D. EXPERIENCE WORKMANSHIP. The Contractor performing this work MUST be familiar with all applicable regulations covering the removal or disturbance of contaminated or hazardous material. The Contractor must possess all required licenses, certificates and training required to perform the type of work. The Contractor must be familiar with disposal requirements of contaminated or hazardous material.

A complete work plan, which shall be referred to as the Contractor's Written Compliance Program (as per 29 CFR 1926.62), shall outline the methods and controls to be followed by the Contractor and each Sub-contractor during the performance of their work. The Contractor's Written Compliance Program must be submitted to the Owner prior to the start of work.

It is the Contractor's responsibility to maintain adequate controls and perform any personal monitoring to insure worker safety for the duration of the work. An initial exposure determination shall be supplied to the Owner prior to the start of work.

Payment for experience workmanship which also includes submittal of site safety plan and retaining of an Industrial Hygienist shall be in the various contract bid items and no additional compensation shall be made.

E. APPLICABLE STANDARDS. Unless otherwise specified or defined, the Contractor shall follow all federal, state and local regulatory agency rules, regulations and standards regarding the excavation, stockpiling, transporting and disposal of contaminated soil.

All work shall be performed in accordance with the latest regulations from the Occupational Safety and Health Administration (OSHA), the State of California Division of Occupational Safety and Health (DOSH), the State of California Department of Industrial Relations (CAL/OSHA), the recommendations of the National Institute of Occupational Safety and Health (NIOSH), California Department of Health Services and any other applicable Federal, State and Local Government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provision is applicable.

The Contractor shall give the City two (2) weeks to resolve the contaminated site issue. The Contractor shall include this period in the bid and no right of way claims shall be initiated by the Contractor or the City.

F. TRENCHLESS EXCAVATION (PIPE BURSTING) ALTERNATIVE PIPE INSTALLATION METHOD **This project must be bid using open trench method (unless stated otherwise in the bid quantities) and any proposal to use trenchless excavation method in lieu of open trench method shall only be made after award of contract and may be used only if approved by the Engineer.** Trenchless excavation or pipe bursting may be used as an alternative method to sanitary sewer main and lateral installation. The Contractor may use this method at his discretion, only if approved by the Engineer.

If trenchless excavation is to be used, the Contractor must perform pre-construction CCTV. Trenchless excavation may not be performed in locations where sags or obstructions occur. However, "spot repairs" may be allowed at the Engineer's discretion. In addition to the required pre and post construction CCTV inspection, a CCTV inspection shall be performed one year after completion of construction at all locations where trenchless excavations were performed to determine if any settlement has occurred. Any defects or settlement shall be repaired by the Contractor at no cost to the City. All CCTV inspections required shall be included in the unit price for sanitary sewer pipe.

Prior to commencing the trenchless operation the contractor shall CCTV the existing sewer as required in order to identify any sags or obstructions in the existing pipe. Pre-construction CCTV shall be at the expense of the Contractor. Existing sags or vertical offsets that would affect the alignment of the new pipe installed by trenchless excavation shall be corrected by the contractor prior to installation. Sags in the new replacement sewer that appears in the post construction video inspection tapes are to be removed and corrected by open trench at the expense of the Contractor with no additional compensation or cost to the City. Such repairs if necessary are at the expense of the Contractor.

The Contractor shall submit to the Engineer catalog cuts, specifications, dimensioned drawings, and installation details/sketches and other pertinent information for the polyethylene pipe and fitting installation work.

The Contractor shall verify with the pipe manufacturer all connection details and shall provide to the Engineer detailed drawings and a written description of the entire construction procedure to install pipe, by-pass sewage flow, and reconnection of sewer house connections, including launching pit, receiving pit, and pipe lay down areas for approval.

The Contractor shall furnish a certified affidavit of compliance for all high-density polyethylene (HDPE) pipe and fittings furnished under this section of the specifications confirming that the materials supplied fully conform to the requirements specified herein.

Trial fusion welds shall be performed by the Contractor and samples submitted to the Engineer for review prior to installation of the pipe and fittings. Full penetration welds shall provide a homogeneous material across the cross section of the weld. The fusion machine employed for the trial welds shall be the same machine to be utilized for the installation work.

All pipe and fittings shall be high molecular weight, HDPE pipe. The material shall be listed by the Plastic Pipe Institute (PPI) as having a material designation of PE 3408. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material pipe.

Pipe and fittings shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions or other injurious defects. They shall be uniform in color, opacity, density, and other physical properties. Any pipe and fittings not meeting these criteria shall be rejected.

For trenchless excavation HDPE pipe and fittings shall have a standard dimensional ratio (SDR) of 17 or less, ASTM D1248/D3350/F714, and shall conform to the following:

Inside: The inner wall shall be white, light green or natural. Yellow, black, and light purple are not acceptable.

Outside: The outer wall shall be black, white, light green, or natural. Yellow and light purple are not acceptable.

The interior colored surface of the HDPE pipe shall be resistant to sewer abrasives and chemicals (including hydrogen sulfide) and over time will not fade or experience color loss.

Sections of HDPE pipe shall be joined into continuous lengths on the job site above ground. The joining method for pipe shall be the butt fusion and/or electro-fusion method and HDPE saddles shall be fused on. All fusion shall be performed in strict accordance with the pipe manufacturer's recommendations. Fusion equipment used in the joining procedure shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, fusion temperature, alignment and fusion pressure.

A fire retardant bag or suitable enclosure shall be used with the heater plate to facilitate control of heating process and to protect the heater plate surfaces from dirt and other debris when not in use. The heater plate surfaces shall be cleaned regularly as needed to prevent accumulation of fusion welding residues or other substances that may result in faulty pipe joining.

Butt fusion shall conform to ASTM D2657 and pipe manufacturer's criteria for the type of joining. Joint strength shall be equal to that of the adjacent pipe.

The inside and outside of pipe ends shall be cleaned with a cotton or non-synthetic cloth to remove dirt, water, grease and other foreign materials; cut square (face) the pipe ends and carefully align just prior to heating.

After achieving the proper melt pattern, the pipe ends shall be brought together in a firm, rapid motion applying sufficient pressure to form a pipe bead (1/8" to 3/16" in height) around and inside the entire circumference of the pipe.

The inside weld base shall be removed by cutting the polyethylene away while it is still warm. Without scoring the inside wall of the pipe, the bead shall be removed in less than 5 minutes after pipe joint has been made.

The upsizing process shall be guided by a constant tension system. The upsizing method shall not cause any disruption to the aboveground terrain or improvements except for at the launching and receiving pits. A bursting head shall be used to break apart the existing pipe and create a void space sufficient in size to accommodate the HDPE liner. The liner pipe shall be installed immediately after the void has been formed. Section of the sewer pipes marked on the plans for HDPE liner installation if any shall be cleaned and inspected in accordance with the applicable sections of the Greenbook listed in Category 3, Attachment "D" of these specifications.

Low-pressure air testing, deflection testing, cleaning and video inspection of newly installed HDPE pipes (mains and laterals) shall be performed in accordance with Bid Item INSTALL NEW 8" SANITARY SEWER MAIN (OPEN TRENCH), subsection, testing for PVC sewer lines.

Attention is directed to related Articles or Subsections of these specifications and the Standard Specifications, regarding all other aspects of construction pertaining to trenchless excavation.

Laterals installed by trenchless method shall be four inch (4") Polyethylene, ASTM D1248/D3350/F14, SDR 17, or less. Lateral shall be installed at a minimum slope of 1/4" per foot. . Lateral shall be connected to main with fusion branch saddles having an SDR of 11 for HDPE pipe.

Lateral serving commercial or residential lots consist of lower portion and an upper portion. The lower portion (lower lateral) is defined as being between the main line and the property line. The upper portion (upper lateral) is defined as being between the property line and the building. All undeveloped lots fronting the "project" will be provided a new lower lateral and cleanout where none previously existed. The location will be determined by the Engineer.

The Contractor shall be responsible for determining if an existing lower lateral is inactive. An inactive lower lateral does not connect to an upper lateral serving a building. Inactive lower laterals shall not be reconnected to the new sewer main and shall be removed completely at least two feet (2') from the new sewer main. The removed section of inactive lower lateral shall be disposed of by the Contractor and the remaining portion of the inactive lower lateral shall be plugged with Class C grout.

The Contractor shall complete replacement and site restoration within **three (3) consecutive working days** after beginning construction on the lower lateral so as to inconvenience residents as little as possible. Service shall be maintained at all times. No temporary connections shall be made which are health hazard. All connections shall be made in such a manner that no rock, soil, piece of pipe, or other debris is allowed to enter the sewerage system.

Payment for trenchless excavation shall be linear foot of pipe and shall include full compensation for furnishing all labor, tools, equipment, and materials and doing all necessary testing a and work specified herein for installing sewer mains, laterals, and tie-in to manholes.

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:

- Construction Schedule
- Traffic Control Plan
- Pothole Plan and Schedule

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). The potholing plan and schedule must be approved by the City Engineer at least two (2) weeks before construction may proceed.

Exhibit 'A'

BIDDER'S PROPOSAL FORM

Bidder's Proposal

Subcontractors to be used in the Performance of this Contract (Form)

Security For Compensation Certificate

Important Instructions

BIDDER'S PROPOSAL

Specifications and Special Provisions

Proposal to the COUNCIL of the CITY OF ALAMEDA:

No. P.W. 06-13-16
 Filed:
 Cyclic Sewer Replacement Project, Phase 11

The undersigned declares that he has carefully examined the location of the proposed work and the Plans, Specifications, and Special Provisions therefore, referred to herein, and hereby proposes to furnish all labor, materials, machinery, tools and equipment required to perform the work, and to do all the said work, in accordance with said Plans, Specifications and Special Provisions for the unit prices set forth in the following schedule:

Item No.	Approximate Quantity	Items with Unit Prices Written in Words	Unit Price	Total Price
1.	1 Lump Sum	Mobilization		
		@ _____	\$ _____	\$ _____

		Lump Sum		
2.	1 Lump Sum	Maintaining Traffic		
		@ _____	\$ _____	\$ _____

		Lump Sum		
3.	13,500 LF	Replace Existing SS Main with 8" Pipe (Open Trench)		
		@ _____	\$ _____	\$ _____

		Linear Foot		

Item No.	Approximate Quantity	Items with Unit Prices Written in Words	Unit Price	Total Price
4.	1,000 LF	Replace Existing SS Lateral with 8" Pipe (Pipe Burst)		
		@ _____	\$ _____	\$ _____
		Linear Foot		
5.	1,250 LF	Replace Existing SS Lateral with 6" Pipe (Open Trench)		
		@ _____	\$ _____	\$ _____
		Linear Foot		
6.	1,000 LF	Replace Existing SS Lateral with 6" Pipe (Pipe Burst)		
		@ _____	\$ _____	\$ _____
		Linear Foot		
7.	16,700 LF	Replace Existing SS Lateral with 4" Pipe (Open Trench)		
		@ _____	\$ _____	\$ _____
		Linear Foot		
8.	345 Each	Install 4" 2-way Kelly Cleanout		
		@ _____	\$ _____	\$ _____
		Each		
9.	20 Each	Install 6" 2-Way Kelly Cleanout		
		@ _____	\$ _____	\$ _____
		Each		

Item No.	Approximate Quantity	Items with Unit Prices Written in Words	Unit Price	Total Price
10.	47 Each	Install New Manhole – Type A @ _____ _____ Each	\$ _____	\$ _____
11.	2 Each	Install New Manhole – Type C @ _____ _____ Each	\$ _____	\$ _____
12.	2 Each	Standard Drop Inlet Manhole @ _____ _____ Each	\$ _____	\$ _____
13.	4 Each	Standard Drop Inlet Manhole (2 drops) @ _____ _____ Each	\$ _____	\$ _____
14.	11,000 SF	Reconstruct Sidewalk @ _____ _____ Square Foot	\$ _____	\$ _____
15.	2,500 LF	Reconstruct Curb and Gutter @ _____ _____ Linear Foot	\$ _____	\$ _____

Item No.	Approximate Quantity	Items with Unit Prices Written in Words	Unit Price	Total Price
16.	1,400 Ton	Asphalt Concrete Patch @ _____ Ton	\$ _____	\$ _____
17.	1,400 Ton	Asphalt Concrete Bridge @ _____ Ton	\$ _____	\$ _____
18.	11,000 LF	Mechanical Sheeting and Shoring of Sewer Trench @ _____ Linear Foot	\$ _____	\$ _____
19.	1 Lump Sum	Signage, Striping and Restoration of Traffic Loops @ _____ Lump Sum	\$ _____	\$ _____
20.	1,000 LF	Replace Existing SS Lateral with 6" Pipe (Open Trench) @ _____ Linear Foot	\$ _____	\$ _____
21.	1 Allowance	Permits @ <u>Five Thousand Dollars</u> Allowance	<u>\$5,000.00</u>	<u>\$5,000.00</u>

TOTAL BASE BID

\$ _____

ADD ALTERNATE No.1

Item No.	Approximate Quantity	Items with Unit Prices Written in Words	Unit Price	Total Price
1.	20 Ton	Stockpiling of Contaminated Soil @ _____ _____ Ton	\$ _____	\$ _____
2.	20 Ton	Import Borrow @ _____ _____ Ton	\$ _____	\$ _____
3.	1,000 Gallon	Contaminated Water @ _____ _____ Gallon	\$ _____	\$ _____

TOTAL ADD ALTERNATE NO.1 \$ _____

TOTAL BASE BID + ADD ALTERNATE NO.1 \$ _____

Amount of Time Required to Commence Work After Receipt of Work Order: 5 Days

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 Print)

Signature of Person on Behalf of Firm

Business Address

Dated: _____

Zip Code

Phone Number _____

Name	Title	Address
(Of Officers or Partners)		

Incorporated under the laws of the State of

Contractor's License No. _____ Expiration Date:

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.)

The Bidder shall list the name and address of each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions in Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications and Section 2-1.01, "General," for the special provisions.

LIST OF SUBCONTRACTORS

<u>Name and Address</u>	<u>Description of Portion Of Work Subcontracted</u>

(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 opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all report due under the applicable filing requirements.

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

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

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

SECURITY FOR COMPENSATION CERTIFICATE

(Required by Paragraph 1861, California Labor Code)

To: _____

I am aware of the provisions of Section 3700 of the Labor Code of the State of California which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract.

(Signature of Bidder)

Business Address

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 'B'

**CERTIFIED PAYROLL AND
PREVAILING WAGES FORMS**

Contractor's Certification Concerning Labor Standards and Prevailing Wage Requirements
Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements
Certification of Bidder Regarding Section 3 and Segregated Facilities
Certification of Proposed Subcontractor Regarding Section 3 and Segregated Facilities
Certification of Understanding and Authorization
Certification For Applicable Fringe Benefit Payments
Authorization For Deductions

EXHIBIT B: Certified Payroll Forms

CITY OF ALAMEDA PUBLIC WORKS DEPARTMENT CONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS		
(Appropriate Recipient):	DATE	
c/o	PROJECT NUMBER (if any)	
	PROJECT NAME	
1. The undersigned, having executed a contract with _____ for the construction of the above-identified project acknowledges that:		
(a) The Labor Standards provisions are included in the aforesaid contract;		
(b) Correction of any infractions of the aforesaid conditions, including infractions any of his subcontractors and Any lower tier subcontractor, is his responsibility.		
2. He certifies that:		
(a) Neither he nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary Labor, part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act as amended (40 U.S.C. 276u-2(a)).		
(b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.		
He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards at Prevailing Wage Requirements executed by the subcontractors.		
He certified that:		
(a) The legal name and the business address of the undersigned are:		
(b) The undersigned is:		
(1) A SINGLE PROPRIETORSHIP	(3) A CORPORATION ORGANIZED IN THE STATE OF	
(2) A PARTNERSHIP	(4) OTHER ORGANIZATION (Describe)	
(c) The name, title and address of the owner, partners or officers of the undersigned are:		
NAME	TITLE	ADDRESS

EXHIBIT B: Certified Payroll Forms

(d) The names and address of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):		
NAME	TITLE	ADDRESS
(e) The names, address and trade classification of all other building construction contractors in which the undersigned, has a substantial interest are (if none, so state):		
NAME	TITLE	ADDRESS

3. He certifies:
(a) The company's Federal Tax Identification Number is:
(b) The ethnicity of the company's owner(s) is/are:
(c) Is the company a female owned business: _____ Yes _____ No

Date _____ (Contractor)

By _____ (Signature)

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S. C. Provides in part "Whoevermakes, passes, utters, or publishes any statement, knowing the same to be falseshall be fined not more than \$5,000 or imprisoned not more than two years or both."

EXHIBIT B: Certified Payroll Forms

CITY OF ALAMEDA PUBLIC WORKS DEPARTMENT SUBCONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS		
(Appropriate Recipient):	DATE	
c/o	PROJECT NUMBER (if any)	
	PROJECT NAME	
1. The undersigned, having executed a contract with _____ for in the amount of \$_____ In the construction of the above-identified project, certifies that: (a) The Labor Standards provisions of the contract for construction are included in the aforesaid contract; (b) Neither he nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary Labor, part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act as amended (40 U.S.C.. 276u-2(a)). (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.		
2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards at Prevailing Wage Requirements executed by the subcontractors.		
(a) The workmen will report for duty on or about _____(date).		
3. He certifies that:		
(a) The legal name and the business address of the undersigned are:		
(b) The undersigned is:		
(1) A SINGLE PROPRIETORSHIP	(3) A CORPORATION ORGANIZED IN THE STATE OF	
(2) A PARTNERSHIP	(4) OTHER ORGANIZATION (Describe)	
(c) The name, title and address of the owner, partners or officers of the undersigned are:		
NAME		ADDRESS

EXHIBIT B: Certified Payroll Forms

(d) The names and address of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):		
NAME	TITLE	ADDRESS
(e) The names, address and trade classification of all other building construction contractors in which the undersigned, has a substantial interest are (if none, so state):		
NAME	TITLE	ADDRESS

3. He certifies:
(a) The company's Federal Tax Identification Number is:
(b) The ethnicity of the company's owner(s) is/are:
(c) Is the company a female owned business: _____ Yes _____ No

Date: _____ (Contractor)

By _____ (Signature)

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S. C. Provides in part "Whoevermakes, passes, utters, or publishes any statement, knowing the same to be falseshall be fined not more than \$5,000 or imprisoned not more than two years or both."

EXHIBIT B: Certified Payroll Forms

CERTIFICATION OF BIDDER REGARDING SECTION 3
AND SEGREGATED FACILITIES

Name of Prime Contractor

Project Name and Number

The undersigned hereby certified that:

- (a) Section 3 provisions are included in the Contract.
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).
- (c) No segregated facilities will be maintained.

Name

Name and Title of Signer (Print or Type)

Signature

Date

EXHIBIT B: Certified Payroll Forms

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING
SECTION 3 AND SEGREGATED FACILITIES

Name of Subcontractor

Project Name and Number

The undersigned hereby certified that:

- (a) Section 3 provisions are included in the Contract.
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).
- (c) No segregated facilities will be maintained, as required by Title VI of the Civil Right Act of 1964.

Name

Name and Title of Signer (Print or Type)

Signature

Date

EXHIBIT B: Certified Payroll Forms

**CERTIFICATION OF UNDERSTANDING
AND AUTHORIZATION**

Project Name: _____

Project Number: _____

This is to certify that the principals, and the authorized payroll officer, below, have read and understand the Minutes of the Preconstruction Conference and the labor standards clauses pertaining to the subject project.

The following person(s) is designated as the payroll officer for the undersigned and is authorized to sign the Statement of Compliance which will accompany our weekly certified payroll reports for this project:

Designated Payroll Officer (Name)

Designated Payroll Officer (Signature)

Authorized by (Contractor/Subcontractor)

(Signature)

(Title)

(IRS) Employer Identification Number

(Date)

EXHIBIT B: Certified Payroll Forms
CERTIFICATION FOR APPLICABLE FRINGE BENEFIT PAYMENTS

Project Name:
 Project Number:

Classification/ Fringe Benefits Provided	Name, Address and Telephone Number of Plan/Fund/Program
1. _____ Health and Welfare	_____
_____	_____
_____	_____
_____	_____
_____	_____
2. _____ Health and Welfare	_____
_____	_____
_____	_____
_____	_____
_____	_____
3. _____ Health and Welfare	_____
_____	_____
_____	_____
_____	_____
_____	_____

OR: (Check if applicable)

_____ I certify that I do not make payments to approved fringe benefit plans, funds or programs.

_____ Contractor/Subcontractor	By	_____ Signature
_____ Date		_____ Title

EXHIBIT B: Certified Payroll Forms

AUTHORIZATION FOR DEDUCTIONS

The undersigned authorized deductions, as noted, to be made from their wages. It is understood that these deductions: (a) are in the interest of the employee; (b) is not a condition of employment; (c) there is no direct or indirect financial benefit accruing to the employee; and; (d) it is not otherwise forbidden by law.

Employee's Name	Employee's Signature	Date	Deduction

Signature of Authorized Representative of Employee

Authorized Representative's Name and Title

Date

Exhibit 'C'

LIST OF PROCESSORS BY MATERIAL

LIST OF PROCESSORS BY MATERIAL

This guide is a listing of facilities/processors that accept construction and demolition waste materials. This is not a complete and comprehensive list; it is intended to be a quick reference guide to assist contractors and the general public recycle their construction and demolition debris.

Please call each facility for accepted materials, hours of operation, and the terms and conditions prior to delivering your materials.

ASPHALT & CONCRETE

AMAN ENVIRONMENTAL CONSTRUCTION (510) 553-0110
8300 Baldwin Street, Oakland
. Clean asphalt
. Clean concrete

CALMAT (925) 485-1279
501 El Charo Road, Pleasanton
. Clean asphalt
. Clean concrete

COUNTY QUARRY PRODUCTS, INC. (510) 682-0707
5501 Imhoff Drive, Martinez
. Clean asphalt
. Clean concrete
. Concrete with rebar
. Concrete roofing
. Tiles, gravel, porcelain

CURTNER QUARRY (510) 793-8861
2000 Scott Creek Road, Milpitas
. Clean concrete
. Clean asphalt (broken or grindings)
. Concrete roofing
. Tiles, gravel, porcelain

DAVIS STREET TRANSFER STATION (510) 638-2303
2615 Davis Street, San Leandro

DORN RECYCLERS (925) 449-9328
Livermore
(May pickup: large quantities)

DUTRA MATERIALS

(510) 887-8070

4001 West Winton Avenue, Hayward

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

LA VISTA QUARRY

(510) 538-5085

28814 Mission Boulevard, Hayward

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

RAISCH PRODUCTS

(408) 227-9222

2122 Old Calaveras Road, Milpitas

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

RAISCH PRODUCTS

(408) 734-4245

1444 Borregas Avenue

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

RAISCH PRODUCTS

(510) 623-5870

7010 Auto Mall Parkway, Fremont

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

RAISCH PRODUCTS (408) 227-9222
55 Hillsdale Avenue, San Jose
. Clean asphalt
. Clean concrete
. Concrete with rebar
. Concrete roofing
. Tiles, gravel, porcelain

RECYCLED BUILDING MATERIALS- WHOLE HOUSE SALVAGE (650) 856-0634
. Cinder blocks
. Roofing tiles

SPECIALTY CRUSHING (510) 986-0964
Oakland
. Clean asphalt
. Clean concrete
. Cinder blocks

SRDC, Inc. (415) 367-7324
195 Seaport Boulevard, Redwood City
. Clean asphalt
. Clean concrete

SYAR INDUSTRIES, INC. (510) 215-1114
Foot of Parr Boulevard, Richmond
. Clean asphalt
. Clean concrete

THE REUSE PEOPLE (510) 567-8525
2615 Davis Street, San Leandro
. Reuse/free drop-off;
. Useable, whole cinder blocks
. Roofing tile

VASCO ROAD LANDFILL & RECYCLING DROPOFF (925) 447-0491
4001 North Vasco Road, Livermore
. Clean asphalt
. Clean concrete

WRT WASTE MANAGEMENT

(415) 822-2175

895 Egbert Avenue, San Francisco

. May pickup; asphalt, concrete

ZANKER RESOURCE MANAGEMENT

(408) 263-2383

705 Los Esteros Way, San Jose

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

Recycled materials, if deemed acceptable, by the Engineer, for the requirements of these specifications will be considered for building materials. Contractor shall submit a request in writing for the Engineer's use. The written request shall include all specification information required by the Engineer that provides him/her assurance that the proposed materials are an equal or better to those specified herein.

For further information regarding materials and vendors, Contractor may call Waste Management at (510) 747-7960.

Exhibit 'D'

**SAMPLE CONTRACT AGREEMENT/
ADDITIONAL INSURED CERTIFICATE**

Sample of Contract Agreement
(10 pages total)

Additional Insured Certificate
(1 page)

CONTRACTOR AGREEMENT

THIS AGREEMENT, entered into this ____ day of _____, 2014, by and between CITY OF ALAMEDA, a municipal corporation (hereinafter referred to as "City"), and _____, a _____ (California corporation, partnership, sole proprietor, individual) whose address is _____ hereinafter called the Contractor, in reference to the following:

RECITALS:

A. City 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. City and Contractor desire to enter into an agreement for Cyclic Sewer Repair Project, Phase 11, in accordance with Specifications, Special Provisions and Plans, adopted therefor, No. P.W. 06-13-16, including all exhibits and supports, filed in the office of the City Clerk on May 20, 2014, which is incorporated herein by reference.

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

1. **TERM:**

The Contractor shall begin work within five (5) working days after receiving notice from the Engineer to commence the work, and shall diligently prosecute the work to completion before the expiration of two hundred (200) consecutive working days from the date of receipt of notice to begin work.

This contract may be mutually amended on a year-by-year basis, for up to four (4) additional years, at the sole discretion of the Public Works Director, based, at a minimum, upon satisfactory performance of all aspects of this contract. The Public Works Director may submit written notice that the contract is to be extended at the same terms and costs as the existing contract.

The unit prices for any contract amendment(s) to this agreement shall be adjusted by the Construction Cost Index for the San Francisco Bay Area reported in the Engineering News Record for the trades associated with the work from the date of the original bid opening to the estimated date of the proposed amendment(s).

2. **SERVICES TO BE PERFORMED:**

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.

Contractor shall perform each requested task set forth in the Bidder's Proposal detailed in Exhibit "A", as directed by the City, which is attached hereto and incorporated herein by this reference. The Contractor acknowledges that the work plan included in Exhibit "A" is tentative and does not commit the City to perform all task 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, to be taken from the XXXXXXXXXXXXXXXXXXXX fund.

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 90% of the value of the work completed as determined by the City. The City shall retain 10% 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 under this contract shall not exceed \$(figure rounded to the nearest \$100), which includes a XX percent contingency (\$show \$ amt.). Use of contingency shall be for items of work outside the original scope and 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 agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within 10 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Any delay or postponement of payment may take place only for good cause and with the agency'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. This clause applies to both DBE and non-DBE subcontractors.

4. **TIME IS OF THE ESSENCE:**

Contractor and 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 FIVE HUNDRED DOLLARS (\$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 it 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 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. **INDEPENDENT PARTIES:**

City and Contractor intend that the relationship between them created by this Agreement is that of employer-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. **IMMIGRATION REFORM AND CONTROL ACT (IRCA):**

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 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 City, its City Council, boards, commissions, officials, and employees ("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 or active negligence or willful misconduct of Indemnitees.

10. **INSURANCE:**

On or before the commencement of the terms of this Agreement, Contractor shall furnish City 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 thirty (30) days' advance written notice to the City of Alameda by certified mail, "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 City and licensed to do insurance business in the State of California. Endorsements naming the City as additional insured shall be submitted with the insurance certificates.

A. **COVERAGE:**

Contractor shall maintain the following insurance coverage:

(1) **Workers' Compensation:**

Statutory coverage as required by the State of California.

(2) **Liability:**

Commercial general liability coverage in the following minimum limits:

Bodily Injury:	\$2,000,000 each occurrence
	\$2,000,000 aggregate - all other
Property Damage:	\$2,000,000 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 in the following minimum limits:

Bodily injury:	\$2,000,000 each occurrence
Property Damage:	\$2,000,000 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 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. **FAILURE TO SECURE:**

If Contractor at any time during the term hereof should fail to secure or maintain the foregoing insurance, 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 and commissions, officers, and employees 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 Attorney. 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 Attorney:

A. **Faithful Performance:**

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

B. **Labor and Materials:**

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 City. 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, claims for money by Contractor from 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 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. **SUBCONTRACTOR APPROVAL:**

Unless prior written consent from 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 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 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 City.

Contractor shall, at such time and in such form as 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 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 City or its designees at all proper times, and gives 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 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 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 City shall be addressed to City at:

City of Alameda
Public Works Department
950 West Mall Square, Room 110
Alameda, CA 94501
Attention: Philip Lee, Assistant Engineer
Ph: (510) 747-7900 / Fax: (510) 769-6030

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

Ph: () / Fax: ()

Email:

18. **LAWS TO BE OBSERVED.**

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.

19. **PREVAILING WAGES:**

a. 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.

b. 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 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.

c. 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.

d. 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.

e. 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.

f. 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.

g. 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.

h. 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.

i. 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.

20. **HOURS OF LABOR.**

a. 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.

b. 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.

c. 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.

21. **CERTIFIED PAYROLL.**

a. 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. Certified payrolls shall be prepared and submitted weekly to the Labor Compliance Officer, Gail Carlson, Public Works Department, 950 W. Mall Square, Room 110, Alameda, CA 94501 by the Contractor and each subcontractor. 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:

b. 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;

c. 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

d. 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.

e. 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.

f. 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.

22. **APPRENTICES.**

a. 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.

b. 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.

c. 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.

d. 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. **LABOR DISCRIMINATION.**

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), in 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. **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. A copy of the City's IPM Policy may be obtained from the Department of Public Works and is also on file with the City Clerk. Contractor shall provide a copy of any current IPM certifications(s) to the City's project manager prior to initiation of the service work.

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: www.conservation.ca.gov/OMR/ab_3098_list/index.htm. Note that the list changes periodically and should be reviewed accordingly.

29. **TERMINATION:**

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) days after receipt by Contractor from City of written notice of default, specifying the nature of such default and the steps necessary to cure such default, City may terminate the Agreement forthwith by giving to the Contractor written notice thereof.

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. **COMPLIANCES:**

Contractor shall comply with all laws, state or federal and all ordinances, rules and regulations enacted or issued by City.

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 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. **INTEGRATED CONTRACT:**

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 City and Contractor.

35. **INSERTED PROVISIONS:**

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. **CAPTIONS:**

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.

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

CONTRACTOR
(Corporation)

CITY OF ALAMEDA
A Municipal Corporation

Name
Title (President/Vice President)

John A. Russo
City Manager

Name
Title (Treasurer/Secretary)

RECOMMENDED FOR APPROVAL

Robert G. Haun
Public Works Director

APPROVED AS TO FORM:
City Attorney

Michael Roush
Assistant City Attorney

POLICY NUMBER:

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
Alameda Point, Building 1
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.

POLICY NUMBER:

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

Name of Person or Organization:

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: _____
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.

Exhibit 'E'

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 contacted or will not take the necessary actions, the City Public Works Department will be notified and the necessary repairs, corrections, or changes will be made. The contractor will be billed for such remedial action. Charges will include the cost of labor at applicable rates, the City's normal overhead factor, the rental of any equipment or safety devices placed during the emergency that are damaged or stolen, or otherwise not returned to the City, will be billed to the contractor.

Scheduled starting date

Scheduled completion date

Job Name

EXHIBIT "F"

PERFORMANCE BOND FORM

Performance Bond Form

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

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 made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 2014, a copy of which is hereto attached and made a part hereof for the construction of:

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
(Number)
one of which shall be deemed an original, this the _____ day of _____, 2014.

ATTEST:

Principal

By:

Principal Secretary

(SEAL)

(Witness as to Principal)

(Address)

(Address)

(Surety)

ATTEST:

Surety Secretary

(SEAL)

By:

(Witness as to Surety)

Attorney-in-fact

(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 'G'

PAYMENT BOND FORM

PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS: that

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 made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 2014, 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 _____ counterparts, each
(Number)
one of which shall be deemed an original, this the _____ day of _____, 2014.

ATTEST:

Principal

By:

Principal Secretary
(SEAL)

(Witness as to Principal)

(Address)

(Address)

(Surety)

ATTEST:

Surety Secretary

(SEAL)

By:

(Witness as to Surety)

Attorney-in-fact

(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 'H'

BIDDER'S BOND FORM

Bidder's Proposal Form

Contractor Name:

BIDDER'S BOND

We,
as Principal, and as Surety are bound unto the _____,
hereafter referred to as "obligee", in the penal sum of ten percent (10%) of the total amount of the
bid of the Principal submitted to the Obligee for the work described below, for the payment of
which sum we bind ourselves, jointly, and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:
WHEREAS, the Principal is submitted to the Obligee, for

(Copy here the exact description of work, including locations as it appears on the proposal)

for which bids are to be opened per Section 1 Proposal and Contract Requirements, Paragraph E,
Presenting and Marking of Bid.

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and
manner required under the specifications, after the prescribed forms are presented to Contractor
for signature, enters into a written contract, in the prescribed form, in accordance with the bid,
and files two bonds with Obligee, one to guarantee faithful performance of the contract and the
other to guarantee payment for labor and materials as provided by law, then this obligation shall
be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgement is recovered,
the Surety shall pay all cost incurred by the Obligee in such suite, including a reasonable
attorney's fee to be fixed by the court.

The surety; for value received, hereby stipulates and agrees that the obligations of said
Surety and its Bond shall be in no way impaired or affected by any extension of the time within
which the OWNER may accept such BID; and said Surety does hereby waive notice of any such
extension.

Dated: _____, 2014.

Principal

Surety

By:

EXHIBIT "H"

CERTIFICATE OF ACKNOWLEDGMENT

State of California
County of Alameda

On this _____ day of _____ in the year 2014 before me
_____, a Notary Public, personally appeared _____

Attorney-in-fact

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

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

WITNESS my hand and official seal.

Signature _____ (Seal)
Notary Public

EXHIBIT "I"

LIST OF SUBMITTALS

List of Submittals

**CYCLIC SEWER REPLACEMENT PROJEC, PHASE 11:
No. P.W. 06-13-16**

Shall include but not limited to the following:

Item	Section Reference	Due Date/Frequency
1. Contract Bonds	Section I, Paragraph N	Within 5 days of award
2. Certified Payroll	Section II, Paragraph D	Submitted weekly
3. Emergency Form	Exhibit E	Preconstruction meeting
4. Insurance	Contract, Exhibit D	Within 5 days of award
5. Licenses/Permits	Section II, Paragraph H	Preconstruction meeting
6. Traffic Control Plan	Section VI, Paragraph A	Preconstruction meeting
7. Technical Submittals	Relevant Technical Specifications	Preconstruction meeting and updated at weekly meetings
8. Stormwater PPP	Section II, Paragraph T	Preconstruction meeting
9. Work Schedule	Section VI, Paragraph A	Preconstruction meeting and updated at weekly meetings

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

EXHIBIT “J”

LOBBYING: RESTRICTIONS DISCLOSURE

Contract Clause - New Restrictions on Lobbying

Certification Regarding Lobbying

Disclosure of Lobbying Activities

Disclosure of Lobbying Activities - Continuation Sheet

CONTRACT CLAUSE
NEW RESTRICTIONS ON LOBBYING

Exhibit "J"

This contract, subcontract, or subgrant is subject to section 319 of Public Law 101-121, which added section 1352, regarding lobbying restrictions, to chapter 13 of title 31 of the United States Code. The new section is explained in the common rule, 15 CFR, Part 28 (55 FR 6736-6748, 2/25/90). Each bidder/applicant/recipient of this contract, subcontract, or subgrant and subrecipients are generally prohibited from using Federal funds for lobbying the Executive or Legislative Branches of the Federal Government in connection with this Award.

Contract Clause Threshold

This Contract Clause regarding lobbying must be included in each application for a subgrant and in each bid for a subgrant and in each bid for a contract or subcontract exceeding \$100,000 of Federal funds at any tier under the Federal Award.

Certification and Disclosure

Each applicant/recipient of a subgrant and each bidder/applicant/recipient of a contract or subcontract exceeding \$100,000 of Federal funds at any tier under the Federal Award must file a "Certification Regarding Lobbying" and, if applicable, Standard Form - LL, "Disclosure of Lobbying Activities," regarding the use of any nonfederal funds for lobbying. Certifications shall be retained by the next higher tier. All disclosure forms, however, shall be forwarded from tier to tier until received by the Recipient of the Federal Award (grant), who shall forward all disclosure forms to the Federal agency.

Continuing Disclosure Requirement

Each subgrantee, contractor, or subcontractor that is subject to the Certification and Disclosure provision of this Contract Clause is required to file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person. Disclosure forms shall be forwarded from tier to tier until received by the Recipient of the Federal Award (grant), who shall forward all disclosure forms to the Federal Agency.

Indian Tribes, Tribal Organizations, or Other Indian Organizations

Indian tribes, tribal organizations, or any other Indian organizations, including Alaskan Native organizations, are excluded from the above lobbying restrictions and reporting requirements, but only with respect to expenditures that are by such tribes or organizations for lobbying activities permitted by other Federal law. An Indian tribe or organization that is seeking an exclusion from Certification and Disclosure requirements must provide (preferably in an attorney's opinion) EDA with the citation of the provision or provisions of Federal law upon which it relies to conduct lobbying activities that would otherwise be subject to the prohibitions in and to the Certification and Disclosure requirements of section 319 of Public Law No. 101-121. Note, also, that a non-Indian subgrantee, contractor, or subcontractor under an award (grant) to an Indian tribe, for example, is subject to the restrictions and reporting requirements.

CERTIFICATION REGARDING LOBBING
(This Certification is required pursuant to 31 U.S.C.1352)

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence and officer or employee of any agency, a Member of Congress, an officer or employee- of Congress or an employee of a Member of congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- 3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to Insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

ORGANIZATION NAME

AWARD NUMBER

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

SIGNATURE

DATE

EXHIBIT “K”

RECYCLED CONTENT STANDARDS

EXHIBIT "K"

RECYCLED CONTENT STANDARDS

ITEM	MINIMUM % OF RECOVERED MATERIAL	MINIMUM % OF POSTCONSUMER MATERIAL
BINDERS		
Press board cover	up to 100%	20%
Paperboard in plastic covering	up to 100%	75%
Solid plastic cover	up to 100%	25%
Plastic covering	25%	not set
COPIER PAPER	up to 100%	20%
FIBERGLASS INSULATION	30% cullet	not set
FILE STORAGE BOXES	up to 100%	50%
FLEXIBLE DELINEATOR POSTS	up to 100%	25%
INTEROFFICE ENVELOPES	up to 100%	20%
PAPER TOWELS	up to 100%	40%
PLAYGROUND SURFACES	90%	90%
PLASTIC FOOD SERVICE TRAYS		
Durable plastic	up to 100%	25%
Disposable polystyrene	up to 100%	25%
Disposal paper	80%	not set
PLASTIC LUMBER BENCHES	up to 100%	50%
RE-FINED MOTOR OIL	up to 100%	70%
SOIL AMENDMENT - COMPOST	80%	not set
TRASH CANS/ROLLING CARTS		
Plastic	up to 100%	20%
Paper	up to 100%	50%
Plastic rolling cart	up to 100%	10% body, 50% lid
TRASH CANS LINERS	up to 100%	30%
UNBOUND AGGREGATES	up to 100%	not set

EXHIBIT “L”

WASTE REDUCTION & RECYCLING PLAN (Form)

CITY OF ALAMEDA

Waste Reduction & Recycling Plan (Form)

Submit to: City of Alameda
Public Works Department
Environmental Services Division
950 West Mall Square, #110
Alameda, CA 94501-7752

Permit No. _____

Project Name _____

Approved

Not Approved

Staff Initials _____

Staff Phone # _____

for City's use only

Project Address: _____
Name of Project Manager: _____
Phone Number: _____
Cellular Phone Number: _____
Fax Number: _____

Please provide the following information:

(a) What type is this project? Please check all that apply.

- | | | |
|---------------------|---------------|---------------|
| 1. New Construction | 2. Repair | 3. Addition |
| 4. Move | 5. Alteration | 6. Demolition |

(b) What is the size of this project? _____ sq. ft.

(c) What is the permit valuation of this project? \$ _____

2. Briefly state how materials will be sorted for recycling, reuse or salvage on the job site.

3. Briefly state how you plan to inform and ensure participation by your workers and any sub-contractors of your Waste Reduction and recycling Plan.

4. Complete page 2 of this Form.

WASTE REDUCTION AND RECYCLING PLAN

For this project identify the materials and quantities that you estimate can be recycled, reused or salvaged. Estimate the amount of solid waste that will be generated and disposed in landfills.

Goal: Reduce materials going to the landfills by 50%

Material Type	Est. Amount (tons/yards)	Proposed Processing Methods (Check all that apply)			
		B Recycle	C Reuse	D Salvage	Landfill
	A				
Asphalt & Concrete					
Brick/Tile					
Building Fixtures (Doors, Windows, Fixtures, etc.)					
Corrugated Cardboard					
Dirt/Clean Fill					
Drywall					
Padding- Carpet/Foam					
Scrap Metal					
Unpainted Wood & Pallets					
Yard Trimmings (Brush, Trees,					
Other (list)					
Garbage-Solid Waste Trash, and Rubbish					
Total					

Do columns (B+C+D) = 50% of column A?
 YES NO If NO, please explain why.

 General Contractor's Signature

 Date

EXHIBIT "M"

**WASTE REDUCTION & RECYCLING PLAN
FINAL SUMMARY REPORT (Form)**

CITY OF ALAMEDA

Waste Reduction & Recycling Plan FINAL SUMMARY REPORT (Form)

At project completion submit to:

City of Alameda
Public Works Department
Environmental Services Division
950 West Mall Square, Room #110
Alameda, CA 94501-7552

Permit No. _____
Project Name: _____
Address: _____
Review results: 50% diversion attained Good faith effort Non-attained
Staff Initials: _____
Staff Phone # _____

- (1) List the estimated amounts from your WRRP form for this project.
- (2) Indicate actual quantities of materials that were recycled, reused or salvaged from this project.
- (3) Describe the handling procedure and destination of each material.
- (4) Indicate the **actual** amount of solid waste produced and disposed in a landfill.

Goal: Materials going to the landfills are reduced by 50%

Material Type	Est. Amount From WRRP (tons/yards)	Actual Quantities			Handling Procedure/Destination
		B Recycled	C Reused	D Salvaged	
Asphalt & Concrete (Example)	70 tons		65 tons	Landfilled	ground on-site and resized as fill
Brick/Tile					
Building Fixtures (Doors, Windows, Fixtures, etc.)					
Corrugated Cardboard					
Dirt/Clean Fill					
Drywall					
Padding-Carpet Foam					

Material Type	Est. Amount From WRRP (tons/yards)	Actual Quantities				Handling Procedure/Destination
		B Recycled	C Reused	D Salvaged	Landfilled	
Scrap Metal	A					
Unpainted Wood & Pallets						
Yard Trimmings (Brush, trees, stumps, etc.)						
Other (list)						
Garbage, Solid Waste						
Trash, Rubbish, Discarded						
Total						

- (1) Do Columns (B+C+D) = 50% of column A? YES NO
- (2) If estimated amounts from the WRRP were not recycled, reused, or salvaged, please provide a justification.

- (3) Please list any recommendation that would help further construction and demolition recycling in Alameda.

Contractor Signature

Date

EXHIBIT "N"

WASTE MANAGEMENT REPORT FOR CONTRACTORS

WASTE MANAGEMENT REPORT
FOR CONTRACTORS

The City of Alameda is requesting that all contractors document materials generated (reused, recycled or landfilled).

Please complete this form each time materials are removed from the site or reused on-site.

JOB SITE LOCATION: _____ DATE: _____

COMPANY: _____

MATERIAL: _____

WAS THE MATERIAL RECYCLED? YES NO

VOLUME/WEIGHT: _____ HAULER: _____

RECYCLING COMPANY OR DISPOSAL SITE: _____

SUBMITTED BY: _____

PHONE NUMBER: _____

EXHIBIT “O”

City of Alameda Collection & Hauling of Recyclable Materials

Acknowledgement of Receipt of the City of Alameda Construction & Demolition Debris
Information Packet

Construction and Demolition Debris Waste Management Plan (WMP)

Materials Conversion Sheet (Information Only)

Instruction and Worksheet for Mixed Debris Recycling

Construction & Demolition Debris Recycling Summary Report

**ACKNOWLEDGMENT OF RECEIPT OF THE CITY OF ALAMEDA
CONSTRUCTION AND DEMOLITION DEBRIS INFORMATION PACKET
FOR PROJECTS VALUED AT \$100,000 OR MORE**

I do hereby acknowledge that I understand the following:

1. I must use the City's franchised waste hauler, Alameda County Industries (ACI) or another permitted hauler (permitted specifically by the City of Alameda).
2. If I choose to haul my own Construction and Demolition (C&D) debris, I must request to become a permitted hauler and apply for and receive a separate hauling permit.

Should I decide to use a permitted hauler, other than ACI, I must provide completed copies of the following forms:

1. C&D Debris Waste Management Plan (WMP) Form
Due with my Building Permit Application
2. C&D Debris Recycling Summary Report Form
Due within thirty (30) days of completion of the project.
No Final Inspection can be scheduled until reports are received and outstanding fees paid.

I, the applicant, understand that failure to observe these guidelines may delay final inspection and issuance of an occupancy permit.

Project Address: _____ Application/Permit #: _____

Applicant Name (print): _____ Title: _____

Company: _____ Project Name: _____

Signature: _____ Date: _____

City Staff Name (print): _____ Date: _____

Kerry Parker, Program Specialist
City of Alameda California
Public Works Department
950 W. Mall Square, Room 110
Alameda, California 94501-7575
Phone: 510-747-7930
Fax: 510-769-6030 / TDD 510-522-7538
kparker@ci.alameda.ca.us

Send completed form to Public Works Department, Environmental Services

**Construction and Demolition Debris
Waste Management Plan (WMP)**
Alameda Municipal Code, Chapter XXI, Article VI

This C&D Debris Waste Management Plan must be completed for all construction and demolition projects reasonably valued by the City of Alameda to cost \$100,000 or more. Building or demolition permits will not be issued without an approved C&D Debris WMP unless the permit applicant has certified the use of the services of the City's franchise hauler, Alameda County Industries (ACI), as the sole C&D debris hauler for the project.

Please submit the following information to: City of Alameda, Public Works Department, Environmental Services, 950 W. Mall Square, Room 110, Alameda, CA 94501, fax (510) 769-6030. If you have questions, please call (510) 747-7930.

Alameda County Industries (ACI), will be used

Complete and sign the following statement if the City of Alameda's franchised hauler, Alameda County Industries (ACI), will be used as the sole C&D debris hauler for the project.

I (*name of person submitting this form*) _____ hereby certify under the penalty of perjury, per the laws of the State of California, that Alameda County Industries (ACI) will be contracted as the sole service provider to collect and haul the construction and demolition debris related to this project.

Project Application/Permit #: _____ Project Address: _____

Signature and Date

Company and Title (if applicable)

Alameda County Industries (ACI), will not be used

Complete the remaining portions of the form only if the City of Alameda's franchise hauler, Alameda County Industries (ACI), will not be used as the sole C&D debris hauler for the project.
Note: only ACI and City of Alameda permitted haulers can collect and haul C&D debris in Alameda.

Name of Permitted Hauler that will be used: _____

Project Application/Permit #: _____ Project Address: _____

Contact Name: _____ Title: _____

Company Name: _____

Contact Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Type of Project: New Construction Addition/Alteration Demolition

Type of Building: Commercial Single-Family Residence

Public Building Multi-Family Residence

Tenant Improvement: Yes No

Size of Project _____ sq. ft. Construction Valuation \$ _____

Estimated Start Date ____/____/____ Estimated Completion Date ____/____/____

Briefly state how solid waste materials will be handled at **this project site** to ensure salvage/reuse or recycling. Also explain how you will inform the workers/sub-contractors of your Waste Management Plan requirements and ensure their participation (attach additional sheets if necessary).

**Requirement: reduce the quantity of materials disposed at landfills by 50% or more
(determined by weight)**

Column A – List **estimated quantity** of waste for each material type (in tons). To convert other units (e.g. cubic yards) to tons, use the attached Materials Conversion Worksheet. *This includes demolition debris and discarded materials/scrap generated during construction.*

Columns B, C – List **estimated quantities** to be reused, recycled or disposed.

Column D – State the name of all vendors or facility you plan to reuse, recycle or dispose of material listed. See example below for cases where more than one facility was used for a particular material type.

Column Totals – Add up all quantities listed in Columns A, B and C.

Recycled Mixed Debris – This category is only for mixed debris loads that will be taken to a recognized facility (please refer to list of Mixed Debris Recycling Facilities). Use the Materials Conversion Sheet to calculate the quantity of mixed materials that can be credited towards recycling. Receipts must be provided with your Summary Report (due at project completion) to receive recycling credit.

Application/Permit # _____ Project Address: _____

Proposed Material Handling Methods – Indicate quantities (in tons only) for each material listed.

Material Type	A Total Quantity Discarded	B Reuse/Recycling	C Disposal	D Proposed Destination(s)
Example: Cardboard	2 tons	1.5 tons	0.5 tons	(Recycle) Davis St. Recycling Center (Disposal) Davis St. Transfer Station
Asphalt				
Concrete				
Brick/Masonry/Tile				
Cabinets, doors, fixtures, windows (circle all that apply)				
Carpet				
Carpet padding/Foam				
Ceiling tile (acoustic)				
Drywall (used)				
Drywall (new, unpainted sheets or scrap)				
Landscape debris (brush, trees, stumps, etc.)				
Scrap metal				
Unpainted wood and pallets				
Garbage/Trash				
Other (do not include dirt) Material: _____				
Recycled mixed debris (see instructions above)				
Column Totals	A	B	C	D

- Fill in the blanks below to determine if your plan meets the City's requirement of reducing project waste disposal by 50% or more.
- Column Totals B _____ ÷ A = _____ x 100 = _____ %
- Is the percentage calculated greater than or equal to 50%? YES NO. If no, explain why:

 Name: _____ Signature: _____ Date: _____

Send completed form to Public Works Department, Environmental Services

INFORMATION ONLY

Materials Conversion Sheet

The following table lists materials typically generated from a construction or demolition project and provides assistance in converting common units (i.e. cubic yards (cy), square feet (sq ft) and board feet (bd ft)) to tons. Use these conversion factors and receipts from previous projects to help you estimate the amount of materials and waste.

Material	Unit	Tons/unit
Asphalt	By cubic yard	0.7 tons/cy
Brick	Broken – By cubic yard	0.7 tons/cy
	Whole, palletized – By cubic yard	1.512 tons/cy
Building Materials (doors, windows, cabinets, etc.)	By cubic yard	0.15 tons/cy
Cardboard	By cubic yard	0.05 tons/cy
Carpet	By square foot	0.0005 tons/sq ft
	By cubic yard	0.3 tons/cy
Carpet Padding/Foam	By square foot	0.000125 tons/sq ft
Ceiling Tiles	Whole (palletized) – By square foot	0.0003 tons/sq ft
	Loose – By cubic yard	0.0875 tons/cy
Concrete	Broken – By cubic yard	0.9 tons/cy
	Solid slab - By cubic yard	1.3 tons/cy
Drywall (new or used)	1/2" (by square foot)	0.0008 tons/sq ft
	5/8" (by square foot)	0.00105 tons/sq ft
	Demo/used (by cubic yard)	0.25 tons/cy
Landscape Debris (brush, trees, etc.)	By cubic yard	0.15 tons/cy
Masonry block (broken)	By cubic yard	0.6 tons/cy
Scrap Metal	By cubic yard	0.453 tons/cy
Tile	By square foot	0.00175 tons/sq ft
Unpainted Wood & Pallets	By board foot	0.001375 tons/bd ft
	By cubic yard	0.15 tons/cy
Wood (chipped)	300 - 650 lbs/cy	0.15 – 0.3 tons/cy
Garbage/Trash	By cubic yard	0.175 tons/cy

Examples: 1,000 square feet carpet (old, removed) x 0.0005 tons/square feet = 0.5 tons carpet
 5 cubic yards of broken concrete x 0.9 tons/cubic yard = 4.5 tons broken concrete

Instructions and Worksheet for Mixed Debris Recycling

There are several options for recycling Mixed Construction and Demolition Debris in the San Francisco Bay Area. However, the types and percentage of materials recovered from mixed loads (and the quantity your project will be credited for recycling) differs with each facility. See "% Recycled" column in table below.

Alameda County Facilities*	Address	% Recycled
Davis Street Transfer Station** (Self Haul Only)	2615 Davis St., San Leandro (510) 638-2303	60%
Out of County Facilities*	Address	% Recycled
Guadalupe Landfill	15999 Guadalupe Mines Road, San Jose (408) 268-1670	60%
Marin Resource Recovery Center	565 Jacoby Street, San Rafael (415) 485-5647	60%
Newby Island Landfill	1601 Dixon Landing Road, San Jose (408) 262-1401	60%
Sanitary Fill Company	501 Tunnel Ave., San Francisco (415) 330-1400	60%
Zanker Material Processing Facility	705 Los Esteros Road, San Jose (408) 263-2384	70%

* Listing in this directory is not a recommendation or endorsement by the City of Alameda. Please call the facilities first to determine prices as well as types and quantities of materials accepted.

** For recycling you must request (a) that materials be sorted for recycling, and (b) a receipt documenting recycling.

To calculate the quantity of materials you can count towards meeting the City's waste reduction and recycling requirements, use the worksheet below. Use estimated quantities for your C&D Debris WMP. For your C&D Debris Recycling Summary Report, you are required to provide actual quantities based on weight tags or other verifiable documents.

1. Enter estimated quantity of Recycled Mixed Debris for the facility. If your estimate is based on tons, enter the quantity directly in Column III. If your estimate is based on cubic yards (cy), follow the steps below:
 - i. Enter the quantity in Column I.
 - ii. Multiply by tons/unit (Column II).
 - iii. Enter the result in Column III.
2. Multiply total from Column II by Mixed Debris recycling credit (Column IV).
3. Enter total tons of mixed debris generated from Column III into Column A of Recycled Mixed Debris category in your C&D Debris WMP or Recycling Summary Report.
4. Enter total Column V in Column B of C&D Debris WMP or Recycling Summary Report.

Recycled Mixed Debris Worksheet										
Facility	Column I		Column II		Column III		Column IV		Column V	
	Total Cubic		tons/cy		Total tons		Recycling		Total Recycled	
	Yards				(To Column A)		Credit		(To Column B)	
Davis Street	_____	cy x	0.175	=	_____	x	0.60	=	_____	
Guadalupe Lndfl.	_____	cy x	0.175	=	_____	x	0.60	=	_____	
Marin Res. Rec.	_____	cy x	0.175	=	_____	x	0.60	=	_____	
Newby Is. Lndfl.	_____	cy x	0.175	=	_____	x	0.60	=	_____	
Sanitary Fill Co.	_____	cy x	0.175	=	_____	x	0.60	=	_____	
Zanker MPF	_____	cy x	0.175	=	_____	x	0.70	=	_____	

Construction and Demolition Debris

Recycling Summary Report

This C&D Debris Recycling Summary Report must be completed for all construction and demolition projects reasonably valued by the City of Alameda to cost \$100,000 or more. Completed Summary Reports must be submitted to the City of Alameda prior to: Final Inspection, issuance of Certificate of Occupancy or Temporary Certificate of Occupancy. A separate Summary Report is required for each permit issued.

Please submit the completed C&D Debris Recycling Summary Report within thirty (30) days after the completion of the project to: City of Alameda, Public Works Department, Environmental Services, 950 W. Mall Square, Room 110, Alameda, CA 94501, fax (510) 769-6030. If you have questions, please call (510) 747-7930.

Complete and sign the following statement only if the City of Alameda's franchise hauler, Alameda County Industries (ACI), was used as the sole C&D hauler for the project. You might be asked to submit documents to prove that only ACI provided C&D hauling services related to this project.

I (*name of person submitting this form*) _____ hereby certify under the penalty of perjury, per the laws of the State of California, that Alameda County Industries (ACI) was contracted as the sole service provider to collect and haul the construction and demolition debris related to this project.

Project Application/Permit #: _____ Project Address: _____

Signature and Date

Company and Title (if applicable)

Complete all the remaining portions of this Summary Report only if the City of Alameda's franchise hauler, Alameda County Industries (ACI), was not used as the sole C&D debris hauler for the project. Please provide proof that only City of Alameda permitted haulers were used for the project.

Project Application/Permit #: _____ Project Address: _____

Contact Name: _____ Title: _____

Company Name: _____

Contact Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Type of Project: New Construction Addition/Alteration Demolition

Type of Building: Commercial Single-Family Residence

Public Building Multi-Family Residence

Tenant Improvement: Yes No

Size of Project _____ sq. ft. Construction Valuation \$ _____ Completion Date ___/___/___

Name of hauler company(ies) used for the project: _____

For City Use Only.

Documentation Requested

Documentation Provided

Permit No. _____ Submitted ___/___/___

Project Name _____ Inspector's Name _____

ESD Staff Initials _____ Received ___/___/___ Type of Assistance _____

Applicant Contacted ___/___/___ Time Spent _____

50% Diversion

Good Cause

Non-Attainment (Percent Diverted ___%)

Reason for non-attainment:

Requirement: reduce the quantity of materials disposed at landfills by 50% or more (determined by weight)

Column A – List **actual quantity** of waste for each material type (in **tons**). To convert other units (e.g. cubic yards) to tons, use the attached Materials Conversion Worksheet. *This includes demolition debris and discarded materials/scrap generated during construction.*

Columns B, C – List **actual** quantities reused, recycled or disposed.

Column D – State the name of all vendors or facilities you utilized for reuse, recycling or disposal of materials listed. See example below for cases where more than one facility was used for a particular material type.

Column Totals – Add up all quantities listed in Columns A, B and C.

Recycled Mixed Debris – This category is only for mixed debris loads that were taken to a recognized facility (please refer to list of Mixed Debris Recycling Facilities). Use the Materials Conversion Sheet to calculate the quantity of mixed materials that can be credited towards recycling. Receipts must be provided with your C&D Debris Recycling Summary Report (due at project completion) to receive recycling credit.

Application/Permit # _____ Project Address: _____

Actual Material Handling Methods – Indicate quantities (in tons only) for each material listed.

Material Type	A Total Quantity Discarded	B Reused/Recycled	C Disposed	D Actual Destination(s)
Example: Cardboard	2.4 tons	1.8 tons	0.6 tons	(Recycle) Davis St. Recycling Center (Disposal) Davis St. Transfer Station
Asphalt				
Concrete				
Brick/Masonry/Tile				
Cabinets, doors, fixtures, windows (circle all that apply)				
Carpet				
Carpet padding/Foam				
Ceiling tile (acoustic)				
Drywall (used)				
Drywall (new, unpainted sheets or scrap)				
Landscape debris (brush, trees, stumps, etc.)				
Scrap metal				
Unpainted wood and pallets				
Garbage/Trash				
Other (do not include dirt) Material:				
Recycled mixed debris (see instructions above)				
Column Totals	A	B	C	D

- Fill in the blanks below to determine if your plan meets the City's requirement of reducing project waste disposal by 50% or more.
- Column Totals B _____ ÷ A = _____ x 100 = _____ %
- Is the percentage calculated greater than or equal to 50%? YES NO. If no, explain why:

Name: _____ Signature: _____ Date: _____

Send completed form to Public Works Department, Environmental Services

EXHIBIT “P”

City’s Integrated Pest Management (IPM) Policy

**CONTRACT SPECIFICATIONS
FOR PESTICIDE APPLICATIONS ON MUNICIPALLY OWNED PROPERTIES**

A. Compliance with the City's Integrated Pest Management (IPM) 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:

7. No controls (e.g., tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds)
8. Physical or mechanical controls (e.g., hand labor, mowing, exclusion)
9. Cultural controls (e.g., mulching, disking, alternative vegetation), good housekeeping (e.g. cleaning desk area)
10. Biological controls (e.g., natural enemies or predators)
11. Reduced-risk chemical controls (e.g., soaps or oils)
12. 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.

B. 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:

7. Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA),
8. Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)

9. Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin),
10. Carbamates (e.g., carbaryl),
11. Fipronil,
12. 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.

C. General Pesticide Usage Practices

Contractor shall ensure implementation of the following practices:

5. 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.
6. 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.
7. Applicators will always avoid applications of pesticides that directly contact water, unless the pesticide is registered under Federal and California law for aquatic use.
8. 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).

D. Posting of Warning Notices Prior to Pesticide Application

2. 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.

27. Prepare spill kits, store the kits near pesticides, and train employees to use them.
28. Store pesticides and other chemicals indoors in a locked and posted storage unit, as per California Code of Regulations.
29. Store pesticides in labeled containers, as per California Code of Regulations.
30. Rinse empty pesticide/herbicide containers, and empty in the spray, as per California Code of Regulations.
31. Dispose of triple-rinsed empty pesticide containers according to recommendations of the Alameda County Agricultural Commissioner and the manufacturer.
32. 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.
33. If changing pesticides or cleaning spray tanks, use tank rinse water as the product, over a targeted area within the application site.
34. Irrigate slowly to prevent runoff, and do not over-water.

**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 allowing normal life cycle of weeds)

Comment: _____

(2) Physical or mechanical controls (e.g. hand labor, mowing, exclusion)

Comment: _____

(3) Cultural controls (e.g. mulching, disking, alternative vegetation), good housekeeping (e.g. cleaning desk area)

Comment: _____

(4) Biological controls (e.g., natural enemies or predators)

Comment: _____

(5) Reduced-risk chemical controls (e.g., soaps or oils)

Comment: _____

EXHIBIT "Q"

City's Sample Change Order

**CITY OF ALAMEDA
CHANGE ORDER**

Project: _____	Change Order Number: _____
	Change Order Date: _____

Owner: **The City of Alameda**

To: [contractor]

Contract dated: _____

The Contract is changed as follows:

[describe change in scope]

In consideration of the change(s) described above, the Contract Price is adjusted as follows:

Add: _____

Deduct: _____

In consideration of the change(s) describe above, the Contract Time is adjusted as follows:

Add: _____

Deduct: _____

Attachments: [if any – such as revised plans or specifications, or itemized contractor proposal]

Contractor agrees to furnish all labor, materials, equipment and services to perform the work, modified as described above, in accordance with the Contract Documents, except as specified in this Change Order.

Project: _____
 Change Order No. _____

NOT VALID UNTIL SIGNED BY OWNER

The original Contract Price was\$ _____

Net change by previous authorized Change Orders \$ _____

The Contract Price prior to this Change Order was\$ _____

The Contract Price will be (increased) (decreased) by this Change Order in the amount of
 \$ _____

The new Contract Price including this Change Order will be \$ _____

The Contract Time will be (increased) (decreased) (unchanged) by days

The adjusted date of Substantial Completion for the Work as of the date of this Change Order
 therefore is

The adjustments to the Contract Price and Contract Time in this Change Order include all costs, including direct, indirect, consequential, and overhead (field and home office) costs, related to the Change described above. By signing this Change Order, Contractor agrees to accept the amount of the adjustment to the Contract Price, and the adjustment of the Contract Time, as payment in full for all costs, including direct, indirect, consequential, and overhead (field and home office) costs, related to the Change described above.

Owner:	Contractor:	Architect/Engineer
By:	By:	By:
Title:	Title:	Title:

ATTACHMENT "A"

TRENCH EXCAVATION CONSTRUCTION STANDARDS

SECTION CS-2.

TRENCH EXCAVATION CONSTRUCTION STANDARDS

- CS-2-01. GENERAL:** Trench excavation shall conform with the City Standard Specifications. In general a trench is defined as an excavation in which the depth is greater than the width of the bottom of the excavation. Additionally, for the purpose of the City Standard Specifications, a trench shall include excavation for appurtenant structures including but not limited to, manholes, transition structures, junction structures, vaults, valve boxes, catch basins, thrust blocks, and boring pits. The Contractor's attention is directed to the rules, orders, and regulations of the California Division of Occupational Safety and Health (CAL/OSHA) for a more specific definition.
- A. The requirements specified in this section of the City Standard Specifications apply to all trench excavations. Nothing in these City Standard Specifications shall relieve the Contractor from conforming to the requirements of CAL/OSHA. If there is a conflict between the two aforementioned standards, the more stringent requirement shall apply.
 - B. Trench excavation shall include the removal of all water and materials of any nature which interfere with the construction work.
 - D. The method for installation of pipe or conduit (open trench, tunnel, or bore and jack) shall be shown on the Project Plans.
 - E. Open trenching shall be prohibited on paved streets for a period of not less than five (5) years from the date the asphalt concrete pavement was placed or one (1) year from the date any slurry seal was placed unless the Contractor receives written approval from the Director of Public Works.
 - F. Where pipe is to be installed in new embankment, the embankment shall be first constructed to the following dimensions and compacted prior to any excavation for placement of pipe:
 - 1. a height of 12 inches above the top of pipe.
 - 2. a width of not less than 5 times the diameter of the pipe on each side of the pipe, after which the trench shall be excavated.
 - G. Excavated material from trenches located within paved areas shall be immediately loaded into trucks and hauled off and disposed of outside the public right of way. No excavated material shall be placed or stored within the public right of way unless otherwise allowed by the Director of Public Works.

CS-2-02. EXISTING UNDERGROUND UTILITIES:

- A. The Contractor shall contact Underground Services Alert (U.S.A.), at least 48 hours in advance of any excavation.
 - 1. The Contractor shall not commence excavation in a location prior to U.S.A. members marking the location of their utilities or indicating that none exist within the excavation limits outlined by the Contractor.
 - 2. The Contractor shall notify the Inspector of any conflict discovered as a result of the USA marking prior to commencing excavation at that location.
- B. It is the Contractor's responsibility to verify the location and elevation of all existing utilities within the limits of excavation.
- C. All existing pipes within the trench zone and any other facilities adjacent to the trench shall be carefully supported and protected from damage as a result of the Contractor's operations.

CS-2-03. EXCAVATION METHOD: Methods used in excavation shall be such as not to cause damage to surrounding property or to unnecessarily damage pavement. Street pads for backhoe outriggers and other equipment shall be utilized to prevent unnecessary damage.

CS-2-04. MINIMUM AND MAXIMUM TRENCH WIDTH: All trench widths shall be in compliance with the Standard Drawings. In the event that unsuitable materials or unstable trench walls are encountered, the trench width shall be modified in accordance with the applicable ASTM standard.

- A. The pipe or conduit shall be positioned in the center of the trench.
- B. The trench width for utility company owned facilities shall conform to the utility company standards.
- C. The minimum trench width for City owned facilities shall conform to the requirements of Table CS-2-1, with the exception of Rock Wheel trench excavation specified elsewhere in the City Standard Specifications:

Table CS-2-1

<i>Pipe Material</i>	<i>Pipe Size (nominal diameter)</i>	<i>Minimum Trench Width</i>
All Pipes	6-Inches and less	O.D. ^a + 12-inches
Ductile Iron Pipe	Greater than 6-inches	O.D + 24-inches
Polyvinyl Chloride and High Density Polyethylene Pipes ^b	Greater than 6-inches	O.D. + 16 inches ^c
Cast-in-Place Concrete Pipe	Greater than 36-inches	O.D.
Reinforced Concrete and Vitrified Clay Pipes	Greater than 6-inches	O.D. + 16-inches

- a. -O.D. – Outside Diameter
- b. -High Density Polyethylene Pipe shall be used only when approved.
- c. -Where trench walls can not sustain a vertical cut, trench width shall be three times O.D.

D. If the maximum trench width specified on the Project Plans is exceeded, the Contractor shall be required to provide a higher strength bedding class or a higher strength pipe as approved by the Director of Public Works.

E. The minimum trench width for installation of water service, street light, or traffic signal conduit of two inches in diameter or less, shall be in accordance with the manufacturer's recommendation for the conduit.

F. Rock Wheel trench excavation for trench depths up to twenty-four (24) inches for street light, traffic signal, or utility company conduit installations shall only be permitted when approved by the Director of Public Works. Where allowed, rock wheel excavation shall be performed in accordance with Section 86 of the Caltrans Standard Specifications. The minimum trench width shall be two (2) inches wider than the conduit being placed in the trench. The maximum rock wheel trench width shall be six (6) inches.

CS-2-05. SHORING, SHEETING, AND BRACING: The Contractor shall furnish and install sufficient shoring, sheeting, and bracing to insure the safety of workmen and the public, protect the work, and protect existing facilities.

A. Shoring, sheeting, and bracing shall comply with the rules, orders and regulations of CAL/OSHA.

B. Each Contractor shall submit to the Inspector a copy of its current Annual Excavation Permit issued by CAL/OSHA along with the Contractor's own Trench Safety Plan prior to the start of construction.

- C. The Contractor shall be required to provide drawings and/or calculations by a registered engineer to the Director of Public Works a minimum of five (5) working days prior to beginning excavation for specially designed bracing and shoring of an excavation where required by CAL/OSHA or the Contractor's Trench Safety Plan.
- D. Failure to comply with any of the rules, orders or regulations mentioned herein shall be sufficient cause for the Inspector to immediately suspend the work. The Contractor shall be responsible for the adequacy of all shoring and bracing and compliance with the law. Failure of the Inspector to suspend the work or notify the Contractor of any inadequacy of shoring and bracing or noncompliance with the law shall not relieve the Contractor of this responsibility.
- E. The Contractor shall furnish and maintain shoring, sheeting and bracing until after the pipeline has been installed and sufficiently backfilled and the Inspector has approved the placement of backfill. The Contractor shall provide adequate safety measures to allow for access by the Inspector or testing personnel to perform compaction testing and inspection of the lifts of backfill placed.

CS-2-06. **CONTROL OF WATER:** When either ground water or surface run-off is encountered, the Contractor shall furnish, install, maintain, and operate all necessary pumps, materials and equipment to keep excavation reasonably free from water until the laying and jointing of the pipe, pouring of concrete and placing of bedding material has been completed, inspected and approved, and all danger of flotation and other damage is removed. Water pumped from the trench excavation shall be disposed of in a manner subject to the approval of the Director of Public Works.

CS-2-07. **FOUNDATION:**

- A. All loose material shall be removed from the new trench bottom before placing the bedding material.
- B. Special Foundation Treatment:
 - 1. Whenever the bottom of the trench is soft or rocky, or, otherwise unsuitable as a foundation for the pipe in the opinion of the Director of the Public Works, the unsuitable material shall be removed as directed by the Director of Public Works to provide a stable and satisfactory foundation.

CS-2-08. **MAXIMUM LENGTH OF OPEN TRENCH:**

- A. The maximum length of open trench where prefabricated pipe is to be laid shall be the distance necessary to accommodate that amount of pipe which can be installed and backfilled in that same day, but in no case shall exceed 400 feet except as allowed for with storm drain installation under Section CS-10B, CAST-IN-PLACE CONCRETE PIPE (CIPCP) of the Construction Standards.

- B. At the end of each working day, there shall be no open trench in paved or improved areas unless it is plated in accordance with these City Standard Specifications. Improved areas are defined as any areas within 300' of any existing housing or commercial structure or paved area whether paved with asphalt concrete or Portland cement concrete.

The maximum length of trench in unimproved areas that may be left open for CIPCP is defined in Section CS-10B. A maximum of 300 feet of trench may be left open in unimproved areas if barricaded for all other piping material installations.

CS-2-09. TRENCH PLATES: Trench plates shall be used for temporary cover of trenches and other excavations.

- A. When the backfilling of trenches and excavations can not be completed in the same day within a paved street section or within the concrete curb and gutter and sidewalk area, trench plates shall be required and the following conditions shall apply:
1. The plates shall be of steel construction capable of supporting H20 loading
 2. The plates shall have a skid resistant surface.
 3. The plates must extend beyond the edge of the trench wall to adequately support the traffic loads on it. In no case shall the plates extend less than twelve (12) inches beyond the trench wall.
 4. Each plate must be fully supported around the perimeter to prevent wobbling or rocking.
 5. The plates shall be secured to prevent any movement.
 6. Trenches and excavations shall be adequately shored and braced to withstand highway traffic loads.
 7. Temporary paving or cold-mix asphalt concrete (cutback) shall be placed and continuously maintained around all outside edges of the trench plates until removal of the plates.

ATTACHMENT "B"

GEOTECHNICAL EVALUATION BY URS

GEOTECHNICAL REPORT

CITY OF ALAMEDA CYCLIC SEWER REPLACEMENT, PHASE 11

Otis Drive, Pacific Avenue, Harbor Bay Parkway,
Lincoln Avenue, Hawthorne Street, St. Charles Street,
Bay Street, Sherman Street & Paru Street

Prepared for

Mr. Philip Lee
City of Alameda Department of Public Works, City Hall West
950 W. Mall Square, Room 110
Alameda CA, 94501

October 10, 2013

URS

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612

URS Project No. 26818686

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Acronyms and Abbreviations

AB	aggregate base
AC	asphaltic concrete
ASTM	American Society for Testing and Materials
bgs	Below ground surface
City	City of Alameda
CLSM	controlled low-strength material
CPT	cone penetration test
HDPE	high-density polyethylene
OSHA	Occupational Safety and Health Administration
Psf	Pounds per square foot
PVC	polyvinyl chloride
SPT	Standard Penetration Test
USA	Underground Services Alert
URS	URS Corporation
VCP	vitrified clay pipe

The City of Alamedas (City) Department of Public Works inspects sewers and performs a conditions assessment of the sanitary sewer system on a regular basis. Based on these studies, the Cyclic Sewer Replacement program replaces and rehabilitates old infrastructure in order to maintain the integrity of the system. This report presents the results of URS Corporation's (URS) geotechnical engineering study for Phase 11 of the City Cyclic Sewer Replacement.

Phase 11 of the Cyclic Sewer Replacement work involves the removal and replacement of the sanitary sewer main and laterals using open trenching. It is understood that the existing 6-inch diameter vitrified clay pipe (VCP) will be replaced with 8-inch diameter polyvinyl chloride (PVC) pipe. Further, several new manholes will be constructed in place of the old manholes. The replacement will take place along the following nine reaches totaling 16,132 linear feet (LF) (or approximately 3 miles):

1. Otis Drive between Park Street and Broadway: 1,250 LF
2. Pacific Avenue between Main Street and Fourth Street: 1,500 LF
3. Harbor Bay Parkway between South Loop Road (W) and South Loop Road (E): 1,536 LF
4. Lincoln Avenue between Eighth Street and Grand Street: 5,135 LF
5. Hawthorne Street between San Antonio Avenue and End at Lagoon: 650 LF
6. St. Charles Street between San Antonio Avenue and End at Lagoon: 672 LF
7. Bay Street between Central Avenue and End at Lagoon: 1,817 LF
8. Sherman Street between Central Avenue and End at Lagoon: 1,875 LF
9. Paru Street between Central Avenue and Clinton Avenue: 1,697 LF

The purpose of this report is to evaluate the suitability of the soil along the project alignment and provide geotechnical recommendations for the planned construction.

1.1 BACKGROUND

URS has provided inspection and testing services for Phase 8 and Phase 10 (currently in construction) of the Cyclic Sewer Replacement. Specifically, URS has performed field density and laboratory compaction testing during earthwork operations. In addition, we provided a geotechnical investigation for Phase 9 and presented the results in a report dated June 2011.

1.2 PURPOSE AND SCOPE OF WORK

The purpose of this study was to explore and evaluate subsurface conditions along the proposed alignments for Phase 11 of the project and to develop geotechnical recommendations for final design of the pipeline regarding trenching, shoring, backfilling, earthwork, as well as an evaluation of possible trenchless installation methods.

The following geotechnical information and design recommendations are included in this report:

- Description of site geology and potential geologic hazards in the area of the proposed pipeline alignments;
- Description of subsurface soil, and groundwater conditions encountered in borings and CPTs completed along the alignment;

- Documentation of observed existing geotextile locations;
- Results of geotechnical laboratory tests performed on selected soil samples;
- Geotechnical considerations and recommendations for trench excavations, temporary shoring, and dewatering along the alignment, including lateral earth pressures for shoring design;
- Recommendations for subgrade preparation for founding the pipeline in areas of soft soils;
- Material and compaction requirements for pipe bedding and trench backfill, including considerations for reuse of on-site soils as trench backfill.

1.3 AUTHORIZATION

This study was authorized by the City in your letter to URS, dated May 21, 2013. Specifically this constitutes a work order under our On-Call Geotechnical Investigative & Quality Assurance Program Services contract between the City and URS, originally signed August 18, 2010, which was renewed on July 2, 2013.

Phase 11 of the Cyclic Sewer Replacement will involve replacement of the sewer mains and laterals along nine reaches totaling 16,132 linear feet (approximately 3 miles). The existing pipe is assumed to be 6-inch diameter VCP, and is to be upgraded to an 8-inch diameter PVC pipe. It is also understood that the laterals are to be replaced with high-density polyethylene (HDPE) pipe. Along the nine reaches, several existing manholes are to be replaced, though specific details were not available at this time.

The overall planned alignments are shown in Figure 1. The nine reaches are discussed in more detail and summarized in Table 1. All elevations noted below are given in the City of Alameda datum. Note that the City of Alameda datum is correlated to Mean Sea Level (MSL) as follows:

$$0' \text{ MSL} = - 3.410' \text{ City of Alameda datum}$$

2.1 OTIS DRIVE: PARK STREET TO BROADWAY

The alignment along Otis Drive extends approximately 1,250 feet (0.24 miles) from Park Street on the west end to Broadway on the east end. Otis Drive has four lanes, power lines and shoulders on both sides of the street for parking. It is located in a residential area but west of Park Street is a busy commercial intersection.

During the subsurface exploration, the exposed thickness of asphalt at Boring B-4 was 7 inches. The thickness of the aggregate base (AB) was measured to be 10 inches.

2.2 PACIFIC AVENUE: MAIN STREET TO 4TH STREET

The alignment along Pacific Avenue extends approximately 1,500 feet (0.28 miles) from Main Street to the west and Fourth Street to the east. The road has four lanes, power lines and shoulders for parking. It is located in a primarily residential area with houses and trees set back from the road.

During the subsurface exploration, the exposed asphalt thickness at Boring B-1 was approximately 6 inches. The AB thickness was measured to be 12 inches.

2.3 HARBOR BAY PARKWAY: SOUTH LOOP ROAD EAST TO SOUTH LOOP ROAD WEST

The alignment along Harbor Bay Parkway extends approximately 1,536 feet (0.29 miles) from the west end of the South Loop Road to the east end of the South Loop Road. Harbor Bay Parkway has four lanes, a grassy median with overhead power lines and there is no shoulder for parking. It is located in a commercial area with buildings and trees set back from the road.

During the subsurface exploration, the exposed Asphaltic Concrete (AC) thickness in Boring B-5 was approximately 6 inches. The AB was measured to be approximately 7 inches thick at this location.

2.4 LINCOLN AVENUE: GRAND STREET TO 8TH STREET

The alignment on Lincoln Avenue extends approximately 5,135 feet (0.97 miles) from 8th Street on the west to Grand Street on the east. Lincoln Avenue has four lanes, wide shoulders and overhead power lines along the alignment. It is located in a primarily residential area except for

the reach between St. Charles and Sherman Streets, which is commercial. The east- and west-bound lanes are divided by a grassy median through this reach.

During the subsurface exploration, the exposed asphalt thickness in Boring B-2 was approximately 6 inches. The AB thickness was measured to be 12 inches.

2.5 HAWTHORNE STREET: SAN ANTONIO AVENUE AND END AT LAGOON

The alignment on Hawthorne Street extends approximately 650 feet (0.13 miles) from San Antonio Avenue on the north end to the lagoon (dead end road) on the south end. Hawthorne Street has two lanes, narrow shoulders and power lines along the alignment. It is one block long, located in a residential area where large trees flank both sides of the road at some locations.

During the subsurface exploration, the exposed asphalt thickness at the location of CPT-12 was approximately 3 inches. The AB thickness was measured to be approximately 7 inches.

2.6 ST. CHARLES STREET: SAN ANTONIO AVENUE AND END AT LAGOON

The alignment on St. Charles Street extends approximately 672 feet (0.13 miles) from San Antonio Avenue on the north end to the lagoon (dead end road) on the south end. St. Charles Street has two lanes, narrow shoulders and overhead power lines along the alignment. It is located in a residential area where large trees flank both sides of the road.

During the subsurface exploration, the exposed asphalt thickness in Boring B-7 was approximately 3 inches. The AB thickness was measured to be approximately 7 inches.

2.7 BAY STREET: CENTRAL AVENUE AND END AT LAGOON

The alignment on Bay Street extends approximately 1,817 feet (0.34 miles) from Central Avenue on the north end to the lagoon (dead end) on the south end. Bay Street has two lanes, narrow shoulders and overhead power lines along the alignment. It is located in a residential area where large trees flank both sides of the road.

During the subsurface exploration, exposed AC thickness was measured to be 3 inches, and the exposed AB thickness was measured to be 10 inches.

2.8 SHERMAN STREET: CENTRAL AVENUE AND END AT LAGOON

The alignment on Sherman Street extends approximately 1,875 feet (0.36 miles) from Central Avenue on the north end to the lagoon (dead end) on the south end. Sherman Street has two lanes, narrow shoulders and overhead power lines along the alignment. It is located in a residential area where large trees flank both sides of the road at some locations.

During the subsurface exploration, the exposed asphalt thickness in Boring B-6 was approximately 2 inches. The AB thickness was measured to be 6 inches.

2.9 PARU STREET: CENTRAL AVENUE AND CLINTON AVENUE

The alignment on Paru Street extends approximately 1,697 feet (0.32 miles) from Central (Encinal) Avenue on the north end to Clinton Avenue on the south end. Paru Street has two lanes, narrow shoulders and power lines along the alignment. It is located in a primarily residential area where large trees flank both sides of the road at some locations. Franklin Elementary School and

SECTION TWO

Description of Project

Franklin Park are located on the northern end of this alignment, between Encinal Avenue and San Jose Avenue.

During the subsurface exploration, the exposed asphalt thickness at Boring B-3 was approximately 4 inches. The AB thickness was measured to be approximately 6 inches.

Table 1. Phase 11 Proposed Alignment Descriptions

Alignment Along	Starting Point	Ending Point	Approximate Length, feet (miles) ¹	Alignment Description	Approximate Thickness of AC (inch)	Approximate Thickness of AB (inch)
Otis Drive	Park Street	Broadway	1250 (0.24)	Four-lane street in residential area, wide shoulders, overhead power lines.	7	10
Pacific Ave	Main Street	Fourth Street	1500 (0.28)	Four-lane street in residential area, wide shoulders, overhead power lines.	6	12
Harbor Bay Parkway	South Loop Road (W)	South Loop Road (E)	1536 (0.29)	Four-lane street with a grassy median in a commercial business park area, overhead power lines	6	7
Lincoln Ave	Eighth Street	Grand Street	5135 (0.97)	Four-lane street in both residential and commercial areas, wide shoulders, overhead power lines, grassy median from St. Charles St. to Sherman St.	6	12
Hawthorne Street	San Antonio Avenue	End at Lagoon	650 (0.13)	Two-lane residential street with narrow shoulders; overhead power lines	3	7
St. Charles Street	San Antonio Avenue	End at Lagoon	672 (0.13)	Two-lane residential street with narrow shoulders; overhead power lines	3	7
Bay Street	Central Avenue	End at Lagoon	1817 (0.34)	Two-lane residential street with narrow shoulders; overhead power lines	3	10
Sherman Street	Central Avenue	End at Lagoon	1875 (0.36)	Two-lane residential street with narrow shoulders; overhead power lines	2	6
Paru Street	Central Avenue	Clinton Avenue	1697 (0.32)	Two-lane residential street with narrow shoulders; overhead power lines	4	6

¹ These are estimates based on our understanding of the project alignment. These lengths are subject to change during final design.

3.1 EXPLORATORY BORINGS AND CPTS FOR THIS STUDY

A total of seven (7) borings and twelve (12) cone penetrometer tests (CPTs) were completed along the nine reaches of the project. All seven borings were completed on July 17, 2013. The CPTs were performed from July 1 to July 2, 2013. Based on the anticipated depth of the new sewer, all of the borings were drilled to a depth of approximately 16.5 feet, and the CPTs were pushed to a depth of approximately 15 feet below ground surface (bgs). The approximate locations of the borings and CPTs are presented in Figure 1.

Prior to drilling, encroachment and drilling permits were obtained from the Alameda County Public Works Agency – Water Resources. Underground Services Alert (USA) was notified at least 48 hours prior to drilling and a private utility locator (OHJ Subsurface of Oakland, California) was retained by URS to clear boring locations of any utility interference. As some of the CPTs and drilling were conducted in the middle of the street, a detailed traffic control plan was prepared which was approved by the City of Alameda. The traffic control included traffic signs and attenuator trucks provided by Statewide Safety & Signs of Fairfield, California.

The exploratory borings were completed using truck-mounted drilling equipment. The first five feet of each boring were excavated by hand auger in order to avoid any unidentified utilities. The remainder of each boring was completed with a hollow stem auger, to a depth of 16.5 feet. The subsurface conditions encountered in each borings were logged in the field by our geologist. The holes were backfilled with a neat cement grout and capped to match the street surface. Samples, both bulk samples and Standard Penetration Test (SPT) samples, were transported to Signet Testing Labs in Hayward, California (a URS subsidiary). The results of the laboratory testing are discussed in more detail in Section 3.2 below.

The CPTs were completed using a truck-mounted CPT rig. The top five feet was first advanced by hand auger to clear any potential utility and then bentonite chips were used as backfill and compacted by hand tools. As a result, the top five feet of the CPTs did not provide a log of information on the in-situ subsurface condition. However, bulk samples were collected within the upper 5 feet and visually classified the materials encountered. The cone was pushed to a depth of approximately 15 feet. In addition, porewater dissipation tests were conducted in selected holes to gage the approximate groundwater table depth. All of the holes were backfilled with a neat cement grout and capped to match the street surface.

The logs of the exploratory borings were prepared based on soil descriptions in the field logs, as well as visual examination and testing of the soil samples in the laboratory. The boring logs and CPTs are presented in Appendices A and B, respectively.

3.2 LABORATORY TESTING

Laboratory tests were performed on selected soil specimens to provide data for use in classifying the soils and estimating their engineering properties. The tests included moisture content determinations (ASTM 2216), gradation analyses (ASTM 1140), and Atterberg Limit tests (ASTM 4318) in accordance with the ASTM standards. The complete results of the laboratory tests are presented in Appendix C and the test results are also provided at the corresponding sample locations on the boring logs in Appendix A.

4.1 REGIONAL GEOLOGIC CONDITIONS

4.1.1 Geologic Setting

The proposed alignments are located in the Coast Ranges Geomorphic Province of Northern California. The Coast Ranges are a series of subparallel northwest-trending ridges separated by valleys that often contain northwest-trending strike-slip faults. The ridges are underlain by complexly folded and faulted strata of Mesozoic (150 to 66 million years) and Tertiary (65 to 1.6 million years) age. The valleys are filled with alluvium of Quaternary (less than 1.6 million year) age.

According to the geologic map of the Oakland metropolitan area (Graymer, 2000), the alignments are underlain by Holocene and Pleistocene dune sands. Fill material was mapped in the vicinity of the Harbor Bay Parkway. The dune sands are described as fine-grained, very well sorted, well-drained, eolian deposits. Soft marine-deposited silty clay, locally known as "Bay Mud", was not encountered along the alignments except along the Harbor Bay Parkway (CPT-08) where potential Bay Mud was encountered between 10 and 14 feet. The geologic map is shown in Figure 1.

4.1.2 Seismotectonic Setting

Geologists and seismologists recognize the San Francisco Bay Area as one of the most active seismic regions in the United States. There are three major faults that trend in a northwest direction through the Bay Area, which have generated approximately 12 earthquakes per century large enough to cause significant structural damage. The faults along which these earthquakes occur are part of the San Andreas Fault system that extends at least 700 miles along the California Coast, and include the San Andreas, Hayward and Calaveras faults. One of the largest historical earthquake to have affected the area is the 1989 moment magnitude (M) 6.9 Loma Prieta earthquake. Other large historical earthquakes near the area include the 1906 M 7.9 great San Francisco and 1868 M 6.8 Hayward earthquakes.

The seismically-active Hayward-Rodgers Creek fault, Calaveras fault zone, and the San Andreas fault zone are located approximately 5 kilometers east, 20 kilometers east, and 20 kilometers west of the proposed alignments, respectively. Other faults capable of producing strong ground motions at the site include the San Gregorio fault, Concord-Green Valley fault and the Greenville fault zone.

4.2 LOCAL SUBSURFACE CONDITIONS

4.2.1 Soil Profile

Results of the field exploration program indicate that the Phase 11 sanitary sewer will advance through predominantly silty sand (SM). Every boring and CPT encountered at least some silty sand with a couple of minor deviations. All of the borings on the main island encountered poorly-graded sand with silt (SP-SM) at depths of 10 to 15 feet, showing fewer fines with depth. Most of these borings also encountered a thin, finer-grained clayey silty layer between 5 and 10 feet. Borings B-1 and B-6 encountered clayey sand (SC) at depths of 5 feet. Boring B-5, advanced at Harbor Bay Parkway on Bay Farm Island, generally became finer-grained with

depth and encountered a layer of clayey silt (ML) at 11 feet bgs. The silty sand that was encountered in all of the borings was generally described as being brown and loose to medium dense, with some isolated layers of very loose material at the Harbor Bay Parkway. The predominantly silty sand was visually described as having 15 to 30 percent, no- to low-plasticity fines, and this was generally confirmed with laboratory testing. For further details, refer to the boring logs in Appendix A and laboratory test results in Appendix C.

The CPTs generally agreed and correlated well with the findings of the borings. CPT logs advanced on the main island detected a similar trend of silty sand from about 5 to 10 feet with sand at greater depth. CPT logs advanced on Bay Farm Island also detected a trend similar to that of the borings. CPT-07 detected sand and silty sand from 5 to 10 feet and finer grained material from 10 to 15 feet bgs. In CPT-08, sensitive fine-grained material (potentially Bay Mud) was encountered between 10 and 14 feet bgs. The transition from silty sand to potentially Bay Mud should occur somewhere between CPT-08 and Boring B-5. The hand-augered material excavated from the upper 5 feet of each CPT was also brown, typically moist, silty sand.

In addition, PETROMAT® (a geotextile placed underneath the existing pavement) was encountered in some of the borings and CPTs, and they are summarized in Table 2 below:

Table 2. Summary of Observed Existing Geotextile Locations

Boring ID	Nearest Address	Geotextile Present*
B-01	309 Pacific Avenue	YES
B-02	1041 Lincoln Avenue	YES
B-03	1004 Paru Street	NO
B-04	2504 Otis Drive	YES
B-05	1420 Harbor Bay Parkway	NO
B-06	1025 Sherman Street	NO
B-07	1244 St. Charles Street	YES
CPT-01	104-106 Pacific Avenue	YES
CPT-02	901 Lincoln Avenue	YES
CPT-03	1419 Lincoln Avenue	YES
CPT-04	1635 Lincoln Avenue	YES
CPT-05	1303 Paru Street	NO
CPT-06	2436 Otis Drive	YES
CPT-07	1301 Harbor Bay Parkway	NO
CPT-08	1501 Harbor Bay Parkway	NO
CPT-09	1313 Sherman Street	YES
CPT-10	1121 Bay Street	NO
CPT-11	1251 Bay Street	NO
CPT-12	1241 Hawthorne Street	NO

*Approximate depth of geotextile is 1 to 3 inches below existing grade

4.2.2 Groundwater

The groundwater was encountered in borings and CPTs (the latter through pore pressure dissipation tests) at depths ranging from approximately 5 to 13 feet below the ground surface (see Table 3 below). Groundwater levels can be expected to vary seasonally, due to precipitation and other factors.

Table 3. Summary of the Observed Groundwater Table Level

Boring ID	Approximate Address	Groundwater Level below ground surface (feet)
B-01	309 Pacific Avenue	5
B-02	1041 Lincoln Avenue	10
B-03	1004 Paru Street	10
B-04	2504 Otis Drive	10
B-05	1420 Harbor Bay Parkway	5
B-06	1025 Sherman Street	11
B-07	1244 St. Charles Street	10
CPT-01	104-106 Pacific Avenue	6.4 (4.8)
CPT-02	901 Lincoln Avenue	7.8 (hole collapsed)
CPT-03	1419 Lincoln Avenue	7.0 (6.0)
CPT-04	1635 Lincoln Avenue	8.1 (7.0)
CPT-05	1303 Paru Street	8.6 (8.7)
CPT-06	2436 Otis Drive	7.6 (4.5)
CPT-07	1301 Harbor Bay Parkway	9.0 (5.9)
CPT-08	1501 Harbor Bay Parkway	7.2 (5.0)
CPT-09	1313 Sherman Street	6.3 (6.2)
CPT-10	1121 Bay Street	13.5 (11.5)
CPT-11	1251 Bay Street	11.7 (11.5)
CPT-12	1241 Hawthorne Street	12.4 (hole collapsed)

Notes: (11.5) indicates groundwater level measured using a water level indicator in CPT hole in addition to the pore pressure dissipation tests. CPT-02 and CPT-12 collapsed after the probe was retrieved and water level could not be measured.

5.1 GENERAL GEOTECHNICAL CONSIDERATIONS

The preferred method of installation for Phase 11 is open trenching. This section presents geotechnical considerations for the design of these temporary excavations, trench backfill, and grading. Construction recommendations for open-trench installation will be presented in Section 5.2. A discussion of possible trenchless methods will be presented in Section 5.3.

5.1.1 Seismic Hazards

As discussed in Section 4, the site is located in a highly seismically active area. Based on review of the available material from the U.S. Geological Survey, the alignments are located in a liquefaction hazard zone (Figure 2). According to the published maps, the site will likely be subject to large ground motions that may induce liquefaction, settlement, and sand boils. Except the alignment for the Harbor Bay Parkway, all the proposed alignments are located within the area mapped as moderate liquefaction susceptibility. The Harbor Bay Parkway alignment is within the area mapped as very high liquefaction susceptibility; this is consistent with the boring information (B-5) where very loose, saturated silty sand was encountered. It is likely that the project site will be subjected to large ground motions generated by future large earthquakes that may induce liquefaction-related hazards, such as settlement and sand boils.

A liquefaction quantitative evaluation is not within the scope of this study. Nonetheless, it can be noted that potential liquefaction may result in differential dynamic settlement. Consideration may therefore be warranted for designing the sewer line with flexible couplings and increased pipeline gradients, where possible.

5.1.2 Material Suitability

The granular material that was encountered in the borings is considered as Class III material according to ASTM D 2321, which provides recommendations for the installation of buried thermoplastic pipe used in sewers and other gravity-flow applications. In general, Class III material can be used in any zone of the trench backfill, as prescribed by ASTM D 2321, with some requirements regarding moisture content, lift thickness, and compaction.

Due to the shallow groundwater table, difficulty may be encountered in maintaining workable moisture content of the native soil when used as backfill. Wet material excavated from the trench may need to dry in order to achieve necessary compaction requirements. The method of consolidating native material by watering (jetting or puddling) should not be used anywhere in the project.

Further recommendations for backfill material and compaction are given below. Flowable fill or controlled low-strength material (CLSM) is also a viable backfill alternative, especially within the pipe zone since it does not require compaction to provide uniform pipe support. A principle advantage of employing CLSM for the pipe bedding and haunching zone backfill is its ability to provide superior filling of the pipe zone below the springline. The pipelines should be supported on cradles so that the CLSM flows beneath the pipe. It is the responsibility of the Contractor to prevent pipe flotation.

5.1.3 Expansive Soils

Fine-grained soils have the potential for expansion when subject to saturation and subsequent shrinking when dried. This may result in deflections of the sewer pipe. However, based on the results of the subsurface investigation, as well as review of previous studies, expansive fine-grained materials are not considered as an issue in this project. Should potentially expansive material be encountered in the course of construction, the Geotechnical Engineer should be advised of the changed conditions, in order to provide revised excavation recommendations. Potentially expansive material should be segregated by the Contractor and not be used as backfill unless approved by the Geotechnical Engineer.

5.2 OPEN TRENCH CONSTRUCTION RECOMMENDATIONS

5.2.1 Excavation Stability

The design for the pipe and trench is not available at this time. Based on previous projects experience, the excavations geometry are anticipated to be at approximately 10 to 15 feet bgs and therefore the trench should be appropriately sloped in accordance with the current OSHA requirement or adopting a shoring system that is designed for the shallow groundwater table unless a dewatering system is used.

Stability of the bottom of the trench is not anticipated to be an issue (except in the Harbor Bay Parkway alignment), provided adequate dewatering methods are employed to keep a dry working surface. Should soft materials or otherwise unstable conditions be encountered, the trench may need to be over-excavated to remove unsuitable materials and replace them with compacted angular rock to provide a workable surface and then cover with a filter fabric. Further recommendations are provided below.

Boring B-5 drilled on the Harbor Bay Parkway indicated presence of very soft clayey silt underlain by very loose poorly-graded sand with silt (SPT blowcount = 2) at a depth of 10 feet bgs to the maximum depth explored. The groundwater table was encountered at about 5 feet bgs. Depending on the excavation depth, a dewatering system outside the excavation may be required and a seepage analysis should be performed to evaluate the minimum depth of the shoring embedment to avoid instability of the subgrade (quick condition or upheave). Excessive dewatering, however, could result in consolidation settlement of surrounding soils.

5.2.2 Backfill Material and Compaction Requirements

As discussed above, the native granular material is considered acceptable as trench backfill (Class III material) in each of the zones as described by ASTM D 2321. However, due to the presence of some fine-grained material, moisture control is an important concern. If the material is too wet, it may not be able to achieve required compaction levels. Drying out of trench spoils may be necessary prior to re-use as trench backfill. In general, the backfill material should be non-corrosive and free from rocks or lumps, trash, debris, roots and other organic material, or any other deleterious material.

Furthermore, Class III material is suitable only in a dry-trench condition. Due to the shallow groundwater table, dewatering will likely be required along the entirety of the alignment to maintain a dry-trench condition. Further discussion of dewatering is presented in the following section.

Bedding material is to be placed at the bottom of the trench to produce a smooth trench bottom on which to place the sewer pipe. Properly designed and constructed, the bedding material acts to uniformly distribute the pipeline and overlying soil loads along the base of the pipe. It is recommended that the interceptor pipeline be bedded on a minimum of 9 inches of imported granular bedding material. Bell holes should be excavated in the bedding material at required locations to ensure uniform bearing of the pipe barrel on the trench bottom.

Imported granular bedding material should consist of sound, durable sand and gravel that can be easily placed and compacted. The gradation of the bedding material should meet the following requirements:

<u>Sieve Size</u>	<u>Percent Passing Sieve</u>
3/4"	100
No. 4	35 – 55
No. 200	2 – 9

The gradation of a Class 2 aggregate base (¾-inch maximum size) presented in Section 26 of the State of the California Department of Transportation (Caltrans) standard specifications will also meet the bedding requirements.

Additionally, it is recommended that the same imported granular bedding material be used as pipe zone backfill. The material should be placed in lifts not exceeding 8 inches in uncompacted thickness and compacted with hand-operated compaction equipment to at least 95 percent of the maximum dry density as determined by ASTM test method D1557. Compaction of the bedding or the pipe zone backfill by jetting with water should not be permitted.

If loose, soft, or saturated soils are encountered at the bottom of the trench level, the trench excavation should be extended to firm soil, but not more than an additional depth of 2 feet to allow placement of a bridging material. A stabilizing woven geotextile such as Mirafi 600x or equivalent should be placed at the bottom of the resulting subexcavation. Sufficient fabric should be planned to encapsulate the bridging layer. The subexcavation should then be backfilled with an imported bridging material. The bridging material should be a clean angular, durable crushed rock or gravel. The gradation of the bridging material should meet the following requirements:

<u>Sieve Size</u>	<u>Percent Passing Sieve</u>
2"	100
1½"	90 – 100
¾"	5 – 30
3/8"	0 – 5
No. 200	0 – 2

The actual thickness of the bridging layer will depend on the conditions encountered at the bottom of the trench at the time of excavation and should be determined by the Engineer/Technician in the field. However, the thickness should not exceed 2 feet. The top of the bridging layer should be graded level prior to placing the layer of pipe bedding. The stabilizing geotextile should then be wrapped around the bridging material to prevent potential migration of the bedding material down into the bridging layer and potential pipe settlement. It is

recommended that a minimum of 12 inches of overlap be used for the geotextile to provide continuity of the fabric and prevent potential migration of fine-grained soil through the gaps.

If CLSM backfill is used, it should be placed from a mixer, pump, or other system approved by the Engineer. It may need to be placed in lifts, vibrated, and allowed to set up to prevent the pipe from floating. Subsequent placements of CLSM should not be made until the underlying lift of CLSM has taken initial set. The CLSM should be proportioned to provide a non-segregating, self-consolidating, free-flowing, and excavatable material that will result in a hardened, dense, non-settling fill. The Contractor should be required to submit the proposed CLSM mix design for the Engineer’s approval, and the CLSM should be sampled and tested in the field each day of placement in accordance with applicable ASTM requirements. The CLSM mix design may have to be adjusted in the field to meet the flowability, pumpability, and set time requirements for each pour.

If material other than Engineer-approved native material is used for trench zone backfill, it should be an imported fill material conforming to the requirements for ¾-inch maximum Class 2 aggregate base presented in Section 26 of the State of California, Department of Transportation (Caltrans) Standard Specifications.

Specific recommendations for each of the trench zones are shown below in Table 4, based on ASTM D 2321.

Table 4. Backfill Material and Compaction Requirements

Zone	Location	Recommendations from ASTM D 2321 for Class III materials	Recommended Compacted Density (ASTM D-1557)
Foundation	Bottom of trench	Suitable as foundation and for replacing over-excavated trench bottom only in dry-trench conditions. Do not use in thicknesses greater than 12 inches total. Install and compact in 6-inch maximum lifts.	Overexcavation and placement of bridging material may be needed, at the discretion of the Geotechnical Engineer.
Bedding	Material below pipe invert, above foundation	Suitable only in dry-trench conditions. Install and compact in 6-inch maximum lifts. Level final grade by hand. Minimum depth 4 inches	90%
Haunching	Material below pipe springline, above bedding	Suitable only in dry-trench conditions. Install and compact in 6-inch maximum lifts. Work in around pipe by hand to provide uniform support.	90%
Initial Backfill	From pipe springline to within 5 feet of pavement section	Suitable only in dry-trench conditions. Install and compact to a minimum 6-inches above pipe crown	90%
Final Backfill	Material above initial backfill	Compact as per ASTM D 1557.	95%

Some clayey sands were encountered in Borings B-1 and B-6 during the subsurface investigation. Sensitive fine-grained material (potential Bay Mud) is present in CPT-08 between 10 and 14 feet. Soil with high fines content should not be used in the pipe zone (i.e., foundation,

bedding, haunching, or initial backfill material), but may be used in the final backfill zone upon approval by the Geotechnical Engineer.

These recommendations are based on the available subsurface data and may be revised as construction progresses. Materials should be evaluated by the Geotechnical Engineer prior to use as backfill, whether native or imported. Should the materials or conditions found during trenching vary from those described within this report, URS should be contacted for updated recommendations. We recommend that URS be retained to provide construction observations and testing services under separate or amended contract.

5.2.3 Trench Support

According to the Occupational Safety and Health Administration (OSHA) Excavation Regulation (29 CFR 1926.650-652), the material encountered during the subsurface exploration is generally classified as "Type C," as it is considered a predominantly granular material, and is expected to be at least partially submerged beneath the groundwater table.

OSHA mandates the maximum allowable slope for Type C material is 1.5:1 (horizontal to vertical), for excavations up to 20 feet in depth. However, as the sewer line is anticipated to be installed in a street while traffic patterns are present around the construction zone, laying back the slope may be precluded due to the limited working space. The trench must therefore be shored, shielded or supported.

A shoring system can be used to support the entire depth of the excavation. Potential shoring systems include trench boxes/shields, sheeting with hydraulic or mechanical jacks, cantilever sheet piles, or sheet piles with internal braces. Some of these methods may prove ineffectual if the excavation must go deeper than the groundwater table. If the excavation must extend below the groundwater table, which is expected throughout most of the alignment, consideration must be given to a dewatering system. Dewatering, discussed below, should inhibit piping into the bottom of the excavation. Shoring should be sufficiently tight to reduce washout from behind the wall.

The earth pressure diagrams presented in Figure 3 can be used to design a shoring system, with or without internal bracing. The bracing should be adequately stout to prevent excessive lateral deflections which may result in settlement of material behind the excavation walls. This could negatively impact both subsurface utilities, as well as surface improvements such as the street surface or sidewalks. It is not anticipated that the excavation will come within an unsafe distance of existing structures. If this occurs, these excavations may undermine the foundations of the existing structures. The bottom of the excavation should not be deeper than a plane striking downward towards the excavation at a slope of 1H:1V from the bottom of the nearest foundation. If the excavation does come within this distance of an existing structure, the Geotechnical Engineer should be contacted for further recommendations.

Settlement may also be an issue during the construction dewatering system upon backfill of the trench. The system should, therefore, be designed by a qualified specialty subcontractor or professional engineer with experience in utility trenching.

The parameters presented in this report are preliminary and based on the subsurface data acquired during the investigation. The recommendations provided within should be revised by URS, as needed by the City, during construction. The excavation and shoring system should be

inspected and evaluated regularly during construction by an OSHA certified competent person for Excavation and Trenching. All OSHA requirements for excavations should be observed.

5.2.4 Construction Dewatering and Surface Runoff Control

The results of the subsurface investigation indicate a shallow groundwater table, ranging from less than 4 feet to approximately 8 feet beneath the ground surface. The excavation for the sewer line is anticipated to be between 10 and 15 bgs. As such, localized sump pumping or dewatering of the excavation area is likely to be necessary along most, if not all, of the project alignment. Maintaining a dry trench bottom is important to achieving a good surface to place and compact bedding material, as well as creating a safe, dry and level working surface.

The design of the dewatering system should consider that impact of groundwater table drawdown on the soil surrounding the excavation. The drawdown may induce settlement around the excavation, impacting subsurface utilities as well as surface improvements. The groundwater should be disposed of in accordance with the guidelines of the Regional Water Quality Control Board.

During excavation, groundwater should always be kept below the bottom of the cut to prevent washout or sloughing. When the final level is reached, the groundwater level should be brought down 2 feet beneath the bottom of the excavation to provide a stable working surface. As the subsurface material is expected to be predominantly granular, pumping from open sumps may not be enough to maintain a dry trench.

If areas with high inflow or water-softened trench bottoms are encountered, the soft materials should be overexcavated and backfilled with crushed rock as discussed in Section 5.2.2. Dewatering should still be employed to prevent standing water.

Dewatering methods should prevent migration of fines to preclude loss of soil support. The water level should be maintained before, during, and after pipe installation, until sufficient backfill has been placed and compacted in order to prevent flotation and uplift of the pipe. The dewatering system should be chosen and designed by an experienced dewatering contractor.

Temporary swales or barriers should be constructed within and above the trench as needed to maintain a dry excavation. Surface runoff must also be controlled and kept away from the trench.

5.3 DISCUSSION OF TRENCHLESS INSTALLATION METHODS

The existing sewer line (to be replaced during Phase 11) is understood to be a 6-inch diameter vitrified clay pipe (VCP). As the assumed new 8-inch diameter PVC pipe sewer line is intended to replace the existing line along the same alignment, the method of pipe-bursting may provide an alternative to typical open trenching installation methods, if proposed by the Contractor as a value engineering alternative and approved by the Geotechnical Engineer.

Pipe bursting involves replacement of the "host" pipe by fragmenting the existing pipe and installing a new pipe of equal or larger diameter in its place, and has proven to be effective in replacing sewer lines with all types of pipe including PVC. A bursting head, essentially a cone, is pulled pneumatically or hydraulically through the existing pipe, fracturing it and leaving it in place. The new pipe is pushed directly behind the bursting head to replace the existing pipe. As the new pipe is larger than the existing, the soil around the new pipe is compressed.

Video inspection prior to development of a pipe bursting installation plan is recommended in order to identify any deficiencies in the system that may preclude the option of pipe bursting, including sags and humps in the line, and/or pipe defects. The shallow water table would not prevent pipe bursting, but should be accounted for in developing an installation plan.

Pipe bursting requires an excavation at the beginning and end of each push. The cone is pulled forward from the end of the reach and the pipe is fed through the beginning, following the cone. This lends itself to excavating at each manhole and using those excavations as staging areas for the pipe bursting. This leads to a potential cost savings, in that: significantly less material must be excavated and backfilled, there is less damage to the surface improvements (i.e., the street or sidewalk), and there is less of an intrusion on traffic therefore requiring less traffic control and reducing the risk of a traffic accident. However, because of limited access to the pipe at only the launching and receiving shafts, an unobstructed and a successful drive is essential. For this reason, and due to the increased construction risk and uncertainty, this method would only typically be recommended if the alignment passes beneath existing structures, which is not the case here.

Before the pipe is bursted, laterals must be excavated and separated from the sewer main. The laterals must be temporarily plugged or allowed to drain into a sump and pumped away. This may require temporary localized shutdown of the sewer, or at least a reduction in usage. The alignment goes mainly through residential areas, so this may not be practical. Furthermore, the amount of lateral connections to the sewer main is unknown. It is anticipated that there will be several connections in between each manhole, and perhaps as many connections as there are structures along the alignment. An excavation would be required for each lateral. This may reduce the advantages of pipe bursting to the point where it is no longer a feasible option.

Depending on the number of laterals, and ability to temporarily shut down or reduce usage of the system, pipe bursting may or may not provide a cost savings compared to typical open-trenching techniques. Since the City has successfully used open trenching in previous phases of the Cyclic Sewer Replacement, the design team's familiarity with the open trenching method is also an advantage.

5.4 MANHOLE FOUNDATIONS

Large manhole structures located at angle points of the sewer will require a cast-in-place reinforced concrete mat foundation. Regular size manholes will be built after the pipe is laid, and will be connected to the pipe at the springline.

It is recommended that the large manhole structures be supported on stiff or dense subgrade soils. If soft or loose subgrade conditions are encountered, the subgrade should be excavated to stiff soil and backfilled with gravel bridging material that is encapsulated by geotextiles. The manhole foundations information is not available when preparing this report, we can provide updated recommendations if needed in the future.

This study was undertaken to provide the City with information regarding the subsurface soil, groundwater, and geological conditions at the site to assist in the design and construction of Phase 11 of the Cyclic Sewer Replacement.

The conclusions, recommendations, and design criteria presented in this report are based on the assumption that the subsurface soil and groundwater conditions do not deviate appreciably from those disclosed in the exploratory borings. These recommendations are also based on the specific alignment described in this report. However, there is no available information for the design details such as final depths of the proposed alignments and other proposed improvements such as manholes. If design changes occur, or if any unanticipated variations or undesirable conditions are encountered during construction, URS should be notified by written letter so that supplemental data can be obtained and recommendations can be made if appropriate. This study was performed in accordance with generally accepted geotechnical engineering practices. No warranties, either explicit or implied, are made.

The scope of this study did not include detailed design of construction shoring or dewatering systems for the alignments. All of these items are the responsibility of the bidding Contractors. The preliminary shoring recommendations and dewatering considerations presented in this report are for use by the City only in construction planning and preliminary cost estimating. The contractor should retain a geotechnical engineer and an experienced dewatering contractor to develop final design of construction shoring and dewatering systems. The location where the existing geotextile was encountered is limited to the specific locations of the borings or CPT, and no implication was made regarding the presence or absence of the geotextile along the entire alignments of the 9 reaches proposed in this project.

It is recommended that URS review the final plans and specifications to verify that the intent of the recommendations presented herein has been properly interpreted and incorporated into the contract documents. Such a review is outside the presently authorized scope of work.

It is also recommended that URS provide geotechnical services during construction, such as: observation of trenching and pipe installation; observation of subgrade conditions; and observation and testing of earthwork. The purpose of these services would be to verify that soil conditions are similar to those encountered in the exploratory borings and to provide consultation regarding construction difficulties. Additionally, URS should be retained to review proposed earthwork material submittals and shop drawings submitted by the Contractor regarding groundwater control methods, excavation shoring systems, and the results of construction monitoring programs. Construction observations and testing services and submittal and shop drawing reviews are beyond the scope of work presently authorized.

- American Society for Testing Materials (ASTM), 2013, Annual Book of ASTM Standards, West Conshohocken, Pennsylvania.
- California Geological Survey, 2003a. Seismic Hazard Zone Report for the Oakland East 7.5' Quadrangle, Alameda County, California. Seismic Hazard Zone Report 080.
- California Geological Survey, 2003b. Seismic Hazard Zone Report for the Oakland West 7.5' Quadrangle, Alameda County, California. Seismic Hazard Zone Report 081.
- Graymer, R.W., 2000. Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California. U.S. Geological Survey Miscellaneous Field Study MF-2342. Scale 1:50,000.
- Occupational Safety and Health Administration (OSHA), 2001, Occupational Safety and Health Standards – Excavations, Department of Labor, Title 29 Code of Federal Regulations (CFR) part 1926, dated October 31.
- U.S. Geological Survey Open-File Report 00-444, 2005, Keith L. Knudsen, Janet M. Sowers, Robert C. Witter, Carl M. Wentworth and Edward J. Helley.

Figures



Figure 1
Geologic Map with Boring and CPT Locations



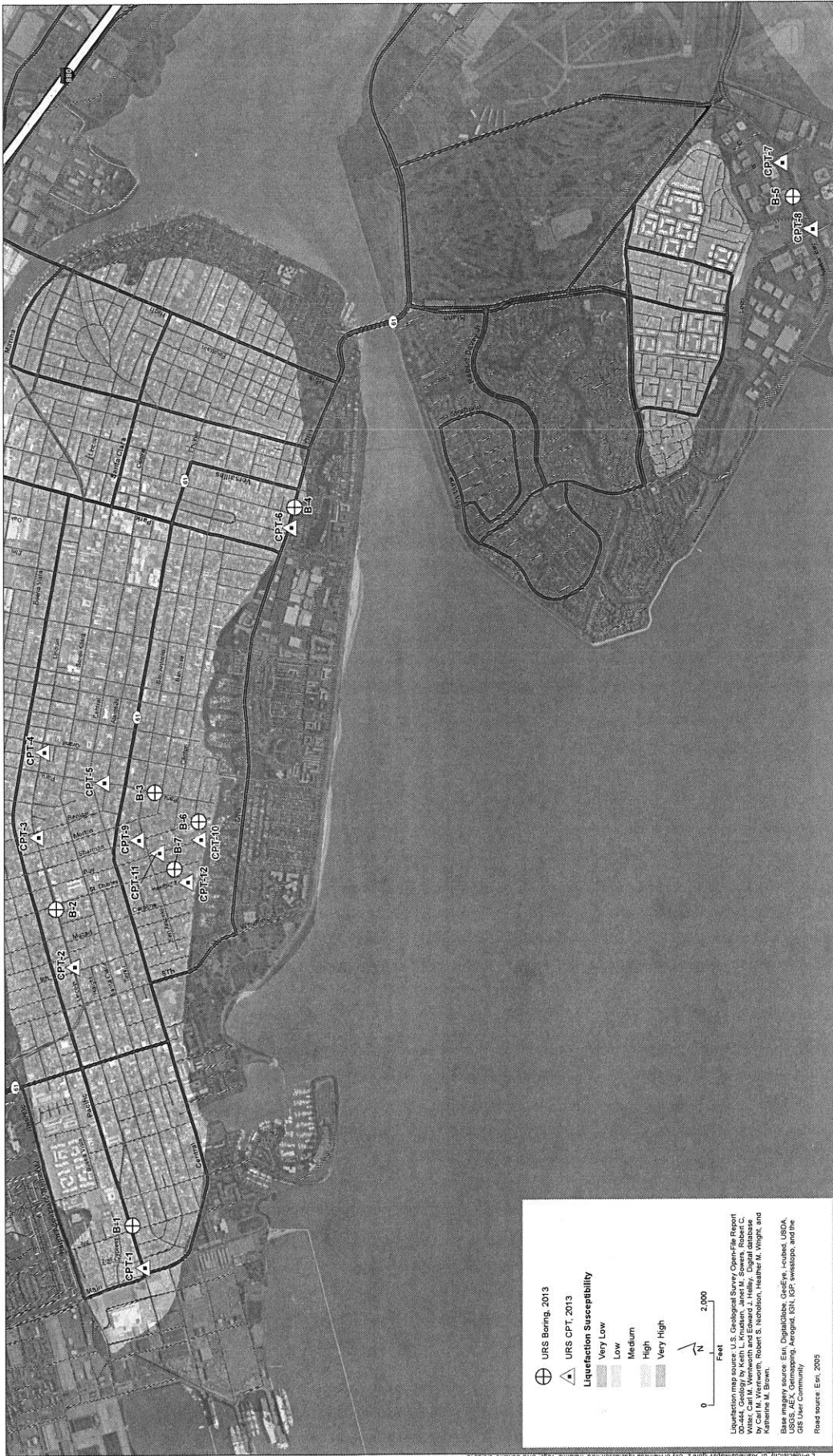
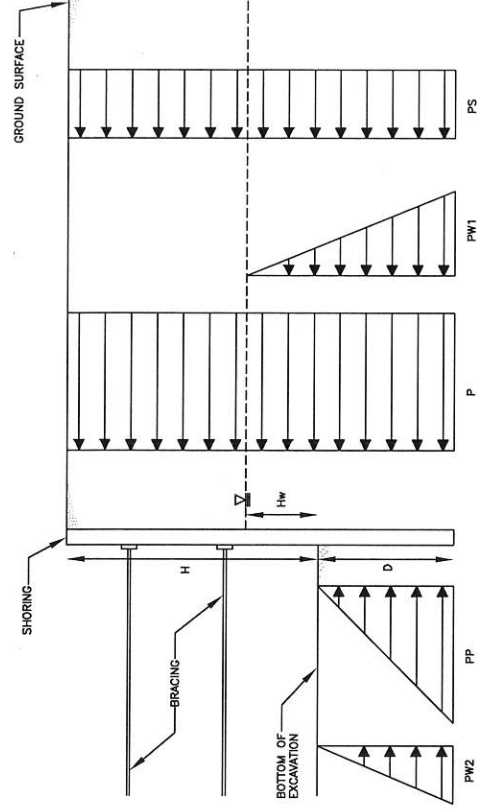


Figure 2
Liquefaction Map with Boring and CPT Locations



UNBRACED EXCAVATION

DRIVING PRESSURES

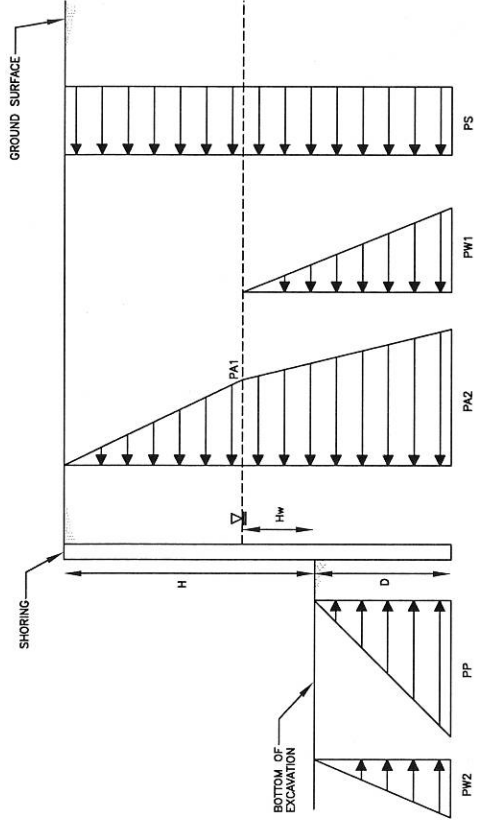
$PA1 = 37 \cdot (H - Hw)$
 $PA2 = PA1 + 20 \cdot (Hw + D)$
 $PW1 = 62 \cdot (Hw + D)$
 $PS = 72$ (SEE NOTE 2)

FOR HARBOR BAY PARKWAY:

$PA1 = 40 \cdot (H - Hw)$ and $PP = 160 \cdot (D)$

RESISTING PRESSURES

$PP = 210 \cdot (D)$ (SEE NOTE 1)
 $PW2 = 62 \cdot (D)$



BRACED EXCAVATION

DRIVING PRESSURES

$P = 24 \cdot (H)$
 $PW1 = 62 \cdot (Hw + D)$
 $PS = 72$ (SEE NOTE 2)

FOR HARBOR BAY PARKWAY:

$PA1 = 26 \cdot (H)$ and $PP = 160 \cdot (D)$

RESISTING PRESSURES

$PP = 210 \cdot (D)$ (SEE NOTE 1)
 $PW2 = 62 \cdot (D)$
 $PP = 160 \cdot (D)$

- GENERAL NOTES AND DEFINITIONS**
- DO NOT COUNT PASSIVE RESISTANCE IN THE UPPER 1 FOOT BENEATH THE BOTTOM OF EXCAVATION. LIMIT PASSIVE PRESSURE TO 4,000 PSF MAXIMUM.
 - SHORING LOAD IS BASED ON A RECOMMENDATION FOR TYPE C SOIL BASED ON 2 FEET OF SOIL STORED ADJACENT TO THE EXCAVATION.
 - THE FOLLOWING DEFINITIONS ARE IN FEET. ALL EARTH PRESSURES ARE IN POUNDS PER SQUARE FOOT (PSF).

H - DEPTH FROM GROUND SURFACE TO BOTTOM OF EXCAVATION
 D - DEPTH OF SHORING EMBEDMENT FROM BOTTOM OF EXCAVATION
 Hw - DEPTH FROM GROUNDWATER TABLE TO BOTTOM OF EXCAVATION



LATERAL EARTH PRESSURES FOR BRACED AND UNBRACED TRENCH EXCAVATIONS

Figure 3

CITY OF ALAMEDA
CYCLIC SEWER REPLACEMENT, PHASE 11

**Appendix A
Boring Logs**

Project: Cyclic Sewer Replacement, Phase 11
 Project Location: Alameda, CA
 Project Number: 26818686

Key to Log of Boring








Sheet 1 of 1

Elevation feet	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Plasticity Index (PI)	Percent Passing #200 Sieve	REMARKS AND OTHER TESTS
		Type	Number	Sampling Resistance blows/foot	Recovery, %						
1	2	3	4	5	6	7	8	9	10	11	12




COLUMN DESCRIPTIONS

- | | |
|---|--|
| <p>1 Elevation: Elevation in feet referenced to specified datum.</p> <p>2 Depth: Depth in feet below the ground surface.</p> <p>3 Sample Type: Type of soil sample collected at depth interval shown; sampler symbols are explained below.</p> <p>4 Sample Number: Sample identification number.</p> <p>5 Sampling Resistance: Number of blows required to advance driven sampler 12 inches beyond first 6-inch interval, or distance noted, using a 140-lb hammer with a 30-inch drop; or down-pressure for pushed sampler.</p> <p>6 Recovery: Percentage of driven or pushed sample length recovered; "NA" indicates data not recorded.</p> <p>7 Graphic Log: Graphic depiction of subsurface material encountered; typical symbols are explained below.</p> | <p>8 Material Description: Description of material encountered; may include density/consistency, moisture, color, and grain size.</p> <p>9 Water Content: Water content of soil sample measured in laboratory, expressed as percentage of dry weight of specimen.</p> <p>10 Plasticity Index: Difference between Liquid Limit and Plastic Limit (Atterberg limits).</p> <p>11 Percent Passing #200 Sieve: Percent of soil that passed a #200 sieve (0.075 mm), sieve analysis.</p> <p>12 Remarks and Other Tests: Comments and observations regarding drilling or sampling made by driller or field personnel.</p> <p>LL Liquid Limit (Atterberg Limits)
 PI Plasticity Index (Atterberg Limits), NP=nonplastic
 SA Sieve analysis, percent passing #200 sieve
 WA Wash on #200 sieve
 DUW Dry Unit Weight
 TX-UU Unconsolidated Undrained Compression
 pp Pocket Penetrometer</p> |
|---|--|





TYPICAL MATERIAL GRAPHIC SYMBOLS

 PAVEMENT	 BASECOURSE	 POORLY GRADED SAND with SILT (SP-SM)	 SILTY SAND (SM)
 CLAYEY SAND (SC)	 SILT		
			

TYPICAL SAMPLER GRAPHIC SYMBOLS

 Standard Penetration Test unlined split spoon	 Bulk sample
 Modified California (2.0-inch ID) with brass liners	

OTHER GRAPHIC SYMBOLS

	Water level measured at time of drilling
	Water level measured after drilling
	Change in material properties within a stratum
	Inferred or transitional contact

GENERAL NOTES

Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.

Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Figure A-1

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-1

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	5.0' measured while drilling	Sampling Method(s)	Bulk, SPT	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmed to surface, asphalt patch	Location	In center of street, in front of 309 Pacific Ave. at 37.77633, -122.28770.		

Elevation feet	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Plasticity Index (PI)	Percent Passing #200 Sieve	REMARKS AND OTHER TESTS
		Type	Number	Sampling Resistance, blows / foot	Recovery, %						
0						6-inch thick ASPHALT with fabric --PAVEMENT-- 12-inch thick Silty Sand with Gravel --BASE COURSE--				Hand Auger 1.5 to 5 Feet	
	1	1				Silty Sand (SM), brown (10YR 4/3), dry; approx. 85% fine-grained sand, approx. 15% no plasticity fines					
5	2	2	17	100		Clayey Sand (SC), medium dense, brown (10YR 4/3) with dark yellowish brown (10YR 4/6) mottles, moist; 71% fine to medium-grained sand, 29% low plasticity fines	19		29	Begin HSA drilling	
10	3	3	28	100		Silty Sand (SM), medium dense, brown (10YR 4/3), wet; approx. 81% fine-grained sand, approx. 19% no plasticity fines	19		19		
15	4	4	37	78		Poorly Graded Sand with Silt (SP-SM), dense, brown (10YR, 4/3), wet; approx. 85%-90% fine to medium- grained sand, approx. 10%-15% no plasticity fines					
						TOTAL DEPTH = 16.5 feet				Grouted with 2 bags (47 lb) cement in approx. 6 gallons water	
20											
25											
30											

Report: GEO_10B1_OAK; File: ALAMEDA CYCLIC 11.GPJ; 10/8/2013 B-1

Figure A-2

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-2

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	10.0' measured while drilling	Sampling Method(s)	Bulk, SPT	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmied to surface, asphalt patch	Location	In center of street, in front of 1041 Lincoln Ave. at 37.77491, -122.26612.		

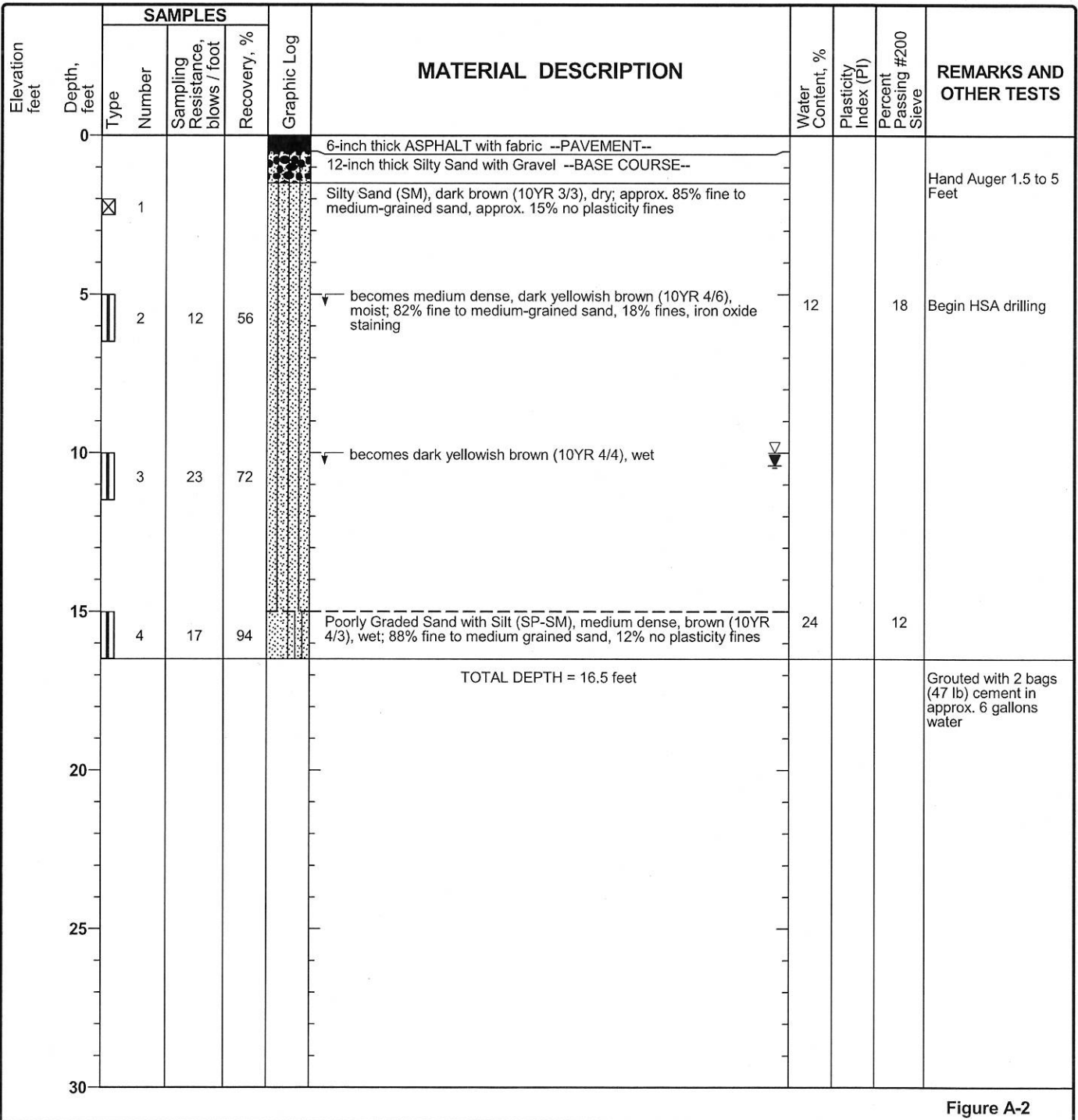


Figure A-2

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-3

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	10.0' measured while drilling	Sampling Method(s)	Bulk, SPT, Modcal	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmed to surface, asphalt patch	Location	In center of street, in front of 1004 Paru St. at 37.76793, -122.26087.		

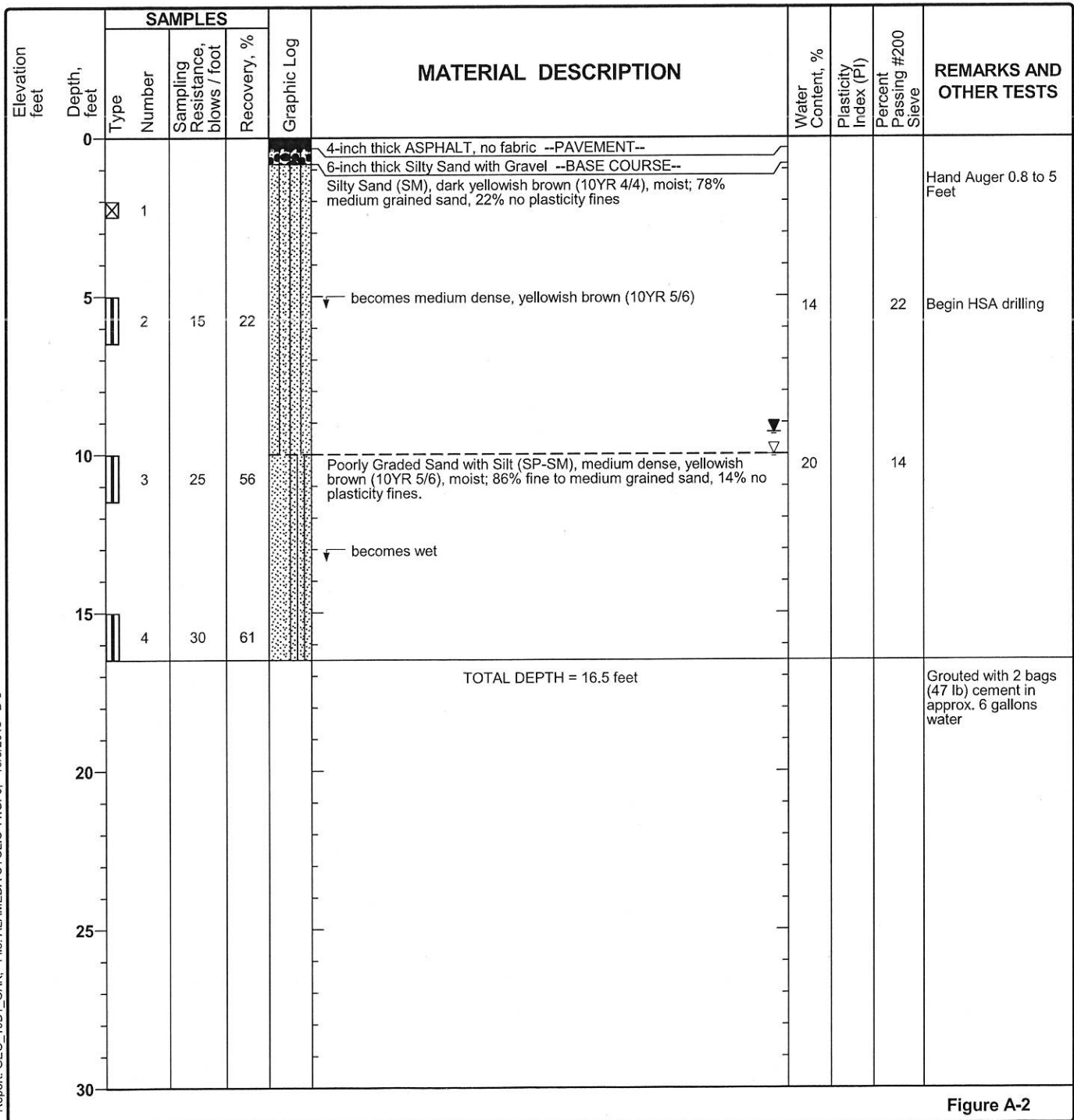


Figure A-2

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-4

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	10.0' measured while drilling	Sampling Method(s)	Bulk, SPT	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmied to surface, asphalt patch	Location	In center of street, in front of 2504 Otis Dr. at 37.75610, -122.24585.		

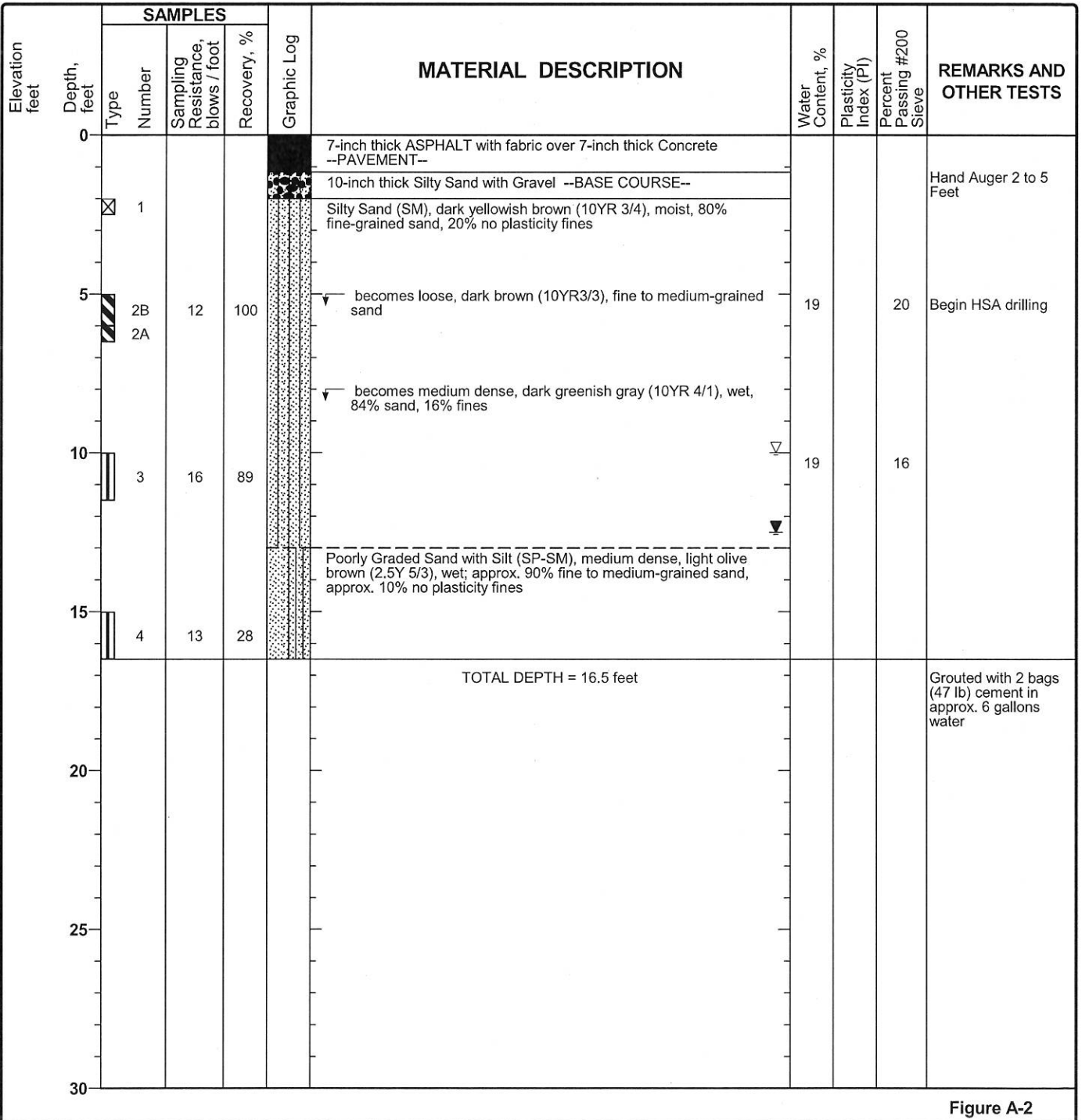


Figure A-2

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-5

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	5.0' measured while drilling	Sampling Method(s)	Bulk, SPT	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmied to surface, asphalt patch	Location	North side of street, in front of 1420 Harbor Bay Pkwy. at 37.72570, -122.23710.		

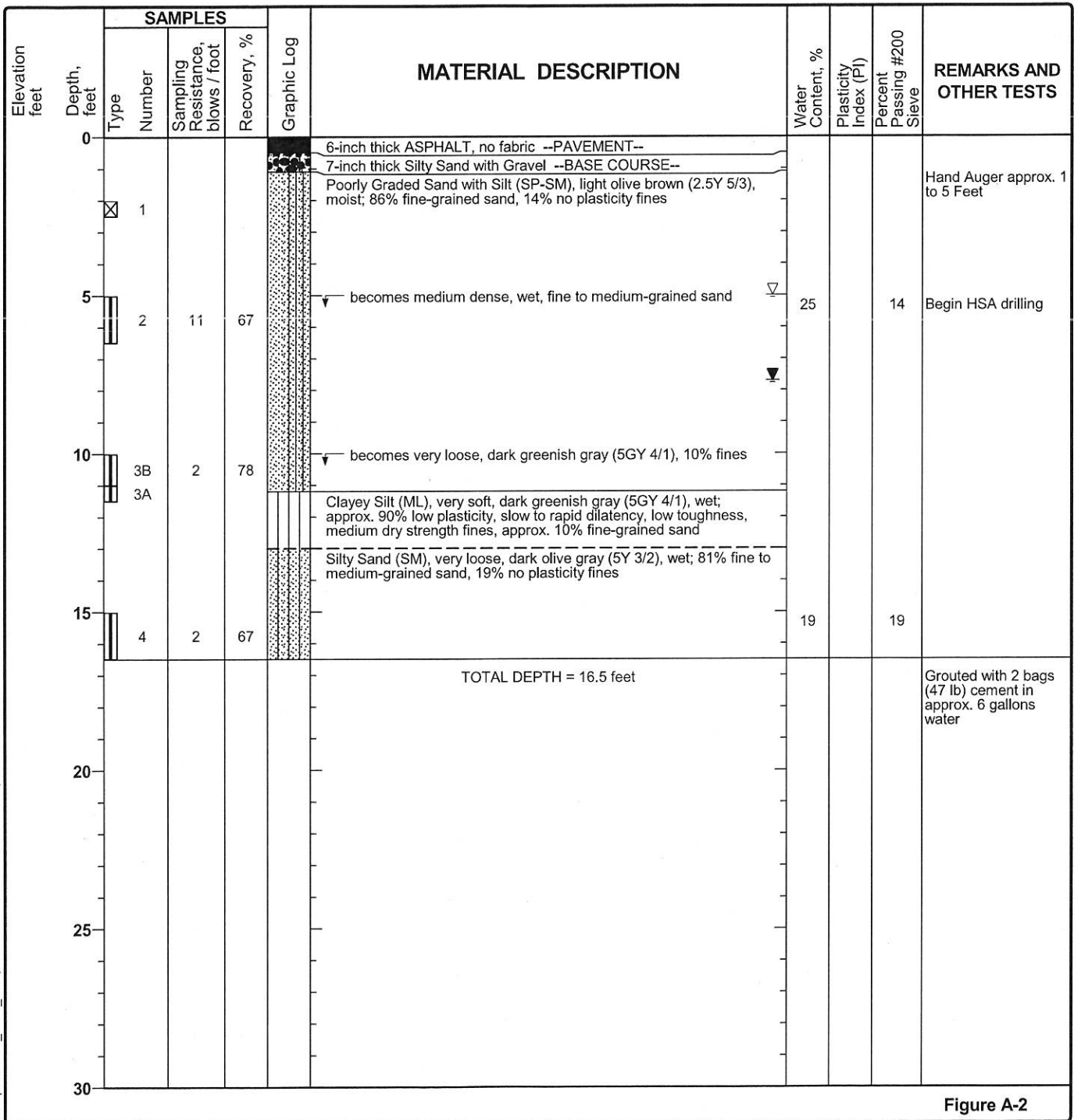


Figure A-2

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-6

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	15.0' measured while drilling	Sampling Method(s)	Bulk, SPT	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmied to surface, asphalt patch	Location	In center of street, in front of 1025 Sherman St. at 37.76620, -122.26366.		

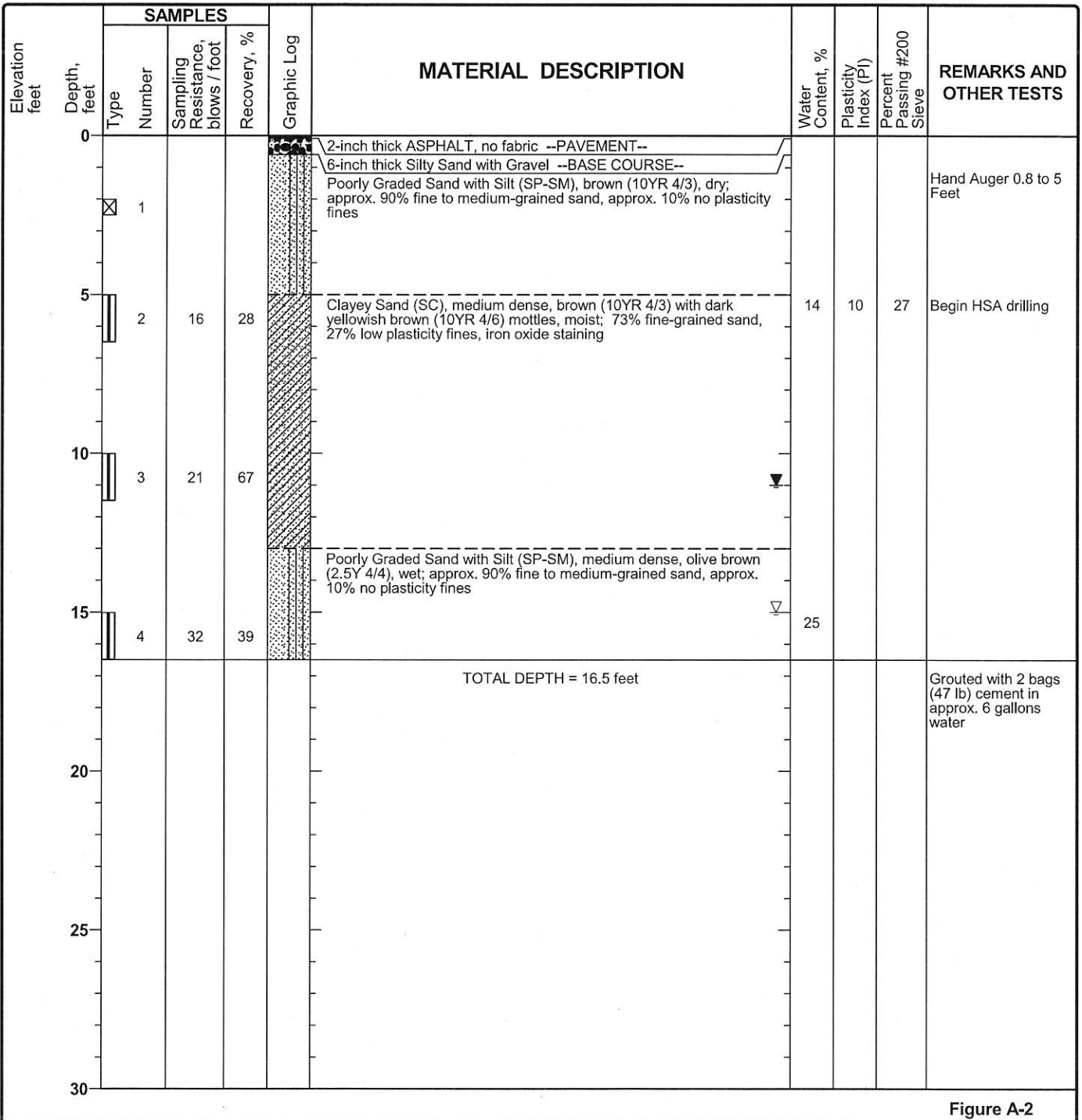


Figure A-2

Project: Cyclic Sewer Replacement, Phase 11

Project Location: Alameda, CA

Project Number: 26818686

Log of Boring B-7

Sheet 1 of 1

Date(s) Drilled	7/17/2013	Logged By	P. Maat	Checked By	S. Janowski
Drilling Method	Hand auger 0 to 5 Ft, HSA thereafter	Drill Bit Size/Type	8-in OD HSA	Total Depth of Borehole	16.5 feet
Drill Rig Type	Mobil B-40 Truck	Drilling Contractor	Exploration Geoservices	Surface Elevation	Approx. 6 Feet (NAVD 88)
Groundwater Level(s)	10.0' measured while drilling	Sampling Method(s)	Bulk, SPT	Hammer Data	Safety hammer; 140 lbs, 30-inch drop
Borehole Backfill	Neat cement grout tremmied to surface, asphalt patch	Location	In center of street, in front of 1244 St. Charles St. at 37.76822, -122.26611		

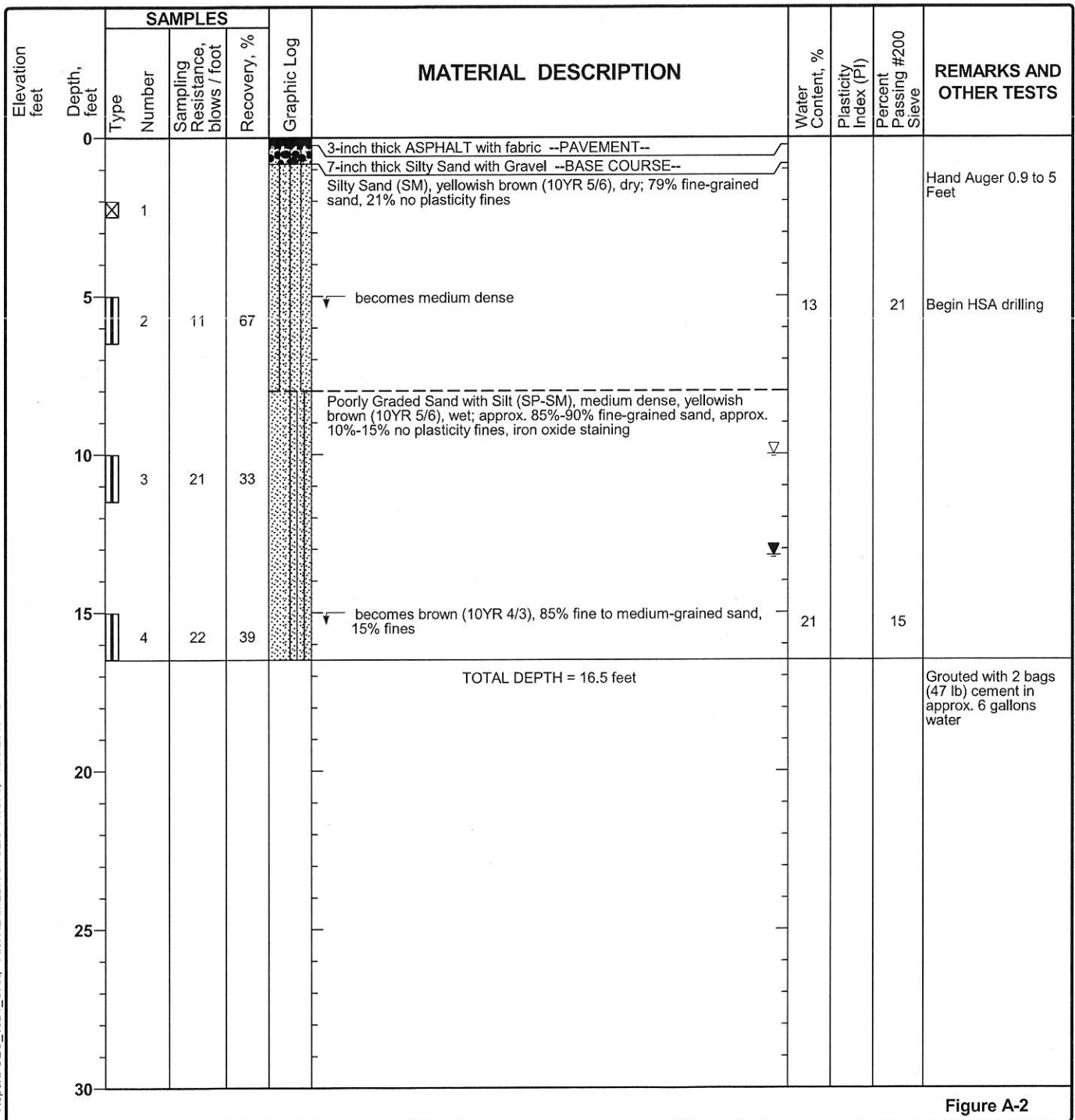


Figure A-2

Report: GEO_10B1_OAK; File: ALAMEDA CYCLIC 11.GPJ; 10/8/2013 B-7

Appendix B
Cone Penetration Tests (CPTs) Results



GREGG DRILLING & TESTING, INC.
GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

July 3, 2013

URS
Attn: Tim Wong

Subject: CPT Site Investigation
City of Alameda
Alameda, California
GREGG Project Number: 13-111MA

Dear Mr. Wong:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	<input checked="" type="checkbox"/>
2	Pore Pressure Dissipation Tests	(PPD)	<input checked="" type="checkbox"/>
3	Seismic Cone Penetration Tests	(SCPTU)	<input type="checkbox"/>
4	UVOST Laser Induced Fluorescence	(UVOST)	<input type="checkbox"/>
5	Groundwater Sampling	(GWS)	<input type="checkbox"/>
6	Soil Sampling	(SS)	<input type="checkbox"/>
7	Vapor Sampling	(VS)	<input type="checkbox"/>
8	Pressuremeter Testing	(PMT)	<input type="checkbox"/>
9	Vane Shear Testing	(VST)	<input type="checkbox"/>
10	Dilatometer Testing	(DMT)	<input type="checkbox"/>

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely,
GREGG Drilling & Testing, Inc.

Mary Walden
Operations Manager



GREGG DRILLING & TESTING, INC.
GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (feet)	Depth of Groundwater Samples (feet)	Depth of Soil Samples (feet)	Depth of Pore Pressure Dissipation Tests (feet)
CPT-01	7/02/13	15	-	-	15.3
CPT-02	7/02/13	15	-	-	15.1
CPT-03	7/02/13	15	-	-	15.1
CPT-04	7/02/13	15	-	-	15.1
CPT-05	7/01/13	15	-	-	15.1
CPT-06	7/02/13	15	-	-	15.3
CPT-07	7/02/13	15	-	-	15.1
CPT-08	7/02/13	15	-	-	15.1
CPT-09	7/01/13	15	-	-	15.1
CPT-10	7/01/13	15	-	-	15.1
CPT-11	7/01/13	15	-	-	15.1
CPT-12	7/01/13	15	-	-	15.3



Bibliography

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Copies of ASTM Standards are available through www.astm.org



Cone Penetration Testing Procedure (CPT)

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*. The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm² and a friction sleeve area of 225 cm². The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.80.

The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and penetration pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2007) ASTM standards (D 5778-07).

The cone also contains a porous filter element located directly behind the cone tip (u_2). It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain penetration pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with oil under vacuum pressure to ensure accurate and fast dissipation.

The cone has the following accuracy:
1 tsf for q_c , 0.02 tsf for f_s and 0.5 psi for u_2 . In soft clays, a lower capacity cone should be used for improved accuracy.

When the soundings are complete, the test holes are grouted. The grouting procedures generally consist of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

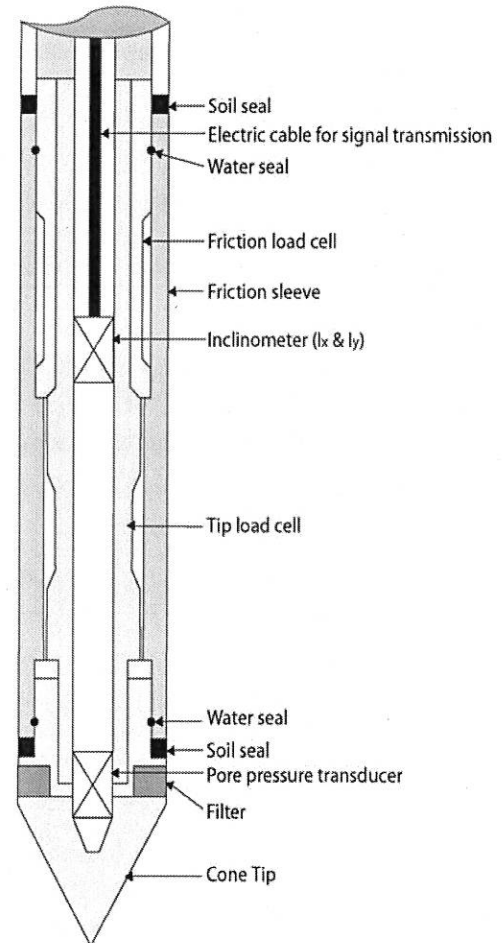
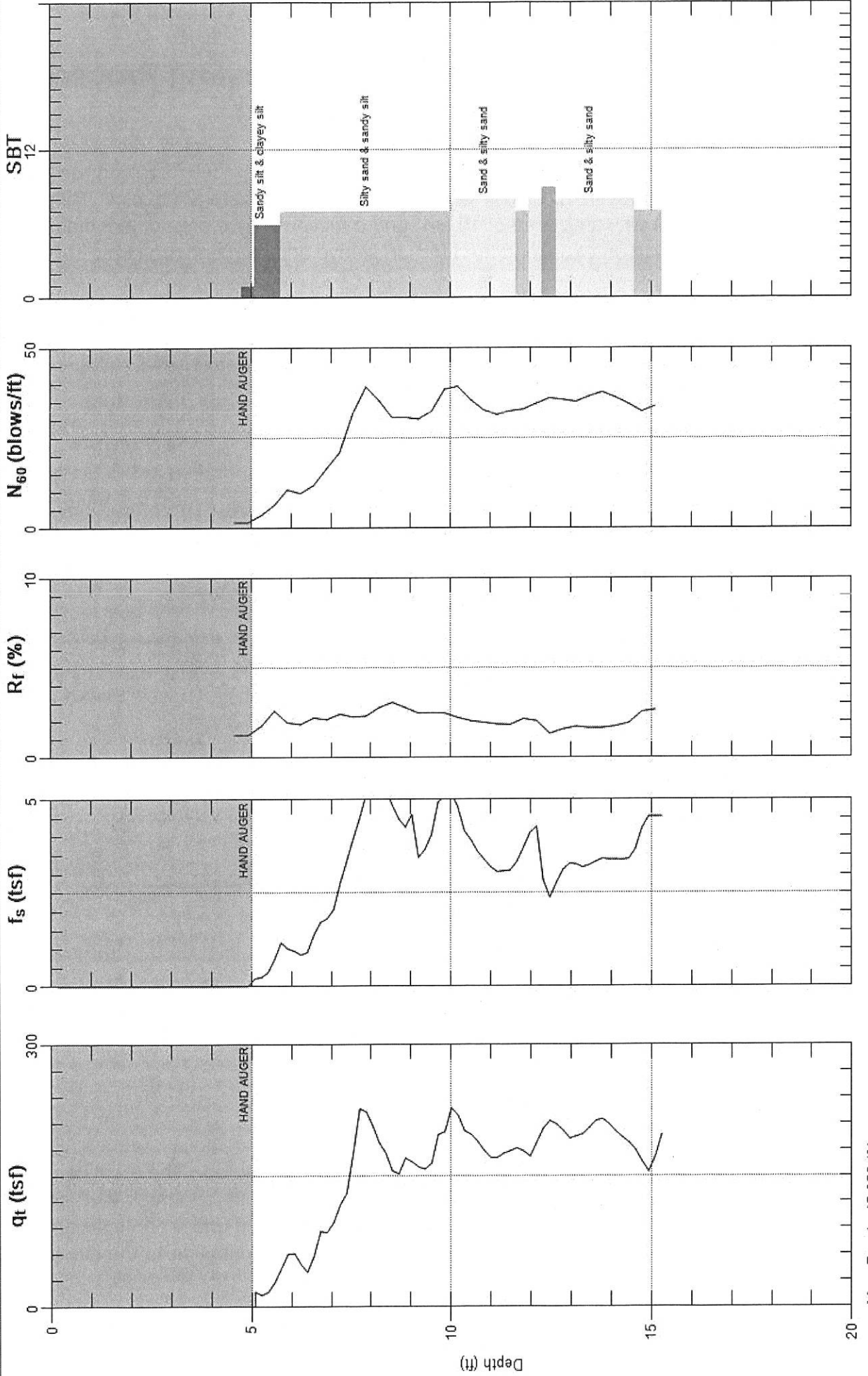


Figure CPT



Site: CITY OF ALAMEDA
Sounding: CPT-01

Engineer: P.MAAT
Date: 7/2/2013 07:53



Max. Depth: 15.256 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



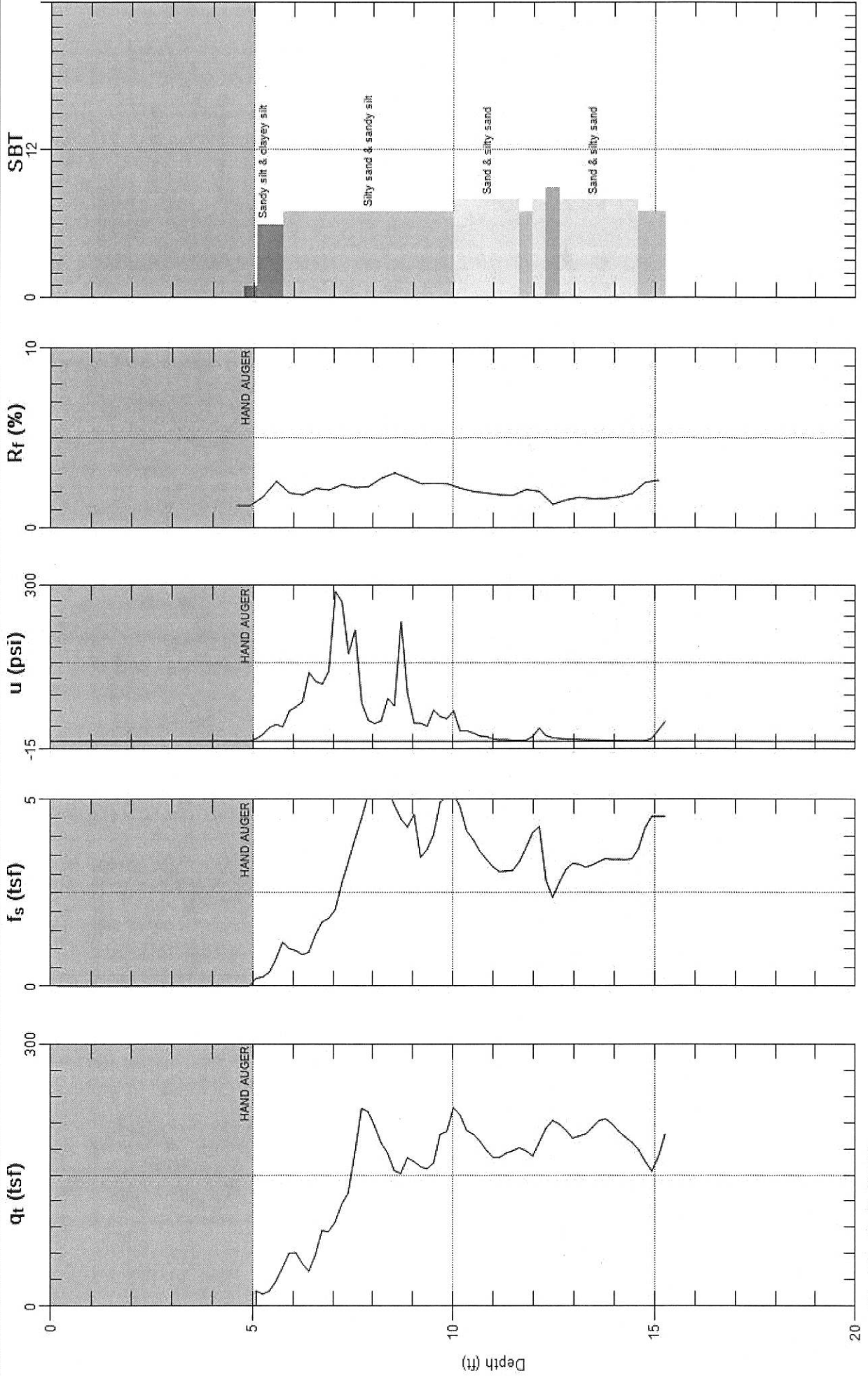
URS

Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-01

Date: 7/2/2013 07:53

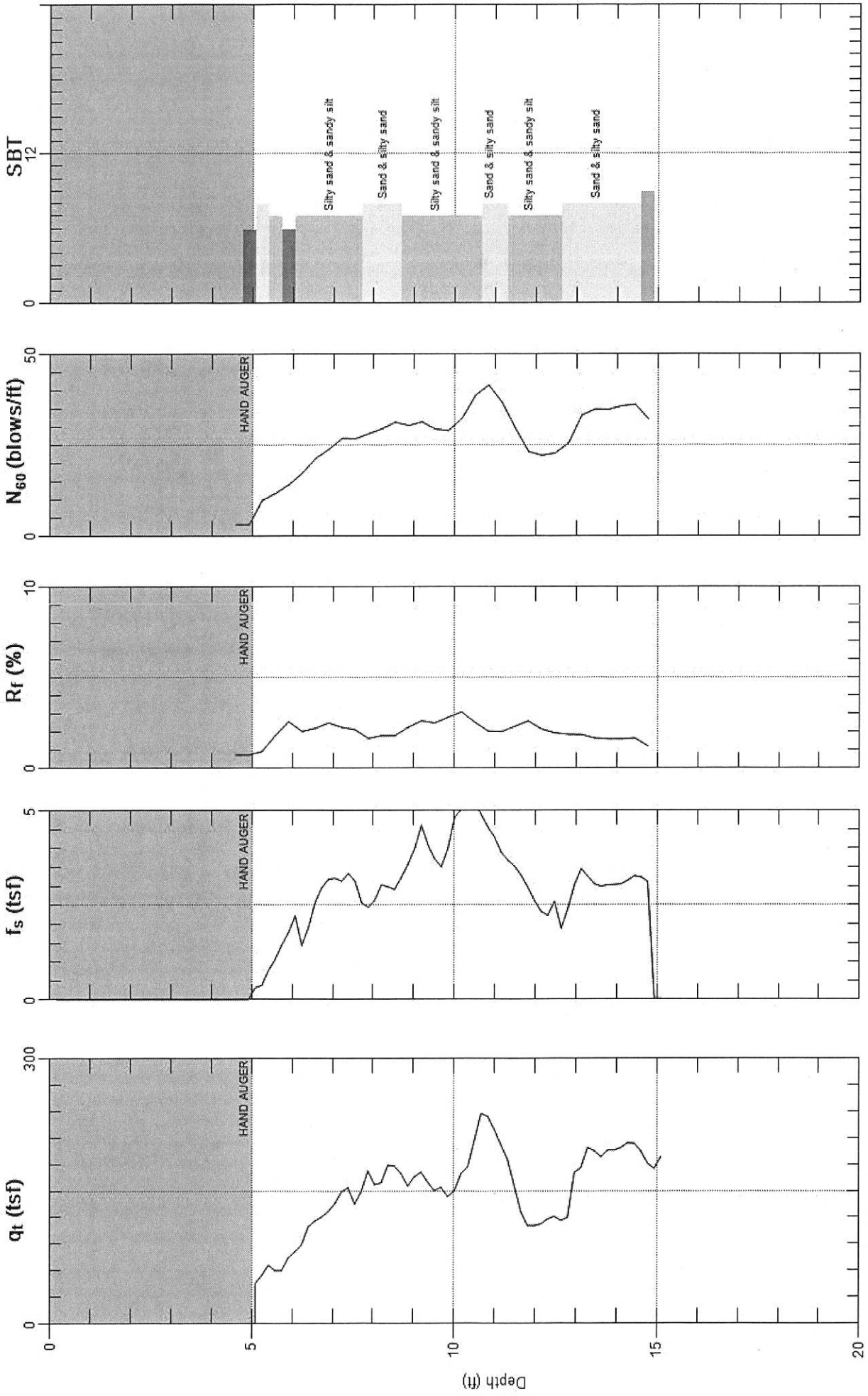


Max. Depth: 15.256 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-02
Engineer: P.MAAT
Date: 7/2/2013 09:11



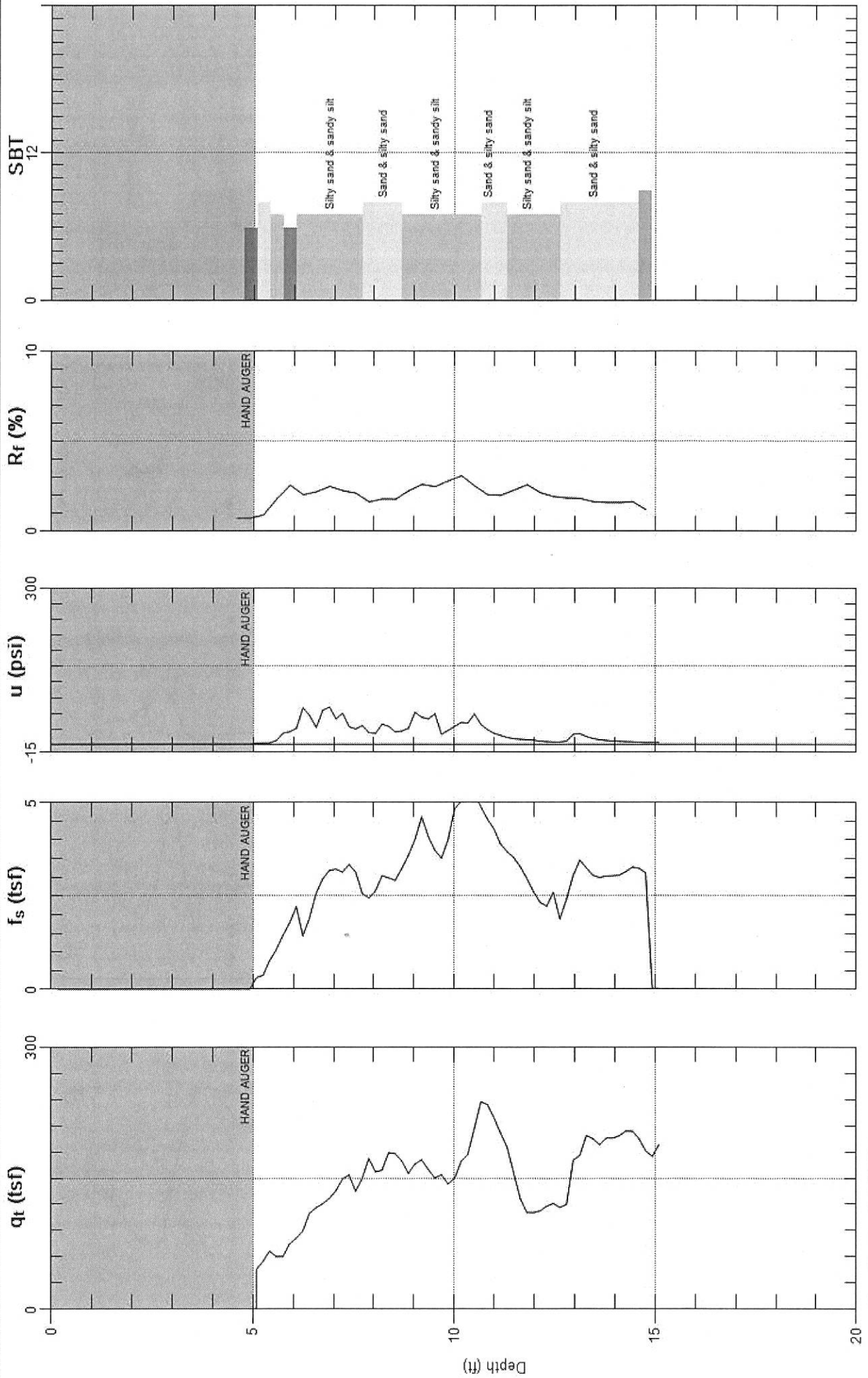
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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-02

Engineer: P.MAAT
Date: 7/2/2013 09:11



Max. Depth: 15.092 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



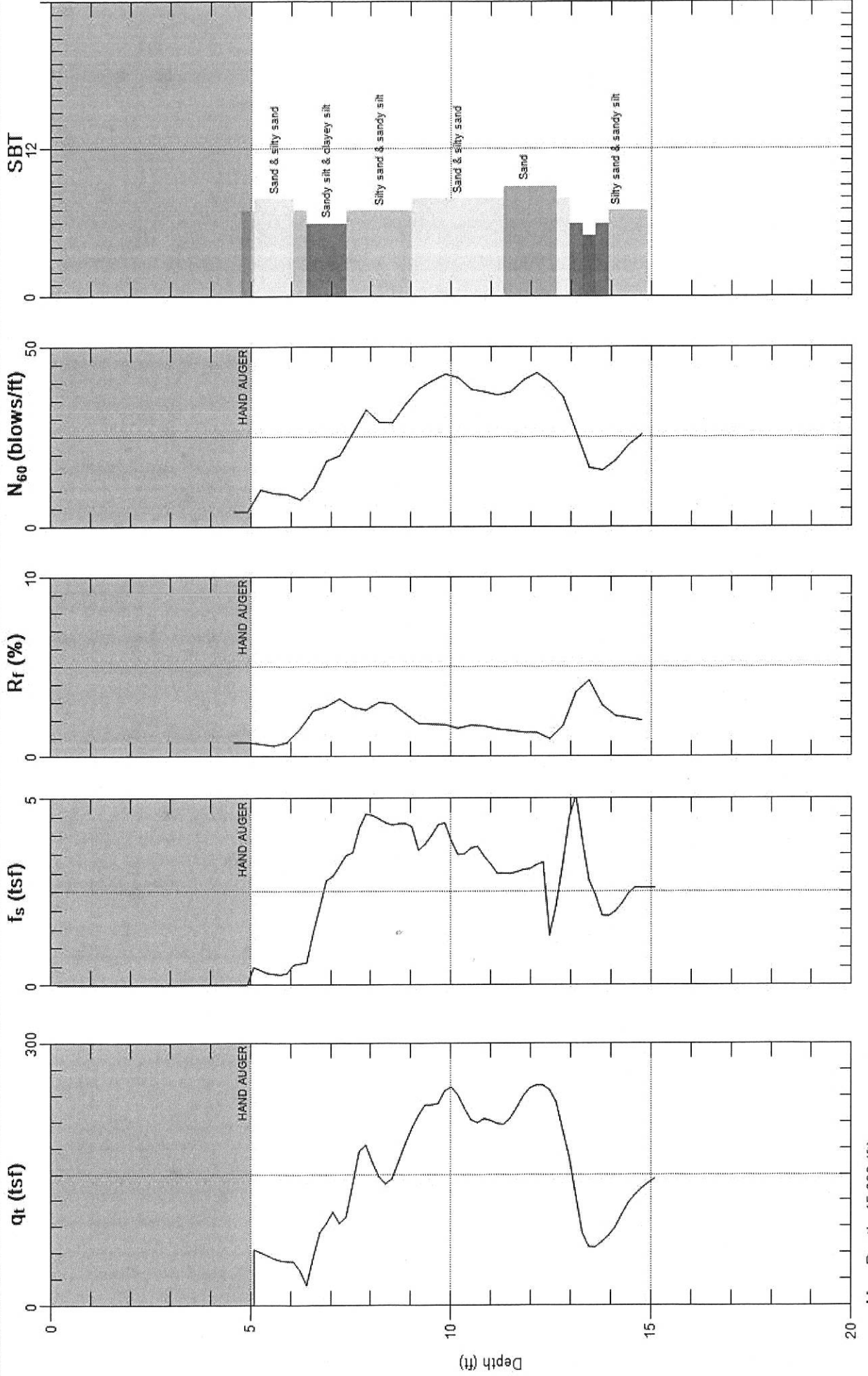
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Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-03

Date: 7/2/2013 10:07



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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



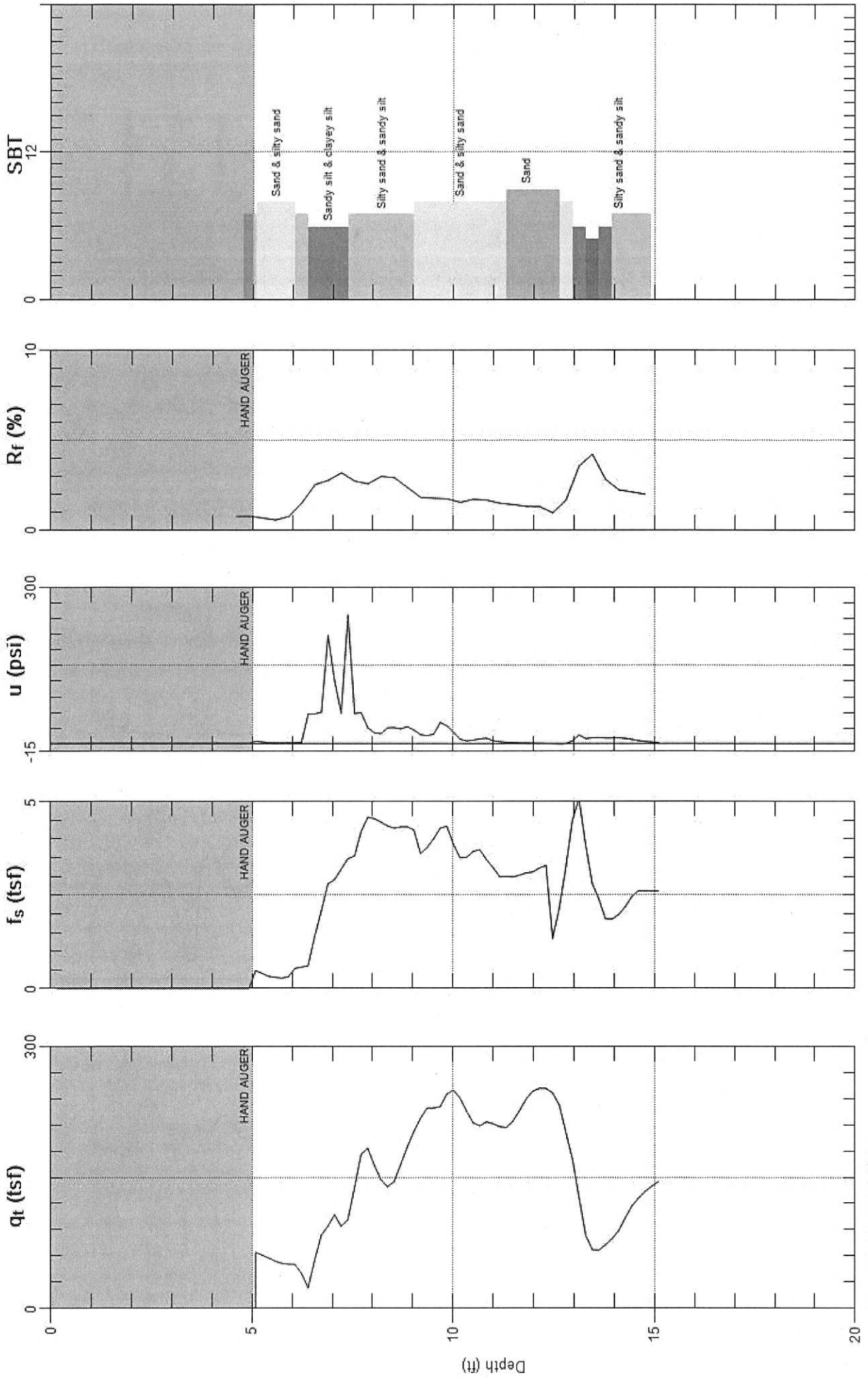
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Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-03

Date: 7/2/2013 10:07



Max. Depth: 15.092 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



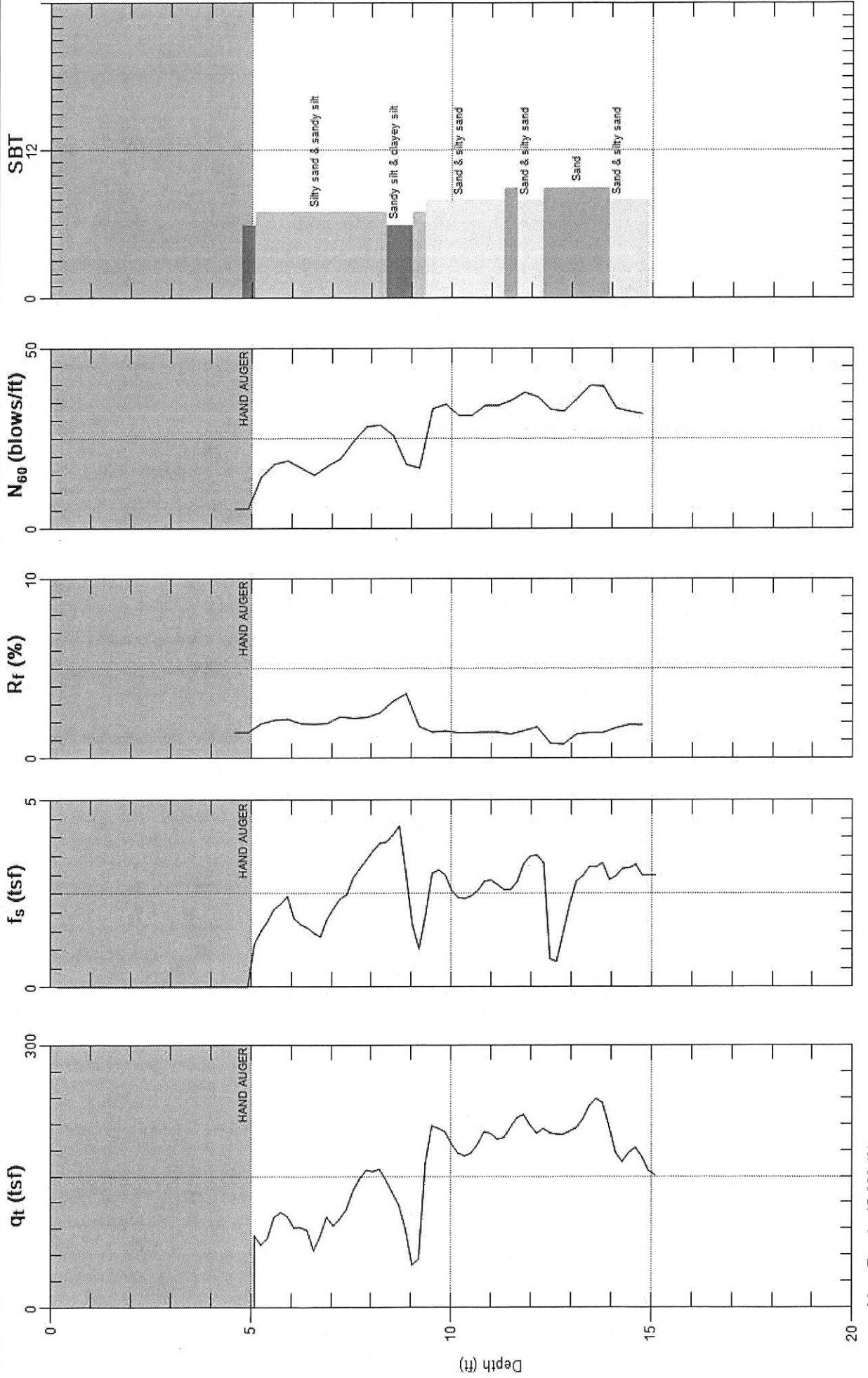
URS

Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-04

Date: 7/2/2013 03:40



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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



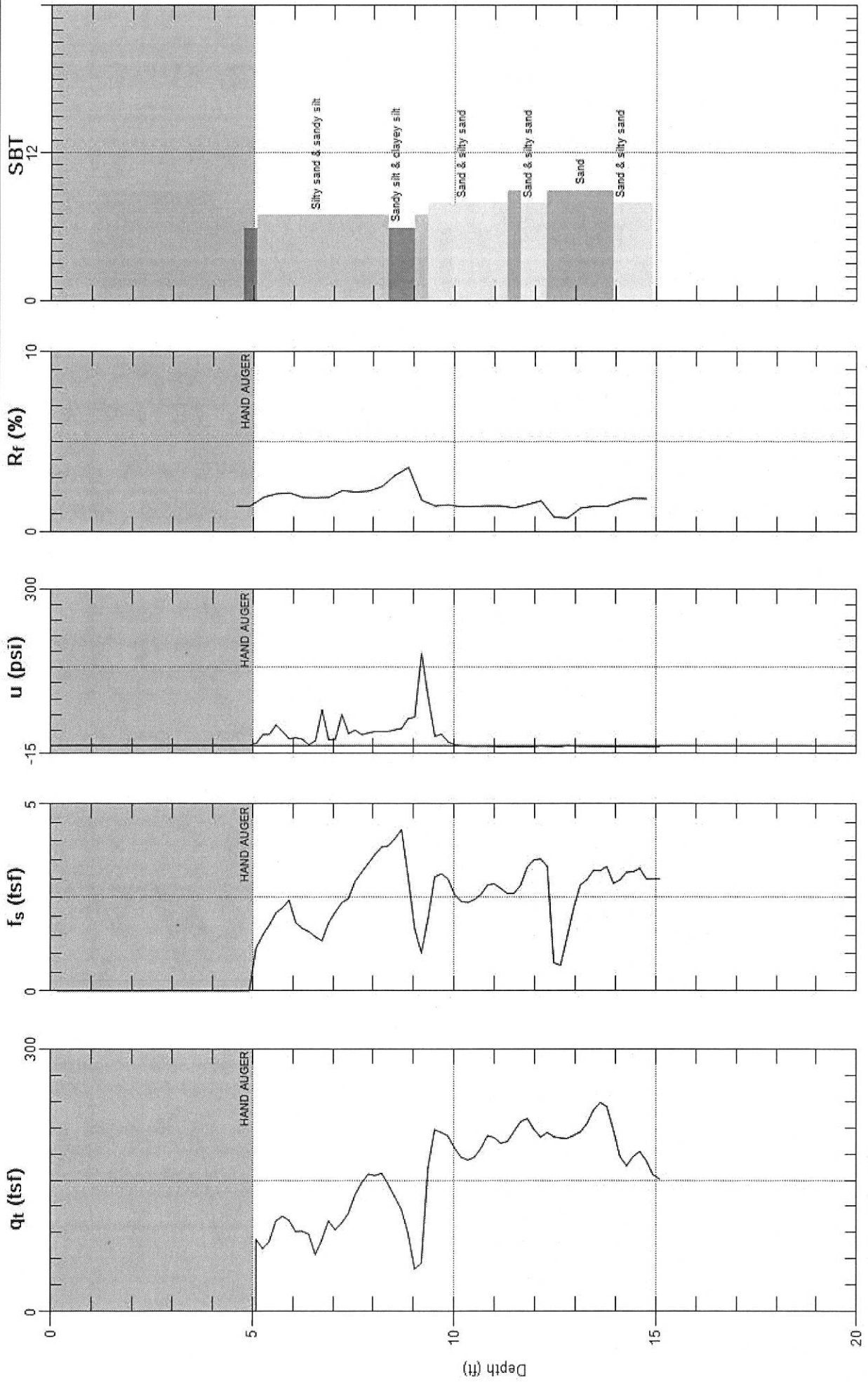
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Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-04

Date: 7/2/2013 03:40



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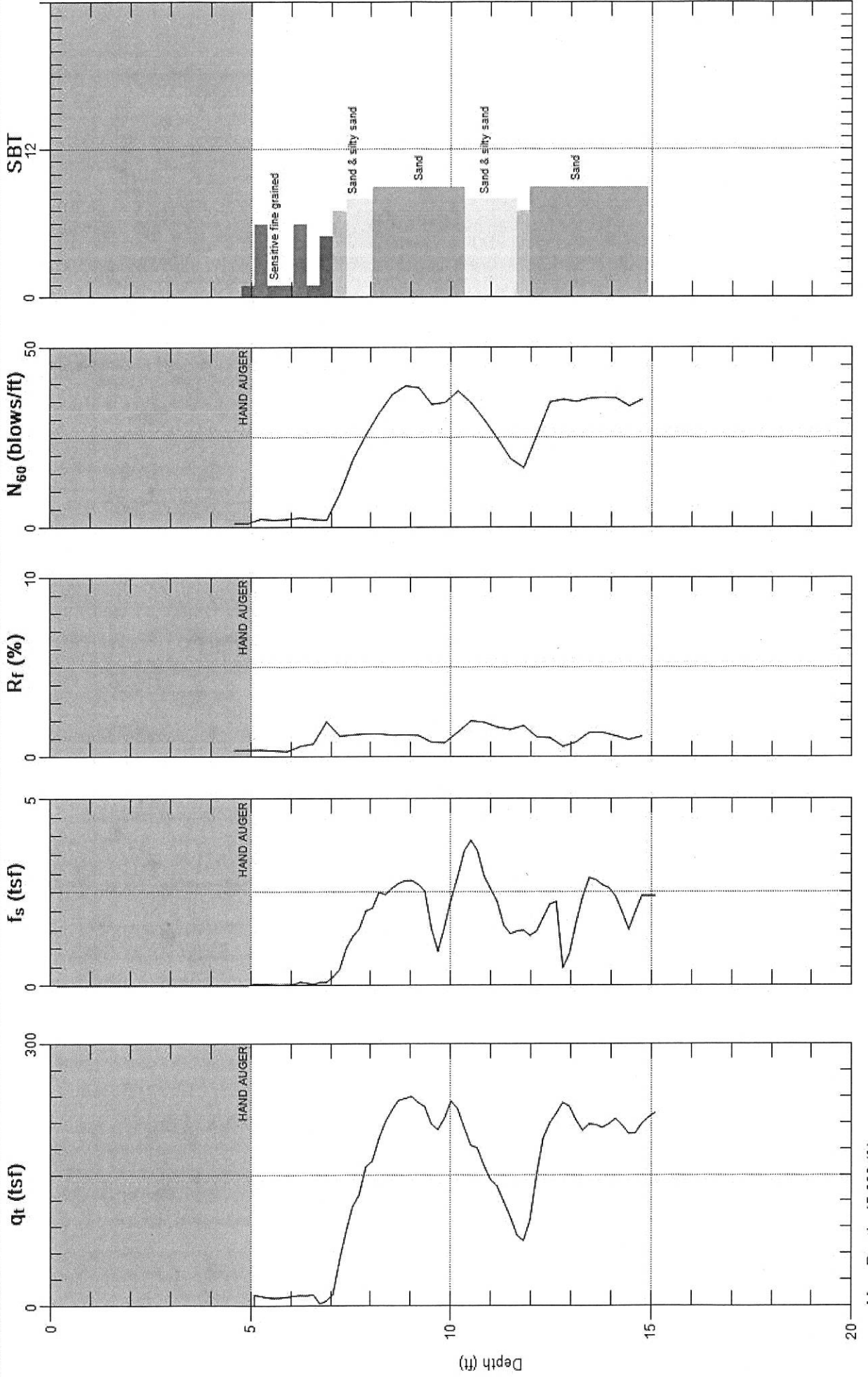
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Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-05

Date: 7/1/2013 10:17



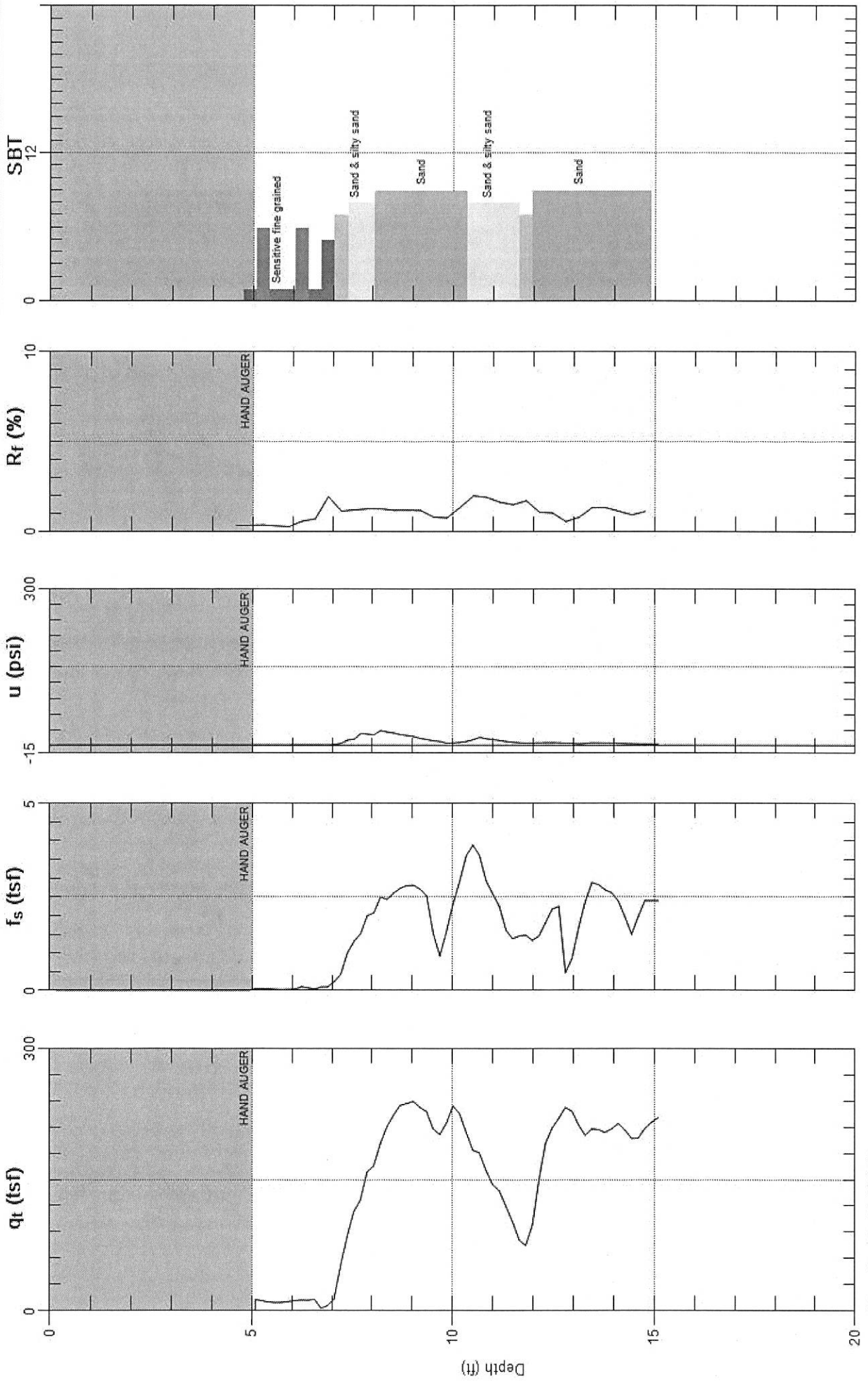
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Engineer: P.MAAT
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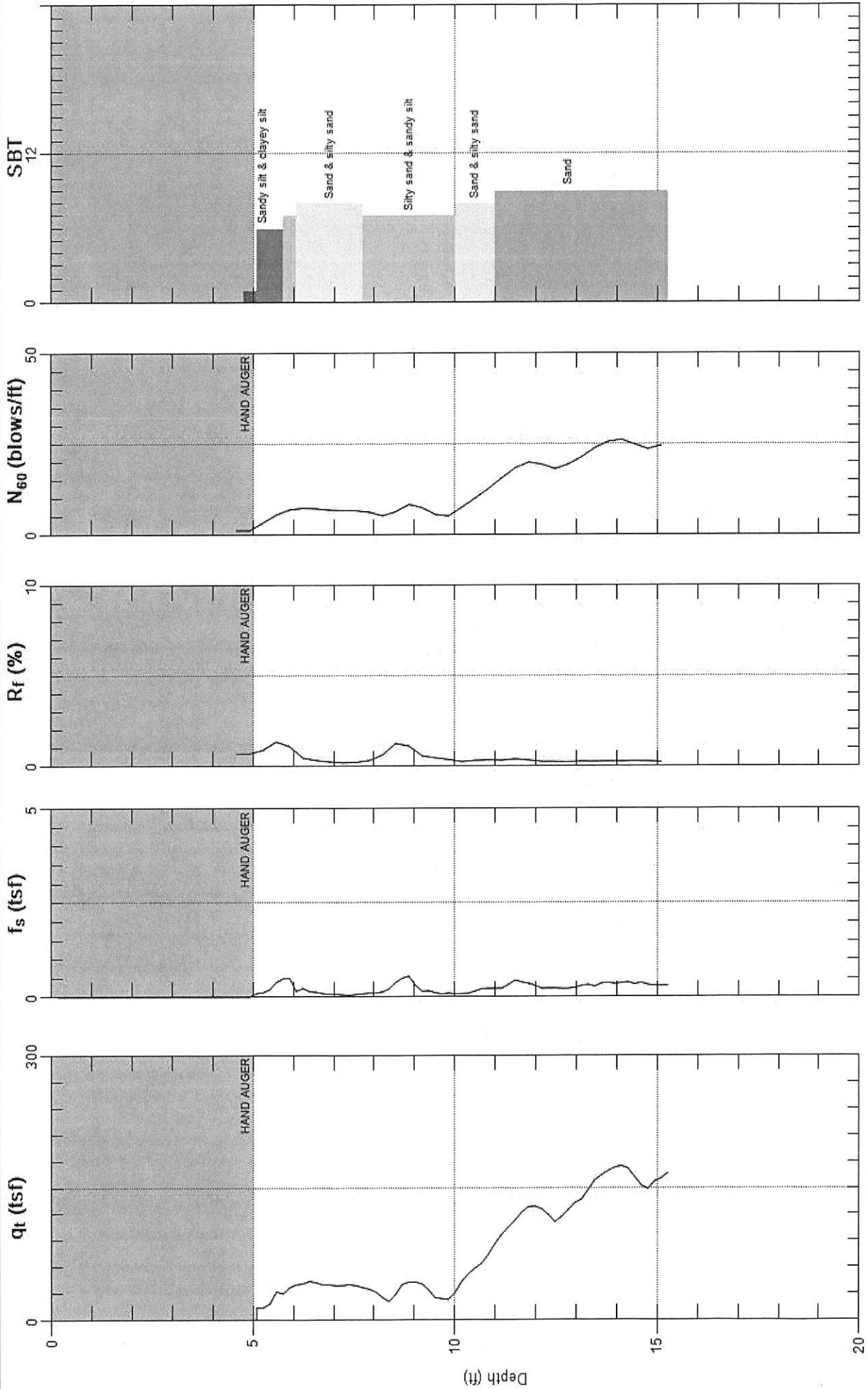


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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



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Sounding: CPT-06
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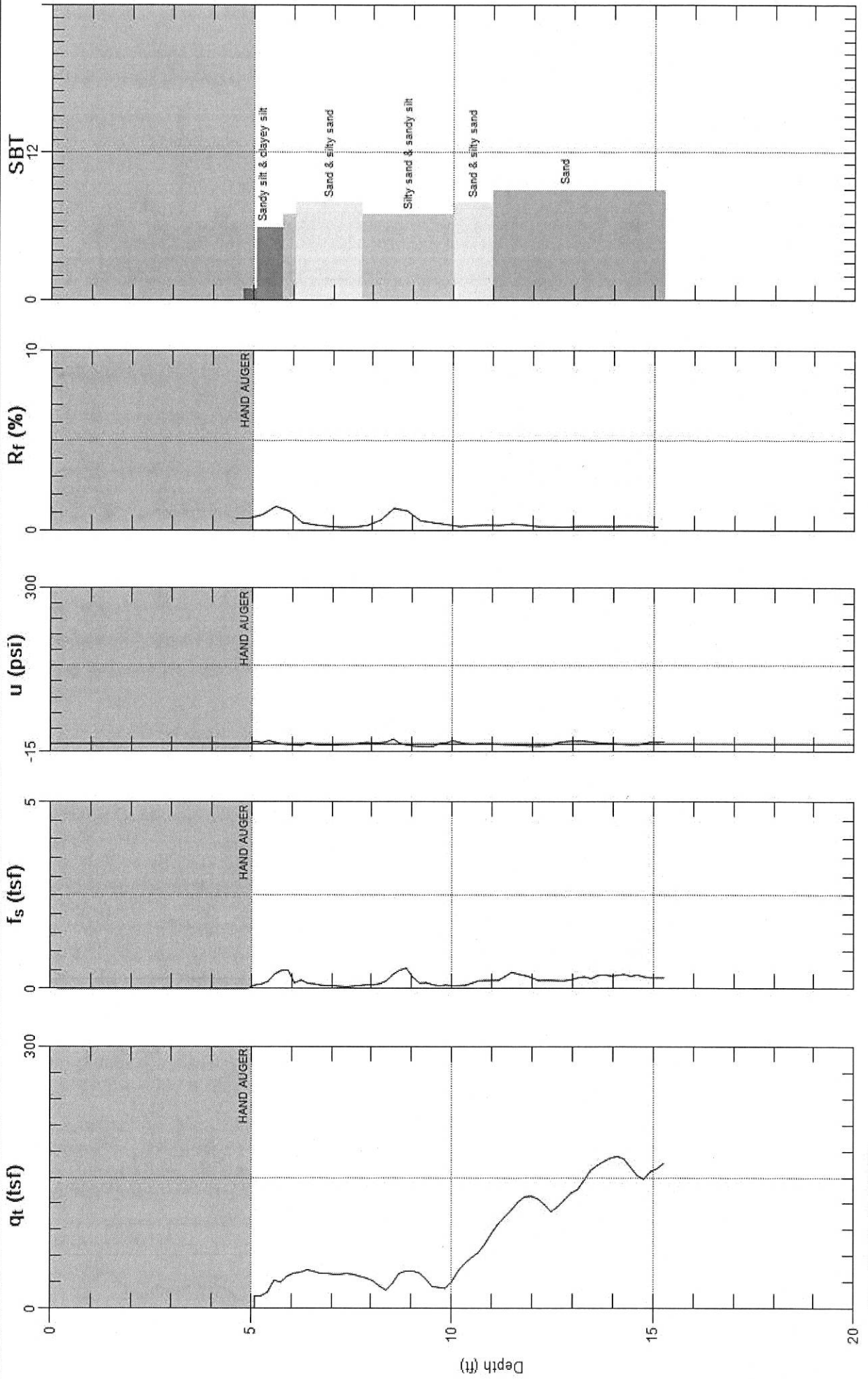


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Avg. Interval: 0.328 (ft)
SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-06

Engineer: P.MAAT
Date: 7/2/2013 02:36



Max. Depth: 15.256 (ft)
Avg. Interval: 0.328 (ft)

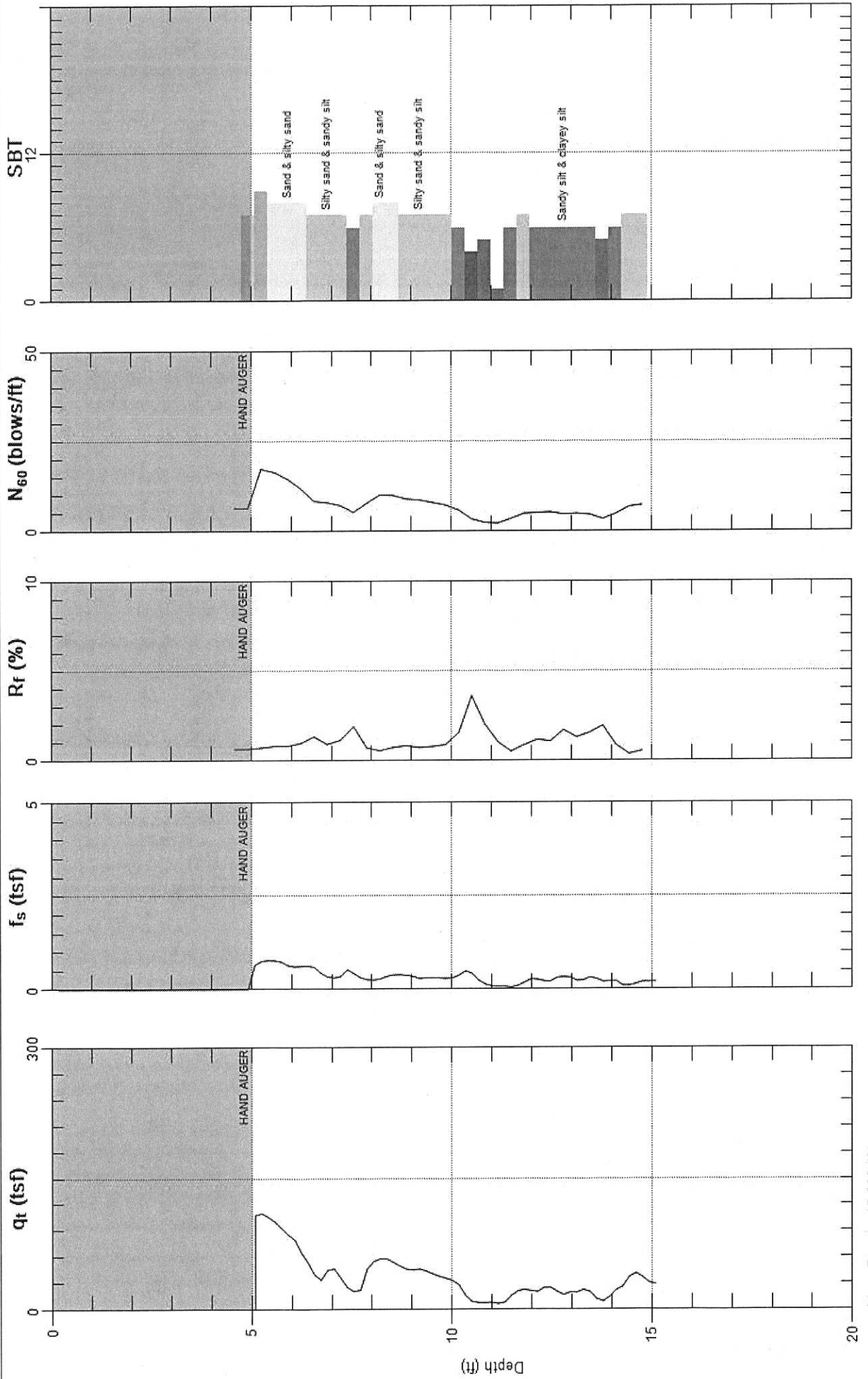
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URS

Site: CITY OF ALAMEDA
Sounding: CPT-07

Engineer: P.MAAT
Date: 7/2/2013 01:18



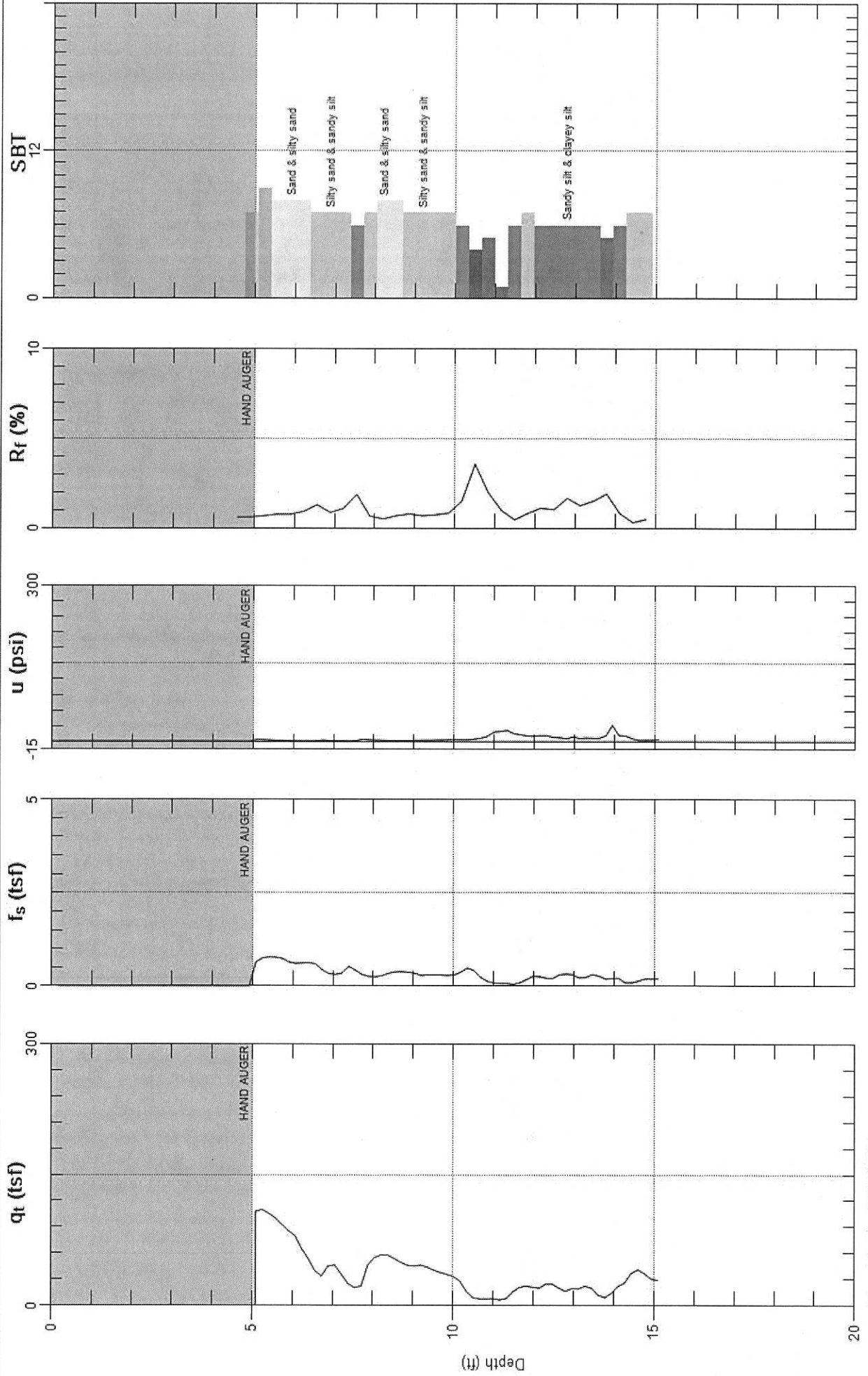
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Avg. Interval: 0.328 (ft)

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Site: CITY OF ALAMEDA
Sounding: CPT-07

Engineer: P.MAAT
Date: 7/2/2013 01:18



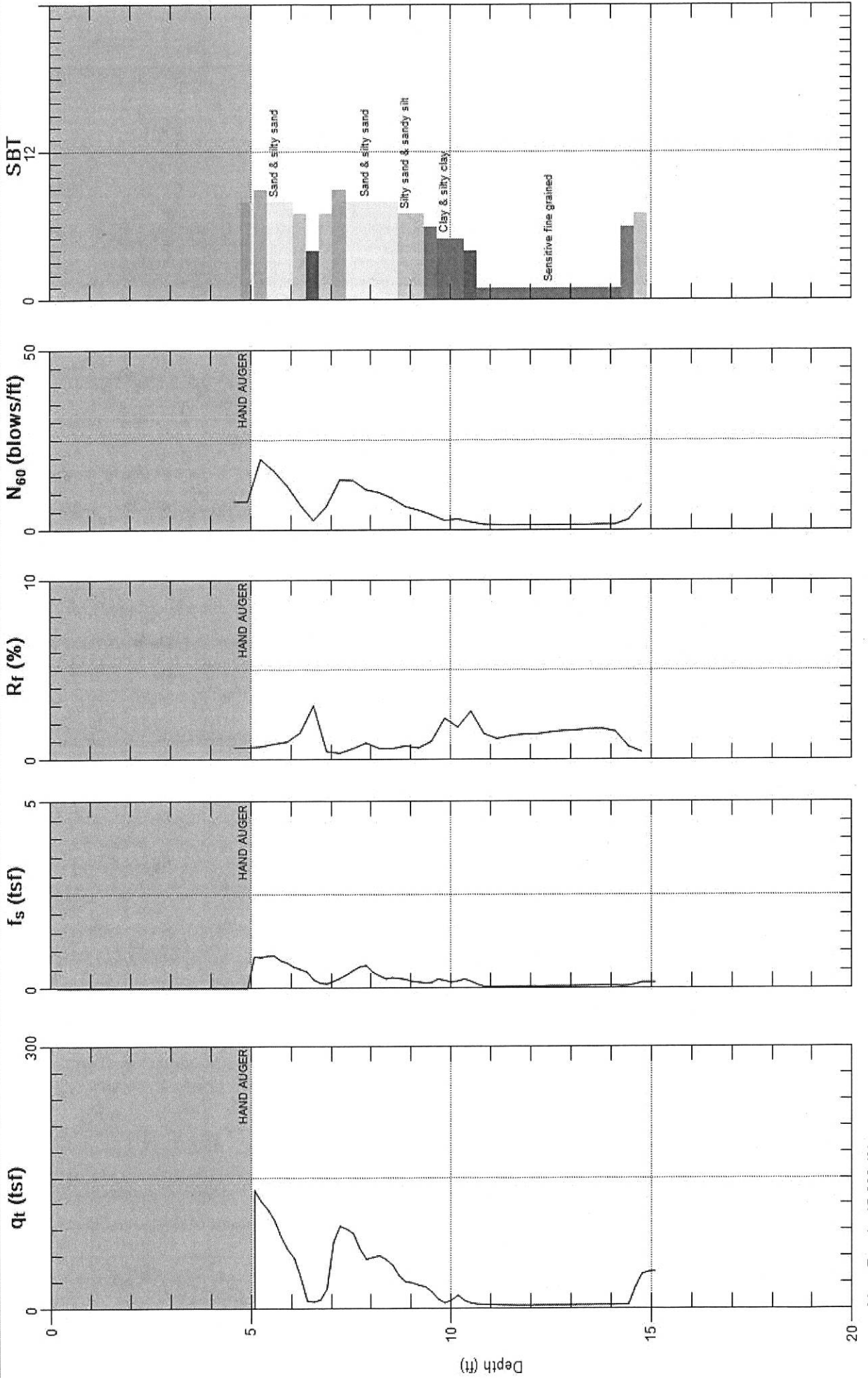
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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-08

Engineer: P.MAAT
Date: 7/2/2013 11:54



Max. Depth: 15.092 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



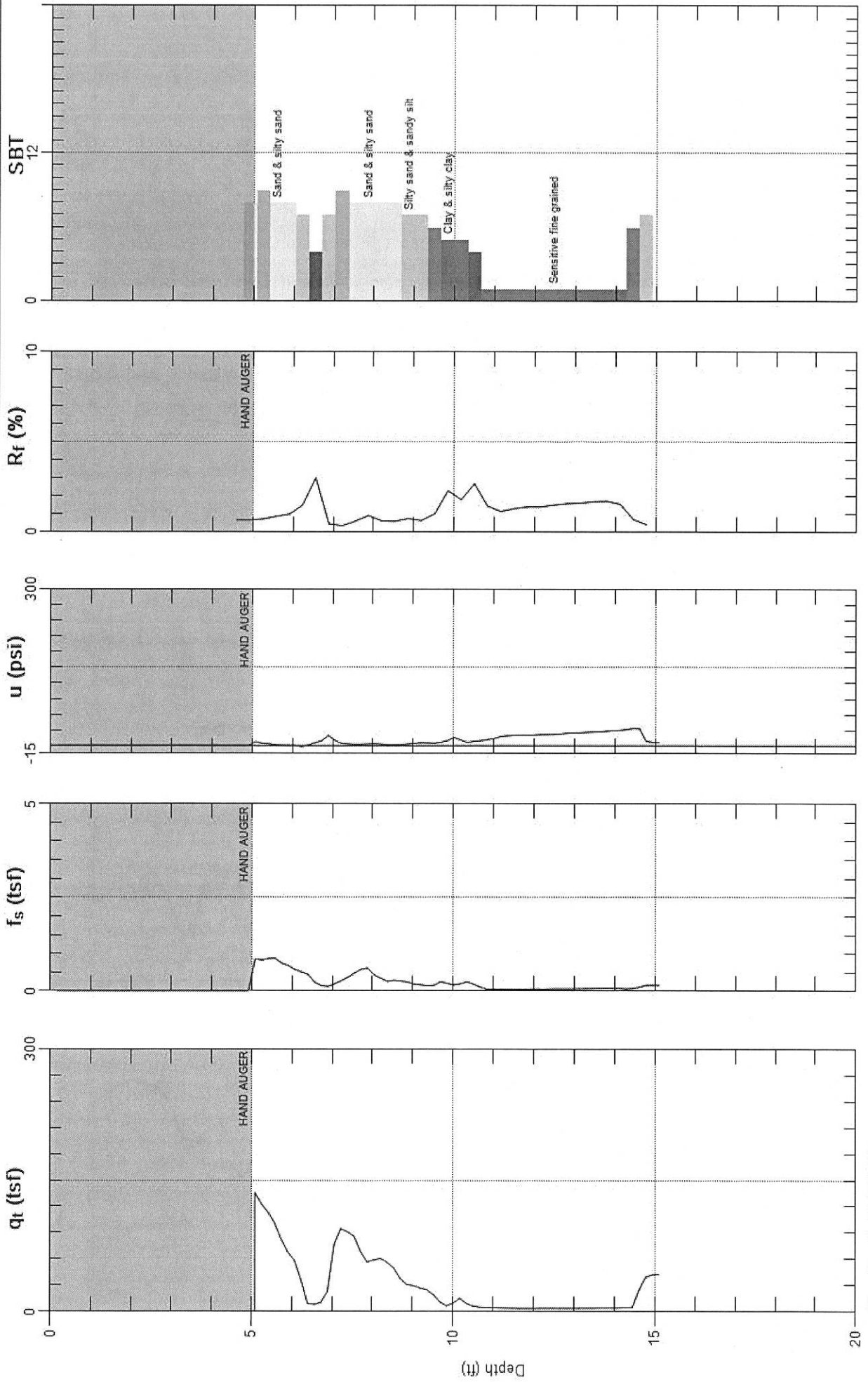
URS

Site: CITY OF ALAMEDA

Engineer: P.MAAT

Sounding: CPT-08

Date: 7/2/2013 11:54



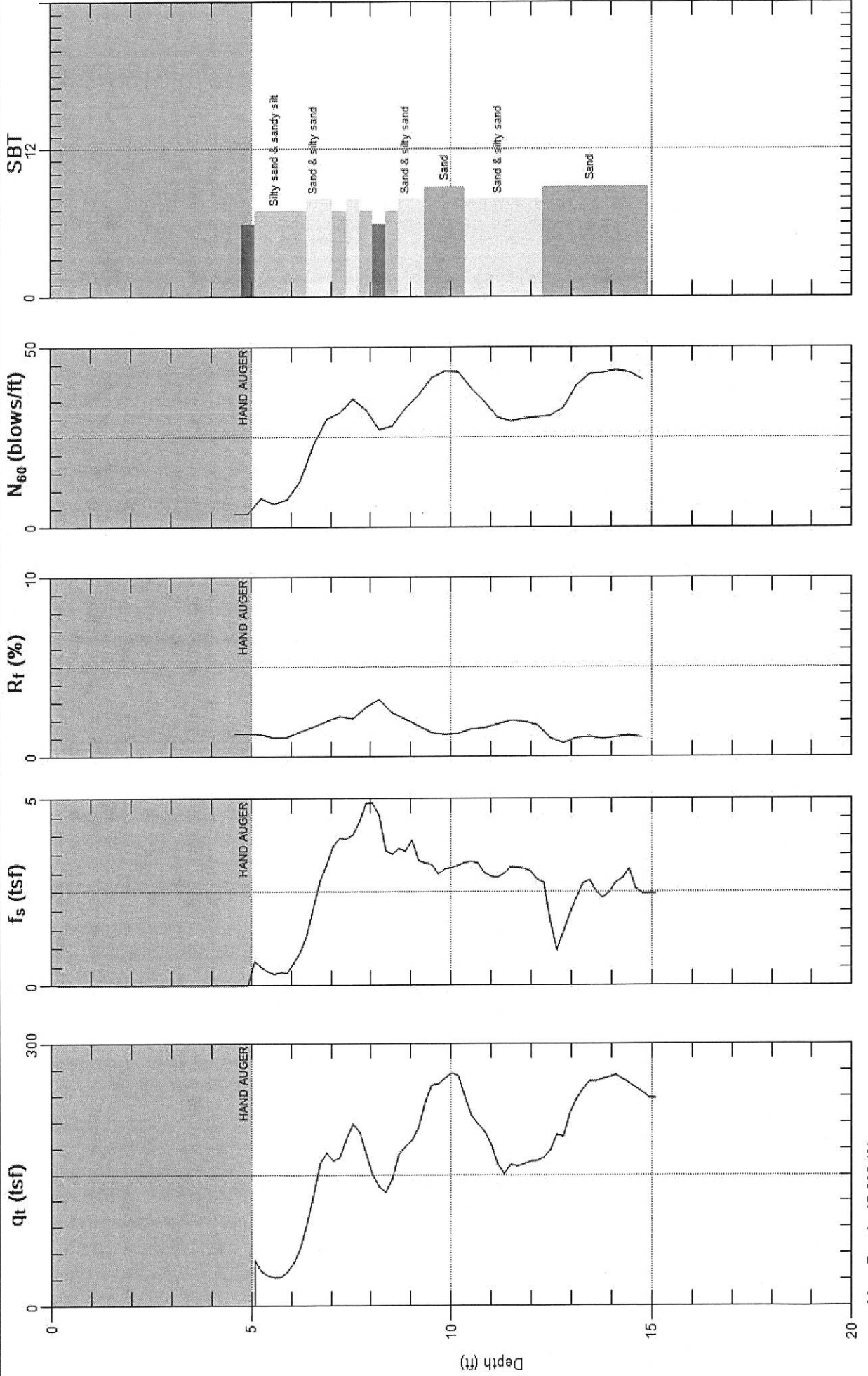
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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-09

Engineer: P.MAAT
Date: 7/1/2013 11:48



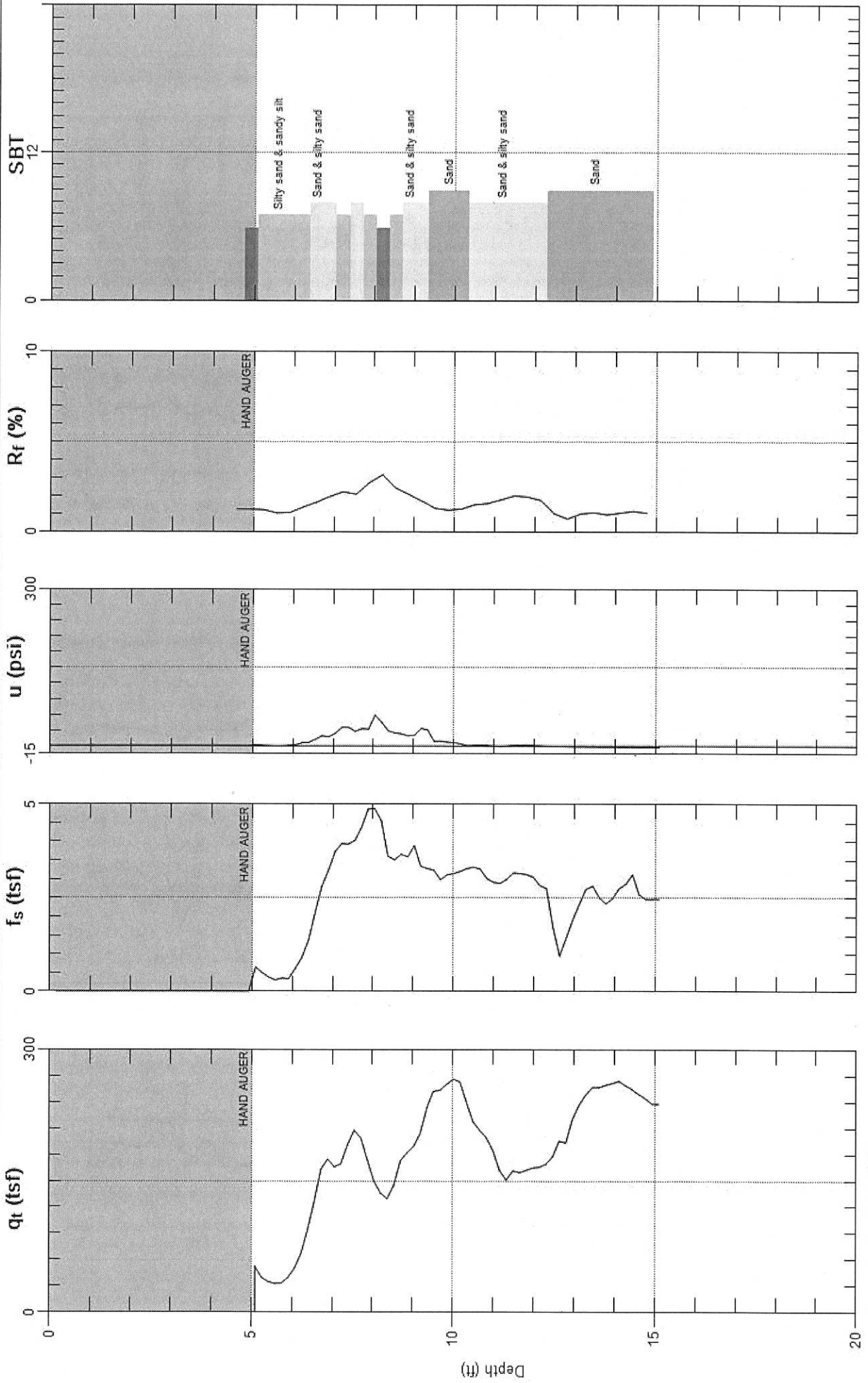
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SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-09

Engineer: P.MAAT
Date: 7/1/2013 11:48



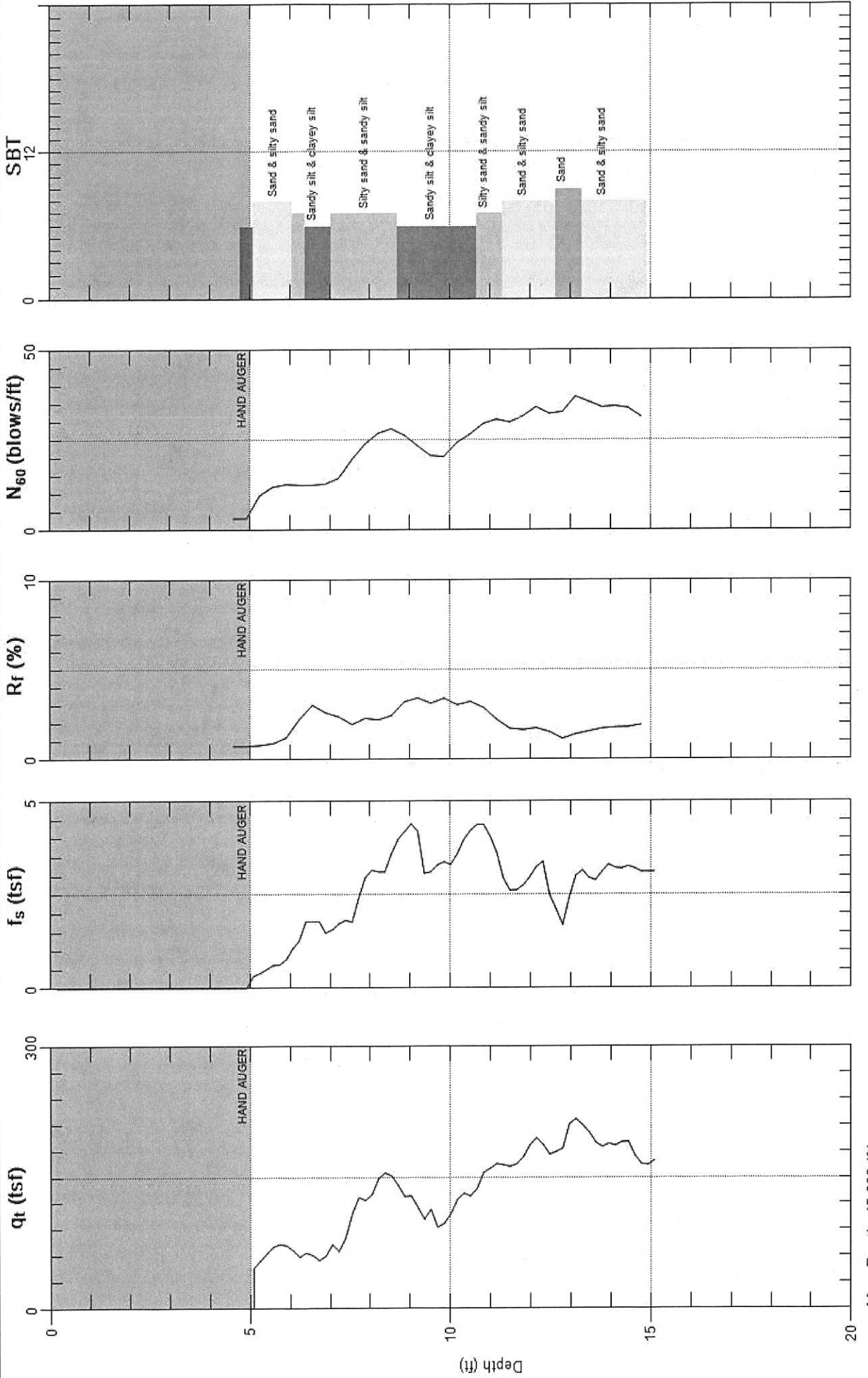
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SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-10

Engineer: P.MAAT
Date: 7/1/2013 02:45



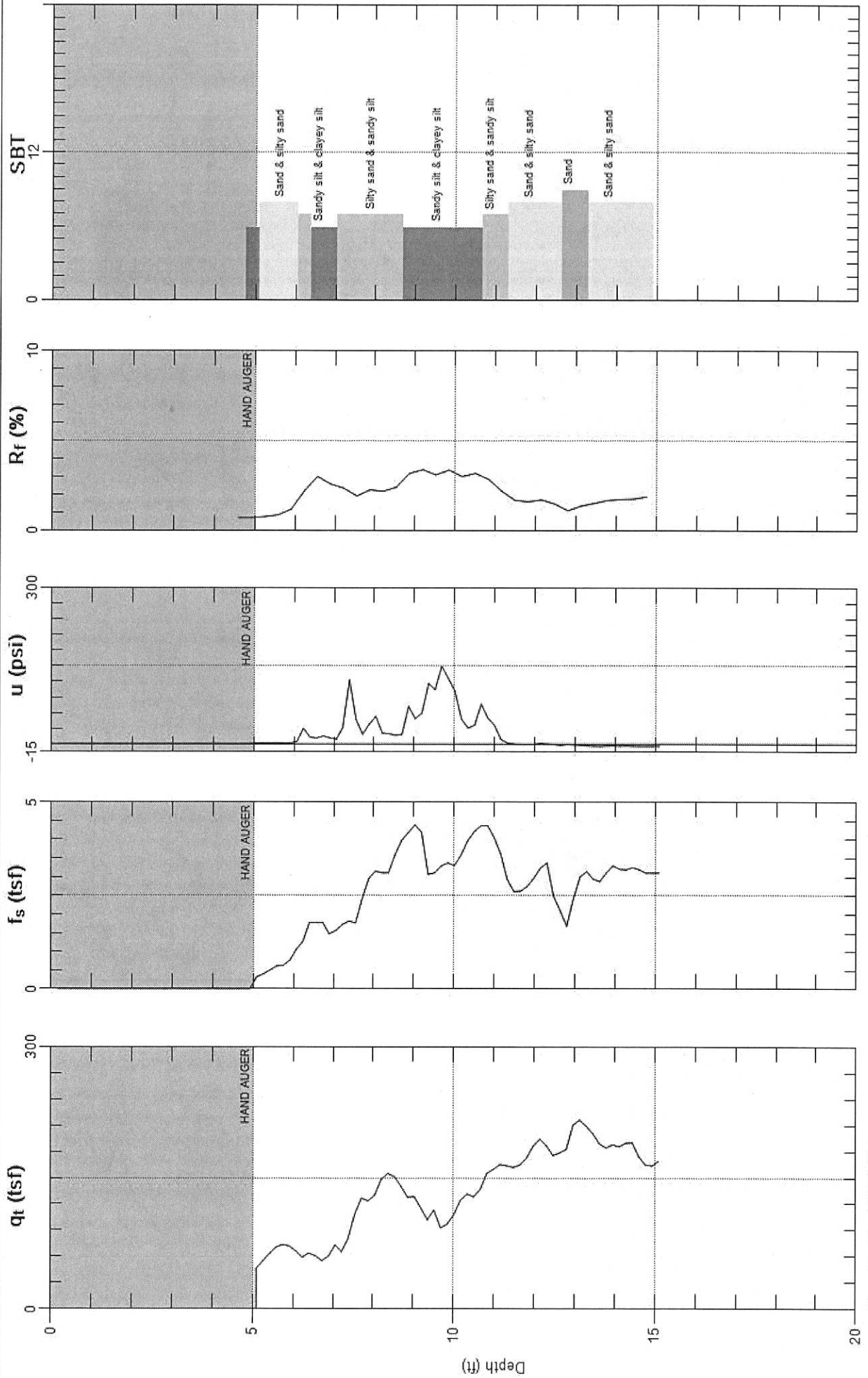
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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



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Sounding: CPT-10

Engineer: P.MAAT
Date: 7/1/2013 02:45



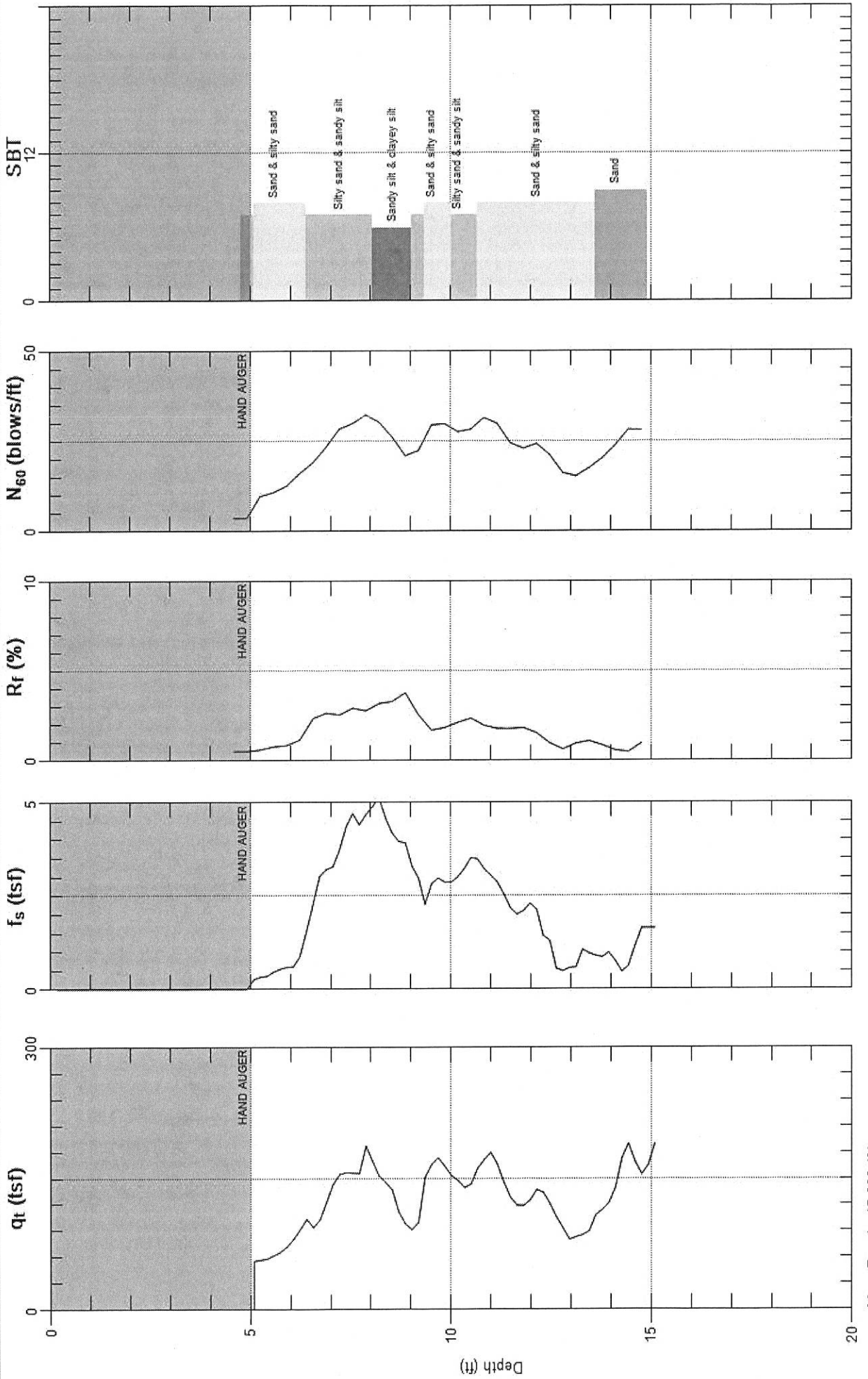
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SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-11

Engineer: P.MAAT
Date: 7/1/2013 01:48



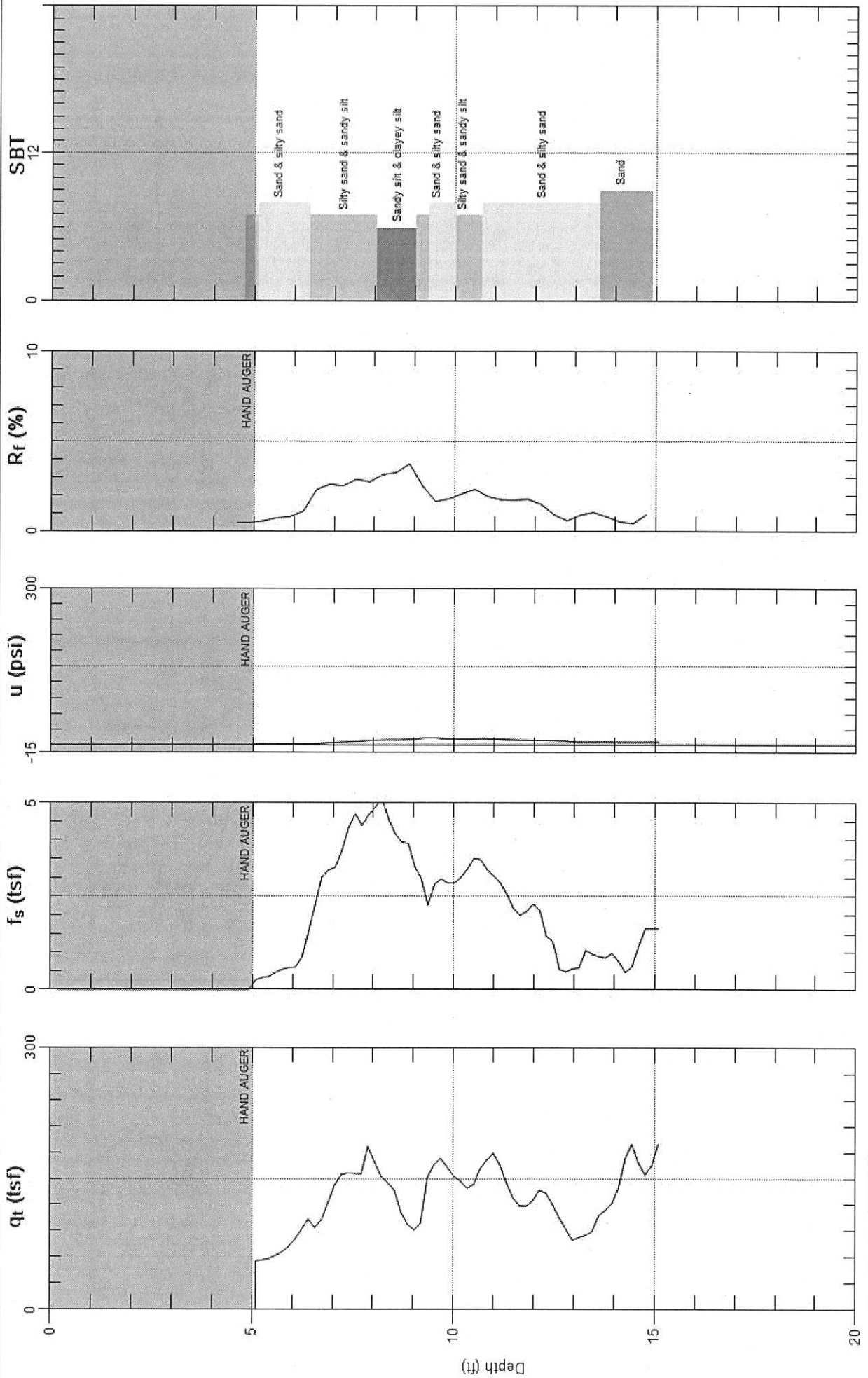
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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-11

Engineer: P.MAAT
Date: 7/1/2013 01:48



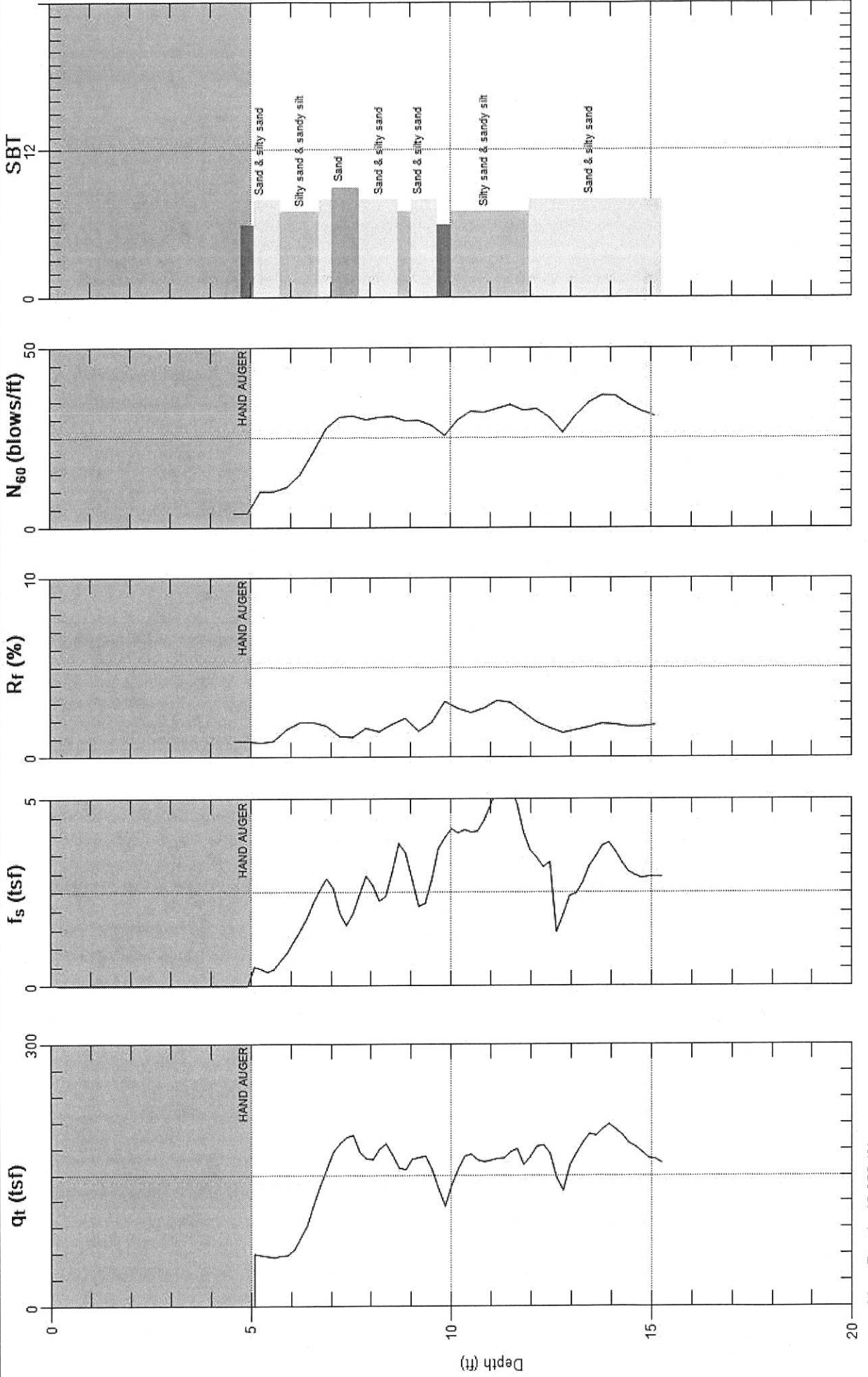
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Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Site: CITY OF ALAMEDA
Sounding: CPT-12

Engineer: P.MAAT
Date: 7/1/2013 04:09



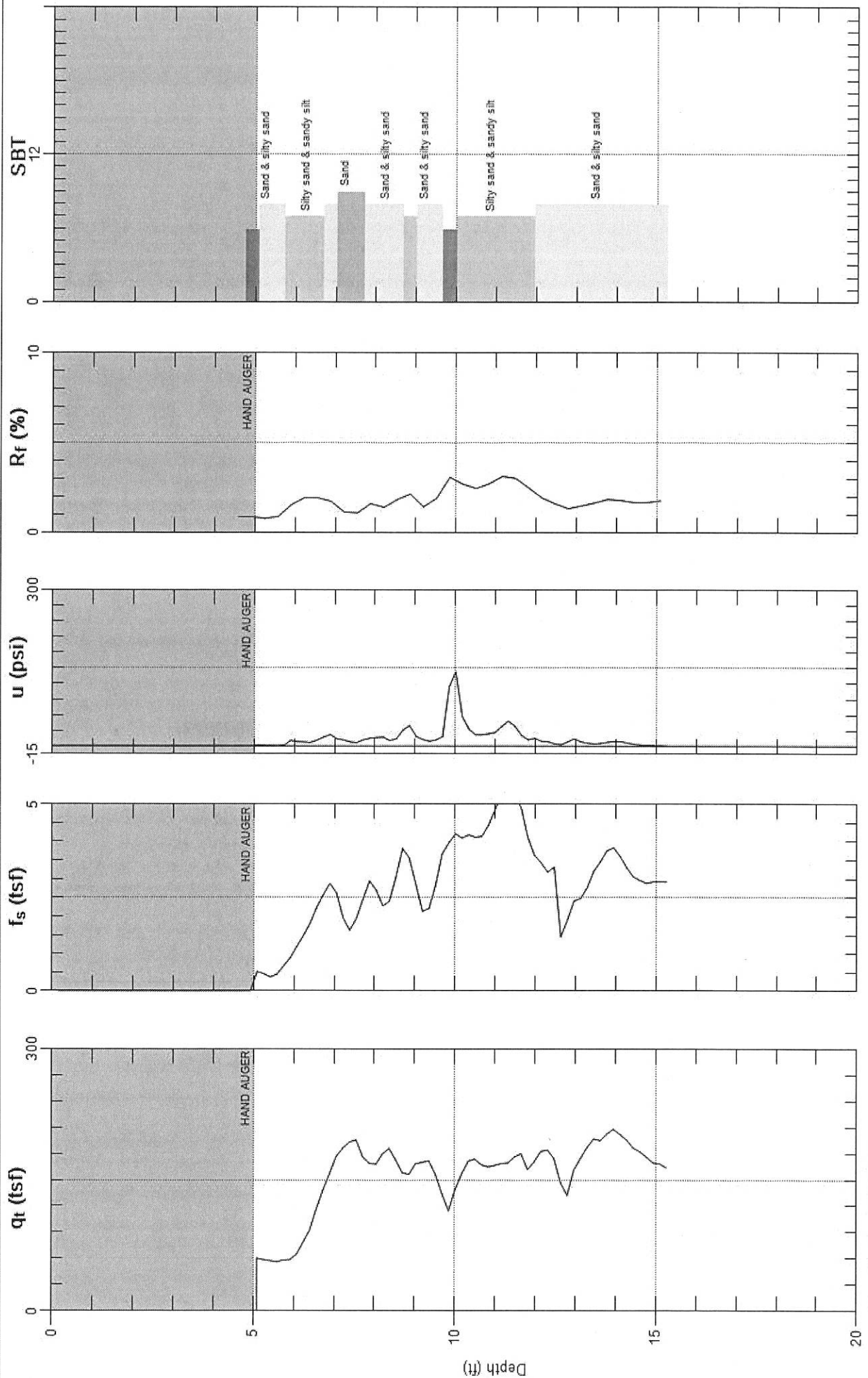
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SBT: Soil Behavior Type (Robertson 1990)



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Sounding: CPT-12

Engineer: P.MAAT
Date: 7/1/2013 04:09

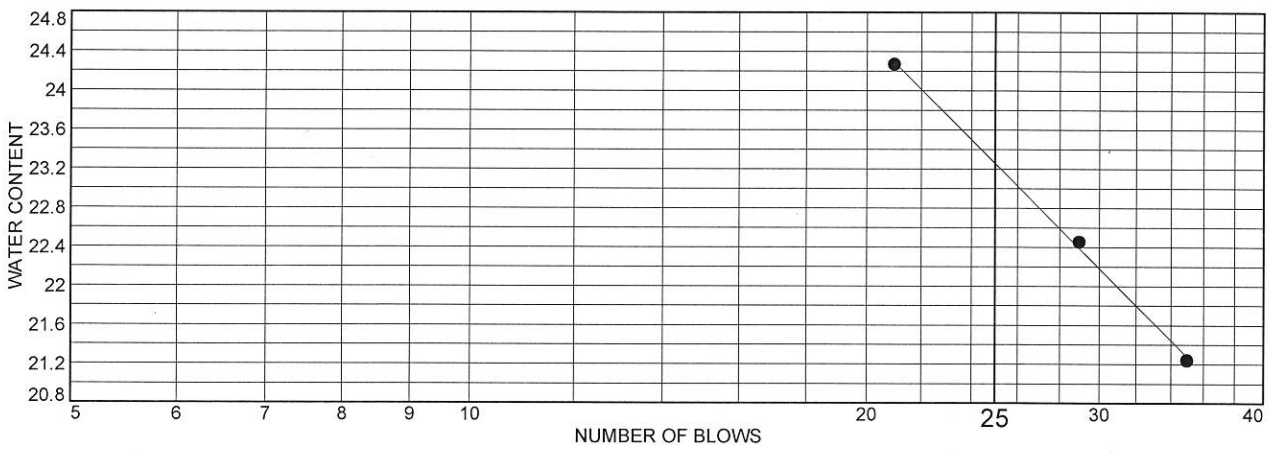
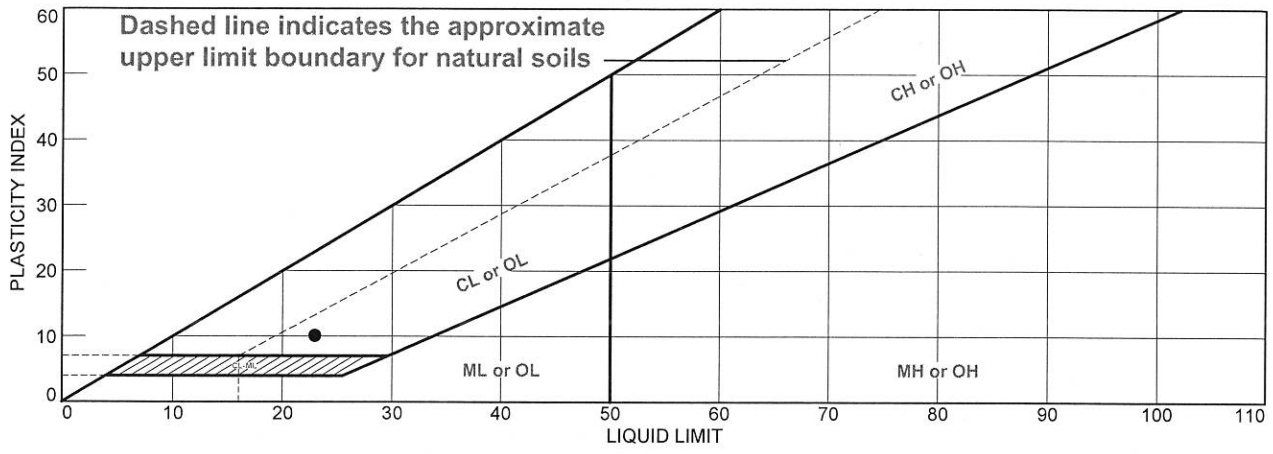


Max. Depth: 15.256 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Appendix C
Geotechnical Laboratory Test Results

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Red brown clayey Sand	23	13	10		26.7	SC

Project No. 46228068 Client: URS

Project: Cyclic Sewer Replacement, Phase 11 26818686

● Source of Sample: B-6 Depth: 5 Sample Number: 2

Remarks:



Figure

Tested By: JH Checked By: GR

August 6, 2013

Project Number: 46228068
 Lab No.: 7009

URS

Project: Cyclic Sewer Replacement, Phase 11
 26818686

Tim Wong

Samples received: 07/24/13
 Tests Completed: 08/01/13

SOIL MOISTURE & DENSITY TESTS								
Boring #	B-1	B-1	B-2	B-2	B-3	B-3	B-4	B-4
Sample #	2	3	2	4	2	3	2B	4
Depth (ft.)	5	10	5	15	5	10	5	15
Soil Description:	Brown clayey Sand	Brown clayey Sand	Red brown silty Sand	Brown silty Sand	Brown clayey Sand	Brown clayey Sand	Black clayey Sand	Brown silty Sand
USCS symbol								
Wet Density (pcf)							131.1	
Dry Density (pcf)							110.2	
Moisture (%)	19.1	18.8	12.1	24.0	14.0	20.2	18.9	19.1
% Passing #200 Sieve	29.1	18.9	18.3	12.3	22.0	14.0	19.5	15.5
Specific Gravity, G _s							2.70	
							Assumed	
Void Ratio							0.529	
Porosity (%)							34.6	
Saturation (%)							96.7	

Reviewed by:
Signet Testing Laboratories, Inc.

Gregory J. Ruf, P.E.
 Professional Engineer C35389

August 6, 2013

Project Number: 46228068
 Lab No.: 7009

URS

Project: Cyclic Sewer Replacement, Phase 11
 26818686

Tim Wong

Samples received: 07/24/13
 Tests Completed: 08/01/13

SOIL MOISTURE & DENSITY TESTS							
Boring #	B-5	B-5	B-6	B-6	B-7	B-7	
Sample #	2	4	2	4	2	4	
Depth (ft.)	5	15	5	15	5	15	
Soil Description:	Gray brown silty Sand	Gray silty Sand	Red brown clayey Sand	Brown Sand	Red brown clayey Sand	Brown silty Sand	
USCS symbol							
Wet Density (pcf)							
Dry Density (pcf)							
Moisture (%)	24.5	18.9	13.6	24.6	12.6	21.4	
% Passing #200 Sieve	13.8	19.1	26.7		20.8	14.7	
Specific Gravity, G _s							
Void Ratio							
Porosity (%)							
Saturation (%)							

Reviewed by:
Signet Testing Laboratories, Inc.

Gregory J. Ruf, P.E.
 Professional Engineer C35389

ATTACHMENT "C"

SAMPLE SITE SAFETY PLAN

SAMPLE SITE SAFETY PLAN

Project Name: Main Street Improvements and Greenway Project
 Date: February 25, 2000 N&M Job No: 400501-02

A. SITE DESCRIPTION

Location: Main Street
Alameda
California
 Cross Streets: Between Atlantic and Station 4700
 Hazards: Chemical contamination, slip-trip-fall, overhead wires, drilling equipment, underground utilities
 Area Affected: Within 20 feet of boring locations
 Topography: Flat
 Weather Conditions: Assumed rainy and wet
 Additional Information: None

B. ENTRY OBJECTIVES

The objective of the initial entry to the area of contamination is to sample soil and groundwater at several approximately 17 borings on sites.

C. ON-SITE ORGANIZATION AND COORDINATION

The following personnel are designated to carry out the stated job functions on site:

Project Team Leader: York Gozolla
 Scientific Advisor: York Gozolla
 Public Information Officers: Kris Larson
 Record Keepers: Kris Larson
 Field Team Leaders: Kris Larson
 Field Team Members: Kris Larson, Gretchen Mora, William Larkin
 Federal Agency Reps: N/A
 State Agency Reps: N/A
 Local Agency Reps: Ms. Eva Chu, Alameda County Health Care Services
 Contractors: Precision Sampling
 Client Representatives: Mr. Wali Waziri, City of Alameda and Ms. Kaipana Dulip Singh, Alameda Power & Telecom
 Tenant Representatives: Not Applicable

City of Alameda
Main Street Alignment Project, Alameda California

February 23, 2000
Project No. 400301-02

All personnel arriving or departing the site should log in and out with the Record Keeper. All activities on site must be cleared through the Project Team Leader.

D. ON-SITE CONTROL

Kris Larson has been designated to coordinate access control and security on site. A safe perimeter has been established at 10 feet from soil borings, minimum. No unauthorized persons should be within this area.

The perimeter is identified by Orange cones and/or caution tape.

E. HAZARD EVALUATION

The following substances are known or suspected to be on site. The primary hazards of each are identified as follows:

<u>Substances</u>	<u>Anticipated Concentrations</u>	<u>Primary Hazards</u>
Benzene	< 310 µg/L	Dermal contact, inhalation
Toluene	< 760 µg/L	Dermal contact, inhalation
Ethylbenzene	< 230 µg/L	Dermal contact, inhalation
Xylenes	< 1,800 µg/L	Dermal contact, inhalation
Gasoline (TPH-g)	< 11,000 µg/L	Dermal contact, inhalation
Diesel (TPH-d)	< 29,000 µg/L	Dermal contact, inhalation
Volatile Organic Compounds (VOCs)	Unknown	Dermal contact, inhalation
Fuel Oxygenates (MTBE, TBA, DIPE, ETBE, TAME)	Unknown	Dermal contact, inhalation

F. PERSONAL PROTECTIVE EQUIPMENT

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

<u>Location</u>	<u>Job Function</u>	<u>Level of Protection</u>				
Controlled area	Soil/Groundwater Sampling	A	B	C	D	Other
		A	B	C	D	Other

Specific protective equipment for each level of protection is as follows.

Level A

Level C

City of Alameda
Main Street Alignment Project, Alameda California

February 23, 2000
Project No. 400301-02

H. COMMUNICATION PROCEDURES

Due to the close proximity of all field crewmembers the necessity for radio communication is alleviated. The following standard hand signals will be used:

Hand drawn across throat.....	Cease operation immediately
Hand gripping throat.....	Out of air, cannot breathe
Grip partner's wrist or both hands around waist.....	Leave area immediately
Hands on top of head.....	Need assistance
Thumbs up.....	OK, I am all right, understood
Thumbs down.....	No, negative

I. DECONTAMINATION PROCEDURES

Protective equipment listed in F. PERSONAL PROTECTIVE EQUIPMENT, will be decontaminated as necessary using a solution of Alconox detergent and water. Detergent and water wash will be available for workers' hygiene.

J. FIELD TEAM LEADER

Kris Larson is the designated Field Team Leader and is directly responsible for safety recommendations on site.

K. EMERGENCY MEDICAL CARE

The designated medical facility is:

Name: Alameda Hospital

Address: 2070 Clinton Avenue
Alameda, Ca 94501

Phone: (510) 523-3700

Directions: See attached map

First-aid equipment is available in the Field Team Leader's vehicle.

City of Alameda
Main Street Alignment Project, Alameda California

February 23, 2000
Project No. 400301-02

List of emergency phone numbers:

<u>Agency/Facility</u>	<u>Phone No.</u>
Police	911
Fire	911
Hospital	(510) 522-3700
Ambulance	911

L. ENVIRONMENTAL MONITORING

The following environmental instruments shall be used on site at the specified intervals.

<u>Instrument</u>	<u>Use</u>
None required	

M. EMERGENCY PROCEDURES (SHOULD BE MODIFIED AS REQUIRED FOR INCIDENT)

On-site personnel will use the following standard emergency procedures. The Project Team Leader shall be notified of any on-site emergencies and be responsible for ensuring that the appropriate procedures are followed.

Personnel Injury: Upon notification of an injury the Project Team Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement. The Project Team Leader shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required).

Fire/Explosion: The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, work will cease until the situation is evaluated and appropriate actions taken.

MRS-2

of Alameda
Main Street Alignment Project, Alameda California

February 23, 2000
Project No. 400301-02

N. SIGNATURES

All site personnel are required to read the above plan and by signing below, acknowledge that they are familiar with its provisions.

	<u>Print Name</u>	<u>Signature</u>	<u>Date</u>
Field Team Leader	Kris Larson	<i>[Signature]</i>	2/25/00
Other Site Personnel	William Larkin	<i>[Signature]</i>	2/25/00
	Gretchen Mora	<i>[Signature]</i>	
	SHANE NANKEN	<i>[Signature]</i>	
	Wilson Carlos Morales	<i>[Signature]</i>	
Industrial Hygienist			

ATTACHMENT "D"

**APPLICABLE SECTIONS OF GREENBOOK FOR
SYSTEM REHABILITATION**

PART 5

SYSTEM REHABILITATION

SECTION 500 - PIPELINE

500-1 PIPELINE REHABILITATION.

500-1.1 Requirements.

500-1.1.1 General. This subsection provides information about various pipeline system rehabilitation.

Section 500 does not address the structural capacity of any of the rehabilitation systems described herein nor their structural requirements. The method shall be capable of bridging cracks, holes, and joint displacements that have been determined not to require point repair. The type of rehabilitation materials and methods for a given project will be designated on the Plans and in the Specifications. Unless otherwise provided for in the Special Provisions, proof of meeting the Chemical Resistance and Physical Testing shall be submitted to the Engineer for approval in accordance with 2-5.3 as a submittal. The Agency may require testing of the materials and methods prior to job commencement to verify manufacturing compliance with required quality control standards and that no damage occurred to the materials during shipment to the job site. At the time of installation, materials shall not be more than 6 months old from the date of manufacture. Material safety data sheets (MSDS) shall be available at the project site.

500-1.1.2 Submittals. Prior to rehabilitation, the Contractor shall submit shop drawings of construction details and all other submittals per 2-5.3. The shop drawings shall include the location, method of rehabilitation and, when applicable, any bypass locations with sufficient detail to assure that the work can be accomplished without sewage spill. All submittals required by these specifications shall meet the requirements as shown on the Plans and in the Specifications.

500-1.1.3 Storage and Handling. Liner pipes and rehabilitation materials shall be properly stored and handled to prevent damage in accordance with the manufacturer's recommendations and as approved by the Engineer. Damage is described as, but is not limited to, gouging, abrasion, flattening, cutting, puncturing, or ultra-violet (UV) degradation. Thorough inspection of the liner pipes and rehabilitation materials shall be performed prior to installation. Criteria for acceptance/rejection shall be per 500-1.1.8.

500-1.1.4 Cleaning and Preliminary Inspection. Pipeline cleaning shall be performed prior to closed circuit television (CCTV) inspection and rehabilitation. The Contractor shall protect the manholes to withstand forces generated by equipment, water, and air pressure. After cleaning, the Contractor shall also confirm the inside minimum and maximum size (diameter and/or configuration) of the pipeline. The Contractor shall be responsible for the removal of debris from the pipeline and restore the pipeline to a minimum of 95 percent of the original diameter or area, as shown on the Plans or in the Specifications. Pipeline debris is described as, but is not limited to, sludge, dirt, sand, rocks, grease, roots, and other solid or semisolid materials. Refer to 500-1.2, Pipeline Point Repairs, for the removal of obstructions.

Some pipeline cleaning methods available are listed herein. When utilizing high-velocity hydraulic cleaning equipment independently or in combination with other cleaning methods, it is recommended that a minimum of two passes with the hydraulic nozzle be done. Additionally, root cutters and porcupines can be attached to the winches for effective root removal. The Contractor shall be responsible for conducting a site inspection of each pipeline prior to rehabilitation to determine which

cleaning methods are to be used. These methods shall be submitted to the Engineer for approval in conformance with 2-5.3.

(a) **Hydraulically Propelled Equipment.** The equipment shall be a movable-dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to prevent flooding of the sewer. The movable dam shall be equal in size to the pipeline being cleaned and provide a flexible scraper around the outer periphery to ensure removal of grease and other debris. If sewer cleaning balls or other equipment which cannot be collapsed are used, special precautions to prevent flooding of the sewers and public or private property shall be taken.

(b) **High-Velocity Hydraulic (Hydro-Cleaning) Equipment.** All high-velocity hydraulic cleaning equipment shall carry a water tank, auxiliary engines, pumps, and a hydraulically driven hose reel. The equipment shall have a selection of two or more high velocity nozzles capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. The cleaning units shall have high-velocity nozzles for washing and scouring manhole walls and floors. The nozzles shall be capable of producing flows from a fine spray to a solid stream.

(c) **Mechanically Powered Equipment.** Bucket machines shall be used in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload shutoff device. Machines with a direct drive that could cause damage to the pipe will not be allowed. Bucket machines shall not be used on any host or rehabilitated pipeline that is lined with a plastic pipe or material. A power rodding machine shall be either a sectional or continuous-rod type capable of holding a minimum of 230 m (750 feet) of rod. The machine shall be fully enclosed and have an automatic safety clutch or relief valve.

For segmented liner systems 675 mm (27 in) and larger, a standard test section of liner pipe or mandrel shall be inserted prior to sliplining. The mandrel shall have a segment length equal to that of the liner pipe. The outside diameter of the mandrel shall be a minimum of one percent greater than the outside diameter of the liner pipe but shall not exceed 13 mm (1/2 in) without prior approval of the Engineer. The equipment used by the Contractor to insert the test section or mandrel shall conform to Table 500-1.1.4 (A). A baffle plate shall be attached to the test section with adequate height to guarantee removal of any debris which could be present.

If cleaning cannot be completed from one manhole, the equipment shall be moved and set up on the other manhole and cleaning shall be re-attempted. If successful cleaning still cannot be performed or the equipment fails to traverse the entire pipeline section, it shall be assumed that a major blockage exists. Efforts to clean the lines shall be temporarily suspended and the Contractor shall notify the Engineer. Upon removal of the obstruction, the Contractor shall complete the cleaning operation.

The Contractor shall dispose of all debris removed from the pipeline, in accordance with current applicable regulations. Any hazardous waste material encountered during the project shall be considered as a changed condition. Refer to 3-4.

TABLE 500-1.1.4 (A)

Nominal ID of Liner Pipe, mm (in)	Minimum Equipment Insertion Force, kN (Tons) ¹
675 (27) to and including 1500 (60)	220 (25)
Over 1500 (60) to and including 2100 (84)	290 (32.5)
Over 2100 (84)	440 (50)

1. The equipment at the insertion pit shall be capable of withdrawing the test section or mandrel, if necessary.

500-1.2.2 Materials. The pipe and repair materials shall be the same as the host pipeline unless otherwise indicated, and shall comply with Section 207 for type and class required.

500-1.2.3 Excavation. All trenching and excavation shall conform to Section 306.

500-1.2.4 Sewer Bypassing and Dewatering. When required by the Contract Documents or the process, the Contractor shall bypass the sewer flow around the work and dewater the work area, all in conformance with 7-8.4 and 306-3.3.

500-1.2.5 Notification of Work. The Contractor shall notify the Engineer a minimum of 48 hours in advance of the planned time to begin pipeline point repair work/replacement at a particular location.

500-1.2.6 Installation and Field Inspection. The installation of the replacement pipe and/or repair work shall conform to Section 306. Prior to the demobilization of the contractor performing open-excavation repairs, the post-cleaning video tape(s) shall be submitted to the engineer. The results of the post-cleaning video tape(s) may indicate the need for additional excavation and repair prior to lining. The contractor shall review all the post-cleaning tape(s) and identify any additional point repair, which impacts the placement of the liner and the reinstatement of the service connection(s) and shall provide these locations in writing to the engineer. All pipeline point repairs/replacement shall be inspected and measured by the Engineer prior to any backfilling and compaction and leak testing/CCTV inspection prior to placing of permanent resurfacing.

500-1.3 High-Density Polyethylene (HDPE) Solid-Wall Pipe Liner.

500-1.3.1 General. HDPE solid-wall liner pipe for use in sanitary sewers, storm drains, and house connection sewers shall comply with ASTM D 3350 and ASTM F 714. Fittings shall comply with ASTM D 2683 or D 3261. Fittings fabricated by mitered, butt fusions are also permitted.

500-1.3.2 Material Composition. Pipe and fittings shall be made from HDPE compounds conforming with ASTM D 3350, Cell Classification 345434C, D, and E and shall also meet the requirements of 207-19.2.

500-1.3.3 Liner Pipe Acceptance. Liner pipe acceptance shall conform to 207-19.3.

500-1.3.4 Marking. Liner pipe marking shall conform to 207-19.4.

500-1.3.5 Chemical Resistance and Physical Testing. The HDPE liner pipe shall conform to 207-19.5

500-1.3.6 Installation and Field Inspection. The HDPE liner pipe shall conform to 500-1.1 for the cleaning and inspection of the host pipeline; preparation of entry points as needed; and the storage, handling, and joining of HDPE pipe. A proofing pig shall be pulled through the host pipeline prior to liner insertion to verify adequate clearances.

500-1.3.7 Annular Space Grouting. Refer to 500-3, Annular Space Grouting. The entire annular space shall be fully grouted. The maximum safe annular grouting pressure in psig for single-stage or multi-stage grouting shall not exceed the values shown in Table 500-1.3.7 (A).

TABLE 500-1.3.7 (A)
DIFFERENTIAL-PRESSURE (VACUUM OR EXTERNAL FLUID)
CAPABILITY FOR UNSUPPORTED PIPE AT 23 °C (73.4 °F)¹

SDR	kPa	PSI
32.5	28	(4)
26	55	(8)
21	110	(21)
19	145	(28)
17	193	(28)
15.5	248	(36)

1. Safety factor not included.

500-3 ANNULAR SPACE GROUTING

500-3.1 Requirements

500-3.1.1 **General.** This subsection covers various requirements of continuous annular space grouting of sliplining systems. The annulus space (void between the host and liner pipes) shall be completely grouted to support the liner and provide long-term stability. The Contractor shall engage the services of an Agency approved testing laboratory to certify that the proposed materials and methods comply with these requirements. All proposals shall be submitted to the Engineer per 2-5.3, 201-1, and 500-3.1.10.

500-3.1.2 **Preparation.** Upon completion of sliplining, but prior to grouting, bulkheading of the ends and appropriate venting shall be required. This is to seal the annular space from sewer flow to permit the grout to set and withstand the loads imposed by the grout and groundwater. The Contractor shall test the integrity of the installed liner pipe and constructed bulkheads for any leaks by performing the following.

- 1) Dewater and inject dye water into the annular space (this alternative will not be permitted if the crown or any portion of the host pipe is severely deteriorated to the point where water may escape through the host pipe).
- 2) Pressurize the annular space to the maximum permissible pressure per the manufacturer's recommendation with approval of the Engineer.
- 3) The Contractor shall submit a detailed plan to the Engineer that will hold the liner pipe on the invert for a period of time long enough to allow the grout to set where buoyant uplift is a factor.

500-3.1.3 **Planned Vents.** The Contractor shall submit plans, including the proposed number and location of vents relative to pipe diameter and stiffness and the depth of sewer flow in the pipeline for the grouting operation.

500-3.1.4 **Materials.** The grout materials shall consist of portland cement, portland cement and fly ash, and/or additives, providing for the grouting operation.

- (a) **Compressive Strength.** The grout shall have a minimum penetration resistance of 690kPa (100 psi) in 24 hours when tested in accordance with ASTM C 403 and a minimum compressive strength of 2100kPa (300 psi) in 28 days when tested in accordance with ASTM C 495 or C 109.
- (b) **Performance Requirements.** The Contractor shall submit the proposed grout mixes, methods, plans, and criteria of the grouting operations. The grouting system shall have sufficient gauges, monitoring devices, and tests to determine the effectiveness of the grouting operation and to ensure compliance with the liner pipe specifications and design parameters.
- (c) **Mix Design.** One or more mixes shall be developed to completely fill the annular space based on the following requirements:
 - 1) Size of the annular void
 - 2) Void (size) of the surrounding soil

- 3) Absence or presence of groundwater
- 4) Sufficient strength and durability to prevent movement of the liner pipe
- 5) Provide adequate retardation, and
- 6) Provide less than 1 percent shrinkage by volume

(d) **Density and Viscosity.** The Contractor shall design a grout mix with a density to meet the requirements of 500-3.1.6 and to prevent floating of the liner pipe. The apparent viscosity shall not exceed 20 seconds in accordance with ASTM C 939 unless otherwise approved by the Engineer.

500-3.1.5

Qualifications. The Contractor shall demonstrate to the Engineer its worker's capabilities of filling the annular space and performing their work in conformance with the Plans and the Specifications, that it is capable of backfilling the annulus and meeting the specifications regarding that work.

500-3.1.6

Grouting Equipment. The materials shall be mixed in equipment of sufficient size, and capacity to provide the desired amount of grout material for each stage in a single operation. The equipment shall be capable of mixing the grout at densities required for the approved procedure and shall also be capable of changing density as dictated by field conditions any time during the grouting operation.

500-3.1.7

Injection Procedure and Pressure. The gauged pumping pressure shall not exceed the liner pipe manufacturer's approved recommendations as stated in 500-1.3.7, 500-1.8.7 and 500-1.11.7. Pumping equipment shall be of a size sufficient to inject grout at a volume, velocity and pressure compatible with the size of the annular space and degree of host pipe corrosion. Once grouting operations begin, grouting shall proceed uninterrupted from bulkhead to bulkhead. Grout placement shall not be terminated until the following conditions are met, unless otherwise approved by the Engineer:

- 1) The estimated annular volume of grout has been injected;
- 2) The exhausted grout at each vent is not less than 85 percent of the density of freshly injected grout;
- 3) The exhausted grout at each vent is not less than 85 percent of the original viscosity of the freshly injected grout; and
- 4) When recommended by the grout installer.

A grout pressure gauge and recorder shall be installed immediately adjacent to each injection port. During operations, the recorder shall continuously record the actual grouting pressure versus the time on paper with ink. The gauge shall conform to an accuracy of $\pm 3.5\text{kPA}$ ($\pm 0.5\text{ psi}$). The range of the gauge shall not be more than 100 percent greater than the design and attached to a saddle-type diaphragm seal (gauge saver) to prevent clogging with grout. All gauges shall be certified and calibrated in accordance with ANSI B40, Grade 2A. The grout pressure recordings shall be identified, as a minimum, with the date, batch, and time of day grouting was performed and shall be submitted to the Engineer at the end of the work day that grouting was performed.

500-3.1.8

Onsite Test. For each batch, the Contractor shall provide all equipment and personnel necessary to perform the following tests in the presence of the Engineer:

- 1) Density per ASTM C138 or by other methods as approved by the Engineer.

2) Viscosity ASTM C939.

Grout that exceeds $\pm 48\text{kg/m}^3$ (3 pounds per cubic foot) of the design density will be rejected.

500-3.1.9

Test Section. The Contractor shall be required to perform a test on each type of grout and grout system proposed to be used. The test section to be grouted and the size of the annular space considered for each type of grout and/or grout system shall be determined by the Contractor and approved by the Engineer.

500-3.1.10

Submittals and Required Calculations. The Contractor shall submit the following to the Engineer at least 30 working days prior to the start of the grouting operation in accordance with 2-5.3:

- 1) The proposed grouting mix
- 2) The proposed grout densities and viscosity's
- 3) Initial set time of the grout
- 4) The 24-hour and 28-day minimum grout compressive strengths
- 5) The grout working time before a 15 percent change in density or viscosity occurs
- 6) The proposed grouting method
- 7) The maximum injection pressures
- 8) Proposed grout stage volumes (e.g., Stage 1, to springline; Stage 2, fully grouted)
- 9) Bulkhead designs and locations
- 10) Buoyant force calculations during grouting
- 11) Flow control
- 12) Provisions for re-establishment of service connection
- 13) Pressure gauge, recorder, and field equipment certifications (e.g., calibration by an approved certified lab)
- 14) Vent location plans
- 15) Written confirmation that the Contractor has coordinated grouting procedures with the grout installer and the liner pipe manufacturer

Data for 1) through 5) shall be derived from trial grout batches by an approved, independent testing laboratory.

For each different type of grout or variation on procedure or installation, a complete package shall be submitted. The submittal shall include each of the above items and the sewer locations or conditions to which it applies. The Contractor shall obtain approval from the Engineer for any changes to be made in grout mix, grouting procedure or installation prior to commencement of grouting operations.

APPLICABLE CITY OF ALAMEDA STANDARD
PLANS AND DETAILS

POST MILES TOTAL SHEET NO. TOTAL SHEETS

COUNTY ROUTE

REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER

London Metro

060397

May 20, 2011

PLANS APPROVAL DATE

FOR AGENCIES THAT ARE RESPONSIBLE FOR THE ACCURACY OF COMPLETENESS OF SCANNED COPIES OF THIS DRAWING

TABLE 3

DISTANCE BETWEEN SIGNS

ROAD TYPE	Min A (ft)	Min B (ft)	Min C (ft)
URBAN (SPEED 25 mph OR LESS)	100	100	100
URBAN (SPEED 30 mph OR MORE)	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2040

TABLE 2

DOWNGRADE

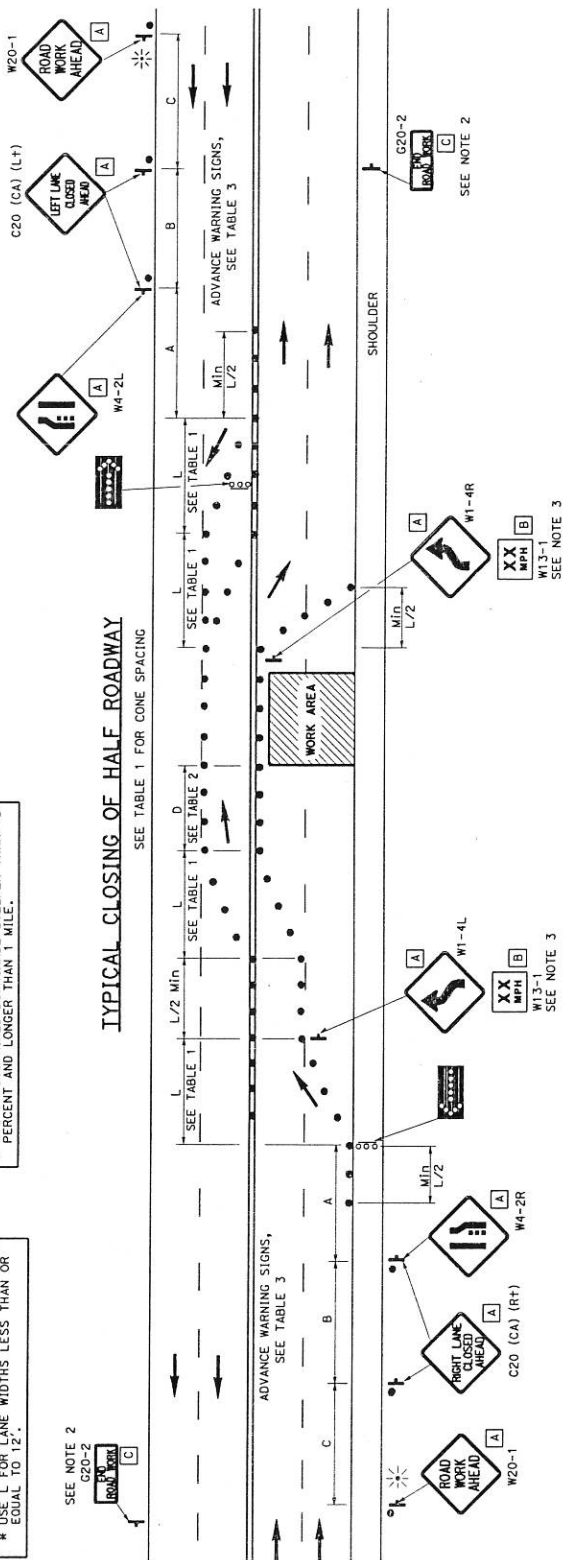
APPROACH SPEED	Min D	-3%	-6%	-9%
25 AND BELOW	30	205	215	227
35	35	250	271	287
40	40	305	315	333
45	50	360	378	400
50	55	425	446	474
55	60	495	520	553
60	65	570	598	638
65	65	645	682	728

* USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE.

TABLE 1

APPROACH SPEED	* Min L	* Min L/2	Max Spacing of Cones
20 AND BELOW	80	40	10
25	125	65	12
30	180	90	15
35	245	125	17
40	320	160	20
45	540	270	22
50	600	300	23
55	660	330	27
60	720	360	30
65	780	390	32

* USE L FOR LANE WIDTHS LESS THAN OR EQUAL TO 12'.



- LEGEND**
- Traffic Cone
 - f Temporary Sign
 - Direction of Travel
 - Flashing Arrow Sign (FAS)
 - FAS Support or Trailer
 - Portable Flashing Beacon
- SIGN PANEL SIZE (Min)**
- | | | |
|---|-----------|-------------------------|
| A | 48" x 48" | SPEED OF 45 mph OR MORE |
| B | 36" x 36" | SPEED LESS THAN 45 mph |
| B | 30" x 30" | SPEED OF 45 mph OR MORE |
| C | 24" x 24" | SPEED LESS THAN 45 mph |
| A | 48" x 24" | SPEED OF 45 mph OR MORE |
| C | 36" x 18" | SPEED LESS THAN 45 mph |
- NOTES:**
- California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.
 - A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the closure unless the end of work area is obvious, or ends within a larger project's limits.
 - Advisory speed will be determined by the contractor and shall not be required when advisory speed is more than the posted or maximum speed limit.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR HALF ROAD CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS AND EXPRESSWAYS

NO SCALE

T12

Sheet Count: 10 of 10
 Project: 00397
 Date: MAY 20, 2011
 Engineer: [Signature]
 Title: REGISTERED CIVIL ENGINEER
 License No: 3-30-12
 State: CALIFORNIA
 Seal: PROFESSIONAL ENGINEER

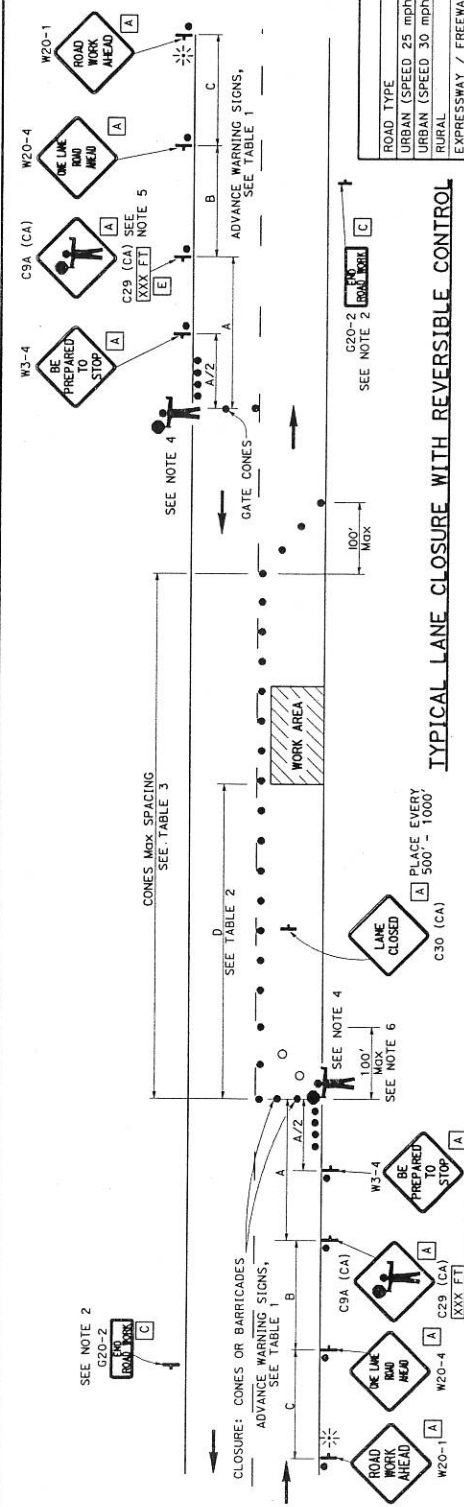


TABLE 1
 DISTANCE BETWEEN SIGNS

ROAD TYPE	Min A. (ft)	Min B. (ft)	Min C. (ft)
URBAN (SPEED 25 mph OR LESS)	100	100	100
URBAN (SPEED 30 mph OR MORE)	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

TABLE 2

APPROACH SPEED	DOWNGRADE	
	Min	Min D #
25 AND BELOW	-3%	20
	-6%	25
30	0%	30
	3%	35
35	0%	40
	3%	45
40	0%	50
	3%	55
45	0%	60
	3%	65
50	0%	70
	3%	75
55	0%	80
	3%	85
60	0%	90
	3%	95
65	0%	100
	3%	105

* USE ON SUSTAINED DOWNGRADE, STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE.

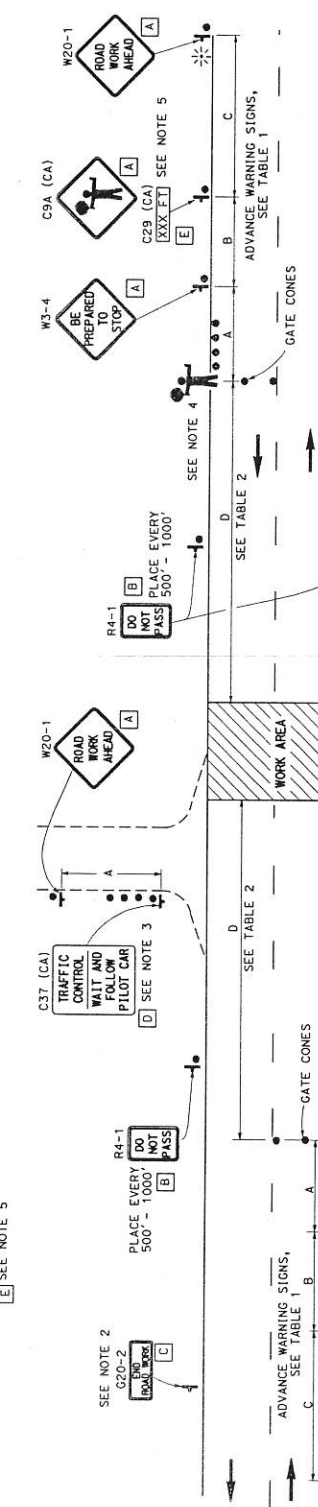


TABLE 3
 CONES Max SPACING

POSTED SPEED	ft
20 mph	25
25 mph	30
30 mph	35
35 mph	40
40 mph	45
45 mph	50
50 mph	55
55 mph	60
60 mph	65

- NOTES:**
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.
 - A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure, at the end of work area is obvious, or ends within a larger project's limits.
 - When a pilot car is used, place a C37 (CA) sign at all intersections within traffic control area, where the pilot car will be self-regulate, at least one flagger shall be used at each intersection within traffic control area.
 - Flagger should stand in a conspicuous place, facing traffic at all times, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. Engineer will determine if additional advance flaggers is required.
 - When flagger is not visible from this location place a C29 (CA) sign below the C9A (CA) sign.
 - Traffic cones or barricades may be placed on the optional taper as shown, barricades shall be type 4, 11, or 111.

SIGN PANEL SIZE (MINIMUM)

Code	Panel Size	Speed
A	48" x 48"	SPEED OF 45 mph OR MORE
B	36" x 36"	SPEED LESS THAN 45 mph
B	48" x 36"	SPEED OF 45 mph OR MORE
C	30" x 24"	SPEED LESS THAN 45 mph
C	48" x 24"	SPEED OF 45 mph OR MORE
D	36" x 18"	SPEED LESS THAN 45 mph
E	36" x 42"	
E	36" x 9"	

- LEGEND**
- TRAFFIC CONE
 - TRAFFIC CONE (OPTIONAL TAPER)
 - TEMPORARY SIGN
 - DIRECTION OF TRAVEL
 - ☼ PORTABLE FLASHING BEACON
 - ☼ FLAGGER

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE
T13

Notes for Figure 6H-15—Typical Application 15 Work in the Center of a Road with Low Traffic Volumes

Guidance:

1. *The lanes on either side of the center work space should have a minimum width of 10 feet as measured from the near edge of the channelizing devices to the edge of the pavement or the outside edge of the paved shoulder.*

Option:

2. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
3. If the closure continues overnight, warning lights may be used on the channelizing devices.
4. A lane width of 9 feet may be used for short-term stationary work on low-volume, low-speed roadways when motor vehicle traffic does not include longer and wider heavy commercial vehicles.
5. A work vehicle displaying high-intensity rotating, flashing, oscillating, or strobe lights may be used instead of the channelizing devices forming the tapers or the high-level warning devices.

Standard:

Note 4 and 5 shall not be applicable for State highways. Note #1 shall be used instead for State highways.

Option:

6. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

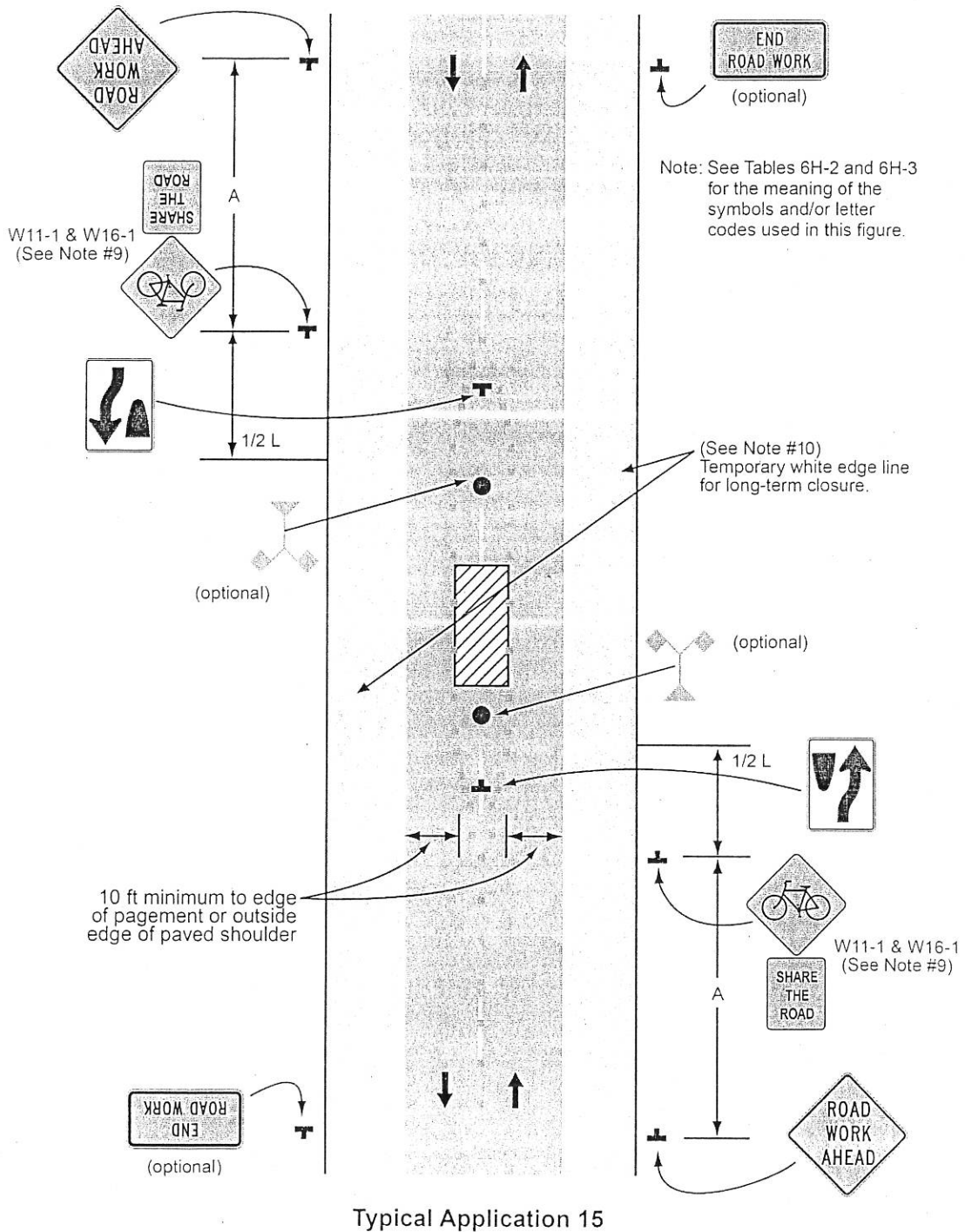
Standard:

7. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

Guidance:

8. *All advance warning signs should be placed so that the path of travel for bicycles is not blocked while maintaining visibility for road users.*
9. *When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, the Bicycle Crossing (W11-1) sign and the SHARE THE ROAD (W16-1P) plaque should be used to advise motorists of the presence of bicyclists in the travel way lanes.*
10. *When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02), the temporary white edge line should be used on the shoulder to indicate the use of a portion of the shoulder as a traveled way lane.*

Figure 6H-15. Work in Center of Road with Low Traffic Volumes (TA-15)



Notes for Figure 6H-26—Typical Application 26 Closure in the Center of an Intersection

Guidance:

1. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.

Option:

2. A high-level warning device may be placed in the work space, if there is sufficient room.
3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.

Standard:

Note #3 is not applicable for State highways. Note #1 shall be used instead for State highways.

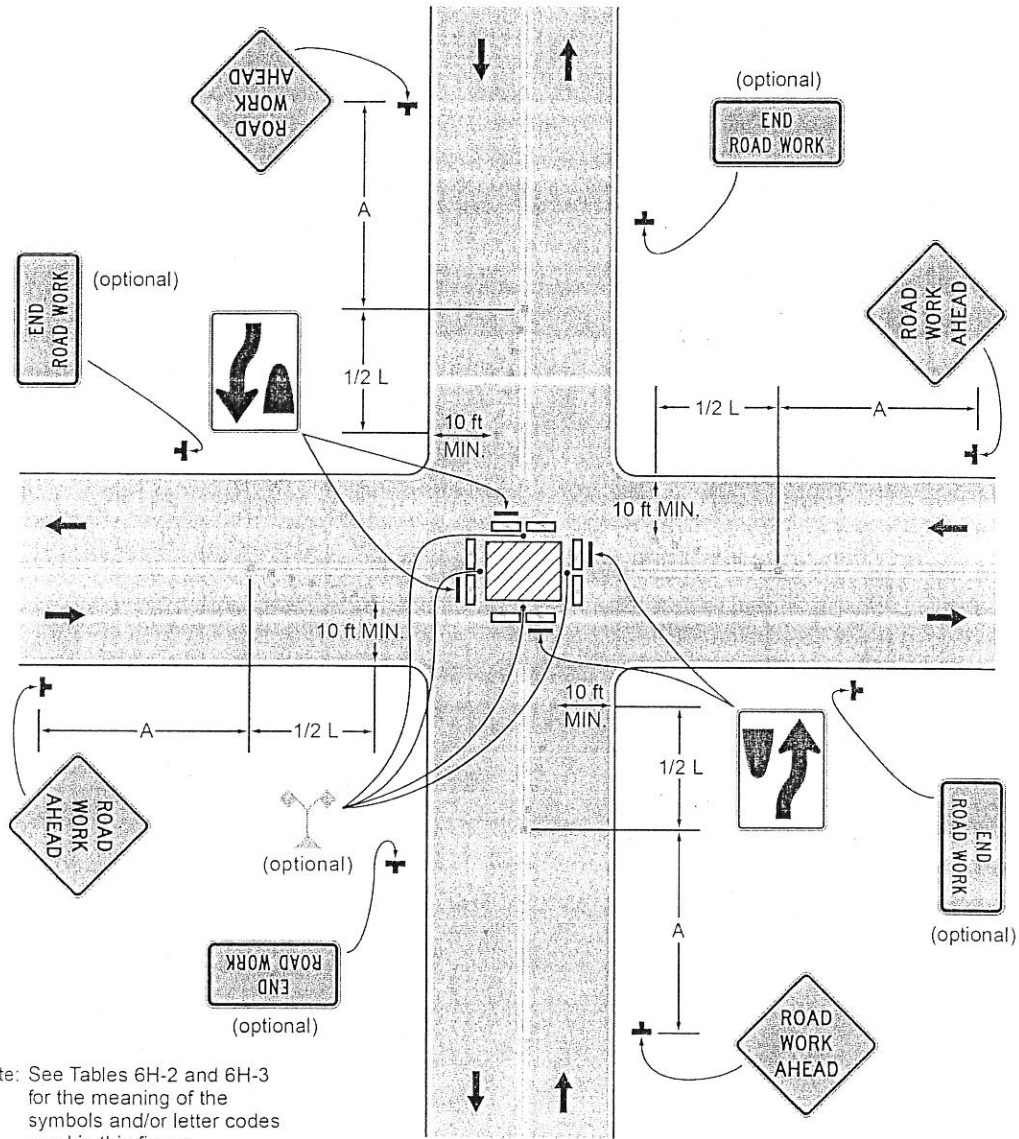
Option:

4. Flashing warning lights and/or flags may be used to call attention to advance warning signs.
5. Unless the streets are wide, it may be physically impossible to turn left, especially for large vehicles. Left turns may be prohibited as required by geometric conditions.
6. For short-duration work operations, the channelizing devices may be eliminated if a vehicle displaying high-intensity rotating, flashing, oscillating, or strobe lights is positioned in the work space.
7. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

8. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

Figure 6H-26. Closure in the Center of an Intersection (TA-26)



Typical Application 26

Notes for Figure 6H-27—Typical Application 27 Closure at the Side of an Intersection

Guidance:

1. *The situation depicted can be simplified by closing one or more of the intersection approaches. If this cannot be done, and/or when capacity is a problem, through vehicular traffic should be directed to other roads or streets.*
2. *Depending on road user conditions, flagger(s) or uniformed law enforcement officer(s) should be used to direct road users within the intersection.*

Standard:

3. **At night, flagger stations shall be illuminated, except in emergencies.**

Option:

4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. For short-duration work operations, the channelizing devices may be eliminated if a vehicle displaying high-intensity rotating, flashing, oscillating, or strobe lights is positioned in the work space.
6. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

7. *When used, the BE PREPARED TO STOP sign should be located before after the Flagger symbol sign.*
8. *ONE LANE ROAD AHEAD signs should also be used to provide adequate advance warning.*

Support:

9. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might be physically impossible to make certain turns, especially for large vehicles.

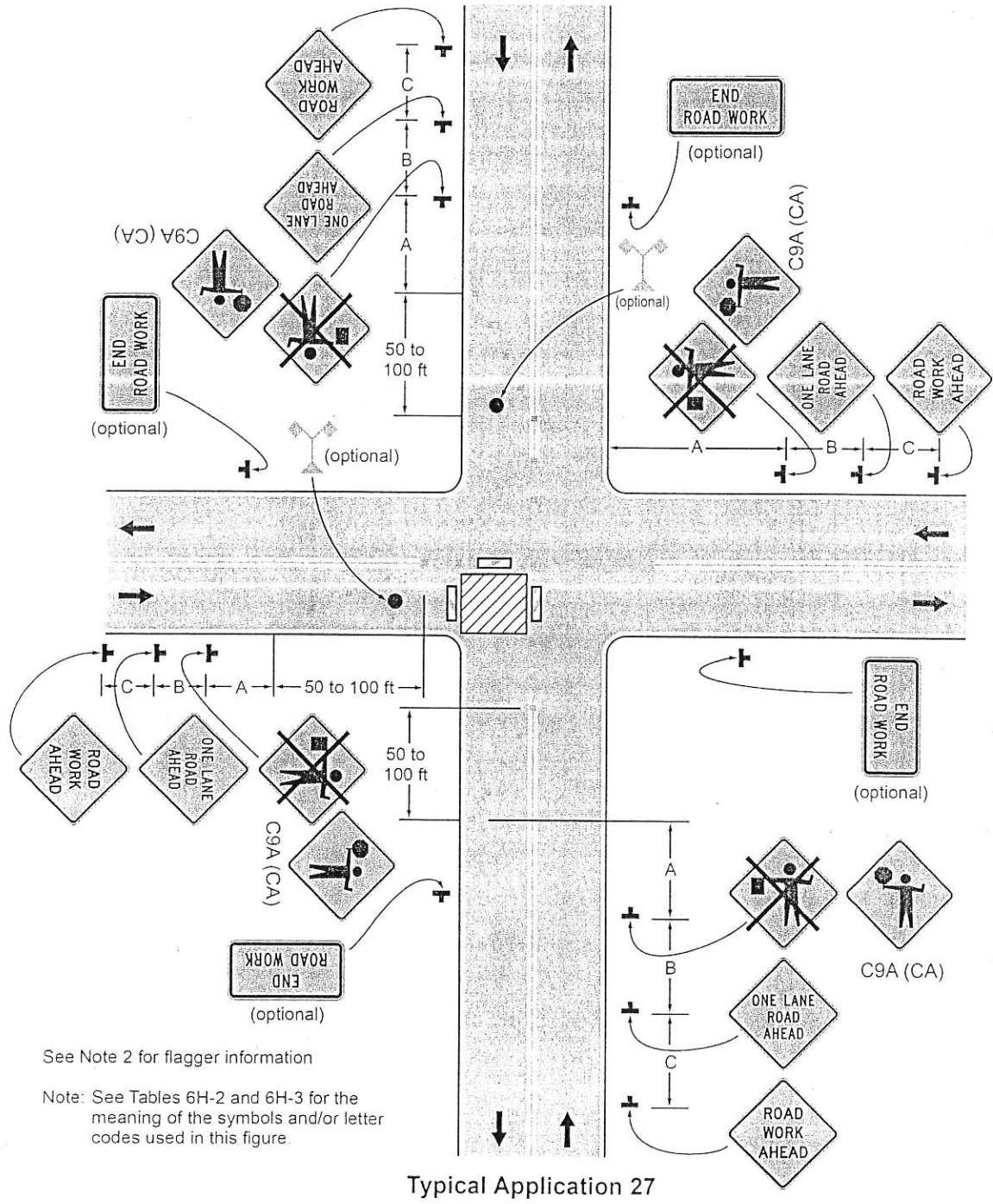
Option:

10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

Figure 6H-27. Closure at the Side of an Intersection (TA-27)



Notes for Figure 6H-28—Typical Application 28 Sidewalk Detour or Diversion

Standard:

1. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

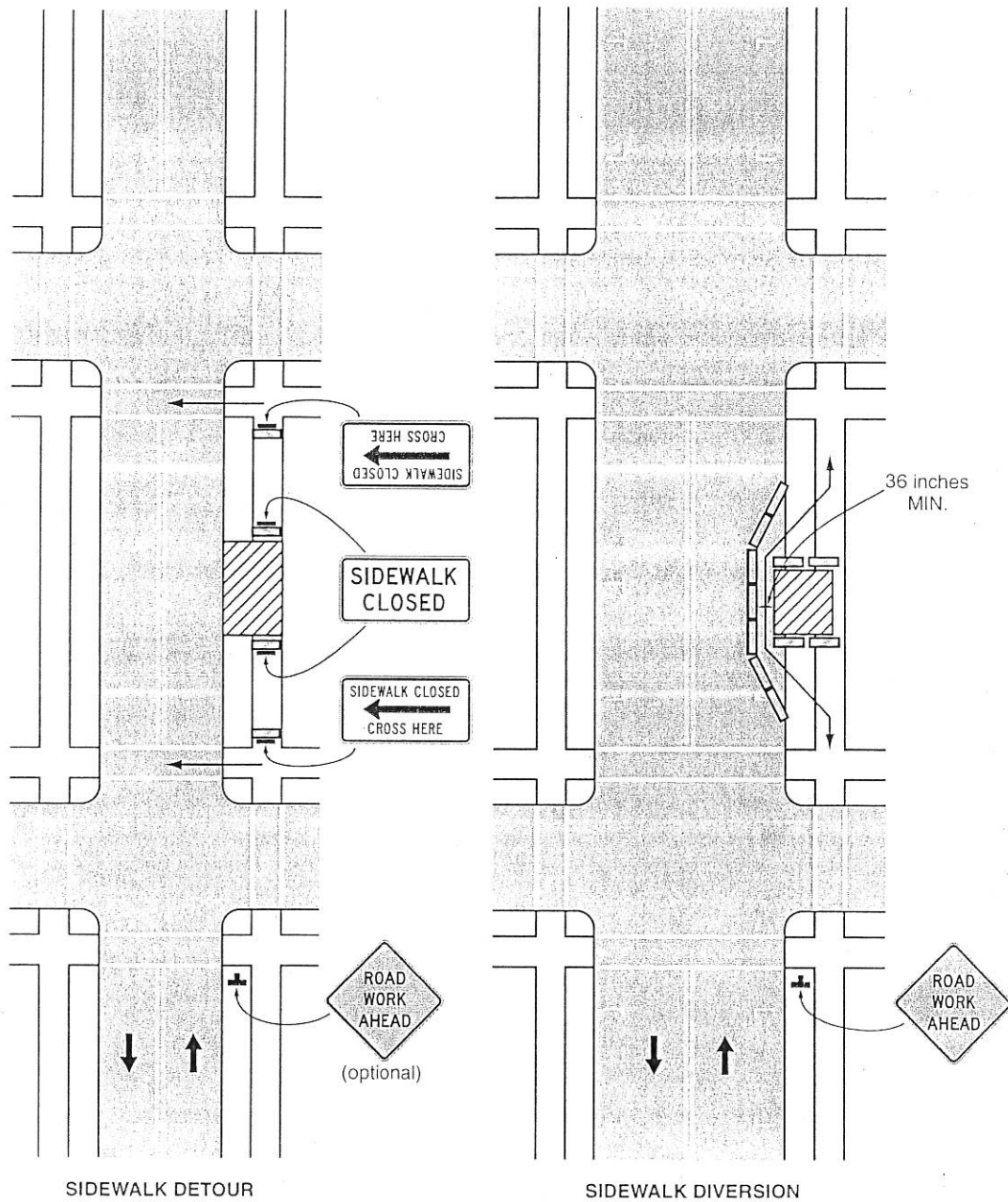
Guidance:

2. *Where high speeds are anticipated, a temporary traffic barrier and, if necessary, a crash cushion should be used to separate the temporary sidewalks from vehicular traffic.*
3. *Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.*

Option:

4. Street lighting may be considered.
5. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic.
6. For nighttime closures, Type A Flashing warning lights may be used on barricades that support signs and close sidewalks.
7. Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights may be used on channelizing devices separating the temporary sidewalks from vehicular traffic flow.
8. Signs, such as KEEP RIGHT (LEFT), may be placed along a temporary sidewalk to guide or direct pedestrians.

Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Notes for Figure 6H-29—Typical Application 29 Crosswalk Closures and Pedestrian Detours

Standard:

1. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.
2. ~~Curb parking shall be prohibited for at least 50 feet in advance of the midblock crosswalk.~~

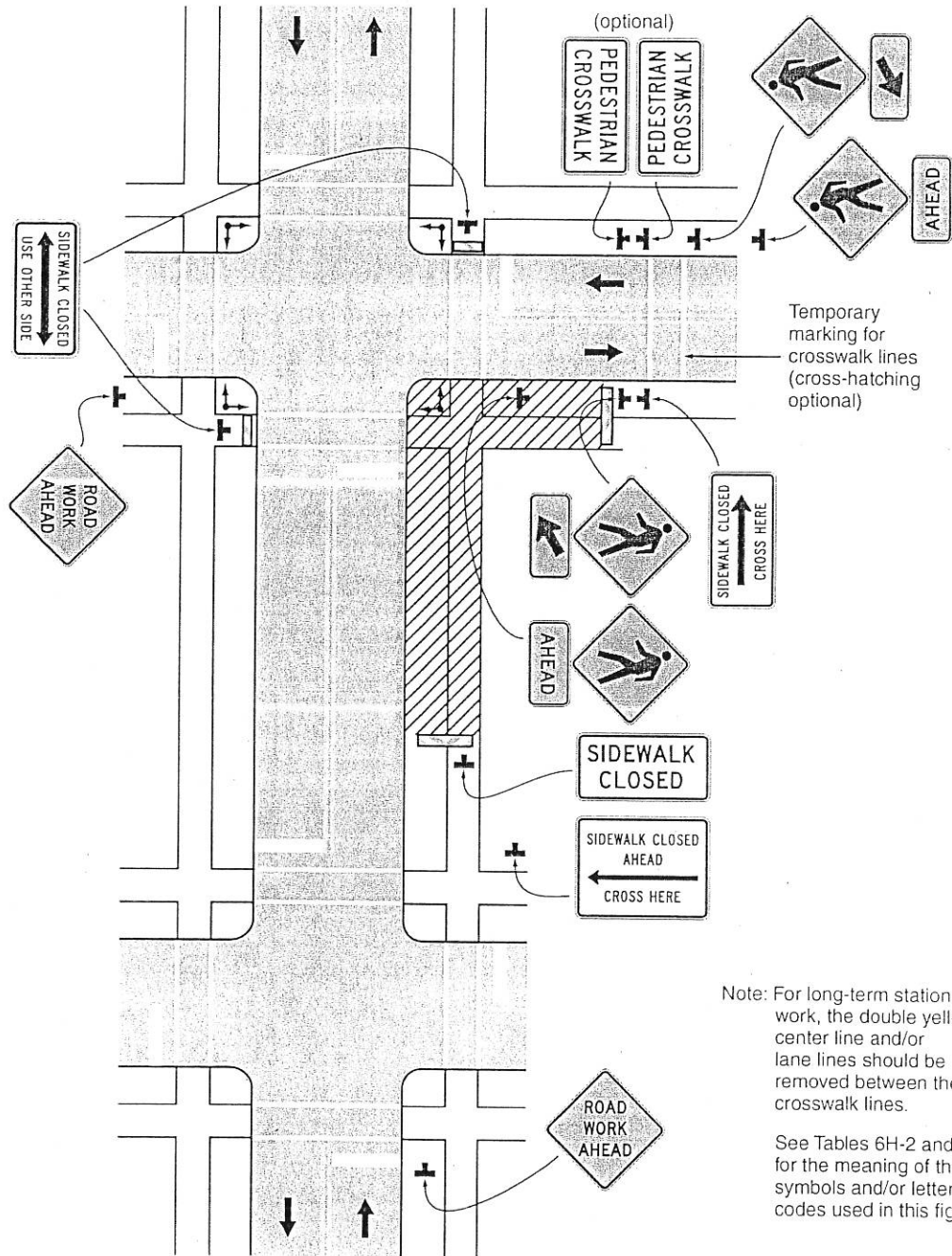
Guidance:

2. *Parking should be prohibited in advance of mid-block crosswalks. Mid-block crosswalks should be avoided, when possible. See Section 3B.18.*
3. *Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.*
4. *Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.*

Option:

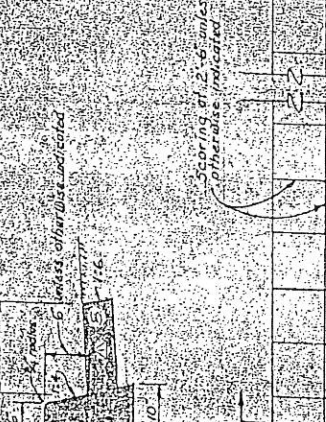
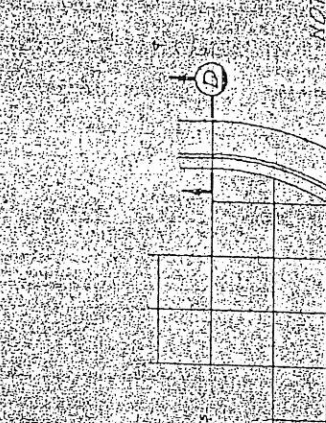
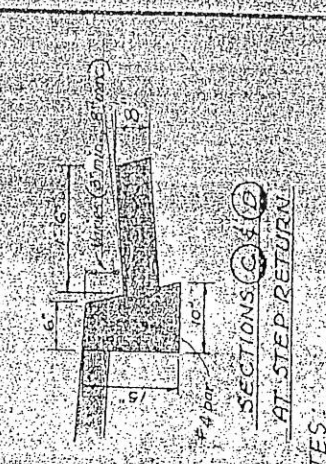
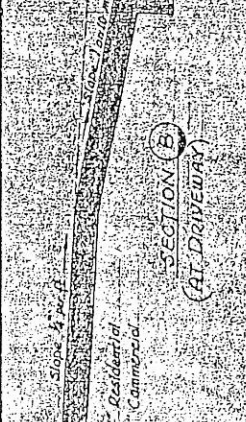
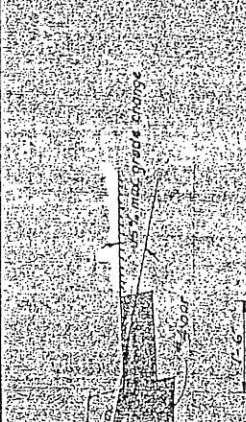
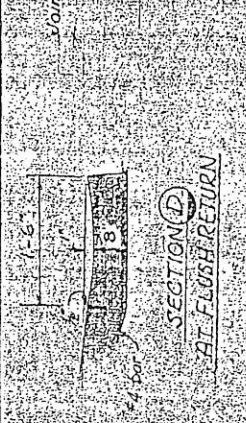
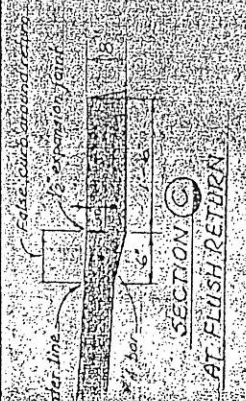
5. Street lighting may be considered.
6. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic.
7. For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and closing sidewalks.
8. Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights may be used on channelizing devices separating the work space from vehicular traffic.
9. In order to maintain the systematic use of the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs in a jurisdiction, the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs may be used in TTC zones.

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



Typical Application 29

2



NOTES:
 1. Expansion joints at 10'
 2. Finish as specified
 3. Transition to existing under gutter shall be 5' long
 4. Expansion joints at 10'
 5. Finish as specified
 6. Transition to existing under gutter shall be 5' long

CURB AND GUTTER
 1. Expansion joints at 10'
 2. Finish as specified
 3. Transition to existing under gutter shall be 5' long

SIDEWALK AND DRIVEWAY
 1. Expansion joints at 10'
 2. Finish as specified

SECTIONS C & D AT STEP RETURN
 1. Expansion joints at 10'
 2. Finish as specified
 3. Transition to existing under gutter shall be 5' long

CITY OF ALAMEDA
 CALIFORNIA
 ENGINEERING DEPARTMENT
STANDARD PLAN
CURB GUTTER
SIDEWALK AND DRIVEWAY
(IN SUBSIDENCE AREAS)

DATE	NO.	BY	CHKD.
APR 19 1968	10	WJ	WJ
MAY 19 1974	11	WJ	WJ
DRAWN BY H. S. WONG			
CHECKED BY W. J. B. B.			
SCALE NONE			
OCT 19 1968			

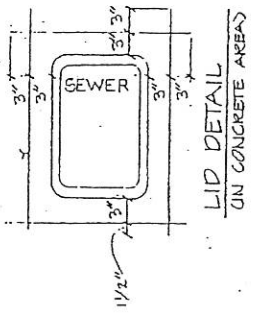
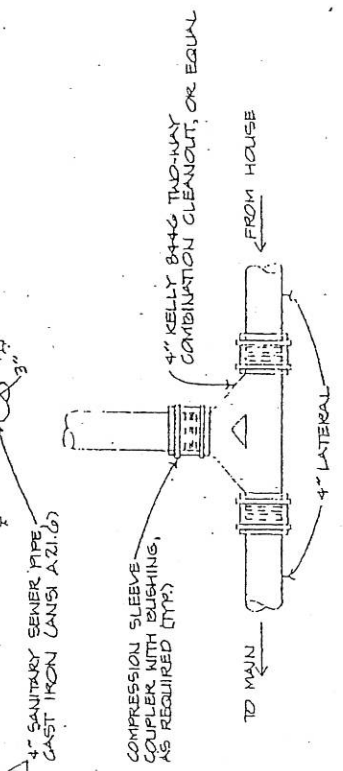
DRIVEWAY WING LENGTHS	10'	7'	5'	6'	8'
FOR VARIOUS CURB HEIGHTS	X	19'	23'	31'	43'

FRONT VIEW AT DRIVEWAY WING

DRIVEWAY WING LENGTHS
FOR VARIOUS CURB HEIGHTS

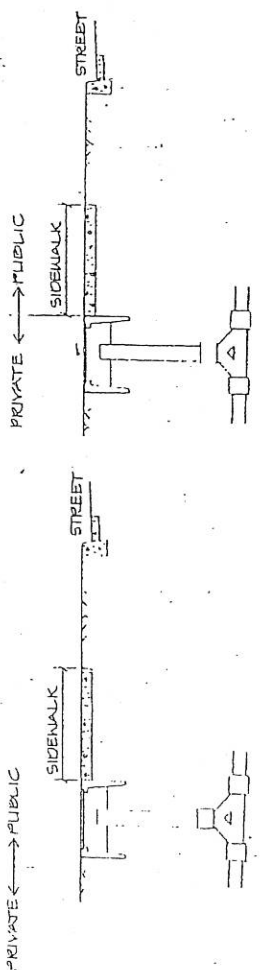
6295B 2/4

INSTALL CHRISTY 83 METER BOX OR EQUAL FLUSH WITH EXISTING SURFACE. SEE LEFT FOR LOCATION.
 CHRISTY DIO LID OR EQUAL. IN DRIVEWAYS USE CHRISTY CIO LID, OR EQUAL. SEE DETAIL

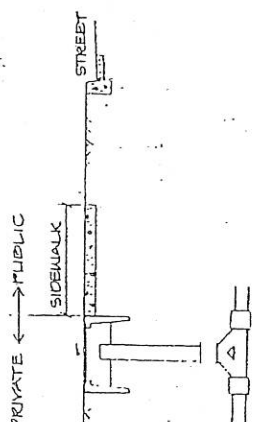


- NOTES**
1. IN LANDSCAPED AREAS, INSTALL BOX FLUSH WITH EXISTING GROUND.
 2. IN CONCRETE AREAS OR DRIVEWAYS, INSTALL BOX FLUSH WITH ADJACENT SURFACE. RECONSTRUCT CONCRETE PER DWS. 625EB-24.
 3. IN DRIVEWAY AREAS, ANGLE BOX TO DRIVEWAY SLOPE. COVER & BOX SHALL BE TRAFFIC RATED.
 4. "SEWER" SHALL APPEAR ON TOP OF LID. SEE DETAIL.
 5. PRECISE LOCATIONS OF BOXES TO BE DETERMINED IN THE FIELD BY THE CITY INSPECTOR.

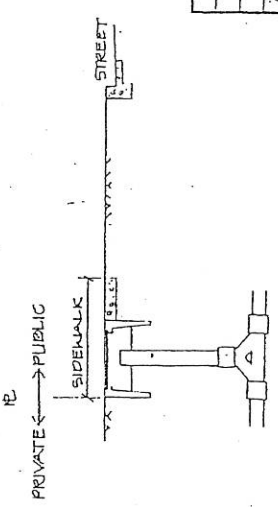
OPTION 1A - BEHIND SIDEWALK, IN PUBLIC RIGHT-OF-WAY
 (PROPERTY LINE)
 PRIVATE ← → PUBLIC



OPTION 1B - BEHIND SIDEWALK, ON PRIVATE PROPERTY



OPTION 2 - SIDEWALK OR DRIVEWAY



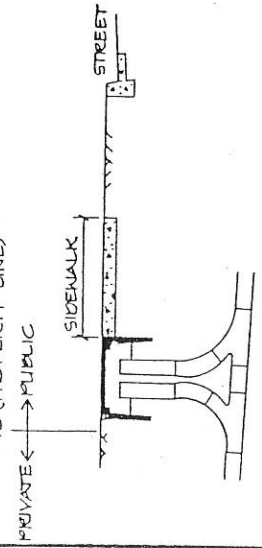
CLEANOUT LOCATIONS

DESIGNED: FORNER		BY: JJK	APP: MR
DRAWN: KERPEL			
CHECKED: SANDERSON			
DATE: OCT. 1989		SCALE: NONE	
CITY OF ALAMEDA CALIFORNIA ENGINEERING DEPARTMENT			
STANDARD 4" HOUSE LATERAL TWO-WAY CLEANOUT			
APPROVED BY: <i>[Signature]</i> CITY ENGINEER		DATE: 19 Dec 1989	SHEET: 1 OF 1
DWG. 8396		CASE	34

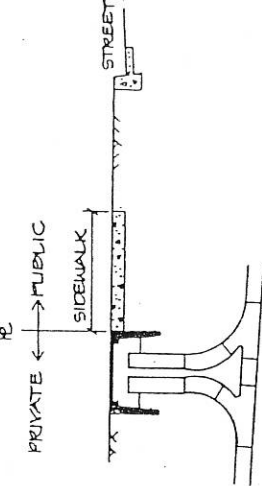
NOTES

1. IN LANDSCAPED AREAS, INSTALL BOX FLUSH WITH EXISTING GROUND.
2. IN CONCRETE AREAS OR DRIVEWAYS, INSTALL BOX FLUSH WITH ADJACENT SURFACE. RECONSTRUCT CONCRETE PER DWG. G2950-24.
3. IN DRIVEWAY AREAS, ANGLE BOX TO DRIVEWAY SLOPE. COVER & BOX SHALL BE TRAFFIC RATED.
4. "SEWER" SHALL APPEAR ON TOP OF LID. SEE DETAIL.
5. PRECISE LOCATIONS OF BOXES TO BE DETERMINED IN THE FIELD BY THE CITY INSPECTOR.

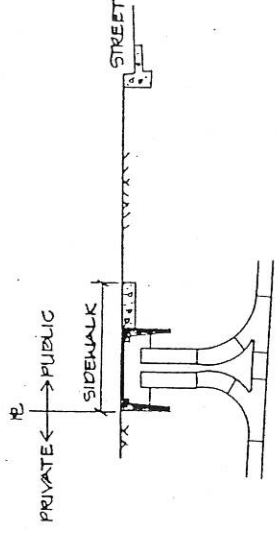
OPTION 1A - BEHIND SIDEWALK, IN PUBLIC RIGHT-OF-WAY
 (PROPERTY LINE)



OPTION 1B - BEHIND SIDEWALK ON PRIVATE PROPERTY



OPTION 2 - SIDEWALK OR DRIVEWAY



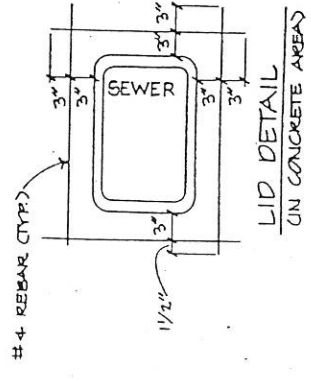
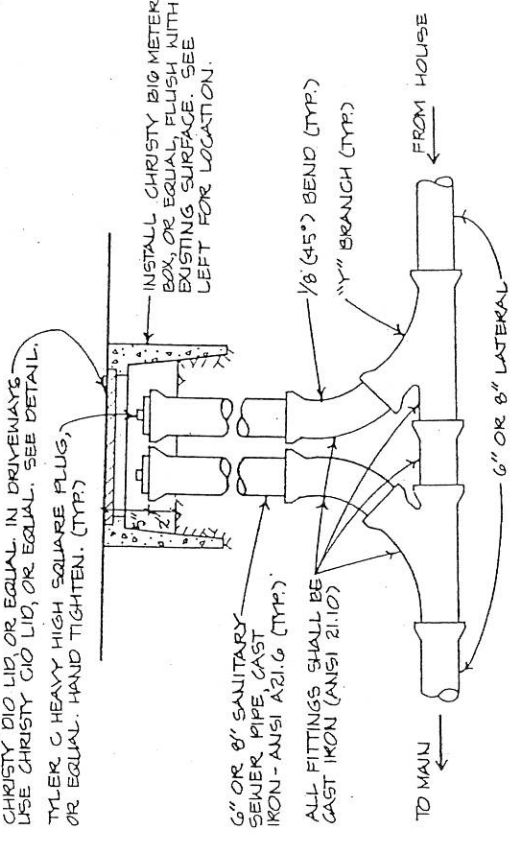
CLEANOUT LOCATIONS

CHRISTY DIO LID, OR EQUAL, IN DRIVEWAYS USE CHRISTY GIO LID, OR EQUAL. SEE DETAIL. TYLER, C HEAVY HIGH SQUARE FLUSH, OR EQUAL. HAND TIGHTEN. (TYP)

INSTALL CHRISTY BIG METER BOX, OR EQUAL, FLUSH WITH EXISTING SURFACE. SEE LEFT FOR LOCATION.

6" OR 8" SANITARY SEWER PIPE, CAST IRON - ANSI 21.10 (TYP)

ALL FITTINGS SHALL BE CAST IRON (ANSI 21.10)



NO.	REVISED	BY	APP.
Δ	2-13-97	JK	MC
DESIGNED: FORNER			
DRAWN: KERPEL			
CHECKED: SANJERSON			
DATE: OCT. 1989			SCALE: NONE

CITY OF ALAMEDA
 CALIFORNIA
 ENGINEERING DEPARTMENT

STANDARD
 6" OR 8" HOUSE LATERAL
 TWO-WAY CLEANOUT

APPROVED: *[Signature]*
 CITY-ENGINEER

DATE: 19 Dec 1989

SHEET: 1 OF 1

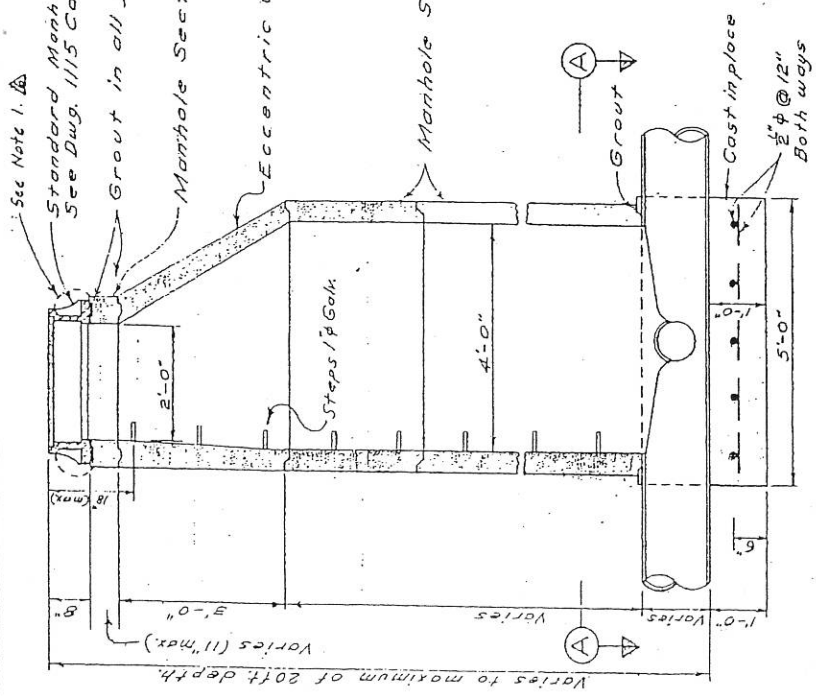
DWG. NO. 8397

CARE 34

See Note 1. Δ
 Standard Manhole Frame & Cover.
 See Dwg. 1115 Case 34

Grout in all joints
 Manhole Section

Eccentric Cone
 Manhole Sections

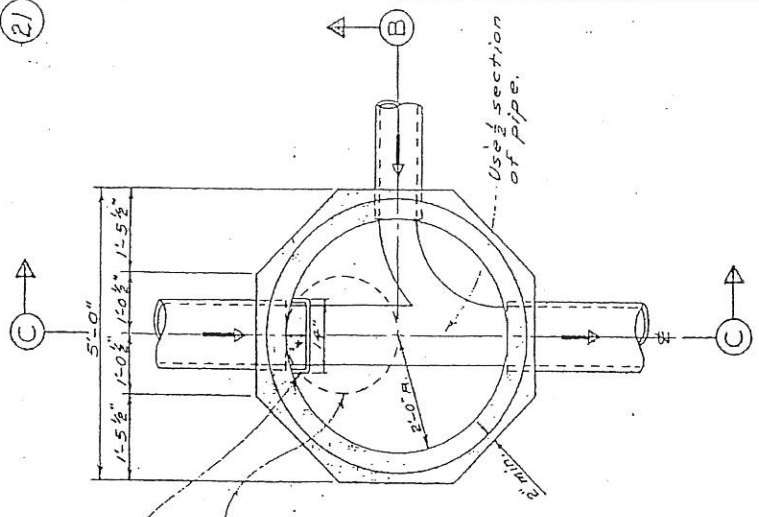


SECTION C
 Scale $\frac{1}{2}'' = 1'-0''$

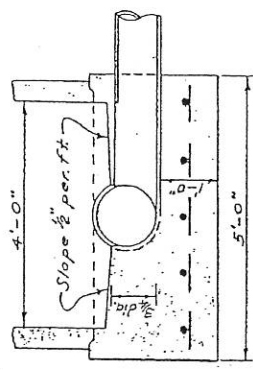
Δ Steps 1/4 gals. located on the upstream side of main line, unless otherwise specified by the Engineer.

Location of frame opening

Δ NOTE:
 When main is .18" in diameter or larger, eccentric cone steps shall be set 90° from direction of flow.



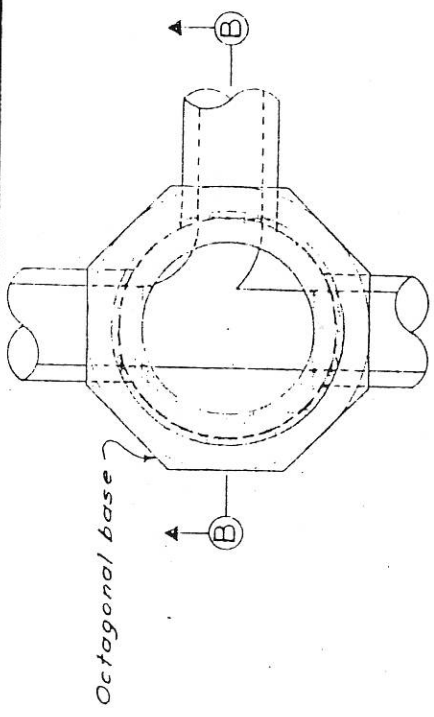
SECTION A
 Scale $\frac{1}{2}'' = 1'-0''$



SECTION B
 Scale $\frac{1}{2}'' = 1'-0''$

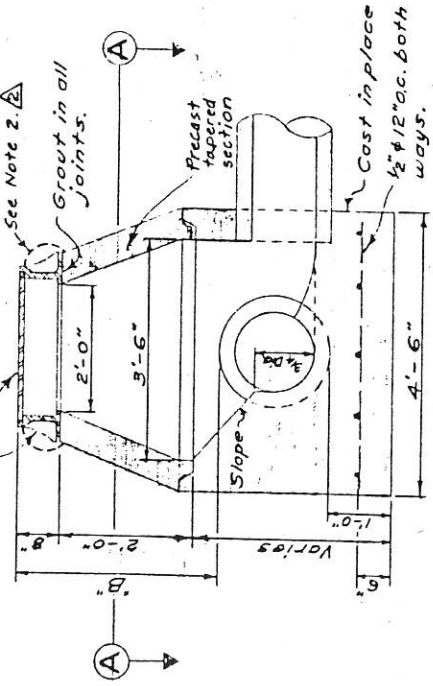
- NOTES
1. A ring of mortar, approximately 5" deep extending past the outer edge of the ring shall be placed all around & on top of the bottom flange. The mortar shall be smoothly finished & have a slight slope to shed water away from the frame. (This condition applies in pavement areas only.)
 2. A standard street patch shall be used in paved areas.
 3. Steps shall be installed equally spaced at 16" centers minimum.
 4. External bands shall be applied.
 5. All joints shall be watertight.
- Use Type "A" Manhole for depth of cover on main sewer pipe over 5'-5". See Dwg. 5432-34 for shallower depths.

APPROVED BY <i>M. J. Lawrence</i> CITY ENGINEER	SHEET 1 OF 1
REG. C. E. NO. 7061	DATE 1-16-64
2815	34
CITY OF ALAMEDA CALIFORNIA ENGINEERING DEPARTMENT	
STANDARD PRE-CAST CONCRETE MANHOLE	
TYPE "A"	
COMPILED P. H. Long	BY D.P.
DRAWN M. T. Terry	BY D.P.
CHECKED P. H. Long	BY D.P.
DATE Jan. 1964	SCALE $\frac{1}{2}'' = 1'-0''$
Jan. 1972 Terry PH	
Feb. 1970 Terry PH	
Feb. 1987 Terry PH	
May 1979 Terry PH	



SECTION A-A

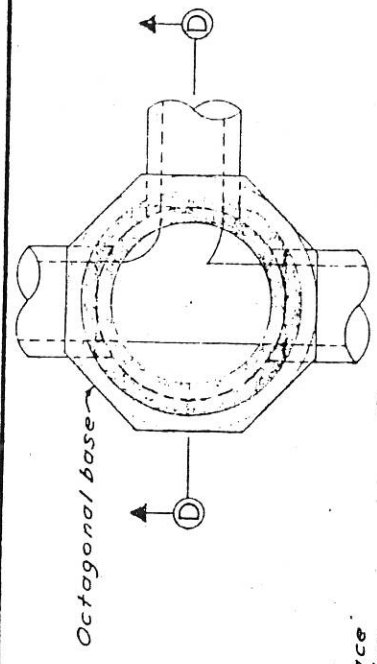
Sta. M.H. Frame & Cover
See Dwg. 1115 Case 34



SECTION B-B

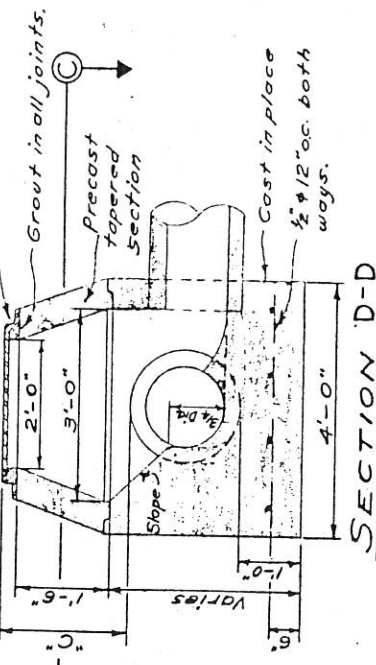
STANDARD MANHOLE
TYPE B

This M.H. shall be used for values of "B" from 2'-6" to 3'-5"



SECTION C-C

Use a 3" frame (See Dwg. 4857 Case 14) only when cover does not allow a std. 8" M.H. frame and cover.



SECTION D-D

STANDARD MANHOLE
TYPE C

This M.H. shall be used for values of "C" less than 2'-6"

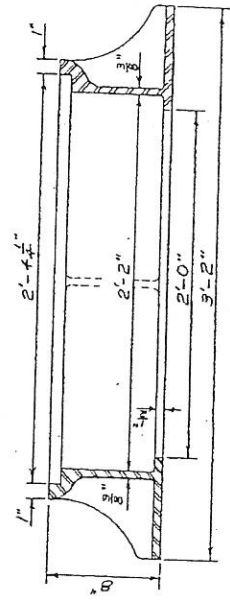
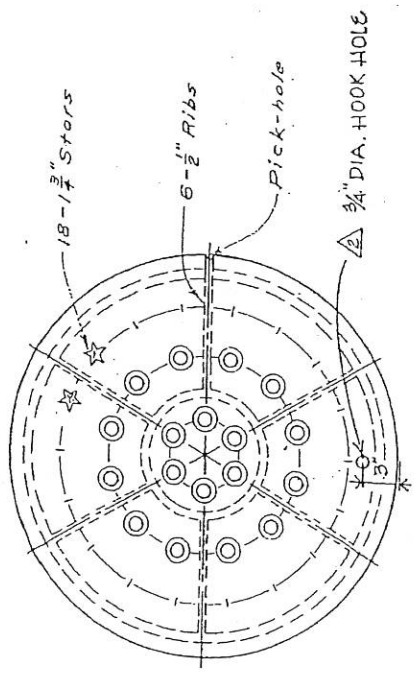
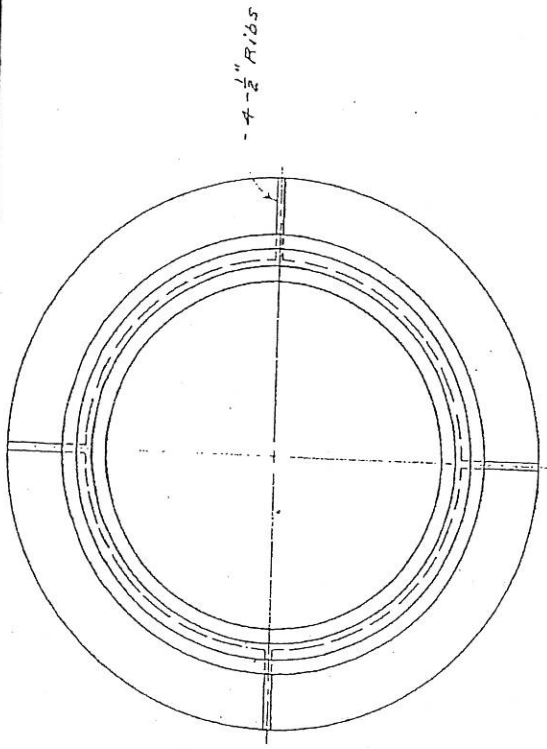
- Notes:
1. Values "B" and "C" are depths from ground surface to top of main sewer pipe. Sewer laterals with cover less than that of main sewer may require the chipping out of a portion of the tapered section of the manhole to accommodate the pipe.
 2. A ring of mortar approximately 1/4" deep and extending past the outer edge of the ring shall be placed all around and on top of the bottom flange. The mortar shall be smoothly finished and have a slight slope to shed water away from the frame. (This condition applies in nonpaved areas only. A standard street patch shall be used in paved areas.)

APPROVED BY	SHEET 1 OF 1
<i>M. J. Hanna</i>	
CITY ENGINEER	
REG. C. E. NO. 7061	
DATE 12-4-63	
DWG. NO. 5432	CASE 34

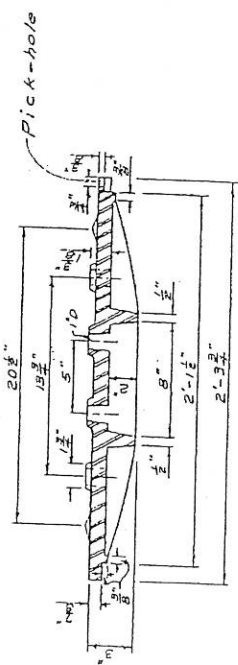
CITY OF ALAMEDA
CALIFORNIA
ENGINEERING DEPARTMENT

STANDARD MANHOLES
TYPES "B" AND "C"
SHALLOW DEPTH

This M.H. shall be used for values of "B" from 2'-6" to 3'-5"



BODY CASTING



COVER

NOTE:

1. For sidewalks use solid flat top covers with concentric circle design as shown on Dwg. 4857 Case 1A.
2. Cover and frame shall be machined to fit accurately so that cover shall not rock or rattle under the wheels of traffic.
3. SOLID COVER WITHOUT HOLES (EXCEPT FOR PICK-HOLE HOLES) FOR SANITARY SYSTEM. FOR STORM SYSTEM, SOLID COVER OPTIONAL.
4. AFTER ALL HORIZONTAL BEARING SURFACES HAVE BEEN MACHINED, CASTINGS SHALL BE DIPPED IN ASPHALT PAINT.

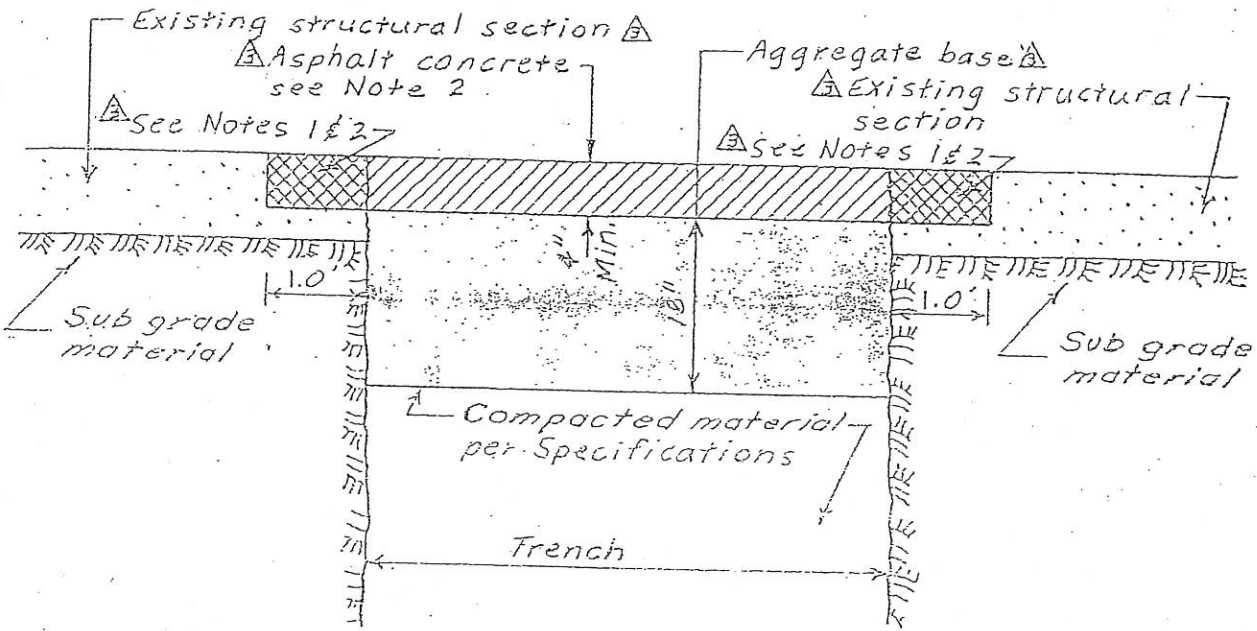
△ Re-drawn

△	1-16-89	MF	MF
△	10-3-79		
△	5-13-67	Terry	
NO.	REVISED	BY	APP.
COMPILED			
DRAWN	W. Terry		
CHECKED	R.R. Bulford		
DATE	May 1967		
SCALE	None		

CITY OF ALAMEDA
CALIFORNIA
ENGINEERING DEPARTMENT

STANDARD
MANHOLE COVER

SHEET 1 OF 1
APPROVED BY M. J. Hoover
CITY ENGINEER
REG. C. E. NO. 2061
DATE 5-24-67
DWG. 1115 CASE 34



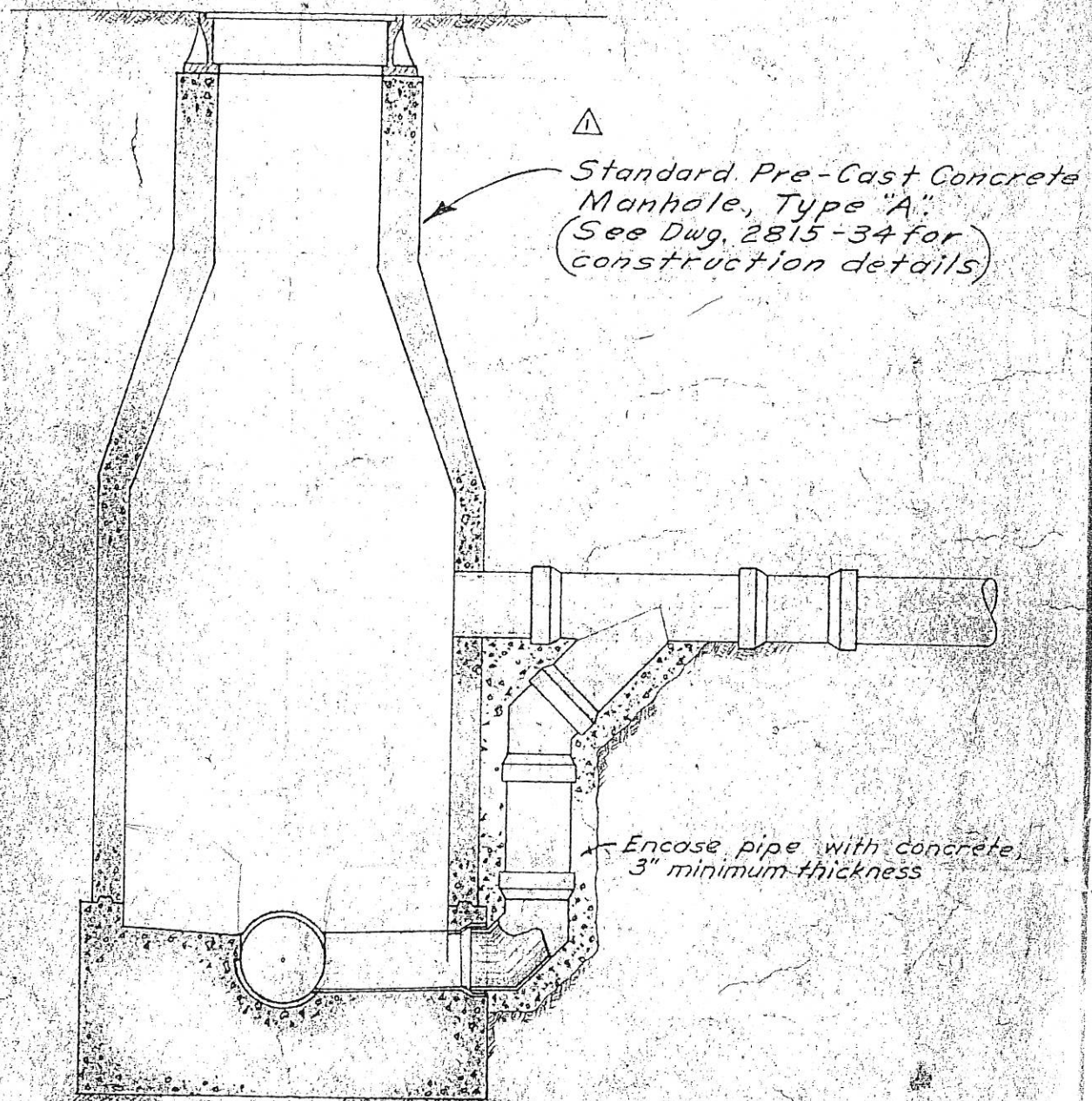
NOTES

1. For trenches wider than 6", cut & remove additional one foot (1.0') width of asphalt concrete on both sides of the trench after placement of aggregate base & prior to paving.
2. Pave entire opening with 4" min. of AC or equal to original depth of AC (whichever is greater).

APRIL 1998	CRS	CTD
MAY 1996	FDB	CTD
FEB. 1975	Terry	MJK
Nov. 1961	Terry	MJK
REVISION	BY	APVD.
PREPARED BY	LAWN W. Terry	
CHECKED		
DATE	SCALE	
01.1961	None	

CITY OF ALAMEDA
 CALIFORNIA
 ENGINEERING DEPARTMENT
STANDARD SECTION
FOR
REPAVING TRENCHES

SHEET 1 OF 1
APPROVED BY
<i>M. J. Hanna</i>
CITY ENGINEER
REG. C. E. NO. 7061
DATE 12-5-61
DWG. 2930
CASE 22



△	Feb. 1965	W.T. MH
REVISION	BY	APVD.
COMPILED	STORRS	
DRAWN	STORRS	
CHECKED	EICHELBERGER	
DATE	SCALE	
12-20-54	NONE	

CITY OF ALAMEDA
CALIFORNIA
ENGINEERING DEPARTMENT

STANDARD
DROP INLET MANHOLE

SHEET	1	OF	1
APPROVED BY	<i>M. J. Hanna</i>		
	W. J. HANKA		
	CITY ENGINEER		
	REG. C. E. NO. 7061		
DATE	12-20-54		
DWG.	4216	CASE	32