The City of Albany, California invites
qualified contractors to submit sealed bids for:

2012 Sanitary Sewer Project

Contract No. C12-20

Contents of This Package:

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Bidder's Proposal
Form of Contract (Agreement), including Insurance Requirements
Form of Performance Bond
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Appendix

Bound Separately
Project Plans
City Standard Specifications

DEADLINE FOR RECEIPT OF BIDS
2:00 PM
XXX, 2013

City of Albany

Beth Pollard, City Administrator

Ann Chaney, Community Development Director

Richard Cunningham, Public Works Manager

95% Submittal

December 2012

FOR QUESTIONS OR FURTHER INFORMATION
CALL (510) 524-9543

City of Albany
2012 Sanitary Sewer Project
Contract No. C12-20

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INVITATION TO BID

The City of Albany, California
Invites bids from qualified contractors for
2012 Sanitary Sewer Project
CONTRACT NO. C12-20

LOCATION AND DESCRIPTION OF WORK: The project covers two areas within the City identified as Area 1 and Area 2 as shown on the plans. Area 1 is located within a residential area located on the southwestern slope of Albany Hill. Area 2 is situated in easements located north of Brighton Avenue between San Pablo Avenue and Evelyn Avenue and south of the El Cerrito Creek. The work in general includes removal of existing 6" SS mains and repiacing them with 8" SS pipes by open trench method, pipe bursting of existing 6" VCP sewer mains with 8.625" OD HDPE Pipe or 6.25" OD HDPE Pipe as indicated on the plans, installation of a new 8" SS main by horizontal directional drilling in Pierce Street in Area 1, installation of a new 8" SS pipe by Pilot Tube Guided Auger Boring in Area 2, removing existing manholes, connecting to existing manholes, installing new manholes, pipe bursting all existing live service laterals and installing standard two-way cleanouts at properties where they do not already exist, together with the miscellaneous items of work indicated on the official plans prepared therefore.

ENGINEER'S ESTIMATE OF COST FOR WORK UNDER THIS CONTRACT: $$$$$$$

BID REQUIREMENTS: Sealed bids will be received at the office of the **City Maintenance Center at 548 Cleveland Avenue, Albany, California,** 94710, **until 2:00 PM, XXXXXXXXXXX** at which time bids will be opened by the City Clerk. Bids received after 2:00 PM and oral, telephonic and facsimile transmission bids will not be accepted. ***Bids must be submitted on a Bidder's Proposal form supplied by the City***, accompanied by a ten percent (10%) bid security (cashier's check, certified check or bid bond). The Contractor must be in possession of a valid A-General Engineering Contractor License from the State of California or combination of valid Class C licenses as may be appropriate to the nature of the work.

PREVAILING WAGES: The Contractor and all Subcontractors on this job will be subject to the requirements for payment of prevailing wages as set forth in the California Labor Code and California Code of Regulations.

PRE-BID MEETING: A RECOMMENDED NON-MANDATORY pre-bid meeting for bidders is scheduled for **1:00 pm Tuesday, XXXXXXXXXXXX** at the Public Works Maintenance Center, 548 Cleveland Avenue, Albany, CA 94710

BIDDING AND CONSTRUCTION DOCUMENTS: A complete bid package may be obtained for the ***non-refundable*** price of $35.00 [$40.00 if delivered or mailed] at: Albany City Hall, Community Development Department, 979 San Pablo Avenue, Albany, CA 94706. Complete bid packages can be ordered for delivery directly from *BPXpress*, Richmond, CA. 510-559-8299. Plans are available for inspection at Bay Area plan Rooms. ***For technical inquiries, contact Randy Leptien, LCC, Inc., City Engineer at rleptien@albanyca.org or at (925) 228-4218. For inquires regarding plans and specifications, call Ana Bernardes, Project Manager for the City of Albany, at (510) 524-9543.***

NONDISCRIMINATION/AFFIRMATIVE ACTION: The City of Albany will affirmatively ensure that minority business enterprises will be afforded full opportunity to submit bids in response to this invitation, and that no bidder will be discriminated against on the grounds of race, religion, color, ethnic group identification, national origin, ancestry, sex, age, marital status, sexual orientation, physical or mental disability or medical condition in consideration of a contract award or in subcontracts entered into by the successful bidder.

CITY OF ALBANY

DATE: _____, 2009

BY:_____

CITY OF ALBANY, ALAMEDA COUNTY, CALIFORNIA

2012 Sanitary Sewer Project
Contract No. C12-20

The Special Provisions and Technical Specifications contained herein have been prepared by or under the direction of the following Registered Persons.

Exp. Date?

December 2012

LCC, Inc., City Engineer — Date

Engineers Stamp, Signature & Date

City of Albany

INFORMATION & INSTRUCTIONS FOR BIDDERS

Albany is a charter city and, therefore, is not bound by the provisions of the California Public Contract Code pertaining to public construction projects. However, the Albany City Charter contains provisions identical to the basic provisions of the state law. Topics not covered by the Albany City Charter are addressed in the General Provisions in the City of Albany Standard Specifications, July 1993, which may be different from the provisions of State law. This bidding and contracting process is being conducted pursuant to said General Provisions. Bidders are advised to familiarize themselves with these General Provisions and any modifications set out in any Special Provisions included in this bid package. This "Information & Instructions for Bidders" is intended only to summarize or highlight certain sections of the General Provisions; any differences in language are for purposes of clarity and are not substantive.

1. FORM OF BID. The terms "bid," "bidder's proposal," and "proposal" are used interchangeably throughout the bid documents. ***All bids must be submitted on the 12-page original yellow Bidder's Proposal form provided by the City.*** All blanks must be filled in or marked "N/A," if not applicable. Oral, telegraphic, telephonic, or facsimile bids will not be considered. Unauthorized conditions, limitations, or provisions attached to a Bidder's Proposal (bid), or any interlineations, alterations, or erasures on the Bidder's Proposal may cause rejection of the bid. Alternative bids will not be considered unless called for by the City.

2. BID SECURITY. Attached to every Bidder's Proposal shall be bid security in the form of a Cashier's check, certified check or bidder's bond, made payable to the City of Albany, in an amount equal to at least ten percent (10%) of the total base bid amount. The bid security shall be relinquished and returned to the bidder if (a) the bidder is not awarded a contract for the project; or, (b) the bidder is awarded a contract, executes the contract, and provides all required bonds and certificates within the time limit and on the terms set forth in these documents. Otherwise, the full amount of the bid security becomes property of the City of Albany.

3. SUBMITTAL OF BID. The completed Bidder's Proposal and all documents listed at the end of the Bidders Proposal form shall be enclosed in a sealed envelope bearing the name of the bidder and the name of the project, and delivered by the time and to the place specified in the Invitation to Bid. It is the bidder's sole responsibility to assure the City receives that his/her/its bid by the specified closing time. Any bid received after the scheduled closing time will be returned to the bidder unopened.

4. WITHDRAWAL OF BID. A bid may be withdrawn by the bidder by means of a written request, signed by the bidder or his/her/its properly authorized representative and delivered to the place stipulated for the receipt of bids **prior to the scheduled closing time.**

5. OPENING OF BIDS. The bids will be publicly opened and read at the time and place specified in the Invitation to Bid.

6. DISCREPANCIES IN DOLLAR AMOUNTS. Amounts written in words (where applicable) shall control over numbers. If other than a "lump sum" bid is required, the bidder shall furnish a price for all bid items listed in the Schedule included in the Bidder's Proposal package. Failure to do so may be cause for rejection of the bid. In case of discrepancy between a unit price and the extension of a unit price times the quantity, the unit price shall prevail. In the event the "Total Bid " stated by the bidder does not agree with the sum total of the prices bid on individual items, the sum total of the prices bid on individual items shall govern, and the "Total Bid" will be corrected accordingly.

7. DISQUALIFICATION OF BIDDERS. More than one bid from an individual, firm, partnership, corporation or association under the same name or different names will not be considered. Reasonable grounds for believing that any bidder has a financial interest in more than one bid for the work contemplated will cause the rejection of all bids in which such bidder is interested. If there is reasonable cause to believe that collusion exists among two or more bidders, all bids will be rejected. All bidders are required to execute and submit as part of their Bid Proposal, the Statement of Non-Collusion included in these documents.

8. COMPETENCY OF BIDDERS. In selecting the lowest responsive responsible bidder, consideration will be given not only to the bidder's financial standing, but also to the general competency of the bidder to perform the work covered by the bid. Evaluation of a bidder's experience in performing similar or comparable work, and an assessment of the likelihood that the bidder will complete the work in accordance with the contract documents, will be factors in determining the award of a contract. Each bidder agrees to provide additional information about his/her firm promptly upon request of the City. Requested information may pertain to the organization and management of the firm, the firm's financial condition, past experience, references, employee safety history, and such other information as the City deems necessary to verify the bidder's ability to responsibly perform the work in accordance with the contract documents.

No bid will be accepted from a contractor who, at the time of opening the bids, does not hold a current and active California Contractor's license in good standing of a class appropriate to the work for which bids are being received.

9. ACTION BY CITY; AWARD OF CONTRACT. The Albany City Council (or, in some cases, the Albany City Administrator acting on behalf of the City Council) is the final authority in the award of contracts. For any given project, the City Council may, in its sole discretion, accept all bids and award a contract in the interests of the City, waive any informality in a bid, reject certain bids as non-responsive, or reject all bids. If a contract is awarded, the award will be based on the lowest overall cost to the City and the competency of the bidder (see section above), and will be awarded to a responsible bidder whose proposal (bid) complies with all of the requirements set out in the bid documents.

10. BONDS FOR LABOR & MATERIALS & FAITHFUL PERFORMANCE. Concurrent with the execution of the contract, the successful bidder shall obtain and deliver to the City, in forms acceptable to the Director of Community Development (1) a labor and materials bond; and, (2) a faithful performance bond, each in an amount equal to 100% of the total base bid amount for the project. Attorneys-in-fact who sign bonds must file with each bond a certified and effectively dated copy of their powers of attorney.

11. EXECUTION OF CONTRACT. The successful bidder will execute and deliver a contract with the City of Albany in substantially the same form as the sample agreement included in this bid package, secure all insurance and furnish required certificates and securities, all within ten (10) calendar days from the date of Notice of Award of the award of the contract by the City Council (or City Administrator). Failure or refusal to enter into a contract as herein provided, or to conform to any of the requirements in connection therewith, shall be just cause for annulment of the award and forfeiture of the bid security. If the successful bidder refuses or fails to execute the contract, the City may award the contract to the second lowest responsive responsible bidder within 45 calendar days after the opening of bids. If the second lowest bidder refuses or fails to execute a contract, such bidder's bid security shall be forfeited to the City.

12. NOTICE TO PROCEED. A Notice to Proceed will be issued by the City after the execution of the contract documents by the successful bidder. The successful bidder shall commence work within Ten (10) Calendar days of his/her/its receipt of the Notice to Proceed.

13. PREVAILING WAGE RATES. This is a prevailing wage project. The City will require the contractor to submit his/her certified payroll.

14. BIDDER'S NAME. The Bidder shall enter the Bidder's (Company) Name on each page of the Bid.

This Bidder's Proposal must be received by the Albany City Clerk no later than 2:00 pm, XXX , 2012.

ONLY BIDDER'S PROPOSALS SUBMITTED ON THIS FORM WILL BE CONSIDERED.
(This Bidder's Proposal form consists of 12(twelve) pages.)

City of Albany

2012 Sanitary Sewer Project

CONTRACT NO. C12-20

BIDDER'S PROPOSAL (BID)

TO: City Clerk, Albany, California **DATE:**_____

FROM: Name of Bidder (company)_____

Business Address_____

_____ _____

Contractor's License No._____ Expiration date_____

☐ Corporation ☐ Partnership ☐ Individual/Sole proprietorship

Person to be contacted regarding this proposal:

Name_____Title_____

Business phone_____ Fax_____

I/we hereby propose to furnish all labor, materials, equipment and incidentals necessary for the completion of the project named above, in accordance with the contract documents, for the following prices, to wit:

_____

➔➔➔ ***Bidder's name (write on every page)*** _____

BID SCHEDULE "A"– AREA1					
Item	Description	Quantity	Unit	Unit Price	Amount
A.1	Mobilization / Demobilization (not to exceed 5% maximum of Total Base Bid)	1	LS		
A.2	Permit & Licenses	1	LS		
A.3	Construction Staking	1	LS		
A.4	Erosion & Sediment Control Plan	1	LS		
A.5	Traffic Control & Public Convenience	1	LS		
A.6	Potholing of Potential Utility Conflicts	1	LS		
A.7	Sheeting, Shoring & Bracing	1	LS		
A.8	Remove and Replace 6" SS Pipe with 8" SS Pipe by Open Trench Method	160	LF		
A.9	Rehabilitate Ex. 6" SS Pipe with 8.625" OD HDPE Pipe by Pipe Bursting	5,650	LF		
A.10	Rehabilitate Ex. 8" SS Pipe with 8.625" OD HDPE Pipe by Pipe Bursting	270	LF		
A.11	Rehabilitate Ex. 6" SS Pipe with 6.25" OD HDPE Pipe by Pipe Bursting	640	LF		
A.12	Install 6" SS Pipe by Open Trench Method	80	LF		
A.13	Install 8" SS Pipe by Open Trench Method	120	LF		
A.14	"At The Contractor's Option, Upsize Ex. 6" SS Pipe To 8" SS in Johnson Street By One of The Following Options: (Contractor to circle the chosen method) A. Open Trench Construction (PVC) B. Pipe Bursting (SDR 17, HDPE)	310	LF		
A.15	"At The Contractor's Option, Upsize Ex. 6" SS Pipe To 8" SS in Taylor Street By One of The Following Options: (Contractor to circle the chosen method) A. Open Trench Construction (PVC) B. Pipe Bursting (SDR 17, HDPE)	600	LF		
A.16	Install 6" Pipe by Horizontal Directional Drilling (HDD)	100	LF		
A.17	Install 6" CIPP Liner in Existing 6" SS Pipe	70	LF		
A.18	Install Shallow SSMH	2	EA		
A.19	Replacement of Asphalt Concrete Pavement Due to Pipe Bursting Heaving	8,360	SF		
A.20	Replacement of Concrete Improvements Due to Pipe Bursting Heaving	19,480	SF		

A.21	Remove Existing SSMH & Replace with Standard SSMH	13	EA		
A.22	Remove Existing SSMH & Replace with Shallow SSMH	26	EA		
A.23	Remove Existing SSMH & Replace with Standard Drop SSMH	3	EA		
A.24	Remove Existing SSMH & Replace with HDPE SSMH	6	EA		
A.25	Remove Existing SSCO	3	EA		
A.26	Abandon Existing SSMH	1	EA		
A.27	Cap Existing 6" SS	8	EA		
A.28	Abandon Existing 6" SS by Slurry Filling	190	LF		
A.29	Install or Remove and Replace 4" Two-Way Cleanout with Concrete Box (for Laterals in Street)	54	EA		
A.30	Rehabilitate Exist. Lower Lateral by Pipe Bursting (4.5" OD HDPE)	940	LF		
A.31	Install Standard One-Way Cleanout with Concrete Box	1	EA		
A.32	4" Lateral Connection to New HDPE SS Main IN Sidewalk or Easement (including 4" SSCO)	67	EA		
A.33	6" Lateral Connection to New HDPE SS Main in Sidewalk or easement (including 6" SSCO)	5	EA		
A.34	4" Lateral Connection to New PVC SS Main in Sidewalk or Easement (including 4" SSCO)	3	EA		
A.35	Connect New Pipe to Existing SSMH & Rebuild Channels	3	EA		
A.36	Bypass Pumping	1	LS		
A.37	Handling and Disposal at Class I Landfill Of Contaminated Material (Revocable)	10	CY		
A.38	Handling and Disposal at Class II Landfill Of Contaminated Material (Revocable)	50	CY		
A.39	Handling and Disposal at Class III Landfill Of Contaminated Material (Revocable)	15	CY		
A.40	Excavate Unsuitable Bedding Material (Revocable)	50	CY		
A.41	Excavate Unsuitable Rock (Revocable)	20	CY		
A.42	Supplemental Work	1	LS	$80,000	$80,000
SUBTOTAL BID SCHEDULE "A" – Area 1					$

➔➔➔ ***Bidder's name (write on every page)*** _____

BID SCHEDULE "B" – AREA 2					
Item	Description	Quanti ty	Unit	Unit Price	Amount
B.1	Mobilization / Demobilization (not to exceed 5% maximum of Total Base Bid)	1	LS		
B.2	Permit & Licenses	1	LS		
B.3	Construction Staking	1	LS		
B.4	Erosion & Sediment Control Plan	1	LS		
B.5	Traffic Control	1	LS		
B.6	Potholing of Potential Utility Conflicts	1	LS		
B.7	Sheeting, Shoring & Bracing	1	LS		
B.8	Remove and Replace 6" SS Pipe with 8" SS Pipe by Open Trench Method	59	LF		
B.9	Remove and Replace 6" SS Pipe with 4" SS Pipe by Open Trench Method	28	LF		
B.10	Rehabilitate Ex. 6" SS Pipe with 8.625" OD HDPE Pipe by Pipe Bursting	462	LF		
B.11	Install 8" SS Pipe by Open Trench Method	569	LF		
B.12	Install 6" CIPP Liner in Existing 6" SS Pipe	20	LF		
B.13	Install 8" SS Pipe by Pilot Tube Guided Auger Boring	372	LF		
B.14	Remove Existing SSMH & Replace with Standard SSMH	4	EA		
B.15	Install Standard SSMH	19	EA		
B.16	Install or Remove and Replace 4" Two-Way Cleanout with Concrete Box	1	EA		
B.17	Install or Remove and Replace 6" Two-Way Cleanout with Concrete Box	1	EA		
B.18	Rehabilitate Exist. Lower Lateral by Pipe Bursting (6.625" OD HDPE)	20	LF		
B.19	4" Lateral Connection to New HDPE SS Main IN Sidewalk or Easement (including 4" SSCO)	16	EA		
B.20	4" Lateral Connection to New PVC SS Main in Sidewalk or Easement(including 4" SSCO)	5	EA		
B.21	Connect New Pipe to Existing SSMH & Rebuild Channels	2	EA		
B.22	Cap Existing 6" SS Pipe	10	EA		
B.23	Abandon Existing 6" SS by Slurry Fill	806	LF		
B.24	Replacement of Asphalt Concrete Pavement Due to Pipe Bursting Heaving	550	SF		
B.25	Replacement of Concrete Improvements Due to Pipe Bursting Heaving	660	SF		

B.26	Remove and Replace Miscellaneous Concrete Improvements	1,090	SF		
B.27	Remove and Replace Fencing	60	LF		
B.28	Bypass Pumping	1	LS		
B.29	Handling and Disposal at Class I Landfill Of Contaminated Material (Revocable)	5	CY		
B.30	Handling and Disposal at Class II Landfill Of Contaminated Material (Revocable)	10	CY		
B.31	Handling and Disposal at Class III Landfill Of Contaminated Material (Revocable)	5	CY		
B.32	Excavate Unsuitable Bedding Material (Revocable)	50	CY		
B.33	Excavate Unsuitable Rock (Revocable)	20	CY		
B.34	Supplemental Work	1	LS	$30,000	$30,000
SUBTOTAL BID SCHEDULE "B" – Area 2					$

TABULATION TABLE		
Item	Description	Amount
1	Base Bid Schedule "A" – Area 1	$
2	Base Bid Schedule "B" – Area 2	$
TOTAL BASE BID PRICE		$

Total Base Bid Price is sum of Base Bids "A" and "B". The Contract will be awarded to the lowest evaluated, responsible bidder based on the Total Base Bid Price.

It is understood and mutually agreed that the quantities of work shown herein are approximate only, and are subject to increase or decrease, and the undersigned offers to do the work whether the quantities are increased or decreased at the unit prices set forth above.

BY SUBMITTING THIS PROPOSAL, THE BIDDER OR BIDDER'S AUTHORIZED OFFICER DECLARES AND AFFIRMS THE FOLLOWING:

1. KNOWLEDGE OF WORK. He/she has visited the project sites, and has a clear understanding of existing conditions and the work to be done pursuant to the Contract Documents. Any claimed lack of such familiarity shall not relieve the successful bidder of his/her/its obligation to enter into a contract and complete the work in strict accordance with the Contract Documents. No allowance will be made for any claim that the bid is based on incomplete information as to the nature and character of the site or the work involved.

2. CONTRACT DOCUMENTS. He/she has familiarized himself/herself with the Contract Documents for this project including, but not limited to, the project plans, the special provisions and all other documents bound together with this proposal; and, the General Provisions in the City of Albany Standard Specifications, July 1993.

He/she has properly completed the following documents, which are attached hereto:

a. **Bidder's Proposal Detail.** Unit prices and total amounts for individual items of work, as listed on the Bidder's Proposal Detail.

b. **Bid Security/Bidders Bond.** Bid security in the form of a Cashier's check, certified check or bidder's bond, made payable to the City of Albany, in an amount equal to at least of ten percent (10%) of the total **BASE BID** amount stated above.

c. **List of Subcontractors (Bidder's Proposal page 15 of 17).** A completed Subcontractor List, on the form provided by the City in this package, including all requested information for each subcontractor who will perform work valued at more than one half of one percent (0.005) of the total bid amount stated above. No changes or substitutions of subcontractors are allowed after bids are opened, except as provided in Division 2, Part 1, Chapter 4 of the California Public Contract Code.

d. **Statement of Non-Collusion.**

e. **Acknowledgement of Receipt of Addendums.**

3. **ACCEPTANCE OF BID.** In the event the Bidder's proposal is accepted, the Bidder understands and agrees as follows:

a. **Additional Information.** To provide additional information about his/her firm and/or any subcontractors, promptly upon request of the City. Requested information may pertain to the organization and management of the firm, the firm's financial condition, past experience, references, employee safety history, and such other information as the City deems necessary to verify the bidder's ability to responsibly perform the work in accordance with the Contract Documents. **NOTE**: **At the bidder's discretion, any such information may be included with his/her bid.**

b. **Contract.** To fully and properly execute, and deliver to the City of Albany, a contract with the City, essentially in the form of the contract contained herein, within ten days of receipt of written notice of acceptance of his/her/its bid.

c. **Bonds and Certificates of Insurance**. To obtain, and deliver to the City with the executed contract, the bonds for labor and materials and for faithful performance, and the certificate(s) of insurance, all as specified in the Contract Documents.

d. **Contractor's License.** The Contractor shall possess a valid Class A license or combination of valid Class C licenses as may be appropriate to the nature of the work

e. **City Business License.** Before beginning work, to obtain a City of Albany Business License, and to ensure that all subcontractors working on this job obtain City of Albany Business Licenses before they begin work.

f. **Commencement and Completion of Work**. The contractor shall commence work

within Ten (10) Calendar days of receipt of the receipt of the Notice to Proceed, and to complete all work within the number of days specified in the Special Provisions.

g. **Liquidated Damages**. Time is of the essence in the completion of this project. If the contractor has not completed work within the schedule set out above, the City may retain the amount specified in the Special Provisions from the compensation otherwise to be paid to the contractor for each calendar day that work remains uncompleted. This sum is agreed upon as the proper amount of liquidated damages that the City will sustain per day by the failure of the contractor to complete the work by the time stated.

h. **Payment of Prevailing Wages**. To ensure that the Bidder, and all of its subcontractors, comply with the requirements of the California Labor Code and the California Code of Regulations pertaining to payment of prevailing rates of per diem wages to all workers who perform work on this project, and, as established for Alameda County by the California Director of Industrial Relations and in effect on the date competitive bids are received for this project, the Contractor shall submit his/her payroll to the City for review for compliance with prevailing wage rates at the first of each month.

i. **Project Manager and/or Superintendent.** To identify and provide the name(s), field location (if any), and telephone number(s) of the project manager and/or superintendent or other person who will be assigned to direct and supervise the work of this project, and who is designated to serve as the Contractor's primary contact person with the City.

I HEREBY CERTIFY THAT I AM THE OWNER OR AUTHORIZED OFFICER OF THE FIRM NAMED ABOVE, THAT THE BID AMOUNT(S) STATED ABOVE AND ALL OTHER INFORMATION PROVIDED HEREIN ARE TRUE AND CORRECT AND THAT, ON BEHALF OF THE NAMED BIDDER, I UNDERSTAND AND AGREE TO COMPLY WITH ALL PROVISIONS SET FORTH IN THIS DOCUMENT.

Signed_____

Name
(printed)_____

Title_____

(Seal)

Date_____

Signed_____

Name
(printed)_____

Title_____

(Seal)

Date_____

Address and telephone number (if different from top of page 1):

_____

_____

MUST BE ATTACHED:
a. Bid Security/Bidders Bond (Page 14 of 17)
b. Subcontractor List (Page 15 of 17)
c. Statement of Non-Collusion (Page 16 of 17)
d. Acknowledgement of Receipt of Addendums (Page 17 of 17)

CONTRACTOR QUALIFICATIONS

This form must be completed, signed by bidder, and submitted to the City of Albany with bidder's bid. Failure to complete, sign and submit with bidder's bid may result in bidder's bid being rejected as non-responsive.

The City of Albany has determined that bidders must meet the following minimum qualifications to bid the work of improvement contemplated herein:

Have possessed a valid, active and in good standing, State of California Department of Consumer Affairs, Contractor's License Board Class A contractor's license, and can demonstrate that the firm contracted by this proposal and bid has the necessary experience to satisfactorily construct the City facility documented in these plans and specifications.

Not have any pending disciplinary proceedings or investigations by the Contractor's State License Board.

Has completed to the public owner's satisfaction, no less than required in the following pages, public works projects in the State of California.

Currently (as of the date of bid opening) or within the past year, not have any suspensions, disbarments, or similar proceedings (including stipulated agreements), restricting, limiting or prohibiting bidder from bidding or performing other public works for any other public agency.

I, being the _____ (TITLE- i.e. estimator, foreman, owner) of bidder herein, declare that bidder meets all of the minimum criteria set forth above.

_____
(Signature)

_____
(Print Name)

_____
(Date)

The Contractor or Designated Subcontractor shall have performed work that meets the minimum technical experience requirements listed below:

1. **Pipe Bursting:**
   Contractor or Subcontractor performing the pipe bursting work shall be certified by the pipe bursting manufacturer that the Contractor or Subcontractor is a fully trained user of the pipe bursting system.

   Contractor or Subcontractor performing pipe bursting work shall have a minimum of five (5) years experience performing pipe replacement by pipe bursting, and shall have documented experience installing a minimum of 5,000 lineal feet of pipe bursting 6-inch I.D. and greater pipe.

2. **Pilot Tube Guided Auger Boring (PTGAB):**
   Contractor or Subcontractor performing the PTGAB work shall be certified by the PTGAB manufacturer that the Contractor or Subcontractor is a fully trained user of the PTGAB system.

   Contractor or Subcontractor performing PTGAB work shall have a minimum of five (5) years experience performing pipe replacement by PTGAB, and shall have documented experience installing a minimum of 4,000 lineal feet of PTGAB lining of 6-inch I.D. and greater pipe.

3. **Pipe Lining:**
   Contractor or Subcontractor performing the Cured-In-Place Pipe (CIPP) work shall be certified by the CIPP manufacturer that the Contractor or Subcontractor is a fully trained user of the CIPP system.

   Contractor or Subcontractor performing CIPP work shall have a minimum of five (5) years experience performing pipe lining by CIPP, and shall have documented experience installing a minimum of 4,000 lineal feet of CIPP lining of 6-inch I.D. and greater pipe.

4. **Horizontal Directional Drilling (HDD):**
   Contractor or Subcontractor performing the HDD work shall be certified by the HDD manufacturer that the Contractor or Subcontractor is a fully trained user of the HDD system.

   Contractor or Subcontractor performing HDD work shall have a minimum of five (5) years experience performing pipe lining by HDD, and shall have documented experience installing a minimum of 4,000 lineal feet of HDD lining of 6-inch I.D. and greater pipe.

Provide project information as required on the following pages for individual projects to demonstrate minimum experience. Additional pages may be added as needed.

➔➔➔ *Bidder's name (write on every page)*_____

References: Time is critical in this bid. Bidders shall provide hereafter Agency names. Contact names and current telephone numbers therefore, for a minimum of three projects completed for each project type, or substantially completed, of a comparable size and nature to the project herein. Additional pages may be added as needed.

Project Name:_____

Project Type:

- ☐ **Pipe Bursting**
- ☐ **Pilot Tube Guided Auger Boring (PTGAB)**
- ☐ **Pipe Lining - CIPP**
- ☐ **Horizontal Directional Drilling (HDD)**

Agency Name:_____

Contact Name:_____ **Telephone:**_____

Your firm's role? ☐ **General Contract (GC)** ☐ **Subcontractor**

Total value of your firm's contract: $

Total project value: $

Starting date of your firm's scope of work: _____

Completion date of your firm's scope of work: _____

Description of project, scope of work performed:
(include type of pipe, I.D. & O.D. of replacement pipe)

➔➔➔ *Bidder's name (write on every page)*_____

Project Name:_____

Project Type:

- ☐ Pipe Bursting
- ☐ Pilot Tube Guided Auger Boring (PTGAB)
- ☐ Pipe Lining - CIPP
- ☐ Horizontal Directional Drilling (HDD)

Agency Name:_____

Contact Name:_____ **Telephone:**_____

Your firm's role? ☐ **General Contract (GC)** ☐ **Subcontractor**

Total value of your firm's contract: $

Total project value: $

Starting date of your firm's scope of work: _____

Completion date of your firm's scope of work: _____

Description of project, scope of work performed:
(include type of pipe, I.D. & O.D. of replacement pipe)

➔➔➔ *Bidder's name (write on every page)*_____

Project Name:_____

Project Type:

- ☐ **Pipe Bursting**
- ☐ **Pilot Tube Guided Auger Boring (PTGAB)**
- ☐ **Pipe Lining - CIPP**
- ☐ **Horizontal Directional Drilling (HDD)**

Agency Name:_____

Contact Name:_____ **Telephone:**_____

Your firm's role? ☐ **General Contract (GC)** ☐ **Subcontractor**

Total value of your firm's contract: $

Total project value: $

Starting date of your firm's scope of work: _____

Completion date of your firm's scope of work: _____

Description of project, scope of work performed:
(include type of pipe, I.D. & O.D. of replacement pipe)

City of Albany
2012 Sanitary Sewer Project
CONTRACT C12-20

BIDDER'S BOND
(Bidder may attach substitute security here)

That we,_____, as principal, and_____ _____as SURETY, are held and firmly bound unto the City of Albany in the penal sum of TEN PERCENT (10%) of TOTAL AMOUNT OF THE BASE BID of the principal above named submitted by said Principal of the City of Albany for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made to the City of Albany, to which said bid was submitted, we bind ourselves, our heirs, executors, administrators, successors, jointly and severally, firmly by these presents. In no case shall the liability of the surety hereunder exceed the sum of $_____. THE CONDITION OF THIS OBLIGATION IS SUCH, that WHEREAS the Principal has submitted the above-mentioned bid to the City of Albany, aforesaid, for certain construction specifically described as follows, **2012 Sanitary Sewer Project,** for which bids are to be opened at City Hall, 1000 San Pablo Avenue, Albany, California at the time specified in the Invitation to Bid.

NOW, THEREFORE, if the aforesaid principal is awarded the contract and within the time and manner required under the specifications after the prescribed forms are presented to him/her for signature enters into a written contract in the prescribed form, in accordance with the bid, and files the required insurance certificate(s) and two bonds with the City, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void, otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF,

We hereunto set our hand and seals this_____ day of_____, 2013.

_____ Name of Surety	_____ Name of Bidder
_____ Address	_____ Address
_____ Telephone Number	_____ Telephone Number
_____ Name of Authorized Representative	_____ Name of Authorized Representative
_____ Signature of Authorized Representative	_____ Signature of Authorized Representative

➡➡ BOTH SIGNATURES MUST BE NOTARIZED. ATTACH NOTARY SEAL(S) ⬅⬅

SUBCONTRACTOR LIST

Bidder's Name_____

CITY OF ALBANY – 2012 Sanitary Sewer Project (Contract No. C12-20)

IMPORTANT! Please provide all requested information for all subcontractors who will perform work valued at more than one-half of one percent of your total bid price. If a licensed subcontractor is not listed for any such portion of the work, the Bidder represents that he/she/it is qualified to and will perform that portion of the work himself/herself/itself. ***FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION ON THIS FORM MAY CAUSE THE BID PROPOSAL TO BE REJECTED.***

NATURE OF WORK	DOLLAR AMOUNT	NAME OF COMPANY	ADDRESS OF COMPANY	CONTRACTOR'S STATE LIC. #	LICENSE EXP. DATE
	$				
	$				
	$				
	$				
	$				
	$				
	$				
	$				
	$				
	$				

>> THIS ORIGINAL COMPLETED FORM IS PART OF YOUR BID PROPOSAL AND MUST BE ATTACHED TO IT <<

City of Albany
2012 Sanitary Sewer Project
CONTRACT NO. C12-20

STATEMENT OF NON-COLLUSION

I, _____, _____
(Name) (Title)

of _____
(Name of Company)

Hereby certify all of the following:

1. That all statements of fact in this proposal are true.

2. That this proposal was not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation:

3. That this proposal is genuine and not collusive or sham;

4. That this bidder has not, directly or indirectly, by agreement, communication, or conference with anyone, attempted by induce action prejudicial to the interest of the City of Albany, or of any other bidder or anyone else interested in the proposed Contract; and further

5. That prior to the public opening and reading of proposals, this bidder:

   A. Did not, directly or indirectly, induce or solicit anyone else to submit a false or sham proposal;

   B. Did not, directly or indirectly, collude, conspire, connive, or agree with anyone else that said bidder or anyone else would submit a false or sham proposal, or that anyone should refrain from bidding or withdraw his/her/its proposal.

   C. Did not, in any manner, directly or indirectly, seek by agreement, communication, or conference with anyone to raise or fix the proposal price of said bidder or of anyone else, or to raise or fix any overhead, profit, or cost element of his/her/its proposal price, or of that of anyone else.

   D. Did not, directly or indirectly, submit his/her/its proposal price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any individual or group of individuals, except to the City of Albany, or to any person or persons who have a partnership or other financial interest with said bidder in his/her/its business.

Date: _____ By: _____

_____ (Title)

City of Albany
2012 Sanitary Sewer Project
Contract No. C12-20

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA

The bidder hereby acknowledges receipt of the following addendum(s) to the Contract Documents:

ADDENDUM NO.	ADDENDUM DATE	INITIALS OF BIDDER
1		
2		
3		
4		
5		

City of Albany
2012 SANITARY SEWER PROJECT
CONTRACT NO. C12-20

AGREEMENT

THIS AGREEMENT between the CITY OF ALBANY, a municipal corporation, herein referred to as CITY, and _____, a [e.g., California corporation, limited partnership, sole proprietorship], herein referred to as CONTRACTOR, is executed in duplicate this_____ day of _____, 2013.

ARTICLE I. AGREEMENT. CONTRACTOR agrees to do all the work and furnish all the materials, labor, equipment and incidentals at his/her/its own cost and expense (except such as are mentioned in the drawings and specifications to be furnished by CITY) necessary to construct and complete in a workmanlike manner to the satisfaction of the Director of Community Development of the City of Albany, the following project:

2012 Sanitary Sewer Project
Contract No. C12-20

All work shall be done in accordance with the project drawings and specifications published by the CITY on line, all of which are incorporated herein by reference and made a part of this agreement as if attached hereto; and in accordance with all applicable state, federal and local laws and regulations.

CITY hereby employs CONTRACTOR to do the work according to the terms and conditions herein contained and referred to, for the price herein set forth, and hereby contracts to pay the CONTRACTOR at the time, in the manner and upon the conditions set forth in this agreement; and the parties for themselves, their heirs, executors, administrators, successors and assigns, agree to the full performance of all terms if this agreement.

ARTICLE II. CONFLICTS. It is expressly agreed by and between the parties hereto that should there be any conflict between the terms of this contract and the Bidder's Proposal of said CONTRACTOR, then this agreement shall control and nothing herein shall be considered as an acceptance of said terms of said Bidder's Proposal conflicting with this agreement.

ARTICLE III. COMPENSATION.

A. Amount. CONTRACTOR agrees to receive and accept the following prices and as full compensation for well and faithfully completing the work as set out in ARTICLE I of this agreement; and for all loss or damage arising out of the nature of the work called for in this agreement; and from the action of the elements; and from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the CITY; and for all risks of every description connected with the work; and

for all expenses incurred by or in consequence of the suspension or discontinuance of work for the amount of $_____ as set forth in the attached Bid Schedules.

It is understood and mutually agreed that the quantities of work shown herein are approximate only, and are subject to increase or decrease, and the undersigned offers to do the work whether the quantities are increased or decreased at the unit prices set forth above.

B. Payment. The CITY shall make progress payments for construction completed on the earliest practical date following approval of the CONTRACTOR's invoice, but in no event more than twenty (20) days following approval by the Director of Community Development & Environmental Resources.

ARTICLE IV. DATE OF COMMENCEMENT; TIME FOR COMPLETION; LIQUIDATED DAMAGES

A. **NOTICE TO PROCEED:** A Notice to Proceed shall be issued by the City no later than TEN (10) calendar days after the execution of this contract by the CONTRACTOR. The CONTRACTOR shall commence work within TEN (10) Calendar days of receipt of his/her/its receipt of the Notice to Proceed.

B. **Time For Completion of the Work:** All work under this Contract shall be completed within the number of working days set forth in Section 8 of the Special Provisions.

C. **Liquidated Damages.** Time is of the essence in the completion of this project. If the CONTRACTOR has not completed all work within the schedule set out above, The City may retain the amount set forth in Section 8 of the Special Provisions from the compensation otherwise to be paid to the CONTRACTOR for each CALENDAR Day that work remains uncompleted. This sum is agreed upon as the proper amount of liquidated damages that the City will sustain per day by the failure of the CONTRACTOR to complete the work by the time stated.

ARTICLE V. OWNERSHIP. Upon receipt of final payment under this agreement, and without further acknowledgment by the parties, the CONTRACTOR shall assign to the CITY all rights, title and interest in the goods, services and materials furnished pursuant to this agreement.

ARTICLE VI. PAYMENT OF EMPLOYEES.

A. Payment of compensation to employees. In accordance with California Labor Code Section 3700, the contractor and each subcontractor shall be required to secure the payment of compensation to his/her/its employees.

B. Payment of prevailing wages. The Contractor, and all of its subcontractors, shall comply with the requirements of the California Labor Code and the California Code of Regulations pertaining to payment of the prevailing rates of per diem wages to all workers who perform work on this project, as established for Alameda County by the California

Director of Industrial Relations and in effect on the date competitive bids were received for this project.

The Contractor shall be responsible for (1) obtaining the applicable determination of the California Director of Industrial Relations of the prevailing rates of per diem wages. This determination is on file with the City of Albany, Public Works Division, and is available for inspection during normal business hours; (2) posting of a copy of the applicable determination of the Director of Industrial Relations of the applicable prevailing rates of per diem wages in a central and readily-accessible location at the job site; (3) assuring that the appropriate number of apprentices are on the job site, as set forth in Labor Code Section 1777.5; (4) providing Workers Compensation coverage, as set forth in Labor Code Sections 1860 and 1861; (5) keeping accurate records of the work performed under the contract, as set forth in Labor Code Section 1812; (6) providing for inspection of payroll records pursuant to Labor Code Section 17786 and California Code of Regulations Section 1812; and (7) any other requirements imposed by law. The Contractor shall be responsible for submitting his certified payroll to the City at the first of each month. The CITY, any worker on the job, and any other party so enabled by law, has the right to file a complaint alleging non-compliance with the requirements for payment of prevailing wages and other related and applicable laws and regulations. Any such complaint will be promptly investigated and pursued by the California Department of Industrial Relations.

C. Legal workday. Neither the Contractor nor any of its subcontractors shall permit any worker on this project to work more than eight hours a day or 40 hours in any one calendar week, unless said worker is compensated at not less than time and a half, as set forth in Labor Code Section 1815, or at a higher rate of pay for overtime work if such is specified in the applicable prevailing wage determination. The contractor or subcontractor shall, as a penalty to the City, forfeit twenty-five dollars ($25.00) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which a worker is required or permitted to work more than 8 hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 4 of the California Labor Code.

D. Employment of apprentices. The Contractor shall be responsible for compliance with the apprenticeship requirements set out in California Labor Code Section 1777.5.

ARTICLE VII. INSURANCE. CONTRACTOR shall procure and maintain for the duration of the contact insurance, in the forms and amounts specified by CITY, NUTE Engineering and LCC Inc. their officers, officials, employees and volunteers, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the CONTRACTOR, his/her agents, representatives, employees or subcontractors. The insurance requirements are more particularly set out in Attachment A, attached hereto and made a part of this agreement.

ARTICLE VIII. INDEMNIFICATION. CONTRACTOR shall indemnify and save harmless the CITY, and LCC Inc. (City Engineer) their respective officers, officials, employees, volunteers, and consultants from any suits, claims or actions brought by any person or persons for or on account of any injuries or damages sustained or arising in the

performance of the work or in consequence thereof. CITY may retain as much of the money due to CONTRACTOR as shall be reasonably necessary to protect the CITY, and to reimburse the CITY for legal or other related costs incidental to a claim against the CITY until disposition has been made of such suits or claims for damages as aforesaid.

ARTICLE IX. BUSINESS LICENSE; PERMITS. Prior to commencement of work under this agreement, CONTRACTOR shall obtain a business license from the City of Albany, which is valid for the duration of this agreement, and shall display it in a prominent location, or carry it in a vehicle, located at the site of work at any given time. CONTRACTOR shall ensure that all subcontractors working on this project also obtain and display or carry business licenses from the City as herein described.

ARTICLE X. NONDISCRIMINATION. During the performance of all work under this agreement, CONTRACTOR and all of its subcontractors shall not deny the benefits of this agreement to any person on the basis of race, religion, color, ethnic group identification, national origin, ancestry, sex, age, marital status, sexual orientation, physical or mental disability or medical condition, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, ethnic group identification, national origin, ancestry, sex, age, marital status, sexual orientation, physical or mental disability or medical condition.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first shown above.

_____
(CONTRACTOR)

By_____

Title_____

CITY OF ALBANY
(CITY)

By_____
City Administrator

Attest_____
Deputy City Clerk

APPROVED AS TO FORM:

_____
City Attorney

Attachment: Attachment A (Insurance Requirements)

Attachment "A"

City of Albany
INSURANCE REQUIREMENTS
FOR PUBLIC WORKS CONTRACT NO. C12-20

CONTRACTOR shall procure and maintain for the duration of the contact insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the CONTRACTOR, his/her agents, representatives, employees, or subcontractors.

A. MINIMUM SCOPE OF INSURANCE. Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 00 01 1188).

2. Insurance Services Office form number CA 00 01 06 92 covering Automobile Liability, code 1 (any auto).

3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance

B. MINIMUM LIMITS OF INSURANCE. CONTRACTOR shall maintain limits no less than:

1. General Liability: $2,000,000 per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.

2. Automobile Liability: $1,000,000 per accident for bodily injury and property damage.

3. Employer's Liability: $1,000,000 per accident for bodily injury or disease

C. DEDUCTIBLES AND SELF-INSURED RETENTIONS. Any deductibles or self-insured retentions must be declared to and approved by the CITY. At the option of the CITY, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the CITY, its officers, officials, employees, consultants and volunteers; or the CONTRACTOR shall provide a financial guarantee satisfactory to the CITY guaranteeing payment of losses and related investigations, claim administration and defense expenses.

D. **OTHER INSURANCE PROVISIONS**. The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions

1. The CITY, LCC Inc. (City Engineer), their officers, officials, employees, consultants, and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the CONTRACTOR; and with respect to liability arising out of work or operations performed by or on behalf of the CONTRACTOR including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the CONTRACTOR's insurance, or as a separate owner's policy.

2. For any claims related to this project, the contractor's insurance coverage shall be primary insurance as respects the CITY, LCC Inc. (City Engineer), their officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the CITY, its officers, officials, employees, or volunteers shall be excess of the CONTRACTOR's insurance and shall not contribute with it.

3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the CITY.

E. **ACCEPTABILITY OF INSURERS**. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

F. **VERIFICATION OF COVERAGE**. CONTRACTOR shall furnish the CITY with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the CITY or on other than the entity's forms, provided those endorsements or policies conform to the requirements. All certificates and endorsements are to be received and approved by the CITY before work commences. The CITY reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

G. **SUBCONTRACTORS**. CONTRACTOR shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

Last revised June 1999
Revised August 2002 (Special)

PERFORMANCE BOND

I/We_____ as Principal(s), and_____, as Surety, are jointly and severally held and bound unto the City of Albany, organized and existing under the laws of the State of California, sometimes referred to as the City, in the sum of _____($_____) for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators and assigns, and successors and assigns, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, on the _____ day of ____, 2009, the said _____, Principal herein, executed a certain Contract with the City, by the terms, conditions, and provisions of which Contract the said _____, Principal herein, agrees to construct **CITY OF ALBANY 2012 SANITARY SEWER PROJECT CONTRACT NO. C12-20,** all as set forth in said Contract, which Contract as so executed is attached hereto, and by reference is incorporated herein and made part hereof as full for all purposes as if here set forth at length.

NOW, THEREFORE, if the Principal herein shall faithfully and truly observe and comply with the terms, conditions, and provisions of said Contract in all respects, and shall well and truly and fully do and perform all matters and things undertaken to be performed under said Contract, upon the terms set forth therein, and within the time prescribed therein, and shall indemnify the City against any direct or indirect damages that shall be claimed for injuries to persons or property during the course of any work performed by or on behalf of Principal under said Contract, and until all work under said Contract is accepted and for an additional period of one (1) year after completion and acceptance of said work by the City, and shall pay all laborers, mechanics, subcontractors, material men, and all persons who shall supply such Contractor or subcontractor with services or supplies for carrying on such work, and shall perform said Contract according to laws, and shall complete in a satisfactory manner all repairs or replacements resulting from or caused by defective materials and/or faulty workmanship in the prosecution of the work during the one-year warranty period, then this obligation shall be void, otherwise it shall remain in full force and effect. No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of said Contract agreed to between the Principal and the City, and no forbearance on the part of the City, shall operate to relieve any surety from liability on this Bond, and consent to make such changes, extension, additions, and alterations without further notice to or consent by any Surety is hereby given.

In the event suit is brought upon this bond by the City and judgment is entered in its favor, the Surety or Sureties shall pay all costs incurred by the City in such suit, including attorneys' fees to be fixed by the court.

Dated_____

_____
Company Name

_____
Principal (Authorized Signature)

_____
Business Address

_____
Telephone Number

ACKNOWLEDGMENT OF PRINCIPAL'S SIGNATURE:

State of California } ss

County of_____ }

On _____ before me_____,

a Notary Public, personally appeared

_____

Name(s) of Signer(s)

_____

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

WITNESS my hand and official seal

_____

Signature of Notary

CAPACITY CLAIMED BY SIGNER:

☐ INDIVIDUAL(S)

☐ CORPORATE OFFICER(S)

_____

_____

(Titles)

Title(s) :

☐ PARTNER(S)

☐ ATTORNEY-IN-FACT

☐ TRUSTEE(S)

☐ OTHER (Describe)

_____

_____

_____

☐ SUBSCRIBING WITNESS (for

_____

_____

SIGNER IS REPRESENTING:

_____

_____

_____

Name of Person(s) or Entity(ies)

ACKNOWLEDGMENT OF SURETY'S SIGNATURE:

State of California } ss

County of _____}

On _____ before me _____,

a Notary Public, personally appeared

_____

Name(s) of Signer(s)

_____

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

WITNESS my hand and official seal

_____ _____

Signature of Notary

PAYMENT BOND

I/We, _____, as Principal(s), and _____, as Surety, are jointly and severally bound unto the City of Albany, organized and existing under the laws of the State of California, sometimes referred to as the City, in the sum of _____($_____) for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators and assigns, and successors and assigns, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, on the _____ day of _____, 2013, the said _____, Principal herein, executed a certain Contract with the City, by the terms, conditions and provisions of which Contract the said _____, Principal herein, agrees to construct **CITY OF ALBANY 2012 SANITARY SEWER PROJECT CONTRACT NO. C12-20**, all as set forth in said Contract, which Contract as so executed is attached hereto, and by reference is incorporated herein and made a part hereof as fully for all purposes as if here set forth at length.

AND WHEREAS, said Contractor is required by the provisions of Chapter 7, Title 15, Sections 3247 through 3252, California Civil Code, to furnish a bond in connection with said Contract, as hereinafter set forth.

THE CONDITION OF THIS OBLIGATION IS SUCH that, if said Contractor, its heirs, executors, administrators, successors, or assigns, or subcontractors, shall fail to pay any of the persons named in Sections 3110, 3111, and 3112 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amount required to be deducted, withheld, and paid over to the California Franchise Tax Board from the wages and employees of the Contractor and its subcontractors pursuant to Section 18806 of the California Revenue Taxation Code, with respect to such Contract and warranty work and labor that the surety or sureties will pay for the same, in an amount not exceeding the sum specified in this Bond, and also, in case suit is brought upon the bond, a reasonable attorney's fee, to be fixed by the court.

This Bond shall inure to the benefit of any and all of the persons named in Sections 3110, 3111, and 3112 of the California Civil Code as to give a right of action to such persons or their assigns in any suits brought upon this Bond in accordance with said Section 3247 through 3252 of the California Civil Code.

In the event suit is brought upon this Bond and judgment is recovered, the Surety shall pay all costs incurred by the City in such suit, including reasonable attorney's fees to be fixed by the court.

No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of said Contract agreed to between the Contractor and the City, and no forbearance on the part of the City, shall operate to relieve any Surety from liability of this Bond, and

consent to make such changes, extensions, additions, and alterations without further notice to or consent by such Surety is hereby given.

Dated _____

_____
Company Name

_____
Principal (Authorized Signature)

_____
Business Address

_____
Telephone Number

ACKNOWLEDGMENT OF PRINCIPAL'S SIGNATURE:

State of California }
ss
County of_____ }

On _____ before me_____,

a Notary Public, personally appeared

_____
Name(s) of Signer(s)

_____

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

WITNESS my hand and official seal

_____
Signature of Notary

CAPACITY CLAIMED BY SIGNER:

☐ INDIVIDUAL(S)

☐ CORPORATE OFFICER(S)

_____
_____
Title(s) : (Titles)

☐ PARTNER(S)

☐ ATTORNEY-IN-FACT

☐ TRUSTEE(S)

☐ OTHER (Describe) _____
_____
_____

☐ SUBSCRIBING WITNESS (for
_____
_____

SIGNER IS REPRESENTING:

_____
_____

Name of Person(s) or Entity(ies)

ACKNOWLEDGMENT OF SURETY'S SIGNATURE:

State of California }
ss
County of _____}

On _____ before me
_____,

a Notary Public, personally appeared

_____
Name(s) of Signer(s)
_____

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

WITNESS my hand and official seal

_____ _____
Signature of Notary

SPECIAL PROVISIONS

Supplemental General Provisions

Supplemental Technical Provisions

SUPPLEMENTAL GENERAL PROVISIONS

All work under this contract shall conform to the City of Albany Standard Specifications dated July 1993 and Standard Details dated July 21, 2000 except as modified or supplemented by these **Special Provisions**. The Standard Specifications and Standard Details which are bound together and incorporated into these **Special Provisions** by reference are included in the contract documents.

The General Provisions of the City Standard Specifications shall be supplemented as follows.

SECTION 1. TERMS, DEFINITIONS AND ABBREVIATIONS

The provisions of the City Standard Specifications CSS General Provision (GP) Section 1-3, "Terms, Definitions and Abbreviations" of the City of Albany Standard Specifications shall be supplemented as follows:

1-A. **City** shall mean City of Albany

1-B. **City Standard Specifications.** The City of Albany Standard Specifications dated July 1993 shall be abbreviated as "CSS".

1-C. **City Standard Details.** The Standard Details of the City of Albany dated July 21, 2000.

1-D. **Department of Public Works**. Department of Public Works shall mean the Community Development Department of the City of Albany.

1-E. **Director of Public Works**. Director of Public Works shall mean Community Development Director of the City of Albany, who shall be referred to as the "Director".

1-F. **Engineer.** LCC, Inc., 930 Estudillo Street, Martinez, CA 994553-1620. The consulting engineering firm or individual designated by the City to serve as City Engineer.

1-G. **Consulting Engineer.** Harris & Associates, Concord, CA 94520.

1-H **General Provisions.** General Provisions of the CSS shall be abbreviated as "GP".

1-I. **Geotechnical Engineer.** The consulting Geotechnical Engineering firm or individual designated by the City to review the geotechnical aspects of the project.

1-J. **Lump Sum**. Lump Sum shall be abbreviated as "LS".

1-K. **Public Works Specifications.** The Standard Specifications for Public Works Construction, Current Edition or "Greenbook" adopted by Public Works Standards, Inc. abbreviated "PWS".

1-L. **State Standard Specifications.** The Standard Specifications of the State of California Department of Transportation, 2010 Edition shall be abbreviated as "SSS".

1-M. **Section.** The term Section shall be abbreviated as "Sec".

1-N. **Technical Provisions**. Technical Provisions of the CSS are abbreviated as "TP".

SECTION 2. PROPOSAL REQUIREMENTS

The provisions of GP Sec. 2, "Proposal Requirements" of the CSS shall be supplemented as follows:

2-A. **General**. Conform to the requirements included in the Bid Documents.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

The provisions of GP Sec. 3, "Award and Execution of Contract" of the CSS shall be supplemented as follows:

3-A. **Contract Form.** The form of Contract to be entered into is bound with the Bid Documents.

3-B. **Performance & Payment Bond Forms.** The form of the performance bond and payment bond to be furnished with the Contract is bound with the Bid Documents.

SECTION 4. PLANS AND SPECIFICATIONS (GENERAL)

The provisions of GP Sec. 4, "Plans and Specifications" of the CSS shall be supplemented as follows:

4-A. **Scope.** The project covers two areas within the City identified as Area 1 and Area 2 as shown on the plans. Area 1 is located within a residential area located on the southwestern slope of Albany Hill. Area 2 is situated in easements located north of Brighton Avenue between San Pablo Avenue and Evelyn Avenue and south of the El Cerrito Creek. The work in general includes removal of existing 6" SS mains and replacing them with 8" SS pipes by open trench method, pipe bursting of existing 6" VCP sewer mains with 8.625" OD HDPE Pipe or 6.25" OD HDPE Pipe as indicated on the plans, installation of a new 8" SS main by horizontal directional drilling in Pierce Street in Area 1, installation of a new 8" SS pipe by Pilot Tube Guided Auger Boring in Area 2, removing existing

manholes, connecting to existing manholes, installing new manholes, pipe bursting all existing live service laterals and installing standard two-way cleanouts at properties where they do not already exist, together with the miscellaneous items of work indicated on the official plans prepared therefore.

4-B. **Plans.** The plans and details for the work are those plans and details for the 2012 SANITARY SEWER PROJECT, CONTRACT NO. C12-20, dated XXXXX prepared by Harris & Associates, Concord, CA 94520.

4-C. **Specifications.** The work embraced herein shall conform to the CSS, dated July 1993 except where modified or supplemented by these **Special Provisions**. The CSS, though bound together, are incorporated herein by reference. Wherein specific reference is made, the work shall conform to the SSS and the PWS. The Contractor shall have copies of the plans, special provisions, the CSS, PWS and SSS available at the site at all times.

SECTION 5. CONTROL OF WORK AND MATERIALS

The provisions of GP Sec. 5, "Control of Work and Materials" of the CSS shall be supplemented as follows:

5-A. **Precedence of Contract Documents.** Sec. 5-4, "Precedence of Contract Documents", is modified as follows. In the event of conflict in the provisions of two or more documents, the terms of said documents shall control, each over the other, in the following order of declining precedence.

1) Permits from other agencies as required.
2) Supplement Agreements
3) Contract Change Order
4) Approved Revisions to the Plans
5) City of Albany Contract No. C12-20
6) Proposal of the Successful Bidder
7) Addenda
8) Project Special General Provisions
9) Project Technical Provisions
10) Project Plans(Drawings)
11) Reference Specifications, whether included or not within the Project Manual.
12) City Standard Specifications (Including GP) of the City of Albany

5-B **Submittals.** Add the following to CSS GP Sec. 5-6, "Shop Drawings":

1. **General.** The Contractor shall provide a complete list of submittals required by the CSS, these **Special Provisions** and the Engineer.

2. **Required Information for Submittals.** The Contractor shall submit the items required by these Special Provisions or as otherwise required by the Engineer within ten (10)

working days after the date of the Notice to Proceed. The Contractor shall submit to the City six (6) copies of the specified information or, in the case of material to be tested, samples of the specified quantity. All copies of all submittals shall be accompanied by a transmittal form that includes the following information: submittal subject/title, submittal date, number of copies, contractor's submittal preparers and suppliers information, Engineer's project number, City's contract number, specification and plan reference, submittal revision number, requested return date.

3. The Contractor shall provide at the preconstruction meeting a list of the items required by the specifications to be submitted, together with the progress schedule required by GP Sec. 8-2 of the CSS.

4. The Contractor's submittals shall include the Permits & Licenses, Stormwater Pollution Prevention Plan, Traffic Control Plan, Schedule of Potholes, Shoring Plans, and Progress Schedule required by the CSS and these Special Provisions.

5-C. **Lines and Grades.** Sec. 5-7, "Lines and Grades", is supplemented as follows:

Construction staking will be done by a surveyor, licensed by the state of California and paid for by the Contractor. The name, license number and expiration date of the surveyor in charge of the survey work shall be submitted prior to construction. Provide the Engineer with a copy of cut sheets at least five (5) working days prior to trenching.

The Contractor shall be responsible for preserving all required benchmarks, reference points and construction stakes in the area and he will be responsible for any cost incurred in replacing any such benchmarks, reference points or construction stakes which are destroyed as a result of his activities. The Contractor will be responsible for maintaining the legibility and refreshing of paint marks as long as needed, including maintenance during idle time and/or inclement weather. The Contractor shall provide staking sufficient to perform the work.

The horizontal controls for this project are the control points and base lines as shown on the plan. The vertical controls for this project are the benchmarks as shown on the plan or they will be provided to the Contractor. Where horizontal control points are not shown, construction staking for the proposed improvements can be laid out by distances given or by scaling to existing surface features shown on the plans.

5-D. **Quality of Workmanship**

Section 5 is supplemented as follows:

1. All work shall be done by persons skilled in the trade required by the particular task. All work shall be done under the direction of and to the satisfaction of the Engineer. In case

of repair and/or replacement of existing conditions damaged by the Contractor, such repair and/or replacement shall be done to the satisfaction of the Engineer and to the Owner of the property that was damaged.

2. Work deemed unacceptable by the Engineer shall be removed and replaced immediately with work that is acceptable to the Engineer and at no additional cost to the City.

3. All work shall be done according to these contract documents, and shall conform to all governing regulations and codes. Where these contract documents require a higher standard of construction, these contract documents shall take precedence.

5-E. **Certificates of Compliance.** Add the following to CSS GP Sec. 5-14, "Samples and Tests": Where specifically required by the CSS or by these **Special Provisions**, the Contractor shall furnish Certificates of Compliance. Provide one set of delivery tags at the end of each day to the inspector for all materials incorporated into the work.

5-F. **Compaction Tests.** Add the following to CSS GP Sec. 5-15, "Inspection":

The Geotechnical Engineer, or designated representative, may conduct compaction tests to determine compliance with the provisions of these specifications.

Compaction tests will be performed at intervals and at depths necessary for determining compliance with the compaction requirements of CSS and as shown on the plans. If the material as placed does not meet the compaction requirements, the Contractor shall recompact the material or remove, replace and recompact. New compaction tests will be taken on the recompacted material until compaction requirements are met. All such repeated compaction tests will be performed at the Contractor's cost.

SECTION 6. LEGAL RELATIONS AND RESPONSIBILITIES

The provisions of GP Sec. 6, "Legal Relations and Responsibility", of the CSS shall be modified and supplemented as follows:

6-A. **Contractor's License.** Add the following to CSS GP Sec. 6-4, "Contractor's Licensing Laws": Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint is filed within three years of the date of the alleged violation.

6-B. **Permits and Licensing.** Add the following paragraph to GP Sec. 6-8, "Permits and Licensing" of the CSS:

1. COMPLIANCE WITH NPDES PERMITS. The Contractor shall comply with all rules, regulations and procedures of the National Pollutant Discharge Elimination System

(NPDES) for municipal construction and industrial activities as promulgated by the California State Water Resource Control Board or any of its regional water quality boards.

2. CITY OF ALBANY BUSINESS LICENSE. The Contractor shall secure his/her City of Albany business license and comply with all requirements set forth therein.

6-C. **Traffic Control & Public Convenience**

The Contractor shall maintain traffic throughout the duration of the project in accordance with GP Sec. 6-13, "Traffic Control" of the CSS and the following:

Traffic Control shall conform to the provisions of Sec. 7-1.09, "Public Safety", and Sec. 12, "Construction Area Traffic Control Devices" of the SSS.

Submittal: Traffic Control Plan. Before commencing work, the Contractor shall prepare a traffic control plan showing sign placement, flaggers, etc. for approval by the City. The Plan shall indicate the names of the streets where work is to be performed. The plan shall provide for emergency vehicles to pass through the construction zones without any delays. The plan shall require all trenches to be backfilled or covered with steel plates during non-working hours.

At least one week before the start of construction, the Contractor shall post Type I Sign.

The Contractor shall notify local authorities of his/her intent to begin work at least 5 days before work is begun. The Contractor shall cooperate with local authorities relative to handling traffic through the area and shall make his/her own arrangements relative to keeping the working area clear of parked vehicles.

Whenever vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed where directed by the Engineer.

A minimum of one paved traffic lane in each direction, not less than 12 feet wide each, shall be open for use by public traffic at the end of each working day.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the Contractor if, in the opinion of the Engineer, public traffic will be better served and the work

expedited. Such deviations shall not be adopted until the Engineer has given written approval.

A traffic control system shall consist of closing traffic lanes in accordance with the details shown on State Standard Plan T13, the provisions of SSS Sec. 12, "Construction Area Traffic Control Devices", the provisions under "Maintaining Traffic", and "Construction Area Signs" elsewhere in these Special Provisions, and these Special Provisions.

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

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

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder. If the Contractor so elects, said components might be stored at selected central locations, approved by the Engineer, within the limits of the highway right of way.

All excavations shall be backfilled or covered with one-inch thick minimum trench plates suitable for traffic loading, at the end of each day's work. Trench plates shall be securely anchored in place and have temporary asphalt ramps all around. No open excavation of any depth will be permitted to remain overnight.

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Sec. 12, "Construction Area Traffic Control Devices" of the SSS and these Special Provisions.

Construction area signs may be placed on temporary, portable posts. All excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

Sign substrates for stationary mounted construction area signs may be fabricated from fiberglass reinforced plastic.

Contractor shall conform to the provisions set forth in the "Lateral Requirements" on the Plans. These requirements include providing written notice to residents a minimum of 24 hours prior to any service disruption.

The street may be closed to thru traffic, however continuous access to emergency vehicles and residents must be maintained at all times.

All excavations shall be backfilled or covered with 1" minimum steel trench plates at the end of each working day.

6-D. **Cooperation.** Attention is directed to CSS GP Sec. 6-26 "Cooperation".

The Contractor shall be required to coordinate its work with that of others working in the area. Full compensation for conforming to the provisions of CSS GP Sec. 6-26, "Cooperation" and these **Special Provisions** shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be allowed therefor.

6-E. **Responsibility for Claims and Damages.** Add to CSS GP Sec. 6-35, "Responsibility for Claims and Damages", Attachment A to the Agreement.

6-F. **Insurance.** CSS GP Sec. 6-36. Policies shall name "LCC, Inc." (City Engineer), "Jacobs Engineers" (City Project Manager), as additional insureds. Insurance shall conform to the provisions in Attachment A to the Agreement. When in conflict, the provisions of Attachment A shall prevail over the CSS.

6-G. **Contractor's Public Liability And Property Damage Insurance And Vehicle Liability Insurance.** CSS GP Sec. 6-36.3. Insurance shall apply to "LCC, Inc." (City Engineer), "Jacobs Engineers" (City Project Manager) as additional insureds. When in conflict, the provisions of Attachment A shall prevail over the CSS.

6-H. **Contractor Not an Agent.** The right of general control by the City shall not make the Contractor an agent of the City or the Consulting Engineers, and the liability of the Contractor for all damages to persons and/or to public or private property arising from the Contractor's execution of the work shall not be lessened because of such general control.

6-I. **Protection of Existing Facilities**. Contractor shall exercise all necessary caution to avoid damage to any existing trees, or surface improvements, or to any existing drainage structures, sewer cleanouts, or junction boxes for underground electric, telephone, fiber optic or cable TV, or storm sewer, sanitary sewer, water line, and underground utilities, which are to remain in place, and shall bear full responsibility for any damage thereto.

6-J **Stormwater Pollution Prevention Plan.** Contractor shall submit a Stormwater Pollution Prevention Plan in conformance with the Alameda Countywide Clean Water Program (ACCWP), Stormwater Quality Management Plan. Contract may refer to the ACCWP website at www.cleanwaterprogram.com for details.

6-K. **Prevailing Wage.** Attention is directed to GP Sec. 6-3, "Labor" of the CSS. Prevailing wage law applies to this Contract. Contractor shall submit prevailing wage documentation to the City.

SECTION 7. EXISTING UTILITIES

The provision of GP Sec. 7, "Existing Utilities" of the CSS shall be supplemented as follows:

7-A. **Protection.** The Contractor shall contact "Underground Service Alert" at (800) 227-2600 at least 3 days prior to construction requesting the utilities to mark their facilities in the field. The Contractor shall be responsible for repairing or replacing any utility that is damaged by his/her work at no additional cost to the City or Utility Company.

Contractor shall exercise all necessary caution to avoid damage to any existing drainage structures, sewer cleanouts, or junction boxes for underground electric, telephone, fiber optic or cable TV, or storm sewer, sanitary sewer, water line, and underground utilities, which are to remain in place, and shall bear full responsibility for any damage thereto.

7-B. **Existing Utility Main & Trunk Lines**. The Contractor shall ascertain the exact location of underground utility mains or trunk lines shown on the plans or otherwise determined in conformance with GP Sec. 7-1, "General" of the CSS by carefully prospecting, probing, and excavating by hand, hereafter "potholing".

7-C. **Existing Utility Service Laterals.** The location of existing underground water, sewer, gas, electrical, cable television, telephone, or other services (hereafter referred to as "existing utility service laterals") has been shown on the plans based on record information provided by the utility companies, and not all these facilities are shown on the plans. No excavations were performed to verify the locations shown and the depths of the service laterals are unknown. The Engineer and the City do not guarantee that all existing utility service laterals are shown on the Project Plans. The Contractor shall locate and protect all existing utility service laterals, whether shown on the plans or not. If in conflict, the Contractor shall be required to coordinate the relocation of the existing utility service laterals with the owner.

7-D. **Overhead Utilities Not Shown**. Existing overhead utilities exist in the area. Some of these may not be shown on the plans. The Contractor shall protect all existing overhead facilities from damage, whether shown or not shown on the plans.

SECTION 8. PROGRESS OF WORK

The provision of GP Sec. 8, "Progress of Work" of the CSS applies except as follows:

SPECIAL PROVISIONS

8-A. **General.** Attention is directed to the provisions in Section 8-1, "Beginning of Work," in Section 8-9, "Time of Completion," and in Section 8-10, "Liquidated Damages," of the City Standard Specifications and these **Special Provisions**. Attention is also directed to the INSTRUCTIONS TO BIDDERS.

8-B. **Beginning of Work.** Refer to INSTRUCTIONS TO BIDDERS.

8-C. **Order Of Work.** The order of work shall be as follows:

1. The Contractor shall submit his/her Traffic Control Plan, Project Schedule and all other Contractor submittals with executed contract documents prior to starting work.

2. All remaining work.

Full payment for the above work shall be included in the work for the various bid items and no separate payment will be made for this work.

8-D. **Contract Period.** The Contractor shall prosecute and work to completion before the expiration of **HUNDRED (100) working days**, beginning from the date specified in the Notice to Proceed. The City will furnish the Contractor weekly a statement of days remaining on the contract.

8-E. **Liquidated Damages.** It is mutually understood and agreed by and between the parties to the Contract that in the execution of the same, time is an essential element of the Contract, and it is important that the work be pressed vigorously to completion.

The Contractor agrees that said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the contractor and the Owner, that the time for the completion of the Work set forth in the Contract Documents is a reasonable time for delivery of equipment and materials and completion of the Work as specified.

The time of commencement and completion of the Work fixed by the Owner and set forth in the Contract Documents will determine and be known as the "Contract Period." If Contractor shall neglect, fail or refuse to complete the Work within the Contract Period, then for each calendar day that any Work shall remain uncompleted after the end of the Contract Period, the amount of **EIGHT HUNDRED DOLLARS ($800)** per calendar day will be assessed by the Owner, not as a penalty, but as a predetermined and agreed liquidated damage.

Extension of the Contract Period shall waive liquidated damages unless such extension granted by the Owner specifically provide for the waiving of liquidated damages during and

over such period of time extension. Due account however, will be taken of any adjustment in the Contract Period when the Owner determines that the cause for such adjustment is unforeseeable and beyond the control of, and without the fault or neglect of the contractor.

The Contractor shall meet the following schedule and conditions. Failure to meet these milestones will result in liquidated damages being assessed.

The assessment of liquidated damages for failure to complete the Work within the Contract Period shall not constitute a waiver of the Owner's right to collect any additional damages which the Owner may sustain by failure of the contractor to carry out the terms of this Contract.

Failure of Contractor to provide information required for Notice to Proceed is no reason to delay Notice to Proceed or extend project milestones.

SECTION 9. MEASUREMENT AND PAYMENT, DESCRIPTION OF BID ITEMS

The requirements of GP Section 9, "Measurement and Payment" of the CSS shall be supplemented as follows:

9-A. **Measurement of Quantities, Scope of Payment, and Extra Work.** Measurement of Quantities, Scope of Payment, and Extra Work shall conform to GP Sec. 9, "Measurement and Payment" of the CSS.

9-B. **Detailed Description of Bid Items.** The detailed description of bid items and their respective Measurement for Payment is given below. This sub-section is added as City of Albany, General Provisions Section 9-1.4 Detailed Description of Bid Items.

- MOBILIZATION (MAX 5% OF TOTAL BID) (Bid Item A.1 & B.1)

  Quantities of Mobilization will not be measured. The contract lump sum price paid for "Mobilization (Max 5% of total bid)" shall be considered as full compensation for attending the preconstruction meeting, shop drawing submittal process, compliance with all the terms, requirements and conditions, and coordination ALL at the beginning of the project, and then the demobilization and cleanup at the completion of the project.

  Payment for this item shall be lump sum (LS) not exceeding 5% of the project cost; 50% of which shall be payable at the beginning of the job upon mobilization and 50% shall be payable at the job completion.

- PERMITS & LICENSES (Bid Item A.2 & B.2)

  Permits & Licenses shall be measured and paid for by the lump sum. The contract lump sum price paid for "Permits & Licenses" shall be considered as full compensation for

securing an encroachment permit and obtaining and paying for business licenses as necessary for this project from the City of Albany and all other agencies as required. The contractor will be reimbursed for all permit fees.

- CONSTRUCTION STAKING (Bid Item A.3 & B.3)

  Payment for construction staking shall be lump sum. The Contract lump sum price shall be considered full compensation for conforming to the provisions of SGP Sec 5-C, "Lines & Grades", and STP Sec 18.D, "Pipeline Grade", complete staking of the project by a licensed surveyor, preserving of all required benchmarks, reference points and construction stakes in the area.

- EROSION AND SEDIMENT CONTROL (Bid Item A.4 & B.4)

  Erosion and Sediment Control shall be measured and paid for by the lump sum. The Contract lump sum price shall be considered full compensation for determining/selecting the erosion and sediment control best management practices (BMPs), and for proper implementation and maintenance of the BMPs. The price also includes weekly inspections of these BMPs to ensure they are in proper working order and monitoring of the in-place BMPs as necessary should any BMPs require modification, replacement, cleaning, relocating, or maintenance otherwise.

- TRAFFIC CONTROL & PUBLIC CONVENIENCE (Bid Item A.5 & B.5)

  Full compensation for conforming to the provisions of CSS GP Sec 6, SSS Sec. 7, "Legal Relations and Responsibility", SSS Sec. 12, "Construction Area Traffic Control Devices", and these Special Provisions; for furnishing all labor, materials, tools, equipment, and incidentals; and for installing, maintaining, and removing all signs, lights, and barricades as shown on the plans, for the design and preparation of all traffic control plans for the safe and orderly movement of all traffic through the construction area, installation and maintenance of all proposed temporary traffic control devices, delineators, separators and flaggers, the preparation and distribution of written public notifications to all residents to be affected by the work and as directed by the Engineer (including stationary construction area signs) shall be considered as included in the lump sum contract price paid for "Traffic Control and Public Convenience" and no additional compensation will be allowed therefor.

  Payment for traffic control and construction area signs will be made in increments of the contract lump sum price for this item of work in the following manner:

  First Increment 40 percent of the lump sum price upon satisfactory upon submittal of traffic control plan and completion of installation of signs, lights, and barricades.
  Second Increment An additional 30 percent of the lump sum price upon completion of work amounting to 50 percent of the original total contract price.

Third Increment Balance of the lump sum upon satisfactory completion of removal and dismantling of signs, lights, barricades, posts, and framing.

- POTHOLING OF POTENTIAL UTILITY CONFLICTS (Bid Item A.6 & B.6)

  Potholing of potential utility conflicts will be measured on a lump sum basis. The lump sum price shall be considered as full compensation for performing all work including prospecting, probing, and hand excavating down to the existing utility main or trunk line determined to possibly be in conflict with the work. The Contractor may employ backhoes, vactor equipment and/or hand digging methods to expose without damage to the utility main or trunk line near the sewer mains and sewer laterals to be trenched or pipe burst. The work shall include preparation and submission of a legibly written or type written log in sequential order according to station, depth to top of exposed utility, type, material and approximate size of utility, and marking the pavement with the utility type and depth.

  Payment for the potholing of sewer laterals shall be considered as included in the contract unit price paid for various lateral connections and no additional compensation will be allowed.

  Payment for excavation to create air gap for pipe bursting and removing the soil beneath utility lines and services until the pipe bursting head(s) has (have) successfully passed by including disposal of excavated material at a legal disposal site, all necessary shoring, backfill, compaction and temporary resurfacing of the excavation is included in the linear foot price paid for pipe bursting and no additional compensation will be allowed.

- SHEETING, SHORING AND BRACING (Bid Item A.7 & B.7)

  This bid item shall be lump sum. Payment for this item will be prorated over the course of the project based on percentage complete of all items, excluding Items 1 thru 4, for the purpose of the calculation.

  This bid item includes all measures required to stabilize and prevent movement of existing ground and to protect and provide for the safety of the contractor's workers due to sudden collapse or movement of the existing ground, during excavation and trenching operations, including furnishing all equipment, materials and personnel associated therewith, and in accordance with these specifications

- REMOVE AND REPLACE 6" SS PIPE WITH 8" SS PIPE BY OPEN TRENCH METHOD (Bid Item A.8 & B.8)

  The unit price per linear foot bid for this item shall include all work and materials necessary to remove an existing sanitary sewer pipe and install a new sanitary sewer pipe complete in place by open cut method as identified on the Drawings. Measurement for payment shall be made per "Linear Foot", measured from the centerline of the manhole or structure to the centerline of the manhole or structure.

The price shall be full compensation for complete removal of the existing sewer pipe and sewer main installation including surveying, all site clearing; excavation, sawcutting, grinding, removal and disposal of below grade concrete slab if present, removal and disposal of asphalt containing reinforcing fabric, removal and disposal of existing pipe, spoil disposal, installation of bedding, furnishing pipe and fittings, connection to new or existing manholes, backfill, compaction, all testing, cleaning, temporary fencing, temporary plating, temporary paving, record drawings, surface restoration of all public and private improvements including asphalt paving, reinforcing fabric, concrete improvements including sidewalk and/or driveway, curb & gutter as shown on the plans or designated by the City, landscaping, and all incidentals required by these Specifications and Drawings. The price of post-construction CCTV inspection is included in the unit price of this item.

- REMOVE AND REPLACE 6" SS PIPE WITH 4" SS PIPE BY OPEN TRENCH METHOD (Bid Item B.9)

  The unit price per linear foot bid for this item shall include all work and materials necessary to remove an existing sanitary sewer pipe and install a new sanitary sewer pipe complete in place by open cut method as identified on the Drawings. Measurement for payment shall be made per "Linear Foot", measured from the centerline of the manhole or structure to the centerline of the manhole or structure.

  The price shall be full compensation for complete removal of the existing sewer pipe and sewer main installation including surveying, all site clearing; excavation, sawcutting, grinding, removal and disposal of below grade concrete slab if present, removal and disposal of asphalt containing reinforcing fabric, removal and disposal of existing pipe, spoil disposal, installation of bedding, furnishing pipe and fittings, connection to new or existing manholes, backfill, compaction, all testing, cleaning, temporary fencing, temporary plating, temporary paving, record drawings, surface restoration of all public and private improvements including asphalt paving, reinforcing fabric, concrete improvements including sidewalk and/or driveway, curb & gutter as shown on the plans or designated by the City, landscaping, and all incidentals required by these Specifications and Drawings. The price of post-construction CCTV inspection is included in the unit price of this item.

- INSTALL 6" SS PIPE BY OPEN TRENCH METHOD (Bid Item A.12)

  The unit price per linear foot bid for this item shall include all work and materials necessary to install a new sanitary sewer pipe complete in place by open cut method as identified on the Drawings. Measurement for payment shall be made per "Linear Foot", measured from the centerline of the manhole or structure to the centerline of the manhole or structure.

  The price shall be full compensation for complete sewer main installation including surveying, all site clearing; excavation, sawcutting, grinding, removal and disposal of below grade concrete slab if present, removal and disposal of asphalt containing

reinforcing fabric, removal and disposal of existing pipe, spoil disposal, installation of bedding, furnishing pipe and fittings, connection to new or existing manholes, backfill, compaction, all testing, cleaning, temporary fencing, temporary plating, temporary paving, record drawings, surface restoration of all public and private improvements including asphalt paving, reinforcing fabric, concrete improvements including sidewalk and/or driveway, curb & gutter as shown on the plans or designated by the City, landscaping, and all incidentals required by these Specifications and Drawings. The price of post-construction CCTV inspection is included in the unit price of this item.

- INSTALL 8" SS PIPE BY OPEN TRENCH METHOD (Bid Item A.13 & B.11)

  The unit price per linear foot bid for this item shall include all work and materials necessary to install a new sanitary sewer pipe complete in place by open cut method as identified on the Drawings. Measurement for payment shall be made per "Linear Foot", measured from the centerline of the manhole or structure to the centerline of the manhole or structure.

  The price shall be full compensation for complete sewer main installation including surveying, all site clearing; excavation, sawcutting, grinding, removal and disposal of below grade concrete slab if present, removal and disposal of asphalt containing reinforcing fabric, removal and disposal of existing pipe, spoil disposal, installation of bedding, furnishing pipe and fittings, connection to new or existing manholes, backfill, compaction, all testing, cleaning, temporary fencing, temporary plating, temporary paving, record drawings, surface restoration of all public and private improvements including asphalt paving, reinforcing fabric, concrete improvements including sidewalk and/or driveway, curb & gutter as shown on the plans or designated by the City, landscaping, and all incidentals required by these Specifications and Drawings. The price of post-construction CCTV inspection is included in the unit price of this item.

- REHABILITATE EX. 6" SS PIPE WITH 8.625" OD HDPE PIPE BY PIPE BURSTING (Bid Item A.9 & B.10)

  Installation of the 8.625" OD HDPE pipe Sewer Main by pipe bursting shall be measured and paid for by the lineal foot. The Contract unit price paid per linear foot shall include full compensation for all excavation of entry and exit pits, trenches, providing air gap, disposal of excavated materials, including portions of existing sewer pipe and rodholes to facilitate pipe bursting, dewatering, continuous conveyance and control of sewage flow, pipe bursting existing sewer pipes to install new sewers, furnishing and insertion of 8.625" OD HDPE (SDR=17) pipe, connection to manholes, installation of fusion coupling, temporary reconnection of existing live laterals, imported backfill material, compaction, restoration of the existing asphalt concrete pavement, including all sub-grade preparation, Portland cement concrete, cleaning and testing of the new sewer mains and all other work necessary to install the new sewer mains, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

The work shall include sawcutting, removal and disposal of existing asphalt, temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, ubgrade material below the new asphalt and concrete improvements, furnishing, placing of hot mix asphalt and concrete to restore surfacing over trenches and in other locations shown on the plans or designated by the City, including compacting, all necessary materials, equipment and labor, complete, in place. The price of post-construction CCTV inspection is included in the unit price of this item.

- REHABILITATE EX. 6" SS PIPE WITH 6.25" OD HDPE PIPE BY PIPE BURSTING (Bid Item A.11)
  Installation of the 6.25" OD HDPEP Sewer Main by pipe bursting shall be measured and paid for by the lineal foot. The Contract unit price paid per linear foot shall include full compensation for all excavation of entry and exit pits, trenches, providing air gap, disposal of excavated materials, including portions of existing sewer pipe and rodholes to facilitate pipe bursting, dewatering, continuous conveyance and control of sewage flow, pipe bursting existing sewer pipes to install new sewers, furnishing and insertion of 6.25" OD HDPE (SDR=17) pipe, connection to manholes, reconnection of live laterals, imported backfill material, compaction, restoration of the existing asphalt concrete pavement, including all sub-grade preparation, Portland cement concrete, cleaning and testing of the new sewer mains and all other work necessary to install the new sewer mains, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

  The work shall include sawcutting, removal and disposal of existing asphalt, temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, subgrade material below the new asphalt and concrete improvements, furnishing, placing of hot mix asphalt and concrete to restore surfacing over trenches and in other locations shown on the plans or designated by the City, including compacting, all necessary materials, equipment and labor, complete, in place. The price of post-construction CCTV inspection is included in the unit price of this item.

- REHABILITATE EX. 8" SS PIPE WITH 8.625" OD HDPE PIPE BY PIPE BURSTING (Bid Item A.10)
  Installation of the 8.625" OD HDPE pipe Sewer Main by pipe bursting shall be measured and paid for by the lineal foot. The Contract unit price paid per linear foot shall include full compensation for all excavation of entry and exit pits, trenches, providing air gap, disposal of excavated materials, including portions of existing sewer pipe and rodholes to facilitate pipe bursting, dewatering, continuous conveyance and control of sewage flow, pipe bursting existing sewer pipes to install new sewers, furnishing and insertion of 8.625" OD HDPE (SDR=17) pipe, connection to manholes, installation of fusion coupling, temporary reconnection of existing live laterals, imported backfill material, compaction, restoration of the existing asphalt concrete pavement, including all sub-grade preparation, Portland cement concrete, cleaning and testing of the new sewer mains and all other work

necessary to install the new sewer mains, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

The work shall include sawcutting, removal and disposal of existing asphalt, temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, ubgrade material below the new asphalt and concrete improvements, furnishing, placing of hot mix asphalt and concrete to restore surfacing over trenches and in other locations shown on the plans or designated by the City, including compacting, all necessary materials, equipment and labor, complete, in place. The price of post-construction CCTV inspection is included in the unit price of this item.

- AT THE CONTRACTOR'S OPTION, UPSIZE THE EX. 6" SS PIPE TO 8" SS IN JOHNSON STREET BY ONE OF THE FOLLOWING OPTIONS (Bid Item A.14)
  A. Open Trench Construction (PVC)
  B. Pipe Bursting (SDR 17, HDPE)
  This bid item shall be paid at the unit price bid per foot of installed pipe measured from manhole or structure centerline to manhole or structure centerline.

  Payment varies depending upon the option selected by the contractor as follows:
  Option A: As described under Bid Item A.8
  Option B: As described under Bid Item A.9

  The unit price paid for Option B includes replacement of asphalt pavement due to pipe bursting heaving, if required.

- AT THE CONTRACTOR'S OPTION, UPSIZE THE EX. 6" SS PIPE TO 8" SS IN TAYLOR STREET BY ONE OF THE FOLLOWING OPTIONS (Bid Item A.15)
  A. Open Trench Construction (PVC)
  B. Pipe Bursting (SDR 17, HDPE)
  This bid item shall be paid at the unit price bid per foot of installed pipe measured from manhole or structure centerline to manhole or structure centerline.

  Payment varies depending upon the option selected by the contractor as follows:
  Option A: As described under Bid Item A.8
  Option B: As described under Bid Item A.9

  The unit price paid for Option B includes replacement of asphalt pavement due to pipe bursting heaving, if required.

- INSTALL 6" PIPE BY HORIZONTAL DIRECTIONAL DRILLING (HDD)
  (Bid Item A.16)
  This bid item shall be paid at the unit price bid per foot of installed liner measured from manhole inside wall to manhole inside wall.

The price shall be full compensation for horizontal directional drilling and providing the pipe, complete in place, including fittings, launching and/or receiving pit excavation and stabilization, associated earthwork, muck handling, muck disposal, cleanup and surface restoration, including backfill, compaction, and paving, concrete improvements including sidewalk and/or driveway, curb & gutter as shown on the plans or designated by the City to pre-construction conditions. Damaged pipe shall be repaired or replaced at no additional cost to the Owner. The price of post-construction CCTV inspection is included in the unit price of this item.

- INSTALL 6" CIPP LINER IN EXISTING 6" SS PIPE (Bid Item A.17 & B12)

  This bid item shall be paid at the unit price bid per foot of installed liner measured from manhole inside wall to manhole inside wall.

  The price shall be full compensation for CIPP liner installation including flow bypass, point repairs as shown on the plans, liner design and submittals, pre-rehabilitation cleaning and CCTV inspection, cutting protruding laterals, liner installation, liner sampling and re-testing, post-rehabilitation CCTV inspection, liner warranty, and liner defect repairs, as described herein and no additional compensation will be allowed therefore.

- INSTALL 8" PIPE BY PILOT TUBE GUIDED AUGER BORING (Bid Item B.13)

  This bid item shall be paid at the unit price bid per foot of installed pipe measured from manhole inside wall to manhole inside wall.

  The price shall be full compensation for guided auger boring and providing the pipe, complete in place, including fittings, launching and/or receiving pit excavation and stabilization, associated earthwork, muck handling, muck disposal, cleanup and surface restoration, including backfill, compaction, and paving, concrete improvements including sidewalk and/or driveway, curb & gutter as shown on the plans or designated by the City to pre-construction conditions. Damaged pipe shall be repaired or replaced at no additional cost to the Owner. The price of post-construction CCTV inspection is included in the unit price of this item.

- INSTALL STANDARD SSMH (Bid Item B.15)

  Standard Sewer Manholes shall be measured and paid for by the unit. The Contract unit price paid shall include full compensation for careful excavation around existing utilities as necessary, disposal of excavated materials, dewatering, construction of new 4 foot diameter concrete manholes with new cast iron frame and cover, and cast-in-place concrete bases, as shown in the City Standard Detail SS 2, continuous conveyance and control of sewage flow, connections to new and existing pipelines as shown on the plans, imported backfill material, compaction, restoration of all asphalt concrete pavement, manhole testing and all other work necessary to install the manholes, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

The work shall include sawcutting, removal and disposal of existing asphalt and temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt, furnishing, placing and compacting of asphalt concrete to restore asphalt surfacing over trenches and in other locations shown on the plans or designated by the City, including all necessary materials, equipment and labor, complete, in place.

- INSTALL SHALLOW SSMH (Bid Item A.18)

  Shallow Sewer Manholes shall be measured and paid for by the unit. The Contract unit price shall include full compensation for careful excavation around existing utilities as necessary, disposal of excavated materials, dewatering, construction of new 4 foot diameter concrete manholes barrels with new cast iron frame and cover, and cast-in-place concrete bases, as shown in the Central Contra Costa Sanitary District Standard Detail DWG-4, continuous conveyance and control of sewage flow, connections to new and existing pipelines as shown on the plans, imported backfill material, compaction, restoration of all asphalt concrete pavement, manhole testing and all other work necessary to install the manholes, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

  The work shall include sawcutting, removal and disposal of existing asphalt and temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt, furnishing, placing and compacting of asphalt concrete to restore asphalt surfacing over trenches and in other locations shown on the plans or designated by the City, including all necessary materials, equipment and labor, complete, in place.

- REMOVE EXISTING SSMH & REPLACE WITH STANDARD SSMH
  (Bid Item A.21 & B.14)

  This bid item shall be paid at the unit price bid per each. The work to be done is the removal of existing sanitary sewer manhole and the construction of a standard concrete sanitary sewer manhole as shown in the City Standard Detail SS 2.

  Standard Sewer Manholes shall be measured and paid for by the unit. The Contract unit price shall include full compensation for careful excavation around existing utilities as necessary, disposal of existing manhole and excavated materials, dewatering, construction of new 4 foot diameter concrete manholes with new cast iron frame and cover, and cast-in-place concrete bases, as shown in the standard details, continuous conveyance and control of sewage flow, connections to new and existing pipelines as shown on the plans, imported backfill material, compaction, restoration of all asphalt concrete pavement, manhole testing and all other work necessary to install the manholes, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

The work shall include sawcutting, removal and disposal of existing asphalt and temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt, furnishing, placing and compacting of asphalt concrete to restore asphalt surfacing over trenches and in other locations shown on the plans or designated by the City, including all necessary materials, equipment and labor, complete, in place.

- REMOVE EXISTING SSMH & REPLACE WITH STANDARD DROP SSMH (Bid Item A.23)

  This bid item shall be paid at the unit price bid per each. The work to be done is the removal of existing sanitary sewer manhole and the construction of a standard concrete drop sanitary sewer manhole as shown in the City Standard Detail SS 2.

  Standard Sewer Manholes shall be measured and paid for by the unit. The Contract unit price shall include full compensation for careful excavation around existing utilities as necessary, disposal of existing manhole and excavated materials, dewatering, construction of new 4 foot diameter concrete manholes with new cast iron frame and cover, and cast-in-place concrete bases, as shown in the standard details, continuous conveyance and control of sewage flow, connections to new and existing pipelines as shown on the plans, imported backfill material, compaction, restoration of all asphalt concrete pavement, manhole testing and all other work necessary to install the manholes, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

  The work shall include sawcutting, removal and disposal of existing asphalt and temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt, furnishing, placing and compacting of asphalt concrete to restore asphalt surfacing over trenches and in other locations shown on the plans or designated by the City, including all necessary materials, equipment and labor, complete, in place.

- REMOVE EXISTING SSMH & REPLACE WITH SHALLOW SSMH (Bid Item A.22)

  This bid item shall be paid at the unit price bid per each. The work to be done is the removal of existing sanitary sewer manhole and the construction of a shallow concrete sanitary sewer manhole as shown in the Central Contra Costa Sanitary District Standard Detail DWG-4.

  Shallow Sewer Manholes shall be measured and paid for by the unit. The Contract unit price shall include full compensation for careful excavation around existing utilities as necessary, disposal of excavated materials, dewatering, construction of new 4 foot diameter concrete manholes barrels with new cast iron frame and cover, and cast-in-place concrete bases, as shown in the Central Contra Costa Sanitary District Standard Detail, continuous conveyance and control of sewage flow, connections to new and existing pipelines as shown on the plans, imported backfill material, compaction, restoration of all asphalt

concrete pavement, manhole testing and all other work necessary to install the manholes, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

The work shall include sawcutting, removal and disposal of existing asphalt and temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt, furnishing, placing and compacting of asphalt concrete to restore asphalt surfacing over trenches and in other locations shown on the plans or designated by the City, including all necessary materials, equipment and labor, complete, in place.

- REMOVE EXISTING SSMH & REPLACE WITH HDPE SSMH (Bid Item A.24)

  HDPE Manholes shall be measured and paid for by the unit. The Contract unit price shall include full compensation for careful excavation around existing utilities as necessary, disposal of excavated materials, dewatering, construction of new 30" inside diameter HDPE pipe barrels with new cast iron frame and cover, and cast-in-place concrete base and collar, as shown in the Detail, continuous conveyance and control of sewage flow, connections to new and existing pipelines as shown on the plans, imported backfill material, compaction, restoration of all existing improvements, manhole testing and all other work necessary to install the manholes, complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

- REMOVE EXISTING SSCO (Bid Item A.25)

  This bid item shall be paid at the unit price bid per each cleanout removed.

  Payment for this item will be at the contract unit price per each existing sanitary sewer cleanout completely removed in the location as shown on the plans and as approved by the Engineer and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing the work as described herein.

- ABANDON EXISTING SSMH (Bid Item A.26)

  This bid item shall be paid at the unit price bid per each manhole abandoned.

  Payment for this item will be at the contract unit price per each existing sanitary sewer manhole abandoned in the location and according to the details as shown on the plans and as approved by the Engineer and shall include full compensation for furnishing all labor materials, tools, equipment and incidentals for performing the work as described herein.

- ABANDON EXISTING 6" SS BY SLURRY FILLING (Bid Item A.28 & B.23)

  Measurement for payment for Abandon Existing Sanitary Sewer Pipe by Slurry Filling shall be per linear foot as measured in the field regardless of pipe diameter.

  Payment for this item will be at the contract unit price per linear foot of existing sanitary

sewer pipe filled with concrete slurry in the location as shown on the plans and as approved by the Engineer and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing the work including verifying that there are no live laterals in the pipe to be abandoned as described in these specifications.

- CAP EXISTING 6" SS LINE (Bid Item A.27 & B.22)
  Measurement for payment for item shall be per each pipe end plugged.

  Payment for this item will be at the contract unit price per each existing sanitary sewer end plugged in the location as shown on the plans and as approved by the Engineer and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for performing the work including verifying that there are no live laterals in the pipe to be abandoned as described in these specifications.

- INSTALL OR REMOVE AND REPLACE 4" TWO-WAY CLEANOUT WITH CONCRETE BOX (Bid Item A.29 & B.16)
  4" Standard Two-Way Cleanout with Concrete Box shall be measured and paid for by the unit. The Contract unit price for "4" Standard Two-Way Cleanout with Concrete Box" shall include full compensation for excavation, removal of existing nonstandard cleanout (if any), control of sewage flow, furnishing and installing 4" Cast Iron two-way cleanout with twin cleanout, riser, loose cap, couplings, precast concrete cleanout boxes with cast iron lids in traffic areas including all necessary materials, equipment and labor, complete, in place as shown on the Plans, City Standard Details, and as directed by the Engineer.

- INSTALL OR REMOVE AND REPLACE 6" TWO-WAY CLEANOUT WITH CONCRETE BOX (Bid Item B.17)
  6" Standard Two-Way Cleanout with Concrete Box shall be measured and paid for by the unit. The Contract unit price for "6" Standard Two-Way Cleanout with Concrete Box" shall include full compensation for excavation, removal of existing nonstandard cleanout (if any), control of sewage flow, furnishing and installing 6" Cast Iron two-way cleanout with twin cleanout, riser, loose cap, couplings, precast concrete cleanout boxes with cast iron lids in traffic areas including all necessary materials, equipment and labor, complete, in place as shown on the Plans, City Standard Details, and as directed by the Engineer.

- INSTALL STANDARD ONE-WAY CLEANOUT WITH CONCRETE BOX
  (Bid Item A.31)
  Standard One-Way Cleanout with Concrete Box shall be measured and paid for by the unit. The Contract unit price for this item shall include full compensation for excavation, control of sewage flow, furnishing and installing 1/8 bend and standard wye cleanout, riser, loose cap, couplings, precast concrete cleanout boxes and all necessary materials, equipment and labor, complete, in place as shown on the Plans, City Standard Details, and as directed by the Engineer.

- REHABILITATE EXISTING LOWER LATERAL BY PIPE BURSTING (4.5" OD HDPE) (Bid Item A.30)

  This item shall be measured and paid for by the lineal foot. The Contract price shall include full compensation for excavation, continuous conveyance and control of sewage flow, furnishing and installing the sewer pipe, couplings, adapters, long radius sweep bends, fittings, backfill, compaction, temporary resurfacing, restoration of all landscaping and above and below ground improvements on private property with new materials and new healthy plantings, including all sub-grade preparation, top soil, form work, new concrete, masonry, fencing and timber materials except in those places where the City requests that existing materials or plantings be set aside and reused, new irrigation lines and any utility services, conduits or lines that are either removed, modified, altered or damaged as a result of the work to as-new-or-better condition, and all other labor and materials necessary to install the sewer laterals, and completely restore all work areas complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

  The work shall include sawcutting, removal and disposal of existing asphalt, temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt and concrete improvements, furnishing, placing of hot mix asphalt and concrete to restore surfacing over trenches and in other locations shown on the plans or designated by the City, including compacting, all necessary materials, equipment and labor, complete, in place.

- REHABILITATE EXISTING LOWER LATERAL BY PIPE BURSTING (6.625" OD HDPE) (Bid Item B.18)

  This item shall be measured and paid for by the lineal foot. The Contract price shall include full compensation for excavation, continuous conveyance and control of sewage flow, furnishing and installing the sewer pipe, couplings, adapters, long radius sweep bends, fittings, backfill, compaction, temporary resurfacing, restoration of all landscaping and above and below ground improvements on private property with new materials and new healthy plantings, including all sub-grade preparation, top soil, form work, new concrete, masonry, fencing and timber materials except in those places where the City requests that existing materials or plantings be set aside and reused, new irrigation lines and any utility services, conduits or lines that are either removed, modified, altered or damaged as a result of the work to as-new-or-better condition, and all other labor and materials necessary to install the sewer laterals, and completely restore all work areas complete, in place as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

  The work shall include sawcutting, removal and disposal of existing asphalt, temporary asphalt, recompaction of the Class 2 aggregate base material in the trench, a subgrade material below the new asphalt and concrete improvements, furnishing, placing of hot mix asphalt and concrete to restore surfacing over trenches and in other locations shown on the

plans or designated by the City, including compacting, all necessary materials, equipment and labor, complete, in place.

- 4" LATERAL CONNECTION TO NEW HDPE SS MAIN IN SIDEWALK OR EASEMENT (INCLUDING 4" SSCO) (Bid Item A.32 & B.19)

  This bid item shall be paid at the unit price bid per each sanitary sewer service lateral reconnected to the rehabilitated sewer main located in sidewalks or backyards.

  This bid item includes excavating, sheeting, shoring, dewatering for any access pits as needed, demolition and removal of pavement surfaces, potholing all adjacent utilities, excavation and disconnection of all service laterals, reconnecting the service laterals with a electrofusion HDPE pipe full saddle fitting and stainless steel banded rubber coupling ,if needed, additional necessary piping to complete the connection, providing and placement of SS cleanout, crushed rock, backfilling and compacting access pits, temporary steel plates, temporary pavement or sidewalk patch, and final concrete & pavement repair, landscaping restoration to pre-construction conditions, including furnishing all equipment, materials and personnel associated therewith, and all incidentals required by these Specifications and Drawings.

  This item also includes full compensation for the field location of existing sewer laterals at tie in points to sewer services as specified on the Plans and in these Special Provisions, including painting the ground locations in green and taking digital color photographs prior to any digging and in advance of the sewer main construction, and potholing the sewer lateral at the tie-in point after photographing, determination of its size and if it is live, temporary covering of the excavation with min 3/4" thick plywood and removal and disposal of excavated material at a legal disposal site. All pothole excavations shall be backfilled and all improvements and landscaping on private property shall be restored to the preconstruction condition or better.

  This item also includes careful photographing of the existing lateral locations with two digital (5mp minimum) color photos from different angles after green paint marking and prior to potholing, and the preparation and submittal to the City of two (2) copies of a neatly written or type written and photographic log book in two (2) 3-ring binders. The order of said written log shall be alphabetically by new sewer line, then by street, and in proper numerical order of street address, including lateral size and quantity and the Station location, photographs shall follow and be in the same order as the written log and shall be high resolution color, 3" x 4" minimum size, each photo shall show the photo date and street address, the date and address lettering on the photos shall be clearly legible and 0.10" minimum height, two (2) identical copies of said photo log book, and written log shall also be provided to the City in electronic form on CD.

- 6" LATERAL CONNECTION TO NEW HDPE SS MAIN IN SIDEWALK OR EASEMENT (INCLUDING 6" SSCO) (Bid Item A.33)

This bid item shall be paid at the unit price bid per each sanitary sewer service lateral reconnected to the rehabilitated sewer main located in sidewalks or backyards.

This bid item includes excavating, sheeting, shoring, dewatering for any access pits as needed, demolition and removal of pavement surfaces, potholing all adjacent utilities, excavation and disconnection of all service laterals, reconnecting the service laterals with a electrofusion HDPE pipe full saddle fitting and stainless steel banded rubber coupling ,if needed, additional necessary piping to complete the connection, providing and placement of SS cleanout, crushed rock, backfilling and compacting access pits, temporary steel plates, temporary pavement or sidewalk patch, and final concrete & pavement repair, landscaping restoration to pre-construction conditions, including furnishing all equipment, materials and personnel associated therewith, and all incidentals required by these Specifications and Drawings.

This item also includes full compensation for the field location of existing sewer laterals at tie in points to sewer services as specified on the Plans and in these Special Provisions, including painting the ground locations in green and taking digital color photographs prior to any digging and in advance of the sewer main construction, and potholing the sewer lateral at the tie-in point after photographing, determination of its size and if it is live, temporary covering of the excavation with min 3/4" thick plywood and removal and disposal of excavated material at a legal disposal site. All pothole excavations shall be backfilled and all improvements and landscaping on private property shall be restored to the preconstruction condition or better.

This item also includes careful photographing of the existing lateral locations with two digital (5mp minimum) color photos from different angles after green paint marking and prior to potholing, and the preparation and submittal to the City of two (2) copies of a neatly written or type written and photographic log book in two (2) 3-ring binders. The order of said written log shall be alphabetically by new sewer line, then by street, and in proper numerical order of street address, including lateral size and quantity and the Station location, photographs shall follow and be in the same order as the written log and shall be high resolution color, 3" x 4" minimum size, each photo shall show the photo date and street address, the date and address lettering on the photos shall be clearly legible and 0.10" minimum height, two (2) identical copies of said photo log book, and written log shall also be provided to the City in electronic form on CD.

- 4” LATERAL CONNECTION TO NEW PVC SS MAIN IN SIDEWALK OR EASEMENT (INCLUDING 4” SSCO) (Bid Item A.34 & B.20)

  This bid item shall be paid at the unit price bid per each sanitary sewer service lateral reconnected to the rehabilitated sewer main located in sidewalks or backyards.

  This bid item includes excavating, sheeting, shoring, dewatering for any access pits as needed, demolition and removal of pavement surfaces, potholing all adjacent utilities,

excavation and disconnection of all service laterals, reconnecting the service laterals with a PVC Tee fitting and stainless steel banded rubber coupling and fused tee fitting, additional necessary piping to complete the connection, providing and placement of SS cleanout, crushed rock, backfilling and compacting access pits, temporary steel plates, temporary pavement or sidewalk patch, and final concrete & pavement repair, landscaping restoration to pre-construction conditions, including furnishing all equipment, materials and personnel associated therewith, and all incidentals required by these Specifications and Drawings.

This item also includes full compensation for the field location of existing sewer laterals at tie in points to sewer services as specified on the Plans and in these Special Provisions, including painting the ground locations in green and taking digital color photographs prior to any digging and in advance of the sewer main construction, and potholing the sewer lateral at the tie-in point after photographing, determination of its size and if it is live, temporary covering of the excavation with min 3/4" thick plywood and removal and disposal of excavated material at a legal disposal site. All pothole excavations shall be backfilled and all improvements and landscaping on private property shall be restored to the preconstruction condition or better.

This item also includes careful photographing of the existing lateral locations with two digital (5mp minimum) color photos from different angles after green paint marking and prior to potholing, and the preparation and submittal to the City of two (2) copies of a neatly written or type written and photographic log book in two (2) 3-ring binders. The order of said written log shall be alphabetically by new sewer line, then by street, and in proper numerical order of street address, including lateral size and quantity and the Station location, photographs shall follow and be in the same order as the written log and shall be high resolution color, 3" x 4" minimum size, each photo shall show the photo date and street address, the date and address lettering on the photos shall be clearly legible and 0.10" minimum height, two (2) identical copies of said photo log book, and written log shall also be provided to the City in electronic form on CD.

- CONNECT NEW PIPE TO EXISTING SSMH & REBUILD CHANNELS
  (Bid Item A.35& B.21)
  Connection to existing sewer manhole/rebuild channels shall be measured and paid for by the unit. The Contract unit price shall include full compensation for the connection to the exiting manholes, waterstop gaskets on new sewer pipe, chipping out and reshaping of the manhole channels as necessary to accommodate the new sewer main including all work necessary to comply with the Contractor's Confined Space Entry Program as shown on the Plans, as specified in these Special Provisions, and as directed by the Engineer and no additional compensation shall be allowed therefore.

- REPLACEMENT OF ASPHALT CONCRETE PAVEMENT DUE TO PIPE BURSTING HEAVING (Bid Item A.19 & B.24)
  Removal and replacement of existing asphalt concrete pavement along either side of the

pipe designated for bursting shall be measured and paid for by the square foot of asphalt concrete pavement removed and replaced. The Contract unit price paid per square foot shall include removal of existing asphalt concrete pavement, subgrade preparation and compaction, placement of new asphalt concrete, as necessary for replacement of removed or damaged asphalt concrete pavement along the proposed sanitary sewer alignment, complete, in place as shown in the City Standard Details and as directed by the Engineer.

- REPLACEMENT OF CONCRETE IMPROVEMENTS DUE TO PIPE BURSTING HEAVING (Bid Item A.20 & B.25)
  Removal and replacement of existing concrete improvements including sidewalks, patios, driveways, etc. along either side of the pipe designated for bursting shall be measured and paid for by the square foot of concrete removed and replaced. The Contract unit price paid per square foot shall include removal of existing concrete, subgrade preparation and compaction, formwork, placement of new concrete, as necessary for replacement of removed or damaged concrete improvements along the proposed sanitary sewer alignment, complete, in place as shown in the City Standard Details and as directed by the Engineer.

- REMOVE AND REPLACE MISCELLANEOUS CONCRETE IMPROVEMENTS (B.26)
  Removal and replacement of existing concrete improvements including sidewalks, patios, driveways, etc. in Area 2 along the proposed sanitary sewer alignment shall be measured and paid for by the square foot of concrete placed. The Contract unit price paid per square foot shall include all subgrade preparation and compaction, formwork, placement of new concrete, as necessary for replacement of removed or damaged concrete improvements along the proposed sanitary sewer alignment, complete, in place as shown in the City Standard Details and as directed by the Engineer.

  Full compensation for removal and replacement of existing concrete improvements in conjunction with sanitary sewer improvements using open cut method in Area 1 shall be considered as included in the contract price for the various bid items and no separate payment will be made.

- REMOVE AND REPLACE FENCING (Bid Item B.27)
  Removal and replacement of existing fencing in kind or better in Area 2 along the proposed sanitary sewer alignment shall be measured and paid for by the foot of fence removed and replaced regardless of height or material of fence. The Contract unit price paid per foot shall include removing concrete fence foundations, and removing and disposing fence posts and other material outside the right of way, furnishing and installing PCC footing, posts, laggings, class 2 permeable backfill, backfilling and compacting post holes as directed by the Engineer, and no separate payment will be made therefor.

- BYPASS PUMPING (Bid Item A.36 & B.28)
  Bypass Pumping shall be measured and paid for by the lump sum. The contract lump sum

price shall be considered as full compensation for burying bypass pumping hose, sawcutting and removal of existing asphalt concrete; excavation and disposal of existing aggregate base and soil; installing bypass hose; backfill with sand; providing and installing steel plates; providing and installing asphalt concrete around steel plates; removal of steel plates, hose, and sand; backfill and compaction with aggregate base; and pavement replacement and restoration, including furnishing all equipment, materials, and personnel associated therewith, and in accordance with these specifications.

No adjustment in unit price will be made for increase or decrease of quantities for this bid item and Section 4-1.05, "Changes and Extra Work", of the State of California, Department of Transportation Standard Specifications, shall not apply. This item is revocable, if not used.

- HANDLING AND DISPOSAL AT CLASS I LANDFILL OF CONTAMINATED MATERIAL (REVOCABLE) (Bid Item A.37 & B.29)
  Quantities for this item shall be measured and paid for by the cubic yard. The contract unit price paid for Handling and Disposal at Class I Landfall of Contaminated Material, as directed by the Engineer and as measured in the field shall include full compensation for doing all work involved for contaminated material handling, testing, and disposal. Payment shall include full compensation for all labor, materials and incidentals required for contaminated material handling, testing, removal and disposal, including excavation, stockpiling, testing, disposal offsite and all other requirements for safe removal and disposal of contaminated material. This unit price will be paid in excess of normal excavation paid under various other items in the Bid Schedule required for the project.

  This bid item is revocable if no contaminated material handling, removal and disposal are required, therefore, no adjustment in the contract unit prices for this item shall be made for increases or decreases of more than 25 percent of the quantities, and Section 4-1.05, "Changes and Extra Work", of the State of California, Department of Transportation Standard Specifications, shall not apply. This item is revocable, if not used.

- HANDLING AND DISPOSAL AT CLASS II LANDFILL OF CONTAMINATED MATERIAL (REVOCABLE) (Bid Item A.38 & B.30)
  Quantities for this item shall be measured and paid for by the cubic yard. The contract unit price paid for Handling and Disposal at Class II Landfall of Contaminated Material, as directed by the Engineer and as measured in the field shall include full compensation for doing all work involved for contaminated material handling, testing, and disposal. Payment shall include full compensation for all labor, materials and incidentals required for contaminated material handling, testing, removal and disposal, including excavation, stockpiling, testing, disposal offsite and all other requirements for safe removal and disposal of contaminated material. This unit price will be paid in excess of normal excavation paid under various other items in the Bid Schedule required for the project.

This bid item is revocable if no contaminated material handling, removal and disposal are required, therefore, no adjustment in the contract unit prices for this item shall be made for increases or decreases of more than 25 percent of the quantities, and Section 4-1.05, "Changes and Extra Work", of the State of California, Department of Transportation Standard Specifications, shall not apply. This item is revocable, if not used.

- HANDLING AND DISPOSAL AT CLASS III LANDFILL OF CONTAMINATED MATERIAL (REVOCABLE) (Bid Item A.39 & B.31)

  Quantities for this item shall be measured and paid for by the cubic yard. The contract unit price paid for Handling and Disposal at Class III Landfall of Contaminated Material, as directed by the Engineer and as measured in the field shall include full compensation for doing all work involved for contaminated material handling, testing, and disposal. Payment shall include full compensation for all labor, materials and incidentals required for contaminated material handling, testing, removal and disposal, including excavation, stockpiling, testing, disposal offsite and all other requirements for safe removal and disposal of contaminated material. This unit price will be paid in excess of normal excavation paid under various other items in the Bid Schedule required for the project.

  This bid item is revocable if no contaminated material handling, removal and disposal are required, therefore, no adjustment in the contract unit prices for this item shall be made for increases or decreases of more than 25 percent of the quantities, and Section 4-1.05, "Changes and Extra Work", of the State of California, Department of Transportation Standard Specifications, shall not apply. This item is revocable, if not used.

- EXCAVATE UNSUITABLE BEDDING MATERIAL (REVOCABLE)
  (Bid Item A.38 & B.32)

  This bid item shall be paid at the unit price bid per cubic yard. This work includes over-excavation of the trench to the depth as directed by the Engineer and placement of permeable bedding as specified in Section TP 18-2 wrapped in filter fabric.

  This bid item includes excavating unsuitable bedding material, including furnishing all equipment, materials and personnel associated therewith, and in accordance with these specifications. The Engineer during construction operations will make the determination of unsuitable bedding material.

  No adjustment in unit price will be made for increase or decrease of quantities for this bid item and Section 4-1.05, "Changes and Extra Work", of the State of California, Department of Transportation Standard Specifications, shall not apply. This item is revocable, if not used. This item is revocable, if not used.

- EXCAVATE UNSUITABLE ROCK (REVOCABLE) (Bid Item A.39 & B.33)

  This bid item shall be paid at the unit price bid per cubic yard.

This bid item includes excavating unsuitable bedding, existing rock, including furnishing all equipment, materials and personnel associated therewith, and in accordance with these specifications. The Engineer during construction operations will make the determination of unsuitable bedding.

No adjustment in unit price will be made for increase or decrease of quantities for this bid item and Section 4-1.05, "Changes and Extra Work", of the State of California, Department of Transportation Standard Specifications, shall not apply. This item is revocable, if not used. This item is revocable, if not used.

- SUPPLEMENTAL WORK (Bid Item A.40 & B.34)

  The Contractor will be compensated for "Supplemental Work" based on Engineer approved time and material (T&M) submittals, which shall include full compensation for furnishing all labor, mobilizing and demobilizing from the site all equipment, materials, personnel, supervision, fencing, materials, delivery of materials, warranties, tools, equipment, and incidentals, and for doing all the work involved, no additional compensation will be allowed therefor. For bidding purposes the City is assigning a fixed amount to this item. Supplemental work funds not used do not become property of the Contractor.

SUPPLEMENTAL TECHNICAL PROVISIONS

The Technical Provisions (TP) of the City of Albany Standard Specifications (CSS) shall be supplemented as follows.

SECTION 1. MOBILIZATION

Add the following: Mobilization shall include attendance at meetings. Prior to beginning work, the Contractor shall be required to attend a preconstruction meeting at the City. Major Subcontractors shall be required to attend this meeting. During the course of the Project, the Contractor may be required to attend weekly construction meetings with the City's Project Manager.

Submittals: List of Submittals, Name & 24 hour Telephone numbers of two Contractor Contacts.

Payment for Mobilization shall be as provided in Section 9 of the CSS GP.

SECTION 2. CLEARING & GRUBBING

Add the following: Contractor's attention is directed to the notes on the Plans concerning the protection of existing street trees. Limits of bituminous (AC) pavement removal shall conform to City Standard Detail SS 4, "Typical Trench Section". Portland Cement Concrete shall be sawcut, removed, and disposed of in accordance to TP Sec. 2-2.2 "Concrete Pavement" of the CSS.

Existing pipes and structures shall be removed and disposed of in accordance with the provisions of TP Sec. 2-5 of the CSS. Existing laterals determined not to be live shall be abandoned in accordance with Method A.

Measurement and payment for Clearing and Grubbing shall be considered as included in the payment for the various items of work and no additional compensation shall be allowed therefore except where a payment for a specific item to be removed is included in Section 9 of the CSS GP.

SECTION 3. EARTHWORK

Add the following: Control of ground and surface water shall conform to the Alameda County Cleanwater Program. Trenching shall conform to TP Section 18-1 "Trenching" of the CSS and these Special Provisions.

Quantities of Earthwork will not be measured. Payment for Earthwork shall be considered as included in the various contract items of work requiring excavation.

SECTION 4. DUST CONTROL & WATERING

Add the following: The Contractor shall make her own arrangements for developing a water supply suitable to compact and provide adequate dust control.

SECTION 5. STREET FAILED AREA REPAIR
The work described in this section does not apply to this Project.

SECTION 6. SUBGRADE PREPARATION
The provisions of this Section shall apply without exception.

SECTION 7. AGGREGATE SUBBASE
The work described in this section does not apply to this Project.

SECTION 8. AGGREGATE BASE
Add the following: Recycled aggregate products that conform to this section will be accepted for this project. Contractor's attention is directed to the note on City Standard Detail SS 4 "Typical Trench Section" requiring asphalt concrete replacement to be a minimum of 3" or existing AC thickness plus 1 inch.

Submittals: Submit vendor's name, contact information, source of materials, aggregate gradation, and delivery tags.

Quantities of Aggregate Base shall not be measured. Payment for Aggregate Base shall be considered as included in the various contract items of work requiring aggregate base.

SECTION 9. HOT MIX ASPHALT (HMA)
This Section shall be replaced in its entirety with Section 39 of SSS. The sewer Contractor performing work under this sewer project will be required to replace the AC pavement within the limits shown on the City Standard Detail SS4, "Typical Trench Section". Asphalt Concrete shall be type A, half-inch maximum for base and surface courses. The grade of asphalt binder shall be PG 64-10.

Submittals: Submit vendor's name, contact information, source of materials, aggregate gradation & mix design, and delivery tags.

<u>Asphalt Concrete Replacement for Sanitary Sewer Pipe Replacement Using Open Cut Method</u>
Contractor's attention is directed to the note on City Standard Detail SS 4 "Typical Trench Section" and TP Section 18-10.02 requiring asphalt concrete replacement to be "one inch greater in thickness than existing pavement, or 3 inches, whichever is greater."

Quantities of Asphalt Concrete for any open cut method will not be measured. Payment for Asphalt Concrete for any open cut method shall be considered as included in the various contract items of work requiring Asphalt Concrete.

<u>Replacement of Asphalt Concrete Pavement Due to Pipe Bursting Heaving</u>
This work shall consist of pre-cutting the asphalt pavement along either side of the bore centerline to relieve expansive force to avoid widespread pavement damage as marked in the field and/or described

in the plans, and/or as directed by the Engineer. Alternatively, at the Engineer's discretion, he may decide to have the Contractor remove and replace the existing pavement materials damaged by heaving after the pipe bursting work has been completed. The following steps shall be followed for removal and replacement of the existing pavement:

a. Prior to beginning any work on the pavement repairs, the Contractor shall arrange for and conduct a field review of each repair area with the Engineer. The Engineer and Contractor shall record the agreed upon dimensions for each repair at each location. Size of the pavement repairs shall not vary from this agreement unless specified in writing by the Engineer. Additional compensation shall not be allowed for pavement repairs in excess of the agreed upon size.

b. The Contractor shall remove existing asphalt concrete pavement at areas agreed upon by the Engineer by sawcutting or by grinding to a minimum depth of six inches (6") below existing grade. Overcutting at the ends of sawcuts shall not be allowed.

c. Upon removing all existing material to the required depth, all loose material shall be removed to a solid surface (95% Relative Compaction) or the Contractor shall compact the upper six (6) inches of the subgrade (or aggregate base) to not less than 95% relative compaction. Any import basement material needed to meet the requirement for this work shall be provided by the Contractor to the site and compacted to ninety percent (90%) relative compaction by the Contractor at no additional expense to the City.

d. The Contractor shall replace the void with HMA as specified in Section 39 of SSS. The thickness of this HMA shall be minimum of six inches (6") below existing grade. HMA shall be placed in lifts with thickness no less than 1.5 inches and no greater than 3 inches. The HMA shall be placed and compacted to ninety five percent (95%) density and shall meet the elevation of the existing pavement contour. Areas inaccessible to rollers shall be compacted by use of a power compactor of the high impact, vibra plate type, capable of attaining the same compaction as the rolled areas. Relative compaction will be determined by California Test 375. Laboratory specimens will be compacted in conformance with California Test 304. HMA shall be placed only when the atmospheric temperature is a minimum of 50 degrees Fahrenheit and rising.

e. Prior to the placement of the HMA, the Contractor shall apply a tack coat to the horizontal and vertical faces of the existing asphalt pavement.

f. The Contractor shall not excavate any more area of pavement repair than can be completed by the end of the workday (or worknight). All excavations shall be backfilled with the final asphalt section by the end of each working day.

Payment for Asphalt Concrete due to pipe bursting heaving shall be measured by the square foot as described in Section 9.B of SGP.

SECTION 10. ASPHALTIC SEAL COATS
The work described in this section does not apply to this Project.

SECTION 11. HOT SURFACE RECYCLING
The work described in this section does not apply to this Project.

SECTION 12. ASPHALT CONCRETE LEVELING COURSE & CRACK FILL REPAIRS
The work described in this section does not apply to this Project.

SECTION 13. COLD PLANING
The work described in this section does not apply to this Project.

SECTION 14. PAVEMENT REINFORCING FABRIC
The work described in this section does not apply to this Project.

SECTION 15. PAVEMENT DELINEATION
Add the following: Where required the Contractor shall replace existing pavement stripes, markings, and legends in kind.

Quantities of Pavement Delineation will not be measured. Payment for Pavement Delineation shall be considered as included in the various contract items of work requiring removal and replacement of pavement delineation.

SECTION 16. TRAFFIC SIGNS
The work described in this section does not apply to this Project.

SECTION 17. CONCRETE CONSTRUCTION
Add the following: In some locations the pipeline to be replaced is located under various concrete improvements such as sidewalk, driveway, curb, gutter, etc. Contractor shall sawcut the existing concrete to be removed and replaced. Replacement of existing Portland cement concrete curb, gutter, sidewalk, and driveway shall conform to City Standard Details ST 1 through 7.

Submittals: Submit vendor's name, contact information, source of materials, aggregate gradation & mix design, and delivery tags.

<u>Replacement of Concrete Improvements Due to Pipe Bursting Heaving</u>
This work shall consist of pre-cutting the concrete improvements along either side of the bore centerline to relieve expansive force to avoid widespread damage as marked in the field and/or

described in the plans, and/or as directed by the Engineer. Alternatively, at the Engineer's discretion, he may decide to have the Contractor remove and replace the existing concrete improvements damaged by heaving after the pipe bursting work has been completed. The following steps shall be followed for removal and replacement of the existing concrete improvements:

a. Prior to beginning any work on the concrete repairs, the Contractor shall arrange for and conduct a field review of each repair area with the Engineer. The Engineer and Contractor shall record the agreed upon dimensions for each repair at each location. Size of the concrete repairs shall not vary from this agreement unless specified in writing by the Engineer. Additional compensation shall not be allowed for concrete repairs in excess of the agreed upon size.

b. The Contractor shall remove existing concrete section at areas agreed upon by the Engineer at the closest score line or joint or as directed by the Engineer by sawcutting.

c. Upon removing all existing concrete material, all loose material shall be removed to a solid surface (95% Relative Compaction) or the Contractor shall compact the upper six (6) inches of the subgrade (or aggregate base) to not less than 95% relative compaction. Any import basement material needed to meet the requirement for this work shall be provided by the Contractor to the site and compacted to ninety percent (90%) relative compaction by the Contractor at no additional expense to the City.

d. The Contractor shall replace the void, if needed, with aggregate base as specified in Section 8 of STP. Aggregate base shall be placed and compacted to ninety five percent (95%) density.

f. The Contractor shall not excavate any more area of concrete repair than can be completed by the end of the workday (or worknight).

Quantities of PCC sidewalk, driveway, or curb & gutter to be removed and replaced will be measured and paid for by the square foot of concrete improvements removed and replaced in kind.

Payment for Concrete due to pipe bursting heaving shall be measured by the square foot as described in Section 9.B of SGP.

SECTION 18. SANITARY SEWERS AND MANHOLES

A. DESCRIPTION. The work consists of constructing sanitary sewers and manholes including temporary and permanent trench resurfacing as shown on the plans, and directed by the Engineer in accordance with TP Section 18, "Sanitary Sewers and Storm Drains" modified or supplemented as follows:

B. SUBMITTALS: Shoring Plans; Bypass Pumping Plan; Pipe bursting Equipment & Procedures; Horizontal Directional Drilling Equipment & Procedures; Pilot Tube Guided Auger Boring Equipment & Procedures; All Pipes, Fittings and Appurtenances; PVC

Waterstops; Electrofusion Saddles; Manhole Barrels , Cone Sections, Gaskets, Frame and Cover; One-Way Cleanout Fitting, Two-Way Cleanout Fitting, Valve Box, Loose Cap; Rodding Inlet Frame & Cover; Slurry Filling; Concrete; Hot Mix Asphalt;

C. PIPELINE MATERIALS

1. GENERAL

Pipeline materials allowable for each pipeline are shown on the plans. The pipe and materials specified in this Section include all the types of pipe materials which could be used for one or more items in the project.

2. POLYETHYLENE PIPE AND FITTINGS (HDPE PIPE)

a. Where polyethylene pipe and fittings are shown on the Plans and/or specified, the Contractor shall furnish and install polyethylene pipe manufactured to conform to the following specifications. All pipe for pipe bursting and directional drilling shall be HDPE. Internal color shall be gray.

b. Polyethylene pipe and fittings shall be Type III Category 5, Grade P34, per ASTM D-1248 (PPI designation PE3408), with a SDR=17, having the following properties:

Property		Value	ASTM Test
Density, min.		0.955-0.957 gms/cc	D-1505
Melt Flow - Condition E		0.20 gms/10 min	D-1238
or Condition F		1.5 gms/10 min	D-1238
Environmental Stress Cracking Resistance w/no failures or stress crack initiation (Condition C)		1,000 hrs	D-1693
Tensile Strength, Yield 2 in/min		3,100 psi	D-638
Brittleness Temperature		180º F	D-746
Long-Term Strength	@ 73ºF	1,600 psi	D-2837
	@ 140ºF	800 psi	D-2837
Cell Classification		355434C or 335434C	D-3350

Polyethylene pipe shall be Driscopipe 1000, Dupont, or equal.

c. The polyethylene resin shall contain 2% carbon black antioxidant, well dispersed, and be stabilized against ultraviolet degradation to provide protection during processing and subsequent weather exposure.

d. Pipe shall be made to diameter and tolerances as shown in manufacturer's literature. Wall thickness of the polyethylene pipe shall be rated to handle pressures designated on the plans.

e. All pipe shall be made from virgin material. All resin in all the pipe and fittings must be produced by a single resin manufacturer and shall be fully traceable. No rework compound, except that obtained from the manufacturer's own production of the same formulation, shall be used.

f. All pipe fittings and specials shall be furnished by the same pipe manufacturer.

g. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.

h. The Contractor shall furnish and install the proper connecting pieces and/or transition sleeves in every case where it is necessary to join pipes of different diameters, materials, or types of joint.

i. Fusion joining and other procedures necessary for correct assembly of the polyethylene pipe and fittings will be done only by personnel trained in those skills to the satisfaction of the Engineer and the pipe supplier.

j. Only those tools designed for joining procedures and approved by the pipe supplier and Engineer shall be used for assembly of pipe and fittings to insure proper installation.

k. Where shown on the plans, polyethylene pipe shall be connected to systems or fitting of other materials by means of an assembly consisting of a polyethylene flange adapter butt-fused to the pipe, a backup ring of stainless steel made to ASA B-16 dimensional standards (with modified pressure rating, bolts of stainless steel and asbestos-rubber compound gasket).

l. The supplier shall provide polyethylene pipe with a permanently imprinted manufacturer's brand name, pipe size, and other identification for tracing pipe quality to raw material source.

m. The pipe supplier shall furnish the system components, fusion machine of type specified and pipe support stands. The Contractor shall supply the power source for operation of the fusion machine.

n. The color of the HDPE pipe shall be GRAY.

o. Thermal weld saddle shall be electrofusion branch saddle manufactured by Friatec (or approved equal) and shall be compatible with PE3408 HDPEP.

p. Banded rubber couplings shall be Fernco, Caulder, Gladding McBean or approved equal. All couplings shall have stainless steel shear double bands.

q. New Lower Laterals shall be connected to the existing live lateral behind the curb with a Two-Way Cleanout as shown on the Plans. Where existing Two-Way Cleanouts meeting the City's Standard Specification exist, Contractor shall connect the new lower lateral to the street side of the existing cleanout.

3. PVC PIPE FOR SEWERS

a. PVC pipe for sewer mains shall conform to ASTM 3034, SDR 26.

b. PVC pipe and fittings for laterals shall conform to ASTM 3034, SDR 26.

c. All PVC sewer pipe shall be green color.

D. PIPELINE GRADE

1. The Contractor shall employ competent personnel or an independent licensed Civil Engineer acceptable to the Engineer who shall be responsible for accurately transferring lines and grades to the bottom of trenches or excavations for the construction of pipelines and structures. This requirement does not apply to sewers which are pipe burst.

2. All pipelines shall be laid true to line and grade. Pipe alignment shall reasonably conform to that shown on the plans, and in no event shall joint deflections exceed the pipe manufacturer's recommendations. The grade of all gravity sewers shall be within ±0.05 foot of the elevations and grades shown on the plans with the provision that in no event shall a gravity sewer or drain be allowed to have a sag or standing water greater than 0.10 feet deep in ten (10) inches or smaller inside diameter pipe and 0.20 feet in pipe larger than ten (10) inches inside pipe diameter. Pipeline grades which exceed this standard as determined by the television inspection to be performed by the Contractor shall be relaid at no expense to the City. This requirement does not apply to sewers which are pipe burst.

3. Excavation for pipelines to be installed by trenching shall conform to City Standard Detail SS 4, "Typical Trench Detail" except that a locator and plastic metallic detection tape shall not be required.

E. INVESTIGATIVE POTHOLING

1. POTHOLING OF POTENTIAL UTILITY CONFLICTS
The Contractor shall pothole potential utility conflicts as described herein, and as directed by the Engineer, prior to commencing the installation or construction of the proposed facilities.

Prior to potholing, the Contractor shall call USA to locate and mark all existing utilities in the vicinity of the pothole. The potholing and submittal of the results for all pothole sites shall be done as a first order of work so that the Engineer has sufficient time to address any conflicts. Removal or reworking of facilities installed without utility potholing as herein provided shall be considered work under this Contract, and not extra work. Potholing shall be performed prior to any excavation in the project areas.

Any damage to the existing utilities as a result of Contractor's failure to provide adequate pothole information will be repaired by the Contractor to the satisfaction of the Engineer at no cost to the City. If the utilities are not potholed and the as-built information not submitted to the Engineer in advance as required herein, the City will not be responsible for delays, standby charges, equipment re-locations, or re-mobilizations that may result while the project design engineer evaluates the problem and designs an alternative solution.

Materials

a. Slurry backfill – in conformance with Caltrans Standard Specifications Section 19-3.062, "Slurry Cement Backfill".

b. Asphalt concrete – in conformance with technical section, "Milling and Placement of Asphalt Concrete and Striping for Vehicular Traffic."

Execution

After potholing, the Contractor shall backfill the excavation and restore the pavement surface in accordance with these specifications.

Potholing shall be undertaken where new pipe installation is suspected of conflicting with existing utilities. A maximum 1'-0" square hole shall be neatly cut in pavement areas. Remove soil by air/vacuum, dust-controlled soil extraction methods. Use care not to disturb adjacent soil. Backfill the pothole with slurry backfill and replace the pavement in kind with a hot asphalt cement mix in a 2 ft. by 2ft. square, so that no discontinuity and a smooth surface result. Potholes shall be backfilled with slurry backfill and properly cured prior to pipe bursting.

Payment for potholing due to potential utility conflicts shall be paid for on a lump sum basis as described in Section 9.B of SGP.

2. LOCATION AND POTHOLING OF SEWER LATERALS

Prior to bursting the existing mainline pipe the Contractor shall locate all existing live sewer laterals which connect to the sewer to be rehabilitated. Contractor shall conform to the "Lateral Requirements" shown on the Plans.

The plans show one existing live lateral to be replaced for each residence. However, there may be more than one per residence. The Contractor shall be responsible for locating and

bursting all existing live laterals, including those that may not be shown on the Plans. Video inspection DVD and reports for the main lines to be burst may be obtained upon request.

Payment for potholing to identify location of sewer lateral shall be included in the price of various lateral replacements and connections as described in Section 9.B of SGP.

F. DEWATERING

1. GENERAL

The Contractor shall provide all labor, materials, and equipment necessary to dewater trench and structure excavations, in accordance with the requirements of the Contract Documents. The Contractor shall secure all necessary permits to complete the requirements of this Section of the Specifications.

2. SUBMITTALS

Prior to commencement of excavation, the Contractor shall submit a detailed plan and operation schedule for dewatering of excavations. The Contractor may be required to demonstrate the system proposed and to verify that adequate equipment, personnel, and materials are provided to dewater the excavations at all locations and times, The Contractor's dewatering plan is subject to review by the Engineer.

3. QUALITY CONTROL

a. It shall be the sole responsibility of the Contractor to control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement and subsidence.

b. All dewatering operations shall be adequate to assure the integrity of the finished project and shall be the responsibility of the Contractor.

c. Where critical structures or facilities exist immediately adjacent to areas of proposed dewatering, reference points shall be established and observed at frequent intervals to detect any settlement which may develop. The responsibility for conducting the dewatering operation in a manner which will protect adjacent structures and facilities rests solely with the Contractor. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the Contractor.

3. EQUIPMENT

Dewatering, where required, may include the use of well points, sump pumps, temporary pipelines for water disposal, rock or gravel placement, and other means. Standby pumping equipment shall be maintained on the jobsite.

4. EXECUTION

a. The Contractor shall provide all equipment necessary for dewatering. It shall have on hand, at all times, sufficient pumping equipment and machinery in good working condition and shall have available, at all times, competent workmen for the operation of the pumping equipment. Adequate standby equipment shall be kept available at all times to insure efficient dewatering and maintenance of dewatering operation during power failure.

b. Dewatering for structures and pipelines shall commence no later than when groundwater is first encountered, and shall be continuous until such times as water can be allowed to rise in accordance with the provisions of this Section or other requirements.

c. At all times, site grading shall promote drainage. Surface runoff shall be diverted from excavations. Water entering the excavation from surface shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and be pumped or drained by gravity from the excavation to maintain a bottom free from standing water.

d. Dewatering shall at all times be conducted in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.

e. If foundation soils are disturbed or loosened by the upward seepage of water or an uncontrolled flow of water, the affected areas shall be excavated and replaced with drain rock at no additional cost to the City.

f. The Contractor shall maintain the water level below the bottom of excavation in all work areas where groundwater occurs during excavation construction, backfilling, and up to acceptance.

g. Flotation shall be prevented by the Contractor by maintaining a positive and continuous removal of water. The Contractor shall be fully responsible and liable for all damages which may result from failure to adequately keep excavations dewatered.

h. If well points or wells are used, they shall be adequately spaced to provide the necessary dewatering and shall be sandpacked and/or other means used to prevent pumping of fine sands or silts from the substance. A continual check by the Contractor shall be maintained to ensure that the subsurface soil is not being removed by the dewatering operation.

i. The Contractor shall dispose of water from the Work in a suitable manner without damage to adjacent property. Contractor shall be responsible for obtaining any permits that may be necessary to dispose of water. No water shall be drained into Work built or under construction without prior consent of the Inspector. Water shall be filtered using an approved method to remove sand and fine-sized soil particles before disposal.

j. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill and prevent flotation or movement of structures, pipelines, and sewers.

Payment for Dewatering shall be considered as included in the payment for the various items of work and no additional compensation shall be allowed therefore.

G. PIPE BURSTING FOR SANITARY SEWER SYSTEM

1. GENERAL

When shown on the plans sewer mains shall be pipe burst using a method which will not cause undue vibration or impact in the ground around the pipe or damage adjacent utilities.

This specification covers the work necessary to furnish and install, complete and in place, high density polyethylene pipe (HDPE) by the pipe bursting method, as shown on the drawings and specified herein. The Contractor shall provide all materials, labor, equipment, and services necessary for bypass pumping and/or diversion of sewage flows, installation of HDPE pipe, reconnection of active building sewers, and TV video inspection and testing of the completed pipe system.

2. SUBMITTALS

a. The Contractor shall submit catalog cuts, specifications, dimensioned drawings, installation details and sketches, and other pertinent information for the HDPE pipe installation work. All materials provided shall be fully in accordance with the requirements of the reference specifications specified above.

b. The Contractor shall verify with the pipe manufacturer all connection details.

c. The Contractor shall submit detail drawings and a written description of the construction procedure and sequence to bypass sewage flow, install pipe, and reconnect building sewers.

d. Certification - The Contractor shall furnish a certified affidavit of compliance for all HDPE pipe and fittings furnished confirming that the materials supplied fully conform to the requirements specified herein.

e. The Contractor shall submit a sewage bypass pumping and/or diversion conforming to the requirements of these STPs.

f. The Contractor shall perform trial fusion welds and submit samples to the Engineer for review prior to installation of the pipe. 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.

g. Fusion equipment shall be operated only by technicians who have been certified by the pipe manufacturer or supplier and who have a minimum of two (2) years of experience fusion welding 4-inch or larger diameter pipelines. The technician's experience shall be documented in the HDPE pipe submittal.

3. QUALITY ASSURANCE

a. Quality assurance procedures shall be performed by the pipe manufacturer fully in accordance with the requirements of this specification. The certification shall include certified laboratory data confirming that said tests have been performed on a sample of the pipe to be provided under this contract, or pipe from that production run, and that satisfactory results were obtained.

b. Fusion joining and other procedures necessary for correct assembly of the polyethylene pipe shall be done only by personnel trained in those skills and have two years of experience in fusion joining, to the satisfaction of the Engineer and the pipe supplier.

c. Only those tools designed for the aforementioned procedures, and approved by the pipe manufacturer or supplier and the Engineer, shall be used for assembly of pipe fittings to ensure proper installation. The heater plate shall be equipped with suitable means to measure the temperature of plate surfaces and to assure uniform heating such as thermometers or pyrometers.

d. Pipe insertion equipment shall be operated only by technicians who have a minimum of three years of experience in the installation of pipe by bursting methods. The technician's experience shall be documented in the HDPE pipe submittal.

e. The Contractor shall televise the installed pipe after existing services have been reconnected and manhole work has been completed. The original television inspection videotape or DVD shall be provided to the Engineer for approval.

4. WARRANTY

The Contractor shall provide to the City a warranty to be in force and effect for a period of one (1) year from the date of final acceptance by the City. The warranty shall require the Contractor to repair or replace the pipe should leakage, separation, collapse or other failure result from faulty materials or installation as determined by the Engineer.

5. PRODUCT

a. General - The Contractor shall provide polyethylene pipe as specified. The pipe shall be made to allowable tolerances for diameter and wall thickness in accordance with ASTM D3035. The minimum ratio of orthogonal diameters prior to installation shall be 0.95. All pipes shall be made from virgin grade material. The pipe shall be of the necessary diameter and class shown or specified and shall be furnished complete with all fabricated fittings, and other appurtenances as necessary for a complete and functional system.

b. Markings - Pipe materials shall be legibly marked by the pipe manufacturer. The following shall be printed on the pipe:

- Name and trademark of manufacturer.
- Nominal pipe size.
- Dimension Ratio.

- The letters PE followed by the polyethylene grade per ASTD D1248, followed by the Hydrostatic Design Basis in hundreds of psi.
- Manufacturing Standard Reference.
- A production code from which the date and place of manufacture can be determined.

c. Pipe - Pipe shall be high molecular weight, high-density polyethylene pipe. The material shall be listed by the Plastic Pipe Institute (PPI) with a designation of PE 3408 and have a minimum cell classification of 3454434C, D, or E (inner wall shall be light in color) as described in ASTM D3350. The pipe shall meet the requirements for Type III, Class B or C, Category 5, Grade P34 material as described in ASTM D1248. 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 (excluding black colored pipe) stored outside shall not be recycled. Pipe and fittings shall be made in conformance with ASTM F714 and ASTM D3261 as modified for the specified material. The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions or other injurious defects. It shall be uniform in density and other physical properties. All polyethylene pipe shall be fabricated with an ultraviolet inhibitor. Any pipe not meeting these criteria shall be rejected.

d. Pipe Color - Pipe shall conform to the following:

- Inside. The inner wall shall be white, light gray or light green as approved by the Engineer. Black, dark grey, yellow, and light purple are not acceptable.
- Outside. The outer wall shall be black, white, light green, grey, or natural. Yellow and light purple are not acceptable.
- Both the inside and outside may be the same or different color.

e. Handling - The Contractor shall exercise special care during the unloading, handling, and storage of all polyethylene pipe to ensure that the pipe is not cut, gouged, scored or other-

wise damaged. Any pipe segment, which has cuts in the pipe wall exceeding 10 percent of the wall thickness, shall be cut out and removed from the site at the Contractor's cost. The pipe shall be stored so that it is not deformed axially or circumferentially which may hinder pipe installation.

5. PIPE JOINING

a. Sections of polyethylene pipe shall be joined into continuous lengths on the job site above ground. The joining method shall be the butt fusion method and 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. Electrofusion shall be used for field closures and lateral connections.

b. 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.

c. 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. For pipe 4" diameter and greater, welding operations shall be monitored by a device which will provide accurate measurements of the hydraulic cylinder pressure heater plate surface temperature and time. These measurements will be recorded on hard copy printout available for review by the inspector at the time of welding. Unacceptable information will require the Contractor to cut out the weld material and try again until successful.

d. 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. The pipe ends shall be cut square and carefully aligned just prior to heating.

e. 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-inch to 3/16-inch in height) around and inside the entire circumference of the pipe.

f. The inside weld bead shall be removed by cutting the bead away without scoring the inside wall of the pipe. The Contractor shall submit to the Engineer, for review as part of the submittal requirements, a debeading process for use in removing the internal bead for the newly joined HDPE pipe sections.

6. INSTALLATION

The installation of a new slipline shall be accomplished by the following procedures:

a. The high density polyethylene (HDPE) pipe shall be attached to the rear of the pipe bursting machine with the hose lines and cables passing through the annulus of the replacement pipe.

b. A cable or chain shall be inserted from the launching trench through the existing pipe to the reception manhole where it shall be attached to the winch and the pipe bursting head.

c. The pipe bursting system with the replacement polyethylene pipe attached shall be lowered into the launching trench while the directional winch chain is simultaneously being tensioned, locating the pipe bursting head in the existing sewer line.

d. The pipe bursting action shall be initiated following the continuously tension winch chain toward the receiving manhole.

e. When the system reaches the reception manhole or the point of connection to an existing pipeline the polyethylene pipe shall be disconnected from the rear of the machine and the unit prepared for the next run.

f. New HDPE laterals shall be reconnected to the new pipe by means of a thermal weld saddle. The polyethylene pipe shall be drilled out and deburred.

g. The connection between the polyethylene lateral and lateral of a different pipe materials shall be by a double banded rubber coupling (4 bands sheer stainless steel).

h. The Contractor shall install the pipe by utilizing a constant tension system with a static, hydraulic, or pneumatic bursting device or cone cracking device that breaks apart the existing pipe. The void created by the bursting device shall be sufficient in size to accommodate the HDPE pipe which shall be installed immediately after the void has been formed.

i. The Contractor shall utilize existing manholes where practical. Manhole inverts and bottoms shall be removed to permit access for installation equipment. Structural damage to manholes during pulling operations shall be repaired at no extra cost.

j. The Contractor shall anchor the pipe to concrete structures or manholes after the pipe has been installed along the length of sewer replaced. The Contractor shall use a water stop or flange adapter, as supplied by the pipe manufacturer that is firmly seated perpendicular to the pipe axis, around the pipe exterior and cast into the structure base or near the structure wall center. No structure or manhole connection shall be made before the pipe has relaxed its elongation. Connection work shall wait a minimum of 12 hours after pipe insertion.

k. The Contractor shall protect facilities from damage by forces generated by the pipe bursting equipment. Repair of street pavement and sidewalk damaged by pipe bursting shall be

repaired and paid for under the bid items "Replacement of Asphalt Concrete Pavement Due to Pipe Bursting Heaving" or "Replacement of Concrete Improvements Due to Pipe Bursting Heaving".

l. Prior to bursting the existing mainline pipe the Contractor shall locate, expose, and support all existing utility lines in close proximity of the pipe (see detail on the plans) that he suspects might be at risk of damage by the bursting head or as a result of pipe bursting force attributable to soil displacement. Any damage to the existing utilities as a result of Contractor's failure to provide air gap will be repaired by the Contractor to the satisfaction of the Engineer at no cost to the City.

Payment for potholing to create air gap for existing utilities shall be included in the linear footage price paid for pipe bursting as described in Section 9.B of SGP.

Payment for excavation around structures such as building foundation, retaining wall foundation, drainage inlet, etc. as directed by the Engineer shall be paid for under the Supplemental Work as described in Section 9.B of SGP.

7. TESTING AND INSPECTION

The Contractor shall test by television inspection of the lines. Acceptance of sewer line construction shall be made upon the successful completion of the television inspection and shall be to the satisfaction of the Engineer. If CCTV inspection shows the construction and rehabilitation to be unsatisfactory, the Contractor shall be required to repair and reinspect the sewer line until construction is satisfactory. CCTV inspection shall conform to the provisions provided in these STP.

Prior to final acceptance and final inspection of the pipe by the Engineer, the Contractor shall flush and clean all parts of the system by removing all accumulated construction debris, rocks, gravel, sand, silt, and other foreign material from the pipe.

After completion of the pipe installation, service reconnections, finish work at the manholes and final cleaning, the sewer shall be televised with a color TV tilt-head camera recorded in DVD format. The original copy of DVD shall be provided to the Engineer.

H. PILOT TUBE GUIDED AUGER FOR SANITARY SEWER SYSTEM

1. GENERAL

Guided boring shall be used where indicated on the plans to install sanitary sewer pipes which require high accuracy in line and grade. Guided boring shall employ augers for excavation and soil removal and a jacking system for pushing the pipes. It shall use a theodolite with camera for

the accurate guidance system. The target with LEDs shall be mounted in the steering head and monitored through a TV monitor.

2. INSTALLATION

The guided boring method shall cut a borehole with a steering head connected to pilot tubes of which size is smaller than the required size. Then a reamer and auger casing with augers inside shall enlarge the borehole. The product pipes shall then follow the auger casing as they are pushed into the ground by the jacking system.

Guided boring shall employ a steering head for boring and adjustment of alignment and grade. The steering head shall have a slant on one side.

The target used for the guided boring operation shall have LEDs arrayed to compose two circles and one line from the center. It shall be operated by a battery which lasts 10 days when charged.

The equipment shall have the capability of limiting the jacking force applied to the pipe so as not to exceed the maximum compressive load allowed for the pipe.

The guided boring system must be capable of maintaining line and grade to 1” plus or minus over the distance of the drive.

3. PRODUCT PIPE

Pipes used for guided boring must be capable of withstanding all forces imposed upon them during the construction phase as well as the final in-place loading conditions. All pipe must be able to withstand a compressive loading greater than the jacking load anticipated on this project

Pipe that does not have an allowable safe jacking load, with a minimum safety factor of 2.5, are not acceptable for use on this project.

The driving ends of the pipe and intermediate points must be protected against damage. The detailed method proposed to cushion and distribute the jacking force at the joint is subject to approval by the Engineer. Any pipe showing signs of failure may be required to be jacked through to the reception shaft and removed. Other methods of pipe repair may be used subject to approval of the Engineer.

The pipe manufacturer shall be designated at the time of the bid. Any subsequent change of pipe manufacturer must be approved by the Engineer in writing. A record of experience and product information shall be provided by the Contractor at the time of the bid.

Product pipe shall meet the requirement of ASTM C 1208, Standard Specification for Vitrified Clay Pipe and Joints for Use In Jacking, Sliplining, and Tunnels, latest revision. Product pipe

shall be NO-DIG Microtunneling Pipe or approved equal. NO-DIG vitrified clay microtunneling pipe is manufactured by MCP Industries, Inc. The pipe shall have a minimum compressive strength of 7000 psi. The pipe joint collar shall be manufactured using Series 316 stainless steel or better. Pipe shall have Equalizer compression rings.

4. SUBMITTALS

Submit for review complete working drawings showing details of the proposed method of construction and the sequence of operations to be performed during construction. Show the method of guided boring, including the guided boring system to be used, location of working shafts, including method of excavation, shoring and bracing, and de-watering techniques that are proposed to be used. The following is not intended to limit, but to provide the minimum of, details which must be included:

1) Manufacturer's literature describing in detail the guided boring system to be used. Detailed description of projects on which this system has been used, including the names, addresses and telephone numbers of owner's representative for these projects.

2) Method of controlling ground water.

3) Shaft dimensions, locations, surface construction, profile, depth, method of excavation, and shoring and bracing.

4) Literature describing the pipe to be used on this project. The literature shall include allowable safe jacking loads with a safety factor of 2.5. A list of names, addresses and telephone numbers of contacts on successfully completed guided boring projects shall be provided for verification.

5. EXECUTION

Methods of construction for the shafts, pits, or other components of the construction shall be such as to ensure the safety of the contractor's employees, the public, and adjacent property whether public or private. All damage to property shall be restored to equal or better condition than prior to construction.

All shafts and pits shall conform to applicable Trench Safety Standards and OSHA excavation, trenching, and shoring standards, which are contained in the Code of Federal Regulations 29 (CFR) 1926.650-1926.653.

Shafts and pits shall be adequately ventilated. Air monitoring of the shafts or pits shall be conducted on a continuous basis. Threshold limits of the gas concentrations monitored shall be:

Carbon Monoxide < 0.005%

Methane	< 0.25%
Hydrogen Sulfide	< 0.001%
Oxygen	> 20.0%

All work of excavating, shoring and bracing and tunneling shall be so executed that settlement is minimized.

Before beginning construction at any location, the contractor must adequately protect existing structures, utilities, trees, shrubs and other permanent objects. The repair for damage to permanent facilities due negligence for lack of adequate protection on the part of the Contractor will be at no cost to the City.

The Contractor shall provide surface drainage during the period of construction to protect the work and to avoid nuisance to adjoining property and to assure that surface runoff does not enter the entrance or exit shafts. This is important to protect adjacent utilities as well as the guided boring equipment.

The Contractor shall conduct his operations in such a fashion that trucks and other equipment do not create a dirt nuisance in the streets. The Contractor shall immediately remove and dispose of any spillage or excess dirt on the roadway.

Blasting will not be permitted.

The guided boring machine operator shall be fully trained on other guided boring projects on the use of the machinery on this project.

The machine shall be operated so as to prevent either surface heave or loss of ground elevation during construction and shall be steerable to maintain line and grade within the tolerances specified. This is achieved by continuously monitoring line, level inclination and steering attitude during the operation.

The pipe shall be jacked in place without damaging the pipe joints or completed pipe section. Any pipe which has been damaged during installation shall be replaced by the Contractor.

All excavated material from the tunnel and shaft construction shall be disposed of away from the construction site. No stockpiling of materials on the job-site will be permitted. Material shall be removed at regular intervals not exceeding 48 hours.

The Contractor shall monitor all ground movements associated with the work and maintain these within permissible tolerances. It is recommended that surface settlement and heave monitoring points may be located along the line of the pipe. If there is a concern of damage by settlement, these should be monitored after completion of the project. The Contractor, if required, shall

install instrumentation, take readings, and provide the Engineer with copies, all in accordance with the specification.

While available geotechnical data will be supplied by the Owner, choice of cutting heads and resulting efficiency of the guided boring operation will be the contractor's responsibility.

A written record of each drive is to be kept. This record shall include the jacking force and drive length of each individual drive. These records are to be made available to the Inspector.

The jacking system shall develop a uniform distribution of jacking forces on the end of the pipe. If less than the full jacking surface of the pipe is used, the maximum allowable jacking forces shall be decreased by the proportional amount. The jacking force shall be applied perpendicular to the jacking surface of the pipe.

The maximum deviation from line and grade shall be one inch (1 "). When the excavation is offline or grade, return to the plan line/grade at a rate of not more than one inch (1 ") per twenty-five feet (25'). If the pipe deviates sufficiently off plan line and/or grade to require a redesign of the sewer or appurtenances, the Contractor shall have the system redesigned at no cost to the Owner.

The jacking force applied to the pipe shall at no time exceed that allowed by the pipe manufacturer with a Safety Factor of 2.5.

I. CURED-IN-PLACE PIPE FOR SANITARY SEWER SYSTEM

1. GENERAL

This section specifies the rehabilitation lining of the sanitary sewer lines as indicated on the Drawings.

Contractor shall provide and install a resin impregnated needled polyester felt non-woven material tube with a plastic coated wearing surface in all sewers identified for CIPP lining in accordance with American Society for Testing and Materials (ASTM) F1216.

2. QUALITY ASSURANCE

REFERENCES: This section contains references to the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Reference	Title

ASTM D2990 Test Method for Tensile, Compressive and Flexural Creep and Creep-Rupture of Plastics

ASTM D543 Test Method for Resistance of Plastics to Chemical Reagents

ASTM D638 Test Method for Tensile Properties of Plastics

ASTM D790 Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

ASTM D883 Definitions and Terms Relating to Plastics

ASTM D1600 Abbreviations, Acronyms, and Codes for Terms Relating to Plastics

ASTM F412 Definitions of Terms Relating to Plastic Piping Systems

ASTM F1216 Rehabilitation of Existing Pipelines and Conduits by Inversion and Curing of a Resin Impregnated Tube

CIPP LINER SAMPLING

PHYSICAL PROPERTIES: Contractor shall prepare a sample of the installed CIPP liner for subsequent testing of its physical properties. The flat plate sample shall be prepared and tested in accordance with the procedures in Section 8.1 of ASTM F1216.

The cured sample shall be tested by an independent testing laboratory as chosen by the City for the Short Term Flexural (Bending) properties, as per ASTM D790 and ASTM D638 respectively. The first test and one-retest will be at the City's expense. Any subsequent re-testing after the first re-test shall be at the Contractor's expense.

The samples will be taken from one of the following two methods:

k. A sample shall be cut from a section of cured CIPP liner at an intermediate manhole or at a termination point that has been inverted through a like-diameter pipe which has been held in place by a suitable heat sink, such as sandbags. The sample shall be large enough to provide a minimum of five specimens each for flexural testing.

l. A sample shall be fabricated from material taken from the tube and resin/catalyst system used and cured in a clamped mold placed in the downtube when circulating heated water is used and in the silencer when steam is used. The sample shall be large enough to provide a minimum of five specimens each for flexural testing.

Final payment will not be made until test results are received. The Contractor shall be responsible for any deviation from the specified physical properties will result in the CIPP liner being considered defective work.

a. SAMPLING FREQUENCY: The above-stated sampling shall be performed for each separate installation of CIPP. One sample from each individual pipeline liner installed.

b. WALL THICKNESS: The wall thickness of the felt tube shall be ordered to the next standard 1.5 mm incremental thickness above the minimum calculated design thickness. Unless otherwise specified to provide for excess resin migration, the gap thickness of the wetting out equipment shall be sized to allow an excess of 5 to 10 percent resin to pass during impregnation. The wall thickness shall be measured at a minimum of three locations on a cut section of the CIPP lining using a method of measurement accurate to the nearest 0.005 inch.

3. CIPP LINER HANDLING

Contractor shall exercise adequate care during transportation, handling and installation to ensure the CIPP material is not torn, cut, or otherwise damaged. If any part or parts of the CIPP material becomes torn, cut or otherwise damaged before or during insertion, it shall be repaired or replaced in accordance with the manufacturer's recommendations and approval by the Engineer before proceeding further; and at the Contractor's expense.

4. WARRANTY

The Contractor shall warrant the completed work against defect in workmanship and material for a period of one year. The Engineer, while not acting as quality control agent for the Contractor, shall be allowed to view and document any portion of this contract, including but not limited to verifying type and quantities of resin used at any point during this work.

Testing for chemical resistance shall be performed on a previously prepared sample of the finished product, proposed for this project. A certified affidavit, signed by an officer of the company, shall be provided stating that the resin the tests apply to and the resin submitted for this project are the same.

Finished and cured CIPP liner properties shall be tested as specified. Previous test data will not be acceptable.

5. SUBMITTALS

The following submittals shall be provided:

a. Shop drawings which detail short and long term properties (providing all supporting test data) of all component materials and construction and recommendations for material storage and temperature control, CIPP liner handling, insertion, curing, trimming and finishing. The submittal shall also include structural calculations for each CIPP liner size, the recommended thicknesses, and the method and equipment used to reinstate connecting sewers.

b. Detailed method for addressing sampling requirements, including location and size of each sample, method of removal, and method of liner repair.

c. CCTV Inspection reports.

d. Contractor experience as specified herein.

e. Manufacturer's recommended installation procedures.

f. Contractor shall submit 10,000-hour third party, 50-year Flexural Creep Modulus test data. Test shall be in accordance with ASTM D-2990 at 10,000 hours or equal test as approved by the Engineer. If approved 10,000 hour tests are not available, Contractor shall use a minimum 50% reduction (50% retention) of Flexural Modulus of Elasticity (per ASTM F-1216) for all formula calculations.

g. Manhole connection details.

h. Bypass pumping plan as described in these STPs.

6. PRODUCTS

a. All materials and installation procedures provided by the Contractor for use in the CIPP installation process shall be equal to or exceed the requirements of Sections 5 and 7 of ASTM F-1216.

b. Wrinkles in the finished liner pipe which cause a backwater of one (1) inch or more or reduce the hydraulic capacity of the pipe (wrinkles which exceed 5 percent of the pipe diameter) are unacceptable and shall be removed or repaired by the Contractor at no additional cost to the Owner. Wrinkles in the finished liner pipe that reduce the structural stability of the pipe are unacceptable. If a void between the wrinkle and the pipe exists, the Contractor shall repair or replace that section of the pipe at no additional cost to the Owner. Methods of repair shall be proposed by the Contractor and submitted to the Engineer for review.

c. Contractor shall be responsible for control of all material and process variables to provide a finished CIPP possessing the minimum properties specified in ASTM F1216, and supplemented herein.

7. MANUFACTURERS

Approved CIPP liner manufacturers are Insituform, First Liner USA, InLiner Technologies, Inc. and Spiniello Companies.

8. CONTRACTORS

a. Contractor performing the lining of the sanitary sewer shall be licensed by one of the CIPP liner manufacturers named in Section 7 above.

b. The licensed contractor, or installation subcontractor, shall have experience CIPP lining sanitary sewers 6-inch and 8-inch in diameter. The Contractor shall submit a list of 3 projects totaling a minimum of 5,000 feet of CIPP liner in storm drains or sewers that they have constructed in the last 5 years for pipelines 6 & 8 inches in diameter. The list shall include diameter of pipe, length of installation, size of bypass required to perform the work, name, and telephone number of pipe owner and date of installation. All referenced experience shall be for the projects completed within the United States and shall have used the same CIPP liner and resin combination proposed for this project.

c. The Contractor shall submit, 5 days after the bid opening, the Qualification Statement and the name(s) and qualifications of the scheduled superintendent for the project. It is required that the superintendent named is the superintendent assigned to the project. The Contractor is required to have at least one qualified superintendent on the job during construction activities. The qualified superintendent must have a minimum of five years CIPP lining supervisory field experience on at least three successfully completed projects totaling a minimum of 5,000 LF of 6 & 8-inch diameter CIPP lining. The Contractor's bid will be deemed non-responsive if said Qualification Statement is not submitted within the aforementioned time period. All referenced experience shall be for projects completed within the United States and shall have used the same CIPP liner and resin combination proposed for this project. References will be checked.

9. CHEMICAL RESISTANCE

a. The chemical resistance test shall be in accordance with ASTM F1216. The chemical resistance testing may be based on tests from samples of identical material and resin and need not be based on the actual CIPP installed for this project.

b. The Contractor shall be responsible for all costs associated with the chemical resistance tests.

c. Proof of meeting these requirements shall be provided to the engineer for approval at least 7 days prior to commencement of work.

10. COMPONENT PROPERTIES

a. FELT TUBING: The needled interlocked polyester felt shall be free from tears, holes, cuts, foreign materials and other surface defects.

b. RESINS: The physical properties quoted in Section 11 below apply to CIPP manufactured polyester, vinylester, or epoxy resin. Resins shall be tinted for visibility and provide positive indication of adequate liner wet-out. Resins should be appropriate for conditions encountered.

11. FINISHED AND CURED CIPP LINER PROPERTIES

a. The physical properties of the cured CIPP shall have minimum initial test values as given in Table 1 of ASTM F1216 (and supplemented below in Table 1) for polyester, vinylester, and epoxy resins. Properties for these or any other enhanced resins shall be substantiated with test data.

Table 1. Standard Resin

Test Property	Test Value	Test Method
Flexural strength	4,500 psi	ASTM D790
Flexural modulus	250,000 psi to 400,00	ASTM D790
50-year flexural creep modulus	psi 125,000 psi	ASTM D2990

12. DIMENSIONS

a. Contractor shall make allowances in determining the felt tube length and circumference for stretch during installation and shrinkage during curing. The minimum length shall be that which continuously spans the distance from the center of the inlet manhole to the center of the outlet manhole. The Contractor shall verify the lengths in the field before the felt tube is cut and impregnated. Individual installation runs may include one or more manhole-to-manhole sections as approved by the Engineer.

b. The diameter of the existing pipes may be larger or smaller than the nominal inside diameter. It is the Contractor's responsibility to determine the required diameter of the liner.

c. The nominal wall thickness shall be at least the calculated design thickness, or the minimum specified, and may be up to 15 percent greater except where felt layers overlap, in which case it may be in excess of this value.

13. DESIGN CRITERIA

a. The liner shall be designed in accordance with the procedures of ASTM F 1216 and these specifications. All material properties used in design calculations shall be long-term (time-corrected) values. Contractor shall familiarize himself with site conditions when preparing liner design.

b. Contractor shall calculate the required minimum thickness for each pipe based on the pipeline condition stated in the table below. Actual level of deterioration may vary within any given section of sanitary sewer.

Nominal inside diameter, inches	**Required ASTM F1216 design parameters for gravity pipe**
6 to 8	Fully deteriorated

c. The following parameters shall be assumed for the liner design:

1. Modulus of soil reaction, E'_s = 700 psi (fully deteriorated)
2. Unit weight of soil = 140 pcf
3. The minimum ovality for straight runs shall be 2.0 percent.
4. Groundwater level is 2 feet below top of surface.

14. PRODUCT DATA

Contractor shall provide the following information:

a. Certification showing the Contractor is currently licensed by the appropriate licensor to perform CIPP installation. Certification shall be given to the Engineer before any materials are delivered to the job site.

b. Certification stating CIPP tube has been manufactured in accordance with ASTM F1216, and resin is suitable for its intended use.

c. Test report of CIPP sample(s) and tests as specified in this Section.

d. Warranty information.

e. Material safety data sheets for all hazardous chemicals used or expected to be on-site. At a minimum, sheets of the resin, catalyst, cleaners and repair agents should be submitted.

15. PREPARATORY PROCEDURES

a. PIPE CLEANING: Prior to CIPP tube installation, the Contractor shall clean the existing sanitary sewer as specified in these STPs. The Contractor shall clear the existing sewer of obstructions such as solids, deleterious materials and gaskets that will prevent or hinder CIPP liner installation.

b. SANITARY SEWER BYPASSING AND DEWATERING: The Contractor shall be responsible for diverting existing flows in accordance with the requirements of these STPs. The Contractor shall perform dewatering of sanitary sewer trench excavation in accordance with the requirements of these STPs.

c. TV INSPECTION AND LINE OBSTRUCTIONS: Experienced personnel trained in locating breaks, obstacles and lateral pipe connections by visual inspection shall perform inspection of the sanitary sewer line. The interior of the sanitary sewer line shall be carefully inspected in accordance with these Special Provisions to determine the location of conditions, which may prevent proper installation of CIPP. Contractor shall furnish televisions inspection report material to the Engineer.

d. POINT REPAIR: The Contractor shall repair the pipe where point repairs are identified on the plans. If this is not shown, it will constitute extra work when approved by the Engineer. The work shall include verifying the location of the point repair, locating all interfering utilities, temporary flow bypassing, traffic control, excavation, shoring, dewatering, pipe repairs or replacement, backfilling, and surface restoration.

The Contractor shall trim any protruding laterals and repair any holes or voids in the existing pipe wall and/or backfill voids above the pipe that would prevent the proper installation of the liner.

16. INSTALLATION PROCEDURES

a. GENERAL: The Contractor shall designate the location where the CIPP felt tube would be impregnated with resign ("wet-out"). Locations shall be subject to approval by the Engineer and applicable local agencies. The Contractor shall allow the Engineer to inspect the materials and "wet-out" procedure.

If the "wet-out" location is not at the project site, the impregnated CIPP tube shall be transported to site under controlled environmental conditions. Transport vehicles shall include a tamper resistant, sealed temperature-recording device which records the temperature of the liner at all time after leaving the wet-out site. The Contractor shall

decide when to transport the impregnated CIPP tube to site and when to commence insertion with respect to weather conditions.

Contractor is responsible for obtaining construction/fire hydrant meters from the City of Albany and for paying all applicable deposit fees and water usage fees.

The Contractor shall ensure that the pressure inside of the CIPP tube exceeds the pressure due to groundwater.

b. INSTALLATION PROCESS: No CIPP installations will be undertaken in weather conditions that could jeopardize the installation of the CIPP, or be detrimental to the long-term performance of the CIPP. The liner will be installed by the inversion tube method as follows:

The tube shall be impregnated with a liquid thermosetting resin and lowered into the insertion manhole through an inversion tube. Excavation of an insertion pit is not allowed. The inversion tube will then be filled with water or steam where the weight of the water will push the tube through the damaged pipe inside out, while pressing the resin impregnated side firmly against the inside walls of the damaged pipe. The smooth coated side of the liner shall become the new interior surface of the pipe. After the tube is inverted through the pipe section, the Contractor shall heat the water or steam by circulating it through a boiler, where the hot water or steam will cause the resin to cure.

c. CURING: The curing process shall follow a step cure or similar approach recommended by the manufacturer and approved by the Engineer, and shall be held at the top step for an adequate length of time as determined by the liner manufacturer to ensure that the design physical properties are attained. Circulation water, if used, shall cool down to at least 100 degrees F for 1 hour before releasing the hydrostatic head.

The rate of temperature rise and fall during heating and cooling shall not exceed 2 degrees F per minute.

The temperature of the liner shall be monitored by remote temperature sensors placed at the interface of the existing pipe and the CIPP. A minimum of two temperature sensors shall be installed, one at either end of the length being lined. The curing process shall not be terminated until the temperature sensor readings indicate that a satisfactory cure has been completed. Any extended cure times shall not adversely affect the properties of the CIPP lining material.

If hot water is used for the curing, the water shall be evacuated from the pipe at a controlled rate to prevent negative pressure in the pipe. The water shall not be released until the water is at an ambient air temperature.

17. FINISHED PRODUCT

a. FINISH: The finished CIPP shall be continuous over the entire length of an installation run.
Defects such as foreign inclusions, dry spots, pinholes, delamination, and wrinkling beyond the specification allowances, determined by the Engineer as affecting the integrity or strength of the CIPP, or as adversely affecting the hydraulic capacity of the CIPP, shall be repaired or replaced at the Contractor's expense.

b. LATERAL CONNECTIONS: After the curing is complete, existing sanitary sewer lateral connections shall be re-established. The cut liner shall have not jagged edges and shall be sanded smooth. The machined opening shall be at least 95 percent of the service connection opening and the bottom of both openings must match. The opening shall not be more than 100 percent of the service connection opening.

c. INSPECTION: The Contractor shall inspect the CIPP after installation. The inspection will be performed and recorded using closed circuit television equipment in accordance with these STPs. If defects or voids exist, the Contractor shall repair or replace that section of the pipe at no additional cost to the Owner. Methods of repair shall be proposed by the Contractor and submitted to the Engineer for review.

18. CLEANUP

Following inspection, the Contractor shall clean up the entire project area. The Contractor shall dispose of all excess material and debris not incorporated into the permanent installation off site.

J. HORIZONTAL DIRECTIONAL DRILLING (HDD)

1. GENERAL

This specification addresses the installation of sanitary sewer force main by horizontal directional drilling. The Contractor will furnish all labor, components, materials, tools and appurtenances necessary or proper for the performance and completion of the contract.

Contractor is strongly encouraged to review the geotechnical data and recommendations for site conditions and soil information considerations in determining equipment, drilling fluids, and drilling plan.

General Description of the Method
Horizontal directional drilling is a method of trenchless construction using a surface launched steerable drilling tool controlled from a mobile drilling frame, and includes a field power unit, mud mixing system and mobile spoils extraction system. The drilling frame differs from microtunneling, auger boring or pipe jacking equipment in that operations are performed from

the surface and large pits to place and align equipment are generally not necessary. The drilling frame is sited and aligned to bore a pilot borehole that conforms to the planned line and grade of the sewer line. The drilling frame is set back from an access pit that has been dug and a high-pressure fluid jet toolhead that uses a mixture of bentonite clay and water is launched. Pits are normally dug at the start point and end point of proposed pipe installation and are used to align the toolhead, attach other equipment, and to collect and remove excess spoils. Using an electronic guidance system, the toolhead is guided through the soil to create a pilot borehole. Upon reaching the end point pit, the toolhead is removed and a reamer with the product pipe attached is joined to the drill string and pulled back through the borehole. In large diameter installations, pre-reaming of the borehole will usually be done prior to attaching the product pipe for the final pullback. A vacuum spoils extraction system removes any excess spoils generated during the installation. The connections or other appurtenances are then completed at both the start point and end point locations and the surface restored to its original condition.

2. QUALIFICATIONS

The Contractor shall submit, 5 days after the bid opening, the Qualification Statement and the name(s) and qualifications of the scheduled superintendent for the project. It is required that the superintendent named is the superintendent assigned to the project. The Contractor is required to have at least one qualified superintendent on the job during construction activities. The qualified superintendent must have a minimum of five years HDD supervisory field experience on at least three successfully completed projects totaling a minimum of 5,000 LF of 6 & 8-inch diameter HDD lining. The Contractor's bid will be deemed non-responsive if said Qualification Statement is not submitted within the aforementioned time period. All referenced experience shall be for projects completed within the United States and shall have used the same HDD liner proposed for this project. References will be checked.

3. SUBMITTALS

Submit documentation showing three years of horizontal directional drilling experience with at least 10,000 feet of horizontal directional drilling installations in the last year to include a list of a minimum of three sanitary sewer or potable water distribution system installations similar in scope and value to the project specified in the contract documents. Information must include, but not be limited to, date and duration of work, location, pipe information (i.e., length, diameter, depth of installation, pipe material, etc.), Owner information, (i.e., name, address, telephone number, contact person), and the contents handled by the pipeline (water, etc.).

Submit a list of field supervisory personnel and their experience with horizontal directional drilling operations. At least one of the field supervisors listed must be at the site and be responsible for all work at all times when horizontal directional drilling operations are in progress. Horizontal directional drilling operations will not proceed until the qualifications of the Contractor's field supervisory personnel have been received and reviewed by the Engineer.

Submit the following documents:

Written procedure describing in detail the proposed method of installation. This will include, but not be limited to, size, capacity and setup requirements of equipment; location and siting of drilling and receiving pits; dewatering if applicable; method of fusion and type of equipment for joining pipe; type of cutting tool head; and method of monitoring and controlling line and grade. If the Contractor determines that modifications to the method and equipment as stated in the submittal is necessary during construction, the contractor will submit a plan describing such modifications, including the reasons for the modification.

Bentonite drilling mud products information (MSDS); special precautions necessary; method of mixing and application; and method of removing spoils.

4. SITE CONDITIONS

Drilling operations must not interfere with, interrupt or endanger surface and activity upon the surface.

Contractor must comply with all applicable jurisdictional codes and OSHA requirements.

When rock stratum, boulders, underground obstructions, or other soil conditions that impede the progress of drilling operations are encountered, the Contractor and Engineer must review the situation and jointly determine the feasibility of continuing drilling operations, making adjustments or switching to an alternative construction method.

5. WARRANTY

The Contractor shall provide to the City warranty to be in force and effect for a period of one (1) year from the date of final acceptance by the City. The warranty shall require the Contractor to repair or replace the pipe should leakage, separation, collapse or other failure result from faulty materials or installation as determined by the Engineer.

Refer to the instructions to Bidders for geotechnical data.

6. MATERIAL REQUIREMENTS

Pipe material used for HDD shall be as indicated on the plans.

Pipe and Fittings

a. High Density Polyethylene Pipe (HDPE) and fittings will be used in accordance with the material specifications below.

b. HDPE pipe shall conform to the requirements of these Special Provisions, with a cell classification PE345434C as specified within ASTM D3350. It will also meet the requirements of AWWA C901 and C906. Material taken from HDPE pipe will meet the minimum stability requirements of ASTM D3350.

Minimum Pipe Rating: 160 PSI @ 72° F

Required Pipe Dimension Ratio (minimum wall thickness): DR 11

Pipe Outside Diameter: As noted on drawings.

c. All pipe installed by HDD will be joined by an approved butt fusion or electrofusion technique according to the manufacturer's specifications and as described in these Special Provisions.

Drilling Fluid

a. Drilling fluid will be a mixture of water and bentonite clay. The fluid will be inert. The fluid should remain in the tunnel to ensure the stability of the tunnel, reduce drag on the pulled pipe, and provide backfill within the annulus of the pipe and tunnel.

b. Disposal of excess drilling fluid and spoils will be the responsibility of the Contractor who must comply with all relevant regulations, right-of -way, work space and permit agreements. Excess drilling fluid and spoils will be disposed at an approved location. The Contractor is responsible for transporting all excess drilling fluid and spoils to the disposal site and paying any disposal costs. Excess drilling fluid and spoils will be transported in a manner that prevents accidental spillage onto roadways. Excess drilling fluid and spoils will not be discharged into sanitary or storm drain systems, ditches or waterways.

c. Drilling fluid returns (caused by fracturing of formations) at locations other than the entry and exit points will be minimized. The Contractor will immediately clean up any drilling fluid that surfaces through fracturing.

d. Mobile spoils removal equipment capable of quickly removing spoils from entry or exit pits and areas with returns caused by fracturing will be present during drilling operations to fulfill the requirements of paragraphs b and c above.

e. The Contractor will be responsible for making provisions for a clean water supply for the mixing of drilling fluid.

7. EXECUTION

The Engineer must be notified immediately if any obstruction is encountered that stops the forward progress of drilling operations. The Contractor and Engineer must review the situation

and jointly determine the feasibility of continuing drilling operations or switching to an alternative construction method. When it is determined that it is impossible to continue drilling operations, the Contractor will be allowed to abandon the completed portion in place, unless otherwise directed by the Engineer. See "Alignment Adjustments and Restarts" below.

Dewatering of pits and excavations must meet the general provisions and specifications for new sewer main construction. The type of dewatering method will be at the option of the Contractor. When water is encountered, the Contractor must provide a dewatering system of sufficient capacity to remove water, keeping any excavations free of water until the backfill operation is in progress. Dewatering will be performed in a manner that removal of soil particles are held to a minimum.

8. PREPARATION

Excavate pits for mains as required, at locations shown on the drawings.

The drilling procedures and equipment will provide protection of workers, particularly against electrical shock. As a minimum, grounding mats, grounded equipment, hot boots, hot gloves, safety glasses and hard hats will be used by crew members. The drilling equipment will have an audible alarm system capable of detecting electrical current.

No removal of trees, landscaping, pavement or concrete will be permitted without prior approval of the Engineer.

The Contractor will be responsible for contacting Underground Service Alert (USA) or the appropriate utility company to provide accurate elevation and location of all underground utilities to be crossed or within the easement prior to commencing drilling operations.

9. EQUIPMENT

a. The drilling equipment must be capable of placing the pipe within the limits indicated on the contract plans.

b. Horizontal directional drilling equipment shall consist of a surface launched steerable drilling tool controlled from a mobile drilling frame, and include a field power unit, mud mixing system and mobile spoils extraction system.

c. The number of access pits shall be kept to a minimum and the equipment must be capable of boring the following lengths in a single bore. The horizontal directional drilling system will have the capability of boring and installing a continuous run without intermediate pits of a minimum distance for the following pipe diameters:

Product Pipe Size (O.D.)	Boring Distance

6 to 8 Inches	500 Feet

d. The guidance system shall have the capability of measuring vertical (depth) position, horizontal position and roll under land, water, or both. The guidance system must meet the following specifications in soft homogeneous soils:

Accuracy

Vertical Position:
±1 inch at 1 ½ - 8 feet of depth
±2 inches at 8 feet – 12 feet of depth
±6 inches at 12 feet – 25 feet of depth
±12 inches at 25 feet – 50 feet of depth

Horizontal Position:
±2 inches at 1 ½ - 8 feet of depth
±4 inches at 8 feet – 12 feet of depth
±8 inches at 12 feet – 25 feet of depth
±12 inches at 25 feet – 50 feet of depth

e. Equipment set-up requirements must be determined by the Contractor and submitted to the Engineer per the requirements as stated under "Shop Drawings."

f. Required Safety Equipment: During drilling operations all equipment shall be effectively grounded and incorporate a system that protects operating personnel from electrical hazards. The system shall be equipped with an audible alarm that can sense if contact is made with an energized electric cable. Proper operation of the alarm system will be confirmed prior to the drilling of each tunnel. All equipment will be connected to ground with a copper conductor capable of handling the maximum anticipated fault current. Crew members operating drilling equipment and handling rods will do so while standing on grounded wire mesh mats, ensuring that all equipment is grounded, and wearing hot boots, hot gloves, safety glasses and hard hats. Crew members operating handheld locating equipment will wear hot boots.

Pilot Hole Boring

a. The entry angle of the pilot hole and the boring process will maintain a curvature that does not exceed the allowable bending radii of the product pipe.

b. Alignment Adjustments and Restarts.

(1) The Contractor will follow the pipeline alignment as shown on the Drawings, within the specifications stated. If adjustments are required, the Contractor will notify the Engineer for approval prior to making the adjustments.

(2) In the event of difficulties at any time during boring operations requiring the complete withdrawal from the tunnel, the Contractor will be allowed to withdraw and abandon the tunnel and begin a second attempt at a location approved by the Engineer.

Installing Product Pipe

a. Alter the pilot hole is completed, the Contractor will install a swivel to the reamer and commence pullback operations. Pre-reaming of the tunnel may be necessary and is at the option of the Contractor.

b. Reaming diameter will not exceed 1.5 times the outside diameter of the product pipe and piggy back conduit(s), if any, being installed.

c. Polyethylene pipe shall be joined by butt fusion welding and conform to the requirements of these Provisions. Welding operations shall be monitored by a device which will provide accurate measurements of the hydraulic cylinder pressure heater plate surface temperature and time. These measurements will be recorded on hard copy printout available for review by the inspector at the time of welding. Unacceptable information will require the Contractor to cut out the weld material and try again until successful.

   Provide diskette with this information to the Engineer for later review on a computer in Windows format. Equipment shall be McElroy Data Logger (Chris Lyne (800-638-4373) or approved equal.

d. The product pipe being pulled into the tunnel will be protected and supported so that it moves freely and is not damaged by stones and debris on the ground during installation.

e. Pullback forces will not exceed the allowable pulling forces for the product pipe.

f. The Contractor will allow sufficient lengths of product pipe to extend past the termination point to allow connections to adjacent pipe sections or manholes. Pulled pipe will be allowed 24 hours of stabilization prior to making tie-ins. The length of extra product pipe will be at the Contractor's discretion.

10. CLEAN-UP

The Contractor is required to maintain the work site in a neat and orderly condition throughout the period of work and after completing the work at each site, remove debris, surplus material and temporary structures erected by the Contractor. The site must be restored to a condition equal to the existing condition prior to being disturbed.

K. TRENCHING

Trenching, bedding, backfilling, and surface restoration shall conform to City Standard Detail SS 4, "Typical Trench Section". When applicable open trench utility crossings shall conform to City Standard Detail SS 8 through SS 12.

L. BYPASS PUMPING

TP Section 18-9, "Control of Existing Flows" shall be supplemented as follows: The Contractor shall provide bypass pumping and/or diversion when required for acceptable completion of the pipe installation. Bypass pumping shall consist of furnishing, installing, and maintaining all power, primary and standby pumps, appurtenances and bypass piping required to maintain existing flows. The Contractor shall submit a plan for bypass pumping and/or diversion prior to the beginning of construction and at least 10 working days prior to pipe installation. The bypass pumping and/or diversion plan shall include an emergency response plan to be followed in the event of a failure of the bypass pumping and/or diversion system. The bypass pumping and/or diversion plan shall describe the method of ensuring leak-free joints in the bypass hose or pipe. The Contractor shall notify the Engineer 24 hours prior to commencing the bypass pumping operation. The Contractor's plan for sewage bypass pumping and/or diversion shall be satisfactory to the Engineer before the Contractor shall be allowed to commence sewage bypass pumping and/or diversion.

Bypass pumping shall be done in such a manner as not to damage private or public property, create a nuisance or public menace, impede traffic flow, or impede access to adjacent private property. The pumped sewage shall be in an enclosed hose or pipe that is adequately protected from traffic, and shall be redirected into a sanitary sewer system. Protection of the hose from traffic across street intersections shall include burying the hose as directed by the Engineer. At least one (1) driveway to each parcel along the project shall remain open and unblocked by the hose at all times. Dumping or free flow of sewage on private property, gutters, streets, sidewalks, or into storm sewers is prohibited. The Contractor shall be liable for all cleanup, damages, and resultant fines in the event of a spill. After the work is completed, flow shall be returned to the rehabilitated sewer and all temporary equipment removed.

Bypass pumping shall be performed with low noise-level pumps.

The Contractor shall take all necessary precautions to ensure that no private properties are subjected to a sewage backup or spill

The Contractor shall pump out or otherwise positively drain all locations, a minimum of once every 24 hours, where the building sewer is disconnected from the main sewer for more than one day. More frequent pumping shall be used in locations where wastewater flows exceed the capacity of temporary storage provided by the Contractor

M. SEWER STRUCTURE

Shallow Manholes shall conform to Central Contra Costa Sanitary District Detail DW-4, "Shallow Manhole, Type 1", HDPE manhole shall conform to the detail shown on the plans, Standard Manholes shall conform to City Standard Detail SS 1, "Standard Manhole Frame and Cover", SS 2, "Standard Sewer Manhole" and SS 2a, "Raised Manhole Ring and Cover". Rodding Inlets shall conform to City Standard Detail SS 3, "Standard Rodding Inlet". One-Way and Two-Way Cleanouts shall conform to the details shown on the plans and City Standard Detail SS 6 "Standard Cleanouts and Backwater Prevention Device" and shall include the Cleanout Fitting, Riser Pipe, Precast Concrete Valve Box and Cover. 4" Two-Way Cleanout Fitting shall be Cast Iron Twin Cleanout (East Bay Code), manufactured by AB&I Foundry or approved equal and shall not have baffles. Cleanout Valve Box shall be Christy F8 Curb Valve Box or approved equal. Valve Boxes in traffic areas shall have F8C (Cast Iron) lids.

N. MANHOLE CONNECTIONS

New Manholes

All pipeline connections to new manholes shall conform to the City Standard Detail SS 2. The Contractor shall install PVC waterstops for all manhole connections.

Existing Manholes

All pipeline connection to existing manholes shall conform to the details on the Plans. After the polyethylene pipe has been inserted in the existing manhole, the Contractor shall trim the polyethylene pipe and anchor the pipe to the manhole base. Care must be exercised to prevent the new pipe from slipping out of position prior to final sealing of the manhole. The polyethylene replacement pipe shall protrude far enough into the manhole to allow the sealing and trimming operations to be performed.

A minimum of twelve hours after pipe insertion, a rubber seal shall be placed in the annular space between the polyethylene pipe outside diameter and the inside diameter of the existing hole in the manhole at each manhole location, together with caulking and non shrink grout.

O. TESTING OF GRAVITY SEWERS

1. Gravity sewer lines and rehabilitated laterals and appurtenances shall be substantially watertight. All precautions shall be taken by the Contractor to secure watertightness throughout the component parts of the system. All jointing of pipe shall be subject to rigorous inspection by the Engineer or his representative. In addition, before the acceptance of the work and prior to the admission of any sewage into the system, the Contractor shall perform the tests herein specified and otherwise demonstrate to the satisfaction of the Engineer the watertightness of the sewer lines, including laterals and manholes and appurtenances. All leakage in excess of the maximum allowable amount hereinafter stipulated shall be corrected.

2. Testing shall be performed after backfilling and after manholes are finished. The Contractor shall make whatever preliminary tests he deems necessary prior to backfilling to satisfy himself that the completed and backfilled line will meet the hydrostatic tests herein required.

3. The test shall be conducted to include the new sewer mains and all new house connecting sewers and laterals. The test shall meet the requirements as herein specified. Any visible infiltration into sewers or manholes, no matter how slight, shall be repaired.

4. The Contractor shall furnish all facilities, including labor, materials, pumps, equipment, and tools necessary to conduct the tests and cleaning operations, and he shall repair all leaks.

5. The Contractor shall clean all sewer lines after backfilling and prior to testing. Accumulated material shall be removed at each manhole, and no material shall be allowed to enter the existing sewer system.

6. All newly rehabilitated laterals shall be plugged at the cleanout nearest the house and tested together with the sewer main.

7. A section of sewer line shall be prepared for testing by plugging the upper side of the downstream manhole and all openings in the upstream manhole except the downstream opening. Lateral sewers running from Y-branches shall be plugged at their upper ends if the head will cause them to overflow. Test plugs on Y-branches shall be provided with vents for purging air in the lines. Sections between two or more manholes may be tested at once if excessive heads will not result. All manhole joints shall be tested for leakage.

8. Water shall be introduced into the test section at least four (4) hours in advance of the official test period. The level of water during the official test shall be at all times at least four feet above the elevation of the existing groundwater. At the beginning of the test, the elevation of the water in the upper manhole shall be carefully measured from a point on the manhole rim. After a period of one (1) hour, the water elevation shall be measured from the same point, and loss of water during the test calculated and recorded.

9. Where grades are steep and testing between manholes will result in excessive head, test tees the full size of the main shall be installed at intermediate points for installation of test plugs.

10. The leakage per 100 feet of length determined by a one-hour test must not exceed 0.08 gallons per hour per inch of inner diameter of the pipe. The Engineer may require a longer period of testing as he may deem necessary. The method of test shall be subject to the approval of the Engineer. Each line, after backfilling, shall be subject to a hydrostatic test under not less than four (4) foot head. The maximum head shall not exceed the manufacturer's recommendation.

11. The stipulation of an allowable maximum leakage will in no way release the contractor of his obligation to correct, stop, or otherwise remedy individual leaks into the system due to defective workmanship or materials, even though such leakage might come within the allowable maximum. However, the Contractor shall repair or replace, as directed by the Engineer, any individual joints or short section of the line which may be found to account for as much as ten (10) percent of the hereinbefore designated maximum permissible leakage.

12. Air testing of the sewer pipe will be permitted. The air test pressure shall be four (4) psi at the beginning of the test. There shall be no drop in pressure over a 15 minute period. Any leaks discovered shall be repaired by the Contractor at his expense.

P. SEWER CLEANING

After all grading and paving operations in the vicinity of the sewer lines are completed, the Contractor shall clean all lines of dirt and debris. The cleaning operation shall consist of passing a rubber ball the same diameter as the pipe through each line in the presence of the Engineer. The ball shall be a standard cleaning ball attached to a rope or cable and forced through the line by maintaining a head of water behind it. Debris shall be caught and removed from the downstream manhole on each section of line as it is cleaned.

Q. TELEVISION INSPECTION

After the sewers have been backfilled, completed, tested and cleaned, but before acceptance of the job, the Contractor shall arrange and pay for closed circuit television inspection of the line. All televising shall be performed by a firm experienced in closed circuit televising of sewer lines acceptable to the City. Televising shall be in color and done in the presence of the City

Engineer, and the Contractor shall furnish to the City a video tape of the complete television inspection. The television camera shall be equipped with a measuring device so that the depth of any sags can be accurately determined. The television camera shall be equipped with an articulating camera head which would allow the camera to inspect the lateral stub connection and pipe joints. Defects, including but not limited to sags, leaks, breaks, excessive pipe deflection, etc., which are in excess of the limits specified in these Special Provisions, revealed by the television inspection shall be promptly corrected by the Contractor at no expense to the City.

Measurement and payment for Television Inspection shall be considered as included in the payment for installation of various pipe sizes and no additional compensation shall be allowed therefore.

After correction of the defect or defects found by the television inspection, the pipeline where the corrections were made shall be retelevised at the Contractor's expense.

R. HAZARDOUS WASTE IN EXCAVATION

The City has not performed subsurface investigation for the purpose of this project. However, no hazardous waste is anticipated within the limits of the project. If the Contractor encounters material in excavation which he has reason to believe may be hazardous waste, as defined by Section 25117 of the Health and Safety Code, he shall immediately so notify the Engineer in writing. Excavation in the immediate area of the suspected hazardous material shall be suspended until the Engineer authorizes it to be resumed. If such suspension delays the current controlling operation, the Contractor will be granted an extension of time as provided in Section 4, "Beginning of Work, Time of Completion and Liquidated Damages," of these Special Provisions.

If such suspension delays the current controlling operation more than two working days, the Contractor will be compensated for such delay as provided in Section 8-1.07, "Delays," of the State Standard Specifications.

Contaminated Materials Handling and Disposal

Excavated material that, in the opinion of the Engineer exhibits evidence of petroleum contaminated shall be removed from the site and temporarily stockpiled by the Contractor. The location of the temporary stockpile area must be reviewed by the City. The contaminated trench materials shall be placed on 10 mil polyethylene sheeting to prevent contamination of uncontaminated soils and shall be separated from all uncontaminated trench materials. The temporary stockpiles of contaminated trench materials shall be covered securely with 10 mil polyethylene sheeting to limit emissions and prevent rainfall from entering the stockpile. Runoff or drainage from the temporary stockpile shall be prevented from leaving the area and all materials shall be surrounded with 6-foot high temporary chain link fence.

The temporary stockpiles of contaminated trench materials shall be sampled and analyzed by a certified testing laboratory, approved by the Engineer that is retained and paid for by the Contractor. Results of the laboratory analysis shall be provided by the Engineer within seven (7) calendar days from the date that the material is stockpiled.

Disposal of the contaminated trench materials will depend on the results of the testing program. The Contractor shall dispose of the contaminated material in one of the following two ways with the approval of the Engineer.

a. Thermal Remediation and Disposal

The Contractor shall be responsible for storage, loading, transporting, and uploading the contaminated soil to a plant licensed by the State of California to do remediation of the soil contamination.

A certification of Remediation of Contaminated Soils certifying that the contamination has been destroyed and the soil is inert shall be provided by the Contractor to the City. The Certificate shall include a provision holding the City harmless as a result of the thermal remediation work done for the project.

b. Disposal in a Class I, Class II, or Class III Landfill

The Contractor shall be responsible for proper handling, loading, transporting, and unloading the contaminated soil to a Class I, Class II, or Class III Landfill. The disposal site shall be selected by the Contractor subject to City approval.

A manifest or certificate attesting that the contaminated soil has been delivered and accepted by a licensed landfill authorized to accept such contaminated soil shall be provided by the Contractor to the City.

All handling, storing, transporting, treatment, and disposal of contaminated soil and groundwater shall conform with Federal and State environmental regulations, including those of the Regional Water Quality Control Board, Department of Toxic Substance Control, Integrated Waste Management Board, State Air Resources Control Board, and the Bay Area Air Quality Management City. Transport of contaminated material and groundwater shall be performed by appropriately certified and/or licensed personnel.

Upon completion of excavation within the contaminated area and the hauling and disposal of contaminated materials, the Contractor shall clean up the site, including proper removal and disposal of all plastic sheetings, containers, and other materials used.

Any groundwater from excavation activities within the contaminated soil area shall be stored in temporary Baker-type storage tanks. The Contractor shall pay for the groundwater to be sampled and tested by a certified testing laboratory approved by the Engineer. After testing, Contractor shall dispose of the stored groundwater as directed by the Engineer. If analyzed samples indicate that the groundwater may be discharged into the sewer system, no additional payment will be made to the Contractor. If analyzed samples indicate that the groundwater cannot be discharged into the sewer system, the Contractor will be paid on a force account basis.

The Contractor shall provide a unit price for handling and disposal at the appropriate landfill. The City reserves the right to use other forces for exploratory work to identify and determine the extent of such material and for removing hazardous material from such area.

S. SUPPLEMENTAL WORK

The Engineer will determine the scope for supplemental work. This item has been included in the contract to cover modifications to the work necessitated by field conditions largely due to the

hand-digging work that may be needed around building foundations, retaining wall foundations, etc. The Contractor must perform labor work under the direction of the Engineer to receive compensation. At the end of each workday where "Supplemental Work" is performed the Contractor is to submit to the Engineer a report detailing the work completed.

Supplemental Work shall be based on Engineer approved time and material (T&M). The amount of the expenditure under this item may vary from zero to the total amount of this item, as shown on the bid schedule. Contractor must submit a work report detailing all labor, equipment and material used for supplemental work to receive compensation. For bidding purposes the City is assigning a fixed amount to this item. Supplemental work funds not used do not become property of the Contractor.

T. MEASUREMENT AND PAYMENT

All work described in this section shall be measured and paid for as set forth in Section 9 of the SGP.

SECTION 19. LANDSCAPE IRRIGATION

The work described in this section does not apply to this Project.

SECTION 20. LANDSCAPING

The work described in this section does not apply to this Project.

SECTION 21. TENNIS & BASKETBALL COURT RESURFACING

The work described in this section does not apply to this Project.

SECTION 22. TREE TRIMMING & STUMP REMOVAL

The work described in this section does not apply to this Project.

SECTION 23. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION "TECHNICAL PROVISIONS"

Refer to this section for construction materials and methods of work not covered by CSS.

STANDARD PLANS

STATE OF CALIFORNIA STANDARD PLANS – MAY 2006

T 13	TRAFFIC CONTROL SYSTEM FOR TWO LANE ROAD

CITY OF ALBANY STANDARD PLANS – JULY 2000

SS 1	STANDARD MANHOLE FRAME & COVER
SS 2	STANDARD SEWER MANHOLE
SS 3	STANDARD RODDING INLET
SS 4	TYPICAL TRENCH SECTION
SS 5	STANDARD LATERALS & CLEANOUTS
SS 6	STANDARD CLEANOUTS AND BACKWATER PREVENTION DEVICE
SS 8	MAIN SEWER PROTECTION ABOVE UTILITY CROSSING
SS 9	MAIN SEWER PROTECTION BELOW UTILITY CROSSING
SS 10	SIDE SEWER PROTECTION ABOVE UTILITY CROSSING
SS 11	MAIN SEWER PROTECTION BELOW UTILITY CROSSING
SS 12	MAIN SEWER PROTECTION AT UTILITY CROSSING
ST 1	VERTICAL CURB & GUTTER
ST 2	RESIDENTIAL SIDEWALK / DRIVEWAY (SEPARATED)
ST 3	SIDEWALK (MONOLITHIC)
ST 4	CURB AND SIDEWALK JOINTS
ST 5	CURB, GUTTER & SIDEWALK REPAIRS
ST 6	RESIDENTIAL DRIVEWAY REPAIRS
ST 7	NOTES – SIDEWALKS, DRIVEWAYS, AND CURB & GUTTER
ST 9	TRENCH SURFACE RESTORATION DETAIL
-----	TYPE 1 SIGN

CENTRAL CONTRA COSTA SANITARY DISTRICT DETAILS – 2011 EDITION

DW-4	SHALLOW MANHOLE, TYPE 1

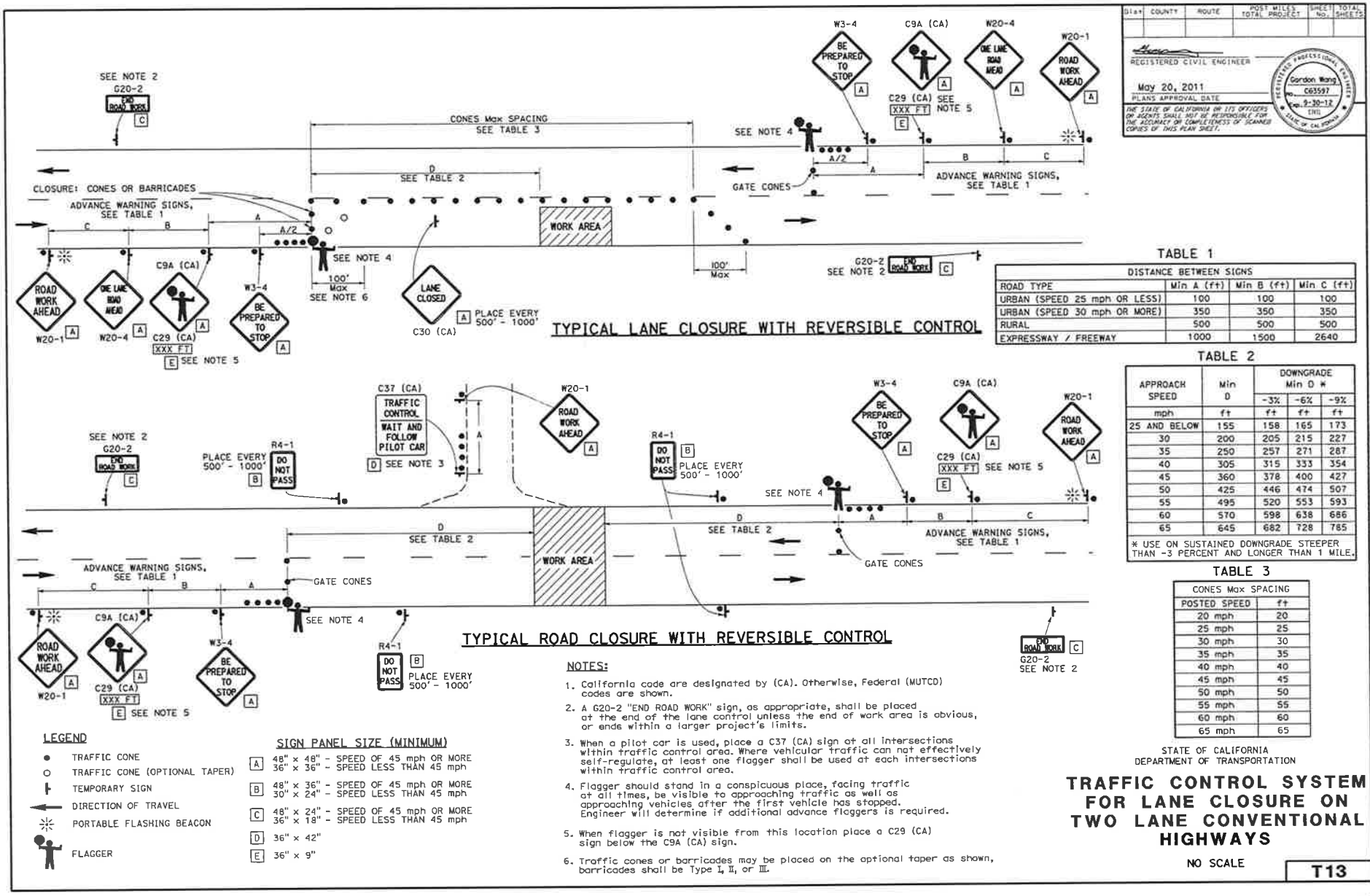


TABLE 1			
DISTANCE BETWEEN SIGNS			
ROAD TYPE	Min A (ft)	Min B (ft)	Min C (ft)
URBAN (SPEED 25 mph OR LESS)	100	100	100
URBAN (SPEED 30 mph OR MORE)	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

TABLE 2

APPROACH SPEED	Min D	DOWNGRADE Min D *		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
25 AND BELOW	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785

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

TABLE 3

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

LEGEND

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

SIGN PANEL SIZE (MINIMUM)

- A: 48" x 48" - SPEED OF 45 mph OR MORE; 36" x 36" - SPEED LESS THAN 45 mph
- B: 48" x 36" - SPEED OF 45 mph OR MORE; 30" x 24" - SPEED LESS THAN 45 mph
- C: 48" x 24" - SPEED OF 45 mph OR MORE; 36" x 18" - SPEED LESS THAN 45 mph
- D: 36" x 42"
- E: 36" x 9"

NOTES:

1. California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
3. When a pilot car is used, place a C37 (CA) sign at all intersections within traffic control area. Where vehicular traffic can not effectively self-regulate, at least one flagger shall be used at each intersections within traffic control area.
4. 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.
5. When flagger is not visible from this location place a C29 (CA) sign below the C9A (CA) sign.
6. Traffic cones or barricades may be placed on the optional taper as shown, barricades shall be Type I, II, or III.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

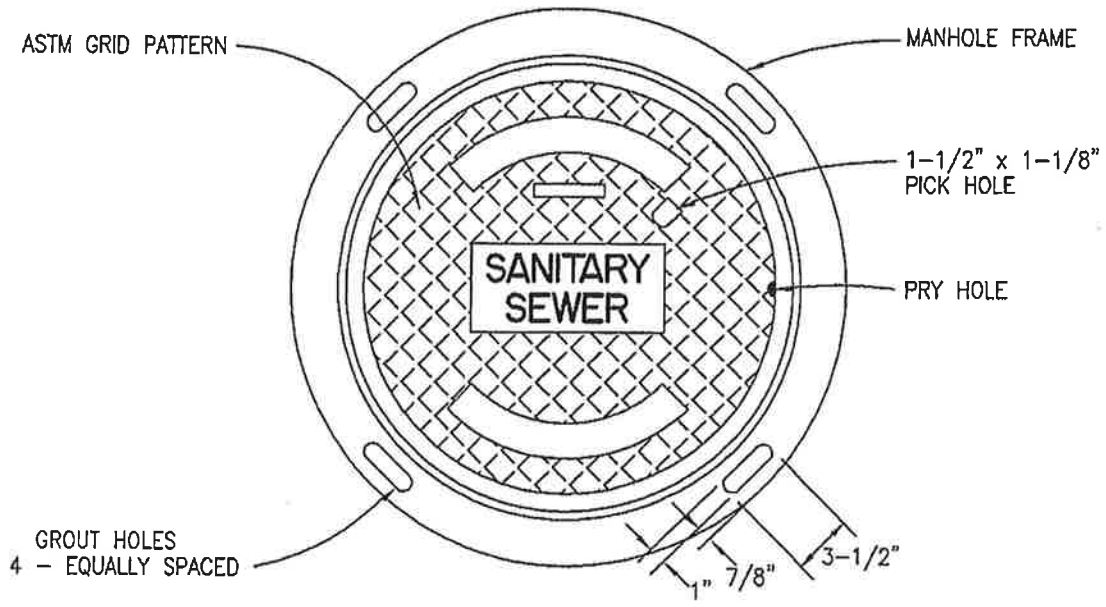
Gordon Wong
No. C63597
Exp. 9-30-12
CIVIL
STATE OF CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

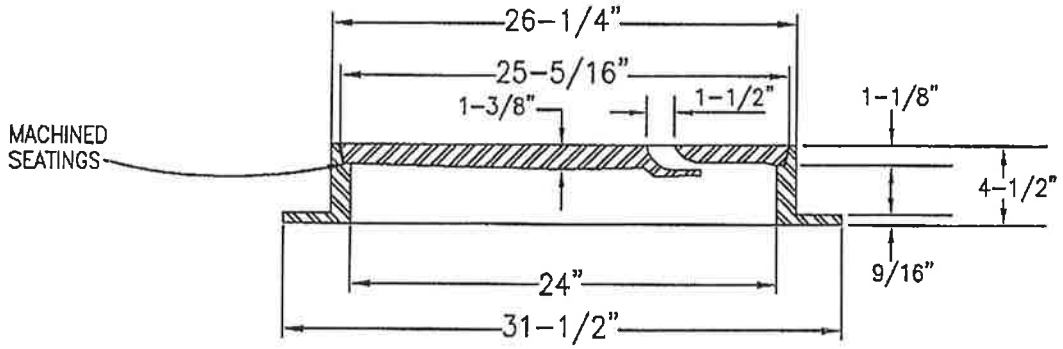
TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

T13



PLAN



SECTION THRU FRAME AND COVER

NOTES:

1. MANHOLE FRAME AND COVER SHALL BE MANUFACTURED BY PHOENIX IRON WORKS, OAKLAND, NO.P-1090 OR APPROVED EQUIVALENT.

2. FOR MANHOLE LOCATED IN SIDEWALK AREAS USE PHOENIX NO. P-1067 FRAME AND COVER OR APPROVED EQUIVALENT.

3. MINIMUM WEIGHT OF FRAME IS 138 LBS. MINIMUM WEIGHT OF COVER IS 130 LBS.

SCALE: NTS

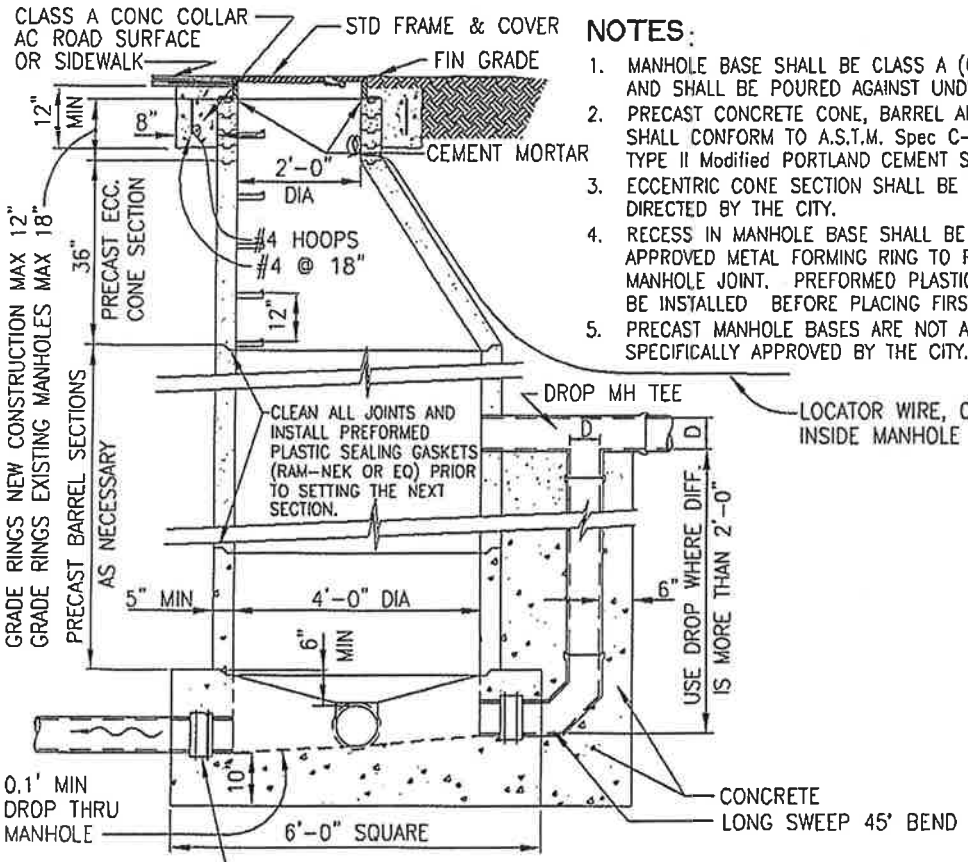
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

STANDARD MANHOLE FRAME AND COVER

Approved: Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

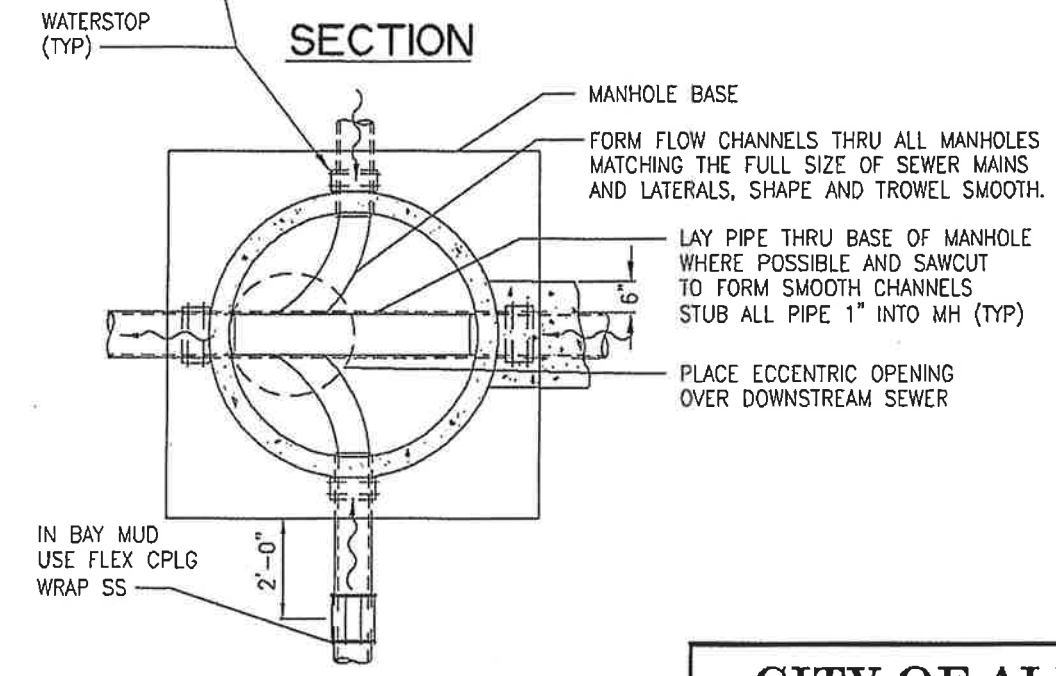
SS 1



SECTION

NOTES:

1. MANHOLE BASE SHALL BE CLASS A (6-sack) CONCRETE AND SHALL BE POURED AGAINST UNDISTURBED SOIL.
2. PRECAST CONCRETE CONE, BARREL AND GRADE RINGS SHALL CONFORM TO A.S.T.M. Spec C-478, EXCEPT THAT TYPE II Modified PORTLAND CEMENT SHALL BE USED.
3. ECCENTRIC CONE SECTION SHALL BE POSITIONED AS DIRECTED BY THE CITY.
4. RECESS IN MANHOLE BASE SHALL BE FORMED WITH AN APPROVED METAL FORMING RING TO RECEIVE PRECAST MANHOLE JOINT. PREFORMED PLASTIC SEAL GASKET SHALL BE INSTALLED BEFORE PLACING FIRST BARREL SECTION.
5. PRECAST MANHOLE BASES ARE NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY.



PLAN AT MH BOTTOM

SCALE: NTS

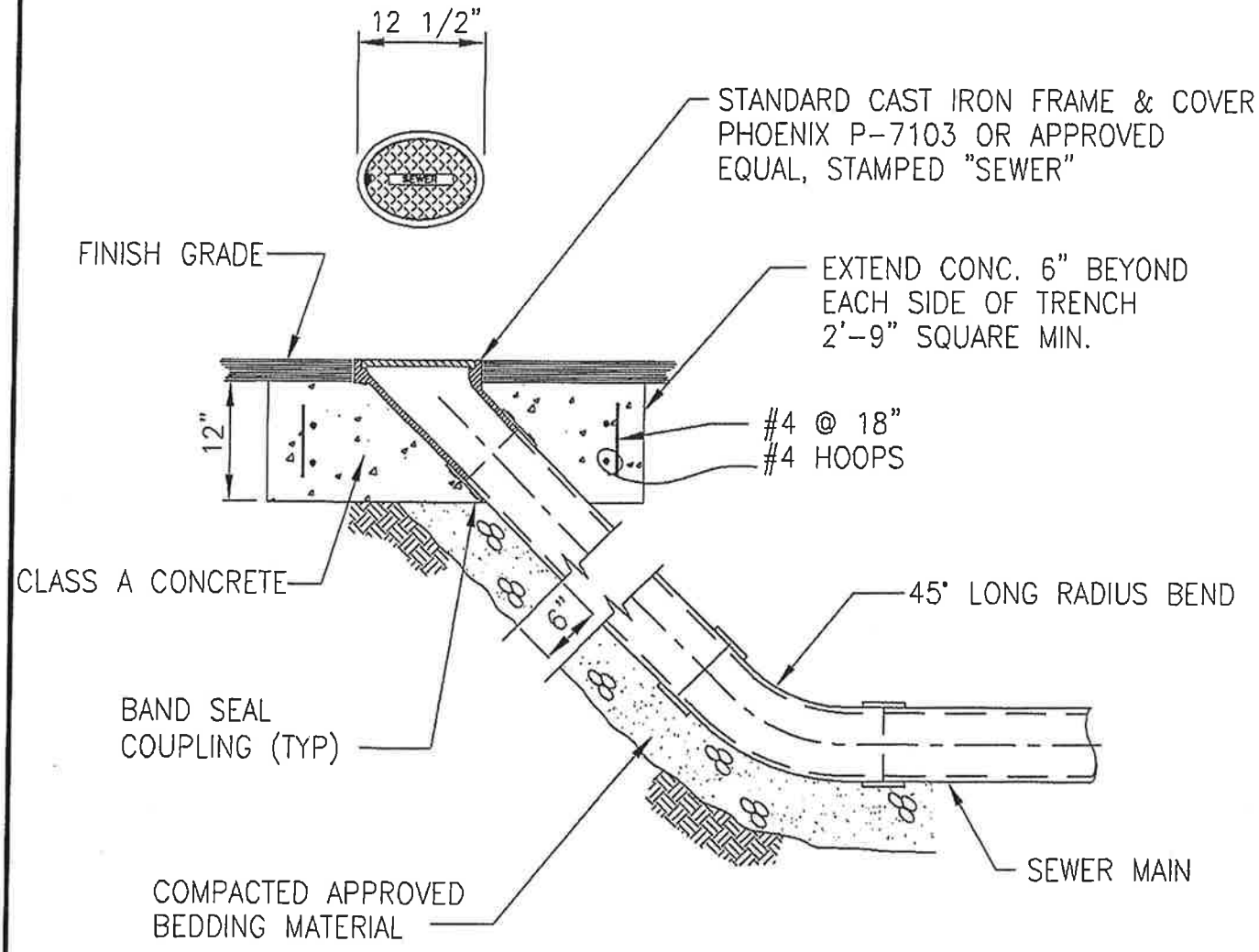
CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

STANDARD SEWER MANHOLE

Approved: _____ Date: 7-21-00
City Engineer — RCE 29392 (Exp. 3-31-07)

SS 2

No	Revision	Date	By



WHERE SEWER MAIN IS 6.63" OD POLYETHYLENE PIPE, USE 6" C-900 LONG RADIUS BELL X BELL 45° BEND AND RUN TO CLEANOUT CASTING.

SCALE: NTS

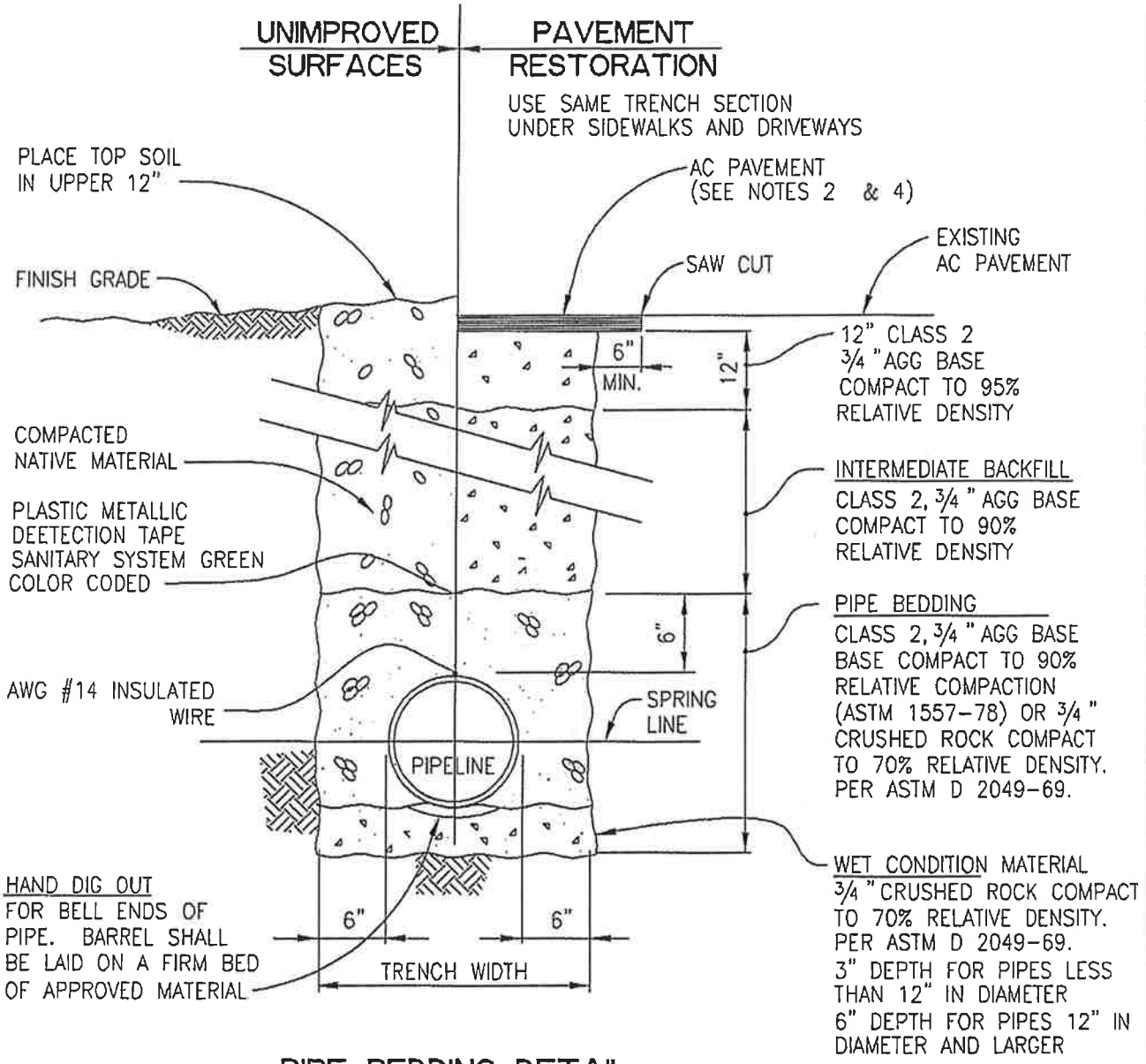
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

STANDARD RODDING INLET

Approved: Date: 7-21-00
City Engineer RCE 29302 (Exp. 3-31-07)

SS 3



PIPE BEDDING DETAIL

NOTES:

1. INSTALL 4' LONG COMPACTED IMPERVIOUS CLAY OR SLURRY CEMENT PLUGS IN PIPE ZONE BACKFILL AND PIPE BEDDING AT 400' INTERVALS.
2. MATCH EXISTING ASPHALT THICKNESS PLUS 1" (3" THICK, MINIMUM).
3. CDF MAY BE USED AS AN ALTERNATE PROVIDING MEASURES ARE TAKEN TO PREVENT PIPE FLOTATION.
4. THE FINAL LIFT OF AC IN STREETS SHALL BE COMPACTED WITH A ROLLER APPROVED BY THE ENGINEER.

SCALE: NTS

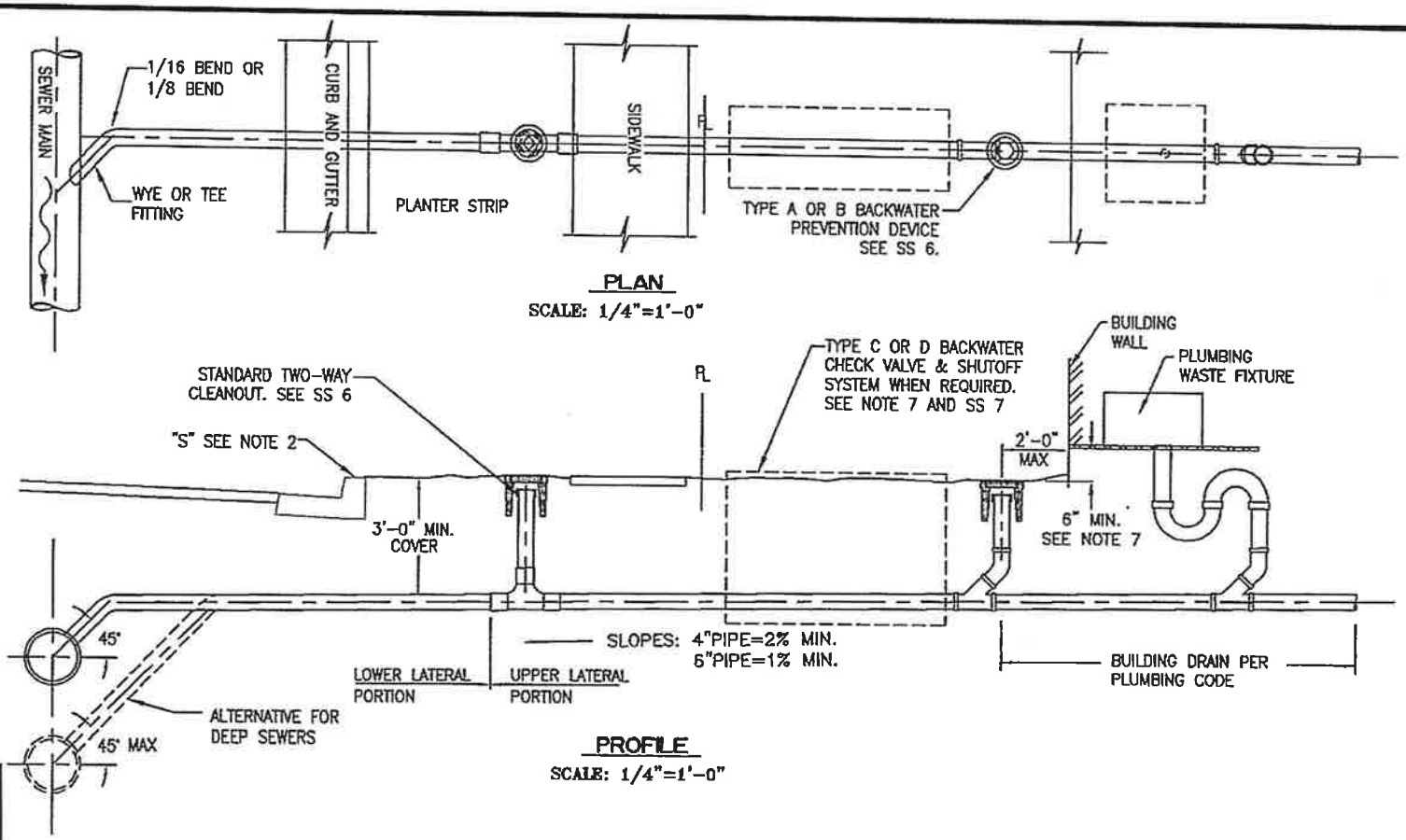
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

TYPICAL TRENCH SECTION

Approved: [signature] Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

SS 4



NOTES:

1. WHEN THE LOWER LATERAL SEWER IS INSTALLED IN ADVANCE OF THE UPPER LATERAL, IT SHALL BE TERMINATED AT OR NEAR THE PROPERTY LINE. THE END OF THE LOWER LATERAL SHALL BE MARKED WITH A 4" x 4" REDWOOD STAKE, PAINTED GREEN, FROM THE TOP OF THE PIPE TO A MINIMUM OF 6" ABOVE THE FINISHED GROUND SURFACE.
2. WHERE CONCRETE CURBS AND GUTTERS EXIST OR ARE TO BE A PART OF AN IMPROVEMENT, EACH SIDE SEWER SHALL BE PERMANENTLY LOCATED BY IMPRINTING OR CHISELING AN "S" (3" SIZE) ON THE TOP OF THE CURB VERTICALLY ABOVE THE SEWER PIPE.
3. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE CITY.
4. IN TRAFFIC AREAS WHERE MINIMUM COVER CANNOT BE ACHIEVED, THE CITY ENGINEER MAY REQUIRE CAST IRON PIPE OR STANDARD CONCRETE PIPE PROTECTION PER SS 13.
5. MINIMUM PIPE SLOPE OF LESS THAN WHAT IS SPECIFIED MUST BE APPROVED BY THE CITY ENGINEER.
6. THE SIDE SEWER SIZE IS FOUR (4) INCHES IN DIAMETER FOR SINGLE FAMILY RESIDENTIAL. SIX (6) INCHES OR LARGER IN DIAMETER SIDE SEWER SHALL BE INSTALLED WHERE USE IS TO BE INDUSTRIAL, COMMERCIAL, OR MULTI-FAMILY RESIDENTIAL.
7. IF THE DIFFERENCE IN ELEVATION BETWEEN THE LOWEST FLOOR WITH PLUMBING WASTE FIXTURES AND THE RIM OF THE BACKWATER PREVENTION DEVICE IS LESS THAN SIX (6) INCHES, A TYPE C OR D BACKWATER CHECK VALVE AND SHUTOFF SYSTEM SHALL BE INSTALLED AS SHOWN ON STANDARD DETAIL SS 7.
8. ADDITIONAL CLEANOUTS SHALL BE INSTALLED AT CHANGES IN DIRECTION WHERE THE ACCUMULATIVE TOTAL OF DEFLECTION FROM ANOTHER CLEANOUT IS MORE THAN 45°. THE MAXIMUM DISTANCE BETWEEN CLEANOUTS SHOULD BE 100 FEET, PER THE UNIFORM PLUMBING CODE.
9. CLEANOUTS AND RISER PIPES SHALL BE THE SAME SIZE AS THE LATERAL.

No	Revision	Date	By
1	Backflow Prevention & Check valve	10/30/06	RWL

CITY OF ALBANY

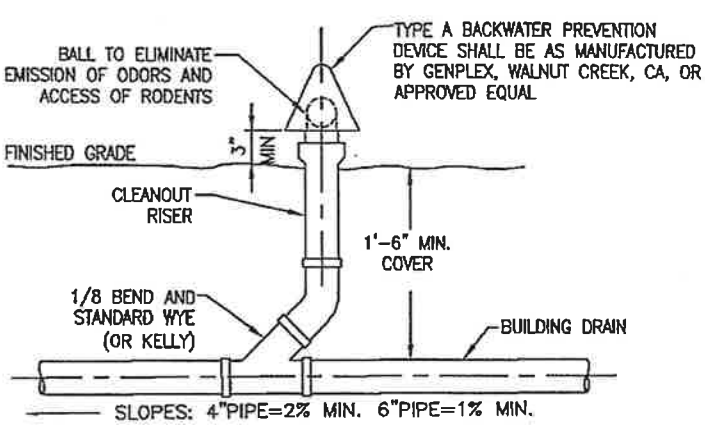
ALAMEDA COUNTY, CALIFORNIA

STANDARD LATERALS AND CLEANOUTS

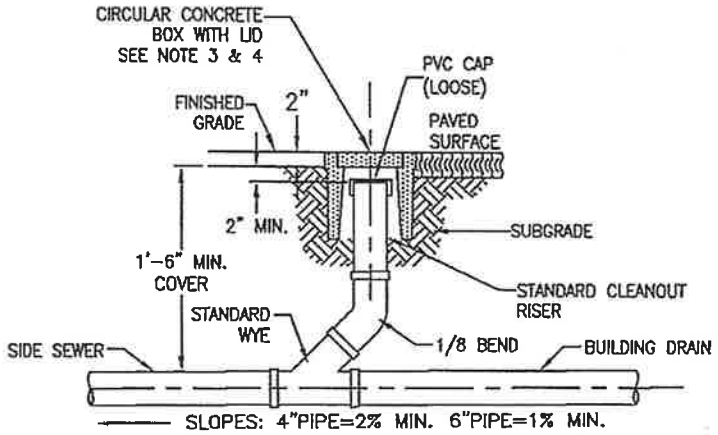
Approved: [signature] Date: 7-21-00
City Engineer, RCE 26392 (Exp. 3-31-07)

SS 5

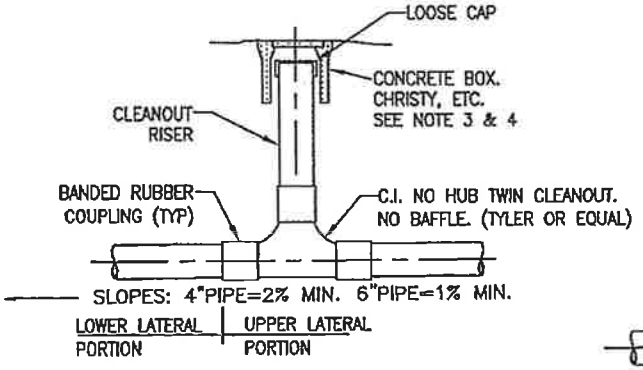
No	Revision	Date	By
1	Added Cleanouts and Type B	10/30/06	RWL



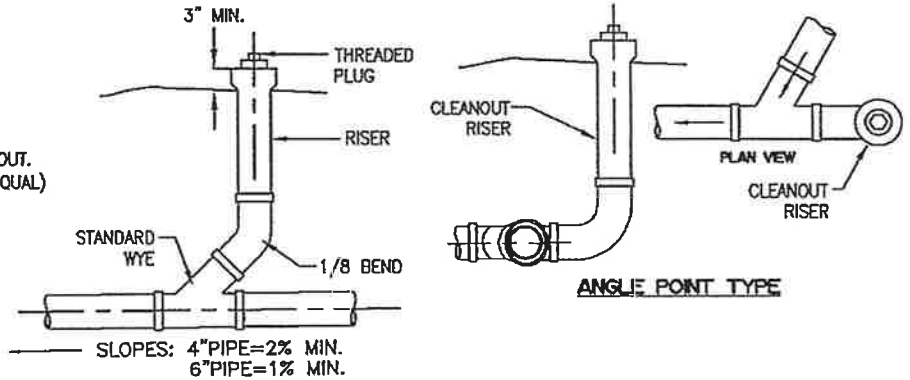
TYPE A
BACKWATER PREVENTION DEVICE
SCALE: 1/2" = 1'-0"



TYPE B
BACKWATER PREVENTION DEVICE
SCALE: 1/2" = 1'-0"



STANDARD TWO-WAY CLEANOUT
SCALE: 1/2" = 1'-0"



STANDARD ONE-WAY CLEANOUT
SCALE: 1/2" = 1'-0"

NOTES :

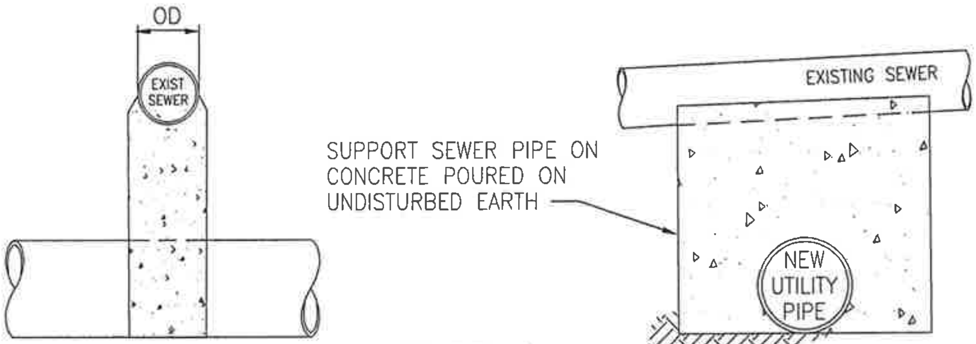
1. A BACKWATER PREVENTION DEVICE OR A BACKWATER SHUTOFF AND CHECK VALVE SYSTEM SHALL BE INSTALLED ON ALL UPPER LATERALS. BACKWATER PREVENTION DEVICES WILL ONLY BE PERMITTED WHEN SEWER OVERFLOW FROM THE PREVENTION DEVICE WILL NOT CAUSE DAMAGE TO THE SURROUNDING AREA. WHEN SEWER OVERFLOW COULD CAUSE SERIOUS DAMAGE TO THE SURROUNDING AREA, A STANDARD BACKWATER SHUTOFF AND CHECK VALVE SYSTEM SHALL BE INSTALLED AS SHOWN ON SS 7.
2. IF THE DIFFERENCE IN ELEVATION BETWEEN THE LOWEST FLOOR WITH PLUMBING WASTE FIXTURES AND THE RIM OF THE BACKWATER PREVENTION DEVICE IS LESS THAN SIX (6) INCHES, A TYPE C OR D BACKWATER CHECK VALVE AND SHUTOFF SYSTEM SHALL BE INSTALLED AS SHOWN ON STANDARD DETAIL SS 7.
3. CONCRETE BOXES COVERS SHALL BE TRAFFIC RATED WHEN USED IN AREAS SUBJECTED TO TRAFFIC SUCH AS DRIVEWAYS.
4. BOX SHALL BE CHRISTY F8 OR EQUAL; USE F8D LID IN NON-TRAFFIC AREAS AND F8C FOR TRAFFIC AREAS.

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

STANDARD CLEANOUTS AND BACKWATER PREVENTION DEVICE

Approved: [signature] Date: 7-21-00
City Engineer, RCE 28992 (Exp. 3-31-07)

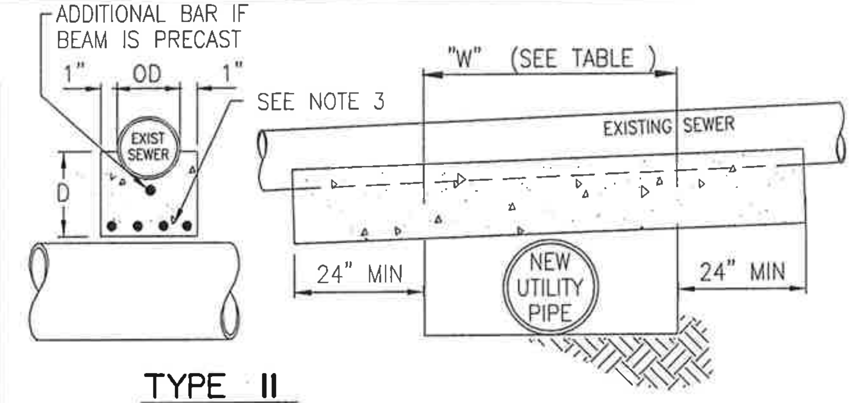
SS 6



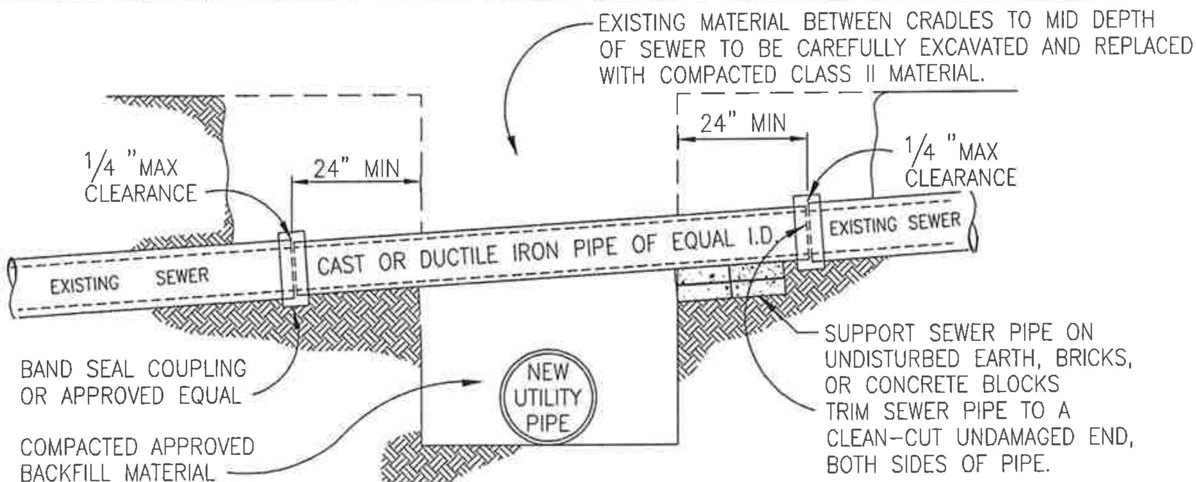
TYPE I

DIMENSIONS OF REINFORCED CONCRETE BEAM

W	DEPTH OF COVER TO SEWER 0' - 8'-0" D	BAR No.	DEPTH OF COVER TO SEWER 8'-0" - 16'-0" D	BAR No.
4'	8"	4	8"	4
5'	8"	4	9"	5
6'	8 1/2"	5	10 1/2"	5
7'	9"	5	11 1/2"	6
8'	10"	5	12 1/2"	6
9'	11"	6	13 1/2"	6
10'	12"	6	15"	7



TYPE II



TYPE III

NOTES:

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE, IS INSTALLED BELOW AN EXISTING MAIN SEWER. TYPE I, TYPE II OR TYPE III MAY BE USED AT THE CONTRACTOR'S OPTION, UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE CITY.
2. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1" OR LESS INSTALL A 4" x 4" PAD OF 35-45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.
3. MAXIMUM SPACING OF REINFORCING STEEL TO BE 4" CENTER TO CENTER.
4. CONCRETE TO BE CLASS A (6 sack mix)
5. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE CITY.

SCALE: NTS

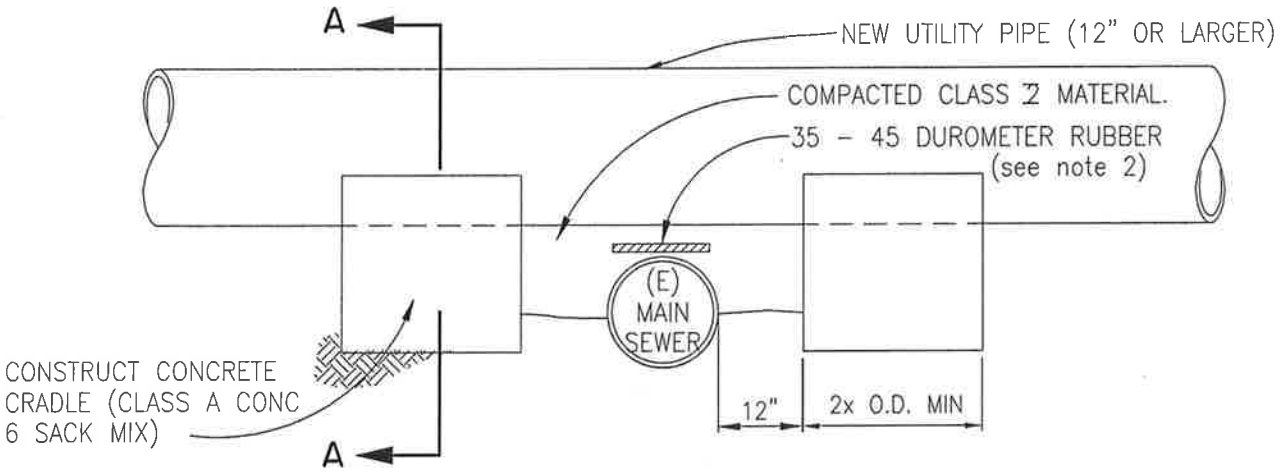
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

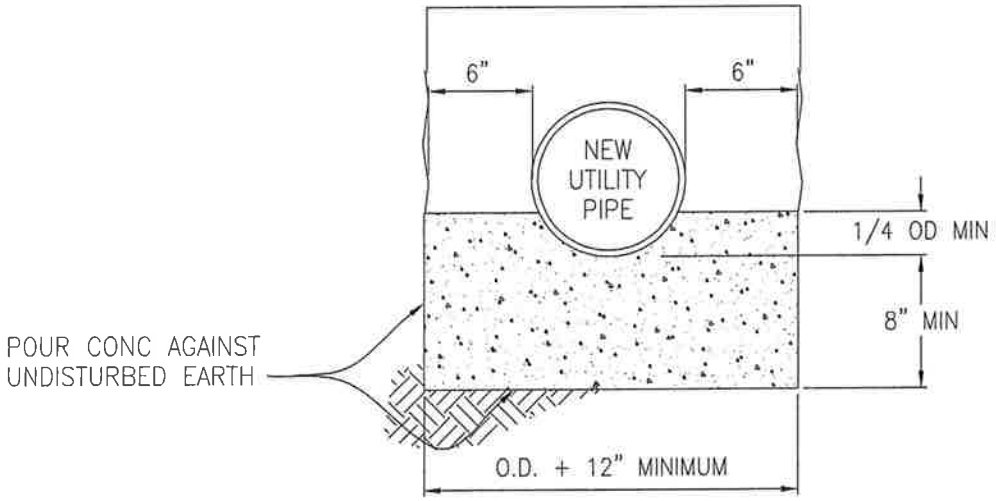
MAIN SEWER PROTECTION ABOVE UTILITY CROSSING

Approved: Randolph W. Leptien Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

SS 8



MAIN SEWER



SECTION A-A

NOTES:

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE, 12" OR LARGER, IS INSTALLED ABOVE AN EXISTING MAIN SEWER AND THE CLEARANCE IS LESS THAN 12".
2. WHEN THE OUTSIDE DIAMETER OF THE PIPES ARE WITHIN 1" OF THE OTHER THERE SHALL BE A 4" x 4" PAD OF 35–45 DUROMETER RUBBER PLACED SNUGLY BETWEEN PIPES.
3. EXISTING MATERIAL BETWEEN CRADLES TO MID DEPTH OF SEWER TO BE CAREFULLY EXCAVATED AND REPLACED WITH COMPACTED CLASS II MATERIAL.
4. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY CITY.

SCALE: NTS

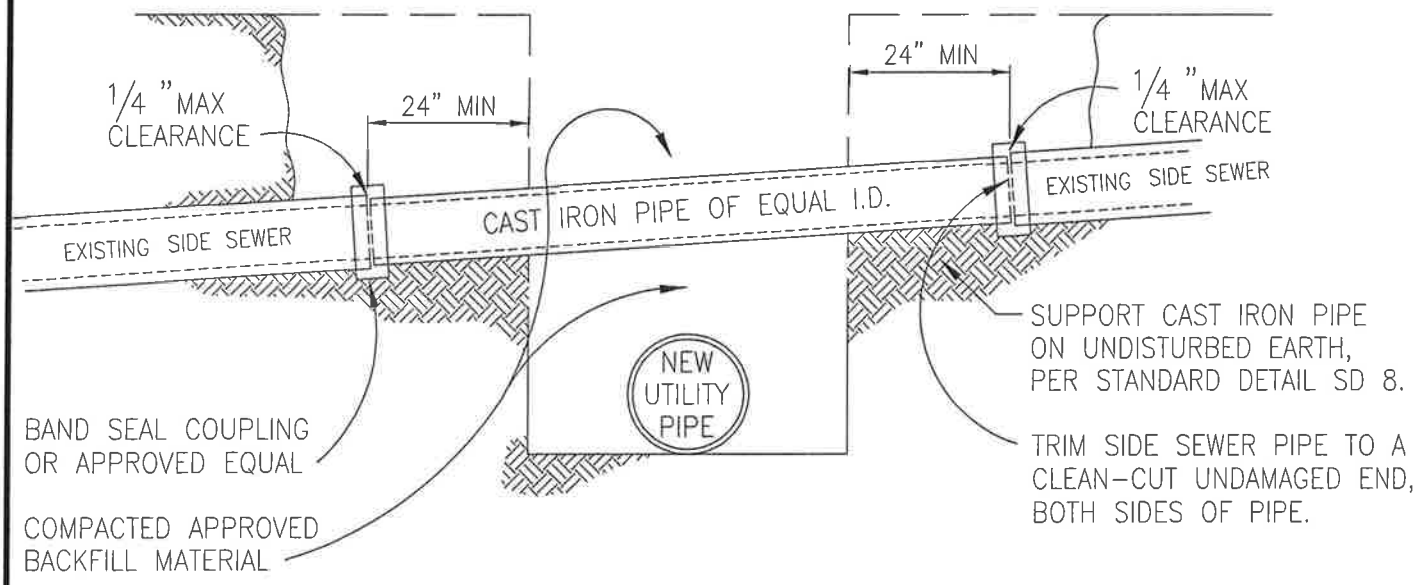
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

MAIN SEWER PROTECTION BELOW UTILITY CROSSING

Approved: Randolph W. Hoglen Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

SS 9



NOTES:

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE, 12" OR LARGER, IS INSTALLED BELOW AN EXISTING SIDE SEWER.
2. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY CITY.
3. WHEN THE OUTSIDE DIAMETER OF THE PIPES ARE WITHIN 1" OF THE OTHER THERE SHALL BE A 4" x 4" PAD OF 35-45 DUROMETER RUBBER PLACED SNUGLY BETWEEN PIPES.

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

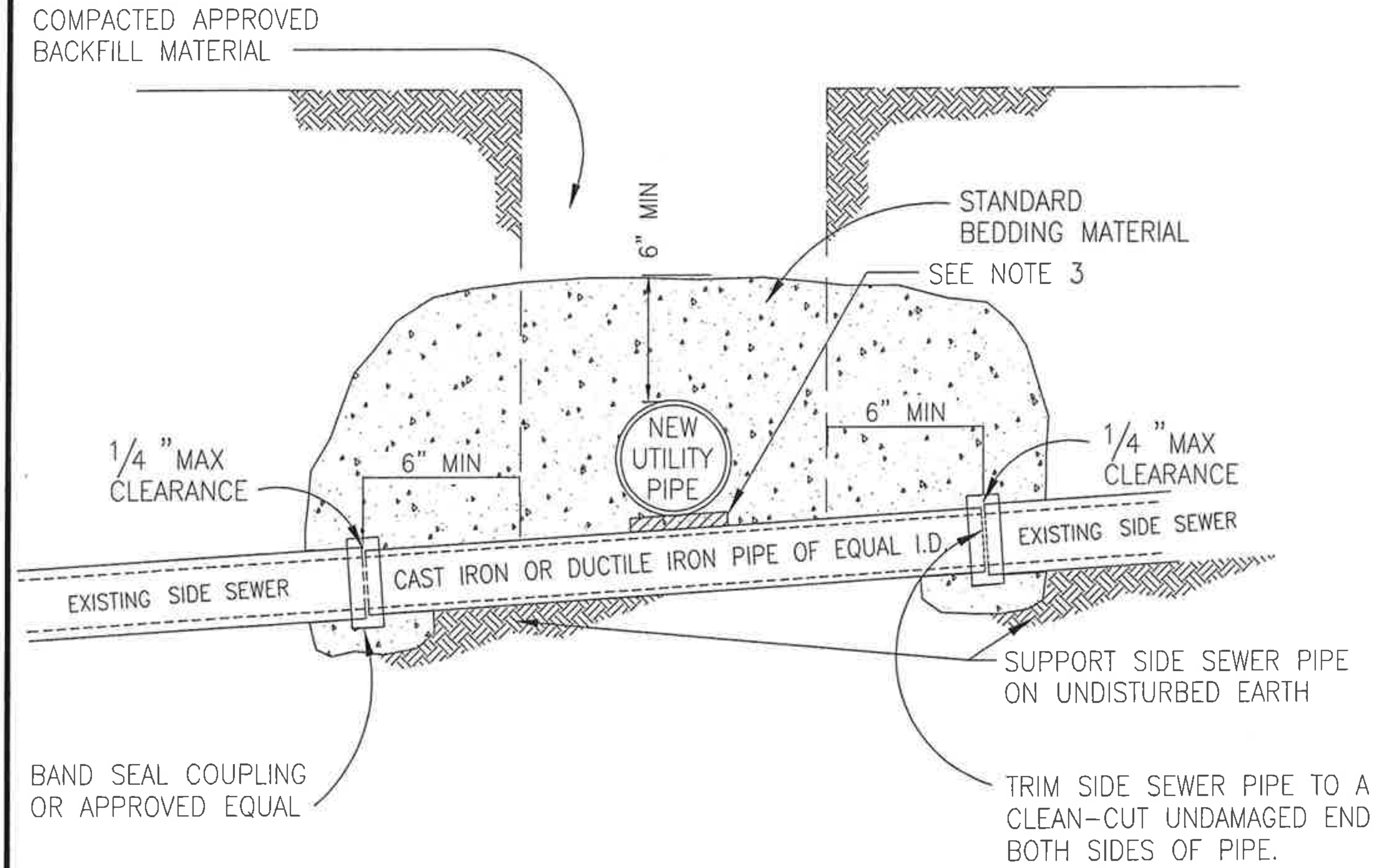
SCALE: NTS

SIDE SEWER PROTECTION ABOVE UTILITY CROSSING

No	Revision	Date	By

Approved: Randolph W. Hodgen Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

SS 10



NOTES:

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN ANY NEW UTILITY PIPE IS INSTALLED ABOVE AN EXISTING SIDE SEWER AND THE CLEARANCE IS LESS THAN 12".
2. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE CITY.
3. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1" OR LESS, INSTALL A 4" x 4" PAD OF 35-45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.

SCALE: NTS

No	Revision	Date	By

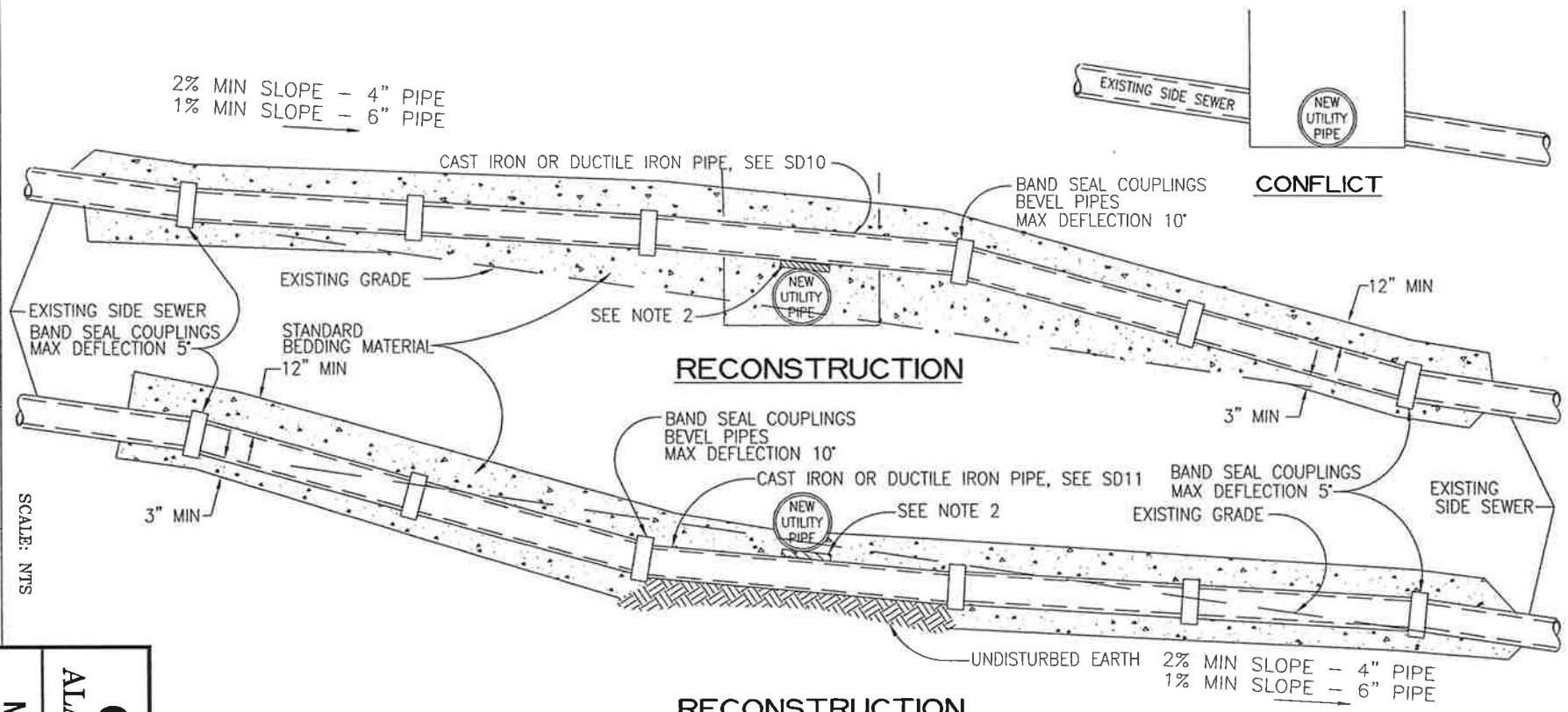
CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

MAIN SEWER PROTECTION BELOW UTILITY CROSSING

Approved: Randolph W. Lepchen Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

SS 11

No	Revision	Date	By



SCALE: NTS

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

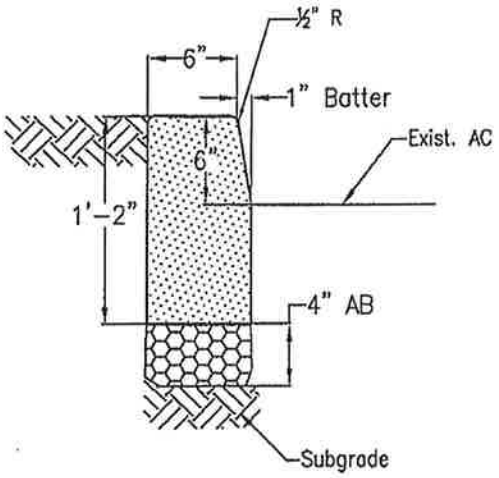
MAIN SEWER PROTECTION AT UTILITY CROSSING

Approved:
Randall W. Roden
City Engineer
RCE 29392 (Exp. 3-31-07)
Date: 7-21-00

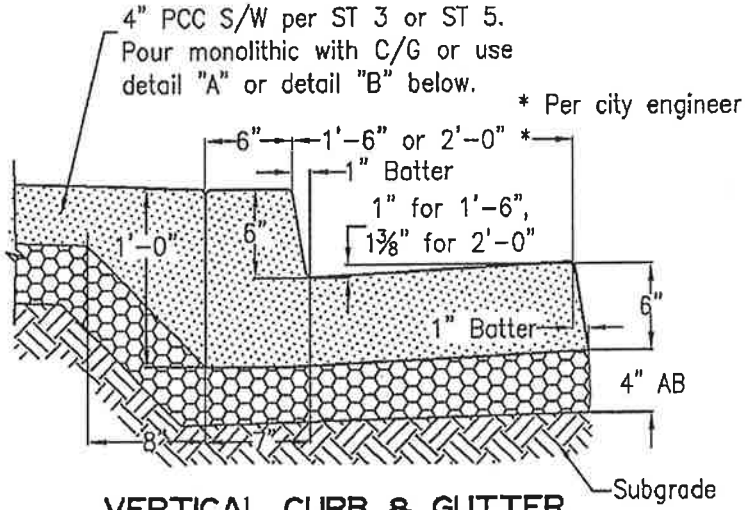
SS 12

NOTES:

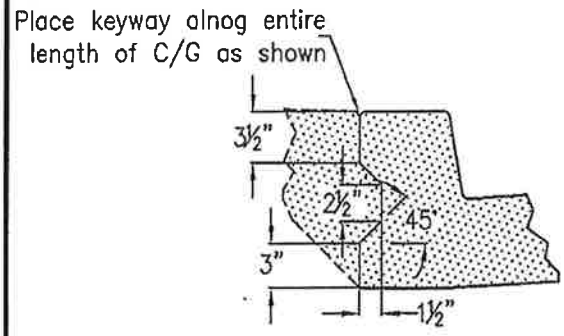
1. WHEN ANY NEW UTILITY PIPE OR CONDUIT CONFLICTS WITH AN EXISTING SEWER LINE GRADE, THE UTILITY PIPE OR CONDUIT SHALL BE RAISED OR LOWERED, IF POSSIBLE, TO MISS THE SEWER LINE. IF IT IS NOT POSSIBLE TO MOVE THE UTILITY LINE, WRITTEN PERMISSION SHALL BE OBTAINED FROM THE CITY OF ALBANY, AND THE SEWER LINE SHALL BE RECONSTRUCTED IN ACCORDANCE WITH ONE OF THE DETAILS ABOVE AND THE STANDARD SPECIFICATIONS OF THE CITY.
2. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1" OR LESS, INSTALL A 4" x 4" PAD OF 35–45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.



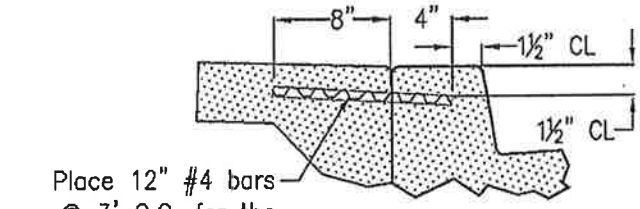
VERTICAL CURB



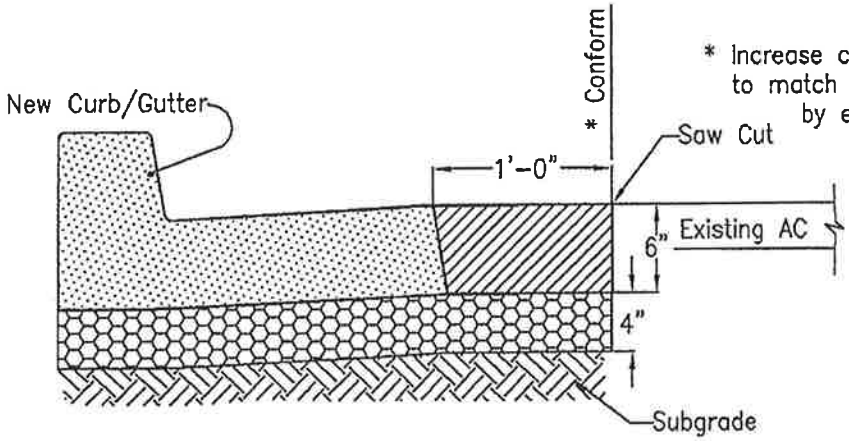
VERTICAL CURB & GUTTER



DETAIL "A"
(KEYWAY)



DETAIL "B"
(DOWELS)



PAVEMENT REPLACEMENT FOR NEW
CURB/GUTTER AT EXISTING STREET

NOTE:
See ST 4 for joint requirements
See ST 5 for dowel construction
See ST 7 for materials and construction requirements

SCALE: 1"=1'-0"

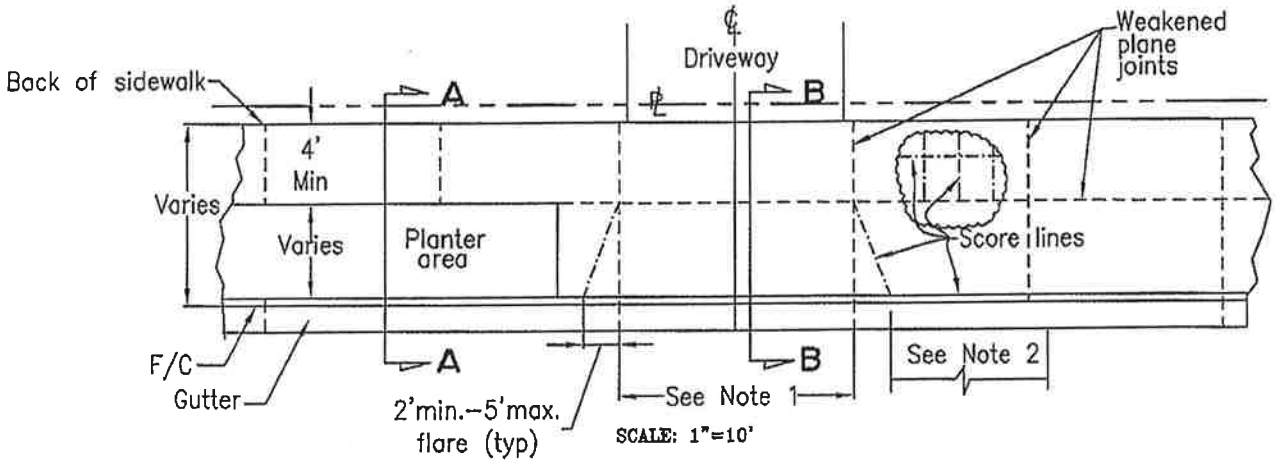
No	Revision	Date	By
2	Remove Curb Dimension	8/12/08	RWL
1	Added Vert Curb	7/6/05	RWL

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

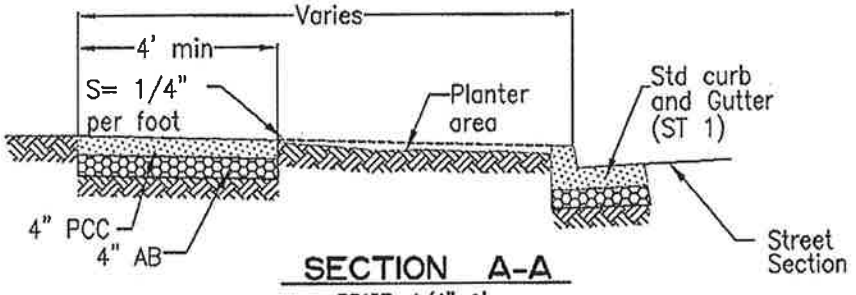
VERTICAL CURB AND GUTTER

Approved: Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

ST 1

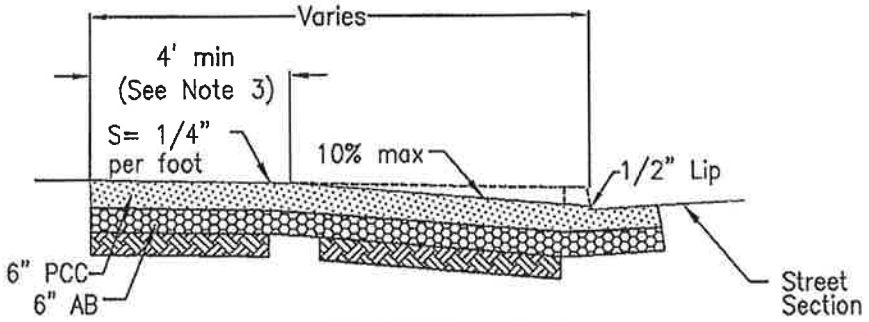


SCALE: 1"=10'



SECTION A-A

SCALE: 1/4"=1'



SECTION B-B

SCALE: 1/4"=1'

NOTES:

1. Driveway depression to be 1' wider than driveway (symmetric about centerline).
2. 3' min. dist. from edge of driveway to property line, street light, fire hydrant, or other D/W; min 10' to radius return (typ both sides).
3. Where right of way restrictions, natural barriers, or other existing conditions create an unreasonable hardship, the clear width may be reduced to 3 feet.
4. When tree roots interfere with the structural section, substitute #4 bars @ 12" o.c. each way for AB a minimum of 18" on either side of root.

See ST 4 for joint construction requirements
See ST 7 for materials and construction requirements

SCALE: As Noted

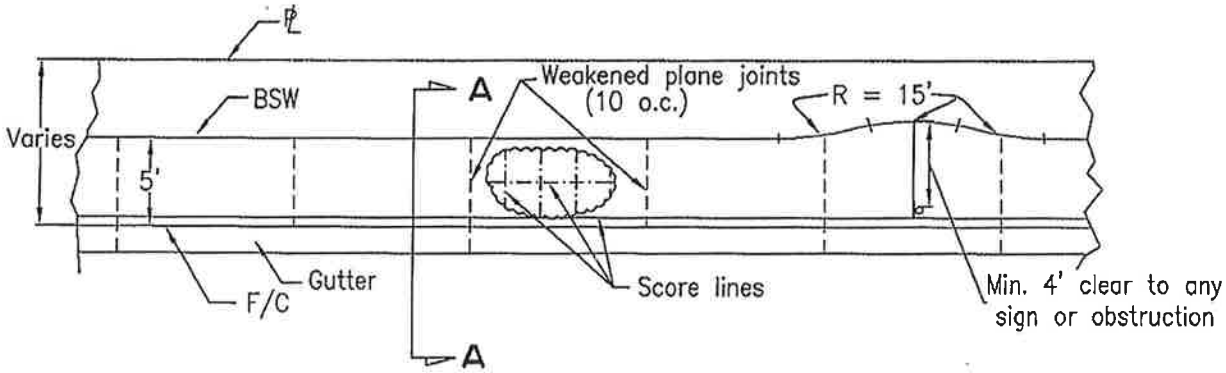
CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

RESIDENTIAL SIDEWALK / DRIVEWAY (SEPARATED)

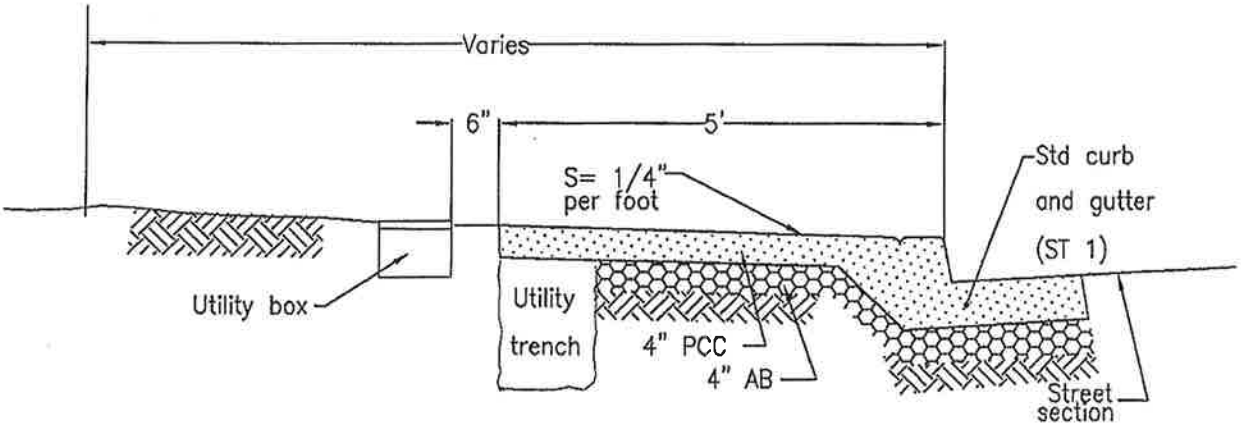
No	Revision	Date	By
1	2' min. 5' max flare	1/24/06	RWL

Approved: Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

ST 2



SCALE: 1"=10'



SECTION A-A

SCALE: 1/2"=1'

See ST 4 for construction requirements
See ST 7 for materials and construction requirements

SCALE: As Noted

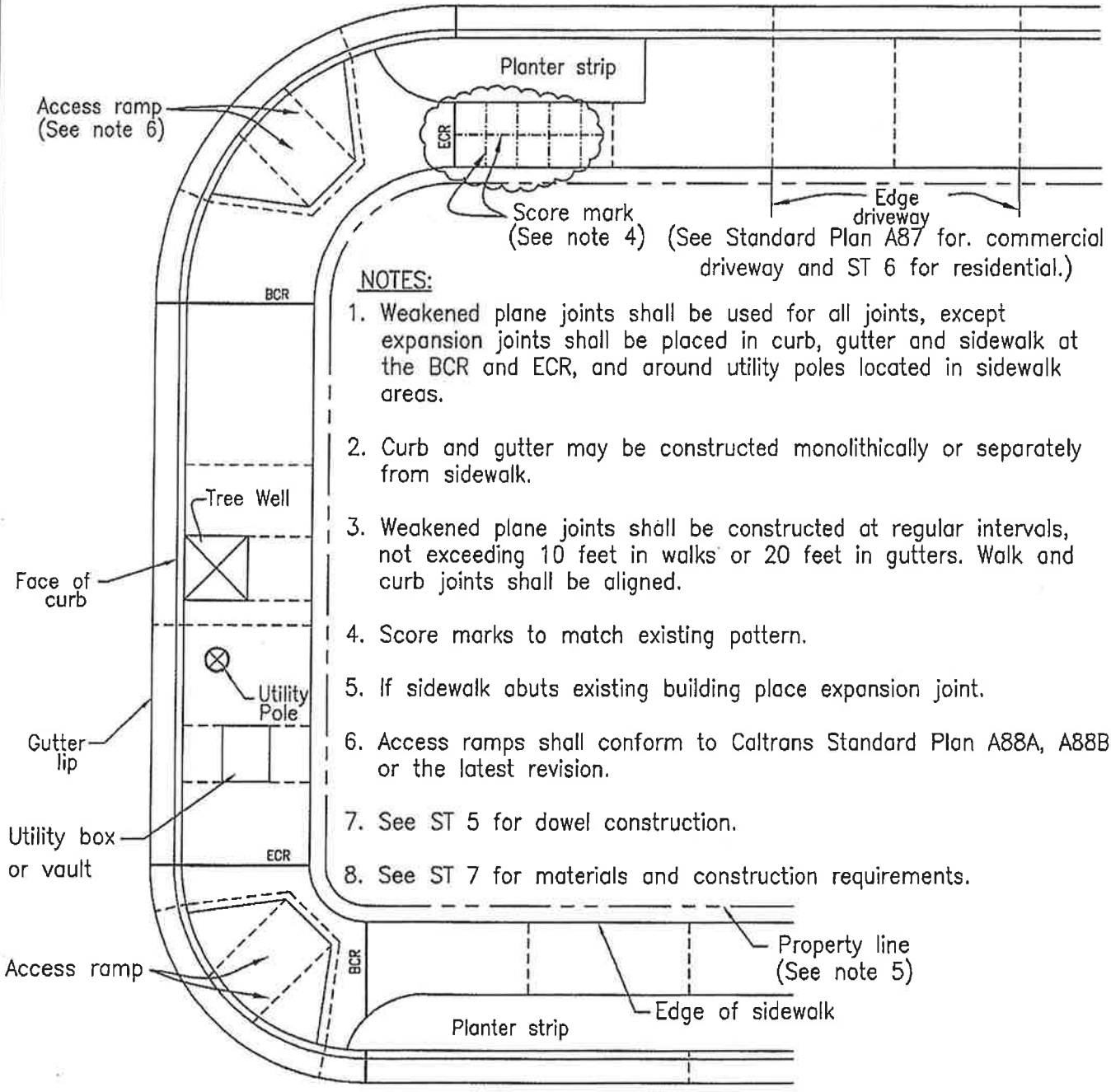
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

SIDEWALK (MONOLITHIC)

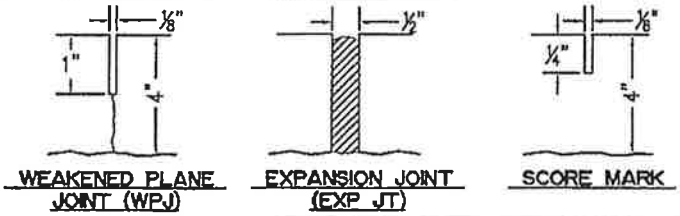
Approved: Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

ST 3



NOTES:

1. Weakened plane joints shall be used for all joints, except expansion joints shall be placed in curb, gutter and sidewalk at the BCR and ECR, and around utility poles located in sidewalk areas.
2. Curb and gutter may be constructed monolithically or separately from sidewalk.
3. Weakened plane joints shall be constructed at regular intervals, not exceeding 10 feet in walks or 20 feet in gutters. Walk and curb joints shall be aligned.
4. Score marks to match existing pattern.
5. If sidewalk abuts existing building place expansion joint.
6. Access ramps shall conform to Caltrans Standard Plan A88A, A88B or the latest revision.
7. See ST 5 for dowel construction.
8. See ST 7 for materials and construction requirements.



LEGEND:

---- Weakened plane joint
——— Expansion joint
—·—·— Score mark
BCR = Begining of curb return
ECR = End of curb return

SCALE: NTS

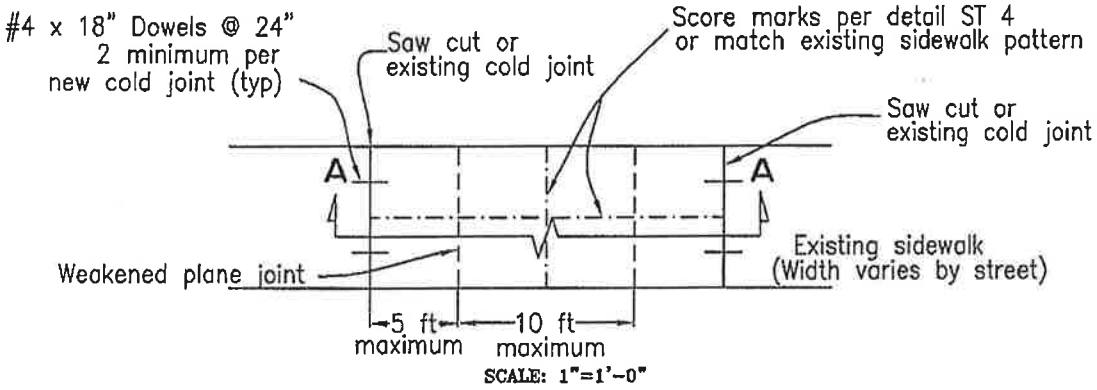
CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

CURB AND SIDEWALK JOINTS

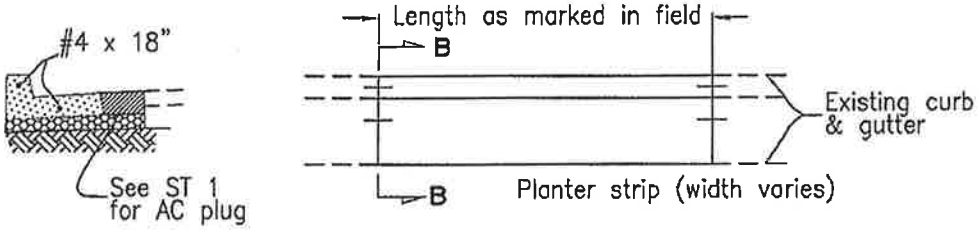
No	Revision	Date	By
1	Revise weakened plane joints and score marks	2/14/06	RWL

Approved: Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

ST 4



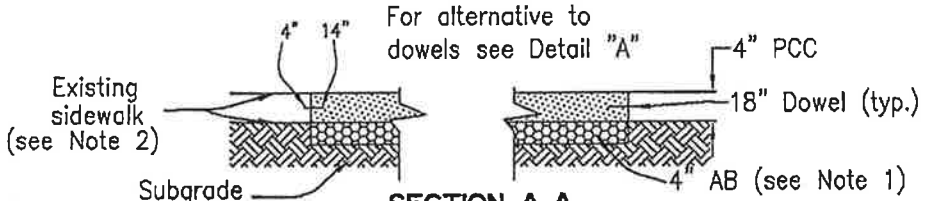
SCALE: 1"=1'-0"



SECTION B-B

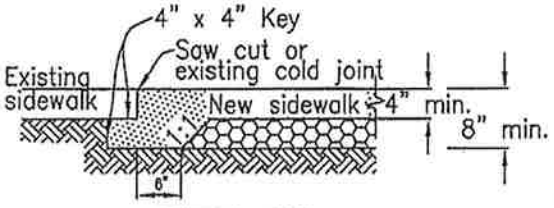
PLAN

SCALE: 1/4"=1'



SECTION A-A

SCALE: 1/2"=1'



DETAIL "A"

Alternative key detail

SCALE: 1/2"=1'

Notes:

1. In locations where tree roots are within 8" of finished grade, delete 4" AB and place 6" x 6" x 10 ga wire mesh in concrete.
2. When existing sidewalk is less than 4" thick, Detail A may be substituted for dowels.

See ST 4 for joint construction requirements
See ST 7 for materials and construction requirements

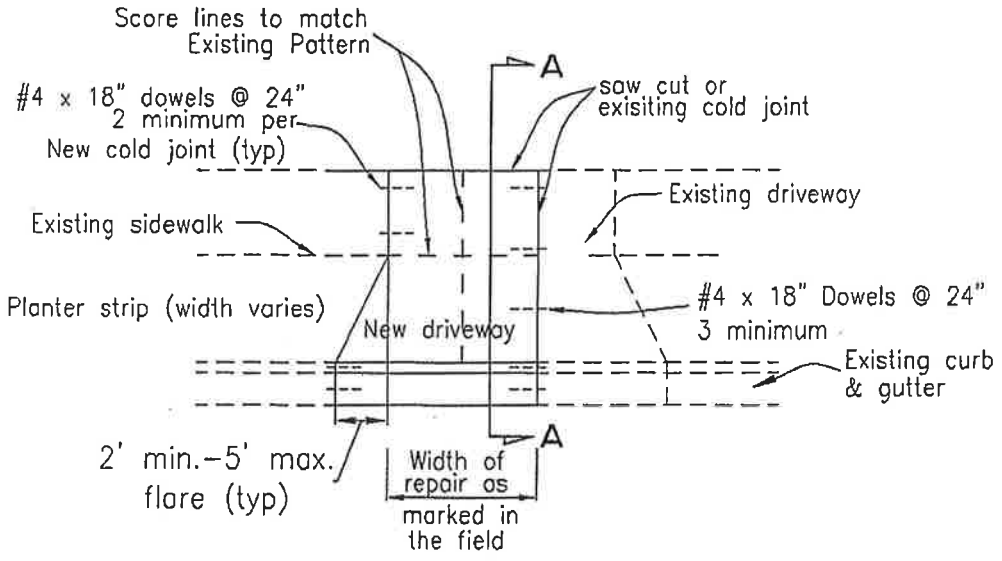
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

CURB, GUTTER & SIDEWALK REPAIRS

Approved: Date: 7-21-00
City Engineer : RCE 29302 (Exp. 3-31-07)

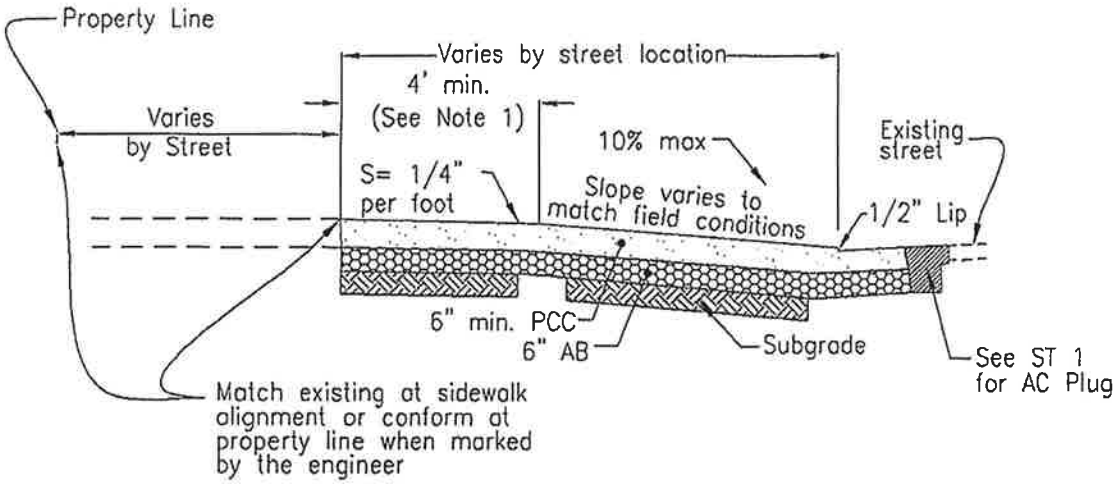
ST 5



PLAN

SCALE: 1"=10'

See detail A, ST 5
For Alternative to Dowels



SECTION A-A

SCALE: 1/4"=1'

See ST 4 for joint construction requirements
See ST 7 for materials and construction requirements

NOTES:

1. Where right of way restrictions, natural barriers, or other existing conditions create an unreasonable hardship, the clear width may be reduced to 3 feet.

No	Revision	Date	By
1	2' Min. 5' Max. Flare	1/24/06	RWL

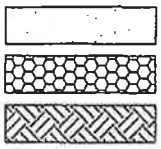
CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

RESIDENTIAL DRIVEWAY REPAIRS

Approved: Date: 7-27-00
City Engineer RCE 29392 (Exp. 3-31-07)

ST 6

LEGEND and ABBREVIATION



(PCC)=Concrete
(AB)=Aggregate base
=Subgrade/exist. grade

(BSW)=back of sidewalk
℄ =Property line
FC=Face of curb

NOTES

1. Subgrade shall be native material, 6" deep, 90% Relative Compaction.

2. Cushion material shall be Class 2 aggregate base, per Caltrans Standard Specifications, Section 26; compacted to 95% R.C.

3. Concrete shall be 520-C-2500, 4" Maximum Slump.

4. Curb, gutter and sidewalk to be placed monolithically where possible. Where non-monolithic, place dowels and/or keyway per ST 1.

5. Place 1/2" expansion joint at 200' spacings and at returns.

6. Place 3/4" deep weakened plane joint at 20' maximum spacings through curb and gutter, and 10' maximum spacings through sidewalk, driveway and at edges of driveways and at 1/2 width for sidewalks and driveways over 10 feet in width.

7. Place score lines at 5' minimum spacing between weakened plane joints and along back of curb. Match existing pattern in residential neighborhoods.

8. Place no. 4 reinforcing steel bars at 18 inches each way in industrial, commercial and street level driveways.

9. Concrete to have a soft broom finish. Clear curing compound to be applied per manufacturer's specifications.

10. When replacing curb, gutter, sidewalk, and driveway, match existing width and scoring. Sawcuts shall be at joints or score lines. Insert no. 4 by 18" long steel dowels at 24" on center (2 minimum for curb and gutter). Add 2 lb. lampblack per cubic yard.

11. Stamp 3" high letters – "W"(water) and "S"(sewer) in face of curb to locate laterals.

12. Sawcut existing A.C. pavement with power saw.

13. Asphalt Concrete shall be 1/2" Max Aggregate Type A per Caltrans Sec. 39, 3" Maximum Lifts.

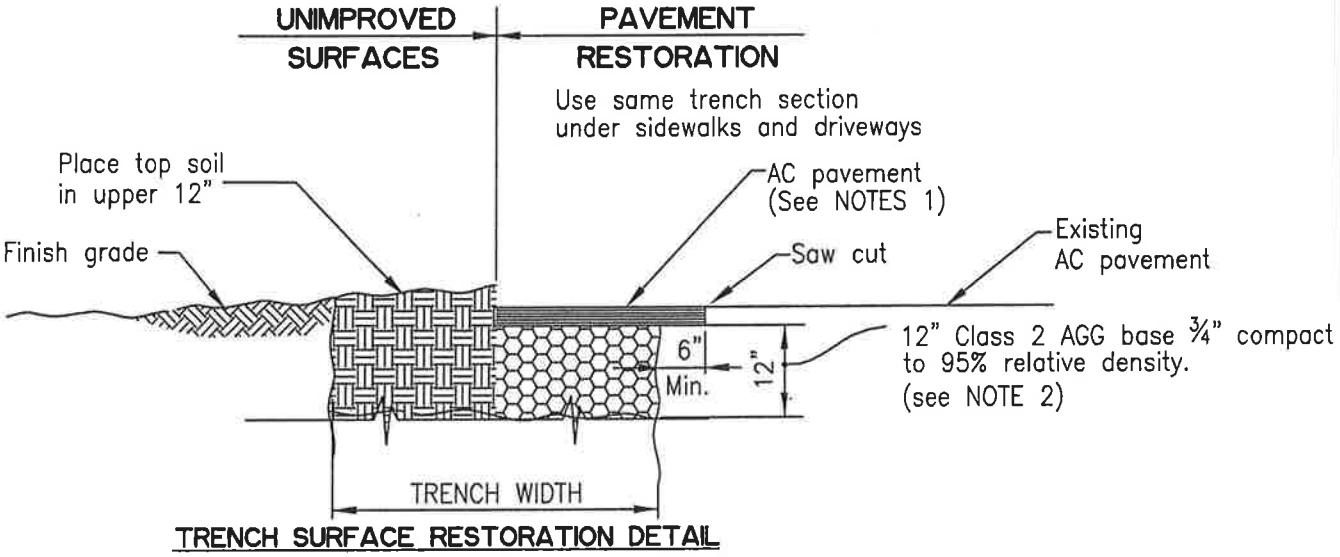
No	Revision	Date	By

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

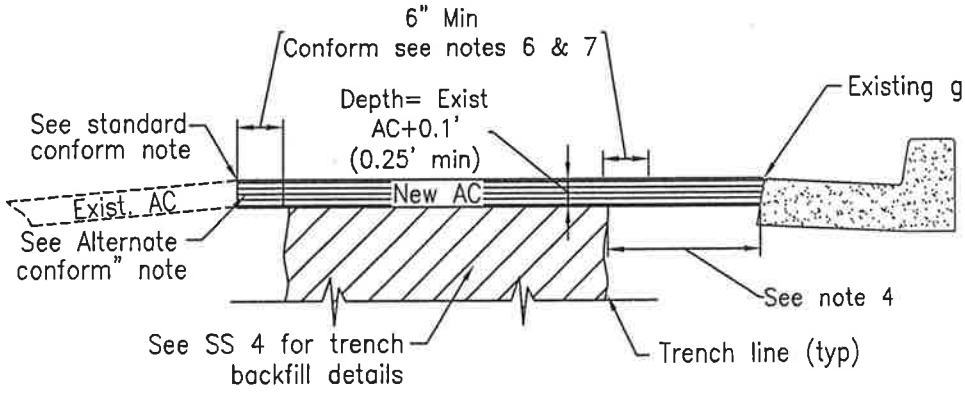
LEGEND & NOTES - SIDEWALKS, DRIVEWAYS, AND CURB & GUTTER

Approved: [signature] Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-07)

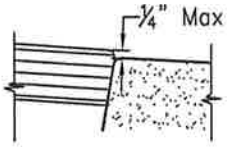
ST 7



TRENCH SURFACE RESTORATION DETAIL



DETAIL AT GUTTER
SCALE: 1/2"=1'-0"



DETAIL A
Gutter Lip Paving
SCALE: 1"= 1'

NOTES:

1. Match existing asphalt thickness plus 1" (3" thick minimum).
2. When approved by the engineer CDF may be used as an alternate for AGG base for shallow pipelines providing measures are taken to prevent pipe flotation.
3. The final lift of AC in streets shall be compacted with a roller approved by the engineer.
4. When the trench parallels curb and the nearest trench line is less than 2 feet from the gutter lip or curb when no gutter exists, all existing asphalt concrete shall be replaced to the gutter lip. For gutter lip paving detail see DETAIL "A".
5. Asphalt concrete shall be ½" Type A asphalt concrete unless otherwise specified or directed by the city engineer.
6. The asphalt concrete shall be cut through the full depth of existing asphalt concrete to a neat straight line at least 6" outside the trench line. Pavement edges damaged during construction shall be re-cut to neat lines prior to paving. Point binder (tack coat) shall be applied to all vertical surfaces in accordance with the latest edition of Caltrans Standard Specifications.
7. The existing asphalt concrete outside the trench line may be ground to a minimum depth of 0.20 feet to a neat straight line at least 6" outside the trench lne. The existing asphalt concrete at the trench lines shall be cut through the full depth of the existing asphalt concrete to a neat straight line. Any pavement edges, including ground edges, damaged during construction shall be re-cut or re-ground to neat lines prior to paving. Point binder (tact coat) shall be applied to all vertical surfaces in occordance with latest edition of Caltrans Standard Specifications.

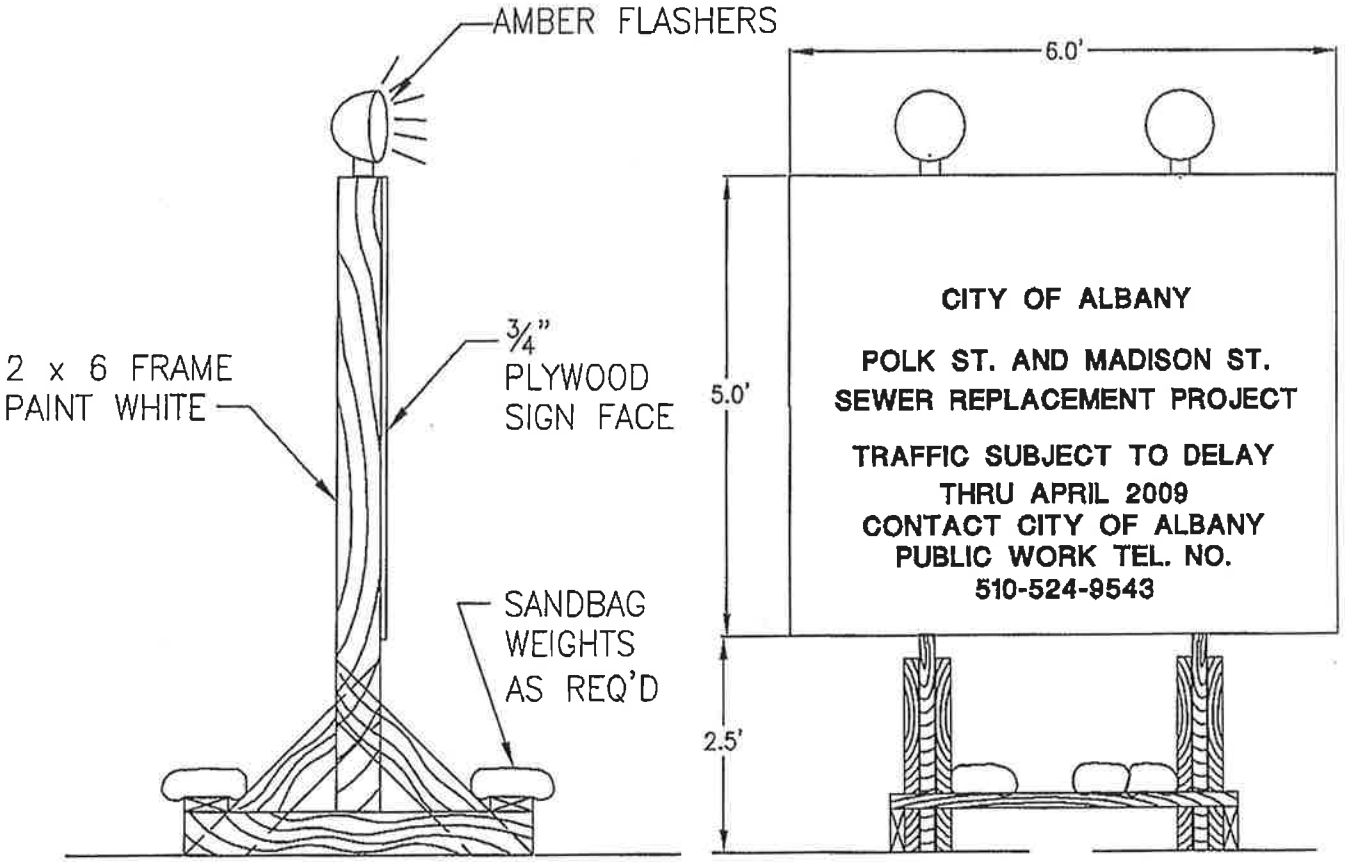
No	Revision	Date	By
2	Change Detail reference to Notes 4, 6 &7	4/12/10	RWL
1	Delete trench details/add pavement details	2/22/06	RWL

CITY OF ALBANY
ALAMEDA COUNTY, CALIFORNIA

TRENCH SURFACE RESTORATION DETAIL

Approved: Randall W. Fosten Date: 7-21-00
City Engineer RCE 29392 (Exp. 3-31-11)

ST 9



SCALE: 1/2"=1'-0"

NOTE:

SIGNS SHALL HAVE SERIES D BLACK LETTERS ON REFLECTIVE WHITE BACKGROUND

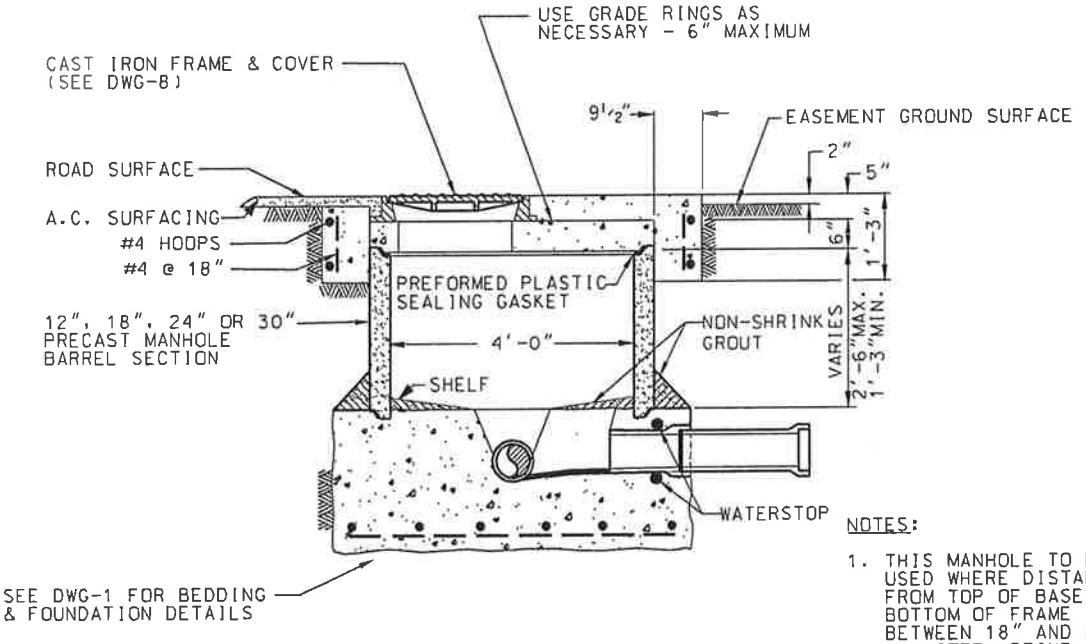
PLACE TYPE I SIGNS IN A VISIBLE LOCATION ON EITHER SIDE OF WORK AREA

CENTRAL CONTRA COSTA SANITARY DISTRICT

MARTINEZ, CALIFORNIA

SHALLOW MANHOLES

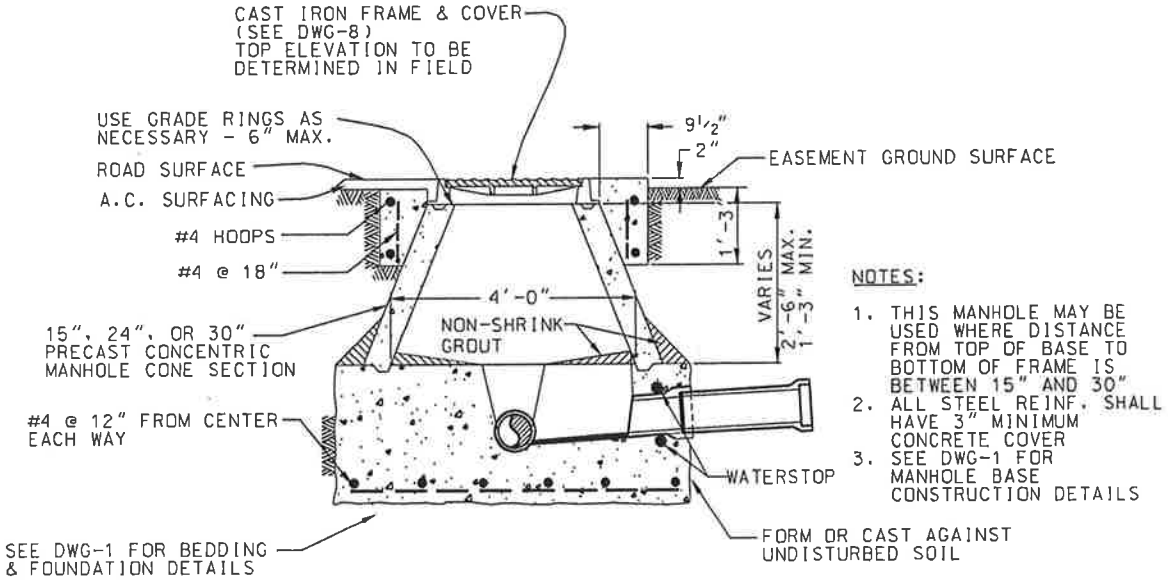
(SPECIAL APPROVAL REQUIRED)



NOTES:

1. THIS MANHOLE TO BE USED WHERE DISTANCE FROM TOP OF BASE TO BOTTOM OF FRAME IS BETWEEN 18" AND 36"
2. ALL STEEL REINF. SHALL HAVE 3" MINIMUM CONCRETE COVER
3. SEE DWG-1 FOR MANHOLE BASE CONSTRUCTION DETAILS

SECTION (TYPE I)



NOTES:

1. THIS MANHOLE MAY BE USED WHERE DISTANCE FROM TOP OF BASE TO BOTTOM OF FRAME IS BETWEEN 15" AND 30"
2. ALL STEEL REINF. SHALL HAVE 3" MINIMUM CONCRETE COVER
3. SEE DWG-1 FOR MANHOLE BASE CONSTRUCTION DETAILS

SECTION (TYPE 2)