STAFF REPORT

To: **Coastside County Water District Board of Directors**

From: **David R. Dickson, General Manager**

Agenda: **July 12, 2016**

Date: **July 5, 2016**

Subject: **Approval of Water Service Agreement – Stoloski Subdivision Project**

Recommendation:
Approve the attached Water Service Agreement between Coastside County Water District and Mark Stoloski & Robert Gonzalez for construction of pipeline extensions along Champs Elysees and Pullman Avenue.

Background:
The attached Water Service Agreement provides for construction of the water utility system that will serve the newly created parcels at the end of Champs Elysees and Pullman Avenue in Half Moon Bay. The project consists of approximately 90 linear feet of 6" diameter pipeline along Pullman Avenue and approximately 80 linear feet of 6" diameter pipeline along Champs Elysees.

Fiscal Impact:
None. All costs for engineering review, construction inspection, meter installation, administrative support, and other District activities associated with providing water service for the subdivision are paid by the applicant.

WATER SERVICE AGREEMENT

STOLOSKI / PULLMAN AVENUE AND CHAMPS ELYSEE BLVD
NON COMPLEX PIPELINE EXTENSION PROJECT

THIS AGREEMENT is made as of this ____ day of _____, 2016, between COASTSIDE COUNTY WATER DISTRICT ("District"), and MARK STOLOSKI AND ROBERT GONZALEZ (collectively, the “Applicant”).

THE PARTIES AGREE AS FOLLOWS:

1. RECITALS

This Agreement is entered into with regard to the following facts and circumstances.

A. District is a public corporation organized under the provisions of the California Water Code and is engaged in the storage, transmission and sale of water for domestic purposes within San Mateo County.

B. Applicant is the owner of real property located within the geographic limits of the District known as Assessor Parcel Numbers (APN) 048-133-030; 048-133-040; 048-133-050 and 048-133-060 in the City of Half Moon Bay, State of California (collectively, the "Property"), which is shown on Exhibit A.

C. Applicant has purchased, and has the right to install, four (4) five-eighth-inch (5/8") non-priority connections assigned as one five-eighth inch (5/8”) individually to APN’s 048-133-030; 048-133-040; 048-133-050 and 048-133-060.

D. Applicant has requested the installation of the following: (1) a six-inch pipeline extension approximately ninety (90) feet in length along Pullman Avenue; (2) a six-inch pipeline extension approximately eighty (80) feet in length along Champs Elysee Blvd; (3) four three quarter inch domestic service connection; (4) one-inch fire service connections; (5) fire hydrant; and all related appurtenances (collectively, the "Project"). Applicant represents and warrants that Applicant has obtained any and all permits and approvals necessary to construct the Project on the Property, including a Coastal Development Permit.

2. APPROVAL OF PROJECT UTILITY SYSTEM

The Project Utility System, as defined below, shown on and described in the Improvement Plans prepared by Sigma Prime Geosciences, Inc., dated February 29, 2106 and the Bridge Plan prepared by Praxis, dated December 14, 2015 (collectively, the "reviewed submittal documents") are approved. Copies of the reviewed submittal documents are incorporated herein by this reference as Exhibit B.

"Project Utility System" means the water mains, service lines, fittings, valves and housing thereof, fire hydrant, manholes, and all appurtenances thereto, as depicted and described in the reviewed submittal documents. The Project Utility System does not include the water mains on the Applicant side of the meter or the backflow prevention devices, all of which will be owned and maintained by Applicant.

3. INSTALLATION

A. Applicant shall commence installation of the Project Utility System no later than three (3) months, subject to extension for force majeure events not the fault of Applicant, after the date of this Agreement and shall complete its installation within twelve (12) months after the date of this Agreement. If installation is not commenced or completed by such dates, the District may terminate this Agreement, unless the delay is solely attributable to events, such as fire, flood or earthquake, which are beyond the control of, and not the fault of, Applicant.

B. Applicant shall install the Project Utility System in accordance with (1) the location and sizes shown on the reviewed submittal documents identified in Section 2; (2) the District's "Standard Specifications and Construction Details," a copy of which has previously been furnished to Applicant; and (3) the further reasonable directions of the District Engineer.

4. SUBMITTAL OF PROPOSAL FOR REVIEW AND APPROVAL BY DISTRICT.

Applicant is responsible for obtaining a proposal for construction of the Project from a licensed, qualified contractor to construct the Project (“Proposal”). The contractor shall possess a valid California Contractor’s License (Class A or C34). The contractor shall have satisfactorily completed construction of a minimum of 5 similar pipeline projects, and shall, if requested, submit a list of these projects together with the telephone number of the owner’s representative who can be contacted regarding the work. Prior to commencement of construction, Applicant

shall furnish a copy of the Proposal, along with evidence satisfactory to the District that the contractor possesses the necessary license and experience to construct the Project Utility System.

5. INSPECTION; CONSTRUCTION

A. Prior to commencing construction, Applicant shall furnish to the District Engineer, at Applicant's expense, a report by a competent soils engineer or soils laboratory indicating that the compaction of the fills within which said facilities are to be installed is at least equal to ninety-five percent (95%) compaction, as that phrase is defined in the latest edition of the Standard Specifications, State of California, Department of Transportation, or meets such other criteria as the District Engineer may prescribe.

B. Applicant shall notify District in writing at least ten (10) days in advance of the proposed starting date for construction and shall not commence construction unless the District Engineer or other authorized District inspector is at the site of the work when construction begins. District agrees to make the District Engineer or other authorized District inspector available to be on site, provided the ten (10) days advance notice is given by Applicant. If construction is not continuous, District shall be notified at least forty-eight (48) hours in advance of the resumption of construction. Any work performed without notice to District may be rejected by District on that ground alone. The District Engineer will observe and inspect facilities solely to protect the interests of the District and to determine whether the completed work is acceptable to District and can be incorporated into the District system. The District does not assume thereby any responsibility for the operations or safety practices of Applicant. Applicant is responsible for correct location of all facilities which it installs. The District Engineer will not inspect facilities installed "downstream" of the individual meter boxes.

C. Applicant shall permit District's employees and authorized representatives to inspect the Project Utility System, and the plans and materials therefore, at any reasonable time before, during, or after installation.

D. Applicant shall repair at its expense (or, at the option of District, shall reimburse District for the actual cost of repairs effected by it) any damage to District property caused by Applicant, its agents, employees, or contractors in constructing the Project Utility System.

6. PAYMENT OF FEES AND CHARGES

The Applicant will pay applicable fees and charges as follows:

A. Transmission and Storage Fees. None Due. Applicant has previously paid transmission and storage fees for four (4) five eighth-inch non-priority service connections.

B. Water Meter and Water Meter Installation Fees. None Due. Applicant will be billed separately for actual cost of the required meters at the time of plan review and meter installation for each parcel.

C. Initial Filing Fee. None due. The District acknowledges receipt of a non-refundable initial filing fee in the amount of $250.

D. Plan Check and Construction Inspection Fees. Concurrently with the execution this Agreement, Applicant shall pay the sum of six thousand five hundred dollars ($6,500.00), which is the amount due for the District staff and Engineer's costs in reviewing final plans, inspecting the construction of the project Utility System, modification of water system maps, administrative, legal and auditing costs. A final accounting will be performed prior to acceptance of the Project Utility System. Applicant shall pay additional fees if the deposit does not cover District costs for providing these services.

E. Total Payment Due with Agreement. The total payment due concurrently with the exectuion of the Agreement shall be six thousand five hundred dollars ($6,500.00), which represents the sum of fees listed in paragraphs A, B, C and D above.

7. BONDS

Prior to commencement of construction, Applicant shall furnish to District the following bonds:

A. A Payment Bond in the amount of 100% of the Proposal amount, to guarantee payment of the obligations referred to in Section 3248 of the Civil Code;

B. A Performance Bond in the amount 100% of the Proposal amount, to guarantee faithful performance of the terms of this Agreement; and

C. A Maintenance Bond in the amount of 10% of the Proposal amount, to guarantee against defective materials and faulty workmanship for a period of two (2) years from and after the acceptance of the Project Utility System by District.

The bonds shall be in a form satisfactory to District. The surety or sureties must be qualified to do business in California. If any of the sureties, in the sole opinion of District, is or becomes irresponsible, District may require other or additional sureties which Applicant shall furnish to the satisfaction of District within ten (10) days after notice from District. In default thereof, District shall be released from all obligations under this Agreement. No prepayment or delay in payment and no change, extension, addition, or alteration or any provision of this Agreement or in the approved submittal documents referred to in Section 2, above, and no forbearance or acceptance by or on the part of District shall operate to release any surety from liability on a bond.

8. INDEMNITY

A. District shall not be responsible or held liable in any manner whatsoever for any injury or damage which may be done to any person or property (or other loss or liability) arising from the performance or failure to perform the obligations set forth in this Agreement and the installation of the Project Utility System by or on behalf of Applicant.

B. Applicant, on its behalf and on behalf of its successors in interest, hereby agrees to waive any claims against District arising from or related to the events and activities described in Subsection A, above, and to indemnify, defend and hold harmless the District, its directors, officers, employees, and agents from and against any and all liability for the death of or injury to any person and for the loss of, or damage to, any property (including the loss of its use) which may arise from such events and activities. The agreements contained in this paragraph shall survive the performance of the remainder of this Agreement and shall remain in full force and effect notwithstanding such performance.

9. INSURANCE

A. Applicant or its construction contractor shall, at its cost, maintain in full force and effect during the period beginning with commencement of construction of the Project Utility System and terminating no earlier than thirty (30) days after completion thereof and

approval by District for its connection with the District's distribution system, a policy or policies of liability insurance, as follows:

1. Bodily and personal injury liability in an amount not less than One Million Dollars ($1,000,000.00) per person and Two Million Dollars ($2,000,000.00) per occurrence; and

2. Property damage insurance in an amount not less than One Million Dollars ($1,000,000.00) per occurrence.

Such policies shall insure District as an additional insured against any and all liability for the death of or injury to any person and for the loss of or damage to any property which may arise by reason of acts done or omitted to be done as a result of the installation of the Project Utility System by or on behalf of Applicant and shall further insure District against any and all costs and expenses, including attorneys fees, which District may incur in resisting any claim which may be made against District for any such injury or damage.

B. Each such policy shall:

1. be issued by an insurance company or companies qualified to do business in California and approved in writing by District;

2. name District, its Directors, officers, agents and employees, as additional insureds;

3. specify that it acts as Primary Insurance; the insurer being liable thereunder for the full amount of any loss up to and including the total limit of liability without right of contribution from any insurance effected by District;

4. provide that the policy shall not be cancelled or altered without thirty (30) days' prior written notice to District (or Applicant shall provide this written notice to the District); and

5. otherwise be in form reasonably satisfactory to District.

C. Applicant or its contractor shall provide, and maintain at all times during the course of installation of the Project Utility System, Worker's Compensation Insurance in conformance with the laws of the State of California. Such policy shall provide that the

underwriter thereof waives all right of subrogation against District by reason of any claim arising out of or connected with installation of the Project Utility System and that such policy shall not be cancelled or altered without thirty (30) days' prior written notice to District.

D. Copies of all policies required above (or Certificates of Insurance satisfactory to District) shall be delivered to District at least ten (10) days prior to commencement of construction of the Project Utility System.

10. CONVEYANCE OF TITLE TO PROJECT UTILITY SYSTEM

Full right, title and interest in and to all elements of the Project Utility System installed pursuant hereto will be granted to District upon written notice of acceptance thereof by District and without the necessity for any further action by Applicant. There shall be no obligation upon District to pay or reimburse to Applicant any part of the cost of Project Utility System. Applicant warrants that upon such passage of title to District, the title shall be free and clear from any and all mechanics and materialmen liens that could arise from construction of the Project Utility System, charges and encumbrances whatsoever. The water meters described in Section 2, above, are and will remain the property of District.

11. ACCEPTANCE BY DISTRICT

District shall accept the Project Utility System when all of the following conditions have been met: (1) completion of the Project Utility System; (2) certification by Superintendent and or District Engineer upon completion that the Project Utility System has been constructed in accordance with this Agreement; (3) furnishing by Applicant of evidence that it has paid all costs incurred in constructing the Project Utility System; (4) performance by Applicant of all of its obligations under this Agreement which are to be completed prior to acceptance of the Project Utility System, including payment of all sums due the District; and conveyance of all easements; and (5) furnishing by Applicant of two sets of nonammonia-type mylar reproducible drawings of the completed improvements showing "as-built" conditions.

Upon acceptance, and payment for the cost of meter installation, District shall provide water utility service to the Project.

Upon acceptance, Applicant shall be relieved of all future obligation to maintain the Project Utility System, subject to its obligation to repair defects, which obligation is secured

by the maintenance bond provided for in Section 6.C., for the duration of the term of such bond (i.e., two years after acceptance).

12. EXECUTION AND PERFORMANCE OF AGREEMENT

Execution of this Agreement is a condition precedent to issuance by District of any letters, approvals, consents, or communications to any state, municipal, local or other public bodies regarding the availability of water service to the Property from the Project. Full performance of and compliance with each and every term of this Agreement by Applicant is a condition precedent to water service by District.

13. DISTRICT REGULATIONS

Applicant shall at all times abide by and faithfully observe any and all District ordinances, resolutions, rules and regulations presently in effect, including current fee schedules, or which may hereafter be enacted or amended from time to time, including but not limited to *Regulations Regarding Water Service Extensions and Water System Improvements*; *Engineering and Construction Standards*; *Approved Materials* (codified through Resolution No. 2003-11, March 2004), a copy of which has previously been furnished to Applicant.

14. ASSIGNMENT

Applicant's rights under this Agreement may be assigned only in connection with a sale or conveyance of the Property. No such assignment shall be valid or binding on the District unless the assignee executes a written instrument, in form and substance satisfactory to District, assuming all of Applicant's obligations under this Agreement, which have not been fully performed as of the date of assignment. Such assignment shall not release Applicant from any of its obligations to District under this Agreement.

This Agreement shall be binding upon and shall inure to the benefit of the parties and their successors and permitted assigns. If the Applicant or a permitted successor or assign shall disincorporate, forfeit its articles or right of incorporation, or otherwise fully terminate without a successor or assign, District shall as of the date of disincorporation, forfeiture or termination own the Project Utility System free and clear of any obligation to any party.

15. NOTICE

Any notice required by this Agreement shall be satisfied by a notice in writing, either delivered personally or sent by regular or certified mail, postage prepaid, and addressed as follows:

District: Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
Attention: David R. Dickson, General Manager

Applicant: Mark Stoloski & Robert Gonzalez
727 Main Street
Half Moon Bay, CA 94019

16. CONSTRUCTION OF AGREEMENT

Both parties have participated in preparing this Agreement. This Agreement shall be construed reasonably and not in favor of or against either party hereto on the grounds that one party prepared the Agreement.

17. ENTIRE AGREEMENT

This Agreement, including the Exhibits which are hereby incorporated by reference, contains the entire agreement between the parties hereto. No oral understandings, statements, promises or inducements contrary to the terms of this Agreement exist.

18. APPLICABLE LAW

This Agreement shall be governed by and construed and enforced in accordance with and subject to the laws of the State of California. Except as expressly provided for herein, this Agreement is not intended to, and does not, modify the District's rights to exercise the legislative discretion accorded to it by the laws of California. Any lawsuit related to this Agreement shall be commenced and prosecuted in the County of San Mateo, State of California.

19. AMENDMENT

Any amendment hereof, including any oral modification allegedly supported by new consideration, shall not be effective unless reduced to a writing signed by both parties.

20. AUTHORIZED SIGNATURE

The individuals whose names are subscribed to this Agreement represent that they are authorized to act on behalf of the party for whom they sign.

21. TIME

Time is of the essence of the Agreement.

IN WITNESS WHEREOF the parties hereto have executed this Agreement as of the day and year first above written.

DISTRICT: **COASTSIDE COUNTY WATER DISTRICT**	**APPLICANT:** **MARK STOLOSKI & ROBERT GONZALEZ**
By:_____ President, Board of Directors	By:_____ Mark Stoloski, Owner
By:_____ Secretary	By:_____ Robert Gonzalez, Owner

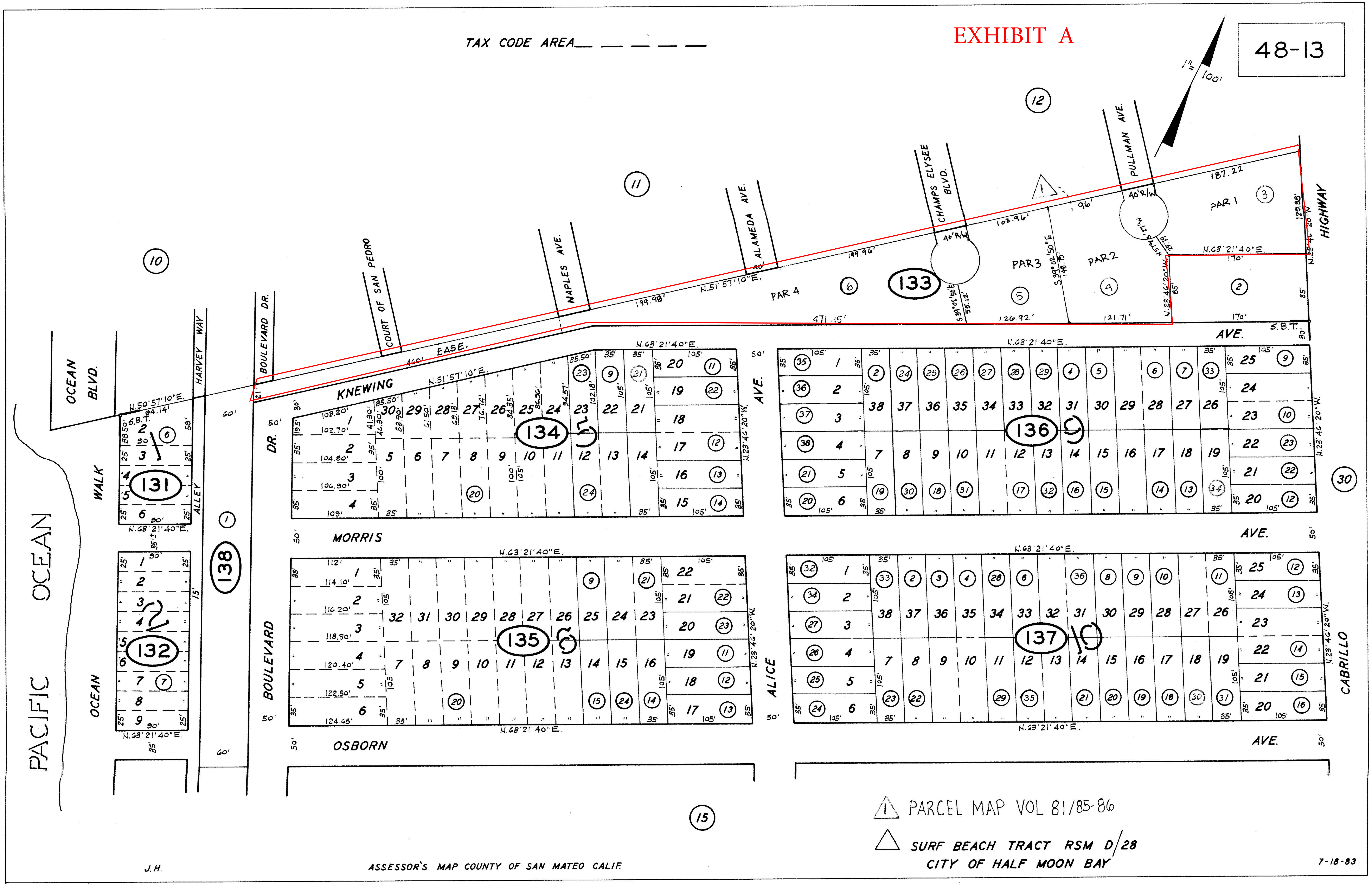


EXHIBIT A
48-13
TAX CODE AREA
1" = 100'
PACIFIC OCEAN
OCEAN BLVD.
HARVEY WAY
BOULEVARD DR.
COURT OF SAN PEDRO
NAPLES AVE.
ALAMEDA AVE.
CHAMPS ELYSEE BLVD.
PULLMAN AVE.
HIGHWAY
KNEWING EASE.
WALK
ALLEY
OCEAN
BOULEVARD
MORRIS
OSBORN
ALICE AVE.
AVE.
CABRILLO
PAR 1
PAR 2
PAR 3
PAR 4
131
132
133
134
135
136
137
138
PARCEL MAP VOL 81/85-86
SURF BEACH TRACT RSM D/28
CITY OF HALF MOON BAY
ASSESSOR'S MAP COUNTY OF SAN MATEO CALIF.
J.H.
7-18-83

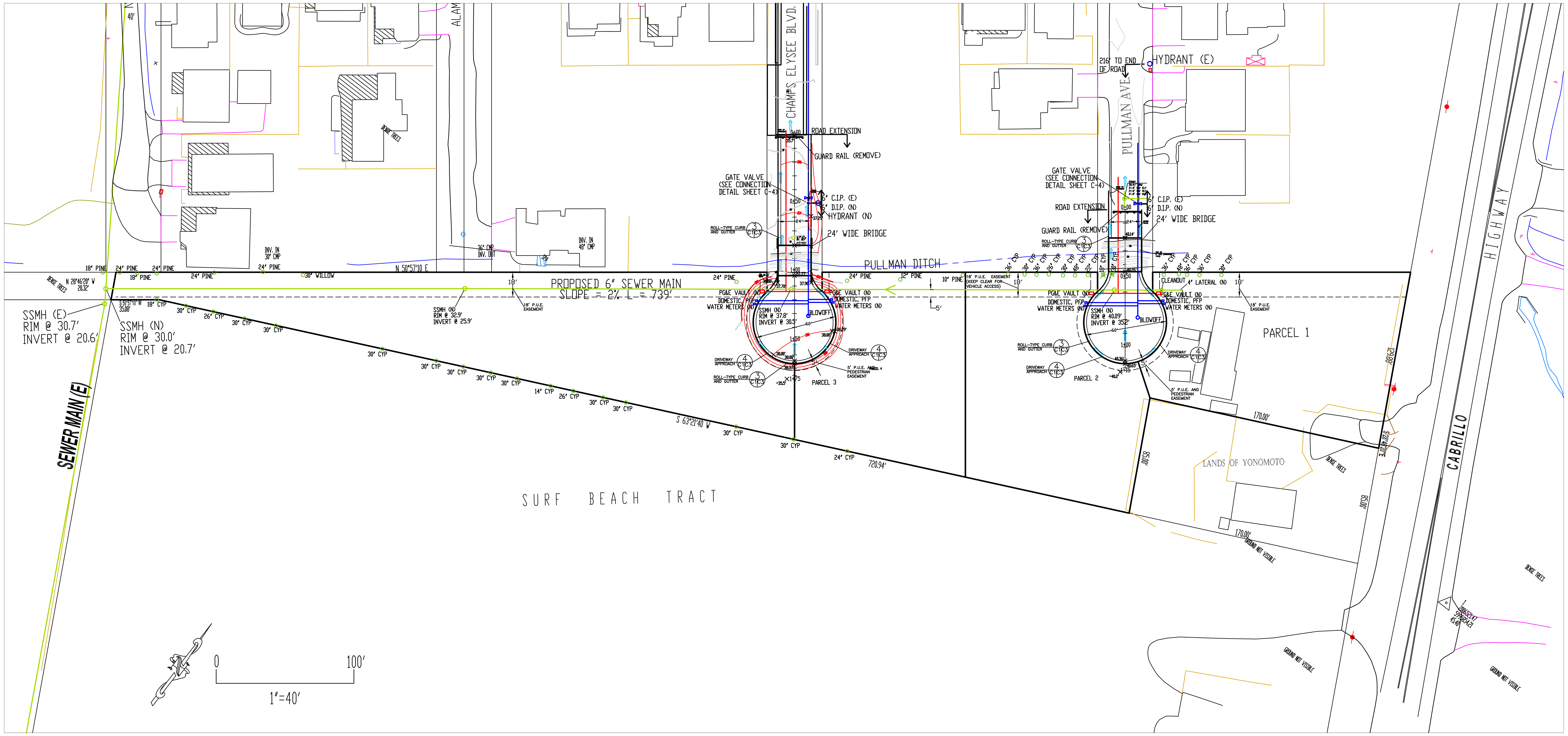
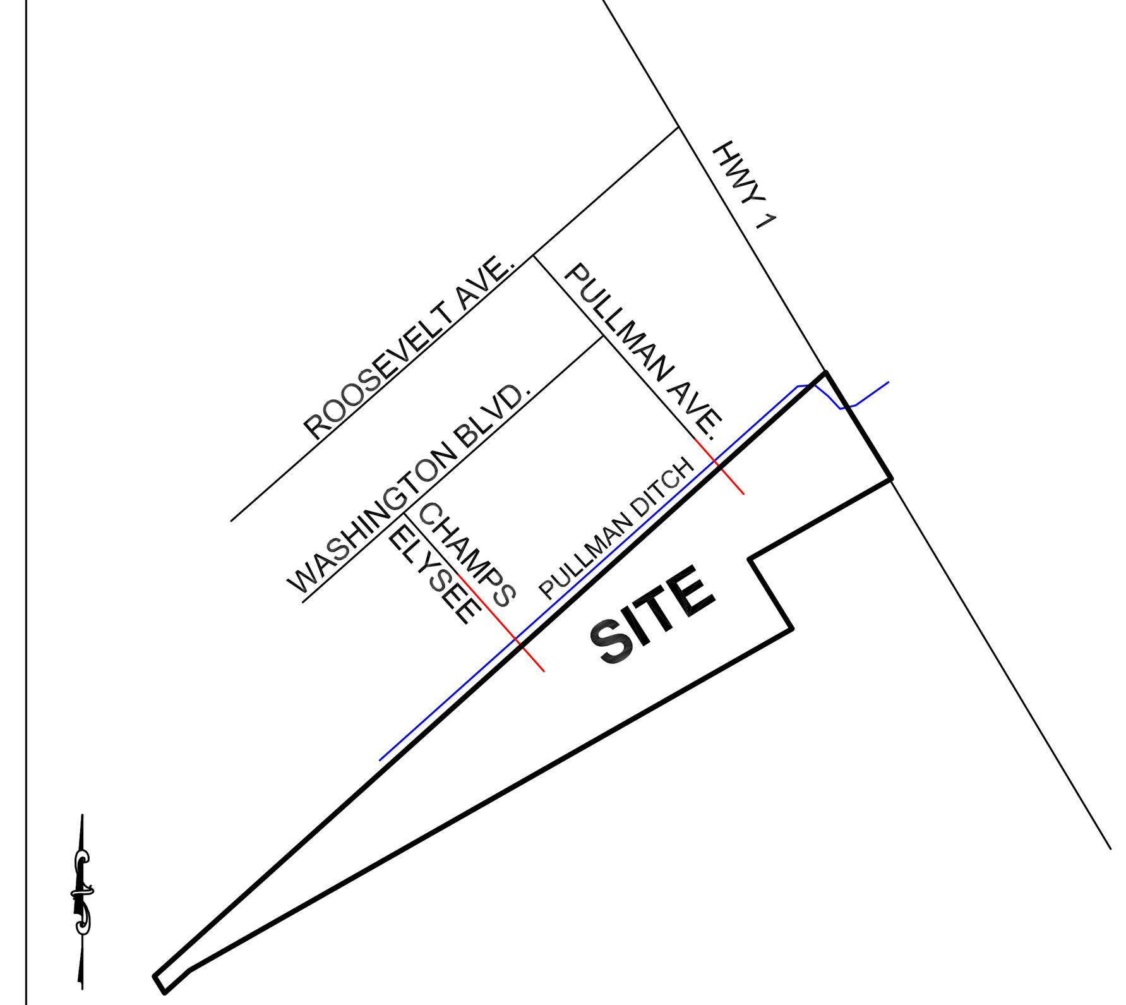


EXHIBIT B



SITE LOCATION MAP - not to scale

LEGEND

(gray line)	EXISTING CONTOURS
(red line)	PROPOSED CONTOURS
(blue arrow)	SURFACE DRAINAGE FLOW
(green X)	TREE TO BE REMOVED
SSMH	SANITARY SEWER MANHOLE
SS	SEWER MAIN
INV	INVERT
PFP	PERSONAL FIRE PROTECTION

GENERAL NOTES

1. PLANS PREPARED AT THE REQUEST OF:
   MARK STOLOSKI, OWNER
3. BASE MAP BASED ON SURVEY BY SAVIOR MICALEFF, OCTOBER 2014.
4. VERTICAL DATUM: NAVD88.
5. THIS IS NOT A BOUNDARY SURVEY.

SHEET INDEX

1: IMPROVEMENT PLAN
2: BRIDGE CROSSINGS
3: ROAD DETAILS, SEWER PROFILES
4: WATER DETAILS
5: ~~WATER DETAILS~~
6. SEWER DETAILS (revision 1)

DRAINAGE NOTES

1. EACH ROAD SHALL SLOPE NORTH, TOWARD WASHINGTON BOULEVARD THROUGHOUT, AS SHOWN. NO RUNOFF FROM ROADS SHALL ENTER PULLMAN DITCH.
2. HYDROLOGIC ANALYSES SHOW THAT PROPOSED BRIDGES WILL BE ABOVE ESTIMATED 100-YEAR FLOOD STAGE.
3. ROAD TO BE SLOPED TO SHED RUNOFF TO ROLL-TYPE GUTTERS. CROSS SLOPE SHALL BE A MINIMUM OF 1%.
4. BRIDGE SHALL BE DESIGNED WITH DRAINAGE SWALES TO CONFORM WITH THOSE IN ASPHALT.

EARTHWORK NOTES

CUT VOLUMES: (ESTIMATES FOR ROADS, BASED ON 6-INCH STRIPPING DEPTH TO REMOVE ORGANICS)
CHAMPS ELYSEE BLVD: 100 CY
PULLMAN AVENUE: 70 CY
TOTAL = 170 CY

FILL VOLUMES: (CLASS 2 BASE ROCK BELOW ASPHALT)
CHAMPS ELYSEE BLVD: 135 CY
PULLMAN AVENUE: 170 CY
TOTAL = 205 CY

EARTH FILL VOLUME UNDER CHAMPS ELYSEE CUL DE SAC = 200 CY

LENGTHS OF IMPROVED ROADS:
CHAMPS ELYSEE BLVD: 166.4 FT
PULLMAN AVENUE: 112 FT

WIDTH OF NEW ROADS = 24 FT

ROAD SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO 90 % PRIOR TO PLACING BASE ROCK.

REMOVE ALL ASPHALT, PLANT DEBRIS, AND ORGANIC SOIL PRIOR TO PLACING BASE ROCK.

GENERAL UTILITY NOTES

1. SEWER LINES IN PULLMAN AVENUE AND CHAMPS ELYSEE WILL NOT BE EXTENDED. NEW SEWER MAIN TO CONNECT TO EXISTING MANHOLE TO WEST OF PROPERTIES, AS SHOWN.
2. WATER MAINS SHALL BE EXTENDED FROM WATER MAINS IN PULLMAN AND CHAMPS ELYSEE. LOCATIONS OF EXISTING WATER MAINS TO BE VERIFIED PRIOR TO CONSTRUCITON: LOCATIONS OF ENDS OF EXISTING WATER LINES UNCERTAIN.
3. BOTH NEW WATER MAINS SHALL CROSS DITCH VIA PIPE RAMMING METHOD. STEEL CASING WILL BE INSTALLED WITHIN THE WATER MAIN TRENCH. MINIMUM COVER BETWEEN BOTTOM OF DITCH AND TOP OF CONDUIT SHALL BE 1 FEET.
4. ALL WATER SYSTEM FACILITIES SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE DOCUMENT ENTITLED, "WATER SYSTEM SPECIFICATIONS FOR STOLOSKI PROPERTY DEVELOPMENT".
5. ELECTRIC, CABLE, AND GAS LINES TO BE EXTENDED FROM EXISTING UNDERGROUND LINES IN PULLMAN AND CHAMPS ELYSEE, IN JOINT TRENCHES. LOCATIONS NOT YET KNOWN. PG&E TO PROVIDE DETAILS AND FINAL PLANS.
6. WATER METER BOXES SHALL BE LOCATED ADJACENT TO THE ROLL-TYPE GUTTER. WATER SERVICE LATERALS SHALL BE A MINIMUM DISTANCE OF 10 FEET FROM SANITARY SEWER LATERALS, AND 5 FEET FROM OTHER UTILITIES. WATER METER BOXES SHALL NOT BE LOCATED WITHIN DRIVEWAYS.
7. JOINT TRENCH FACILITES SHALL HAVE A MINIMUM CLEARANCE FROM OTHER UTILITIES OF 4 FEET HORIZONTAL AND 1 FOOT VERTICAL.
8. NO NON-SEWER UTILITIES WITHIN THE P.U.C. EASEMENT SHALL BE WITHIN 5 FEET OF THE SEWER MAIN.
9. REMOVE ALL EXISTING TREES AND BRUSH WITHIN THE P.U.E., EXCEPT FOR TREES SHOWN ON THIS SHEET. (revision 1)

SEWER NOTES

1. NEW SEWER MAIN SHALL BE 6-INCH DIAMETER SDR-26 PVC.

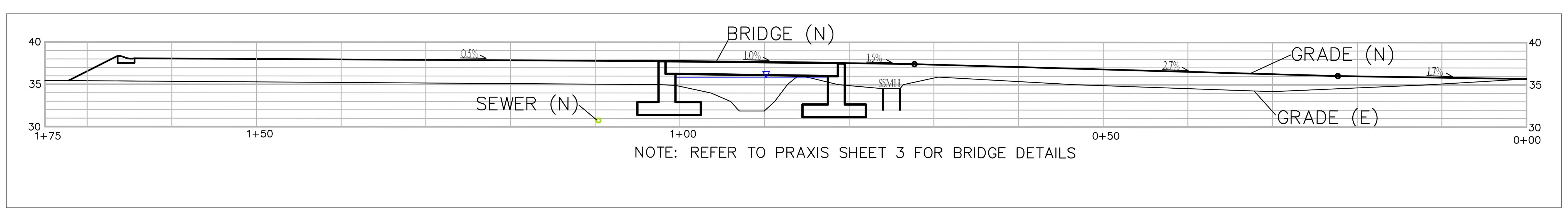
2. LATERAL CONNECTIONS TO SEWER MAIN FOR PARCELS 2, 3, AND 4 SHALL BE MADE USING FITTINGS (6"X4") ON THE SEWER MAIN PER STANDARD DETAILS 14. LOCATIONS OF CONSTRUCTED CONNECTIONS FOR PARCELS 2, 3, AND 4 SHALL BE SHOWN ON THE AS-BUILT DRAWINGS SUBMITTED TO THE DISTRICT. (revision 1)

3. ALL WORK SHALL FOLLOW GRANADA SANITARY DISTRICT STANDARD SPECIFICATIONS AND DETAILS FOR DESIGN AND CONSTRUCTION OF SANITARY SEWER COLLECTION AND CONVEYANCE FACILITIES. FEBRUARY 2003. THE STANDARD DETAILS THAT APPLY TO THIS SEWER MAIN INSTALLATION ARE AS FOLLOWS:

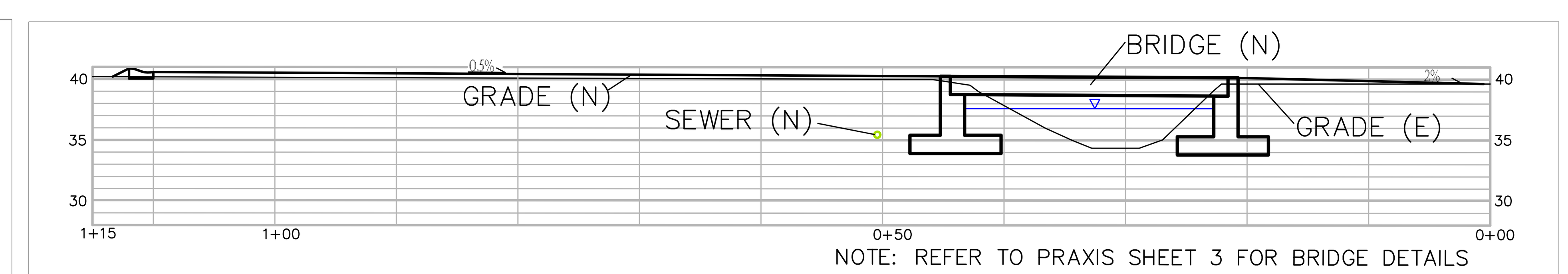
DETAIL STANDARD 1: MANHOLE FRAME AND COVER
DETAIL STANDARD 3: STANDARD MANHOLE
DETAIL STANDARD 4: MANHOLE STEP
DETAIL STANDARD 6: STANDARD BACKFILL
DETAIL STANDARD 10: TYPICAL LATERAL SERVICE CLEANOUT
DETAIL STANDARD 14: LATERAL CONNECTION

SEWER DETAILS ARE SHOWN ON PLAN SHEET 6. (revision 1)

4. CONTACT UNDERGROUND SERVICE ALERT (USA) 800-227-2600 OR 811 AT LEAST 48 HOURS PRIOR TO ANY UNDERGROUND ACTIVITIES.



ROAD PROFILE, CHAMPS ELYSEE 1"=10'



ROAD PROFILE, PULLMAN 1"=10'

REGISTERED PROFESSIONAL ENGINEER
CHARLES M. KISSICK
No. 62264
9-30-17
EXPIRES
CIVIL
STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-29-16	1	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-16.	CMK	AZG	CMK

DATE 2-10-16 CMK DESIGNED	SUBMITTED DATE ____ PROJECT ENGINEER	APPROVED DATE ____
DATE 2-10-16 CMK DELINEATED	SUBMITTED DATE ____ PROJECT ENGINEER	APPROVED DATE ____
DATE 2-10-16 AZG CHECKED	APPROVED DATE ____	APPROVED DATE ____ BRIAN LEE – CITY ENGINEER

HALF MOON BAY

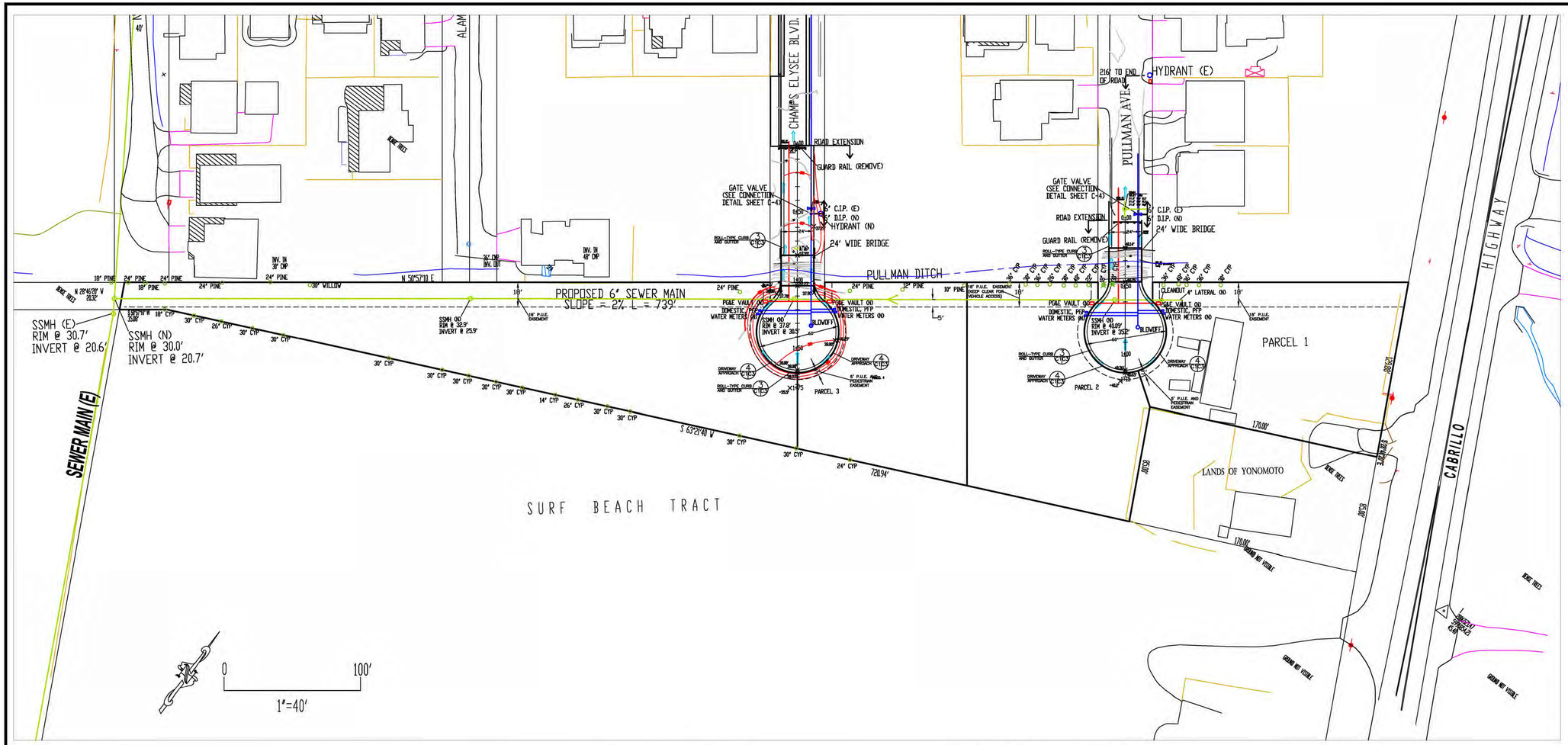
ENGINEERING DIVISION
CALIFORNIA

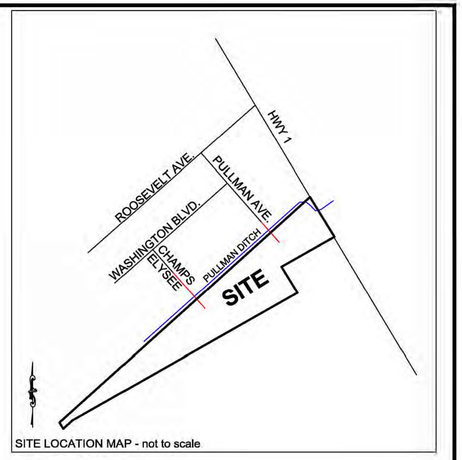
FILE NO.: 10-119 | SCALE: AS SHOWN | CAD FILE: C1 C2 C3 IMPROVEMENT PLANS

Sigma Prime Geosciences, Inc.
332 PRINCETON AVENUE
HALF MOON BAY, CA 94019
(650) 728-3590
FAX 728-3593

IMPROVEMENT PLAN
STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

SHEET NO. 1 OF 6 SHEETS





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SS	SEWER MAIN
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ROAD SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO 90 % PRIOR TO PLACING BASE ROCK.

REMOVE ALL ASPHALT, PLANT DEBRIS, AND ORGANIC SOIL PRIOR TO PLACING BASE ROCK.

GENERAL UTILITY NOTES

1. SEWER LINES IN PULLMAN AVENUE AND CHAMPS ELYSEE WILL NOT BE EXTENDED. NEW SEWER MAIN TO CONNECT TO EXISTING MANHOLE TO WEST OF PROPERTIES, AS SHOWN.
2. WATER MAINS SHALL BE EXTENDED FROM WATER MAINS IN PULLMAN AND CHAMPS ELYSEE. LOCATIONS OF EXISTING WATER MAINS TO BE VERIFIED PRIOR TO CONSTRUCITON: LOCATIONS OF ENDS OF EXISTING WATER LINES UNCERTAIN.
3. BOTH NEW WATER MAINS SHALL CROSS DITCH VIA PIPE RAMMING METHOD. STEEL CASING WILL BE INSTALLED WITHIN THE WATER MAIN TRENCH. MINIMUM COVER BETWEEN BOTTOM OF DITCH AND TOP OF CONDUIT SHALL BE 1 FEET.
4. ALL WATER SYSTEM FACILITIES SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE DOCUMENT ENTITLED, "WATER SYSTEM SPECIFICATIONS FOR STOLOSKI PROPERTY DEVELOPMENT".
5. ELECTRIC, CABLE, AND GAS LINES TO BE EXTENDED FROM EXISTING UNDERGROUND LINES IN PULLMAN AND CHAMPS ELYSEE, IN JOINT TRENCHES. LOCATIONS NOT YET KNOWN. PG&E TO PROVIDE DETAILS AND FINAL PLANS.
6. WATER METER BOXES SHALL BE LOCATED ADJACENT TO THE ROLL-TYPE GUTTER. WATER SERVICE LATERALS SHALL BE A MINIMUM DISTANCE OF 10 FEET FROM SANITARY SEWER LATERALS, AND 5 FEET FROM OTHER UTILITIES. WATER METER BOXES SHALL NOT BE LOCATED WITHIN DRIVEWAYS.
7. JOINT TRENCH FACILITES SHALL HAVE A MINIMUM CLEARANCE FROM OTHER UTILITIES OF 4 FEET HORIZONTAL AND 1 FOOT VERTICAL.
8. NO NON-SEWER UTILITIES WITHIN THE P.U.C. EASEMENT SHALL BE WITHIN 5 FEET OF THE SEWER MAIN.
9. REMOVE ALL EXISTING TREES AND BRUSH WITHIN THE P.U.E., EXCEPT FOR TREES SHOWN ON THIS SHEET. (1)

SEWER NOTES

1. NEW SEWER MAIN SHALL BE 6-INCH DIAMETER SDR-26 PVC.

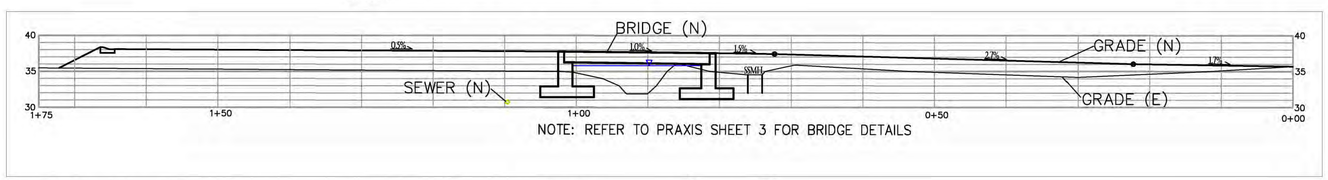
2. LATERAL CONNECTIONS TO SEWER MAIN FOR PARCELS 2, 3, AND 4 SHALL BE MADE USING FITTINGS (6"X4") ON THE SEWER MAIN PER STANDARD DETAILS 14. LOCATIONS OF CONSTRUCTED CONNECTIONS FOR PARCELS 2, 3, AND 4 SHALL BE SHOWN ON THE AS-BUILT DRAWINGS SUBMITTED TO THE DISTRICT. (1)

3. ALL WORK SHALL FOLLOW GRANADA SANITARY DISTRICT STANDARD SPECIFICATIONS AND DETAILS FOR DESIGN AND CONSTRUCTION OF SANITARY SEWER COLLECTION AND CONVEYANCE FACILITIES. FEBRUARY 2003. THE STANDARD DETAILS THAT APPLY TO THIS SEWER MAIN INSTALLATION ARE AS FOLLOWS:

DETAIL STANDARD 1: MANHOLE FRAME AND COVER
DETAIL STANDARD 3: STANDARD MANHOLE
DETAIL STANDARD 4: MANHOLE STEP
DETAIL STANDARD 6: STANDARD BACKFILL
DETAIL STANDARD 10: TYPICAL LATERAL SERVICE CLEANOUT
DETAIL STANDARD 14: LATERAL CONNECTION

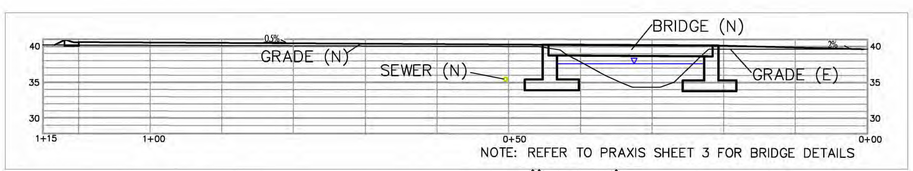
SEWER DETAILS ARE SHOWN ON PLAN SHEET 6. (1)

4. CONTACT UNDERGROUND SERVICE ALERT (USA) 800-227-2600 OR 811 AT LEAST 48 HOURS PRIOR TO ANY UNDERGROUND ACTIVITIES.



NOTE: REFER TO PRAXIS SHEET 3 FOR BRIDGE DETAILS

ROAD PROFILE, CHAMPS ELYSEE 1"=10'



NOTE: REFER TO PRAXIS SHEET 3 FOR BRIDGE DETAILS

ROAD PROFILE, PULLMAN 1"=10'

REGISTERED PROFESSIONAL ENGINEER
CHARLES M. KESSICK
No. 62264
9-30-17 EXPIRES
CIVIL
STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-29-16	1	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-16.	CMK	AZG	CMK

DESIGNED: CMK — DATE 2-10-16 — SUBMITTED — DATE — APPROVED — DATE — PROJECT ENGINEER
DELINEATED: CMK — DATE 2-10-16 — SUBMITTED — DATE — APPROVED — DATE — PROJECT ENGINEER
CHECKED: AZG — DATE 2-10-16 — APPROVED — DATE — APPROVED — DATE — BRIAN LEE - CITY ENGINEER

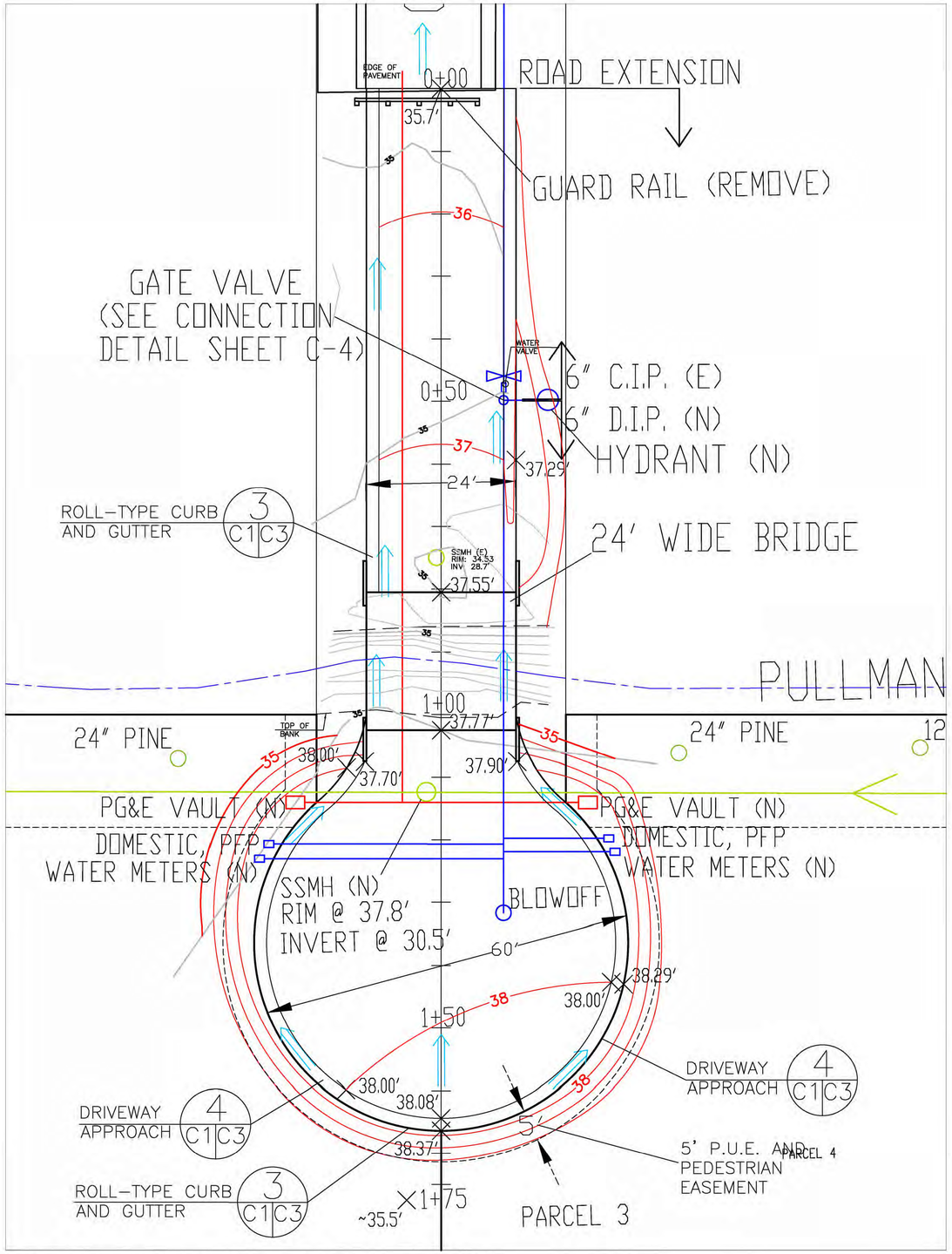
HALF MOON BAY
ENGINEERING DIVISION CALIFORNIA

FILE NO.: 10-119 | SCALE: AS SHOWN | CAD FILE: C1 C2 C3 IMPROVEMENT PLANS

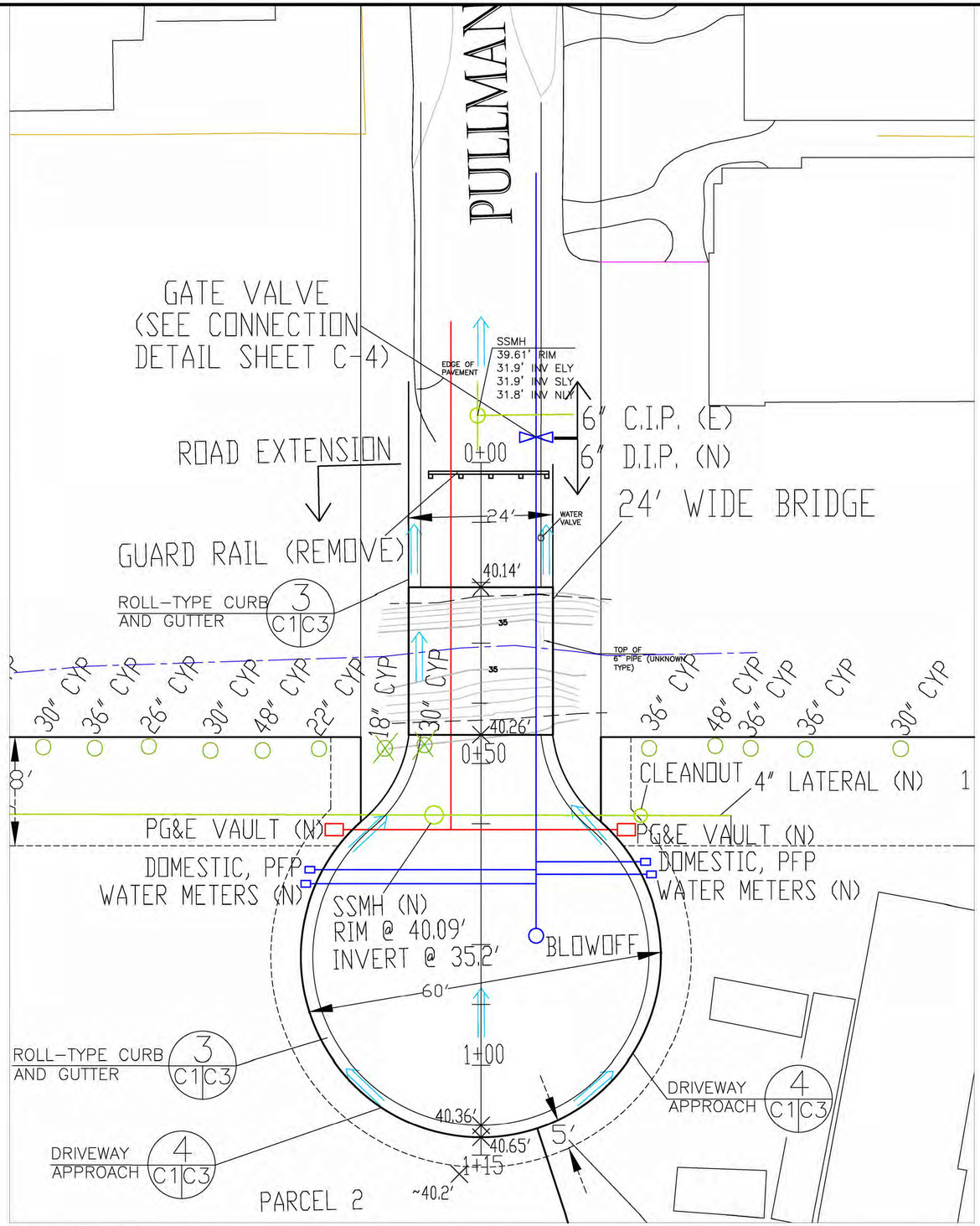
Sigma Prime Geosciences, Inc.
332 PRINCETON AVENUE
HALF MOON BAY, CA 94019
(650) 728-3590
FAX 728-3593

IMPROVEMENT PLAN
STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

SHEET NO. 1 OF 6 SHEETS



PROPOSED CHAMPS ELYSEE BRIDGE 1"=10'



PROPOSED PULLMAN BRIDGE 1"=10'

REGISTERED PROFESSIONAL ENGINEER
CHARLES M. MISSIK
No. 62264
6-30-17
EXPIRES
CIVIL
STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-29-16	1	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-16.	CMK	AZG	CMK

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DELINEATED CMK — DATE 2-10-16 — PROJECT ENGINEER
CHECKED AZG — DATE 2-10-16 — BRIAN LEE – CITY ENGINEER
SUBMITTED — DATE — APPROVED — DATE

HALF MOON BAY
ENGINEERING DIVISION
CALIFORNIA

FILE NO.: 10-119 | SCALE: AS SHOWN | CAD FILE: C1 C2 C3 IMPROVEMENT PLANS

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HALF MOON BAY, CA 94019
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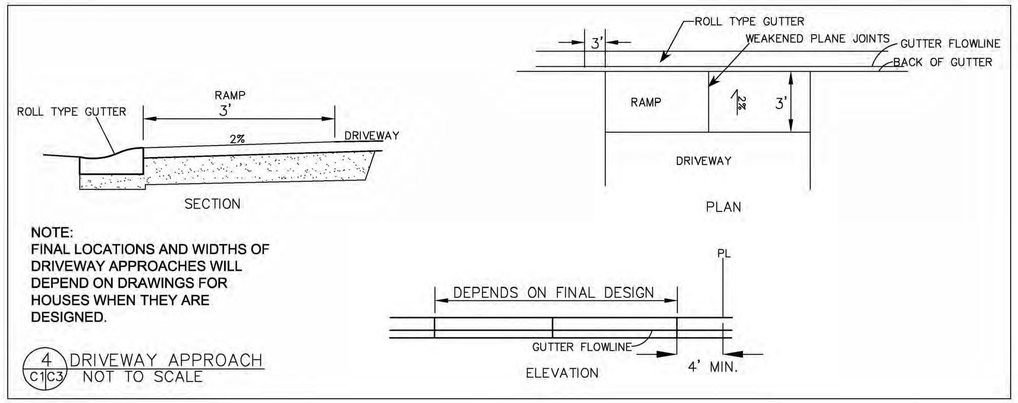
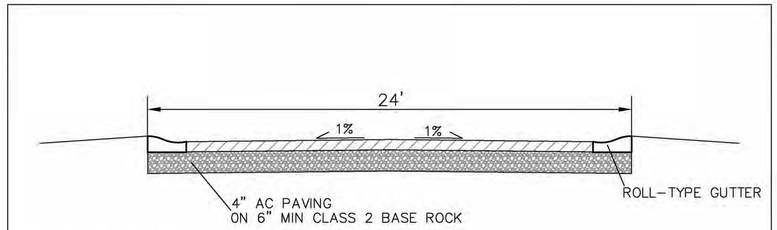
BRIDGE CROSSINGS

STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

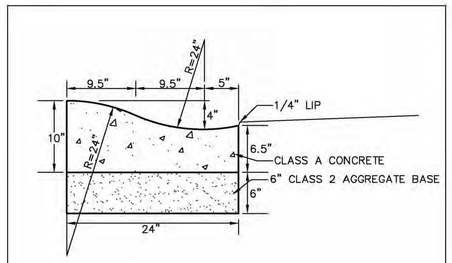
SHEET NO. 2 OF 6 SHEETS



4 C1C3 DRIVEWAY APPROACH
NOT TO SCALE

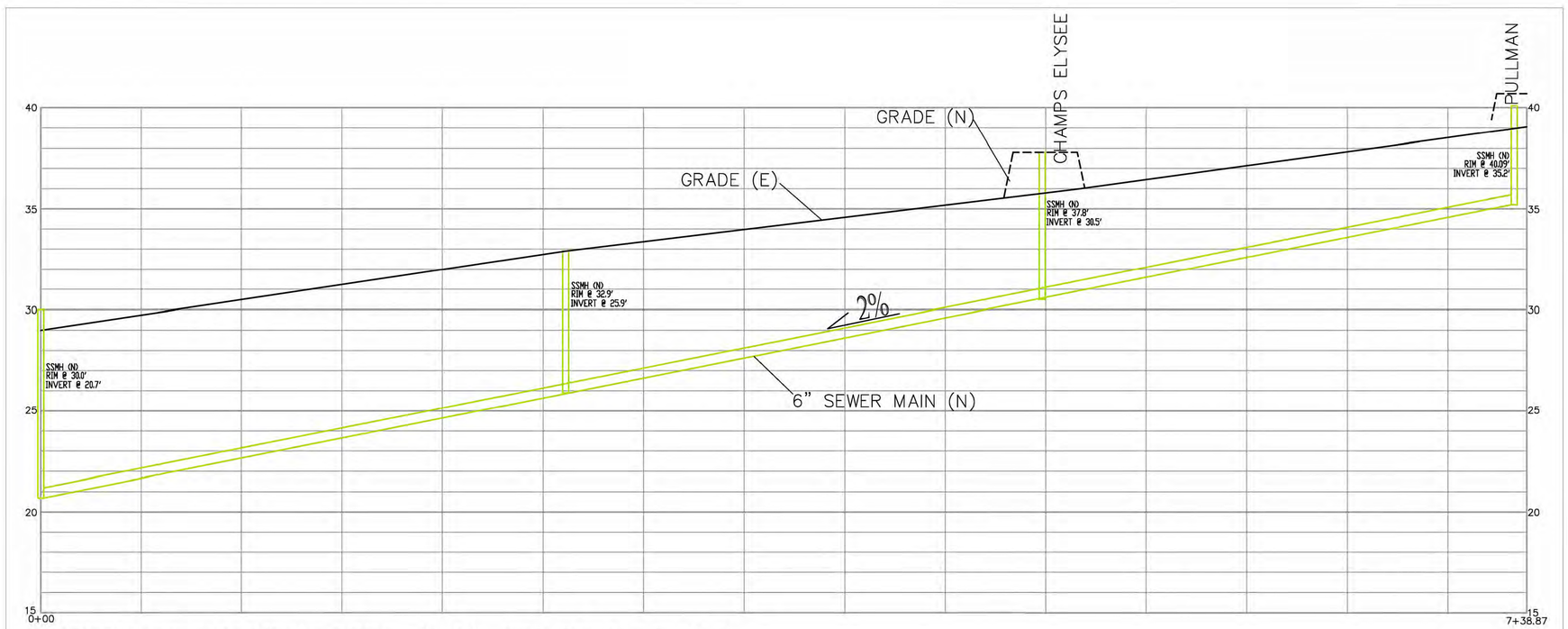


ROAD SECTION, TYP. – NOT TO SCALE



1. CONCRETE GUTTER SHALL BE INSTALLED PRIOR TO PAVING.
2. REINFORCEMENT SHALL CONSIST OF 6"X 6"–#10/#10 WELDED WIRE FABRIC.
3. PLACE 1/2" DIAMETER X 18" LONG DOWELS, AT EXPANSION JOINTS
4. PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER. DEEP SCORE AT 10' INTERVALS BETWEEN EXPANSION JOINTS.

3 C1C3 ROLL–TYPE GUTTER
NOT TO SCALE



SEWER PROFILE HORIZONTAL SCALE: 1"=40' VERTICAL SCALE: 1"=4'

REGISTERED PROFESSIONAL ENGINEER
CHARLES M. KISSICK
No. 62264
9-30-17
EXPIRES
CIVIL
STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-29-16	1	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-16.	CMK	AZG	CMK

DESIGNED CMK DATE 2-10-16 — SUBMITTED DATE ____ — APPROVED DATE ____ — PROJECT ENGINEER
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HALF MOON BAY
ENGINEERING DIVISION
CALIFORNIA

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332 PRINCETON AVENUE
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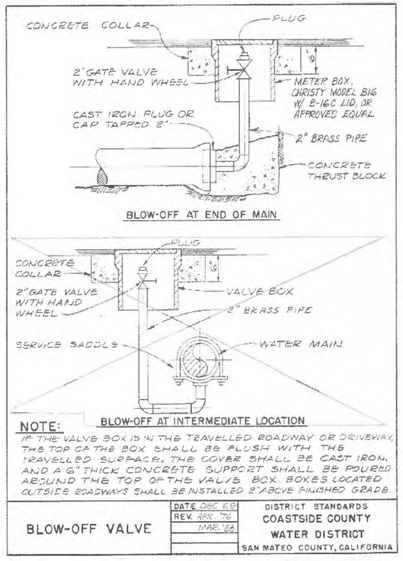
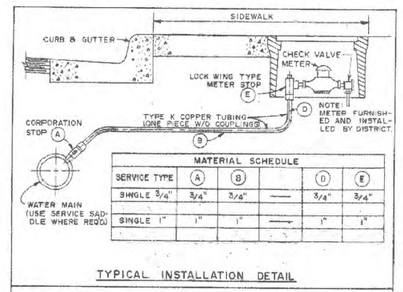
ROAD DETAILS, SEWER PROFILE
STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

SHEET NO. 3 OF 6 SHEETS



NOTE:
IF THE VALVE BOX IS IN THE TRAVELLED ROADWAY OR DRIVEWAY, THE TOP OF THE BOX SHALL BE FLUSH WITH THE TRAVELLED SURFACE, THE COVER SHALL BE CAST IRON, AND A 6" THICK CONCRETE SUPPORT SHALL BE POURED AROUND THE TOP OF THE VALVE BOX. BOXES LOCATED OUTSIDE ROADWAYS SHALL BE INSTALLED 2" ABOVE FINISHED GRADE.

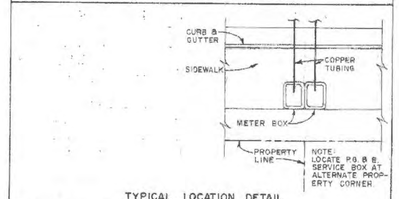
BLOW-OFF VALVE	DATE DEC '63 REV. APR '74 MAR '84	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA



MATERIAL SCHEDULE

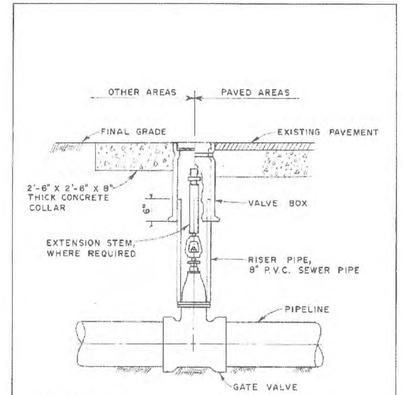
SERVICE TYPE	A	B		D	E
SINGLE 3/4"	3/4"	3/4"	—	3/4"	3/4"
SINGLE 1"	1"	1"	—	1"	1"

TYPICAL INSTALLATION DETAIL



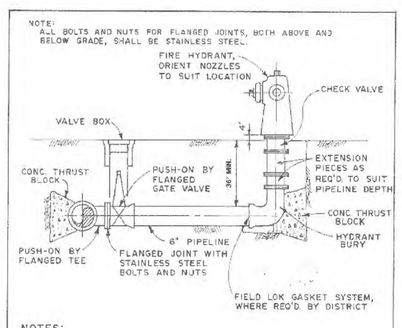
TYPICAL LOCATION DETAIL

3/4" DOMESTIC SERVICE CONNECTION WITH 1" FIRE SERVICE CONNECTION	DATE DEC '73 REV. MAR '83 MAR '08 JULY '09	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA



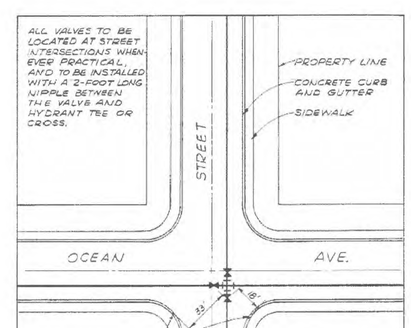
NOTES:
1. SEE SPECIFICATIONS FOR MATERIAL AND ADDITIONAL INSTALLATION REQUIREMENTS.

GATE VALVE (ALL VALVES 12" AND SMALLER)	DATE SEPT '67 REV. JULY 1974 NOV. 1981 JULY 2009	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA



NOTES:
1. HYDRANT SHALL TYPICALLY BE LOCATED 2' BEHIND CURB. IN OTHER AREAS LOCATION SHALL BE DETERMINED IN FIELD BY DISTRICT.
2. USE HORIZONTAL BENDS IN 6" PIPELINE AS REQUIRED, BUT NO VERTICAL BENDS.
3. MATERIALS SHALL CONFORM TO SPECIFICATION REQUIREMENTS.
4. EACH HYDRANT SHALL HAVE 2 – 2½" OUTLETS & 1 – 4½" OUTLET. OUTLETS SHALL BE ORIENTED AS DIRECTED BY DISTRICT.
5. GUARD POSTS, NUMBER AND LOCATION TO BE DETERMINED IN FIELD BY DISTRICT, SHALL BE INSTALLED IN LOCATIONS WITHOUT CURB OR WHERE THE HYDRANT IS NOT ADEQUATELY PROTECTED BY CURB. GUARD POSTS SHALL BE 4" DIA. SCH. 40 GALVANIZED STEEL PIPE, 6 FEET LONG, INSTALLED 3 FEET DEEP IN CONCRETE, AND FILLED WITH CONCRETE.

FIRE HYDRANT	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA



VALVE LOCATION & MARKING	DATE SEPT '67 REV. JULY 1974	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA

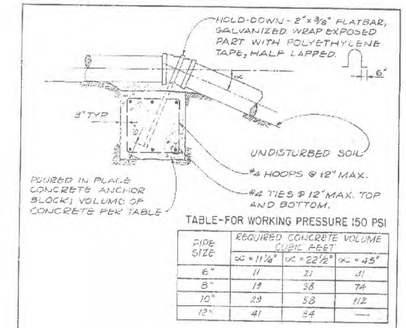
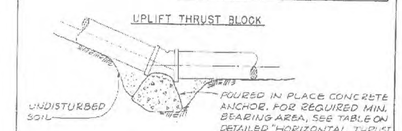


TABLE-FOR WORKING PRESSURE 150 PSI

PIPE SIZE	REQUIRED CONCRETE VOLUME CUBIC FEET		
	α = 11 1/4°	α = 22 1/2°	α = 45°
6"	11	21	41
8"	19	38	76
10"	29	58	112
12"	41	84	—

UPLIFT THRUST BLOCK



DOWNTHRUST THRUST BLOCK

VERTICAL THRUST BLOCKS	DATE DEC '63 REV. JULY 1974 NOV. 1981	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
SHAWES M. KISSICK
No. 62264
9-30-17
EXPIRES
CIVIL
STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-29-16	⚠	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-16.	CMK	AZG	CMK

DESIGNED CMK — DATE 2-10-16 — SUBMITTED — DATE — APPROVED — DATE
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CHECKED AZG — DATE 2-10-16 — APPROVED — DATE — APPROVED — DATE
PROJECT ENGINEER — PROJECT ENGINEER — BRIAN LEE – CITY ENGINEER

HALF MOON BAY
ENGINEERING DIVISION
CALIFORNIA

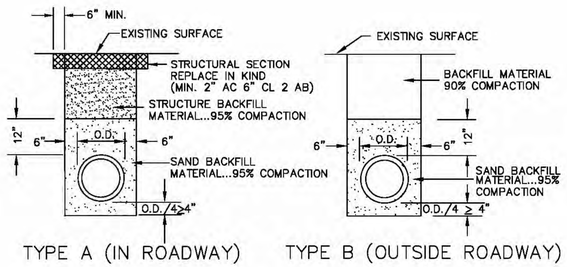
FILE NO.: 10-119 | SCALE: AS SHOWN | CAD FILE: C4 WATER DETAILS

Sigma Prime Geosciences, Inc.
332 PRINCETON AVENUE
HALF MOON BAY, CA 94019
(650) 728-3590
FAX 728-3593

WATER DETAILS

STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

SHEET NO. 4 OF 6 SHEETS



TYPE A (IN ROADWAY) TYPE B (OUTSIDE ROADWAY)

NOTES:

1. SAND.... MATERIAL FREE FROM ORGANIC MATTER AND CLAY WITH A SIEVE GRADATION BY WEIGHT AS FOLLOWS:

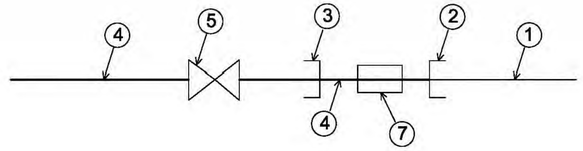
SIEVE SIZE	% PASSING SIEVE
No. 4	100
No. 200	0–5

2. STRUCTURE BACKFILL MATERIAL.... MATERIAL WITH SAND EQUIVALENT NOT LESS THAN 20 AND SIEVE GRADATION BY WEIGHT AS FOLLOWS:

SIEVE SIZE	% PASSING SIEVE
3"	100
No. 4	35–100
No. 30	20–100

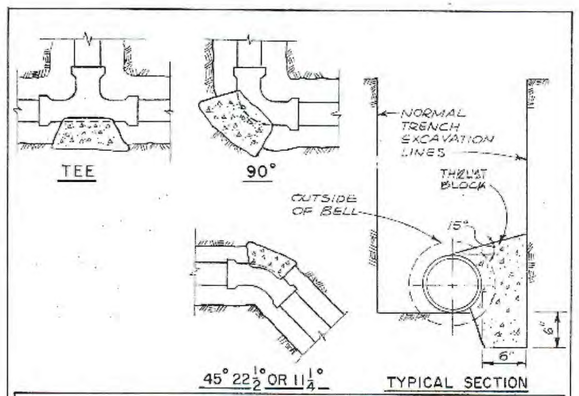
3. BACKFILL MATERIAL.... MATERIAL FROM EXCAVATION, FREE FROM STONES OR LUMPS EXCEEDING 3 INCHES GREATEST DIMENSION, ORGANIC MATTER, OR OTHER UNSATISFACTORY MATERIAL.

STANDARD TRENCH BACKFILL AND BEDDING DETAIL FOR D.I.P. WATER PIPE



1. EXISTING 6" CAST IRON PIPELINE.
2. EXISTING CAP OR PLUG AT END OF EXISTING PIPELINE.
3. NEW CAP FOR LEAKAGE TESTING AND DISINFECTION.
4. NEW 6" DUCTILE IRON PIPE.
5. NEW 6" GATE VALVE.
6. FOLLOWING COMPLETION OF LEAKAGE TESTING AND DISINFECTION, REMOVE EXISTING CAP/PLUG AND TEMPORARY END CAP, AND CONNECT THE NEW AND EXISTING PIPELINES WITH NEW 6" DUCTILE IRON PIPE AND A MECHANICAL JOINT SLEEVE.
7. NEW MECHANICAL JOINT SLEEVE.

CONNECTION DETAIL FOR NEW AND EXISTING PIPELINES



MINIMUM REQUIRED BEARING AREA AGAINST UNDISTURBED EARTH WALL

PIPE SIZE	AREA IN SQUARE FEET AT FITTINGS				
	TEE & CROSS	90°	45°	22½°	11¼°
6	3	5	3	2	2
8	6	8	4	2	2
10	8	11	6	3	2
12	11	15	8	4	2
16	18	25	14	7	4

NOTES:

1. THRUST BLOCKS SHALL BE PLAIN CONCRETE POURED AGAINST UNDISTURBED EARTH.
2. CAPS AND PLUGS SHALL HAVE THRUST BLOCKS WITH AREAS AS SPECIFIED FOR TEES. CAPS, PLUGS, FLANGES, AND MECHANICAL JOINTS SHALL BE COVERED WITH 8 MILS OF POLYETHYLENE BEFORE THRUST BLOCKS ARE POURED.
3. AREA IS IN A PLANE AT RIGHT ANGLES TO THE LINE OF RESULTANT THRUST.
4. THRUST BLOCKS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING VALUE OF 2000 LB/S.F. AND 200 P.S.I.G. TEST PRESSURE. AREAS SHALL BE INCREASED FOR SOILS WITH LOWER BEARING VALUES OR FOR HIGHER TEST PRESSURE.

HORIZONTAL THRUST BLOCKS

DATE SEPT 69
REV. APR. 72

DISTRICT STANDARDS
COASTSIDE COUNTY WATER DISTRICT
SAN MATEO COUNTY, CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
CHARLES M. RIDSDEN
No. 52264
9-30-17 EXPIRES
CIVIL
STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-20-18	1	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-18.	CMK	AZG	CMK

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HALF MOON BAY
ENGINEERING DIVISION CALIFORNIA

FILE NO.: 10-119 | SCALE: AS SHOWN | CAD FILE: C1 C2 C3 IMPROVEMENT PLANS

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HALF MOON BAY, CA 94019
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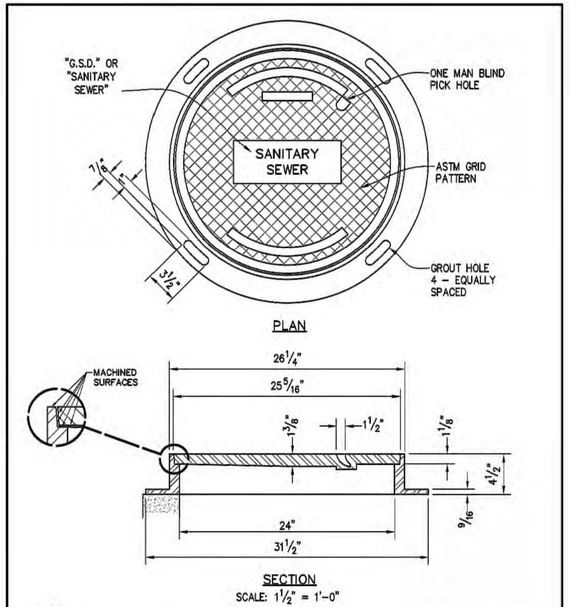
WATER DETAILS

STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

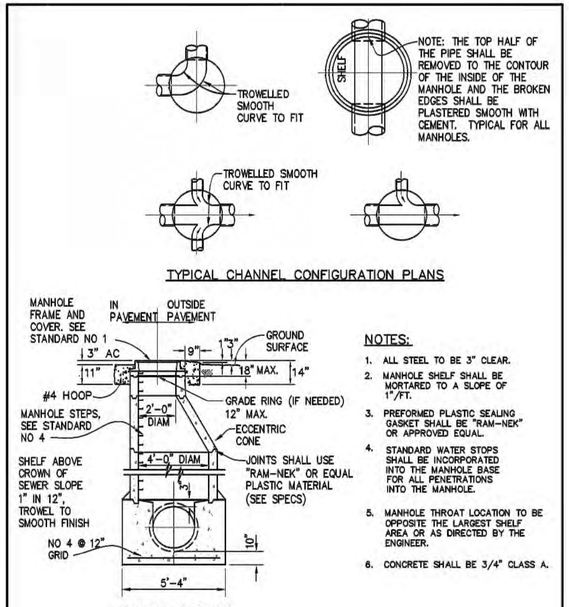
SHEET NO. 5 OF 6 SHEETS



NOTE:
1. FRAME AND COVER SHALL BE D&L SUPPLY A-1024M, PHOENIX IRON WORKS P-1090 R/G, OR EQUAL.
2. FRAME AND COVER SHALL MEET OR EXCEED THE REQUIREMENTS OF AASHTO H-20 LOADING.

APPROVED BY: HOWARD L. HOFFMAN DATE: FEBRUARY 2003	GRANADA SANITARY DISTRICT STANDARD DETAIL **MANHOLE FRAME AND COVER**	STANDARD No. **1**

GSD-01

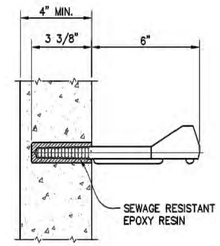


NOTES:
1. ALL STEEL TO BE 3" CLEAR.
2. MANHOLE SHELF SHALL BE MORTARED TO A SLOPE OF 1"/FT.
3. PREFORMED PLASTIC SEALING GASKET SHALL BE "RAM-NEK" OR APPROVED EQUAL.
4. STANDARD WATER STOPS SHALL BE INCORPORATED INTO THE MANHOLE BASE FOR ALL PENETRATIONS INTO THE MANHOLE.
5. MANHOLE THROAT LOCATION TO BE OPPOSITE THE LARGEST SHELF AREA OR AS DIRECTED BY THE ENGINEER.
6. CONCRETE SHALL BE 3/4" CLASS A.

NOT TO SCALE

APPROVED BY: HOWARD L. HOFFMAN DATE: FEBRUARY 2003	GRANADA SANITARY DISTRICT STANDARD DETAIL **STANDARD MANHOLE**	STANDARD No. **3**

GSD-03



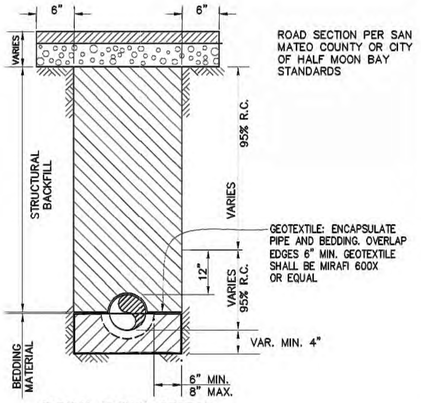
INSTALLATION DETAIL

NOTES:
1. MANHOLE STEPS SHALL BE POLYPROPYLENE, AND CONFORM TO THE REQUIREMENTS OF A.S.T.M. D4101, TYPE II. THE STEEL USED IN MANUFACTURING SHALL BE DEFORMED 1/2" REINFORCING ROD GRADE 60. CONFORM TO ALL REQUIREMENTS OF A.S.T.M. A.615.
2. MANHOLE STEPS SHALL BE UNIFORMLY SPACED AT A MAXIMUM OF 12". THE LOWEST STEP SHALL BE PLACED NOT LESS THAN 8" OR MORE THAN 18" ABOVE THE CONCRETE SHELF.
3. FOR MANHOLES 4 FEET OR LESS DEPTH (RIM TO PIPE INVERT), MANHOLE STEPS ARE NOT REQUIRED.
4. STEPS TO BE CAST IN PLACE DURING MANUFACTURE OF PRECAST PIPE RINGS OR ANCHORED WITH SEWAGE RESISTANT EPOXY RESIN.

NOT TO SCALE

APPROVED BY: HOWARD L. HOFFMAN DATE: FEBRUARY 2003	GRANADA SANITARY DISTRICT STANDARD DETAIL **MANHOLE STEP**	STANDARD No. **4**

GSD-04



STRUCTURAL BACKFILL

STRUCTURAL BACKFILL REQUIREMENTS (CALTRANS CALIF. TEST 202) MIN. SAND EQUIVALENT OF 20.

SIEVE SIZES	PERCENTAGE PASSING
1-1/2"	100
3/4"	80-100
#4	30-60
#30	5-35
#200	0-12

BEDDING MATERIAL

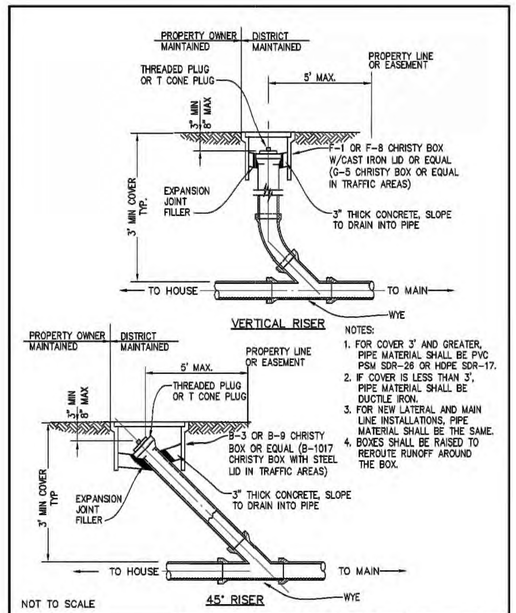
GRANULAR BEDDING MATERIAL REQUIREMENTS (ASTM D448 SIZE #67)

SIEVE SIZES	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

NOT TO SCALE

APPROVED BY: HOWARD L. HOFFMAN DATE: FEBRUARY 2003	GRANADA SANITARY DISTRICT STANDARD DETAIL **STANDARD BACKFILL DETAIL**	STANDARD No. **6**

GSD-06

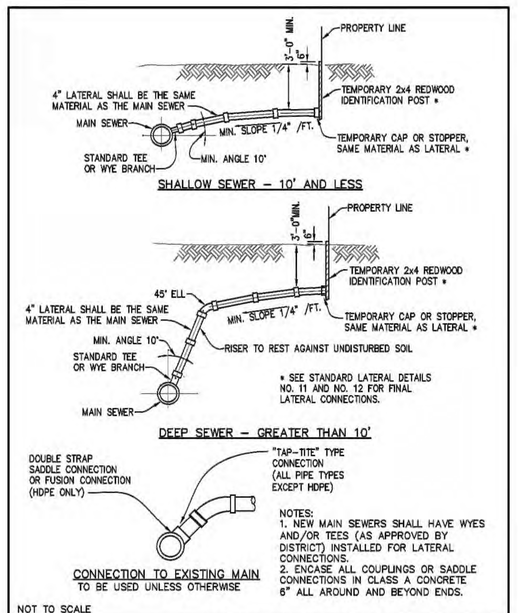


NOTES:
1. FOR COVER 3' AND GREATER, PIPE MATERIAL SHALL BE PVC PSM SDR-26 OR HDPE SDR-17.
2. IF COVER IS LESS THAN 3', PIPE MATERIAL SHALL BE DUCTILE IRON.
3. FOR NEW LATERAL AND MAIN LINE INSTALLATIONS, PIPE MATERIAL SHALL BE THE SAME.
4. BOXES SHALL BE RAISED TO REROUTE RUNOFF AROUND THE BOX.

NOT TO SCALE

APPROVED BY: HOWARD L. HOFFMAN DATE: FEBRUARY 2003	GRANADA SANITARY DISTRICT STANDARD DETAIL **TYPICAL SERVICE LATERAL CLEANOUT**	STANDARD No. **10**

GSD-10



NOTES:
1. NEW MAIN SEWERS SHALL HAVE WYES AND/OR TEES (AS APPROVED BY DISTRICT) INSTALLED FOR LATERAL CONNECTIONS.
2. ENCASE ALL COUPLINGS OR SADDLE CONNECTIONS IN CLASS A CONCRETE 6" ALL AROUND AND BEYOND ENDS.

NOT TO SCALE

APPROVED BY: HOWARD L. HOFFMAN DATE: FEBRAURY 2003	GRANADA SANITARY DISTRICT STANDARD DETAIL **LATERAL CONNECTION**	STANDARD No. **14**

GSD-14

REGISTERED PROFESSIONAL ENGINEER CHARLES M. KISSICK No. 62264 9-30-17 EXPIRES CIVIL STATE OF CALIFORNIA

DATE	SYMBOL	REVISIONS	BY	CHECKED	APPROVED
2-29-16	⚠	IN RESPONSE TO COMMENTS IN EMAIL DATED 2-24-16.	CMK	AZG	CMK

DESIGNED CMK DATE 2-29-16 — PROJECT ENGINEER
DELINEATED CMK DATE 2-29-16 — PROJECT ENGINEER
CHECKED AZG DATE 2-29-16 — BRIAN LEE – CITY ENGINEER
SUBMITTED DATE — APPROVED DATE — PROJECT ENGINEER
SUBMITTED DATE — APPROVED DATE — PROJECT ENGINEER
APPROVED DATE — APPROVED DATE — CITY ENGINEER

HALF MOON BAY

ENGINEERING DIVISION CALIFORNIA

FILE NO.: 10-119 | SCALE: AS SHOWN | CAD FILE: C1 C2 C3 IMPROVEMENT PLANS

Sigma Prime Geosciences, Inc.
332 PRINCETON AVENUE
HALF MOON BAY, CA 94019
(650) 728-3590
FAX 728-3593

SEWER DETAILS

STOLOSKI PROPERTY
CABRILLO HIGHWAY
HALF MOON BAY
APN 048-133-010

SHEET NO. ⚠6 OF 6 SHEETS

ABBREVIATIONS

ABUT.	ABUTMENT	OC	ON CENTER
ACI	AMERICAN CONCRETE INSTITUTE	OD	OUTSIDE DIAMETER
ADD.	ADDITIONAL	OF	OUTSIDE FACE
ADJ.	ADJACENT		
AGGR.	AGGREGATE	PCF	POUNDS PER CUBIC FOOT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	PL.	PLATE
		PLF	POUNDS PER LINEAR FOOT
AISI	AMERICAN IRON AND STEEL INSTITUTE	PSF	POUNDS PER SQUARE FOOT
ALT.	ALTERNATE	PSI	POUNDS PER SQUARE INCH
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE		
APPROX.	APPROXIMATE	QTY.	QUANTITY
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS		
ASPH.	ASPHALT	REINF.	REINFORCE, REINFORCEMENT OR REINFORCING
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	REV.	REVISE OR REVISION
AVG.	AVERAGE	REQD.	REQUIRED
AWS	AMERICAN WELDING SOCIETY		
		S	SOUTH
BM.	BEAM	SECT.	SECTION
BP	BASE PLATE	SIM.	SIMILAR
BS	BOTH SIDES	SP.	SPIRAL
BOT.	BOTTOM	SPECS.	SPECIFICATIONS
BRG.	BEARING	STAGG.	STAGGERED
		STD.	STANDARD
CF	CUBIC FOOT	STIR.	STIRRUP
CJ	CONTROL OR CONSTRUCTION JOINT	STL.	STEEL
CJP	COMPLETE JOINT PENETRATION	STRUCT.	STRUCTURAL
CL	CENTER LINE	SYMM.	SYMMETRICAL
CLR.	CLEAR		
CONC.	CONCRETE	T&B	TOP AND BOTTOM
COORD.	COORDINATE	THK.	THICK
CONN.	CONNECTION	THRU	THROUGH
CONT.	CONTINUOUS	TRANS.	TRANSVERSE
CSK.	COUNTERSINK	TYP.	TYPICAL
CTR.	CENTER		
CY	CUBIC YARD	UNO	UNLESS NOTED OTHERWISE
db	BAR DIAMETER		
DBL.	DOUBLE	VERT.	VERTICAL
DET.	DETAIL	VIF	VERIFY IN THE FIELD
DIA.	DIAMETER		
DKG.	DECKING		
DWL.	DOWEL	W	WEST
DWLS.	DOWELS	W/	WITH
		W/O	WITHOUT
E	EAST	WP	WORK POINT
EA.	EACH	WT.	WEIGHT
EF	EACH FACE		
EJ	EXPANSION JOINT		
EMBED.	EMBEDMENT		
ENGR.	ENGINEER		
EQ.	EQUAL		
EQUIP.	EQUIPMENT		
ES	EACH SIDE		
ESR	EVALUATION SERVICE REPORT		
FF	FAR FACE		
FS	FAR SIDE		
FT.	FEET OR FOOT		
FTG.	FOOTING		
GA.	GAGE OR GAUGE		
GALV.	GALVANIZE OR GALVANIZED		
GC	GENERAL CONTRACTOR		
HGT.	HEIGHT		
HORIZ.	HORIZONTAL		
ID	INSIDE DIAMETER		
IN.	INCHES		
JT(S).	JOINT(S)		
K	KIP (1,000 LBS.)		
LB(S).	POUND(S)		
L	ANGLE		
LG.	LONG		
LGTH.	LENGTH		
LHE	LOW HYDROGEN ELECTRODE		
LLV	LONG LEG VERTICAL		
LONGIT.	LONGITUDINAL		
MATL.	MATERIAL		
MAX.	MAXIMUM		
MECH.	MECHANICAL		
MFR.	MANUFACTURER		
MIN.	MINIMUM		
MISC.	MISCELLANEOUS		
MIX.	MIXTURE		
MULT.	MULTIPLE		
N	NORTH		
NF	NEAR FACE		
NS	NEAR SIDE		
NTS	NOT TO SCALE		
NWC	NORMAL WEIGHT CONCRETE		

SYMBOL LEGEND

FOR ADDITIONAL SYMBOLS SEE THE FOLLOWING:

WELDING	AWS
STEEL	AISC SYMBOLS
CONCRETE	ACI SYMBOLS

SYMBOLS AND ABBREVIATIONS FOR CONCRETE (as per ACI)

#	TO INDICATE SIZE OF DEFORMED BAR.
Ø	PLAIN ROUNDS, AS SPIRALS
AT	SPACING CENTER TO CENTER

DRAWING LIST

GENERAL NOTES

A. GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
2. DO NOT SCALE THE DRAWINGS.
3. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES AND THE TYPICAL DETAILS.
4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES: THE 2012 (SIXTH EDITION) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH CALIFORNIA AMENDMENTS (AASHTO-CA BDS-6), CALTRANS STANDARD SPECIFICATIONS 2010, AND OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND IN THE PROJECT SPECIFICATIONS.
5. SEE THE CIVIL ENGINEER'S DRAWINGS FOR THE FOLLOWING:
   A. SIZES AND LOCATIONS OF CONCRETE CURBS, SLOPES, CHANGES IN LEVEL, ETC.
   B. DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
6. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING AND SHORING FOR LOADS DUE TO HYDROSTATIC, EARTH, WIND OR SEISMIC FORCES, CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
8. NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN THE STRUCTURAL MEMBERS.
9. ALL SPECIFICATIONS AND CODES NOTED SHALL BE THE LATEST APPROVED EDITIONS AND REVISIONS BY THE GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THIS PROJECT.
10. CONTRACTOR SHALL INVESTIGATE THE SITE DURING CLEARING AND EARTH WORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, UTILITIES, ETC. IF ANY SUCH STRUCTURES ARE FOUND, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
11. SHOP DRAWINGS SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW SHALL CONSIST OF 2 BOND SETS, ONLY ONE COPY WILL BE RETURNED.
12. CIVIL ENGINEER'S/STRUCUTRAL ENGINEER'S REVIEW OF THE SHOP DRAWINGS SHALL NOT BE CONSTRUED AS AN AUTHORIZATION TO DEVIATE FROM THE CONTRACT DOCUMENTS.
13. DESIGN LIVE LOADS: 250 PSF SIDEWALKS AND VEHICULAR DRIVEWAYS SUBJECT TO TRUCK LOADING

    H-20 AND HS-20 AXEL TRUCK LOADING
14. SEISMIC DESIGN CRITERIA:
    SPECTRAL RESPONSE ACCELERATIONS: S_S = 1.361, S_1 = 0.537
    SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 0.907, S_{D1} = 0.537
    SITE CLASS: D
    SEISMIC DESIGN CATEGORY: D

B. FOUNDATION

1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT PREPARED BY: SIGMA PRIME GEOSCIENCES, INC.
   PROJECT 10-119
   DATED MARCH 3, 2015

   COPIES ARE AVAILABLE FOR REVIEW AT THE CITY ENGINEER'S OFFICE.
2. SPREAD FOOTINGS FOR ABUTMENTS ARE DESIGNED BASED ON AN ALLOWABLE SOIL PRESSURE OF 1500 PSF WITH AN ALLOWABLE INCREASE OF ONE-THIRD FOR LOADS OF SHORT DURATION, INCLUDING WIND AND SEISMIC FORCES.
3. CONTRACTOR SHALL PROVIDE FOR PROPER DEWATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER, SEEPAGE, ETC.
4. CONTRACTOR SHALL PROVIDE FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY AND ADEQUATELY RETAIN THE EARTH BANKS AND ANY EXISTING STRUCTURE.
5. EXCAVATIONS FOR FOOTINGS SHALL MEET THE REQUIREMENTS OF SECTION 19 OF THE CALTRANS STANDARD SPECIFICATIONS. EXCAVATION INSPECTIONS SHALL BE IN ACCORDANCE WITH THE CITY OF HALF MOON BAY'S QUALITY ASSURANCE PROGRAM (QAP). THE GEOTECHNICAL ENGINEER AND PROJECT INSPECTOR SHALL APPROVE EXCAVATIONS FOR FOOTINGS PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE GEOTECHNICAL ENGINEER SHALL SUBMIT AT LETTER OF COMPLIANCE TO THE OWNER..
6. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE OR MASONRY HAS ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PITWALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING SLABS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING.
7. FOOTINGS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE GEOTECHNICAL ENGINEER, FOOTING ELEVATIONS OR FOOTING DESIGNS WILL BE ALTERED.
8. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN THE STRUCTURE PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE CITY ENGINEER. FLOODING WILL NOT BE PERMITTED.
9. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE REMOVED.

C. CONCRETE

1. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE 2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH CALIFORNIA AMENDMENTS (AASHTO-CA BDS-6), THE 2010 CALTRANS STANDARD SPECIFICATIONS, THE 'BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE', ACI 318, AND THE 'SPECIFICATIONS FOR STRUCTURAL CONCRETE', ACI 301, LATEST EDITIONS, WITH MODIFICATIONS AS NOTED ON THE DESIGN DRAWINGS OR SPECIFICATIONS.
2. REINFORCED CONCRETE DESIGN IS BY THE ULTIMATE STRENGTH DESIGN METHOD.
3. ALL MIX DESIGNS SHALL BE PREPARED BY A QUALIFIED CIVIL ENGINEER LICENSED IN THE STATE OF CALIFORNIA AND BEAR HIS WET SEAL AND SIGNATURE. THE DESIGNS FOR EACH TYPE OF CONCRETE STRENGTH SPECIFIED SHALL STATE THE PROJECT NAME AND LOCATION OF USAGE.
4. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTHS & TYPES:

LOCATIONS IN STRUCTURE	STRENGTH, PSI	TYPE
FOOTINGS	4000	HARD ROCK
SLABS	4000	HARD ROCK
WALLS	4000	HARD ROCK

5. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE V IN CONTACT WITH SOIL AND TYPE II ELSEWHERE.
6. MIX DESIGN SHALL CONTAIN SIKA AIR-360 AIR ENTRAINING ADMIXTURE (OR EQUIVALENT).
7. CONCRETE MIXES MAY CONTAIN FLY ASH. THE FLY ASH SHALL CONFORM TO ASTM C618 CLASS F AND SHALL NOT EXCEED 15% OF THE TOTAL CEMENTITIOUS MATERIAL.

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REGISTERED PROFESSIONAL ENGINEER MICHAEL D. KLEPPORSE No. 62508 CIVIL STATE OF CALIFORNIA

Seal

Consultant

Client

HALF MOON BAY BRIDGES

PULLMAN AVENUE AND CHAMPS ELYSEE BOULEVARD

Project

STRUCTURAL COVER SHEET AND GENERAL NOTES

Drawing Title

No.	Date	Description	By

Project No. AE15068	Checked MKH	Date 12/14/2015
Drawn MME/SMM	Approved MKH	Scale PER PLAN

1 of 6

Sheet

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GENERAL NOTES

C. CONCRETE (CONT.)

8. AGGREGATE FOR HARD ROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C33 AND PROJECT SPECIFICATIONS. EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.

9. FORMS FOR CONCRETE SHALL BE LAID OUT AND CONSTRUCTED TO PROVIDE THE SPECIFIED CAMBERS SHOWN ON THE DRAWINGS.

10. NON-SHRINK, NON METALLIC GROUT UNDER BASEPLATES, SILL PLATES, ETC. SHALL HAVE A MINIMUM F'c=7000 PSI.

11. CONCRETE MIXING OPERATIONS, ETC., SHALL CONFORM TO ASTM C94.

12. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 304 AND PROJECT SPECIFICATIONS. SANDBLAST ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.

13. THOROUGHLY CLEAN AND ROUGHEN ALL EXISTING CONCRETE, CONCRETE PREVIOUSLY POURED AND HARDENED TO RECEIVE NEW CONCRETE. INTERFACE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF ¼" UNLESS NOTED OTHERWISE.

14. CLEAR COVERAGE OF CONCRETE OVER REINFORCING BARS SHALL BE AS FOLLOWS:

	MINIMUM COVER, INCHES
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 6 THROUGH NO. 18 BAR	2 UNO
NO. 5 BAR AND SMALLER	1½ UNO

15. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.

16. MECHANICAL PIPES AND ELECTRICAL CONDUITS WHICH PASS THROUGH SLAB AND WALLS DO NOT REQUIRE SLEEVES, UNLESS OTHERWISE INDICATED IN THE PROJECT SPECIFICATIONS OR CIVIL DRAWINGS. IF SLEEVES ARE REQUIRED, INSTALL SLEEVES BEFORE PLACING CONCRETE. DO NOT CUT ANY REINFORCING WHICH MAY INTERFERE WITH SLEEVE PLACEMENT. CORING OPENINGS IN CONCRETE IS NOT PERMITTED, NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

17. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A ¾ INCH CHAMFER, UNLESS OTHERWISE NOTED ON CIVIL DRAWINGS.

18. CURING COMPOUNDS USED ON CONCRETE THAT IS TO RECEIVE A RESILIENT TILE FINISH SHALL BE APPROVED BY THE CIVIL ENGINEER BEFORE USE.

D. REINFORCING STEEL (FOR CONCRETE AND MASONRY)

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE 2012 (SIXTH EDITION) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH CALIFORNIA AMENDMENTS (AASHTO-CA BDS-6), THE 2010 CALTRANS SPECIFICATIONS, THE 'BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE' (ACI 318) AND THE 'MANUAL OF STANDARD PRACTICE' BY CRSI AND WCRSI, AS MODIFIED BY THE PROJECT DRAWINGS AND SPECIFICATIONS.
2. DEFORMED REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, UNLESS NOTED OTHERWISE.
3. WELDING OF REINFORCING SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
5. SPLICES SHALL BE MADE ONLY AS AND WHERE INDICATED ON THE STRUCTURAL DRAWINGS.
6. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE SPECIFIED VERTICAL REINFORCING, UNLESS NOTED OTHERWISE.
7. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION OCCURS.
8. ALL STEEL SHALL MEET "BUY AMERICA" REQUIREMENTS.

E. STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DESIGNED, DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE 2012 (SIXTH EDITION) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH CALIFORNIA AMENDMENTS (AASHTO-CA BDS-6), THE 2010 CALTRANS STANDARD SPECIFICATIONS, THE AISC 'SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS', AND THE 'CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES' (LATEST EDITION AND SUPPLEMENTS).
2. STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 (ASTM A992 GRADE 50), EXCEPT ANGLES, CHANNELS, PLATES AND BARS WHICH SHALL CONFORM TO ASTM DESIGNATION A36, UNLESS NOTED OTHERWISE.
3. PIPE COLUMNS SHALL CONFORM TO ASTM DESIGNATION A53 GRADE B. HSS ROUNDS SHALL CONFORM TO ASTM A500 GRADE B WITH Fy = 42 KSI. HSS TUBES SHALL CONFORM TO ASTM A500 GRADE B COLD FORMED WITH Fy = 46 KSI.
4. BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325N), UNO. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 36/55/105, UNO.
5. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STRUCTURAL STEEL FOR CIVIL ENGINEER'S AND STRUCTURAL ENGINEER'S REVIEW BEFORE FABRICATION.
6. BOLT HOLES IN STEEL SHALL BE 1/8 INCH LARGER THAN NOMINAL SIZE OF BOLT USED, EXCEPT ANCHOR BOLT HOLES. FOR ANCHOR BOLTS, REF. AISC 13TH ED., TABLE 14-2.
7. STRUCTURAL STEEL SURFACES THAT ARE NOT EXPOSED TO WEATHER SHALL BE LEFT UNPAINTED. EXPOSED STEEL SHALL BE SHOP PAINTED OR GALVANIZED PER ASTM A123.
8. WELDED JOINTS SHALL CONFORM TO THE PREQUALIFIED JOINT DETAILS AS INDICATED IN THE STRUCTURAL WELDING CODE (AWS D1.1) BY THE AMERICAN WELDING SOCIETY. WELDS SHALL BE MADE USING A FILLER METAL HAVING 70 KSI MINIMUM TENSILE STRENGTH. FILLER METAL SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT 0 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE. SMAW OR FCAW PROCESSES ARE ACCEPTABLE PROVIDED ALL POWER, CURRENT, AND FEED RATES ARE SET IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
9. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WELD SIZE SHALL BE AISC MINIMUM UNLESS A LARGER SIZE IS NOTED.
10. ALL STEEL SHALL MEET "BUY AMERICA" REQUIREMENTS.

F. EPOXY

1. INSTRUCTIONS FOR ADHESIVE ANCHORING OF REBAR AND BOLTS REFERRED TO BELOW AS BAR(S).
2. BARS MUST BE DEFORMED OR THREADED FOR THE FULL EMBEDMENT DEPTH IN ADHESIVE.
3. EPOXY MUST MEET THE REQUIREMENTS OF ASTM C881.
4. DRILLED HOLE DIAMETER SHALL BE PER MANUFACTURER RECOMMENDATIONS AS SET FORTH IN THE ICC REPORT. DRILL TO DEPTH RECOMMENDED BY THE MANUFACTURER AS SET FORTH IN THE ICC REPORT UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
5. REMOVE ALL DIRT, DUST, WATER, AND ICE BY VACUUM UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER IN THE ICC REPORT FROM THE HOLES.
6. CLEAN DIRT, RUST, AND OIL FROM THE BARS.
7. DURING THE EPOXY MIXING AND APPLICATION PROCESS, FOLLOW THE EPOXY MANUFACTURER'S SPECIFICATIONS EXACTLY. INSPECTOR TO VERIFY EXPIRATION DATE OF EPOXY.
8. VERTICAL HOLES TO BE FILLED FROM THE BOTTOM ARE TO USE AN EPOXY GEL.
9. THE FOLLOWING EPOXIES ARE ACCEPTABLE:
   FOR CONCRETE
   HILTI HTE 50 (CALTRANS APPROVED)
   OR APPROVED EQUAL

G. TESTING AND INSPECTIONS

1. TESTING AND INSPECTIONS SHALL BE IN ACCORDANCE WITH THE CITY OF HALF MOON BAY'S QUALITY ASSURANCE PROGRAM (QAP).

H. STRUCTURAL OBSERVATIONS

1. THE ENGINEER OF RECORD REQUIRES STRUCTURAL OBSERVATION AT STAGES OF CONSTRUCTION NOTED BELOW. THE OWNER SHALL EMPLOY THE ENGINEER OF RECORD RESPONSIBLE FOR THE STRUCTURAL DESIGN TO PERFORM STRUCTURAL OBSERVATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 48 HOURS BEFORE COMPLETION OR COVERING UP THE FOLLOWING STAGES OF CONSTRUCTION:

   A. FOUNDATION REINFORCING PLACEMENT AND WALL REINFORCING PLACEMENT.
   B. REINFORCING PLACEMENT FOR FORMED BRIDGE SEGMENTS.

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REGISTERED PROFESSIONAL ENGINEER MICHAEL D. ALESSANDRO No. 62506 CIVIL STATE OF CALIFORNIA

Seal

Consultant

Client

HALF MOON BAY BRIDGES

PULLMAN AVENUE AND CHAMPS ELYSEE BOULEVARD

Project

GENERAL NOTES

Drawing Title

No.	Date	Description	By

Project No. AE15068	Checked MKH	Date 12/14/2015
Drawn MME/SMM	Approved MKH	Scale PER PLAN

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Sheet

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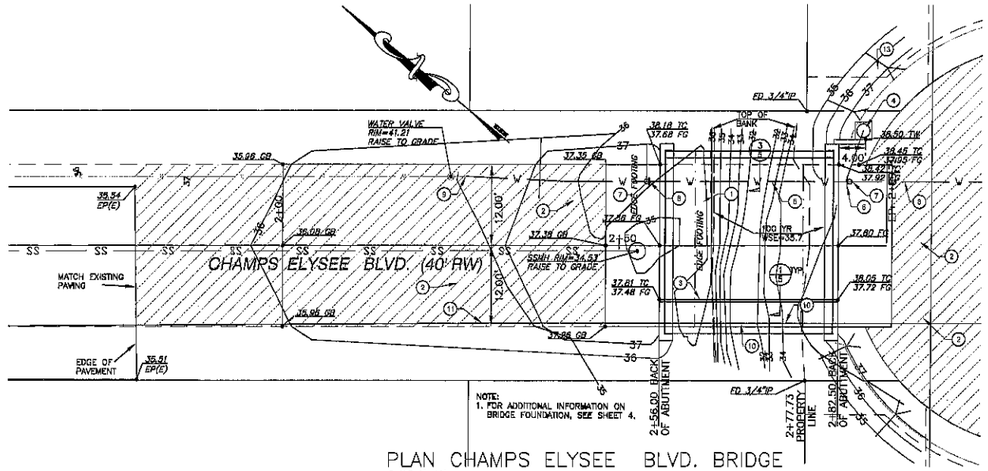
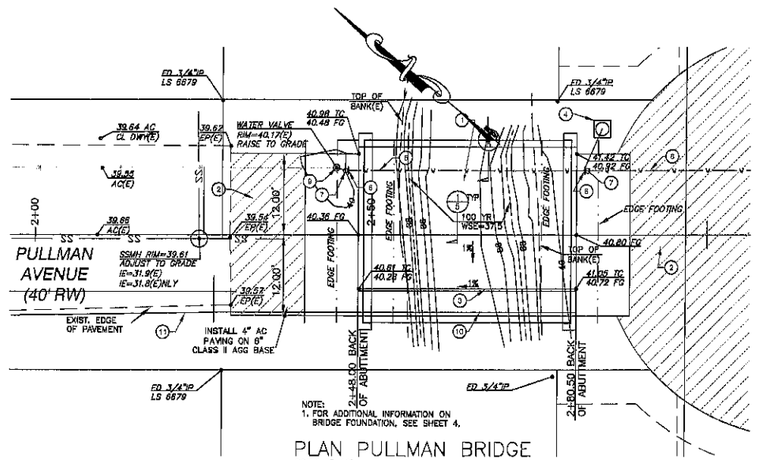
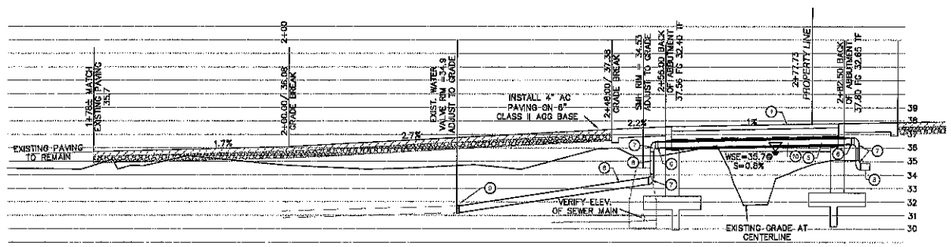


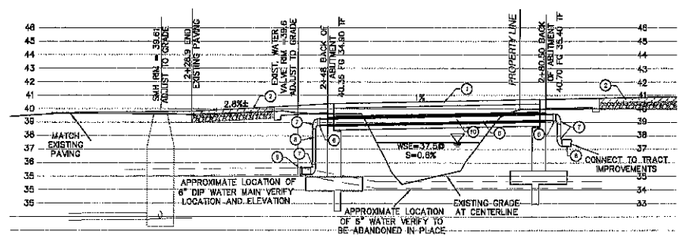
PLAN CHAMPS ELYSEE BLVD. BRIDGE
SCALE 1"=10'



PLAN PULLMAN BRIDGE
SCALE 1"=10'

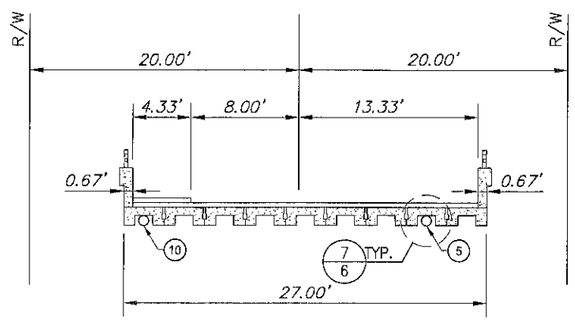


PROFILE CHAMPS ELYSEE BLVD. BRIDGE
SCALE HORIZ 1"=10'
VERT 1"=5'



PROFILE PULLMAN BRIDGE
SCALE HORIZ 1"=10'
VERT 1"=5'

SCALE: 1"=10'
10 0 10 20



BRIDGE SECTION
SCALE 1"=5'

BRIDGE CONSTRUCTION NOTES:

1. INSTALL BRIDGE PER STRUCTURAL PLANS
2. CONSTRUCT PAVEMENT SECTIONS PER PROJECT CIVIL PLANS.
3. INSTALL 4" CONCRETE CURB AND 4 FOOT CONCRETE SIDEWALK
4. INSTALL AIR AND VACUUM RELIEF ASSEMBLY PER CCWD STANDARDS.
5. INSTALL 6" WELDED STEEL WATER MAIN IN 8" MINIMUM STEEL CASING 9.5 FEET NELY OF CENTERLINE. ATTACHED TO BRIDGE PER STRUCTURAL DETAILS.
6. INSTALL 6" MJ 90° BEND WITH TRANSITION GASKET.
7. INSTALL 6" X 90° BEND WITH RESTRAINED JOINTS.
8. INSTALL 6" DIP WATER MAIN, 3 FEET MIN COVER, WITH RESTRAINED JOINTS.
9. VERIFY LOCATION AND ELEVATION AND CONNECT TO EXISTING 6" DIP WATER MAIN SEE PROJECT CIVIL PLANS.
10. INSTALL 4" STEEL CASING 11.5 FEET NWLY OF CENTERLINE ATTACHED TO BRIDGE PER STRUCTURAL DETAILS FOR FUTURE UTILITIES.
11. VERIFY LOCATION AND ELEVATION OF EXISTING GAS MAIN AND CONNECT TO EXISTING SEE PROJECT CIVIL PLANS.
12. BACKFILL TRENCH PER AGENCY STANDARDS.
13. 2:1 MAXIMUM SLOPE PER PROJECT CIVIL PLANS.

CALL UNDERGROUND SERVICE ALERT (USA) NORTH 811 FOURTY-EIGHT (48)PRIOR TO START OF CONSTRUCTION.

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REGISTERED PROFESSIONAL ENGINEER MICHAEL D. KELSCHENBACH No. 82508 CIVIL STATE OF CALIFORNIA

Seal

Consultant

Client

HALF MOON BAY BRIDGES

PULLMAN AVENUE AND CHAMPS ELYSEE BOULEVARD

Project

BRIDGE PLANS AND PROFILES

Drawing Title

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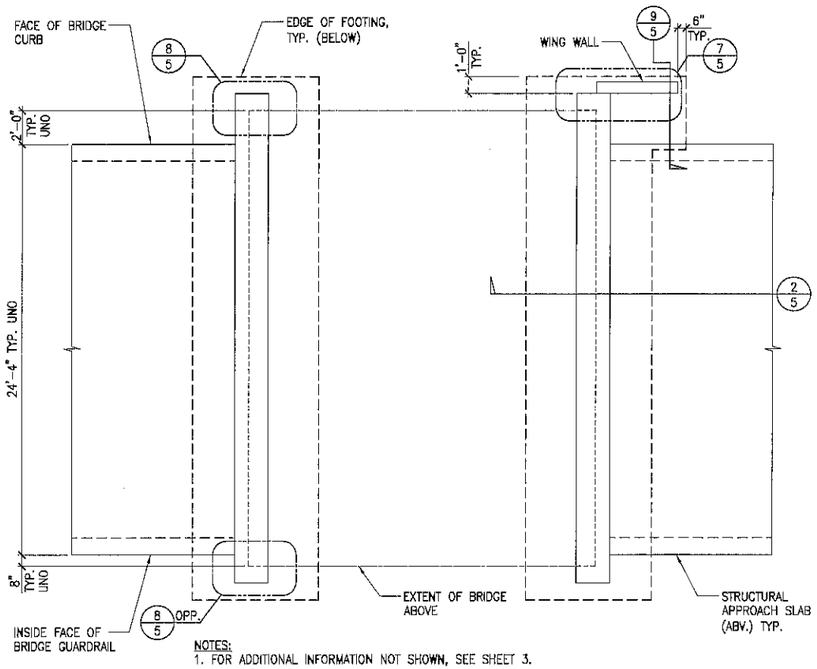
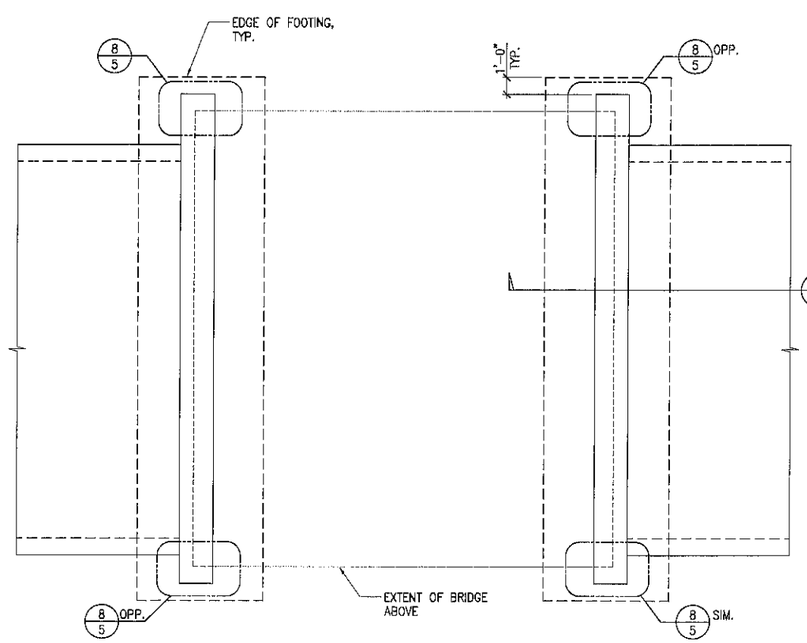


NOTES:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE SHEET 3.

CHAMPS ELYSEE BOULEVARD
FOUNDATION PLAN
1" = 4'-0"



NOTES:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE SHEET 3.

PULLMAN AVENUE FOUNDATION PLAN
1" = 4'-0"

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HALF MOON BAY BRIDGES

PULLMAN AVENUE AND CHAMPS ELYSEE BOULEVARD

Project

BRIDGE FOUNDATION PLANS

Drawing Title

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Project No.	Checked	Date
AE15068	MKH	12/14/2015
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MME/SMM	MKH	PER PLAN

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Sheet

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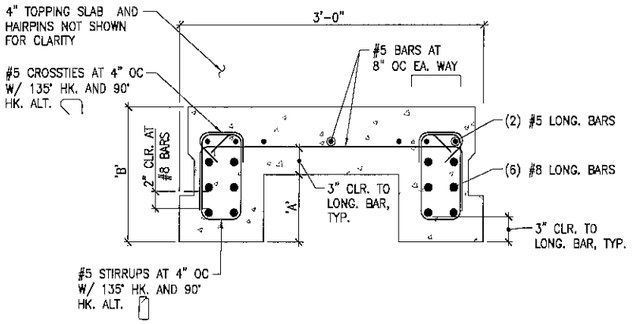
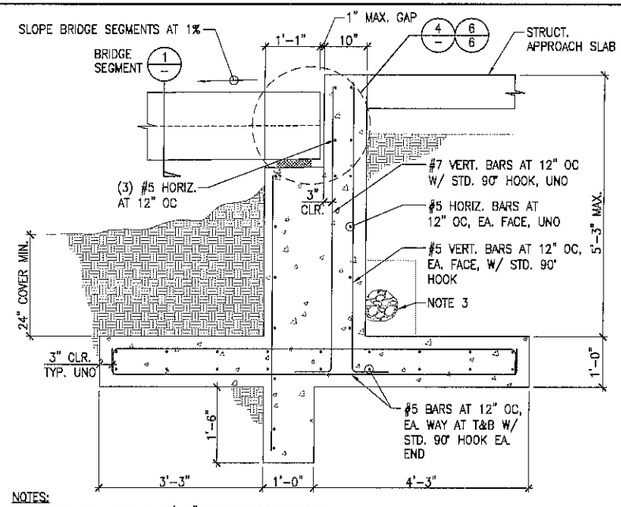


NOTES:
1. FOR ADDITIONAL INFORMATION ON KEYWAY SEE (5/—)
2. FOR EXTERIOR SEGMENT AND GUARDRAIL SEE (3/—)
3. FOR TOPPING SLAB AND HAIRPINS SEE (6/—)

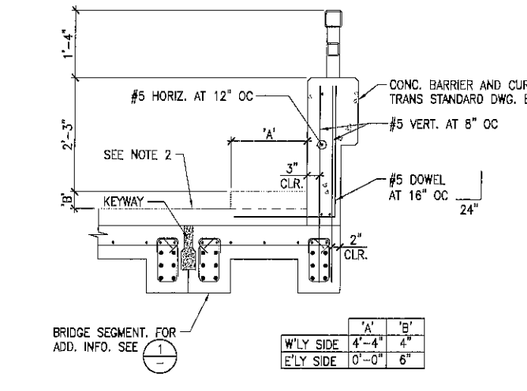
BRIDGE	'A'	'B'
CHAMPS	8¾"	16"
PULLMAN	11⅛"	18½"

INTERIOR BRIDGE SEGMENT SECTION (1)
1½" = 1'-0"



NOTES:
1. FOOTING TOE SHALL BE 5'-0" MINIMUM TO DAYLIGHT
2. TOPPING SLAB AND HAIRPINS NOT SHOWN FOR CLARITY.
3. PROVIDE DRAINAGE BEHIND ABUTMENT PER CAL TRANS STANDARD DRAWING BO-3, BRIDGE DETAIL 3-1

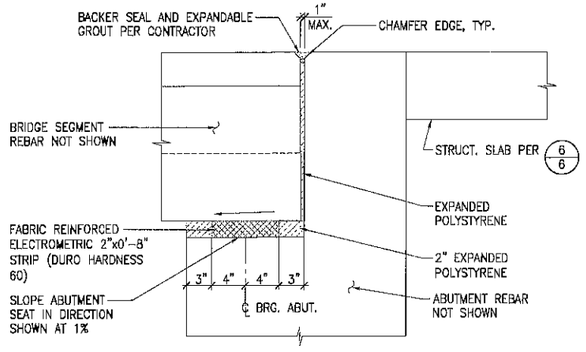
BRIDGE ABUTMENT SECTION (2)
¾" = 1'-0"



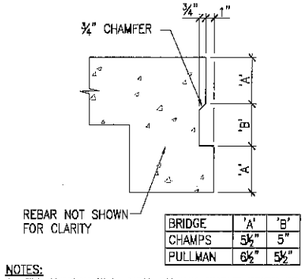
	'A'	'B'
W'LY SIDE	4'-4"	4"
E'LY SIDE	0'-0"	6"

NOTES:
1. FOR ADDITIONAL INFORMATION ON KEYWAY, SEE (5/—).
2. FOR TOPPING SLAB AND HAIRPINS, SEE (6/—).

BRIDGE EDGE SEGMENT WITH RAILING (3)
¾" = 1'-0"



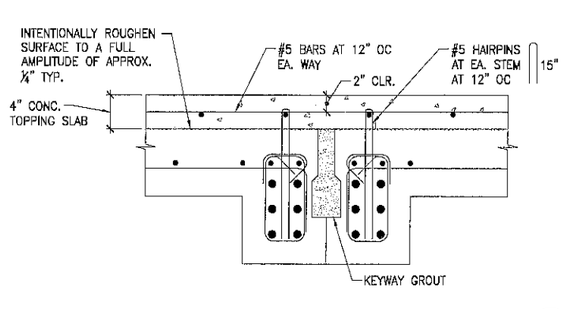
BEARING PAD DETAIL (4)
1½" = 1'-0"



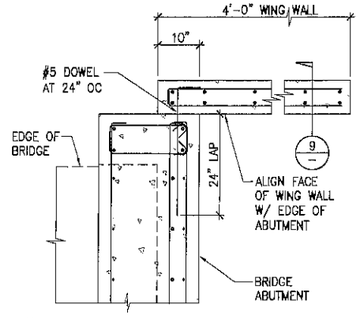
BRIDGE	'A'	'B'
CHAMPS	5½"	5"
PULLMAN	6½"	5½"

NOTES:
1. FILL KEYWAY WITH NON-SHRINK GROUT PRIOR TO INSTALLING TOPPING SLAB

KEYWAY DIMENSIONS (5)
1½" = 1'-0"

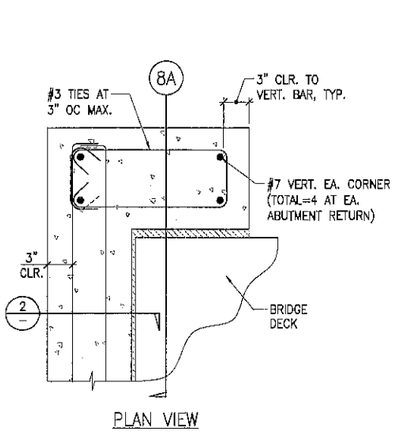


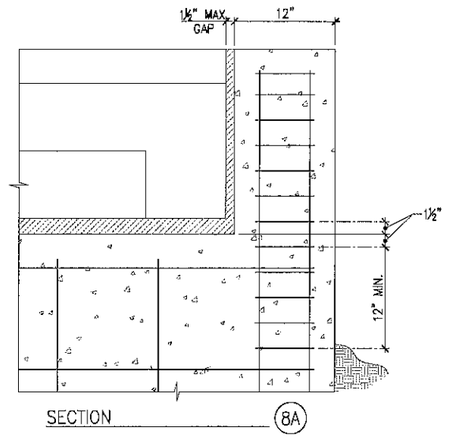
TOPPING SLAB DETAIL (6)
1½" = 1'-0"



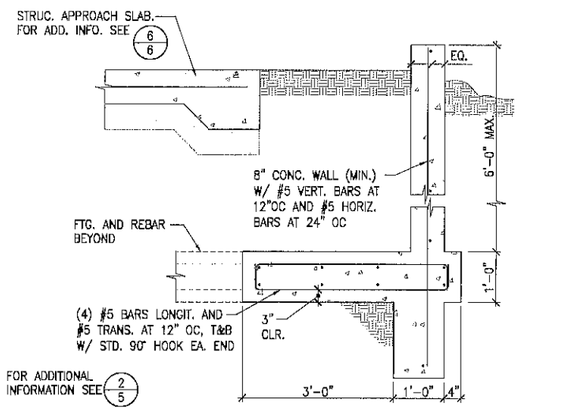
NOTES:
1. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE (8/—).

PLAN AT WING WALL (7)
¾" = 1'-0"





ABUTMENT RETURN (8)
1½" = 1'-0"



WING WALL SECTION (9)
¾" = 1'-0"

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Seal

Consultant

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HALF MOON BAY BRIDGES

PULLMAN AVENUE AND CHAMPS ELYSEE BOULEVARD

Project

BRIDGE AND ABUTMENT DETAILS

Drawing Title

No.	Date	Description	By

Project No. AE15068	Checked MKH	Date 12/14/2015
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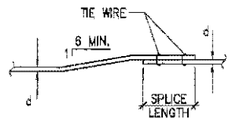
f'c = 4000 PSI	
BAR SIZE	Qd
#3	12
#4	12
#5	15
#6	16
#7	23
#8	30
#9	38
#10	48
#11	58
#14	81
#18	105

NOTES:
1. TABLE FOR USE WITH NORMAL WEIGHT HARDROCK CONCRETE AND GRADE 60 UNCOATED REINFORCEMENT BARS. FOR LIGHTWEIGHT AGGREGATE MULTIPLY VALUE IN TABLE BY 1.3.
2. WHERE HORIZONTAL REINFORCEMENT IS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BEING DEVELOPED, MULTIPLY VALUE IN TABLE BY 1.4.
3. FOR EPOXY-COATED BARS WITH COVER LESS THAN 3 BAR DIAMETERS OR WITH CLEAR SPACING BETWEEN BARS LESS THAN 6 BAR DIAMETERS, MULTIPLY VALUE IN TABLE BY 1.5. FOR ALL OTHER EPOXY-COATED BARS, MULTIPLY VALUE IN TABLE BY 1.2.
4. FOR BARS ENCLOSED IN STANDARD COLUMN SPIRALS, MULTIPLY VALUE IN TABLE BY 0.75, BUT DO NOT USE LESS THAN 12" MINIMUM.
5. DEVELOPMENT AND LAP SPLICE OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE THE VALUE IN THE TABLE MULTIPLIED BY 1.2 FOR THAT BAR IN A 3-BAR BUNDLE AND 1.33 FOR A 4-BAR BUNDLE. FOR DETERMINING THE APPROPRIATE TENSION DEVELOPMENT LENGTH FACTORS, A UNIT OF BUNDLED BARS SHALL BE TREATED AS SINGLE BAR OF A DIAMETER DERIVED FROM THE EQUIVALENT TOTAL AREA.
6. FOR TENSION LAP SPLICES, Q, ALL NOTES APPLY. CLASS A, B, AND C ARE DEFINED AS FOLLOWS:

   CLASS A: CLASS A LAP SPLICES MUST BE VERIFIED AND APPROVED FOR USE BY ENGINEER. RATIO OF PROVIDED STEEL AREA OVER REQUIRED STEEL AREA IS GREATER THAN 2. USE TENSION DEVELOPEMENT LENGTH, Qd.

   CLASS B: HALF OR LESS OF THE BARS ARE SPLICED WITHIN A REQUIRED LAP LENGTH. MULTIPLY VALUE IN TABLE BY 1.3.

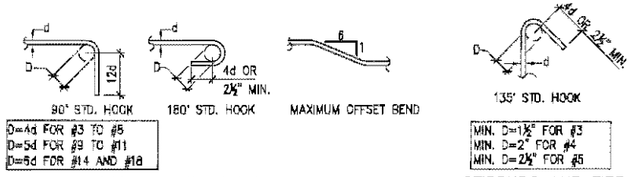
   CLASS C: MORE THAN HALF OF THE BARS ARE SPLICED WITHIN A REQUIRED LAP LENGTH. MULTIPLY VALUE IN TABLE BY 1.7.
7. THIS TABLE IN NOT INTENDED FOR USE IN FINDING DEVELOPMENT LENGTHS OF HOOKS, WIRES IN TENSION, OR FLEXURAL REINFORCEMENT.



OFFSET AND SPLICES

TENSION DEVELOPMENT LENGTH, Qd (IN INCHES) AND TENSION LAP SPLICE, Q (IN INCHES) (1)

NO SCALE



D=4d FOR #3 TO #8 D=5d FOR #9 TO #11 D=6d FOR #14 AND #18

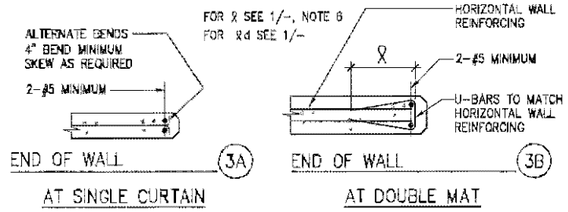
PRINCIPAL REINFORCING

MIN. D=1½" FOR #3 MIN. D=2" FOR #4 MIN. D=2½" FOR #5

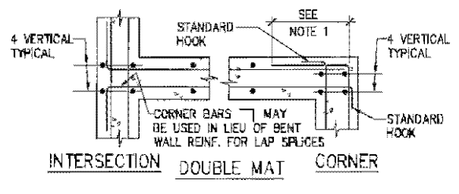
STIRRUPS AND TIES

NOTES:
1. ALL BENDS SHALL BE MADE COLD.
2. #14 AND #18 BARS SHALL BE BEND TESTED AND LAB APPROVED PRIOR TO BENDING.

BAR BENDS (2)

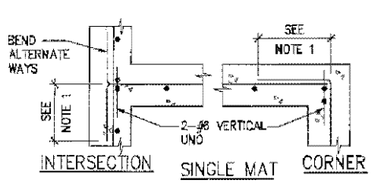


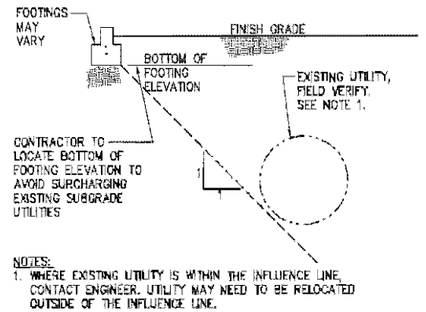
CONCRETE WALL DETAILS (3)



NOTES:
1. USE TENSION LAP SPLICES PER NOTE 6 OF DETAIL 1/-.

REINFORCING AT WALL INTERSECTIONS (4)

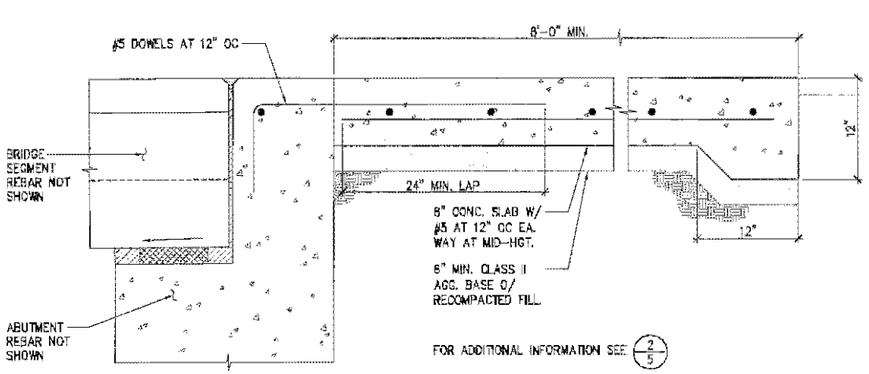




NOTES:
1. WHERE EXISTING UTILITY IS WITHIN THE INFLUENCE LINE, CONTACT ENGINEER. UTILITY MAY NEED TO BE RELOCATED OUTSIDE OF THE INFLUENCE LINE.

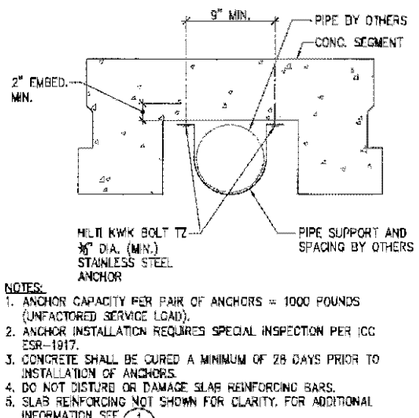
FOOTING PARALLEL TO EXISTING UTILITY (5)

NTS



STRUCTURAL APPROACH SLAB (6)

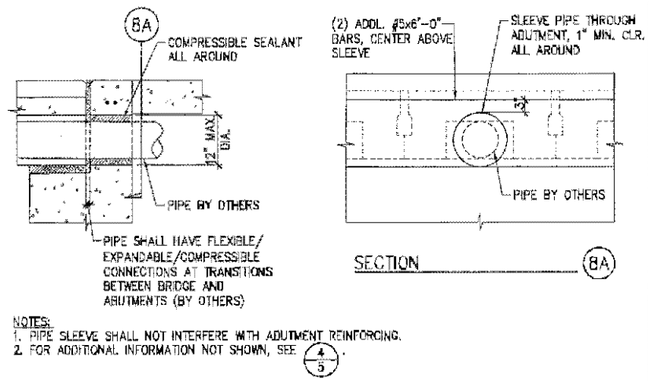
1½" = 1'-0"



NOTES:
1. ANCHOR CAPACITY PER PAIR OF ANCHORS = 1000 POUNDS (UNFACTORED SERVICE LOAD).
2. ANCHOR INSTALLATION REQUIRES SPECIAL INSPECTION PER ICC ESR-1917.
3. CONCRETE SHALL BE CURED A MINIMUM OF 28 DAYS PRIOR TO INSTALLATION OF ANCHORS.
4. DO NOT DISTURB OR DAMAGE SLAB REINFORCING BARS.
5. SLAB REINFORCING NOT SHOWN FOR CLARITY. FOR ADDITIONAL INFORMATION SEE 1/6

PIPE SUPPORT (7)

1½" = 1'-0"



SECTION (8A)

NOTES:
1. PIPE SLEEVE SHALL NOT INTERFERE WITH ADUTMENT REINFORCING.
2. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE 4/5.

PIPE SUPPORT (8)

⅜" = 1'-0"

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HALF MOON BAY BRIDGES

PULLMAN AVENUE AND CHAMPS ELYSEE BOULEVARD

Project

TYPICAL DETAILS

Drawing Title

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April 20, 2016

Coastside County Water District

WATER SYSTEM SPECIFICATIONS FOR STOLOSKI PROPERTY PROJECT

PART 1 - GENERAL

1.01 DESCRIPTION

A. Specifications. This document contains the technical specifications for all water system facilities for which ownership upon project completion will be conveyed by the Applicant, Mark Stoloski, to the Coastside County Water District (CCWD). This document is not a complete set of specifications for the project; the Applicant and their engineer are responsible for all project specifications and contract documents other than this Water System Specifications document.

B. Drawings. This Specifications document shall be used in conjunction with the following engineering drawings for the project:
   1. Improvement Plan Sheets C-1, C-2, C-3. C-4 and C-5 of the drawings titled "Stoloski Property, Cabrillo Highway", prepared by Sigma Prime Geosciences, Inc., latest revision of each sheet.
   2. Sheets 1-6 of the plans titled "Half Moon Bay Bridges", prepared by Praxis, latest revision of each sheet.

C. Conflicts Between Specifications and Drawings. Where conflicts occur between this Specification document and the engineering drawings, this Specifications document shall take precedence. Conflict resolution shall be performed by the Coastside County Water District.

1.02 REGULATORY AGENCIES

A. Water System. All water system work shall be in conformance with the rules and regulations of the Coastside County Water District, County of San Mateo Department of Health Services, and the State Department of Health Services.

B. Safety. All work shall be in conformance with applicable State and Federal laws and regulations, rules and orders and as may be necessary in order that the work is performed in a safe manner and that the safety and health of the employees and the people of local communities is safeguarded.

C. Work Within Street Right of Way Area Including Trench Backfill and Repaving. All work within the street right of way area shall be performed in conformance with the requirements of the agency having jurisdiction over the right of way area. For the Stoloski Property project, the agency having jurisdiction over the right of way area is the City of Half Moon Bay.

D. Pollution Abatement. All work shall be performed in conformance with NPDES (National Pollutant Discharge Elimination System) regulations as well as with all other applicable pollution abatement rules and regulations.

1.03 PERMITS

Prior to beginning work, the Applicant or the project Contractor shall obtain all permits required for the work.

1.04 INSPECTION

A. Responsible Agency:
   1. Water System Work. Inspection of water system facilities including sand backfill around piping will be performed by the CCWD. CCWD inspection fees shall be paid by the Applicant. In areas that are not public right of way areas, the Applicant or the Contractor shall retain a qualified soils engineer who shall perform field tests and certify in writing prior to project acceptance that the backfill is in conformance with project requirements.
   2. Work in Public Right of Way Areas. In public right of way areas, trench backfill and repaving will be inspected by the agency having jurisdiction over the right of way area. All inspection fees and soils testing costs shall be paid by the Applicant or the Contractor.
   3. Work in Private Property Areas. Inspection of trench backfill and repaving shall be performed by the Applicant or a qualified representative of the Applicant.

B. Notification. The CCWD shall be notified by the Contractor 10 days prior to the proposed start of construction of water system facilities. If construction is not continuous, the CCWD shall be notified at least 48 hours in advance of the resumption of construction.

C. Observation. The CCWD and their authorized representatives shall at all times have access to the work, and the Contractor shall furnish every reasonable facility for ascertaining that the materials and workmanship are in accordance with CCWD requirements. All work performed and all materials furnished shall be subject to the CCWD's on-site and off-site observations. The CCWD will observe and inspect facilities solely to protect the interests of the CCWD and to determine whether the completed work is acceptable for incorporation into the CCWD system. The CCWD does not assume thereby any responsibility for the

safety practices of the Contractor. The Contractor is responsible for the correct location of all facilities which are installed. All work shall be inspected by the CCWD prior to backfill. Work which has been backfilled prior to inspection by the CCWD shall be uncovered for observation at the expense of the Contractor.

1.05 CHANGES

All work shall be performed in conformance with the project documents approved by the CCWD. Changes shall not be made without the written approval of the CCWD.

1.06 REPAIR OF DAMAGE

The Contractor shall repair at his expense any damage to CCWD or other property caused by his work. At the option of the CCWD, repairs to CCWD facilities will be completed by the CCWD with the cost of the repair work being paid by the Contractor.

1.07 SITE CONDITIONS

The CCWD has performed no investigation of subsurface conditions in the work area. The Contractor shall visit the site prior to submitting his bid and shall be responsible for making his own evaluations, inspections and determinations of all site conditions, including subsurface.

1.08 LINES AND GRADES

The Contractor will be solely responsible for all lines and grades. At no cost to the Contractor, the CCWD will field locate existing water system facilities based on best available information. However, this CCWD locating assistance is not guaranteed to be either accurate or complete. The Contractor shall uncover all existing facilities by hand excavation (potholing) ahead of his machine excavation work. Where the project drawings indicate the location of water system facilities with respect to property corners or easement boundaries, the Applicant or the Contractor shall retain the services of a licensed land surveyor to field locate each property corner and easement boundary required for installation of the new water system facilities at the proper locations.

1.09 SALVAGEABLE MATERIALS

Existing CCWD materials removed during the normal prosecution of work deemed salvageable by the CCWD, except as otherwise noted on the project drawing to be reused, shall remain under CCWD ownership and shall be delivered to the CCWD corporation yard by the Contractor.

1.10 PERSONAL LIABILITY

Neither the CCWD, its Engineer, nor any of the CCWD officers or employees shall be personally responsible for any liability arising under or by virtue of the Contractor's work.

1.11 QUALITY ASSURANCE

A. Performance Test. Prior to project completion, the Contractor shall demonstrate to the CCWD that all water system facilities perform in the manner in which they are intended for use.

B. Leakage Test. All water pipelines, service tubing and piping accessories shall be tested for leakage in conformance with the requirements contained in Part 3 of this document.

C. Disinfection. All potable water pipelines, service tubing and piping accessories shall be disinfected in conformance with the requirements contained in Part 3 of this document.

1.12 REFERENCES TO STANDARD SPECIFICATIONS AND REGULATIONS

A. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, law or regulation in effect at the time the time the project documents are prepared (date shown on Specification document).

PART 2 - MATERIALS

2.01 GENERAL REQUIREMENTS

A. All materials shall be in conformance with CCWD rules and regulations for "approved" materials.
B. All materials shall be new.

C. Manufacturers furnishing pipe, valves, or piping accessories shall have had similar products in successful operation under similar operating conditions for a period of at least 5 years, and shall if requested submit a list of representative installations.
D. Materials in contact with drinking water shall be certified as meeting the specifications of NSF International/American National Standard Institute (NSF/ANSI)1-2005/Addendum 1.0-2005(Drinking Water System Components—Health Effects). This requirement shall be met under testing conducted by a product certification organization accredited for this purpose by the American National Standards Institute.
E. Pipe materials, plumbing fittings or fixtures, and solder or flux shall be "lead free" as defined in California Health & Safety Code, Paragraph 116875, subd.(a). and subd. (d).

2.02 SHOP DRAWING REQUIREMENTS

A. CCWD-Approved Materials. Where specific materials are listed below by manufacturer's name and model number, they are District-approved materials by CCWD Resolution No. 2003-11. No shop drawing submittals are required for these CCWD-approved materials.

B. Approved Equal Materials. Where the term "or approved equal" is used below, the Contractor may propose the use of alternative materials to those named by submitting shop drawings for the proposed alternative materials. Five copies of each shop drawing shall be submitted to the CCWD for review. The shop drawing submittal information shall be as required to demonstrate to the satisfaction of the CCWD that the material is equal to the District-approved material. No alternative materials shall be incorporated into the work until they have received the CCWD's favorable review. Where the term "or approved equal" is not utilized below, no alternatives will be considered by the CCWD.

C. Contractor Verification. Where model, style or types of manufacturer's products are listed below, they are intended to indicate a standard of quality. The Contractor shall verify that the referenced model, style or type is correct for the actual project application prior to ordering the materials. When listed model numbers are no longer available or are incorrect, the District will provide new model numbers for District-approved materials.

2.03 DUCTILE IRON PIPE

A. Pipe. Pipe shall normally be ductile iron pipe with push-on joints conforming to AWWA Standard C151, thickness Class 52. Where flanged joint pipe is required it shall conform to AWWA Standard C115, thickness Class 53.

B. Pipe Joints:
   1. Push-On Pipe Joints. Push-on pipe shall normally be utilized for all buried piping except where otherwise indicated on the project drawings or otherwise required. Push-on joints shall conform to AWWA Standard C111 with restrained type "Field-Lok" gaskets as manufactured by U.S. Pipe and Foundry Co.
   2. Flanged Joint Pipe. Flanged joint pipe shall be utilized in buried piping where shown on the Contract Drawings or required. All above grade pipe shall have flanged joints. Flanges shall be in conformance with AWWA C115. Flanges shall be Class 125, B16.1, rated for a service pressure of 250 psi. Bolts and nuts for all flanged joints shall be Type 316 stainless steel.

C. Fittings:
   1. Fittings for Push-On Joint Pipe. Fittings shall be ductile iron conforming to AWWA Standard C153. Fittings shall be mechanical joint type. Fittings shall be furnished and installed with joint restraint devices. Joint restraint devices for mechanical joint fittings shall be Series 1100 Megalug Retainer glands as manufactured by EBBA Iron Sales, Inc. Retainer glands shall be factory coated with the manufacturer's mega-bond system. The accessory kit shall be Type 316 stainless steel.
   2. Fittings for Flanged Pipe. Fittings shall be ductile iron conforming to AWWA C110. Fittings shall be screw-on type, normally Class 125, B16.1 Type, designed for a service pressure of 250 psi. Bolts and nuts for flanged joints shall be Type 316 stainless steel. Gaskets shall normally be 1/8 inch thick non-asbestos composition type.

D. Exterior Coating. Pipe and fittings shall be furnished with a 1 mil thick asphaltic coating. The finished coating shall be the manufacturer's standard conforming to AWWA requirements.

E. Interior Lining. Pipe and fittings shall be cement lined in conformance with AWWA Standard C104.

F. Polyethylene Encasement. Polyethylene encasement shall be tube type, conforming to AWWA Standard C105. Color may be Class A natural or Class C black.

2.04 COPPER TUBING

A. Tubing:
   1. Buried Tubing. Copper tubing for buried service shall be Type K (soft) conforming to ASTM B88.

B. Tubing Joints and Fittings.

1. Buried Tubing. Joints and fittings for buried copper tubing shall be compression type which do not require flaring or soldering. Service fittings shall be Mueller Series 110 compression connections.

2.05 BRASS PIPE

A. Brass pipe shall be in conformance with ASTM-B43, regular. Joints shall threaded type.

2.06 STEEL WATER PIPE

A. The 6 inch diameter pipe used for the water pipe at each of the bridge crossings shall be steel cylinder pipe conforming to the following requirements:
   1. Cylinder: ASTM A53, Grade B, and AWWA C200. thickness = 0.322 inch.
   2. Length: 40 ft.
   3. Ends: plain ends.
   4. Lining: 3/8" cement lining conforming to AWWA C205.
   5. Coating: 50 mils thickness comprised of the following: surface preparation: SSPC Sp-6; prime coat Polyken 1027, 4 mils DFT; inner layer Polyken 980, 20 mils DFT; outer layer Polyken 955, 30 mils DFT.
   6. Field Joint Repair Materials: Following cutting of the pipe for field installation, damaged pipe shall be repaired using an appropriate Polyken material for the exterior and cement for the interior.
   7. Manufacturer: Jifco Fabricated Piping.

2.07 STEEL CASING PIPE

A. The 8 inch diameter pipe used for the casing pipe at each of the bridge crossings shall be steel cylinder pipe conforming to the following requirements:
   1. Cylinder: ASTM A53, Grade B, and AWWA C200. Thickness = ¼ inch.
   2. Length: 40 ft.
   3. Ends: plain ends
   4. Lining: none.
   5. Coating: none.
   6. Manufacturer: Cal-Sierra Pipe, Inc.

2.08 GATE VALVES

A. Gate Valves 4 Inches in Diameter and Larger. Gate valves shall be resilient-wedge type conforming to AWWA C509 and the following additional requirements. Valves shall be rated at 250 psi working pressure. All body and bonnet bolts, studs, and nuts shall be Type 316 stainless steel. Stem seals shall

be O-ring type. Valve operators shall be bronze 2 inch square nut type. Valve end connections shall be normally push-on or mechanical joint type except where flanged end connections are required. The interior and exterior of the valve body shall be coated with 10 mils minimum of epoxy material which conforms to AWWA Standard C550. The CCWD-approved valve is the Mueller Co. A-2362 Series.

B. Gate Valves 3 Inches in Diameter and Smaller. Valves shall be rated for 200 psi service, and shall be bronze body, solid wedge disc, non-rising stem, handwheel operated type with screwed end connections.

2.09 TAPPING SLEEVES AND TAPPING VALVES

A. Tapping Sleeves. The CCWD-approved tapping sleeve is the JCM Model 6432 all stainless steel tapping sleeve with Type 316 stainless steel body, bolts and nuts.

B. Tapping Valves. The CCWD-approved tapping valve is the Mueller tapping gate valve conforming to the specifications requirements for Gate Valves in Paragraph 2.06 above. The valve outlet end connection shall be a mechanical joint type.

2.10 VALVE BOXES AND RISER PIPE

A. Valve Boxes. Valve boxes shall be Christy Model G-5 with cast iron lids with the work “Water” cast into the lid.

B. Riser Pipe. Riser pipe for the valve operator shall be 8 inch diameter PVC sewer pipe conforming to ASTM D-3034, SDR 35.

2.11 FIRE HYDRANT ASSEMBLIES

A. Each fire hydrant assembly shall consist of a Clow 960 fire hydrant, a Clow No. 400A breakoff check valve, a 26 inch long hydrant bury piece with a mechanical joint 6 inch diameter end connection, and extension pieces as required. Bolts and nuts for flanged joints shall be Type 316 stainless steel.

2.12 SERVICE FITTINGS FOR COPPER TUBING

A. Service fitting shall be Mueller Series 110 compression connections as listed below:

Description	Mueller Model Number ¾" & 1" Size	1-1/2" & 2" Size
Ball Corporation Valve	B-25008	B-25008
Meter Angle Ball Valve	B-24258	B-24276
Union	H-15403	H-15403
Tee	H-15381	H-15381
Quarter Bend Union	H-15526	H-15526

B. Angle Check Valves shall be products of Ford as listed below:

Size	Model Number
3/4"	HA31-323
1"	HA31-444
1-1/2"	HFA31-666
2"	HFA31-777

2.13 WATER METERS

A. Water meters shall be Sensus meters with Orion automatic read devices. The Contractor shall purchase the meters through the CCWD.

2.14 METER BOXES

A. Meter boxes shall be concrete, and shall be products of Christy Concrete Products, Inc. Meter box lids in non-traffic areas shall normally be concrete, and in traffic areas shall be galvanized steel. Lids shall have the work "Water" cast into the top. Extension pieces shall be provided as required so that the bottom of the meter box assembly is equal in elevation with the bottom of the meter or other device inside the box or as shown on the District Standard Installation Details or as directed by District field personnel. For water meter service connections, the following boxes and lids shall be provided:

CHRISTY METER BOXES AND LIDS

Water Meter Size	Box No.	Non-Traffic Lid No.
¾"	B9	B9P
1"	B16	B16P
1-1/2"	As Req'd.	P Type

The "P" type lids are fabricated of reinforced concrete with a 1-3/4 inch hole for the automatic meter reading device. Where meter boxes are utilized for air release assemblies, blow off valve assemblies and other non-meter applications use the "D" type lid.

Where traffic-type lids are required, provide lid type as required by the District.

2.15 SERVICE SADDLES

A. Service saddles shall be rated for a working pressure of 200 psi, and shall be bronze double strap type. Outlet shall be either AWWA taper or IPT as required for the pipe to be connected to the saddle. The District-approved service saddle is the Mueller BR2B Series.

2.16 FIRE HYDRANT GUARD POSTS

A. Fire hydrant guard posts (bollards) shall be 4 inch diameter Schedule 40 galvanized steel pipe, 6 feet long.

2.17 CONCRETE

A. Concrete shall contain a minimum 564 pounds of Portland cement per cubic yard. Minimum compressive strength after 28 days shall be 3,500 psi.

2.18 SAND BEDDING AND BACKFILL MATERIAL

Sand for use in bedding and backfilling water pipelines and service tubing shall conform the requirements contained in the current edition of "Standard Specifications" issued by Caltrans (California Department of Transportation), Section 19. Use of beach sand will not be permitted. In addition, the material shall have a resistivity of 1,000 ohm-cm or higher when tested by the water-saturated soil box method.

2.19 WATER

Water shall be potable water unless otherwise permitted by the CCWD, and will be made available to the Contractor by the CCWD from available facilities at or in the vicinity of the work site. Cost of water shall be paid by the Contractor using a portable meter obtained from the District.

2.20 TRENCH BACKFILL MATERIALS AND REPAVING MATERIALS

A. Public Right of Way Areas. Materials within public right of way areas shall conform to the requirements of the agency having jurisdiction over the right of

way area which for this project is the City of Half Moon Bay. In addition, the materials shall have a resistivity of 1,000 ohm-cm or higher when tested by the water-saturated soil box method.

B. Non-Public Right of Way Areas. Materials shall conform to the requirements contained in the current edition of "Standard Specifications" issued by Caltrans (California Department of Transportation), Section 19. In addition, the material shall have a resistivity of 1,000 ohm-cm or higher when tested by the water-saturated soil box method.

2.21 PIPE STRAPS

Pipe straps for attaching the steel casing pipe to the bridges shall be 2 hole, Type 316 stainless steel, similar and equal to Tripac Model 2STR-8". Attachment devices shall be as shown on the bridge drawings.

2.22 CASING INSULATORS

Casing insulators shall be provided which shall support the carrier pipe within the casing pipe, prevent the carrier pipe from floating, and electrically insulate the carrier pipe from the casing pipe. Casing insulators shall be fabricated of solid polyethylene and shall have a minimum band width of 4 inches. All insulator assembly bolts and nuts shall be Type 304 stainless steel. Casing insulators shall be Model AC as manufactured by Advance Products & Systems, Inc., or approved equal.

2.23 CASING END SEALS

Casing end seals shall be fabricated of synthetic rubber, minimum thickness 1/8 inch. Banding straps shall be stainless steel. End seals shall be Model AC as manufactured by Advance Products & Systems, Inc., or approved equal.

2.24 FLEXIBLE EXPANSION JOINTS

Flexible expansion joints shall be double ball type, fabricated of ductile iron, rated for 350 psi working pressure, with mechanical joint end connections. All wetted parts shall be coated with a fusion bonded epoxy of a type approved by NSF61. Flexible expansion joints shall be EBBA Iron Inc. Flex-Tend model. No alternatives will be acceptable.

2.25 AIR VALVES

Air valves shall be combination type conforming to the requirements of AWWA Standard C512. Valve size shall be as shown on the Contract Drawings. Combination air valves shall be APCO Series 140C or equivalent ValMatic model. No alternatives will be permitted.

PART 3 - EXECUTION

3.01 SEQUENCE OF UNDERGROUND UTILITY CONSTRUCTION

A. The sequence of underground utility construction shall be that the deepest utility system shall be constructed first and the shallowest last, except that construction of water pipelines shall in all instances be constructed before the joint electrical trench facilities.

3.02 EXISTING UNDERGROUND UTILITIES

A. Prior to beginning work the Contractor shall notify USA to have the location of all underground utilities marked in the field. Prior to beginning machine excavation the Contractor shall verify the exact location of each underground utility by hand excavation (potholing).

3.03 SITE MEETING WITH DISTRICT FIELD PERSONNEL

A. General. Prior to beginning work the Contractor shall arrange a meeting at the site with District field personnel to review the work requirements. The District will require satisfactory evidence such as field survey stakes or property corner survey markers of the location of the property line adjacent to which meter boxes and fire hydrants are to be installed before the exact location of meter boxes and fire hydrants can be determined.

B. Easement Staking. For pipelines to be constructed on private property within an easement, the Applicant shall retain the services of a licensed land surveyor to install stakes on the edges of the easement. A stake shall be installed at each easement angle point and at a maximum distance of 50 feet apart between angle points. The surveyor shall provide a letter to the District describing the work performed, and a copy of the easement description shall be attached to the letter.

3.04 TRENCH EXCAVATION, BACKFILL AND REPAVING

A. Trench Excavation. Trenching for pipe and service tubing shall be in open cut unless otherwise permitted by the CCWD. Existing pavement shall be cut with a pavement saw. Existing vegetation shall be preserved and protected. Tree roots over 2 inches in diameter shall not be cut or otherwise damaged. In unpaved areas topsoil shall be removed, stockpiled, and replaced after completion of trench backfilling. Work shall be performed to minimize disruption of traffic and so as not to obstruct driveways and other access roadways. Excavation shall be to a minimum depth of 4 inches below the pipe grade to accommodate the pipe bedding material. All pipe and service tubing shall be bedded in a 4 inch thick layer of sand.

B. Trench Backfill:
   1. Pipe Zone Backfill. Backfilling work shall not begin until the CCWD has completed its inspection of the piping work. All pipe and service tubing shall be backfilled with sand to a depth of 12 inches over the pipe. The sand shall be compacted to a minimum relative compaction of 95%.
   2. Upper Level Backfill:
      a. Public Right of Way Areas. Backfilling shall conform to the requirements of the agency having jurisdiction over the right of way area which for this project is the City of Half Moon Bay.
      b. Non-Public Right of Way Areas. Under paved areas, backfill with structure backfill material compacted to a minimum 95% relative compaction. Under unpaved areas backfill with suitable excavated material compacted to a minimum 90% relative compaction.

C. Trench Repaving:
   1. Public Right of Way Areas. Conform to the requirements of the agency having jurisdiction over the right of way area which for this project is the City of Half Moon Bay.
   2. Non-Public Right of Way Areas. Repave to restore paved area to a condition equal or better than that which existed prior to start of work including restoration of gravel, crushed rock or oiled surfaces.
   3. Steel Traffic Plates. Contractor shall have available in the vicinity of the job site a sufficient number of steel traffic plates to cover 20 linear feet of trench. These plates shall be utilized as required to maintain traffic flow in streets, allow access to driveways and similar private roadways, and for passage of emergency vehicles. Normally all trenches shall be backfilled at the completion of each work day and temporary asphalt concrete paving installed in all areas which had existing pavement including sidewalks.
   4. Disposal of Excavated Materials. Excess and unsuitable materials shall be disposed of off the site in conformance with the requirements of regulatory agencies.
   5. Curb, Gutter and Sidewalk. All damaged areas shall be replaced with new materials.

a. Public Right of Way Areas. Work shall be performed in conformance with the requirements of the agency having jurisdiction over the right of way area which for this project is the City of Half Moon Bay.
b. Non-Public Right of Way Areas. In privately owned areas restoration shall be to a condition equal or better than that which existed prior to start of work.

3.05 PIPING GENERAL REQUIREMENTS

A. Location:
1. Pipelines. Pipelines shall be installed true to line and grade as shown on the project drawings. Buried pipelines shall be installed at a continuously sloping grade between points of given elevation without low or high points. If high points cannot be avoided, an air release valve assembly shall be provided. Location of the pipeline may be modified by the CCWD to clear obstructions. Depth of cover over the pipeline to finish grade shall be as shown on the Improvement Plans.
2. Service Connection Tubing. Tubing shall be installed at a continuously sloping grade upward from the connection point with the water pipeline to the water meter box without low or high points. Tubing shall be installed with a minimum depth of cover of 30 inches unless otherwise permitted by the CCWD.

B. Handling. Pipe and service tubing shall be handled carefully to prevent damage. Pipe and service tubing shall be plugged at the end of each work day and at other times as required to prevent the entry of water or foreign material.

C. Trench Conditions. Pipe and service tubing shall have a full, even bearing on the top of the trench bedding material. All piping shall be laid in the dry; the Contractor shall dewater the trench as required. Piping ends shall be clean when joints are made.

D. Clearance Distances of Water Pipelines from Other Underground Utilities and Facilities. Water pipelines and service tubing shall be installed with the following minimum clearances from other underground utilities:
1. Electrical Wires or Conduits, Storm Drains, Telephone Conduits, Cable TV Wires or Conduits, Other Utilities, and Other Facilities. Minimum horizontal clearance shall be 4 feet; minimum vertical clearance shall be one foot.
2. Sanitary Sewers Including House Laterals. Minimum horizontal clearance shall be 10 feet; minimum vertical clearance shall be one foot. Water pipelines shall pass over sanitary sewers where feasible. The Contractor shall provide written documentation to the CCWD for each instance where a sanitary sewer line is passing over a water pipeline.

E. Thrust Restraints. All piping shall be adequately braced against thrust. Buried pipe shall be provided with concrete thrust blocks in conformance with the CCWD Standard Installation Details. Concrete thrust blocks are required for restrained joint type pipe fittings.

F. Connections to Existing Water Pipelines. Connections of new water pipelines to existing water pipelines shall be made in a manner which does not require taking the existing water pipeline out of service. Where required, connections shall be made by the "hot tap" method. It shall be the responsibility of the Contractor to verify by actual field measurement all existing site conditions including the size and type of the existing pipeline prior to ordering the tapping sleeve and tapping valve for the hot-tap connection.

G. Fire Hydrant Guard Posts. Guard posts (bollards) shall be installed at all fire hydrants not protected by curbing and at locations with curbing where in the opinion of the District the fire hydrant is not adequately protected from vehicle traffic. The number and location or required guard posts will be determined in the field by the District. The posts shall be installed 3 feet into the ground using concrete encasement. Following installation the interior of the pipe shall be filled with concrete.

H. Leakage Test. All piping shall be tested for leakage in conformance with the requirements specified for each type of pipe. The Contractor shall provide all materials and labor required for the leakage test including the pump, pressure gauge, corporation stops, and temporary plugs and thrust blocks. The procedure shall be to (1) fill the pipeline with water to the required test pressure, (2) disconnect the test pump hose and wait for the duration of the test period to elapse, (3) reconnect the test pump and measure the volume of water required to re-establish the test pressure. Following completion of the test the Contractor shall dispose of the leakage test water in conformance with NPDES regulations. It shall be the Contractor's responsibility to block off during the testing all piping appurtenances which may be damaged by the test pressure and to provide suitable thrust restraints. Leakage testing shall be witnessed by the District.

I. Disinfection and Bacteriological Testing:
   1. General. All piping systems conveying potable water shall be disinfected. Disinfection shall be in conformance with AWWA Standard C651 except as otherwise required by this document. The Contractor shall provide all materials and labor required for the disinfection process and shall dispose of the disinfection solution in conformance with NPDES requirements including dechlorination.
   2. Procedure:
      a. Preliminary Preparation. The system shall be flushed with water to remove and dirt introduced into the piping during construction

operations. All service outlets and fire hydrants shall be opened and the flushing operations continued until clear water flows from each outlet (Note: flushing shall be deferred until after completion of the disinfection process if tablets have been placed in the pipeline during the construction for disinfection).

b. Introduction of Disinfection Agent. The disinfection agent may be any chlorine compound approved by AWWA C651. The disinfection agent shall be injected slowly and continuously into the system until tests indicate a chlorine residual concentration of at least 25 mg/L at each pipeline outlet. All outlets shall then be closed and this condition maintained for 24 hours.

c. Preliminary Tests. After 24 hours tests shall be made for residual chlorine at each pipeline outlet. The minimum acceptable concentration shall be 10 mg/L. If the concentration is less than 10 mg/L, the disinfection procedure shall be repeated. If the concentration at each outlet is over 10 mg/L, the system shall be flushed out until a test at each outlet indicates a chlorine residual of less than 1.0 mg/L.

d. Bacteriological Analyses. The CCWD will obtain samples from the piping being disinfected and have bacteriological analyses performed by a State certified laboratory. The number of samples taken shall conform to AWWA C651 (unless otherwise permitted by the District) and State Department of Health Services requirements. Costs of bacteriological analyses shall be paid by the Contractor.

e. Final Approval. The requirement for final approval is that each water sample analyzed shall be in conformance with State disinfection requirements. If all bacteriological analyses are not in conformance with these requirements the disinfection procedure shall be repeated.

f. Disinfection by Spraying or Swabbing. Water piping installations which cannot be disinfected using the procedure described above shall be disinfected by spraying or swabbing the pipeline interior with a minimum 1% chlorine solution immediately prior to installation.

3.06 DUCTILE IRON PIPE INSTALLATION

A. General. Pipe installation shall be in conformance with Sections 1 through 3 of AWWA Standard C600 except as otherwise required by this Specification section. Pipe installation shall also be in conformance with the recommendations of the manufacturers of the pipe and fittings.

B. Handling. Pipe shall be handled using pipe slings. Use of a forklift will not be permitted. Pipe ends shall be kept clean and shall be plugged at the end of each day's work or when pipe is not being laid to prevent the entry of water or foreign material.

C. Restrained Joints and Concrete Thrust Blocks. All pipe joints shall be restrained using the materials described in Part 2 of this Specification section and also with a concrete thrust block.

D. Pipe Taps. Pipe taps will be permitted in accordance with the following schedule:

Pipe Tap Schedule

	Maximum Tap Size	
Pipe Diameter	Without Saddle	With Saddle
4”	¾”	2-1/2”
6”	1-1/4”	2-1/2”
8”	1-1/2”	2-1/2”
10” and larger	2”	2-1/2”

If the piping connection of larger pipes than permitted for taps is required, standard tee fitting shall be utilized.

E. Maximum Pipe Joint Deflection. Special care shall be taken so as not to exceed the manufacturer’s recommendations for joint deflection. For bends exceeding the applicable deflection, fittings shall be installed.

F. Polyethylene Encasement. All ductile iron piping including pipe, fittings, valves and piping appurtenances shall be polyethylene encased. Installation shall be in conformance with either Methods A or B of AWWA Standard C105. The polyethylene encasement shall prevent contact between the piping and the surrounding backfill and bedding material but is not intended to be a completely airtight or watertight enclosure. Overlaps shall be secured by the use of adhesive tape furnished with the polyethylene encasement.

G. Leakage Test. All ductile iron piping shall be tested for leakage for a duration of 2 hours at a test pressure of 250 psi. Allowable leakage for below grade piping shall not exceed the following:

Pipe Diameter	Allowable Leakage per 1000 Linear Feet of Pipe During the 2 Hour Test Period
4”	0.47 gallons
6”	0.71 gallons
8”	0.95 gallons
10”	1.19 gallons

3.07 COPPER SERVICE TUBING INSTALLATION

A. Installation. Installation of copper tubing including jointing shall be in conformance with the recommendations of the manufacturers of the tubing and fittings.

B. Leakage Test. Copper tubing shall be hydrostatically tested for leakage at 250 psi for a 2 hour duration test period. No leakage will be permitted.

3.08 INSTALLATION OF VALVES AND OTHER PIPING ACCESSORIES

A. Installation of valves and other piping accessories shall be in conformance with the recommendations of the manufacturer of the product and in conformance with the District Standard Installation Details. A valve box shall be provided for each below grade valve. The Contactor shall demonstrate to the satisfaction of the District the proper performance of each piping accessory prior to project acceptance.

B. Air Relief Valve Assemblies. An air relief valve assembly shall be installed at each pipeline high point where in the opinion of the CCWD entrapment of air could occur. The known locations where air relief valves are required are shown on the project Drawings. During construction, if additional pipeline high points are created which in the opinion of the CCWD could result in air entrapment, an air relief valve shall be installed at each of these additional locations.

C. Tapping Sleeve and Valve Installation. Installation of tapping sleeves and tapping valves shall be performed only by CCWD-approved contractors. The only currently approved tapping contractor is DC Tapping.

3.09 FIRE HYDRANT GUARD POSTS

A. The number of guard posts (bollards) to be installed and their location will be determined in the field by the CCWD. Each post shall be installed 3 feet into the ground using concrete encasement, and following installation the post shall be filled with concrete.

3.10 SERVICE CONNECTION INSTALLATION

A. Piping for Water Meter Installation. The piping for the water meter installation shall be constructed at a sufficient depth below grade to allow sufficient space for installation of the water meter and its automatic metering reading head. The required distance will vary depending on the size of water meter. CCWD personnel will provide the Contractor with the required information. Water meter boxes shall be located with the following horizontal clearance distances: (1) minimum of 10 feet from sanitary sewer laterals, (2) minimum of 5 feet from other utility service boxes. Water meter boxes shall not be located within driveways

B. Irrigation Service Connections. Irrigation service connections where shown on the project drawings shall consist of both an irrigation water meter service connection and a backflow prevention device.

3.11 AS-BUILT DRAWINGS

A. Prior to project acceptance, the Contractor shall provide the District with a set of the project drawings marked for As-Built conditions. The as-built markings shall include the following (1) all changes made to the project drawings during construction, (2) field measurements locating the actual location of the pipeline horizontally from property corners and other surface facilities, (3) horizontal distance of each valve from a minimum of 2 permanent surface facilities such as utility poles, curb and gutter, etc., (4) depth of cover for the pipeline at all locations, as constructed, and (5) the locations of all underground facilities encountered during construction including horizontal location and depth of cover. In addition, documentation shall be provided describing each location where a sanitary sewer pipeline passes over a water pipeline.

3.12 CCWD STANDARD INSTALLATION DETAILS AND SPECIAL INSTALLATION DETAILS

A. General. Installation of piping and appurtenances shall be in conformance with CCWD Standard Installation Details and special installation details prepared by the CCWD for the project. If there are conflicts between the CCWD Standard Installation Details and the project Improvement Plans, conflict resolution shall be performed by the CCWD.

B. Standard Installation Details. Details known to be required for the project are shown on the project drawings.

C. Special Installation Details. There are no special installation details known to be required for this project. If required, special installation details will be prepared by the District and provided to the Contractor.

END OF WRITTEN DOCUMENT