

**STAFF REPORT**

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

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

**Agenda: June 12, 2018**

**Date: June 6, 2018**

**Subject: Approval of Water Service Agreement – 620 Avenue Portola, El Granada**

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**Recommendation:**

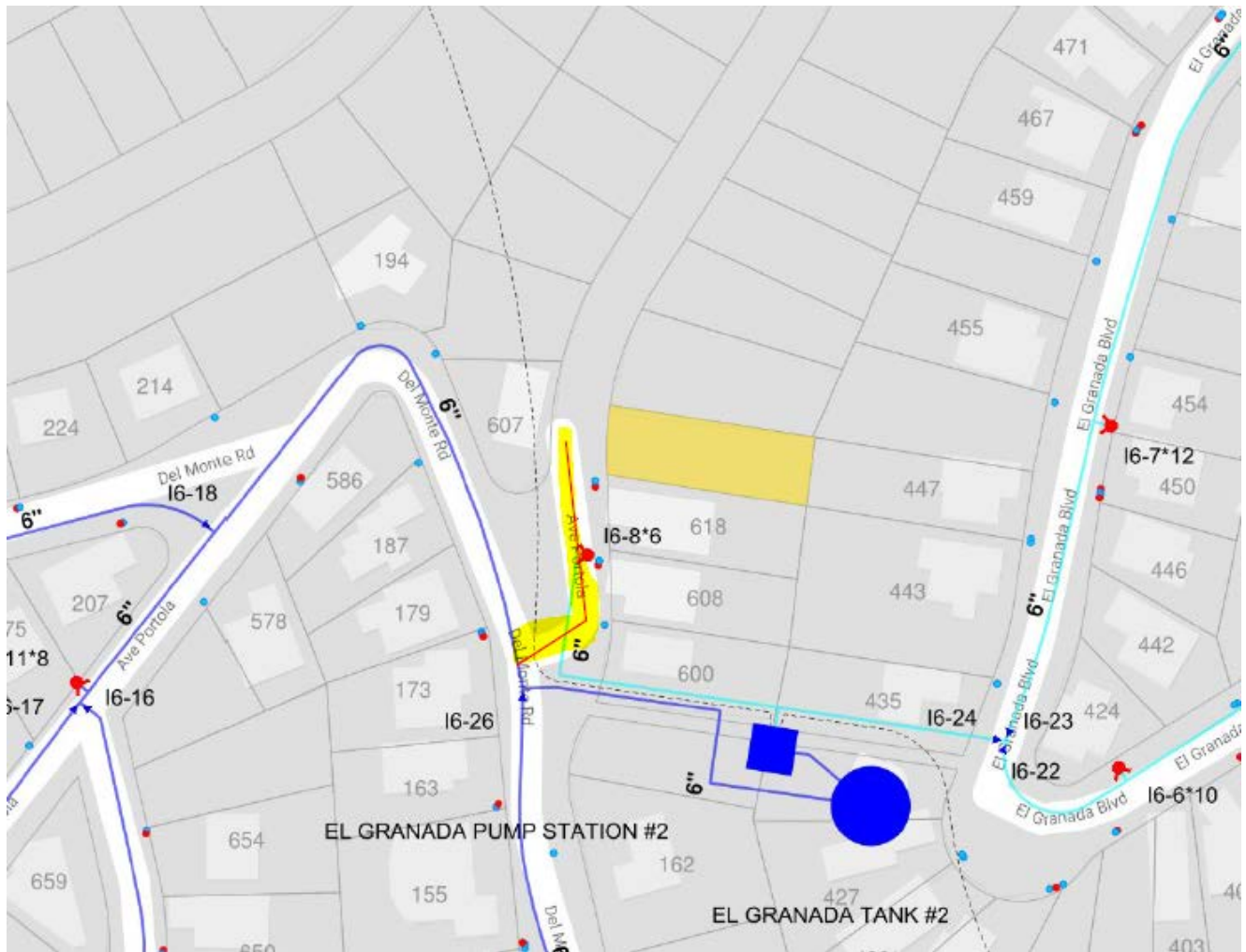
Approve the attached Water Service Agreement between Coastside County Water District and Michael Kostiuk and Kayleen Pashel-Kostiuk for construction of a pipeline extension along Avenue Portola in El Granada.

**Background:**

The attached Water Service Agreement provides for construction of the water utility system that will serve 620 Avenue Portola in El Granada. The project consists of approximately 60 linear feet of 6" diameter pipeline.

**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 parcel are paid by the applicant.



## **WATER SERVICE AGREEMENT**

### **KAYLEEN M. PASHEL-KOSTIUK AND MICHAEL P. KOSTIUK** **620 AVENUE PORTOLA / NON-COMPLEX PIPELINE EXTENSION PROJECT**

THIS AGREEMENT is made as of this \_\_\_\_\_ day of \_\_\_\_\_, 2018, between COASTSIDE COUNTY WATER DISTRICT ("District"), and KAYLEEN M. PASHEL-KOSTIUK AND MICHAEL P. KOSTIUK (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 620 Avenue Portola (APN 047-144-370) in the County of San Mateo, State of California (collectively, the "Property"), which is shown on Exhibit A.

C. Applicant has purchased, and has the right to install, one five-eighth-inch (5/8") non-priority water service connection that is assigned to APN 047-144-370 (620 Avenue Portola).

D. Applicant has requested the installation of the following: (1) a six-inch pipeline extension approximately sixty (60) feet in length; (2) one three quarter inch domestic service connection and one one-inch fire service connection; and (3) all related appurtenances (collectively, the "Project").

E. 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 plans prepared by James S. Teter, Consulting Engineer, dated November 22, 2017 (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 for transmission and storage fees for one (1) five eighth-inch (5/8") non-priority water service connection.

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 \$150.

D. Plan Check and Construction Inspection Fees. None Due. The Applicant has deposited the sum of Four Thousand Dollars and No Cents (\$4,000.00), which was the cost estimate for the District staff and Engineer's costs in preparing and reviewing final plans, inspecting the construction of the Project Utility System, modifications of water system maps, and 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. None Due.

## 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: Michael P. Kostiuk and Kayleen M. Pashel-Kostiuk  
1288 E. Hillsdale Blvd., #B202  
Foster City, CA 94404

**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:**

By: \_\_\_\_\_  
President, Board of Directors

By: \_\_\_\_\_  
Kayleen M. Pashel-Kostiuk, Property Owner

By: \_\_\_\_\_  
Secretary

By: \_\_\_\_\_  
Michael P. Kostiuk, Property Owner

TAX CODE AREA \_\_\_\_\_

47-14

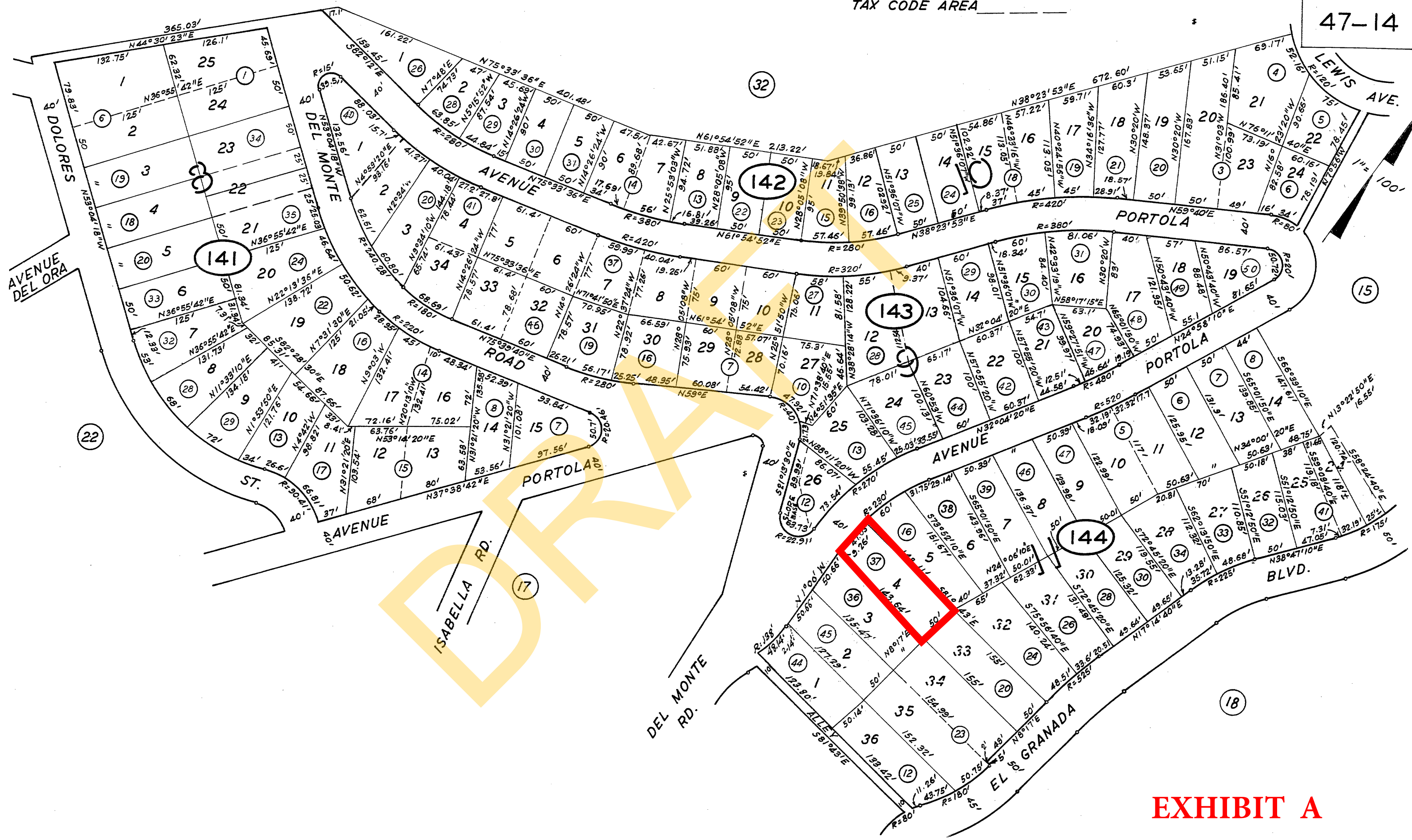


EXHIBIT A

EXHIBIT B

GENERAL LEGEND

- W —

— G —

— JT —

— SS —

— T —

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WM

X

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150

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EP

WATER PIPELINE, NEW OR EXISTING

EXISTING GAS PIPELINE

EXISTING JOINT TRENCH FACILITIES

EXISTING SANITARY SEWER

EXISTING TELEPHONE CONDUIT OR CABLE

PROPERTY LINE

EXISTING CONCRETE CURB

EXISTING CONCRETE CURB AND GUTTER

EXISTING CONCRETE CURB, GUTTER AND SIDEWALK

EXISTING WATER METER BOX

EXISTING OR NEW GATE VALVE

EXISTING OR NEW FIRE HYDRANT

EXISTING UTILITY POLE

EXISTING MANHOLE

STREET ADDRESS OF EXISTING HOUSE OR BUILDING

ASSESSOR'S BLOCK NUMBER

ASSESSOR'S LOT NUMBER

EXISTING FACILITY

NEW WORK THIS CONTRACT

EDGE OF EXISTING ASPHALT CONCRETE PAVEMENT

GENERAL NOTES

1. SPECIFICATIONS. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DOCUMENT ENTITLED "WATER SYSTEM SPECIFICATIONS FOR AVENUE PORTOLA PIPELINE EXTENSION TO APN 047-144-370".
2. COORDINATION WITH SITE DRAWINGS. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS PREPARED BY THE APPLICANT'S ARCHITECT AND ENGINEER FOR THE PROPOSED RESIDENCE PROJECT. ONE SUCH KNOWN DRAWING IS TITLED "SHEET C-1, GRADING AND DRAINAGE PLAN, KOSTIUK PROPERTY, AVE. PORTOLA, EL GRANADA", DATED 5/1/17 PREPARED BY SIGMA PRIME GEOSCIENCES, INC.
3. EXISTING UNDERGROUND UTILITIES. THE LOCATION OF EXISTING UTILITIES AND OTHER UNDERGROUND FACILITIES SHOWN ON THE DRAWINGS IS BASED ON AVAILABLE INFORMATION AND IS NOT GUARANTEED TO BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT LEAST 48 HOURS BEFORE BEGINNING WORK TO HAVE THE LOCATION OF ALL UNDERGROUND FACILITIES MARKED IN THE FIELD BY THEIR OWNERS. THE CONTRACTOR SHALL ALSO CONTACT THE OWNERS OF OTHER KNOWN UNDERGROUND FACILITIES NOT INCLUDED IN THE U.S.A. SYSTEM SUCH AS SANITARY SEWERS, STORM DRAINS, AND CABLE TV TO HAVE THE LOCATION OF THOSE FACILITIES MARKED IN THE FIELD. PRIOR TO BEGINNING MACHINE EXCAVATION WORK THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UNDERGROUND UTILITY BY HAND EXCAVATION (POT HOLING).
4. ENCROACHMENT PERMIT FROM COUNTY OF SAN MATEO. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE COUNTY OF SAN MATEO FOR WORK WITHIN STREET RIGHT OF WAY AREA AND SHALL COMPLY WITH ALL REQUIREMENTS OF THAT PERMIT.
5. HOURS OF WORK. WORK SHALL BE PERFORMED BETWEEN THE HOURS OF 7:30 A.M. AND 4:30 P.M., MONDAY THROUGH FRIDAY. NO WORK SHALL BE PERFORMED ON SATURDAYS, SUNDAYS, AND STATE AND FEDERAL HOLIDAYS.



PLAN OF AVENUE PORTOLA

SCALE 1" = 20'



JAMES S. TETER  
Consulting Engineer

15 Bayview Drive  
San Rafael, CA 94901

Tel: (415) 453-0754  
Fax: (415) 453-0882

DATE:	11/22/17
DESIGN BY:	TETER
DRAWN BY:	RITHY
APPROVED BY:	
DRAWING NO:	

VERIFY SCALES	No.	REVISION	DATE	BY
BAR IS ONE INCH ON ORIGINAL DRAWING.				
0 1"				
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.				

COASTSIDE COUNTY WATER DISTRICT

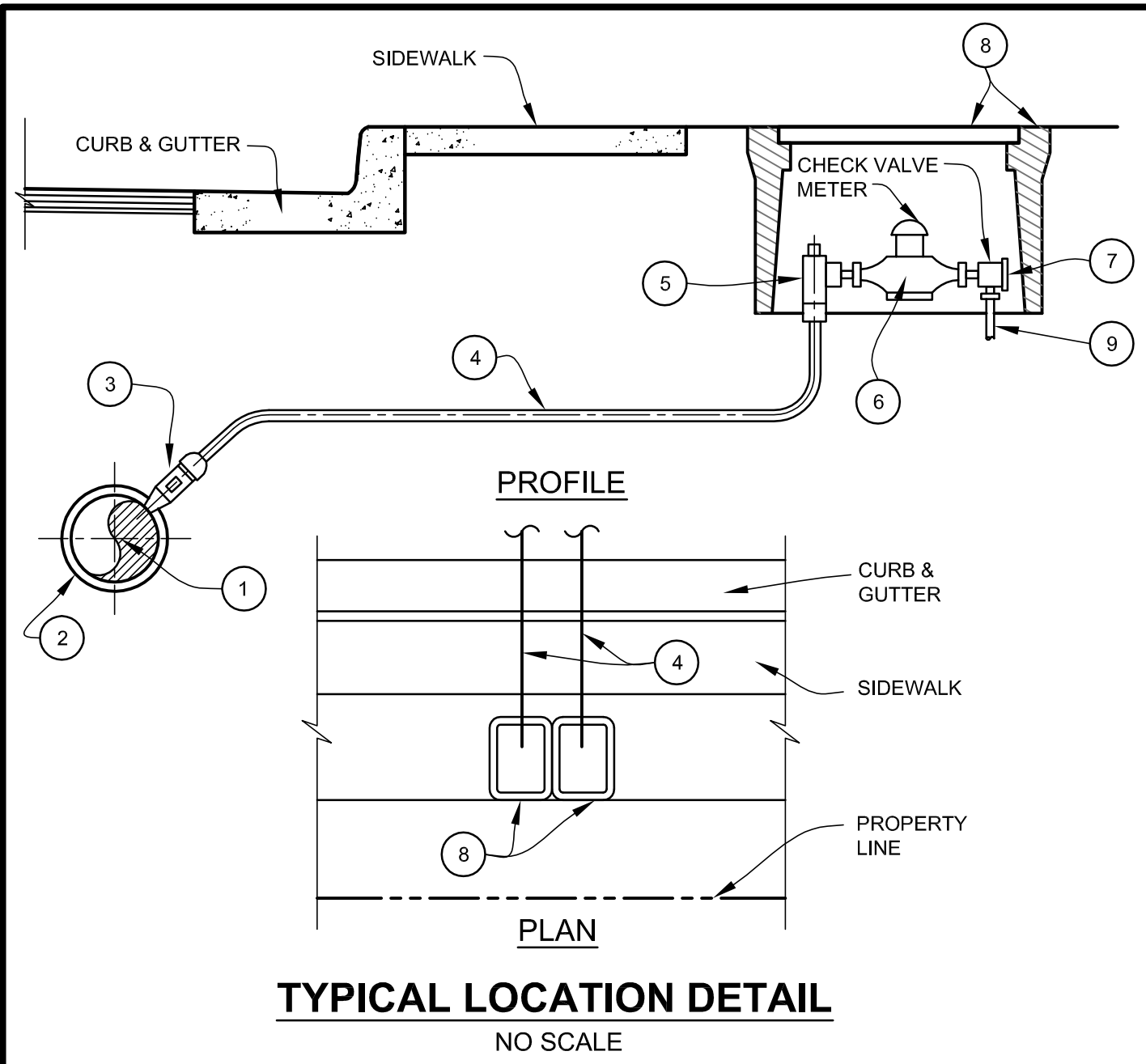
AVENUE PORTOLA PIPELINE EXTENSION PROJECT TO APN 047-144-370

SITE PLAN

SHEET

1

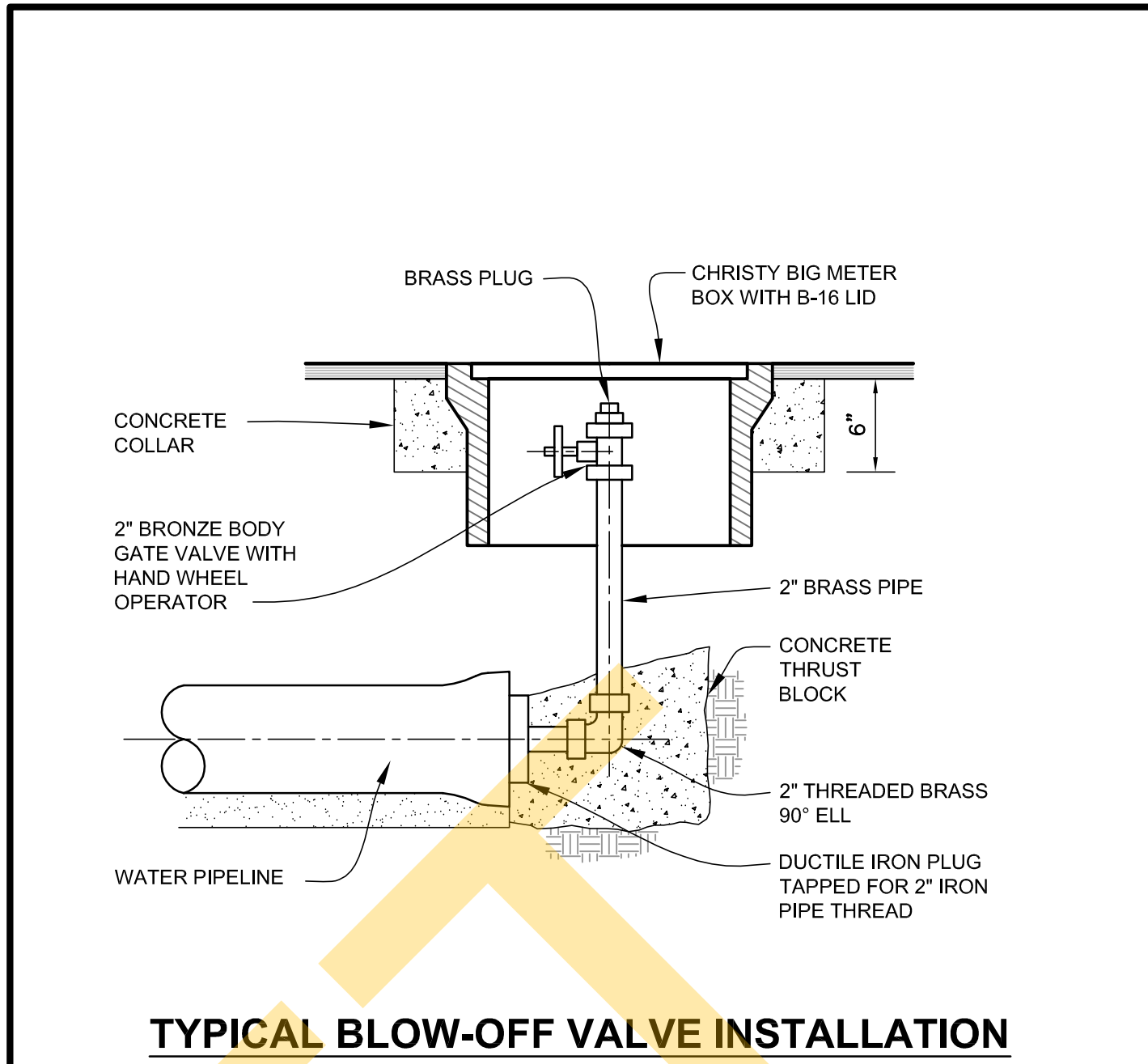
OF 2 SHEETS



NUMBER	LEGEND FOR CIRCLED NUMBERS DESCRIPTION
1	WATER PIPELINE.
2	DOUBLE STRAP SERVICE SADDLE.
3	BALL CORPORATION VALVE.
4	TYPE K COPPER TUBING, SLOPE SLIGHTLY UPWARD.
5	METER ANGLE BALL VALVE.
6	WATER METER, FURNISHED INSTALLED BY DISTRICT.
7	ANGLE CHECK VALVE.
8	WATER METER BOX AND LID.
9	CUSTOMER WATER PIPELINE.

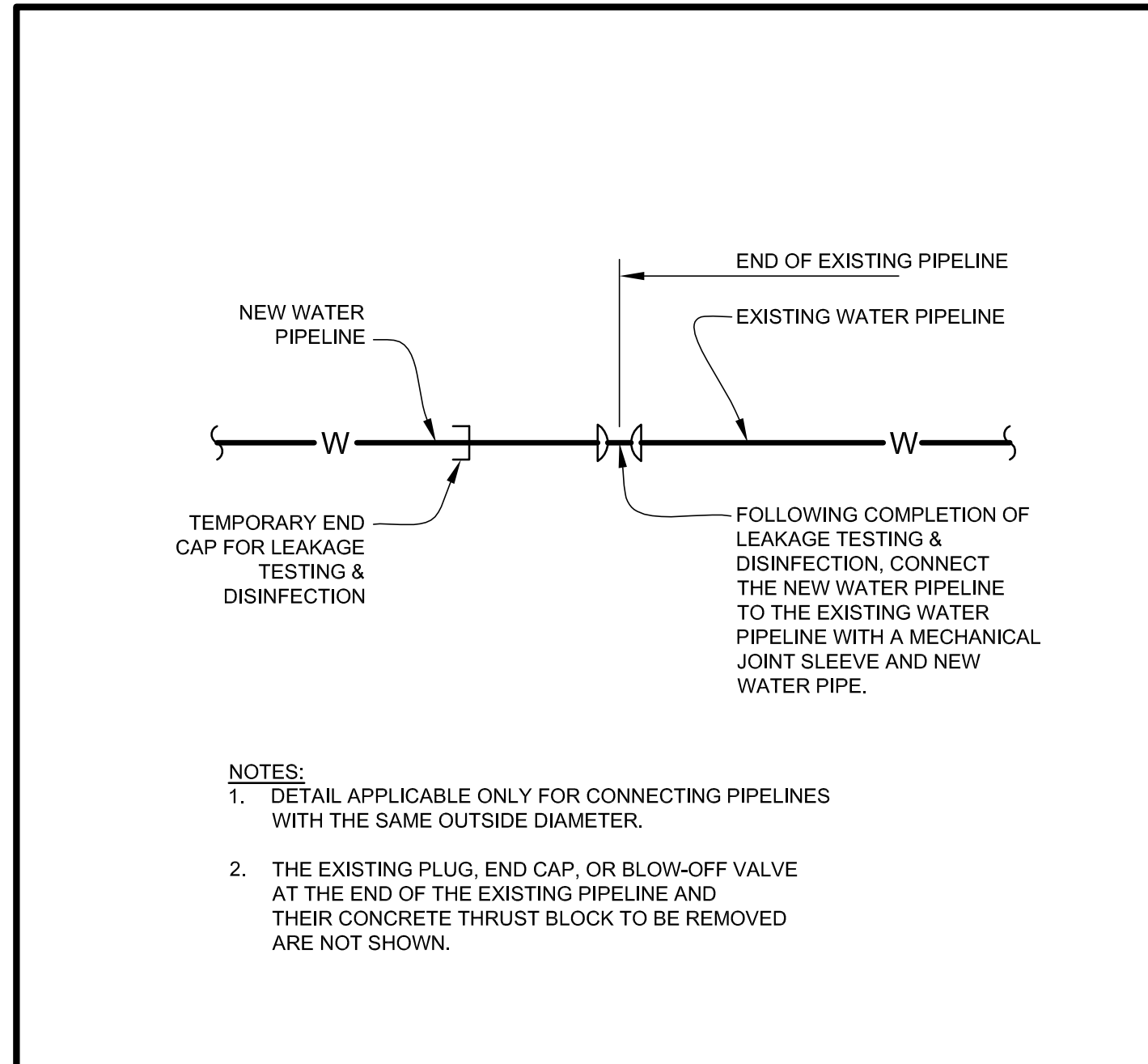
NOTE: CONSULT DISTRICT FOR MATERIAL MANUFACTURER AND MODEL NUMBER.

3/4" DOMESTIC SERVICE CONNECTION WITH 1" FIRE SERVICE CONNECTION	DATE: MAY 16 REV:	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA
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TYPICAL BLOW-OFF VALVE INSTALLATION  
NO SCALE

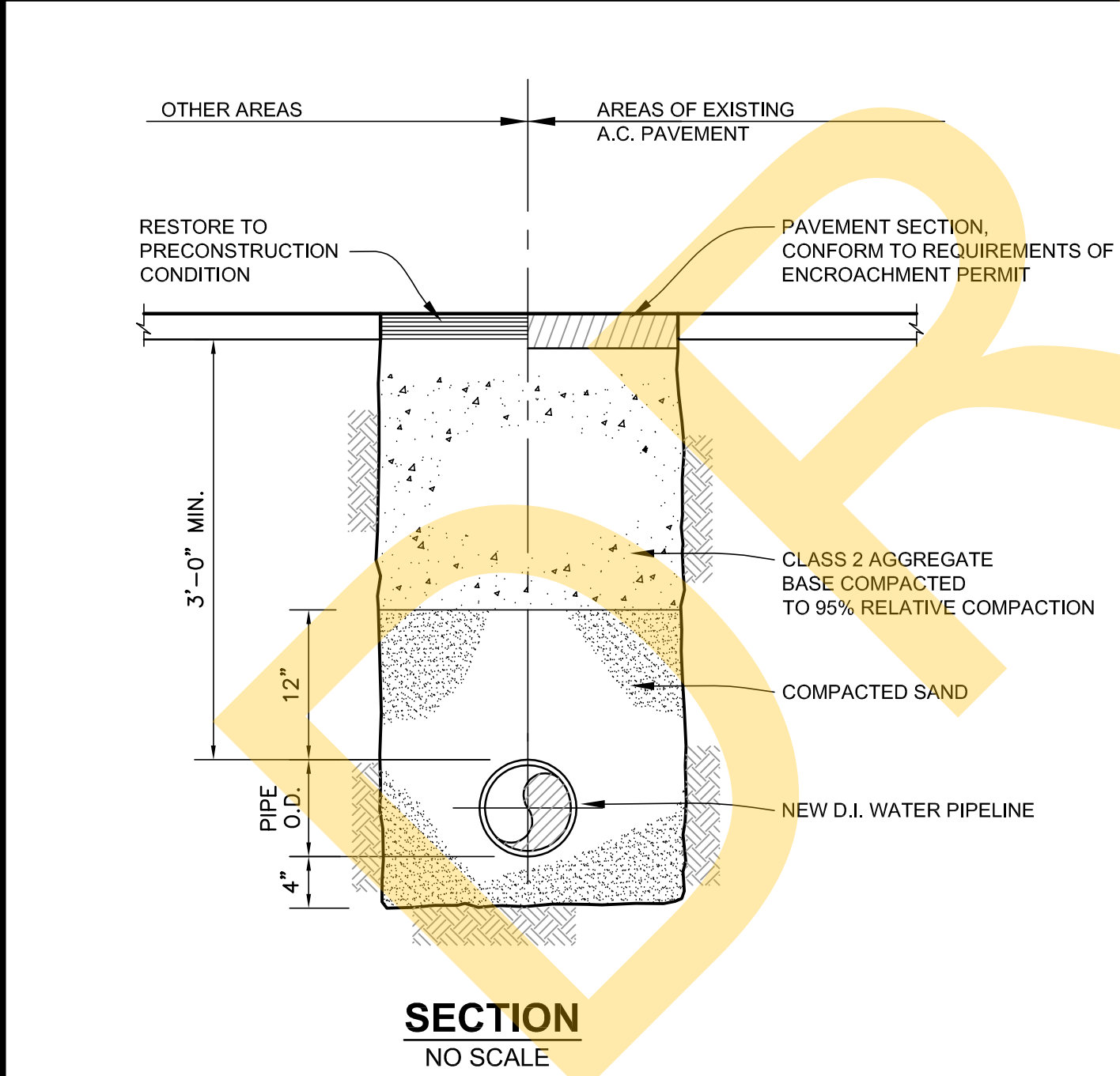
BLOW-OFF VALVE	DATE: MAY 16 REV:	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA
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- NOTES:
1. DETAIL APPLICABLE ONLY FOR CONNECTING PIPELINES WITH THE SAME OUTSIDE DIAMETER.
  2. THE EXISTING PLUG, END CAP, OR BLOW-OFF VALVE AT THE END OF THE EXISTING PIPELINE AND THEIR CONCRETE THRUST BLOCK TO BE REMOVED ARE NOT SHOWN.

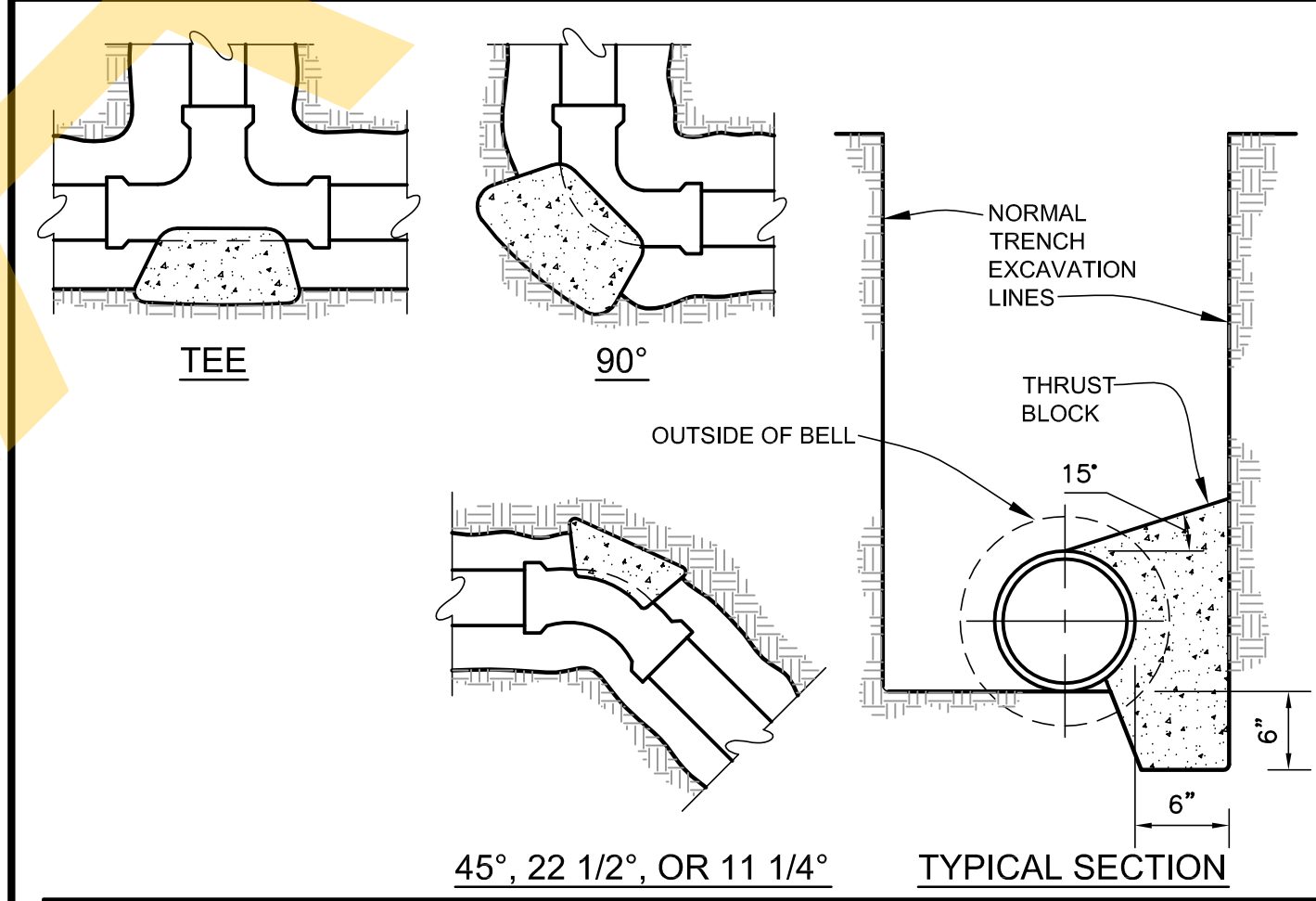
PLAN  
NO SCALE

CONNECTION OF NEW AND EXISTING PIPELINE	DATE: JULY 17 REV:	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA
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NOTE:  
THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE PUBLIC AGENCY OWNING THE RIGHT OF WAY WHERE THE WORK IS BEING PERFORMED (CITY OF HALF MOON BAY, COUNTY OF SAN MATEO, OR CALTRANS), AND SHALL CONFORM TO ALL REQUIREMENTS OF THAT PERMIT.

TRENCH BACKFILL & REPAVING	DATE: MAY 16 REV: JULY 17	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA
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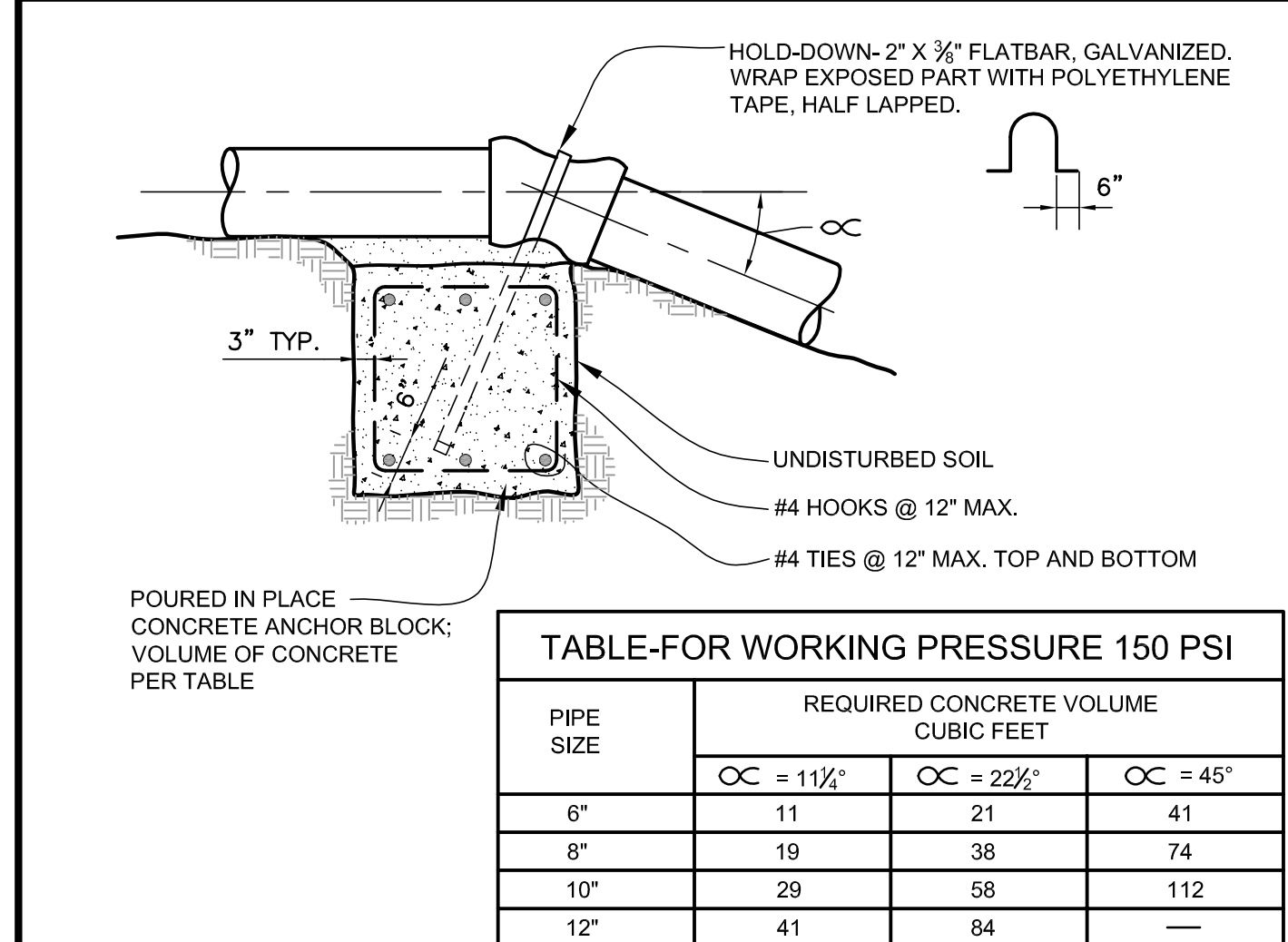


MINIMUM REQUIRED BEARING AREA AGAINST UNDISTURBED EARTH WALL

PIPE SIZE	AREA IN SQUARE FEET AT FITTINGS				
	TEE & CROSS	90°	45°	22 1/2°	11 1/4°
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

- NOTE:
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 3000 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: MAY 16 REV:	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA
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PIPE SIZE	REQUIRED CONCRETE VOLUME CUBIC FEET		
	OC = 11 1/4°	OC = 22 1/2°	OC = 45°
6"	11	21	41
8"	19	38	74
10"	29	58	112
12"	41	84	—

UPLIFT THRUST BLOCK

DOWNTHRUST THRUST BLOCK

VERTICAL THRUST BLOCKS	DATE: MAY 16 REV:	DISTRICT STANDARDS COASTSIDE COUNTY WATER DISTRICT SAN MATEO COUNTY, CALIFORNIA
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JAMES S. TETER  
Consulting Engineer

15 Bayview Drive  
San Rafael, CA 94901

Tel: (415) 453-0754  
Fax: (415) 453-0882

DATE: 11/22/17
DESIGN BY: TETER
DRAWN BY: RITHY
APPROVED BY:
DRAWING NO:

VERIFY SCALES	No.	REVISION	DATE	BY
BAR IS ONE INCH ON ORIGINAL DRAWING.				
0 1"				
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.				

COASTSIDE COUNTY WATER DISTRICT  
AVENUE PORTOLA PIPELINE EXTENSION PROJECT APN 047-144-370  
STANDARD INSTALLATION DETAILS