BEAUMONT-CHERRY VALLEY WATER DISTRCT

CONTRACT DOCUMENTS

FOR

ANTONELL COURT

PIPELINE REPLACEMENT PROJECT

Beaumont-Cherry Valley Water District
Attn: Mark Swanson
560 Magnolia Avenue
Beaumont, CA 92223
mark.swanson@bcvwd.org

Signature: _____

Mark Swanson, Senior Engineer
Beaumont-Cherry Valley Water District

KEY DATES (Subject to change at discretion of District):

Issue Date:	June 7, 2021
Bid Opening Date:	June 24, 2021, 2:00 pm
District Project Manager:	Mark Swanson

BEAUMONT-CHERRY VALLEY WATER DISTRICT
ANTONELL COURT PIPELINE REPACLEMENT PROJECT

CONTRACT DOCUMENTS

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NOTICE INVITING BIDS

NOTICE INVITING BIDS Sealed bids will be received only at Beaumont-Cherry Valley Water District (Owner), 560 Magnolia Avenue, Beaumont, California, 92223 Telephone (951) 845-9581 until **2:00 p.m.** local time on **Thursday, June 24, 2021,** for **Antonell Court Pipeline Replacement Project.**

WORK: The Work includes the provision of all equipment, labor, and traffic control, disinfection, and testing to install District furnished pipeline materials and appurtenances necessary to complete the construction of the following, as specified and shown in the Construction Documents:

- Antonell Court: Approximately 590 Linear Feet of 8" cement mortar lined Ductile Iron Pipe, plus various laterals, valves, connections, and appurtenances.

The site of work is located in the City of Beaumont, County of Riverside, California.

COMPLETION OF WORK. The work shall be performed by a single contractor under a single contract. All work must be completed within thirty (30) calendar days from Date of Award.

OBTAINING CONTRACT DOCUMENTS. A PDF copy of the compete bid package is available on the District Website at www.BCVWD.org. Alternatively, a copy of the complete bid package is available upon request from the District's Engineering Department. A charge of $10.00 will be made for each hard copy of each bid package requested.

OPENING OF BIDS. Bids will be publicly opened and read aloud at the place and time stated above Bidders are invited to be present. Bidders may examine the Contract Documents at Beaumont-Cherry Valley Water District, 560 Magnolia Ave., Beaumont, California, 92223.

PERIOD FOR AWARD. If Owner elects to award a contract for the Work, the award will be made within sixty (60) calendar days from the date of bid opening.

WAGE RATES. The Director of the Department of Industrial Relations has ascertained the general prevailing rate of per diem wages and the general rate of holiday and over-time work in the locality in which the work is to be performed for each craft or type of workmen needed to execute the Contract or Work as hereinafter set forth (see Labor Code 1770 et.seq.). Copies of rates are on file at the office of the Owner, which copies shall be made available to any interested party on request. The successful Bidder shall post a copy of such determinations at each job site. Attention is called to the fact that not less than the minimum salaries and all Contractors and Subcontractors shall pay wages on this Project.

LICENSING REQUIREMENTS. Bidders shall be licensed in accordance with provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California on the date and time of submittal of the bid documents and shall maintain such license until final acceptance of the work. Required classifications are: Class A, General Engineering; C-34, Pipeline Contractor. Bidders shall have verifiable experience in similar work. Bidders and their sub-contractors shall also be registered to perform public work pursuant to Section 4104 of the public contract code with the State of California, Department of Industrial Relations.

The District cannot award a public works contract to any contractor or subcontractor whose company appears on the ineligible contractor's list published by the Labor Commission, per Labor Code,

Section 1777.1.

PROJECT ADMINISTRATION. All questions relative to this project prior to the opening of bids shall be directed to:

Mark Swanson
Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223
Telephone: (951) 845-9581
Fax: (951) 845-0159

The Owner reserves the right to reject any or all Bids, to waive any informality or irregularity in any Bid and to make awards in the interest of the Owner, including award to other than the lowest bidder. The Owner reserves the right to have performed the entire Work defined by the Contract Documents or such parts of said Work as the Owner may elect, to combine various alternative bids and bid items within a Bid, and to accept or reject one or more separately scheduled bid items within a Bid. The Owner further reserves the right to withhold issuance of the Notice to Proceed, after execution of the Contract Agreement, for the period not to exceed fifteen (15) days after the date the Contract Agreement is executed. No additional payment will be made to the successful Bidder on account of such withholding.

NON-MANDATORY PRE-BID CONFERENCE. A **Non-mandatory** pre-bid conference with representatives of prospective bidders will be held at the Beaumont-Cherry Valley Water District offices, 560 Magnolia Avenue, Beaumont, California at 2:00 pm. on June 15, 2021. Prospective bidders are invited to present any relevant questions at the pre-bid conference, but insofar as practicable, questions should be prepared in written form and sent to Beaumont-Cherry Valley Water District so as to arrive not later than one (1) day prior to the **non-mandatory** pre-bid conference.

BID FORM

NAME OF BIDDER: _____

The undersigned, hereby declare that we have carefully examined the location of the proposed Work, and have read and examined the Contract Documents, including all plans, specifications, and all addenda, if any, for the following Project:

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ANTONELL COURT
PIPELINE REPLACEMENT PROJECT

We hereby propose to furnish all labor, materials, equipment, tools, transportation, and services, and to discharge all duties and obligations necessary and required to perform and complete the Project for the following BASE BID TOTAL BID PRICE:

BASE BID	BID PRICE (IN WRITTEN FORM)	BID PRICE (IN NUMBERS)
BID SCHEDULE I ANTONELL COURT PIPELINE		
TOTAL BID PRICE (SCHEDULE I)		

In case of discrepancy between the written price and the numerical price, the written price shall prevail.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

BID SCHEDULE I

ANTONELL COURT WATER LINE REPLACEMENT PROJECT

Time of Completion: Thirty (30) Calendar Days (Bid Schedule I)

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
101	Furnish project insurance, and project permits (not to exceed two percent (2%) of the total bid price).	1	L.S.		
102	Mobilization / Demobilization including project sanitary facilities, and closeout and cleanup (not to exceed three percent (3%) of total bid price).	1	L.S.		
103	State required line item for California Code Sections 6705 and 6707, excavation safety measures.	1	L.S.		
104	Furnish and implement traffic control, in accordance with Contractor prepared traffic control plans including, furnishing all signs, delineators, arrow boards, and flagmen in accordance with said plans.	1	L.S.		
105	Saw cut, remove, and dispose of existing AC paving and base as required prior to trenching, provide temporary asphalt pavement patch as required at end of each day	565	L.F.		
106	Install District furnished 8" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Antonella Court Replacement Plan and export of native material, installation of Contractor furnished backfill material and compaction.	485	L.F.		
107	**Additive Bid Item:** Install 8" pipe at flow line depth between 1.1' and 2.0' deeper than the 4.25 foot average depth identified under Bid Item 106 above (the incremental cost difference over Bid Item No. 106)	40	L.F.		
108	**Additive Bid Item:** Install 8" pipe at flow line depth between 2.1' and 3.0' deeper than the 4.25 average depth identified under Bid Item 106 above (the incremental cost difference over Bid Item No. 106)	40	L.F.		
109	Install District furnished 1" water service saddle, corporation stop, service lateral piping, angle meter stop, water meter and meter box per BCVWD Standard Plate 6-3 and Plate 12. Contractor shall	9	EA		

	install and connect new District Furnished water meter toto customer piping.				
110	Install District furnished fire hydrant tee, valve, fittings, thrust block, fire hydrant, thrust block, and appurtenances at Stations 10+62 and 15+06 per Construction drawings and BCVWD Standard Plate 1, 2, and 11-1 and 11-2				

BID SCHEDULE I (Continued)

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
111	Install (and remove at end of testing) District furnished temporary 8" bulkhead and joint restraint and 2" galvanized test and disinfection riser and appurtenances (one @ each end of pipe)	2	EA		
112	Cut in, assemble, and install new District furnished 8" connection consisting of fully restrained 8" cement mortar lined potable water pipe, Class 350, tee, fittings, valves, trust block and all appurtenances per Construction Drawings, Sheet 2, Detail A at Station 10 + 00 –Pennsylvania Avenue Connection Point.	1	EA		
113	Cut in, assemble, and install new District furnished connection pipeline consisting of fully restrained 24" cement mortar lined potable ductile iron, Class 250 tee assembly trust block and install new District furnished 8" connection consisting of fully restrained 8" cement mortar lined potable water pipe, Class 350, fittings, valves and appurtenances per Construction Drawing Sheet 2, Detail B (and disinfection of said materials), including export of native material, installation of Contractor Furnished backfill material, compaction, testing	1	L.S.		
114	Pressure test and hydrostatic leak test 8" potable water pipelines per requirements set forth in Special Requirements, District Specifications, and in accordance with AWWA Standards best practices.	1	L.S.		
115	Disinfect 8" potable water pipeline per requirements set forth in Special Requirements and per AWWA Standard Specifications and flush and disinfect test water and assist District Staff with bacteriological testing.	1	L.S.		

116	Remove existing 6 “gate valve on existing 6” Antonelle Court Pipeline, install new 6” blind flange on tee outlet (approximately 22 feet north of Connection Point A as shown on Construction Drawings at Pennsylvania Avenue) and abandon existing 6” pipeline in place by installing a 3’ minimum length concrete plug-in end of pipeline.	1	EA		
TOTAL BID SCHEDULE I PRICE (Bid Items 101 Through 116)					

In case of discrepancy between the unit price and the item cost set forth for a unit basis item, the unit price shall prevail and, shall be utilized as the basis for determining the lowest responsive, responsible bidder. However, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Item Cost" column, then the amount set forth in the "Item Cost" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price. Final payment shall be determined by the Engineer from measured quantities of work performed based upon the unit price.

In case of discrepancy between the written price and the numerical price, the written price shall prevail.

The undersigned agrees that this Bid Form constitutes a firm offer to the District for Bid Schedule I which cannot be withdrawn for the number of calendar days indicated in the Notice Inviting Bids from and after the bid opening, or until a Contract for the Work is fully executed by the District. The District reserves the right to award any and all combinations of Bid Schedule I and/or parts thereof.

The Contract duration shall commence on the date stated in the District's Notice to Proceed, and shall be completed by the Contractor in the time specified in the Contract Documents. In no case shall the Contractor commence construction prior to the date stated in the District's Notice to Proceed.

Bidder certifies that it is licensed in accordance with the law providing for the registration of Contractors, License No. _____, Expiration Date _____, class of license _____. If the bidder is a joint venture, each member of the joint venture must include the above information.

The undersigned acknowledges receipt, understanding and full consideration of the following addenda to the Contract Documents and information required of bidders.

1. Addenda No. _____ thru _____
2. Information Required of Bidders:
    a. Executed General Information
    b. Executed List of Sub Contractors
    c. Executed Non-Collusion Affidavit form
    d. Completed Iran Contracting Act Form

I hereby certify under penalty of perjury under the laws of the State of California, that all of the information submitted in connection with this Bid and all of the representations made herein are true and correct.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

KNOW ALL MEN BY THESE PRESENTS, that we (Contractor), _____ as Bidder and Principal, and _____ as Surety, are held firmly bound unto the BEAUMONT-CHERRY VALLEY WATER DISTRICT, situated in Riverside County, California, hereinafter called the Owner, in the penal sum of _____ dollars, $_____, for the payment of which sum, well and truly to be made, we bind ourselves, and our successors and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is that whereas Bidder has submitted the accompanying bid dated _____, 20___, for ANTONELL PIPELINE REPLACEMENT for Owner.

NOW THEREFORE, (1) if the Bidder shall not withdraw said bid within thirty days after the opening of the same, and (2) shall within ten days after the award of the contract furnish the required certificates of insurance and enter into a written contract with the Owner in accordance with the bid as accepted, and (3) if the Bidder shall give the required bonds with good and sufficient sureties for the faithful performance and proper fulfillment of said contract and for the protection of laborers and material men, or (4) in the event of the withdrawal of said bid within the periods specified, or the failure to enter into said contract, if the Bidder shall within thirty days after request by the Owner pay the Owner the difference between the amount specified in said bid and the amount for which the Owner may procure the required Work or supplies, if the latter amount be in excess of the former, then the above obligations shall be void and of no effect, otherwise they remain in full force and effect.

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

For value received, the Surety hereby stipulates and agrees that the obligation of said Surety and its bond shall in no way be impaired or affected by any bid errors or by an extension of time within which the Owner may accept such bid, and said Surety hereby waives notice of any such extension.

IN WITNESS WHEREOF, Bidder and Surety have duly and fully executed this instrument this _____ day of _____, 20___.

PRINCIPAL:	SURETY:
Name _____	Name _____
By _____ (Authorized Representative, Written Signature)	By _____ (Authorized Representative, Written Signature)
_____ (Authorized Representative, Typed or Printed Name)	_____ (Authorized Representative, Typed or Printed Name)
Title _____ [Individual, Partner, Corporate Officer (Title)]	Title _____ [Individual, Partner, Corporate Officer (Title)]
Attest: (If Corporation)	Attest: (If Corporation)
By _____	By _____
Title _____	Title _____
(Corporate Seal)	(Corporate Seal)

NOTE: Both Principal and Surety signatures must be notarized. A copy of the power of attorney to local representatives of the bonding company must be attached hereto.

NOTARY FOR PRINCIPAL

STATE OF _____)
COUNTY OF _____)

On _____, 20____, before me, _____ a Notary Public, personally appeared _____ ( ) personally known to me or ( ) proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
Witness my hand and official seal.

_____
Signature of Notary

(Notary Seal)

NOTARY FOR SURETY

STATE OF _____)
COUNTY OF _____)

On _____, 20____, before me, _____ a Notary Public, personally appeared _____ ( ) personally known to me or ( ) proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
Witness my hand and official seal.

_____
Signature of Notary

(Notary Seal)

NOTE: If Notary elects to attach an acknowledgment form, Notary shall use the Notary Acknowledgment form attached at the end of this section (Bidding Documents), or, alternatively, Notary may use a California All-Purpose Acknowledgment form, provided Notary completes the entire form, both the required and optional portions.

IMPORTANT: Surety companies executing Bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write Surety insurance defined in Section 105 of the California Insurance Code and, if the work or project is financed, in whole or in part, with federal grant or loan funds, said Surety companies must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

Name and address of Surety _____

_____

_____

Name and address of agent or representative for service of process in California, if different from above _____

_____

_____

Telephone number of Surety and agent or representative for service of process in California _____

INFORMATION REQUIRED OF BIDDER

ANTONELL COURT PIPELINE REPLACEMENT PROJECT

GENERAL INFORMATION

The bidder shall furnish the following information. Additional sheets may be attached if necessary.

1. Contractor's Name and Address:

   _____

   _____

   _____

2. Type of Firm: (Check one)
   Individual ___
   Partnership ___
   Corporation ___

3. Telephone: _____

4. Contractor's license: Classification _____ No. _____

5. Names and titles of all owners/officers of the firm:

   _____ _____

   _____ _____

   _____ _____

   _____ _____

6. Number of years as a contractor in construction work of this type: _____

7. Answer the three (3) questions below and submit a brief description of the character of the work previously executed as required in the Instructions to Bidders as well as the locations of the major projects, giving the year in which it was done, the manner of its execution, name, telephone number, and address of owner, overall cost when constructed, and such other information as will tend to show ability to prosecute vigorously the work required by this Specification. Attach additional sheets if necessary.

   1. Have you or any of your subcontractors been determined to have committed any serious or willful violations of Part 1 (commencing with Section 6300) of Division 5 of the Labor Code during the past five (5) years? _____ If yes, explain.

   _____

   _____

   _____

   2. What are the most recent workers' compensation experience modification factors for your firm and each of the proposed subcontractors?

   _____

   _____

   _____

3. Have you and each of the proposed subcontractor(s) adopted injury prevention programs under Section 3201.4 or 6401.7 of the California Labor Code?

_____

_____

_____

8. Person who inspected site of the proposed work for your firm:

Name: _____ Date of Inspection: _____

9. Proposed Project Manager

Name: _____

Qualifications: _____

_____

_____

_____

10. NOTE: If required by the Owner, the bidder shall furnish a notarized financial statement, references, resume of superintendent, and other information sufficiently comprehensive to permit an appraisal of his current financial condition.

INFORMATION REQUIRED OF BIDDER

ANTONELL COURT PIPELINE REPLACEMENT PROJECT

LIST OF SUBCONTRACTORS

The bidder shall list below the name and business address of each subcontractor who will perform work under this contract in excess of one-half percent of the total bid price and shall also list the portion of the work which will be done by such subcontractor. After opening proposals, no changes or substitutions will be allowed without the written approval of the Owner.

Aggregate total of all subcontractors shall not exceed fifty percent (50%) of the total contract price.

1. Subcontractor's Name & Address:

   _____

   _____

   Work to be performed:

   _____

2. Subcontractor's Name & Address:

   _____

   _____

   Work to be performed:

   _____

3. Subcontractor's Name & Address:

   _____

   _____

   Work to be performed:

   _____

4. Subcontractor's Name & Address:

_____

_____

Work to be performed:

_____

5. Subcontractor's Name & Address:

_____

_____

Work to be performed:

_____

6. Subcontractor's Name & Address:

_____

_____

Work to be performed:

_____

7. Subcontractor's Name & Address:

_____

_____

Work to be performed:

_____

8. Subcontractor's Name & Address:

_____

_____

Work to be performed:

_____

Note: Attach additional sheets if required.

INFORMATION REQUIRED OF BIDDER

ANTONELL COURT PIPELINE REPLACEMENT PROJECT

NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA

COUNTY OF _____ } NON-COLLUSION AFFIDAVIT

_____, being first duly sworn, deposes and says that
(Name of Affiant)

he/she is _____ of _____
(Title) (Name of Bidder)

the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

_____
(Signature)

_____
(Typed Name)

State of _____ }
County of _____ } ss.

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20___, by _____, proved to me on the basis of satisfactory evidence to be the person/persons who appeared before me.

(SEAL)

_____
Notary Public

Commission Expires: _____

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ANTONELL COURT PIPELINE REPACLEMENT PROJECT

DRAFT CONTRACT FOR PUBLIC WORKS

(CONTRACTOR WILL BE REQUIRED TO EXECUTE CONTRACT)

BEAUMONT-CHERRY VALLEY WATER DISTRICT

CONTRACT FOR PUBLIC WORK

1. Parties and Date

This Contract is entered into this____day of_____, 2021, between the BEAUMONT-CHERRY VALLEY WATER DISTRICT, a California Irrigation (Special) District ("District"), and_____("Contractor"), for the Work described as follows: Antonelle Court Pipeline Replacement Project.

2. Consideration

In consideration of the mutual covenants hereinafter contained, District and Contractor agree to comply with the terms of this Contract and to faithfully perform their duties hereunder.

3. Duties of Contractor

3.1 Contractor agrees to furnish all labor, tools, and equipment necessary to complete the work hereinafter described. Contractor hereby guarantees that all work to be performed by it hereunder will be performed in a good and workmanlike manner. The Work to be performed by Contractor is described on the Construction Drawings and Specifications included herein attached hereto and by this reference incorporated herein. Pursuant to Public Contract Code Section 3300, Contractor shall possess an active and current Contractor's License, Class A or C-57, which shall be maintained throughout the term of this Contract.

3.2 Contractor shall complete all work required herein on or before **August 13, 2021.**

3.3 Contractor shall furnish District with labor ~~and material~~ releases from all subcontractors performing work on, ~~or furnishing materials for,~~ the job prior to final payment by District.

3.4 **(Section 3.4)** Contractor shall furnish a performance bond in the amount of the full contract price, a payment bond in the amount of 50% of the full contract price, and a maintenance bond in the amount of the full contract price issued in forms consistent with industry standards by United States Treasury authorized bonding companies as approved by District, prior to commencement of the Work. Bonds shall be furnished on the forms attached at the back of this Contract, if Additive Bid Item is exercised. Contractor hereby guarantees that all materials and workmanship furnished by him under the Contract will meet fully all requirements thereof as to quality or workmanship and of materials furnished by him. Contractor hereby agrees to replace all materials and pay for all installation costs made necessary by defects in materials or workmanship supplied by him that become evident within twelve (12) months after the date of final payment and to pay for all

work necessary to remove, restore, and replace the materials to full serviceability and to full compliance with the requirements of the Contract, including the test requirements for any part of the materials furnished hereunder which, during said twelve (12) month period, are found to be deficient with respect to any provision of the Contract. Contractor also agrees and does hereby hold District harmless from claims of any kind which may arise from injury or damage due to said defects. Contractor shall replace all defective materials promptly upon receipt of written orders for same from District. If Contractor fails to replace all defective materials promptly, District may secure the service of others to do this work, and Contractor and his surety shall be liable to District for the cost, including removal and replacement thereof. The guarantees, indemnifications and agreements set forth above shall continue to be secured following completion of the project by Contractor providing a maintenance bond in the amount of 100% of the full contract price on a form commonly used in the industry and acceptable to the District, and for this purpose said bond shall remain in force for a period of one (1) year after the date of the final payment.

3.5 Copies of the prevailing rate of per diem wages for each craft, classification or type of worker needed to execute this Contract are available to interested parties upon request. If the total amount of this Contract is $1,000 or more, Contractor agrees to pay such prevailing rates to each workman needed to execute the work required under this Contract and further agrees to comply with the penalty provisions of Section 1775 of the Labor Code in the event of its failure to pay prevailing rates. Pursuant to Section 1727 of the Labor Code, all wages and penalties withheld for failure of Contractor to pay such per diem wages shall be transferred by District to the State Labor Commissioner for disbursement, should Contractor fail to bring suit for recovery within ninety (90) days after completion of the Contract or acceptance of the work.

3.6 Contractor shall pay travel subsistence payments to each workman needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the Labor Code.

3.7 When Contractor employs workmen in an apprenticeable craft or trade, Contractor shall comply with the provisions of Section 1777.5 of the Labor Code with respect to the employment of properly registered apprentices upon public works. The primary responsibility for compliance with said section for all apprenticeable occupations shall be with Contractor.

3.8 Contractor is advised that eight (8) hours labor constitutes a legal day's work. Pursuant to Section 1813 of the Labor Code, Contractor shall forfeit a penalty of $25.00 per worker for each day that each worker is permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, except when payment for overtime is made at not less than one and one-half (1-1/2) times the basic rate for that worker.

3.9 In accordance with the requirements of Labor Code Section 1776, Contractor shall keep accurate payroll records on forms provided by the Division of Labor Standards Enforcement,

or keep payroll records containing the same information required by such forms, and shall make any such records available for inspection.

3.10 Contractor shall keep himself fully informed of all laws and regulations in any manner affecting the performance of the Contract work, and shall indemnify District and District's agents against any liability arising from violation of any such law or regulation.

3.11 Contractor shall at its own expense maintain at least the following insurance coverages throughout the performance of this Contract:

(a) Worker's compensation insurance coverages for all persons employed or to be employed in the performance of this Contract, which insurance shall at all times be maintained in strict accordance with the requirements of the current California Worker's Compensation Insurance Laws.

(b) General commercial liability insurance coverage of at least $2,000,000 per occurrence and $2,000,000 general aggregate insuring Contractor and naming District as an additional insured for all claims for bodily injury, personal injury and property damage, arising out of or in connection with any operations under this Contract.

(c) Automobile liability insurance coverage with a limit of liability of $1,000,000 per accident Combined Single Limit.

(d) Course of construction insurance with a limit of liability equal to the full contract amount, unless waived in writing by District.

Prior to commencement of any work under this Contract, Contractor shall obtain and furnish to District a Certificate of Insurance as to each type of insurance required, which certificate shall be on the form provided to Contractor by District.

3.12 Contractor shall be responsible for all loss and damage which may arise out of the nature of the work agreed to herein, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the work until same is fully completed and accepted by District. However, Contractor shall be responsible for damage proximately caused by an act of God within the meaning of Section 4150 of the Government Code only to the extent of five percent (5%) of the contract amount.

3.13 Contractor shall indemnify and hold harmless District, its agents and employees, from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from performance of work under this Contract and which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom, caused in whole or in part by any negligent or willful act or omission of the Contractor or anyone directly or indirectly employed by him or for whose acts he may be liable.

3.14 Contractor shall be responsible for securing and paying for all permits and licenses necessary to perform the work described herein.

3.15 If the work entails trenching of five (5) feet or more in depth, Contractor shall make adequate provisions for shoring, bracing, sloping, or other protection from the hazard of caving ground.

3.16 As required by Public Contract Code Section 7104, Contractor shall promptly, and prior to disturbance of conditions, notify District of (a) any material discovered in excavation that Contractor believes to be a hazardous waste that is required to be removed to a Class I, Class II, or Class III disposal site; (b) subsurface or latent physical conditions at the site differing from those indicated by District; and (c) unknown physical conditions of an unusual nature at the site, significantly different from those ordinarily encountered in such contract work. Upon notification, District will promptly investigate the conditions to determine whether a change order is appropriate. In the event of a dispute, Contractor shall not be excused from any scheduled completion date but will retain all rights provided by the Contract or by law for resolving the dispute.

4. District's Responsibilities

4.1 As consideration for performance of the work required herein, District agrees to pay Contractor the total contract amount of _____, ($_____), provided that such amount shall be subject to adjustment pursuant to written change orders signed in advance by District.

4.2 Contractor shall submit progress payment invoices to District at the end of each calendar month during the term of the Contract. All progress payment invoices shall be subject to approval by the District prior to payment by the District. Such progress payment invoices shall be made in accordance with Section 20104.50 of the California Public Contract Code, requiring District to make a determination of suitability of the payment request within seven (7) days of receipt of such request and further requiring District to make payment on properly submitted progress payment invoices within thirty (30) days in order to avoid interest payments to the Contractor upon such amounts.

4.3 When the Contractor determines that he has completed the work required herein, Contractor shall so notify District in writing and shall furnish all labor and material releases required by Section 3.3 of this Contract. District shall thereupon inspect the work and, if acceptable, shall pay to Contractor the contract price, less any amount which District may be authorized or directed by law to retain. Payment of retention proceeds due to Contractor shall be made no later than sixty (60) calendar days after such final acceptance by District, in accordance with Section 7107 of the California Public Contract Code. Contractor is hereby alerted to provisions of Section 7107 of the California Public Contract Code, requiring Contractor to pay each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received, within ten (10) calendar days from the time that all or any portion of such retention proceeds are received by Contractor from District. District will allow Contractor to substitute qualified securities, deposited with District or a qualified escrow agent, in lieu of contract retentions in accordance with provisions of California Public Contract Code, Section 22300. The escrow agreement used in such instance shall be substantially similar to that

form set out in Section 22300 of the Public Contract Code. District will provide this form to the Contractor upon request.

4.4 To the extent required by Section 4215 of the Government Code, District shall compensate Contractor for the costs of locating and repairing damage to underground utility facilities not due to the failure of Contractor to exercise reasonable care, and removing or relocating underground utility facilities not indicated in the construction drawings and for equipment necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of District to provide for removal or relocation of such utility facilities.

5. Contractual Relationship

It is expressly agreed that Contractor is an independent contractor, and neither Contractor nor any of its employees shall be deemed employees of District. Contractor shall have full supervision over all workers on the job, including equipment, drivers, and operators, and neither District nor any of District's agents shall be held responsible for any action of Contractor under this Contract. Should any question arise regarding the meaning or import of any of the provisions of this Contract or written or oral instructions from District, the matter shall be referred to District's General Manager, whose decision shall be binding upon Contractor.

6. Assignment Forbidden

Contractor shall not assign or transfer this Contract or any right, title or interest herein without the prior written consent of District. If contractor attempts an assignment of this Contract or any right or interest herein, District may, at its option, terminate and revoke the Contract and shall thereupon be relieved from any and all obligations to Contractor or his assignee or transferee.

7. Time of Essence

Time is of the essence in the performance of this Contract. Contractor will be assessed liquidated damages in the amount of $500.00 per calendar day for each day of unauthorized delay in completing performance.

8. Termination

This Contract may be terminated by District at any time by giving Contractor seven (7) days advance written notice. In the event of termination by District for any reason other than the fault of the Contractor, District shall pay Contractor for all work performed up to that time as provided herein. In the event of breach of the Contract by Contractor, District may terminate the Contract immediately without notice, may reduce payment to the Contractor in the amount necessary to offset District's resulting damages, and may pursue any other available recourse against Contractor.

9. Dispute Resolution

Any separate demand by Contractor for the payment of money or damages shall be resolved in accordance with Public Contract Code Sections 20104 et seq., if they apply. Copies of those sections are available upon request and by this reference are incorporated herein.

10. Attorney's Fees and Costs

If any action is necessary to enforce or interpret the terms of this Contract, the prevailing party shall be entitled to recover from the losing party attorney's fees in an amount determined to be reasonable by the court, together with costs and necessary disbursements.

11. Notices

Any notice required to be given under the terms of this Contract shall be sufficient and complete upon depositing the same in the United States mail, with postage prepaid and addressed as follows:

DISTRICT	**Contractor**
Beaumont-Cherry Valley Water District	_____
P.O. Box 2037	_____
560 Magnolia Avenue	_____
Beaumont, CA 9223	_____

12. Counterparts

This Contract shall be executed in two (2) counterparts, each of which shall constitute an original.

13. Certification of License

Contractor certifies that as of the date of execution of this contract, Contractor has a current contractor's license of the classification indicated below Contractor's signature hereto.

IN WITNESS WHEREOF, each of the parties has caused this Contract to be executed on the day and year first above written.

ATTEST:

_____
(Contractor)

By: _____

_____
Secretary

Title: _____

_____
Contractor's License Number & Classification

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ATTEST:

By: _____

Daniel K. Jaggers
General Manager

Andy Ramirez
Secretary to the Board

CERTIFICATION

LABOR CODE – SECTION 1861

I, the undersigned Contractor, am aware of the provisions of Section 3700 et seq. of the Labor Code which requires every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I, the undersigned Contractor, agree to and will comply with such provisions before commencing the performance of the work of this Contract.

_____
Contractor

By: _____

Title: _____

Bond No. _____

PAYMENT BOND
(LABOR AND MATERIALS)

KNOW ALL PERSONS BY THESE PRESENTS that:

WHEREAS the Beaumont-Cherry Valley Water District ("District"), State of California, has awarded to _____

_____

_____ ("Principal")

(Name and address of Contractor)

a contract (the "Contract") for the Work described as follows:

CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE

(Project name)

WHEREAS, under the terms of the Contract, the Principal is required before entering upon the performance of the Work, to file a good and sufficient payment Bond with the District to secure the claims to which reference is made in Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code.

NOW, THEREFORE, we, the undersigned Principal, and _____

_____

_____

(Name and address of Surety)

("Surety") a duly admitted surety insurer under the laws of the State of California, as Surety, are held and firmly bound unto the District and all contractors, subcontractors, laborers, material suppliers, and other persons employed in the performance of the Contract and referred to in Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code in the penal sum of _____
Dollars ($_____), for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to this Work or labor, that the Surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this Bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by District in successfully enforcing this obligation, to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this Bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this Bond.

Upon expiration of the time within which the California Labor Commissioner may serve a civil wage and penalty assessment against the principal, any of its subcontractors, or both the principal and its subcontractors pursuant to Labor Code Section 1741, and upon expiration of the time within which a joint labor management committee may commence an action against the principal, any of its subcontractors, or both the principal and its subcontractors pursuant to Labor Code Section 1771.2, if the condition of this Bond be fully performed, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

The Surety hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or the Specifications accompanying the same shall in any manner affect its obligations on this Bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original hereof, have been duly executed by Principal and Surety, on the date set forth below, the name of each corporate party being hereto affixed and these presents duly signed by its undersigned representative(s) pursuant to authority of its governing body.

Dated: _____

"Principal"	"Surety"
_____	_____
_____	_____
By: _____	By: _____
Its	Its
By: _____	By: _____
Its	Its
(Seal)	*(Seal)*

Note: This Bond must be executed in duplicate and dated, all signatures must be notarized, and evidence of the authority of any person signing as attorney-in-fact must be attached. ***DATE OF BOND MUST NOT BE BEFORE DATE OF CONTRACT.*** Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

Bond No. _____

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS that:

WHEREAS the Beaumont-Cherry Valley Water District ("District"), has awarded to _____

_____

_____

("Principal") _____
(Name and address of Contractor)

a contract (the "Contract") for the Work described as follows:

CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE
(Project name)

WHEREAS, Principal is required under the terms of the Contract to furnish a Bond for the faithful performance of the Contract.

NOW, THEREFORE, we, the undersigned Principal, and _____

_____

_____,
(Name and address of Surety)

("Surety") a duly admitted surety insurer under the laws of the State of California, as Surety, are held and firmly bound unto the District in the penal sum of _____

_____

Dollars ($_____), this amount being not less than the total Contract Price, in lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors executors and administrators, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the hereby bounded Principal, his, her or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the Contract and any alteration thereof made as therein provided, on the Principal's part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the District, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by District in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered. Surety hereby waives any statute of limitations as it applies to an action on this Bond.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or of the Work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the specifications. Surety hereby waives the

provisions of California Civil Code Sections 2845 and 2849. The District is the principal beneficiary of this Bond and has all rights of a party hereto.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original hereof, have been duly executed by Principal and Surety, on the date set forth below, the name of each corporate party being hereto affixed and these presents duly signed by its undersigned representative(s) pursuant to authority of its governing body.

Dated: _____

"Principal"	"Surety"
_____	_____
_____	_____
By: _____	By: _____
Its	Its
By: _____	By: _____
Its	Its
(Seal)	*(Seal)*

Note: This Bond must be executed in duplicate and dated, all signatures must be notarized, and evidence of the authority of any person signing as attorney-in-fact must be attached. ***DATE OF BOND MUST NOT BE BEFORE DATE OF CONTRACT****. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.*

NOTICE OF AWARD

TO:

- _____
- _____
- _____

OWNER: Beaumont-Cherry Valley Water District

PROJECT TITLE: CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE

The Owner has considered the bid submitted by you dated _____, 20_ for the above-described work in response to its Notice Inviting Bids and in accordance with the BIDDING PROVISIONS.

You are hereby notified that your bid has been accepted in the total base amount of $_____ including the following schedules and bid items: **[MUST MATCH NIB AND INST. TO BIDDERS]**

Bidding Schedule for the CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE

Pursuant to the Notice Inviting Bids, you are required to execute the Agreement and furnish the required bonds and certification of Insurance with endorsements within ten (10) work days from the date of this Notice to you.

If you fail to execute said Agreement and furnish said bonds and certification of Insurance and endorsements within ten (10) days from the date of this Notice, Owner will be entitled to consider all of your rights arising out of Owner's acceptance of your bid to be abandoned and your Proposal Guarantee to be forfeited. Owner will be entitled to such other rights as may be granted by law.

A Pre-Construction Conference is proposed at _____ office on _____, 20____, at _____.

PLEASE CONFIRM THIS DATE AND TIME.

You are required to return an acknowledged copy of this Notice of Award to Owner.

Dated this _____ day of _____, 20___.

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the foregoing Notice of Award is hereby acknowledged.

By Contractor:_____

this _____ day of _____ 20____.

By:_____

Title:_____

NOTICE TO PROCEED

TO: _____ DATE: _____

_____ PROJECT: Beaumont-Cherry Valley Water District
CONSTRUCTION OF ANTONELL
_____ COURT REPLACEMENT PIPELINE

You are hereby notified to commence Work in accordance with the Agreement dated _____, 20____, and you shall achieve Final Completion of the Work no later than 120 calendar days from the District's Notice of Award date of _____. The date of completion of all Work is therefore _____, or sooner.

The Contract provides for an assessment of the sum of $500 per day as liquidated damages for each consecutive calendar day after the above-established Contract completion date that the Work remains incomplete.

Beaumont-Cherry Valley Water District
Owner

Daniel Jaggers
By

General Manager
Title

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by _____, this the _____ day of _____,20_____ .

By: _____

Title: _____

Project #_____

Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223
(951) 845-9581

PARTIAL PAYMENT ESTIMATE #_____

Name of Contractor:

Name of Owner:
Beaumont-Cherry Valley Water District

Date of Completion:	Amount of Contract:	Dates of Estimate:
Original _____	Original _____	From _____
Revised _____	Revised _____	To _____

Description of Job:
CONSTRUCTION OF ANTONELL
REPLACEMENT PIPELINE

	Contract Items				This Period		Total to Date	
Item #	Description	Quantity	Unit Price	Total	Quantity	Amount	Quantity	Amount

Project #_____

Amount	This Period	Total To Date
Amount Earned		
Amount Retained		
Previous Payments		
Amount Due		

Estimated Percentage of Job Completed_____

Is Contractor's Construction Progress on Schedule?_____ [ ] Yes [ ] No

I hereby certifiy that I have carefully inspected the work and as a result of my inspection and to the best of my knowledge and belief, the quantities shown in this estimate are correct and have not been shown in previous estimates and the work has been performed in accordance with the contract documents.

DATE: _____

_____
Name of Contractor

BY: _____

_____
Title

BEAUMONT-CHERRY VALLEY WATER DISTRICT

BY: _____
Engineer

BY: _____
Inspector

C.O. NO. _____

CONTRACT CHANGE ORDER NO. _____

CONTRACT for the CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE DATED _____
BY AND BETWEEN Beaumont-Cherry Valley Water District (OWNER),
AND _____ (CONTRACTOR),
is hereby directed to make the following change(s) in Contract Work:

ITEM NO.	DESCRIPTION OF CHANGE	DECREASE $	INCREASE $

Total DECREASE in Contract Amount _____

Total INCREASE in Contract Amount _____

Net change in Contract Amount _____

Contract Amount Prior to Change _____

Contract Amount Adjusted for Change _____

By reason of Change Order No. ____, time of completion shall be adjusted as follows:

_____ Working Days. Adjusted Contract Completion Date shall be _____.

All provisions of the Contract shall apply hereto, and shall become effective when fully executed (signed and dated) by both parties.

Recommended by (Engineer) _____ Date:_____

Accepted by (Contractor) _____ Date:_____

Approved by (Owner) _____ Date:_____

Remarks _____

_____

_____

UNCONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT

TO: Beaumont-Cherry Valley Water District (District)

Work Order No. _____

Contract Dated _____, 20 ____

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information:

Name of Claimant:

Name of Customer:

Job Location:

Owner:

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions:

This document does not affect the following:

Disputed claims for extras in the amount of: $

Signature:

Claimant's Signature:

Claimant's Title:

Date of Signature:

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of Riverside)

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

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

WITNESS my hand and official seal.

Signature_____ (Seal)

NOTICE OF COMPLETION

To: Riverside County Assessor-County Clerk-Recorder Date: _____ , 20_____
2720 Gateway Drive
Riverside, California 92507 Work Order No.: _____

Owner: Beaumont-Cherry Valley Water District Date of Completion: _____
560 Magnolia Avenue
Beaumont, California 92223

OWNER'S ESTATE OF INTEREST:

Easement _____ Fee Title _____ Encroachment Permit _____

Other (describe) _____

_____

CONTRACTOR:

Name: _____

Address: _____

TITLE OF PROJECT: _____

DESCRIPTION OF PROJECT: CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE

DESCRIPTION OF SITE (LOCATION): _____

_____

ASSESSOR'S PARCEL NUMBER: _____

Final payment will be made to the above contractor no sooner than thirty-five (35) days from the recording date of this Notice of Completion, except where otherwise provided for by law.

I certify under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

Executed on _____ ___, 20___ at _____, California.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

By: _____

Printed Name: _____

Title: _____

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

CONSTRUCTION OF ANTONELL COURT REPLACEMENT PIPELINE

This Escrow Agreement is made and entered into by and between _____ Beaumont-Cherry Valley Water District whose address is 560 Magnolia Avenue, Beaumont, CA 92223 hereinafter called "Owner," _____ whose address is _____ hereinafter called "Contractor", and _____ whose address is _____ hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

(1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with an Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for _____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within ten (10) days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of _____ , and shall designate the Contractor as the beneficial Owner.

(2) The Owner shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) When the Owner makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

(4) Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the escrow account and all expenses of Owner. These expenses and payment terms shall be determined by the Owner, Contractor and Escrow Agent.

(5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by the Contractor at any time and from time to time without notice to the Owner.

(6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

(7) The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven (7) days written notice to the Escrow Agent from the Owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

(8) Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

(9) Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Owner:

_____
Title

_____
Name

_____
Signature

_____
Address

On behalf of Contractor:

_____
Title

_____
Name

_____
Signature

_____
Address

On behalf of Escrow Agent:

_____
Title

_____
Name

_____
Signature

_____
Address

IRAN CONTRACTING ACT CERTIFICATION

(Public Contract Code sections 2202-2208)

Pursuant to the Iran Contract Act of 2010 (Public Contract Code 2200-2208), Vendors/Bidders are ineligible to bid on or submit a proposal for any contract with a public entity for goods or services of one million dollars ($1,000,000) or more if the Vendor/Bidder engages in investment activities in Iran.

For bids $1,000,000 or more, bidders must certify that it is not on the list of ineligible vendors prohibited from doing business with the State of California and shall complete the Iran Contract Act Certification attached and submit with their proposal at the time of bid. Failure to do so may deem your bid non-responsive.

IRAN CONTRACTING ACT CERTIFICATION

Pursuant to the Iran Contract Act of 2010 (Public Contract Code 2200-2208), Vendors/Bidders are ineligible to bid on or submit a proposal for any contract with a public entity for goods or services of one million dollars ($1,000,000) or more if the Vendor/Bidder engages in investment activities in Iran.

MUST BE SUBMITTED WITH BID PROPOSAL IF BID AMOUNT IS $1,000,000 OR MORE

Prior to bidding on, submitting a proposal, or executing a contract or renewal for a public entity contract for goods or services of $1,000,000 or more, a vendor must either: a) certify it is **not** on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("**DGS**") pursuant to Public Contract Code section 2203(b) and is not a financial institution extending $20,000,000 or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS; or b) demonstrate it has been exempted from the certification requirement for that solicitation or contract pursuant to Public Contract Code section 2203(c) or (d).

To comply with this requirement, please insert your vendor or financial institution name and Federal ID Number (if available) and complete **one** of the options below. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of $250,000 or twice the amount of the contract for which the false certification was made, contract termination, and three-year ineligibility to bid on contracts. (Pub. Cont. Code § 2205.)

OPTION #1 - CERTIFICATION

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor/financial institution identified below, and the vendor/financial institution identified below is **not** on the current list of persons engaged in investment activities in Iran created by DGS and is not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person/vendor, for 45 days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Vendor Name/Financial Institution (Printed)	*Federal ID Number (or n/a)*
By (Authorized Signature)	
Printed Name and Title of Person Signing	*Date Executed*

OPTION #2 – EXEMPTION

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a vendor/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enters into or renews, a contract for goods and services.

If you have obtained an exemption from the certification requirement under the Iran Contracting Act, please fill out the information below, and attach documentation demonstrating the exemption approval.

Vendor Name/Financial Institution (Printed)	*Federal ID Number (or n/a)*
By (Authorized Signature)	
Printed Name and Title of Person Signing	*Date Executed*

PUBLIC WORKS CONTRACTOR REGISTRATION

(Pursuant to SB 854)

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Pursuant to Section 1771.1 of the Labor Code, **no contractor or subcontractor** shall be qualified to bid on, be listed in a bid proposal pursuant to Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work unless currently registered to perform public work pursuant to Section 1725.5 of the Labor Code. It shall not be a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Sections 10164 or 20103.5 of the Public Contract Code, provided the contactor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

BIDDERS AND THEIR SUBCONTRACTORS (listed on the Designation of Subcontractors List C-05) are to provide an extract (pdf) at time of bid showing active registration from the Public Works Contractor Registration online registration at https://efiling.dir.ca.gov/PWCR/Search

****

SUBMIT BIDDER & SUBCONTRACTORS CONTRACTOR REGISTRATION EXTRACTS WITH BID PROPOSAL

****

Example:

Legal Name	Registration Number	County	City	Registration Date	Expiration Date
Contractors Name	0000000000	RIVERSIDE	Temecula	06/01/2015	06/30/2016

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ANTONELL COURT PIPELINE
REPACLEMENT PROJECT

SPECIAL REQUIREMENTS

BEAUMONT-CHERRY VALLEY WATER DISTRICT
ANTONELL COURT PIPELINE REPLACEMENT PROJECT

SPECIAL REQUIREMENTS

These Special Requirements set forth requirements for work related to the replacement of Beaumont-Cherry Valley Water District water facilities (i.e. pipelines and appurtenances).

SR-01 Contract Documents, Specifications, and Drawings The Contractor shall recognize and acknowledge the condition that Bid Schedule I shall include all work activities necessary to install the new pipeline, water services, fire hydrants, and appurtenances identified on the Contract Plans (Construction drawings) and abandon existing pipelines, blow offs, and associated water services being replaced and that there will be no additional compensation from the Owner for the completion of said work.

SR-02 District Standard Specifications Work shall be completed in accordance with the Beaumont-Cherry Valley Water District "District Standards for the Furnishing of Materials and Construction of Water and Recycled Water Facilities and Preparation of Water System Plans." Copies of said standards are available at the District website: www.bcvwd.org and specific referenced Standard Drawings are included at the back of this specification.

SR-03 Contract Drawings

The following Beaumont-Cherry Valley Water District Drawings are made a part of these Contract Documents:

Beaumont-Cherry Valley Water District Construction Drawings (24" x 36")
Titled: Pipeline Replacement Plan for Antonell Court Street Pipeline Replacement Project

Title	Sheet No.
Title, Sheet Index, Vicinity Map, and Construction Notes	1
Antonell Court: Station 10 + 00 to Station 15 + 45±	2

Beaumont-Cherry Valley Water District Standard Drawings (8-1/2" x 11")
(Bound at the Back of these Technical Provisions)

Title	Plate No.
Water Sewer Separation Requirements	Plate D4-1, D4-2, D4-3, and D4-4
Standard Fire Hydrant	Plate 1
Gate Valve/Valve Can Installation	Plate 2
Trench Detail	Plate 6-1
Service Trench Detail	Plate 6-2
1" Service Line Detail	Plate 6-3
2" Service Line Detail	Plate 6-4
Flexible Coupling Tie Details	Plate 9
Thrust Block Details	Plate 11-1 to 11-2
Meter Box Installation	Plate 12

SR-04 Special Work Requirements At the end of every workday, the Contractor shall completely backfill and compact all open pipeline and water service trenches. No trench shall be left open after work hours without special approval of the District and the City of Beaumont.

SR-05 Scope of Work Under these Specifications the Contractor shall furnish all labor and equipment to complete Construction of the Antonell Court Pipeline Replacement Project in accordance with the Contract Documents (plans and specifications). Work generally consists of installing District furnished materials and appurtenances necessary to construct new pipeline, new cut in tee assemblies, valves and appurtenances (as shown on the Drawings), service saddles, corporation stops, and service lateral runs to existing water meter locations installed behind existing curb and gutter, new fire hydrant installations, and test and disinfect said pipeline, fire hydrants, and service installations. Work shall include installation of new District furnished water meters and connection of those meters to customer service lines (from the back of meter to each residence). Said pipeline points of connections and water meter locations are further described hereafter and as shown on the Construction Drawings.

A brief scope description of work to perform as shown on the contract drawings is as follows:

NOTE: Quantities provided below are approximate. Bidders are responsible to verify actual quantities from the detailed design drawings to accurately calculate quantity take-offs.

General Description of Antonell Pipeline Replacement Project work activities:

- Prepare and submit to District a City of Beaumont approved traffic control plan and encroachment permit for project pipeline replacement.
- Install approximately **454 linear feet** of District furnished ductile iron pipeline materials and appurtenances as shown on the Construction Drawings, install new cut in points of connection with temporary bulkheads and test risers, pressure and leak test and disinfect said new pipeline.
- Install two new fire hydrant assembly per BCVWD Standard Drawing 1.
- Install District furnished 1" service saddle(s) and corporation stop(s) per BCVWD Standard Drawing 6-1 for new service lateral locations as shown on the Construction Drawings.
- Install District furnished, 1" water service lateral(s) and new angle meter stop(s) on new pipeline per Standard Drawings 6-1, 6-2 and 6-3 (excluding meter(s) initially). Upon completion and testing of new water main, abandon existing water main services and disconnect existing service and angle meter stop from existing water meter and connect new service and new angle meter stop to new District furnished water meter. Said meters are located in behind curb and gutter, and/or in right of way. Contractor shall connect new meters to existing customer service line (i.e. customer piping).
- District has identified that two (2) of nine (9) meter boxes require replacement by Contractor. Contractor shall remove two (2) existing damaged meter boxes and replace with new District furnished meter boxes.
- After the new water laterals are installed and service is restored to the water meter, abandon the existing service lateral(s).
- Relocate existing water service(s) if necessary, including all coordination of said relocation with BCVWD.
- Disinfect all potable water pipelines, appurtenances, and water service piping and appurtenances (per AWWA Standard).
- Provide Water District customer notifications (letters and door-hangers) detailing water pipeline installation and replacement water service installation.
- Some meter boxes and lids may be damaged and require replacement. Said items will be furnished by the District on an as needed basis and shall be replaced as needed in

accordance with District Standards.

- Once new water line facilities are installed, Contractor shall remove existing 6" gate valve located on Pennsylvania at the connection of the existing 6" water main located in Antonell and abandon said existing 6" Antonell Court water pipeline in place and insert a 3 foot minimum concrete plug on the end of all open abandoned water pipelines and appurtenances such as existing blow off assemblies.
- Contractor shall coordinate all work and connection activities with District and City staff to ensure disruption of water service to each connection is minimized.

SR-06 Water Pipeline Installation and Water Service Connections The Contractor shall notify the District one (1) week in advance of the planned water pipeline and water service installation work and also provide forty-eight (48) hour and twenty-four (24) hour advance confirmation of when the work will be performed.

Contractor shall be responsible for dewatering, de-chlorination, and disposal of all water from all points of connection locations and all testing/flushing activities. Discharge of all water must abide by the District's NPDES permit which limits total residual chlorine to a maximum concentration of 0.1 mg/l.

Contractor shall also protect existing water pipelines and residential and commercial services from contamination during water service installation and connection procedures. Contractor shall disinfect all water pipelines, new water services and appurtenances, pipeline closure materials (tie-in materials) and the existing pipeline at connection points per AWWA Section C- 651. All costs associated with connections to existing water pipelines shall be included in the appropriate bid item.

Sequence of Disinfection for New Water Pipeline and Service Laterals, Facilities, and Appurtenances: The new pipeline and water service laterals, facilities, and appurtenances shall be disinfected only after all of the new water pipeline, fire hydrants, service lateral, and appurtenances are installed and pressure tested.

- **EXISTING WATER SERVICE LATERALS MUST BE KEPT IN SERVICE UNTIL NEW DOMESTIC WATER SERVICE LATERALS ARE INSTALLED AND CONNECTED TO THE EXISTING SERVICE.**

SR-07 Reference to District's Standard Drawings and Detailed Provisions Any and all referenced "District Standards for the Furnishing of Materials and Construction of Water and Recycled Water Facilities and Preparation of Water Plans" shall be considered part of the contract drawings and specifications. All referenced Standard Drawings and Standards of the District are available from the District upon request or on the District's website at www.bcvwd.org. The Contractor shall not be entitled to any compensation due to referenced documents not included in the Specifications and Contract Drawings.

SR-08 Construction Soils Compaction Tests Upon Contractor's request, the District's consultant will provide soil/compaction testing for the project. However, any cost of re-compaction due to the Contractor's negligence will be at the Contractor's expense. A forty-eight (48) hour notice is required for soil services.

SR-09 Coordination The Contractor should take note that other work may be taking place simultaneously at the jobsite as part of a concurrent and/or soon to commence City of Beaumont Street Improvement Project taking place in the vicinity of the District project. It shall be the

Contractor's responsibility to coordinate his activities with all other contractors performing work in the project area and to cooperate with all other contractors within reasonable and professional norms so that all construction may be completed in a timely manner. In the event a scheduling conflict arises between contractors performing work on the job site and if both parties are unable to reach an agreement, the City and/or the District shall be the final authority in resolving said scheduling conflict. No additional compensation will be allowed due to conflicts with other construction in the area.

SR-10 Existing Underground Utilities and Potholing for Existing Utilities Unless otherwise indicated on the plans or directly by the utility owner, all utilities shall be protected in place and service maintained as part of the project work. The existing and proposed water pipeline alignments, water service lateral alignments and known utilities are plotted on the plan view of the plans. Contractor shall notify USA (Dig alert) of identified project area, and pothole all existing utilities and points of connection, and protect in place all points of connections, water service crossings and utilities affected by the proposed water pipeline and water service lateral installations.

The Contractor is responsible for performing exploratory excavations (potholing) along the alignment of the project to confirm location of existing utilities and to establish water service lateral installation requirements to existing pipelines and water meters. **The Contractor is hereby granted permission to use vacuum excavation on BCVWD facilities. Vacuum excavations may not be used on any other facilities unless written permission is obtained from the owner of the facility in accordance with State Law 4216.** The Contractor shall field survey the elevation and location of utilities, including tie-in points, and verify no conflict exists between existing utilities and new water service laterals. All associated costs with potholing shall be included in the unit bid price of water service laterals stated in the Bid Schedule and no additional compensation will be allowed.

SR-11 Provisions for Securing of Trenches and Continuous access All trenches within the street right-of-way must be backfilled at the end of each workday per typical City of Beaumont Encroachment Permit requirements. The Contractor will be required to provide complete unobstructed access to each resident's driveway at the end of every workday. The Contractor will be required to provide complete unobstructed access for emergency vehicles at all times during construction.

The Contractor will be responsible for notifying the residents seventy-two (72) hours in advance that construction activities will occur in front of their residence and that their driveways may be blocked for short durations by these construction activities.

The cost of securing trenches and providing continuous access shall be included in the Contractor’s bid and no additional compensation will be allowed.

SR-12 Preservation of Existing Improvements, Restoration of Work Site and Disposal of Spoil and Waste Materials

A. Contractor shall perform his operations so that existing improvements (including roads and other paved surfaces adjacent to or in the vicinity of the work site) are not damaged. Contractor shall repair and restore any disturbed or damaged private or public improvements, which results from his operations (except that which is specifically a part of the Contract Work) to the satisfaction of the District, or the agency having jurisdiction over said improvements, all at the Contractor’s expense.

B. All work sites shall be restored to pre-job conditions and shall meet the requirements of the District and property owner.

C. Contractor shall be responsible for the proper disposal of all waste materials resulting from his operations, including rubbish, packaging materials, discarded equipment parts, and damaged construction materials, in a manner and at locations suitable to the District and all health and other regulatory agencies.

D. Contractor shall be responsible for the proper disposal of all excavated soils resulting from the placement of the proposed pipeline, service laterals, and appurtenances.

SR-13 Valve Cans After the street improvements have been completed, valve cans over the new and or existing valves shall be replaced as necessary (with District furnished materials) to match the new pavement section (where applicable) in accordance with the City of Beaumont's recently completed and/or new pavement rehabilitation projects.

SR-14 Owner Furnished, Contractor Installed Items The District will furnish the following item(s) to be installed by the Contractor for water meter boxes that require replacement:

- Connection fittings and appurtenances for Connection Points A and B as shown on Sheet 2 of the Construction Drawings.
- 8" Class 350 Ductile Iron Pipe, regular and restrained joint gaskets and appurtenances
- 8" Class 350 Ductile Iron flanged and mechanical joint fittings, restrained joint gaskets and/or EBAA Iron Series 1100 restraint systems and all gaskets, bolts and necessary appurtenances
- Fire hydrants and fire hydrant laterals
- All water meter service saddles, corporation stops, service line copper and polypropylene sleeves, angle meter stops, and appurtenances
- All water meter boxes (as required). Two (2) meter boxes are damaged and shall be replaced by Contractor with new District furnished meter boxes and lids
- All water meters and AMR Radios
- All water meter box lids (as required)

The Contractor shall coordinate delivery of all materials and appurtenances with District staff and shall also request water meter boxes, lids, and meters a minimum of 48 hours prior to the time they are needed for installation and the District will deliver said items to the project site. The Contractor shall complete a Meter Change-Out Form provided by the District which identifies existing replaced meter information together with new meter and automatic read radio unit information (i.e. serial numbers, sizes, existing and new meter reads, etc.).

SR-15 Records of Construction Contractor shall keep and maintain, at the job site, one record set of Construction Drawings.

SR-16 Protection of Buried Metal Appurtenances All metal appurtenances including water service laterals shall be taped or polyethylene encased.

SR-17 Local Conditions The Contractor shall assess, by personal investigation, local conditions affecting the work. Neither the information contained in this section nor that derived from any maps or plats, or from the District or employees shall act to relieve the Contractor of any responsibility herein or from fulfilling any and all of the terms and requirements of this Contract. The Contractor shall protect existing curbs and gutters in place or remove and replace sections of

said concrete curb and gutter (as necessary) to install the new water service lateral piping in accordance with City of Beaumont requirements.

Nuisance water, such as rainfall, irrigation water, or local surface runoff may occur within construction areas during the period of construction under this Contract. The Contractor, by submitting his bid, will be held responsible for having investigated the risks arising from such water and shall take all due measures to prevent delays in progress of the work caused by such waters. All costs associated with coordination of work with regards to local conditions, including nuisance water, shall be included in the bid and no additional compensation will be allowed.

The cost of this Work, including permits and retention of licensed subcontractors, shall be included in the appropriate bid item and no additional compensation will be allowed.

SR-18 Shutdown Requirements, Work Restrictions and Operations Coordination Contractor shall coordinate the shutdown operation of existing systems with the District. No work shall be performed without 2 week prior notice followed by forty-eight (48) hour prior and twenty-four (24) hour confirmation notices to the District. No shutdown work shall be done without a District representative present.

SR-19 Replacement of Pre-Existing Damaged Meter Boxes and Lids Contractor shall protect meter boxes in-place during construction. However, the District will supply the Contractor with replacement boxes and lids for pre-existing damaged boxes and lids. For bidding purposes, the Contractor shall assume two (2) of nine (9) water meter boxes and lids will require replacement with District furnished water meter boxes.

SR-20 Utility Service Lines There may be existing individual utility services and service crossings such as water, sewer, gas, electric, telephone and cable TV. The Contractor shall pothole and locate all individual utility services prior to construction

SR-21 Contractor Coordination with City of Beaumont Contractor shall coordinate water pipeline installation and water service lateral replacement installation with City of Beaumont's upcoming street improvement project as necessary.

SR-22 Customer Notification Door-Hanger Contractor shall place door- hanger notices for every Customer prior to construction. The door-hanger shall be double sided; one side for English language and the other side for Spanish language. The Contractor shall provide contact information for questions and a brief description of the water service lateral installation work and temporary breaks of service during said work activities.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ANTONELL COURT PIPELINE
REPACLEMENT PROJECT

BASIC/TECHNICAL SPECIFICATIONS

SECTION 01000
GENERAL REQUIREMENTS

1. Definitions

Whenever the terms herein defined occur in these Specifications or other related documents, they shall have the meanings here given.

a. "District" or "Owner" shall mean the BEAUMONT-CHERRY VALLEY WATER DISTRICT 560 Magnolia Avenue, Beaumont, CA 92223, its Manager, and any other person or persons designated by the Owner to act on its behalf.

b. "Manager" shall mean the person designated by the Board of Directors of the BEAUMONT-CHERRY VALLEY WATER DISTRICT to have charge, supervision, and administration of said Owner.

c. "Contractor" shall mean the person, firm, or corporation responsible for the construction of facilities and improvements or any portions thereof to be integrated into Owner's facilities, either on behalf of the Owner or on behalf of a Developer.

Contractor shall at all times be represented on the Work in person or by a duly designated agent or superintendent. Contractor shall hold a valid Contractor's License in accordance with the provisions of Division 3, Chapter 9 of the Business and Professions Code of the State of California, and any amendments thereto.

d. "Work" shall mean all Work to be performed by Contractor and shall be as specified by these Specifications and the Construction Drawings, Special Requirements, and Specific Directions for any particular project.

The Owner may at any time during Work, by written order, make such changes as found necessary in the character, quality, or quantity of the Work to be furnished.

e. "Construction Drawings" shall mean those drawings approved by the Owner showing dimensions, details, features, and requirements of the Work. Said Construction Drawings shall be used in conjunction with Special Requirements or Specific Directions and shall be augmented by these Specifications and the Standard Drawings.

f. "Special Requirements" shall mean those requirements describing Work not specified by Construction Drawings or Specific Directions, clarifying Work as shown by Construction Drawings or as described by Specific Directions, or supplementing or modifying these Specifications. Said requirements may be written or verbal.

g. "Specific Directions" shall mean those instructions of the Owner supplementing or modifying the Construction Drawings, Special Requirements, and Specifications and shall include all Work not specified by Construction Drawings or Special Requirements. Said instructions may be written or verbal.

h. "Specifications", also "Construction Specifications", shall mean the requirements contained herein and shall apply to all Work, where applicable, unless specified otherwise, in the Construction Drawings, Special Requirements, or Specific Directions. Said Specifications shall augment Construction Drawings, Special Requirements, or Specific Directions and shall pertain to all methods and materials of construction.

i. "Standard Drawings" shall mean all drawings referenced as such and bound with the Specifications. Said Standard Drawings shall be considered an integral part of the Specifications.

j. "Standard Specifications" shall mean the Standard Specifications for Public Works Construction, latest edition, as published by Building News, Inc, Los Angeles, California. The Standard Specifications shall augment, not supersede, the "Construction Specifications". As used herein, the Standard Specifications shall not apply to measurement, payment, schedule, delays, or extra work.

2. Abbreviations

Whenever used in these Specifications, the following abbreviations shall refer to the agency shown:

a.	AASHTO	American Association of State Highway and Transportation Officials
b.	ACI	American Concrete Institute
c.	AISC	American Institute of Steel Construction
d.	AISI	American Iron and Steel Institute
e.	ANSI	American National Standards Institute
f.	API	American Petroleum Institute
g.	ASTM	American Society for Testing Materials
h.	AWWA	American Water Works Association
i.	AWS	American Welding Society
j.	CRSI	Concrete Reinforcement and Steel Institute
k.	DIPRA	Ductile Iron Pipe Research Institute
l.	EIA	Electronic Industries Association
m.	IEEE	Institute of Electrical and Electronic Engineers
n.	IPCEA	Insulated Power Cable Engineers' Association
o.	NBFU	National Board of Fire Underwriters
p.	NEC	National Electrical Code
q.	NEMA	National Electrical Manufacturing Association
r.	REA	Rural Electrification Administration
s.	SSPC	Steel Structures Painting Council
t.	UL	Underwriters' Laboratories

All references to Specifications of any of the above agencies shall mean the latest editions thereof.

3. Permits, Certificates, Laws, and Ordinances

Unless specified otherwise, Contractor shall at no cost to the Owner obtain all necessary permits, certificates, and licenses from such Federal, State, and local agencies as required to perform the Work. Contractor shall comply with all laws, ordinances, or rules and regulations of said agencies in performance of the Work.

4. Contractor's Liability

Contractor shall be responsible, and the Owner shall not be answerable or accountable in any manner, for any loss or damage that may happen to the Work performed by Contractor, subcontractors, or those associated with or working under Contractor, or for any of materials or equipment used or employed in performing the Work, or for injury to any person or persons, including employees, the public, or others, or for damage to property from any cause which might have been prevented by Contractor, subcontractors, or those associated with or working under Contractor. Contractor having control over such Work must properly guard and does indemnify and hold the Owner harmless, and will defend the Owner therefrom at Contractor's own expense, against all injuries or damages to persons and property.

Contractor shall indemnify, defend, and hold the Owner harmless from any and all claims, demands, fines, and penalties imposed or levied by any Federal, State, or local agency associated with or related to the taking (as defined by the United States Fish and Wildlife Service and, or the California Department of Fish and Game) of any protected animal or plant species or habitat by Contractor, subcontractors, or those associated with or working under Contractor.

5. Interferences

Any and all crossings of public utility facilities such as water mains, sewer lines, gas lines, electrical or control cables and/or conduits, telephone and/or telegraph cables and/or conduits shall be made by Contractor in accordance with requirements and Specifications of appropriate agencies. Contractor shall obtain any necessary permits, licenses, and/or agreements required by said agencies.

Whenever facilities are encountered by Contractor, he shall ascertain the ownership thereof and shall make all necessary arrangements with the owners for the protection, removal, relocation, and/or replacement thereof. Contractor shall give the owners due notice of his requirements and shall give them convenient access and cooperate with them in every way while any work of removal and/or replacement is being performed.

6. Sanitation

All parts of the Work shall be maintained in a neat, clean, sanitary condition. A portable toilet, inaccessible to insects, shall be provided by the Contractor wherever needed for use by the Contractor's employees and said toilet's use shall be strictly enforced. All waste and refuse from sanitary facilities shall be disposed of by the Contractor. All waste and refuse from any source related to Contractor's operations shall be disposed of in a sanitary manner satisfactory to the Owner and in accordance with laws and regulations pertaining thereto. Contractor shall rigorously prohibit and prevent committing of nuisance within the Work area or upon the Owner's right-of-way or adjacent private property.

7. Accident Prevention and First Aid

Contractor shall provide a safe working environment for all persons working on or affected by the Work. Contractor shall take precautions for the protection of persons and property at all times during the course of the Work. Contractor shall exercise and observe the safety provisions of applicable laws and building and construction codes. Contractor shall maintain in good and safe operating condition all equipment and facilities required for proper execution and inspection of the Work.

Contractor shall guard machinery, equipment, and hazards in accordance with safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, the Construction Safety Orders and Trench Construction Safety Orders as issued by the Division of Industrial Safety of the Department of Industrial relations of the State of California, and Chapter 8 ("Traffic Control and Protection of Workmen") of the Manual of Instruction for the Maintenance Department of the State of California Department of Transportation, to the extent that such provisions are not inconsistent with applicable laws or regulations.

All warning signs, lights, barricades, and other measures designed to protect the traveling public shall be erected and maintained in good order by Contractor in accordance with applicable provisions of Chapter 21 ("Maintenance Signs, Barricades, and Traffic Control") of the Manual of Instruction for the Maintenance Department of the State of California Department of Transportation and of the applicable ordinances of the public agency having jurisdiction over the maintenance and policing of highways, thoroughfares, and streets. Special regard shall be given to the rights and convenience of the traveling public and the property owners and residents in the area of Work. Cross-over boards or steel plates approved by the Owner shall be placed and other precautions taken whenever necessary to provide for at least one-way traffic along all traveled streets and to provide access to driveways and residences, unless specified otherwise.

8. First Aid Facilities

Contractor shall keep first aid facilities and supplies on the jobsite. Contractor shall provide instruction in first aid as required by State regulations. Contractor shall provide emergency first aid treatment and supplies for his employees sufficient to comply with all applicable laws.

9. Heat Illness Prevention Plan

In hot environments, Contractor shall comply with the California Code of Regulations Title 8, Section 3396, Heat Illness Prevention and shall refer to BCVWD Heat Illness Prevention Program and implement proper procedures to protect Contractors employees and Sub-Contractor employees from over exposure.

10. Materials

The District will furnish all pipeline materials and appurtenances in order to meet the required time schedule,

Contractor shall provide imported select pipe zone backfill and Class II Base backfill material (above the pipe zone to the road bed sub grade for the pipeline replacement project.

If required by the Contract Documents, Contractor shall furnish only approved materials as listed in the Owner's "District Standards for furnishing of Materials and Construction of Water and Recycled Water Facilities and Preparation of Water System Plans". All materials to be furnished by Contractor shall be new and of the best quality for their intended use. All like materials shall be of one manufacture for any particular project.

If required, the Contractor shall submit 3 copies of all material lists to the Owner for approval thereof. Said material lists shall include manufacturer's name, designation, description, and related information of all materials to be furnished and installed or otherwise used by Contractor in the performance of the Work. Said material lists shall be submitted at or prior to project preconstruction meeting and said lists shall be approved by the Owner prior to beginning construction.

11. Construction

Contractor alone shall be responsible for the safety, efficiency, and adequacy of his plant, equipment, appliances, and methods and for any damage which may result from their failure or their improper construction, maintenance, or operation.

Contractor shall be responsible for examining all Construction Drawings, Specifications, Standard Drawings, Work site, delivery routes, and local conditions which may affect the Work.

Before proceeding with the Work, Contractor shall furnish the Owner any information required of him by the Construction Drawings, Specifications, Standard Drawings, Special Requirements, and Directions of the Owner.

Contractor shall keep at jobsite a complete set of Construction Drawings, Specifications, Standard Drawings, permits, certificates and licenses for the Work, and all other data required by the Owner. Contractor shall be responsible for checking all dimensions and quantities on said drawings or schedules and shall notify the Owner of any errors and omissions found.

Until acceptance of the Work by the Owner, Contractor shall bear the risk of injury or damage to any part of the Work by action of the elements or from any other cause and Contractor shall rebuild, repair, restore, and make good any injuries or damages to the Work.

Contractor shall cooperate with other contractors who are working in the project area on behalf of other public entities and the City of Beaumont as the Owner may specify and he shall comply with all orders of

the Owner. Contractor shall employ only competent and skillful persons to perform the Work. Said persons shall be qualified or certified to perform the Work in accordance with requirements of said person's trade.

Contractor shall submit to the Owner for approval a construction schedule covering all Work based on normal work periods. Contractor shall not deviate from approved schedule without prior permission from the Owner. Whenever Contractor arranges to work at night or at any time other than normal work periods or to vary the period during which Work is to be carried on each day, he shall obtain special permission from the Owner to do so and he shall keep the Owner properly informed of his activities. Construction schedule shall show the order in which Contractor proposes to carry out Work, dates of anticipated commencement and completion of Work and salient components thereof, and estimated percentage of Work to be completed at any time during the construction period.

12. Records of Construction

Contractor shall maintain at least one complete set of Construction Drawings on the jobsite during the course of construction upon which he shall note any changes in the Work as they occur. Contractor shall maintain said Drawings so that the Owner may at any time during the course of construction ascertain the changes that have occurred. Said Construction Drawings shall be the basis of the two sets of record drawings that Contractor shall provide the Owner upon completion of the Work.

13. Inspection

All materials and equipment furnished and all Work performed shall be subject to rigid inspection by the Owner. Contractor may be required to remove and replace under proper inspection any Work performed in the absence of prescribed inspection, with the entire cost being borne by Contractor irrespective of whether such Work is found to be defective. Work covered up without authority of the Owner shall, upon order of the Owner, be uncovered to the extent required to permit inspection, repair, or replacement and thereafter be recovered, and Contractor shall bear entire cost.

14. Examination of Work

Contractor shall furnish the Owner every reasonable facility for ascertaining whether Work is being accomplished in accordance with the requirements and intention of the Construction Drawings, Specifications, Standard Drawings, Special Requirements, and Directions of the Owner.

15. Right to Occupy Work

The Owner may wish to occupy or place in service portions of the Work before its final completion and shall be at liberty to do so. Such occupancy or placing in service of any portion of the Work shall not relieve Contractor of his responsibility of protection and care of all Work until final completion and acceptance provided, however, that expense directly attributable to operation and placing portions of Work in service shall not be chargeable to Contractor.

16. Maintenance and Guarantee

Contractor shall guarantee that all Work performed by him meets all requirements specified as to character, quality, and quantity of materials and workmanship. Contractor shall replace all materials and pay all installation costs made necessary by defects of workmanship supplied by him that become evident within one year after acceptance of the facilities or the date of final payment, whichever occurs later.

Contractor shall replace all defective materials if said materials are related to defects in the Contractor’s workmanship promptly upon receipt of written notice from the Owner. If Contractor fails to replace all defective materials promptly, the Owner may secure the service of others to perform the Work and Contractor shall be liable to the Owner for any costs including removal and replacement thereof.

17. Construction Power

Contractor shall provide all necessary power required for his operations, and shall provide and maintain in good order such modern power equipment and installation as shall be adequate, in the opinion of the Owner, to perform the required Work in a safe and satisfactory manner.

18. Construction Water

Unless specified otherwise, the Owner will provide construction water to Contractor from its existing system at established rates. Contractor shall furnish and install all necessary piping and appurtenances necessary to convey water from the Owner's metered service connection to place of use.

19. Welding

Welding shall be done by the electric arc method using a process which excludes the atmosphere from the molten metal, except where otherwise approved by the Owner. Welding electrodes used for manual welding shall be an approved type. Except as modified herein, welding process qualification and operator qualification shall comply with the applicable requirements of the "Code for Arc and Gas Welding in Building Construction" of the AWS.

Each weld shall be uniform in width and size throughout its entire length. Each layer shall be smooth, free from slag, cracks, pinholes, and undercut and shall be completely fused to adjacent weld beads and base metal. Cover pass shall be completely free of course ripples, irregular surfaces, non-uniform bead pattern, high crown, deep ridges, or valleys between beads, and shall blend smoothly and gradually into surface of base metal. Butt welds shall be slightly convex, of uniform height, and shall have full penetration. Fillet welds shall be of size indicated, with full throat, and with each leg of equal length. Repair, chipping, or grinding of welds shall not gouge, groove, or reduce base metal thickness.

20. Environmental Factors

Contractor shall take all reasonable precautions to protect the environment.

a. Air Pollution

Contractor shall use only machinery and equipment which is equipped with suitable air pollution control devices so that undue quantities of pollutants are not added to the atmosphere in the vicinity of the Work site. Contractor's equipment shall meet all Federal, State, and local requirements for air quality emissions and Contractor shall comply with all applicable Federal, State, and local air pollution control regulations.

Contractor shall also take all necessary precautions to control dust created by construction operations. Contractor shall be especially diligent in implementing his dust control program and he shall be prepared to respond immediately and positively to any instructions for corrective action given by the Owner. Contractor shall use dust palliatives if necessary to satisfactorily control dust; however, Contractor shall secure the Owner's approval for use of dust palliatives other than water.

b. Explosives

Contractor shall handle, transport, store, and use explosives in accordance with applicable Federal, State, and local laws and regulations. Contractor shall be responsible for and make good any damage caused by his use of explosives.

c. Fires

Contractor shall exercise all precautions necessary to prevent unauthorized fires within or adjacent to the limits of the Work. Contractor shall be responsible for all damage resulting from fire due directly or indirectly to his or his employees' activities or the activities of his subcontractors or their employees.

d. Drainage and Flooding

Contractor shall manage excavation and spoil banks such that existing drainage conditions are not impaired. Contractor shall provide drainage in all cases where the existing drainage conditions are being unavoidably altered or disturbed by his operations. Temporary diversions, ditches, checks, swales, or other drainage structures or features necessary to ensure proper drainage and flood control shall be provided by Contractor at no extra cost to the Owner.

e. Historical and Archaeological Sites

If Contractor should encounter any evidence of historical or archaeological significance, he shall immediately cease construction, notify the Owner, and refrain from any activity until the Owner orders Work to resume. The Owner will assume full responsibility for any delays caused by historical or archaeological investigations.

f. Noise Pollution

Contractor shall equip all machinery and equipment used for construction with noise control devices such as mufflers for internal combustion engines or other suitable noise suppressors. Noise produced by construction operations shall be kept to a minimum and shall be consistent with reasonable human health requirements considering time of day and location of Work site. Contractor shall comply with all applicable Federal, State, and local noise pollution control regulations.

Unless specified otherwise, noise levels in connection with the Work shall not exceed 75 dB(A) at a distance of one hundred (100) feet for relatively continuous exposure and they shall not exceed 90 dB(A) at that same distance for relatively infrequent intermittent exposure. Contractor shall be prepared to respond immediately and positively to any instructions for corrective action given by the Owner particularly with respect to complaints from the public.

g. Public Relations

Contractor shall give due consideration to the comfort and convenience of the public and he shall instruct his employees to be polite and respectful in their dealings with the public at the Work site and in traveling to and from the Work site.

h. Traffic

Contractor shall adequately protect the public using any roads which are involved in Contractor's operations and he shall maintain safe traffic flow in the vicinity of the Work. Contractor shall use signs, barricades, delineators, flashers, and flagmen, all in strict compliance with Federal, State, and local rules and regulations regarding traffic control. Public roadways shall not be barricaded or blockaded except in accordance with requirements of public agencies having jurisdiction over same. Contractor shall provide access to all walkways, sidewalks, driveways, and streets at all times. Contractor shall furnish and implement traffic control plan for the Work, and Contractor shall modify said traffic control plan (as approved by the City of Beaumont), if required to provide a safe work space.

i. Vegetation and Wildlife

Contractor shall not destroy or disturb any vegetation or habitat unless absolutely necessary for the performance of the Work. Contractor shall take all steps necessary to ensure that his employees do not destroy or disturb any vegetation or wildlife in the prosecution of the Work or incidental thereto, including travel to and from the Work site.

j. Water Pollution

Contractor shall discard materials which might adversely affect ground or surface water at approved dump sites only. Chemicals and other water pollutants shall not be discharged into natural watercourses or on land tributary to said watercourses. Contractor shall comply with all applicable Federal, State, and local water pollution control regulations.

k. Cleanup

Contractor shall keep the premises occupied by him in a neat, clean condition free from unsightly accumulation of rubbish. Contractor shall maintain all Work areas within or without the project limits free from dust which would cause a hazard to the Work, operations of other contractors, or other persons or property. Upon completion of the Work, Contractor shall at his own expense satisfactorily dispose of or remove from the vicinity of the Work all plants, building, rubbish, unused materials, concrete forms, and other equipment and materials belonging to him or used under his direction during construction and, if he fails to do so, the same may be removed and disposed of by the Owner at Contractor's expense.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ANTONELL COURT PIPELINE REPLACEMENT PROJECT

APPENDIX A

CONSTRUCTION PLANS

BEAUMONT-CHERRY VALLEY WATER DISTRICT

PIPELINE REPLACEMENT PLAN

FOR

ANTONELL COURT

2750 PRESSURE ZONE

LEGEND

- EXISTING WATER
- PROPOSED WATER
- EXISTING METER
- FIRE HYDRANT
- EXISTING SERVICE LATERAL
- EXISTING R/W
- EXISTING PL
- CENTERLINE
- EXISTING SEWER
- EXISTING CURB & GUTTER

ABBREVIATIONS

BEAUMONT-CHERRY VALLEY WATER DISTRICT....................BCVWD
DUCTILE IRON PIPE....................DIP
EXISTING....................EX
NOT TO SCALE....................NTS
PROPOSED....................PROP
STATION....................STA
STEEL....................STL
PROTECT IN PLACE....................PIP
FLANGED....................FLG'D
MECHANICAL JOINT....................MJ
PLAIN END....................PE

GENERAL CONSTRUCTION & NOTES

1. ANTONELL COURT PIPELINE SHALL BE FULLY RESTRAINED WITH RESTRAINED JOINT GASKETS PER BCVWD STANDARD SPECIFICATIONS.
2. INSTALL CLASS II AGGREGATE BASE (FURNISHED BY DISTRICT) FROM TOP OF PIPE ZONE TO GROUND SURFACE ALONG ALL NEW AND EXISTING PIPELINE TRENCHES PER BCVWD PLATE 6-1 AND 6-2, OR AS APPROVED BY THE CITY OF BEAUMONT.
3. DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)

DISTRICT ENGINEER'S NOTICE TO CONTRACTOR(S)

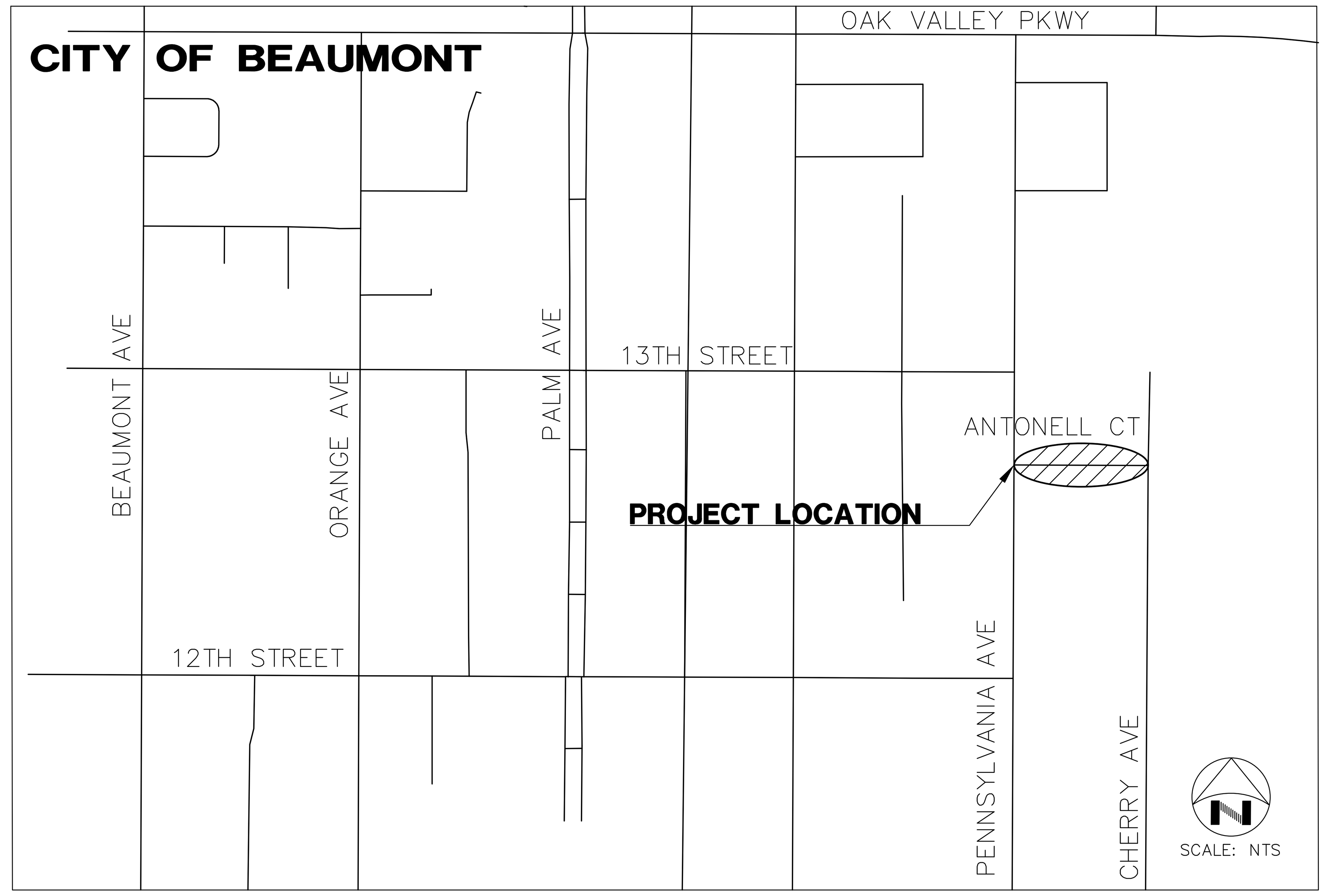
THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS, AND IS REQUIRED FOR THE PROTECTION OF, AND ANY DAMAGE TO THESE LINES OR STRUCTURES.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF ALL UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR/OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

QUANTITIES SHOWN HEREON ARE PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES PRIOR TO BIDDING FOR CONSTRUCTION.

SHEET INDEX



VICINITY MAP

CONSTRUCTION NOTES		QTY
1	PROTECT IN PLACE	–
2	ABANDON IN PLACE EXISTING PIPELINE AND PLUG SEVERED PIPE ENDS WITH 3' MINIMUM CLASS "C" CONCRETE PLUG (EACH END)	1
3	INSTALL 8" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN. COVER)	545± LF
4	INSTALL 8" FLG'D X MJ ADAPTER	2
5	INSTALL 8" FLG'D GATE VALVE	2
6	INSTALL 10" X 8" FLG'D REDUCER	1
7	INSTALL 10" FLG'D TEE	1
8	INSTALL 10" X 36" FLG'D X PE SPOOL	2
9	INSTALL 10" FLG'D GATE VALVE	2
10	INSTALL 10" TRANSITION FLEX COUPLING FROM 10.75 X 11.10 (ROMAC LONG BARREL)	2
11	INSTALL 24" FLG'D TEE	1
12	INSTALL 24" X 36" FLG'D X PE SPOOL	2
13	INSTALL 24" SLEEVE W/ MEGALUG	2
14	INSTALL 24" X 8" FLG'D REDUCER	1
15	INSTALL DISTRICT FURNISHED 1" SERVICE SADDLE, CORPORATION STOP, AND SERVICE LATERAL PIPING PER BCVWD STANDARD PLATE 6-3. ONCE TESTING AND DISINFECTION IS COMPLETE, REMOVE EXISTING METER AND INSTALL NEW DISTRICT FURNISHED METER AND CONNECT TO NEW SERVICE LATERAL.	9
16	REMOVE EXISTING BLOWOFF ASSEMBLY AND INSTALL DISTRICT FURNISHED 6" X 4" X 2-1/2" X 2-1/2" JONES 3765 FIRE HYDRANT ASSEMBLY PER BCVWD PLATE 1. ABANDON IN PLACE EXISTING 4" LATERAL.	2
17	INSTALL RESTRAINED JOINTS	10
18	CONSTRUCT THRUST BLOCK PER BCVWD PLATE 11-1 AND 11-2 (ASSUMED SOIL BEARING CAPACITY OF 1,500 PSF) [9.65 SF BEARING AREA]	1 CY (0.5 CY EA BLOCK)
19	INSTALL 8" NUTS, BOLTS AND GASKETS	3
20	INSTALL 10" NUTS. BOLTS AND GASKETS	4
21	INSTALL 24" NUTS, BOLTS, AND GASKETS	3
22	INSTALL 8" FIELD LOK GASKETS	2
23	INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.	2
24	INSTALL DISTRICT FURNISHED METER BOX PER BCVWD PLATE 12 (CONTRACTOR TO COORDINATE WITH DISTRICT FIELD STAFF FOR LOCATION OF METER BOXES TO BE REPLACED)	2
25	ABANDON AND REMOVE EXISTING 6" GATE VALVE, AND INSTALL DISTRICT FURNISHED 6" BLIND FLANGE	1

GENERAL NOTES

1. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE "DISTRICT STANDARDS FOR THE FURNISHING OF MATERIALS AND THE CONSTRUCTION OF WATER AND RECYCLED WATER FACILITIES AND PREPARATION OF WATER SYSTEM PLANS," LATEST REVISION, AND THE ADOPTED ADDENDUMS THERETO.
2. WORK SHALL BE PERFORMED BY A CONTRACTOR LICENSED IN THE STATE OF CALIFORNIA, EXPERIENCED IN WATER UTILITY CONSTRUCTION.
3. UNLESS OTHERWISE INDICATED, ALL PIPES SHALL BE CEMENT MORTAR LINED DUCTILE IRON PIPE, MINIMUM PRESSURE CLASS 350, WITH PUSH-ON JOINTS. ALL PIPES SHALL BE INSTALLED WITH TRACER WIRE AND WITH POLYETHYLENE ENCASEMENT. TRACER WIRE SHALL BE 14-GAUGE, INSULATED (BLUE COLOR) SOLID COPPER WIRE.
4. FOR SEPARATION REQUIREMENTS BETWEEN WATER AND RECYCLED WATER, STORM DRAINS, AND SEWER LINES, SEE STATE OF CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64572.
5. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA (TELEPHONE 811 / 800-227-2600) FOR LOCATION OF ALL UNDERGROUND UTILITIES TWO WORKING DAYS PRIOR TO COMMENCING WORK.
6. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FROM CITY OF BEAUMONT AND/OR RIVERSIDE COUNTY, AS APPROPRIATE, PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL NOTIFY THE DISTRICT AT (951) 845-9581 TWO WORKING DAYS PRIOR TO COMMENCING WORK ON THE WATER UTILITY INSTALLATION. CONTRACTOR SHALL NOTIFY DISTRICT BY PRECEDING WEDNESDAY AT 4:00 P.M. PRIOR TO WORKING DURING THE WEEKEND. CANCELLATIONS SHALL BE NOTIFIED TO THE DISTRICT BY PRECEDING FRIDAY AT 3:00 P.M.
8. NO EXISTING DISTRIBUTION SYSTEM VALVE SHALL BE OPERATED BY THE CONTRACTOR. DISTRICT PERSONNEL WILL OPERATE ALL NECESSARY VALVES.
9. NO DEVIATIONS FROM THESE PLANS SHALL BE PERMITTED WITHOUT THE APPROVAL OF THE DISTRICT.
10. EXISTING WATER MAINS SHALL NOT BE TAKEN OUT OF SERVICE FOR MORE THAN 4 HOURS. CONTRACTOR SHALL NOTIFY ALL WATER USERS AFFECTED BY THE SHUTDOWN A MINIMUM OF 48 HOURS PRIOR TO THE ACTUAL SHUTDOWN. INDICATE THE DATE AND PRECISE HOURS THAT THE MAIN WILL BE TAKEN OUT OF SERVICE.
11. CONTRACTOR SHALL CONFORM TO THE STREET EXCAVATION REPLACEMENT STANDARDS OF THE CITY OF BEAUMONT.
12. CONTRACTOR SHALL NOTIFY THE DISTRICT AT (951) 845-9581 TWO WORKING DAYS PRIOR TO PLACEMENT OF CONCRETE FOR SIDEWALKS.
13. CONTRACTOR TO INSTALL MINIMUM 1" COPPER, TYPE K, SERVICE LATERALS IN ACCORDANCE WITH DISTRICT SPECIFICATIONS SHOWN ON DISTRICT STANDARD PLATE 6-2, PLATE 6-3, AND PLATE 12. ALL COPPER SERVICES SHALL BE INSTALLED WITH TAPE WRAP AND WITH POLYETHYLENE ENCASEMENT.
14. CONTRACTOR SHALL COORDINATE ALL RECONNECTS WITH DISTRICT PERSONNEL PRIOR TO ANY CONNECTIONS OR RETIREMENTS OF ANY DISTRICT FACILITIES.
15. CONTRACTOR SHALL BEAR ALL COSTS FOR THE CORRECTION OR REMOVAL AND REPLACEMENT OF DEFECTIVE WORK, AND ALL ADDITIONAL DIRECT AND INDIRECT COSTS THE CITY, COUNTY, OR DISTRICT MAY INCUR ON ACCOUNT OF DEFECTIVE WORK, INCLUDING THE COSTS OF ADDITIONAL ADMINISTRATIVE, PROFESSIONAL CONSULTANT, INSPECTION, TESTING, AND OTHER SERVICES.
16. ALL PIPE SHALL BE HYDRO TESTED, DISINFECTED AND APPROVED PRIOR TO FINAL CONNECTION TO EXISTING WATER LINES.
17. ALL MATERIALS SHALL BE OF DOMESTIC ORIGIN AND NOT OF FOREIGN MANUFACTURE.
18. CONTRACTOR SHALL FURNISH TO THE DISTRICT COPIES OF ALL SOIL COMPACTION TEST REPORTS FOR THE INSTALLED WATER MAINS TWO (2) WORKING DAYS PRIOR TO HYDRO TESTING OF PIPELINES.
19. CONTRACTOR SHALL FURNISH DISTRICT WITH PROJECT SPECIFIC MATERIALS OF CONSTRUCTION SUBMITTALS (IN PDF FORMAT) FOR REVIEW APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
20. CONTRACTOR SHALL KEEP AND MAINTAIN AT THE JOB SITE ONE (1) SET OF RECORD DRAWINGS. CONTRACTOR SHALL MARK ON DRAWINGS ALL CHANGES IN PROJECT CONDITIONS, LOCATIONS, CONFIGURATIONS AND ANY DEVIATIONS WHICH MAY VARY FROM THE DRAWINGS. THESE MASTER RECORD DRAWINGS SHALL BE MAINTAINED AND UP TO DATE DURING THE PROGRESS OF WORK. RECORD DRAWINGS SHALL BE ACCESSIBLE TO THE DISTRICT AT ALL TIMES DURING CONSTRUCTION AND A COPY OF SAID RECORD DRAWINGS SHALL BE DELIVERED TO THE DISTRICT UPON COMPLETION OF THE WORK.

CONTRACTOR'S RESPONSIBILITY FOR THE JOB SITE

CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

2750 PZ

48 hours BEFORE excavation
1-(800)227-2600
CALL Underground Service Alert

BEAUMONT-CHERRY VALLEY WATER DISTRICT
ENGINEERING
TRANSMISSION & DISTRIBUTION

SYM	REVISIONS	DATE	BY

REGISTERED PROFESSIONAL ENGINEER MARK BRYAN SWANSON No. 72332 CIVIL STATE OF CALIFORNIA

BEAUMONT-CHERRY VALLEY WATER DISTRICT
560 Magnolia Ave. • Beaumont, CA. 92223 • 951-845-9581

APPROVED BY
REGISTERED ENGINEER No.

Digitally signed by Mark Swanson
DN: C=US, E=mark.swanson@bcvwd.org, O=BCVWD, OU=Engineering, CN=Mark Swanson
Location: BCVWD
Reason: I have reviewed this document
Contact Info: PE#72332
Date: 2021.06.07 15:10:06-07'00'

SCALE	AS NOTED
FIELD BOOK	N/A
DESIGN	DAB
DRAWN	DAB
CHECKED	MBS/DKJ

BCVWD
PIPELINE REPLACEMENT PLAN
TITLE, SHEET INDEX, VICINITY MAP AND CONSTRUCTION NOTES

SHEET 1 OF 2 SHEETS

FILE No.

*NOTE TO CONTRACTOR: USE CAUTION WHEN DIGGING IN THE VICINITY OF THE EXISTING SEWER IN ANTONELL CT AND CHERRY AVE.

SCALE: 1"=20'

CONSTRUCTION NOTES		QTY
1	PROTECT IN PLACE	–
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10	INSTALL 10" TRANSITION FLEX COUPLING FROM 10.75 X 11.10 (ROMAC LONG BARREL)	2
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23	INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.	2
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25	ABANDON AND REMOVE EXISTING 6" GATE VALVE, AND INSTALL DISTRICT FURNISHED 6" BLIND FLANGE	1

GENERAL CONSTRUCTION & NOTES:

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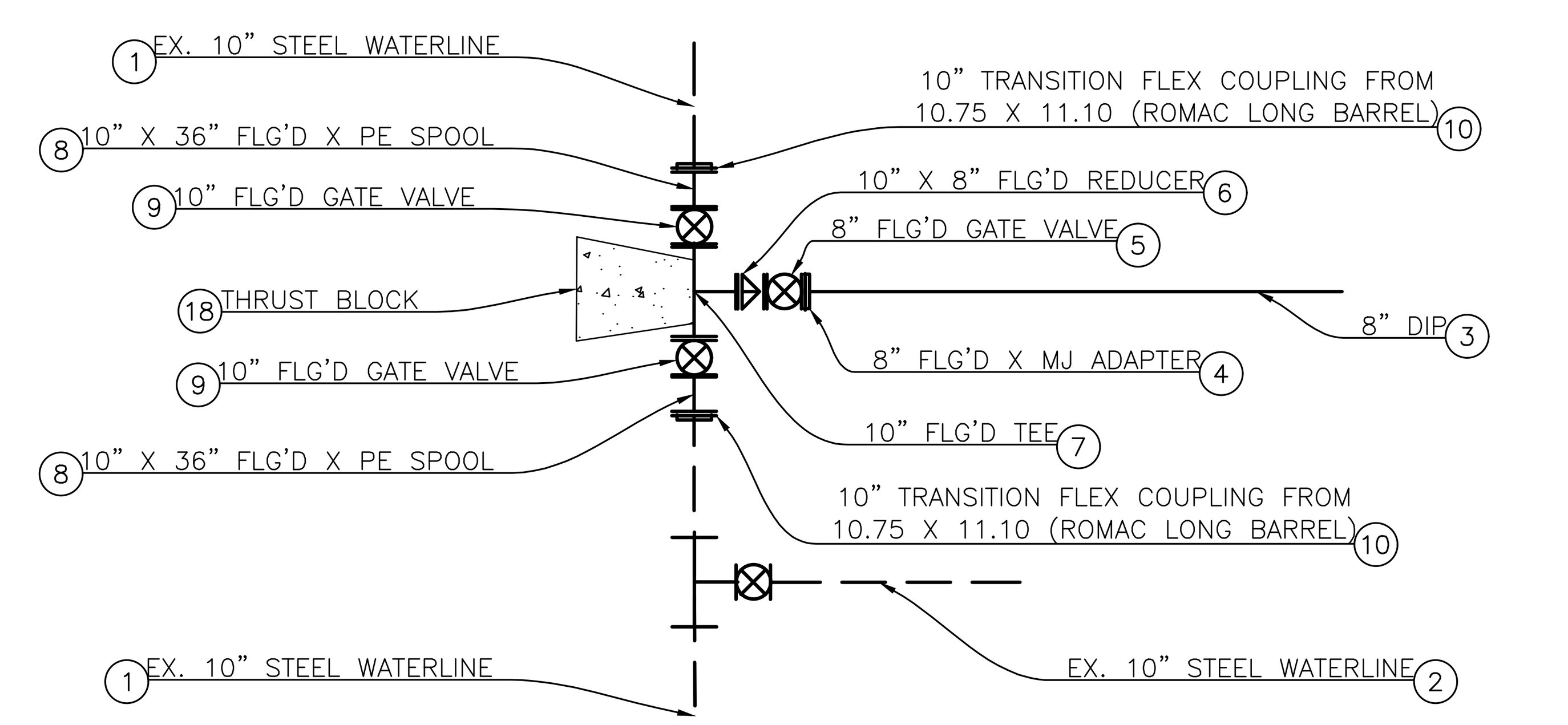
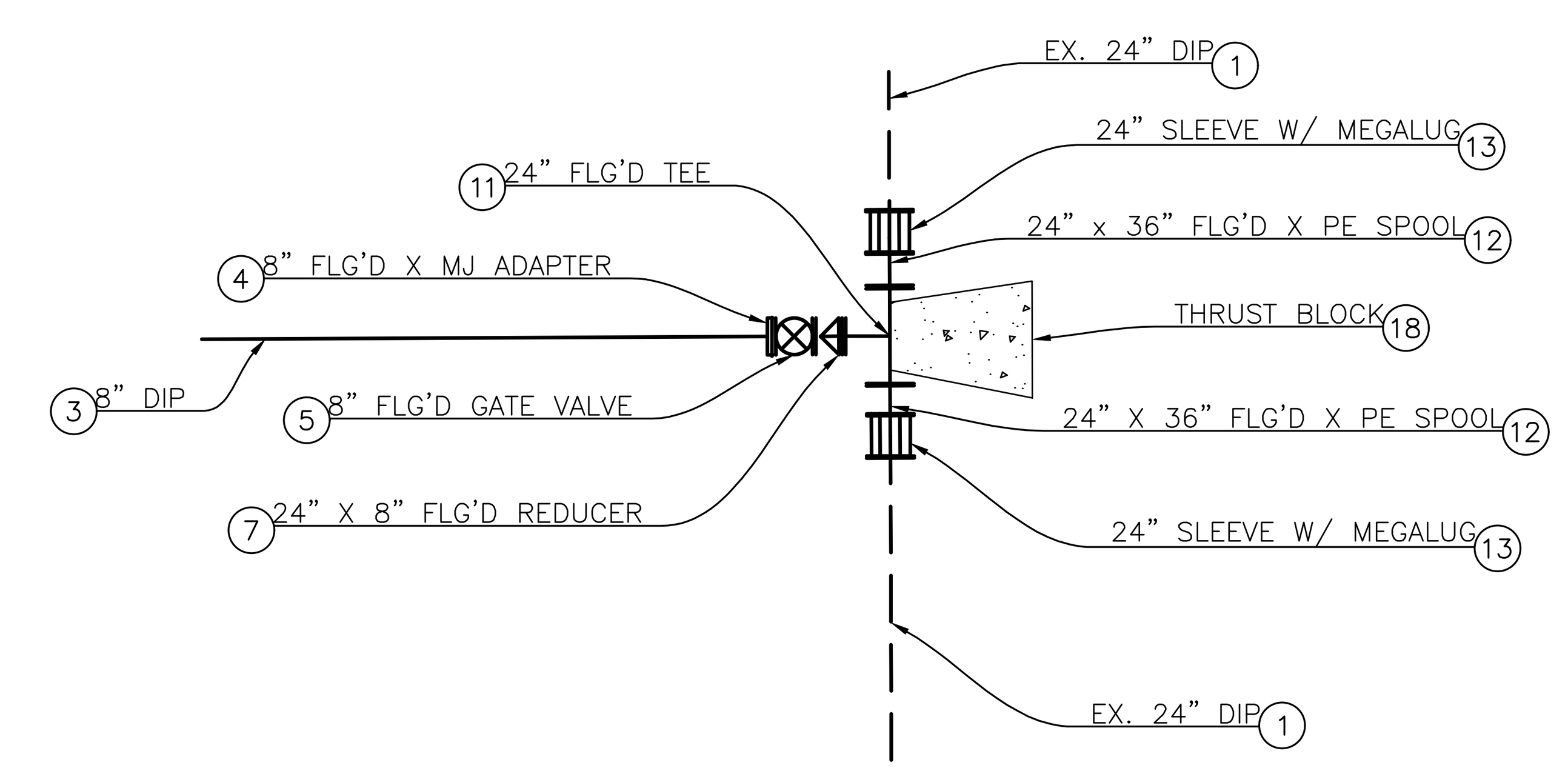
3. DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)



DETAIL "A"
ANTONELL CT WESTERN TIE-INTO PENNSYLVANIA AVE
NOT TO SCALE



DETAIL "B"
ANTONELL CT EASTERN TIE-INTO CHERRY AVE
NOT TO SCALE

2750 PZ

48 hours BEFORE excavation
1-(800)227-2600
CALL Underground Service Alert

BEAUMONT-CHERRY VALLEY WATER DISTRICT
ENGINEERING
TRANSMISSION & DISTRIBUTION

SYM	REVISIONS	DATE	BY

REGISTERED PROFESSIONAL ENGINEER — MARK BRYAN SWANSON — No. 72332 — CIVIL — STATE OF CALIFORNIA

BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 Magnolia Ave. • Beaumont, CA. 92223 • 951-845-9581

APPROVED BY
REGISTERED ENGINEER No. ________ DATE

SCALE	AS NOTED
FIELD BOOK	N/A
DESIGN	DAB
DRAWN	DAB
CHECKED	MBS/DKJ

BCVWD
PIPELINE REPLACEMENT PLAN
ANTONELL COURT:
STA 10+00 – 15+45±

SHEET 2 OF 2 SHEETS
FILE No.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

ANTONELL COURT PIPELINE REPLACEMENT PROJECT

APPENDIX B

STANDARD DRAWINGS

DISTRICT STANDARDS FOR THE FURNISHING OF MATERIALS AND CONSTRUCTION OF WATER AND RECYCLED WATER FACILITIES AND PREPARATION OF WATER SYSTEM PLANS

BEAUMONT CHERRY VALLEY WATER DISTRICT
560 MAGNOLIA AVENUE
P.O. BOX 2037
BEAUMONT, CA 92223

(951) 845-9581

January 2011

REGISTERED ENGINEER'S STAMP

District Standards for the
Furnishing of Materials and
Construction of Water and Recycled Water Facilities
And
Preparation of Water System Plans

Dated
January 2011

These specifications have been prepared by or under the direction of the following registered engineer.

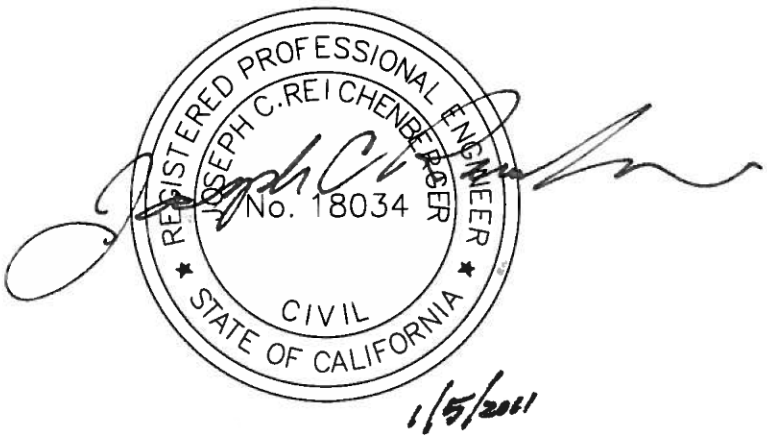


TABLE OF CONTENTS

SECTION 1

GENERAL REQUIREMENTS

1-01 GENERAL

The applicant shall furnish all materials, provide all construction, and shall bear engineering, permit, fees and all other costs necessary for the complete installation of the water system as shown on the Water System Construction Plans as well as other District approved drawings or plans and as required in the "District Standards for the Furnishing of Materials and the Construction of Water and Recycled Water Facilities" and "District Standards for Preparation of Water System Plans" together with any District required or authorized changes to those documents.

It is the sole responsibility of the Contractor to contact Underground Service Alert of Southern California (U.S.A. at 811/ 1-800-227-2600) for the locations of underground utilities. The contractor shall perform in compliance with all State and Local safety requirements, including, but not limited to CAL-OSHA requirements. All construction shall be provided by a licensed contractor.

1-02 DEFINITIONS

The word "District" shall mean the Beaumont Cherry Valley Water District.

The word "Board" or words "Board of Directors" shall mean the Board of Directors of the District.

The words "District Engineer" shall mean a civil engineer registered as such in the State of California appointed by the Board acting either directly or through his properly authorized agents, assistants, inspectors and superintendents.

The word "Contractor" shall mean the person, persons, partnership or corporation duly licensed as such in the State of California to enter into a contract for the performance of the work required.

The word "Applicant" used herein shall mean the person or persons and the duly authorized representatives of the party or parties requesting or making an extension or an addition to the District's water system.

The word "Plates" shall mean collectively all of the District Standard Plates attached to and accompanying District Standards and made a part hereof.

The word "Plans" shall refer to the Water System Construction Plans that have been prepared by the District or the Applicant's Engineer and approved by the District.

1-03 CONDITIONS

On all questions relating to the acceptability of the material, machinery or plant equipment, classification of material or work, the proper execution, progress or sequence of the work, quantities and the interpretation of the specifications or drawings, the decision of the District shall be final and binding.

The Applicant shall obtain copies of and comply with all applicable current statutes, laws, ordinances, rules, regulations and specifications of the United States Government, the State of California, the County of Riverside, the city of Beaumont and any other governmental agencies having jurisdiction and shall make application for all required permits and bear the cost of same.

The Applicant shall furnish to the District, copies of all required permits and licenses prior to initiation of the work. Upon completion of the work, the Applicant shall supply to the District, a letter of approval from the governing body having jurisdiction that the Contractor has met the requirements and conditions of the permits of licenses.

1-04 SUPERVISION AND INSPECTION

The District shall decide within the provisions of the specifications all questions which may arise concerning the quality or acceptance of materials furnished and work performed. Contractor shall notify District by preceding Wednesday at 4:00 p.m. prior to working during the weekend. Cancellations shall be notified to the District by preceding Friday at 3:00 p.m.

1-05 DEFECTIVE WORK OR MATERIALS

No work, which is defective in its construction or deficient in any of the requirements of these specifications, will be considered as accepted in consequence of the failure of any inspector connected with the work to point out said defects or deficiency during construction. The Applicant shall correct any imperfect work, without compensation from the District, before final acceptance of the work by the District.

All materials not conforming to the requirements of these specifications shall be considered as defective. They shall be rejected, whether in place or not, and shall be removed immediately from the site of the work by the Applicant at his expense. No rejected material, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the District.

1-06 MAINTENANCE OF EXISTING IMPROVEMENTS

Unless otherwise indicated in the Plans or in District Standards, or unless otherwise cared for by the owner of a public utility or franchise, all water, gas, oil or irrigation lines, structures or house laterals in place, and other surface or subsurface structures or lines, shall be maintained and shall not be disturbed, disconnected or damaged during the progress of the work. All expense, of whatever nature arising from such disturbance or in the replacement or repair thereof, shall be borne by the Applicant.

1-07 STANDARDS

Standards or reference specification documents incorporated herein by reference shall be those in effect on the day that the District issues the permit to construct.

1-08 GEOTECHNICAL INVESTIGATION

The Applicant shall submit, for District review, a geotechnical investigation report for the project. A soil corrosivity report shall be included as part of the geotechnical report. The corrosivity report shall include laboratory test results of the soils' corrosion potential. Laboratory test shall include: resistivity (ohm-cm), pH, redox potential, sulfides, chloride, and moisture content.

1-09 GEOGRAPHIC INFORMATION SYSTEM (GIS) STANDARDS

Prior to final acceptance of the work, the Applicant shall submit for review and approval all required GIS requirements detailed in Appendix A at the end of this standard specification. See Section 7-08, Plan Approval, for additional requirements. The original mylar record drawings shall be forwarded to the District. All record plans and drawings shall be submitted electronically in PDF format as part of the GIS requirements.

1-10 TRACT MAPS

Applicant shall also submit parcel and street centerline data for all lots within the boundaries of the project in ESRI Shapefile format. The parcel data must include lot numbers and addresses. The street centerline data must include the official name of the street. Detailed requirements are outlined in Appendix A.

1-11 ABBREIVATIONS

ASTM – American Society for Testing and Materials.
AWWA – American Water Works Association.
CDPH/DWP – California Department of Public Health / Drinking Water Program.
NPDES – National Pollutant Discharge Elimination System
RWQCB – Regional Water Quality Control Board.
SWPPP – Storm Water Pollution Prevention Program.

SECTION 2

MATERIALS

2-01 GENERAL

Furnish new and unused ductile iron pipe for all mains, drains, blowoff piping and fire hydrant laterals, unless indicated otherwise.

All brass fittings shall conform to the amended California Assembly Bill 1953 lead free requirements.

2-02 CLASS OF MATERIAL

All material shall be of domestic origin, and be suitable for a working pressure of 150 pounds per square inch (psi), unless otherwise specified or BCVWD approved equal.

2-03 STEEL PIPE

Steel pipe and fittings 4-inch diameter and larger shall be lined and coated with cement mortar. Pipe joints shall be bell and spigot "O" ring or welded joints. Steel sheets shall meet the requirements of ASTM A507 with a minimum yield of 33,000 psi. Flanged joints shall only be installed at valves or fittings or as shown on the drawings. Applicable sections of the following standards apply:

STANDARD	ITEM
ASTM A536	Standard Specification for Ductile Iron Castings
AWWA C200	Steel Water Pipe-6 inch. and Larger
AWWA C205	Cement-Mortar Lining and Coating
AWWA C206	Field Welding
AWWA C207	Steel Pipe Flanges
AWWA C208	Steel Pipe Fittings

All materials shall be suitable for 150 psi working pressure unless specified otherwise. The outside diameter and wall thickness of pipe shall be as follows:

SIZE	PIPE DIAMETER	THICKNESS
4	4. ½" O.D.	10 GA
6	6 5/8" O.D.	10 GA
8	8 5/8" O.D.	10 GA
10	10 3/4" O.D.	0.25 inch
12	12 3/4" O.D.	0.25 inch
16	17" O.D.	0.25 inch

2-04 DUCTILE IRON PIPE (DIP)

Ductile iron pipe and fittings shall be cement mortar lined. Pipe joints shall be mechanical joint or push-on type. Applicable sections of the following standards apply.

STANDARD	ITEM
AWWA C151	Ductile Iron Pipe
AWWA C104	Cement-Mortar Lining for DIP
AWWA C110	Fittings
AWWA C111	Rubber Gasket Joints

Ductile iron pipe and fittings shall be minimum pressure Class 150, unless indicated otherwise on the Plans. The acceptable sizes of pipe shall be as follows:

PIPE SIZE (INCHES)
Inside Diameter
4*
6**
8
10
12
16
18
20
24
30

*4-inch pipe shall only be used for services, air/vacuum assemblies, and blowoffs.
**6-inch pipe shall only be used for services, air/vacuum assemblies, blowoffs, and fire hydrants.

2-05 GATE VALVES

Gate valves 2 inches through 12 inches shall conform to all requirements of AWWA C509, Resilient-Seated Gate Valves. Valves shall be with "O" ring stem seals, opening counter clockwise as manufactured by Mueller Model A-2360 or BCVWD approved equal. Gate valves shall be fusion bonded epoxy coated, 10 -12 mils, per AWWA C550. Epoxy coating shall be NSF 61 approved for potable water.

Gate valves less than 2 inches in size shall be non-rising stem, with wedge discs and threaded ends as manufactured by Ohio Brass working class 250 psi, or BCVWD approved equal.

Gate valves 4 inches through 12 inches shall be flanged. 2 inch gate valves shall be threaded.

2-06 BUTTERFLY VALVES

Butterfly valves 16 inches and larger shall conform to all requirements of AWWA C504, Rubber-Seated Butterfly Valves. Valves shall be manufactured by Mueller Lineseal III, DeZURIK, Model BAW or BCVWD approved equal. Butterfly valves shall be fusion bonded epoxy coated, 10-12 mils, per AWWA C550. Epoxy coating shall be NSF 61 approved for potable water.

2-07 VALVE BOXES AND COVERS

Protection boxes and covers shall be furnished and installed with all buried valves. Valve can bottom material shall be 8" SDR-35 PVC pipe. Slip can top material shall have a minimum diameter of 8 inches and be made of 10-gauge galvanized steel 12" in length. Valve can covers shall be 8" round with the applicable word "WATER" or "RECYCLED" cast on each.

Valve extensions shall be "Fiberplas" by Pipeline Products or District approved equivalent.

2-08 FIRE HYDRANTS

Fire hydrants shall have one 4-inch pumper outlet and two 2-½ inch hose outlets. Location and spacing of fire hydrants shall be approved by the fire chief or fire marshal having jurisdiction.

Fire hydrants shall be of the wet-barrel type in accordance with AWWA. Fire hydrants shall be furnished with outlet threads conforming to local Fire Marshall's requirements. Valves shall open to the left or counter-clockwise; operating nut shall be 1-½ inch National Standard pentagon. Hydrant outlets shall be furnished with suitable plastic

caps. Hydrants shall be painted chrome yellow with good quality industrial enamel. All fire hydrant tops shall be painted with the appropriate capacity-indicating color scheme as follows:

a. Class AA-light blue for hydrants with a flow capacity of more than 1,500 gpm at 20 psi residual pressure.
b. Class A-green for hydrants with a flow capacity of 1,000 gpm to 1,499 gpm at 20 psi residual pressure.
c. Class B–orange for hydrants with a flow capacity of 500 gpm to 999 gpm at 20 psi residual pressure.
d. Class C-red for hydrants with a flow capacity of less than 500 gpm at 20 psi residual pressure.

Nozzle caps shall be plastic with integral color consistent with the appropriate capacity-indicating color scheme.

Hydrants shall be as follows unless otherwise approved by the District.

HYDRANT TYPE (WET-BARREL)	**MANUFACTURER AND MODEL**
6” X 4” X 2-1/2” X 2-1/2”	Jones 3765

2-09 BLOWOFF HYDRANT

The hydrant on the 4-inch blow-off assembly shall be a Model J-344HP by James Jones Company with a 4-inch inlet and 2-½ inch fire hose connection outlet, or BCVWD approved equal. 6-inch and 8-inch blow-off assemblies shall be installed in accordance with details shown on District Standard Plates No. 3-1 and 3-2. Blow-off shall be sized as follows.

MAIN SIZE	REQUIRED BLOWOFF SIZE
4-inch to 12-inch	4-inch
16-inch to 24-inch	6-inch
30-inch	8-inch

2-10 COMBINATION AIR AND VACUUM VALVE

The combination air and vacuum valve shall be designed to permit automatic escape of large quantities of air from the pipeline when line is being filled and permit air to enter the pipeline when line is being emptied.

It shall also allow accumulating air to escape while the line is in operation under pressure. Valves shall be APCO "Heavy Duty" combination Air Release Valves No. 145C (2"), 149C (4"), 150C (6"), or Crispen Model # AL81/PL10 (8") depending upon size specified on the Plans. Valve shall be sized to suite pipeline size.

MAIN SIZE	REQUIRED VALVE SIZE
4-inch to 12-inch	2-inch
16-inch to 18-inch	4-inch
24-inch	6-inch
30-inch	8-inch

Air and vacuum valve enclosure for 4" diameter and smaller shall be Pipeline Products Polyethylene Valve Enclosure No. VCAS-1830. Provide galvanized steel enclosure for 6" diameter air and vacuum valves. See District Standard Plate 5-2.

2-11 STEEL FLANGES

Steel flanges shall be AWWA C207, Class D, ring type or blind type as required, sizes shown on BCVWD approved plans.

2-12 NUTS, BOLTS AND GASKETS

Gaskets for flanged joints shall be ring type cloth inserted 1/16 inch thick for pipe 10 inches and smaller and 1/8 inch for larger pipe. Asbestos inserted gaskets shall not be used. Gaskets shall be Johns-Manville type 60 or Crane "Cranite" and shall conform to applicable requirements or AWWA C207.

Flange bolts shall be T-316 stainless steel conforming to the requirements of ASTM A193, Grade B8M, standard heavy hexagon head. Nuts shall be T-316 stainless steel, conforming to the requirements of ASTM A194, Grade 8M, standard heavy hexagon. Fit shall be Class 2A or 2B, per ANSI B1.1. Washers shall be of the same material as the nuts.

2-13 FLEXIBLE COUPLINGS

Flexible couplings, when approved by the District, shall be in accordance with AWWA C219 and shall be fusion bonded epoxy coated, steel sleeve and follower rings, or BCVWD approved equal. Hardware shall be 316 stainless steel . Romac 501 Style. Fusion bonded epoxy coating shall be NSF 61 approved for potable water.

2-14 FLANGED COUPLING ADAPTORS (FCA)

Flanged coupling adaptors between flanged fittings and ductile iron pipe shall be Rockwell 912 Cast FCA or BCVWD approved equal. For steel pipe, use Rockwell 913 Steel FCA, or BCVWD approved equal. Hardware shall be 316 stainless steel. Fusion epoxy coating shall be NSF 61 approved for potable water.

2-15 CONNECTION WITH EXISTING SYSTEM

All materials necessary to make connections between proposed and existing water systems per details shown on the Plans shall be furnished and installed by the Applicant and shall be of the size and class shown on the accompanying Plans. Items indicated to be salvaged on the Plans, but not used on this project shall become the property of the District. Connection to the existing system shall not be made until pipelines have been hydrotested, disinfected, and BCVWD approved equal.

2-16 STEEL CASING FOR BORED CROSSINGS

Steel pipe for casing shall be a minimum one-quarter (1/4) inch thick wall for 12 inch to 20 inch nominal diameters and a minimum three eights (3/8) inch thick wall for pipe sizes up to 36 inch nominal diameter or in accordance with the requirements of the governing agency whichever is greater, and shall be manufactured in accordance with American Water Works Association (AWWA) Standard C200 "AWWA Standard for Steel Water Pipe, 6 in. and Larger", 33,000 psi minimum yield point steel. The casing shall be round and straight, free from protruding bolts, rivets or welds, and shall have an inside diameter of not less than the maximum diameter of the carrier pipe plus 6 inches.

The ends of the Steel Casing Pipe to be jacked or bored into place shall be prepared to withstand pressures developed by jacking the pipe into place. Casing pipe thickness, length and other features shall be as required by the governing utility or agency. The carrier pipe shall have restrained joints for ductile iron pipe and welded joints for steel pipe.

2-17 CONCRETE

Portland Cement concrete shall conform to ASTM Standard Specification C94 entitled "Ready-Mixed Concrete" and shall have a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.

2-18 SERVICE SADDLES

Service saddles shall be Romac 101U single flat strap, for 1" services, mains 12" diameter and smaller, and pressures less than 100 psi, Smith-Blair 311, or BCVWD approved equal. For 2" services and mains larger than 12" diameter, and/or pressures greater than 100 psi, saddles shall be Romac 202U double flat strap, Smith-Blair 313 or BCVWD approved equal. Service saddle body shall be ductile iron. Saddle body shall be epoxy coated with zinc plated steel flat U bolts up to 12" and stainless steel straps for larger than 12"in diameter. Service saddles shall be installed no closer than 18" from fittings, joints, and other service saddles.

2-19 CORPORATION STOPS

Corporation stops shall be bronze body, James Co. J-41, or BCVWD approved equal, with iron pipe inlet and outlet.

2-20 TAPPING SLEEVES

Tapping a pipeline with anything above a 2" diameter tap shall not be permitted unless the District has given special consent. If the District has approved the use of a tapping sleeve then Romac SST or BCVWD approved equal shall be used.

2-21 INSULATION FITTINGS

Insulation couplings, flanges, fittings, and unions shall be the products of F.H. Maloney Company, Cor Ban Products Company, or BCVWD approved equal.

2-22 CONCRETE VAULTS

Vaults are to be furnished with one or two 3/8" steel floor plate covers with spring assistance to District specifications.

The No. 700 and 800 series Brooks sectional vaults, as manufactured by Brooks Products Inc., or BCVWD approved equal, are to be used.

2-23 RESTRAINED JOINTS

Restrained joints as called out in plans shall be: megalugs, as manufactured by Ebba Iron Inc., U.S. Pipe, “Field-Lok 350” gaskets, McWane, “Sure Stop 350” gaskets or BCVWD approved equal.

2-01 BACKFLOW PREVENTION DEVICE

Backflow devices shall be reduced pressure principle type (RP) in accordance with AWWA C506 and with the USC Foundation for Cross-Connection Control and Hydraulic Research. RP devices greater than 10” in diameter are not approved.

Backflow devices on fire services shall be reduced pressure principle detector assembly type (RPDA) in accordance with AWWA C506 and with the USC Foundation for Cross-Connection Control and Hydraulic Research. RPDA devices greater than 10” in diameter are not approved. If a larger diameter is necessary, a manifold with 2 RPDA’s shall be required.

2-02 FITTINGS

All fittings connected to valves shall be flanged.

SECTION 3

EXCAVATION, TRENCHING AND BACKFILL

3-01 GENERAL

The work covered by this portion of the District Standards consists of the furnishing of all plant, labor, equipment, appliances, and materials and the performance of all operations in connection with excavation, trenching, and backfilling for water mains and appurtenant structures, in strict accordance with the Standards and the applicable drawings.

In case of conflict in requirements for excavation, trenching and backfilling between District Standards and any statutes, laws, ordinances, rules, regulations and specifications of any political subdivision or agency having jurisdiction, it shall be understood that the more exacting requirements shall govern. In general, easements and the aforementioned statutes, laws, ordinances, rules regulations and specifications of any political subdivision or agency having jurisdiction will apply within the political boundaries or public rights-of way to which they apply.

3-02 EXCAVATION

Perform all excavation of every description and of whatever substances encountered, to the depths and alignment indicated on the construction drawings or as otherwise specified. During excavation, material suitable for backfilling shall be piled in an orderly manner, a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins in accordance with CAL-OSHA requirements. All excavated materials not required or suitable for backfill shall be removed at the direction of the District.

Such grading shall be done as may be necessary to prevent surface water from flowing into trenches or other excavations. Remove, by pumping or other means approved by the District, any water accumulated in the trench from any source.

Suitable shoring, timbering or sheeting shall be provided where necessary to support the sides of the trench prior to and during the installation of the pipe. The shoring methods and procedure shall be consistent with State and Local safety guidelines, including, but not limited to CAL-OSHA, Title 8 requirements.

Unless otherwise indicated, excavation shall be by open cut except that short sections of a trench may be tunneled if, in the opinion of the District, the pipe can be safely and properly installed and backfill can be properly tamped in tunnel sections.

All spoil shall be thrown on one side of the trench only to facilitate distribution and installation of pipe in such a manner that it will not endanger the work and will avoid obstructing roads and driveways. Adequate provisions shall be made for maintaining

the flow of watercourse, drains, sewers or ditches crossing the trench, and upon completion of the work, they shall be restored to their original condition.

The use of trench digging machinery will be permitted except where its operation will cause damage to trees, buildings or existing structures above or below the ground. At such locations, hand methods shall be employed to avoid such damage. Trees, fences, poles and other property shall be protected unless their removal is authorized. Any damaged property shall be satisfactorily restored.

Provide access and proper clearance for installation of pipe in easements. Removal and disposal of all trees, stumps, roots, brush and other objectionable material shall be provided in accordance with the approval of the District.

Minimum cover over the pipe in areas where grade is not shown on the Plans shall be 36 inches for pipe sizes up to and including 12-inch. Minimum cover over the pipe shall be 48 inches for pipe sizes greater than 12-inch. Depth of cover shall be measured from the established street grade or the surface of permanent improvement to the top of the pipe barrel. In the case of lines outside of the existing or proposed street right-of-way, the depth of cover shall be measured from the average natural ground surface. Any deviation shall be subject to approval of the District.

The width of the trench at the top level of the pipe shall be in accordance with the following table:

PIPE SIZE (INCHES)	**TRENCH WIDTH (INCHES)**	
Inside Diameter	Minimum	Maximum
4*	20	28
6**	22	32
8	24	32
10	26	36
12	30	36
16	34	42
18	42	54
20	44	56
24	48	60
30	54	66

*4-inch pipe shall only be used for services, air/vacuum assemblies, and blowoffs.
**6-inch pipe shall only be used for services, air/vacuum assemblies, blowoffs, and fire hydrants.

The trench shall be excavated minimum 6 inches below grade. The trench shall be refilled to the proper trench grade with sand backfill material compacted to 90 percent of its maximum density as determined by ASTM D1556.

Excavation behind all fittings requiring thrust blocks shall not be machine dug, but shall be hand dug to keep the trench wall solid and undisturbed.

The Applicant shall, at his own expense, provide his monuments and necessary survey work to indicate at the site of the work the alignment and grade for the pipelines to be laid in accordance with the Plans and such grade shall be uniform. No high or low points in the line shall be permitted, except as shown on the Plans, or to conform to the general grade of the street or contour of the terrain through which the pipe is to be laid. No deviation shall be made from the approved line or grade except with the written consent of the District. In the event a "High Point" is created at locations other than shown on the Plans or as directed by the District, air and vacuum release valves of suitable capacity shall be installed, at no expense to the District, to permit air to be released from or taken into the pipeline at said "High Point." Drain assemblies shall be installed at low points at no expense to the District.

In the event blasting is necessary for excavation, the method and procedure shall conform to State and Local Safety guidelines, including, but not limited to CAL-OSHA, Title 8.

All excavations shall be kept free of water while pipe is being placed. Furnish, install and operate all necessary machinery, appliances and equipment to keep excavation sufficiently free of water from any source during construction of the work to permit proper pipe laying and jointing and dispose of water so as not to cause injury to public or private property or to cause a nuisance or a menace to the public. Where it is necessary to use concrete in conjunction with an excavation, all construction areas will be kept free of water until concrete has been placed and allowed to attain its initial set.

Groundwater control shall be provided at those locations where the groundwater is higher than a plane 1 foot below the bottom of the pipeline.

3-03 BACKFILL

A. General – Backfilling of the trench around the pipe and excavation around appurtenances shall follow the installation as closely as possible. Backfill shall be accomplished in two stages:

- Pipe zone backfill from proper trench grade to 12 inches over the pipe;
- Final backfill from 12 inches over the pipe to the surface.

B. Pipe Zone Backfill – Pipe zone backfill should be accomplished as soon as possible after the pipe has been laid. The backfill material shall be imported sand with a minimum S.E. equal to 30 and shall be approved by the District. The material shall be sufficiently damp to permit thorough compaction on all sides of the pipe free from voids. Pipe zone backfill shall consist of placing the backfill from

proper trench grade to an elevation of 12 inches over the top of pipe by the following procedure:

The first lift of material shall be uniformly placed on both sides of the pipelines for the full width of the trench and have a maximum loose depth of not more than 6 inches as measured from the trench bottom. Sand jetting will be permitted with prior authorization by the District.

C. Final Backfill – The balance of backfill shall contain no such smaller dimensions than specified by the governing body having jurisdiction and shall be free from brush or any other perishable or objectionable matter that would prevent proper compaction, consolidation or that might cause subsequent settlement. All of the backfill placed shall be compacted to a minimum dry density of 90 percent of its maximum dry density as determined by Test Method No. California 216 (latest letter designation). Top 12" of backfill shall be compacted to 95 percent of its dry density.

Any deficiency in the quantity of material for backfilling the trenches or for filling depressions caused by settlement shall be supplied by the Applicant. Surplus spoil shall be spread or be hauled away as directed by the District.

Backfill within traveled streets or highways, existing or proposed, shall meet the standards and approval of the agency or proper authority having jurisdiction over same.

Trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth required for proper compaction, then backfilled and compacted, with the surface restored to the required grade.

Where jetting has been approved by the District, backfill shall be thoroughly consolidated by use of water jets.

3-04 PAVEMENT REPLACEMENT

All pavement removal and replacement shall conform to the standards and specifications of the governing body having jurisdiction, and shall meet with their approval. The Applicant shall be responsible for replacing all necessary pavement, thermal striping, markers, logos, loop detectors, ect. in accordance with the governing agencies' standard specification.

SECTION 4

INSTALLATION

4-01 GENERAL

All foreign matter and dirt shall be removed from the interior of the pipe prior to its installation. Before, lowering, the pipe shall be inspected for defects. Any defective, damaged, or unsound pipe shall be rejected. The entire joint including coupling, machined sections of the pipe and the rubber gasket or ring shall be thoroughly cleaned at the time the joint is made. The entire procedure and method of installation of the pipe and of making the joint shall be done in a workmanlike manner and shall be in strict accordance with the pipe manufacturer's direction and recommendations.

All pipe shall be laid according to the size, class, location and grade shown on the Plans. The faces of all spigot ends and all shoulders in the hubs or sockets must be true and brought into firm contact. Rubber ring locations shall be checked with suitable gages to insure that they are located in the proper position relative to the pipe ends.

When pipe laying is not in progress, the unfinished end of the pipe shall be securely closed with a suitable plug or cover to prevent the entrance of animals or foreign matter into the line.

Take all necessary care and precautions to prevent the pipe from floating due to water entering the trench from any source. The Applicant shall be responsible for damage caused by floating pipe and shall, at his sole expense, restore and replace the pipe to its proper condition, alignment and grade.

Where pipe is laid on a curve or at horizontal or vertical angles in the trench, the maximum deflection at the joint shall not exceed 60 percent of the limitations specified by the pipe manufacturer and each joint shall be adequately blocked to take the thrust until properly backfilled.

4-02 HAULING AND UNLOADING PIPE

During loading, transportation and unloading, every precaution shall be taken to prevent injury to the pipe, its lining and its coating. No pipe shall be dropped from cars or trucks nor allowed to roll down skids without proper restraining ropes. Each pipe shall rest upon suitable pads, skids, strips or blocks during transportation and while awaiting installation in the field, and shall be securely wedged or tied in place. Padding shall be used on all car stakes, skids and other material to prevent damage to the coating during transportation and handling.

Any pipe which is damaged shall be repaired or replaced to the satisfaction of the District.

When it is necessary to move the pipe longitudinally along the trench it will be done in such a manner as not to injure the pipe or its coating. Pipe shall not be rolled or dragged on the ground.

Where pipe is placed in stockpiles, it shall be neatly piled and blocked with strips between tiers.

4-03 PROTECTION OF WORK AND MATERIALS

Care must be taken to protect and preserve all materials to be used in the laying of the pipe. The pipe shall be handled in such a manner as not to injure its shape. All pipe and materials which, in the opinion of the Field Inspector, have been damaged shall be replaced.

All material shall be safely stored until it has been incorporated in the completed project. All material damaged or broken shall be replaced in exact type and kind. All materials received and not used shall be removed.

4-04 HANDLING OF PIPE AND ACCESSORIES

Pipe and accessories shall be unloaded at the point of delivery, hauled to, and distributed at the site of the project. They shall, at all times, be handled with care to avoid damage. Whether moved by hand, skidways or hoists, material shall not be dropped or bumped against pipe or accessories already on the ground or against any other object on the ground.

In distributing material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

Pipe shall be handled in such a manner as to avoid damage to machined or special ends. When such damage cannot be repaired to the District's satisfaction, they shall be replaced by the Applicant at his expense.

Precautions shall be taken to protect the interiors of pipes, fittings and valves against contamination.

All pipe, fittings and accessories shall be carefully lowered into the trench in a workmanlike manner, using proper tools and equipment. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.

4-05 INSTALLATION OF STEEL OR DUCTILE IRON PIPE MAINS

Steel or ductile pipe shall be laid according to size, line and grade designated on the Plans complete with tracer wire taped to the pipe.

Pipe installed under walls shall be installed within an adequate size steel sleeve with the annular space filled with sand and the ends sealed.

Before any steel or ductile pipe is lowered in place, the trench bottom shall be prepared so that each length of steel or ductile pipe shall have a firm and uniform bearing over the length of the barrel. Proper excavation shall be made to receive the bell of each pipe section. All adjustments in line and grade shall be made by scraping away or filling and tamping in under the barrel of the pipe. Wedging or blocking will not be permitted.

Combined horizontal and vertical deflections at any rubber gasket or flexible coupling joint shall not exceed 4° for 12-inch diameter and smaller pipe and 2° for pipe diameters greater than 12 inches, for standard 20' pipe sections or that recommended by the manufacturer. Pipe shall be carefully handled to prevent damage to the lining.

Ductile iron pipe installed in areas where soil corrosion potential is described as "corrosive" detailed in Appendix D or when required by the district shall be installed with polyethylene encasement in accordance with AWWA C105 and recommendations from the Ductile Iron Pipe Research Association (DIPRA). Polyethylene material shall be 8-mil linear low-density (LLD) film. Installation methods shall be in accordance with method A per AWWA C105.

Tracer wire shall be 14-Gauge, insulated (Blue color/potable or Purple color/nonpotable) copper wire. Tracer wire shall be spliced and extended up every valve can in accordance with details shown on District Standard Plates No. 2. Waterproof wire nuts shall be used at all splices and connections.

Rubber ring joints shall be completed in the trench. The ends of the pipe shall be thoroughly cleaned and positioned for joining. A non-toxic vegetable soap solution shall be applied to the inside of the bell, and rubber gasket snapped into the groove on the spigot end.

The ductile iron water mains shall be laid and the work incidental thereto performed in accordance with applicable requirement of AWWA C600 Standard for Installation of Gray and Ductile Cast Iron Water Mains. The minimum length of any straight pipe between two fittings shall be 2 ft.

Pipe will be inspected in the field before and after laying by the District Field Inspector. No backfill will be done until accepted by Inspector.

4-06 FIRE HYDRANT ASSEMBLY INSTALLATION

Fire hydrants shall be installed to the closest side of the roadway at the locations shown on the accompanying Plans in accordance with details shown on District Standard Plates No. 1, as appropriate herein, and positioned to provide complete accessibility and to minimize the possibility of damage from vehicles or injury to pedestrians. The size and type of hydrant shall correspond to the designation shown on the Plans. The entire hydrant assembly shall be plumb. The face of the 4-inch nozzle shall be parallel to the street centerline. The hydrant shall be located so that centerline of the riser or barrel is not less than 18 inches no more than 24 inches to the back of the curb face or back of the sidewalk. Provide 3 feet from the edge of flange to any structure. Fire hydrant shall not be located in concrete.

Provide and install all necessary fire hydrants bury extensions to permit installation of the hydrant assembly to proper grade. Shear bolts are required at hydrant barrel flange even if breakaway spools are used. Shear bolts shall be placed with the head of the bolt facing down. Hollow portion of bolt shall be filled with silicone.

All fire hydrants shall be bagged with burlap or other BCVWD approved material until water system is operational. Bags shall only be removed after water system has been accepted by the District.

Upon completion of the water main and system installation, and after the field tests have been performed, each fire hydrant shall be operated in the presence of the Field Inspector. Operation shall consist of opening the fire hydrant assemblies and allowing water to flow freely from one or more of its outlets. Upon completion of this sequence, the fire hydrants shall be turned off and all protection caps properly placed on each outlet.

4-07 VALVE INSTALLATION

Valves shall be installed at the locations shown on the Plans and shall correspond to the size and type of ends shown on the Plans. All valves shall be equipped with a protection box and cap. Valves shall be installed with valve extensions if valve operating nut is deeper than 5 ft. from the finish ground surface.

The cutting of pipe for inserting into the bells of valves shall be done in a neat and workmanlike manner, using proper tools and equipment.

All valves shall be carefully lowered into the trench in a workmanlike manner, using proper tools and equipment. Under no circumstances shall valves be dropped or dumped into the trench.

Valves shall not be operated without a District representative present. During the course of water main installation, all valves shall be left completely open or completely closed, unless authorized otherwise by the District. Upon completion of the water mains

and all appurtenances, all valves shall be operated through a complete open and closed cycle in the presence of the Field Inspector. After completion of this operational cycle, all valves shall be left in an OPEN position unless directed otherwise by the District.

4-08 PROTECTION BOXES

Protection boxes shall be installed to proper finished grade in rights-of-way of presently unpaved streets and easements. The entire assembly shall be plumb.

When installed in paved areas, the valve box shall be installed with its top at finished grade.

4-09 BLOWOFF ASSEMBLY INSTALLATION

Blowoffs shall be installed at the locations shown on the Plans and in accordance with the detail shown on District Standard Plate No. 3 herein. The entire assembly shall be plumb with nozzles at right angle to the street or as directed by the District.

Blowoffs shall be located to provide complete accessibility and to minimize the possibility of damage from vehicles or injury to pedestrians.

Upon completion of the water main and system installation, each blowoff shall be operated in the presence of the Field Inspector. Operation shall consist of opening the hydrant head on the assembly and allowing water to flow freely from its outlet. Upon completion of this sequence, the blowoff assembly shall be turned off and all protection caps properly placed on the outlet. Blowoffs shall be painted chrome yellow including caps

4-10 DRAIN ASSEMBLY INSTALLATION

Drain assemblies shall be installed at the location indicated on the Plans, at sites selected by the District to be completely accessible and protected from possible damage from vehicles or equipment.

Drains shall be installed in accordance with details shown on District Standard Plate No. 4 herein, in a workmanlike manner and in accordance with accepted water works standards.

Upon completion of the water main and system installations, drains shall be operated by opening and closing the control valve in the presence of the Field Inspector.

4-11 AIR AND VACUUM ASSEMBLY

Air and vacuum assemblies shall be installed at the locations indicated on the Plans at sites adjacent to the roadway or on back lot lines as selected by the District to be completely accessible and protected from possible damage from vehicles or equipment.

The assemblies shall be installed in accordance with details shown on District Standard Plates No. 5-1 and 5-2 herein, in a workmanlike manner and in accordance with accepted water works standards. Pipe joints shall be assembled in a proper manner to assure that they are free of leaks.

4-12 SERVICE STUB INSTALLATION

The Applicant shall install services per District Standard Plate No. 6-1 and No. 12, shall backfill, compact and replace pavement and sidewalk, as well as any damaged curb and gutter. The Applicant shall obtain all necessary excavation and encroachment permits from either the city of Beaumont or the County of Riverside, as applicable.

Damaged pipe shall be replaced at the discretion of the District Inspector. Blow out pipe before any final connections are made to eliminate any dirt or sand that may have entered into the pipe during installation.

Services stubs installed in areas where soil corrosion potential is described as "corrosive" detailed in Appendix D or when required by the district shall be installed with tape wrap from the main to the angle meter stop. Tape wrap shall be 2" wide polyken #930-35, 2" wide CANUSA, WRAPID tape HCA or district approved equal. Tape shall be installed with minimum 50% overlap. Service saddles and corporation stop shall be wrapped with minimum two layers of 8-mil linear low-density (LLD) film with ends taped.

Install proper size saddle clamp on main.

Services larger than 2" shall have manifolds with the appropriate number of 2" meters.

SERVICE SIZE (INCHES)	NUMBER OF 2" METERS IN MANIFOLD
2	1
3	1
4	2
6	4

Provide at least two tie measurements to lot stakes indicating the location of the valve at the end of the service stub for commercial and industrial services. The tie measurements, together with service stub size, shall be recorded on the set of plans furnished for "Record Drawing" purposes.

4-13 CONCRETE ENCASEMENT

A concrete encasement shall be installed at all watercourse crossings, in easements where water mains are to be installed. The entire encasement shall be installed in accordance with the detail shown on District Standard Plate No. 8 herein. The blanket

shall be installed in a manner to completely surround the pipe barrel and provide protection from flood flows and eliminate possible water infiltration. The entire procedure shall be in accordance with the pipe manufacturer's recommendations. All concrete necessary for concrete blanket shall be furnished by the Applicant.

4-14 THRUST BLOCKS

If joints cannot be restrained by other means, concrete thrust blocks shall be installed at all dead ends, tees, elbows, bends, crosses, blowoffs, drains and fire hydrants shown on the Plans. The thrust blocks shall be adequate in size to provide for a working pressure of 150 pounds per square inch on the pipe under consideration. The Applicant shall provide and install concrete and other materials required for thrust blocks.

Thrust blocks shall be constructed of concrete between the fitting of the pipe and the trench wall and shall conform to the dimensions in District Standard Plates No 11-1 and 11-2. Concrete for thrust blocks shall be min. 3000 psi, 28 day compression strength. Thrust block dimensions shown are the minimum required dimensions. Local conditions may dictate larger size thrust blocks. The concrete shall be placed so that it extends to the trench wall in a manner that enables the entire bearing area to be in contact with undisturbed freshly cut material.

Concrete shall be kept behind the bell of the fitting and shall not be permitted to run against the pipe. Concrete shall be kept clear of all bolts on flanged fittings to enable proper future removal of all such bolts.

4-15 FLANGED FITTINGS AND CONNECTIONS

All flanged valves and fittings shall be properly positioned and aligned in the trench in such a manner as to relieve any stress or strain on the connecting pipe or flanged end being fitted with the pipe system resting in its final position and all fittings and valves plumb. Welding, if required, shall be made in the trench bottom, except where otherwise approved by the District.

4-16 FLEXIBLE COUPLINGS WITH TIE DETAILS

Where flexible couplings are installed in steel water lines, the coupling shall be provided with tie rods, per details shown on District Standard Plate No. 9 herein and AWWA Manual M11.

4-17 CORROSION PROTECTION FOR BURIED VALVE BOLTS AND ACCESSORIES

Coat all buried bolts, including T-bolts for ductile iron mechanical joints, with 2 coats of Koppers Bitumastic 505, 15 mils per coat dry film thickness. Upon completion of the coating of the bolts, the flex coupling, valve or flange coupling adaptor shall be wrapped with 1 layer of 8 mil linear low density (LLD) polyethylene with the ends taped.

4-18 CONNECTION WITH EXISTING SYSTEM

Tie-ins or connections to the District's system shall follow the procedure below:

- The Developer/Contractor shall schedule, at least 96 hours in advance, a date and time for making the connection.

- The Developer/Contractor shall notify all water users affected by the shutdown, a minimum of 48 hours prior to the actual shutdown. The Developer/Contractor shall also notify all District customers of water outage, including the estimated duration which shall not exceed 4 hours.

- Upon completion of the connection to the District system, the gate valve installed on the outlet of the connection shall be left in a closed position, unless otherwise authorized by the District. Under no circumstances shall the outlet gate valve be opened without the express consent and approval of the District.

- Hot tapping mains shall not be permitted except for 2" and smaller service lines.

4-19 BAFFLES

When the natural slope outside the traveled roadway or access roads is greater than 15%, baffles shall be installed at the top of the trench. These baffles shall be installed in accordance with details shown on Plate No. 10 and constructed of 2" x 10" or 2" x 12" redwood plank set on edge at the top of trench. The plank shall be two (2) to three (3) feet wider than the trench and shall be held in place by 2" x 4" redwood stakes driven into the natural ground on the downhill side of the baffle. These stakes shall be driven a minimum of 2 feet into solid ground. The top of the baffle shall be set 2 to 3 inches above the surface of the adjacent ground and the trench backfill shall be increased as to be flush with the top of the baffles throughout the area in which they are installed. Baffles shall start at the top of the slope with spacing based on the following schedule:

SLOPE GRADIENT	BAFFLE SPACING
15%	20 feet
20% (5:1)	15 feet
25% (4:1)	12 feet
33% (3:1)	9 feet
50% (2:1)	7 feet
67% (1-1/2:1)	5 feet

Details of baffle installations are shown on District Standard Plate No. 10 herein.

4-20 BORED CROSSINGS

General – The work covered by this paragraph of the District Standards includes all pipe, pipe fittings, casings, special appurtenances, and materials between the stations indicated as bored crossings on the drawings.

Installations – Crossings shall be bored with an earth auger to the line and grade shown on the plans. The maximum allowable variation in line or grade shall be two-tenths (0.20) of a foot in the distance bored. Should voids be created outside the casing pipe, the voids shall be filled as directed by the District or governing agency. The pipe shall be threaded through the casing on redwood or plastic skids strapped to the pipe with stainless steel straps. Extreme care shall be taken not to break any of the connections. Any broken connection shall be replaced. After the pipe is in the casing, the space between the pipe and the casing shall be filled with sand, blown in. Seal the ends with cement grout. Polyethylene pipe wrapping shall extend 2 ft. into casing at each end.

4-21 ELECTRICAL INSULATION JOINTS

Electrical insulation joints shall be provided at all connections between dissimilar metals.

A. Insulating Joint. An insulating joint shall be installed by the Contractor where shown on the Drawings. Insulating joints shall prevent the flow of electric current across the joint and be of adequate strength to withstand the working water pressure of the adjacent piping. Flange insulation kits shall consist of:

1. Dielectric gaskets: Full-faced, 1/8-inch thickness, phenolic with gaskets on each side, Type "E", PSI LineBacker sealing gasket, or BCVWD approved equal.
2. Insulating stud sleeves for each bolt: High-density polyethylene or spiral wound mylar.
3. Two insulating washers for each bolt: 1/8-inch thick phenolic.
4. Bolts shall conform to ASTM A193, Grade B7, Heavy Hex, stainless steel, Type 316.
5. Nuts shall conform to ASTM A194, Grade 2H, Heavy Hex, stainless steel, Type 316.
6. Steel washers over each insulating washer: 1/8-inch thick hardened stainless steel Type 316, with the same outside diameter as the insulating washer.

One-piece molded acetal resin combination sleeve and washers are acceptable.
Flange Insulation Kit Products: Corrosion Control Products Company, Central Plastics Company, or BCVWD approved equal.

B. Installation of Insulation Kits. Flange insulation kits shall be installed as follows:

1. Insulating kits shall be verified to be of proper size and type.
2. Faces of flange pairs shall be cleaned of all dirt, rust or fouling materials which would interfere with a watertight joint or insulating property of the flange kit.
3. Full-length insulating sleeves and insulating washers and insulating gaskets shall be as required by Paragraph A hereof.
4. Alignment pins shall be used to properly align the flange and gasket. The manufacturer's recommended bolt tightening sequence shall be followed. Bolt insulation sleeves shall be centered within the insulation washers so that the insulating sleeve is not compressed and cracked.
5. For buried insulators, the entire flange assembly and all bolts shall be covered with 20 Mils of bitumastic coal tar epoxy.

C. Testing of Insulating Joint. Contractor shall retain the services of a corrosion engineer or a certified testing lab, registered in the State of California, to check each insulation joint for electrical continuity and potential after installation is completed. Test results at the insulating joint shall be recorded in a notebook which shall be submitted to the District upon completion of the entire pipeline. If a discontinuity should occur, the system shall be repaired and retested at the Contractor's expense.

4-22 FIRE SERVICE METER ASSEMBLY

All commercial fire service meter assemblies shall be installed in accordance with details shown on District Standard Plate No. 7.

4-23 WATER SAMPLING STATION

Where water sampling stations are installed, the sampling station shall be per details shown on District Standard Plate No. 13 herein. Teflon tape shall be used at all threaded connections. No cutting-oil shall be allowed.

SECTION 5

FIELD TESTS

5-01 GENERAL

After the pipe has been laid, backfilled and compacted, the pipe shall be given a pressure and leakage test. Applicant shall submit compaction test reports (field results) prior to pressure testing. Before conducting the field tests, the pipe shall be completely filled with water, and all air shall be expelled from the line. Water to be used to fill the pipelines will be furnished by the District (District jobs only). To ensure safety to existing system, the "Standards for Disinfecting Water Mains," AWWA C-651 shall apply. The Applicant shall provide a backflow protection valve, pumps and other equipment to properly fill the line with water and produce the required pressure for testing. All equipment required to produce pressure tests shall be subject to inspection by the Field Inspector. The required pressures shall be measured at the point of lowest elevation in the line to be tested.

Should any section of pipe fail the field tests, the line shall be repaired and retested by the Applicant until the line passes all field tests.

The acceptance of the water system by the District is subject to the written guarantee of the Applicant that any defects in the pipeline backfill and pavement which may develop within 1 year from the date of acceptance and dedication shall be repaired in accordance with the provisions of Section 6 entitled "Guarantee and Maintenance" herein.

5-02 PRESSURE TESTS

The pressure test shall be performed prior to conducting the leakage tests set forth in Paragraph 5-03 below. The pressure test shall consist of maintaining a pressure of 225 psi retained at the lowest elevation of the test section, unless higher test pressures are indicated on the plans, continuously for a period of at least 2 hours. The entire system, as installed by the Applicant, shall be tested.

5-03 LEAKAGE TESTS

The leakage test shall be conducted after completion of the pressure test prescribed in Paragraph 5-02 above. The test pressure shall be 150 psi (unless higher test pressures are indicated on the plans) and shall be held continuously for at least 2 hours. The leakage shall then be measured by determining the quantity of water required to refill the lines. Regardless of the rate of leakage, all visible leaks shall be repaired.

No pipe installation will be accepted for dedication by the District until the leakage for the section of line tested is less than the rate of leakage specified herein. The

maximum allowable leakage rate, based on mainline pipe length, shall not exceed that in Table 5-1.

TABLE 5-1

ALLOWABLE LEAKAGE FOR 1000 FEET OF PIPE

(gal/hr)

Diameter (inches)	Test Pressure (psi)	
	150	200
4	0.37	0.43
6	0.55	0.64
8	0.74	0.85
10	0.92	1.06
12	1.10	1.28
14	1.29	1.48
16	1.47	1.70
18	1.66	1.91
20	1.84	2.12
24	2.21	2.25
30	2.76	3.19

Based on 11.65 gallons per day per inch of diameter per mile at 150 psi.

For pressures other than those listed above the following formula shall be used:

$$L = \frac{S \cdot D \cdot \sqrt{P}}{133{,}200}$$

Where: L = allowable leakage, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = test pressure during the leakage test, in pounds per square inch (gauge) at the point of lowest elevation of the tested section

5-04 SCHEDULING OF TESTS

Pressure and leakage tests shall be scheduled with the District at least two working days in advance and after receipt of all soil compaction test reports. Tests shall be witnessed by the Field Inspector.

5-05 DISINFECTION

During laying, pipelines shall be carefully protected against contamination, and all dirt and foreign material shall be removed. Before being placed in service, the lines shall be thoroughly flushed out and then disinfected, flushed and tested in accordance with AWWA C-651 “Standards for Disinfecting Water Mains”. Initial chorine concentration shall be 100 ppm. Sampling shall consist of one test taken 24 hours after flush. Initial

sample shall be taken only after the District has approved all appurtenances and facilities and if the system will be activated within 5 days. Sample shall be absent of coliform and have a heterotrophic plate count less than 200 ppm. If initial sample is rejected, all subsequent samples shall be in accordance with AWWA C-651. All bacteriological samples for new construction shall be labeled "Special – New Construction".

Test samples shall be taken by the Applicant at all piping dead ends and approximately every 500 ft. of pipe as directed by field inspector. Samples shall be taken at blowoffs, fire hydrants and services. Additional test stations are not required.

All necessary chlorine shall be furnished by the Applicant. If the first application of chlorine is not sufficient to meet bacteria standards, the procedure shall be repeated until the water will meet the bacteriological drinking water standards of State Health Department.

If a water or recycled water system sits static for more than 3 months, the system shall be flushed, resampled and tested. If the retest fails, the system shall be redisinfected, resampled and tested until the system complies.

Flushing shall comply with the Districts' NPDES permit as a minimum.

5-06 COMPLETION

After satisfactory completion of all tests, Applicant shall remove gate valve blanks in the presence of the Field Inspector. Gate valves, at connections to the existing system, shall remain closed until dedication of the system.

SECTION 6

GUARANTEES

6-01 PERFORMANCE BOND

The Applicant shall provide the District with a cash deposit or approved Performance Bond in the amount of 125 percent of the estimated construction cost. The estimated construction cost shall be prepared by the Applicant and submitted to the District for review and approval. The construction estimate shall include a 20 percent contingency allowance.

6-02 TIMELY COMPLETION

In the event the Applicant fails to complete all the specified improvements, in accordance with the District Standards, within 12 months after execution of the Water Main Extension and Facilities Construction Agreement, the District may utilize any cash deposit to complete the work or call upon the Surety Company who provided the Performance Bond.

6-03 GUARANTEE AND MAINTENANCE

The Applicant shall, by virtue of a cash deposit or an approved bond, guarantee the completed work against repairs caused by defective workmanship or materials furnished and installed for a period of 1 year from the date of the acceptance of the water system by the District. Acceptance is defined as the water system being approved by the District including all punch list items and all record drawings and GIS submittals submitted and approved by BCVWD. The Applicant shall furnish to the District a satisfactory bond based on the following scale of the total installation cost:

30% of the first $100,000.00
20% of the second $100,000.00
10% of installation cost over $200,000.00

SECTION 7

PREPARATION OF WATER SYSTEM PLANS

7-01 GENERAL

All plans for water systems shall be prepared by a Civil Engineer registered in the State of California, experienced in the design of water systems. Prior to submittal for approval, the plans shall be signed by the Applicant's Engineer. The Applicant's Engineer shall be retained and paid for by the Applicant.

7-02 FORMAT

Plans shall only be prepared on reproducible sheets 24" x 36" or 22" x 34". Road construction, grading or other base maps, as approved by the District, may be used. Profiles shall be provided for all main lines.

All drafting shall be done in a manner that will produce a clear, legible reproduction. All symbols, weight of lines, size of letters and the like shall provide a product that is acceptable. Symbols, as shown in Legend on District Standard Plate D-1, shall be used where applicable.

North arrows and scale shall appear on all plans.

The vertical scale shall permit the determination of all high and low points along the alignment of the proposed water line. Top of pipe or invert elevations shall be shown at all vertical angle points, all pipe tees and crosses, and at all important points. Profile scale shall be 1" – 4' except in areas where pipe slope is greater than allowed on the profile grid, in which case 1" – 8' may be used.

The horizontal scale shall permit proper display of the improvements to be made. Distances between fittings along the pipe shall be shown together with the use of "stations" along the alignment of the pipeline. Scale shall not be smaller than 1"– 40'.

The location, description, coordinate and elevation of at least one approved Benchmark shall be shown in the title block. Benchmark shall be NAVD 88. Coordinate system and bearing shall be on California State Plane NAD 83, Zone VI, 2007 epoch adjusted.

The description of the basis of bearing shall be shown in the title block.

Plans shall include a vicinity and location map.

Plans shall include a sheet index table and map.

Plans shall show tract and lot numbers together with all existing property lines along the alignment of the water main to be constructed.

Separate plan and profile for potable and recycled water shall be provided.

Plans shall show fire flow requirements set by the Fire Marshall where applicable. Fire hydrant locations shall be approved by the Fire Marshall.

Plans shall show separate services for potable water, on-site fire protection, and recycled water as appropriate. When recycled water is used on-site, reduced pressure principle (RP) backflow assemblies shall be installed on both he recycled water and potable water service for commercial, industrial, and institutional facilities.

The plans shall show the limits and types of all existing and proposed pavement together with other items such as sidewalks, gutters, culverts, drainage ditches or structures and their relationship to the street or improvement centerline.

Proposed and existing underground utilities such as sewer, gas, telephone, electrical, culverts and drainage structures or other known facility that cross or parallel the proposed water lines shall be designated in plan and profile with dashed lines and have appropriate symbols to designate their size and type. The invert elevations of all sewer and storm drain lines shall be shown in the profile where such utilities cross the water line.

All proposed water service lines shall extend to the property lines and their location shall be shown on the plans.

Plans shall show typical street cross section showing all proposed underground utilities.

All necessary easements shall be shown on the plans. Natural ground surface or finished grade in easements shall be shown in profile.

Plans shall include a detail for location of blue pavement markers at all fire hydrant locations per Riverside County Fire Department requirements in two-way streets and at intersections.

Also see supplementary requirements for construction of water facilities in Appendix B.

7-03 GENERAL NOTES

The first sheet of water system plans shall include all of the Notes in District Standard Plate D3-1, as applicable, except as otherwise approved by the District.

7-04 LOCATION

Water mains shall be designed to have a minimum of 3 feet of cover for pipe sizes 12-inch and less and 4 feet of cover for pipe sizes greater than 12-inch, unless approved otherwise by the District. Water main profile shall be sloped to minimize high points and

low points. Combination air release-vacuum valves shall be installed at all high points and to the extent possible, drains shall be located at low points to serve as flush-outs.

Water main separation from existing and proposed sewers, storm drains, and recycled water lines shall conform to the California Code of Regulation Title 22, Chapter 16, Section 64572, copy attached in Appendix C and/or Riverside County Standard No. 609. To the extent possible, water mains shall be at least 10 feet clear distance from sewer lines when paralleling sewer lines and shall be at least 1 foot clear above sewer lines when crossing sewer lines. Separation requirements and standards are shown in District Standard Plate D4-1. Where special permission from the Health Department is necessary, it shall be the Applicant's responsibility to obtain permission in writing and provide the District with a copy of said approval, prior to approval of the Plans.

All potable water lines shall be installed minimum 4 feet clear horizontal distance and one foot clear distance above any recycled water and/or storm drain lines.

All potable water lines shall be installed minimum 2 feet clear horizontal distance and one foot clear distance from any other underground utility.

7-05 DEAD END MAINS

All mains shall be looped to the extent possible. Dead end mains will not be allowed unless approved by the District

7-06 EASEMENTS

It is the policy of the District to have all water lines placed within dedicated rights-of-way, wherever practicable. Where installation of water mains within a dedicated right-of-way is not requested or required, the Applicant shall obtain approval of the District regarding necessity and location of said easements.

Easements shall not straddle lot lines. The minimum easement width shall be 25 feet.

Should an easement be necessary, the Applicant shall:

1. Prepare an easement plat that will produce a clear and legible reproduction. Show all dimensions and necessary data including the vested ownership of each parcel and a legal description thereof. A separate sheet shall be used for the description of each parcel.

2. Submit two prints and the original of the easement plat and two copies of each easement description along with a title report from a title company acceptable to the District showing the vested ownership of record.

3. After the easement plat, legal descriptions and title reports have been reviewed by the District and found to be in order and the fee has been deposited, the

Applicant shall prepare the easement documents and obtain the required execution. The easement documents shall be executed and acknowledged in strict conformance with the form as presented.

4. After proper execution, the easement documents shall be returned to the District for final approval and acceptance and recordation. The Applicant shall pay recordation fees.

5. The water system construction plans will not be approved by the District until necessary executed instruments of conveyance have been received by and approved by the District.

7-07 CERTIFICATIONS AND SIGNATURES

The following items shall appear on the first sheet of water system plans.

Applicant's Engineer Certificate

This certifies that on _____, 20_____, I have reviewed the plans of domestic water system for and they meet the requirements of the California Section of the American Water Works Association, and the Riverside County Standards where the installation is within said County, for minimum requirements for safe practice in the production and distribution of water for domestic use.

The distribution system and transmission mains at the point of supply to this tract are adequate to supply water to all the sections of the tract in accordance with Section 5-21 of the above quoted standards.

I certify that the design of the water systems is in accordance with the requirements prescribed by the Riverside County Fire Department.

By: _____ _____
Registered Engineer No. Date

District Engineer's Certificate

This certifies that these plans and specifications have been reviewed by and are hereby approved by Beaumont Cherry Valley Water District and that this District is willing and able to supply water to every lot in this tract in accordance with the pure water laws of the State of California.

By: _____ _____
District Engineer Date

RIVERSIDE COUNTY
Fire Department
Approved by the Riverside County Fire Department

By: _____ Date: _____

7-08 PLAN APPROVAL

Plans shall be signed by the District Engineer upon satisfactory completion of all plan requirements. After approval, and prior to start of construction, submit 2 sets of blue line full-size prints and one set of blue line prints reduced to 11"x17" to the District Engineer. Signed mylars shall be kept with the Applicant's Engineer until "Record Drawings" are prepared. "Record Drawings" and Contractor's red line drawings shall be submitted to the District for final review and comment prior to final submittal of "Record Drawings" mylars to the District. Approved "Record Drawings" mylars shall be forwarded to the District at the end of the project prior to final acceptance of the project. All record drawings shall have the following statement on each sheet of the plans above the title block in the lower right corner as practical:

RECORD DRAWINGS

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION SUBMITTED, IN PART, BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

DATE:____ BY:_____
(*Name of Firm)*

A sheet revision number shall be included in the "Revision Description" block with the words, "Record Drawing". Also a corresponding revision triangle number shall be added after the corresponding sheet number.

Record Drawings may be revised by hand on original signed mylars if changes are minimal and a "sticky-back" label, with the above disclaimer note, attached to each sheet. Each sheet shall then be reproduced as a duplicate mylar and submitted to the District. If revisions are extensive, the changes shall be incorporated electronically with the disclaimer note added and signed by the engineer responsible for the plans, then submitted to the District Engineer for signature.

Approval of the plans by the District does not constitute a representation as to the accuracy of the location or existence or nonexistence of any utility or structure within the limits of the project.

It should be clearly understood that the approval of the project by the District is based upon the street improvement plans and the tract map submitted by the Applicant. In the event there are no approved street improvement plans and/or the recorded tract map, it shall be the responsibility of the Applicant to notify the District of such changes. Further approval by the District will be required.

7-09 CHANGE OF PLANS

Any changes to the approved plans shall only be with the written approval of the District Engineer.

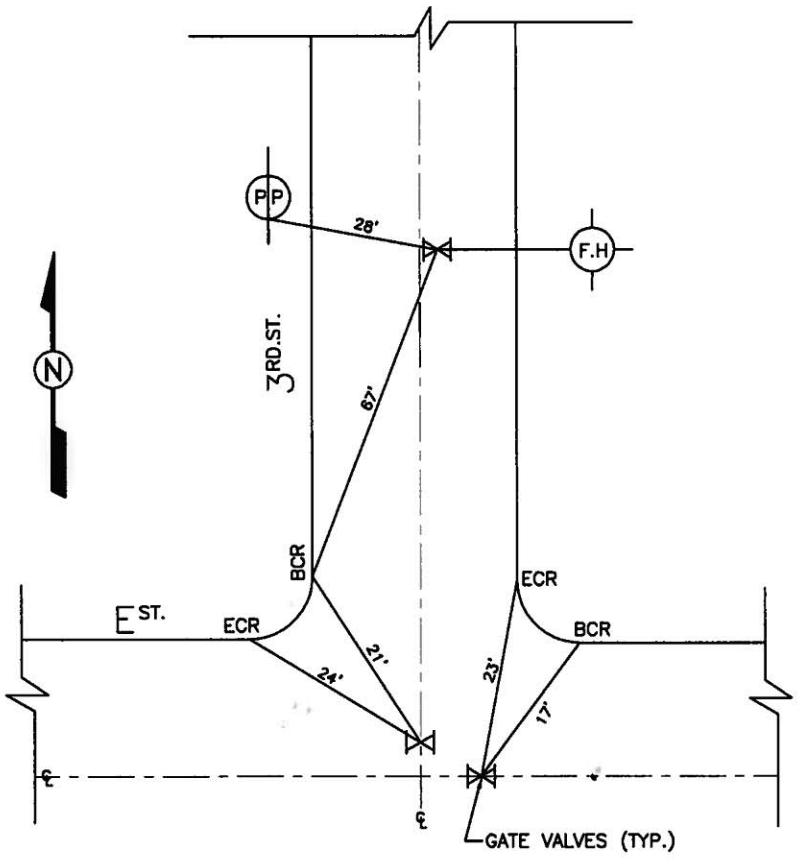
PLATES

PLATE D1

BEAUMONT CHERRY VALLEY WATER DISTRICT

DRAFTING LEGEND

— — W — —	EXISTING WATER PIPELINE
— — S — —	EXISTING SEWER LINE
— — G — —	EXISTING GAS LINE
— — E — —	EXISTING ELECTRICAL CONDUIT
— — SD — —	EXISTING STORM DRAIN
— — T — —	EXISTING TELEPHONE CONDUIT
	PROPOSED WATER PIPELINE
F.H.	FIRE HYDRANT ASSEMBLY
	GATE VALVE
B.O.	BLOWOFF ASSEMBLY
1	DOMESTIC SERVICE Ø 1" DENOTES SIZE
A.V.R.	AIR AND VACUUM RELEASE ASSEMBLY
	FLANGED FITTINGS
B.F.	BLIND FLANGE
2124 ℄	INVERT ELEV OF PROPOSED PIPE
FLG.	FLANGED
R.T.	RING TITE
M.J.	MECHANICAL JOINT
C.M.L&W.	CEMENT MORTAL LINED AND WRAPPED STEEEL PIPE
C.M.L&C.	CEMENT MORTAR LINED AND COATED STEEL PIPE
AWWA	AMERICAN WATER WORKS ASSOCIATION
(RES)	RESTRAINED FITTINGS



NOTE:
ALL VALVES MUST HAVE TWO STATIONARY TIE OFF POINTS. EXAMPLE: CURB RADIUS, POWER POLE OR CHISELED W V ON TOP OF CURB WITH EXACT MEASUREMENT TO CENTER OF VALVE LID.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
03/10	APPROVED: DATE: 1/5/11		
	DISTRICT ENGINEER	INTERSECTION TIE DETAIL	PLATE D-2

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

BEAUMONT CHERRY VALLEY WATER DISTRICT

The following general notes and requirements must be on the first sheet of all water plans submitted to the District for approval.

GENERAL NOTES

GENERAL NOTES

1. All work shown on these plans shall be performed in accordance with the "District Standards for the Furnishing of Materials and the Construction of Water and Recycled Water Facilities and Preparation of Water System Plans", latest revision, and the adopted addendums thereto.
2. Work shall be performed by a contractor licensed in the state of California, experienced in water utility construction.
3. Contractor shall obtain construction permit from the District and pay inspection and valve cover deposit prior to construction.
4. Unless otherwise indicated, all pipes shall be cement mortar lined ductile iron pipe, minimum Pressure Class 150, with push-on joints. All pipes shall be installed with tracer wire. Tracer wire shall be 14-gauge, insulated (Blue Color) solid copper wire.
5. For separation requirements between water and recycled water, storm drains, and sewer lines, see Riverside County Standard No. 609 and California Code of Regulations, Title 22, Section 64572.
6. The contractor shall contact underground service alert of southern California at 811 / 800-227-2600 for location of all underground utilities, two working days prior to commencing work.
7. Contractor shall obtain necessary permits from city of Beaumont, and/or Riverside County, as appropriate, prior to construction.
8. All fire hydrants shall be installed in accordance with District Standard Plate No. 1-1 (1-2) and shall be type Jones 3765 6"x4"x2.5"x2.5" outlet.
9. Contractor shall notify the District at (951) 845-9581 two working days prior to commencing work on the water utility installation. Contractor shall notify District by preceding Wednesday at 4:00 p.m. prior to working during the weekend. Cancellations shall be notified to the District by preceding Friday at 3:00 p.m.
10. No existing distribution system valve shall be operated by the contractor. District personnel will operate all necessary valves.
11. No deviations from these plans shall be permitted without the approval of the District.

12. Existing water mains shall not be taken out of service for more than 4 hours. Contractor shall notify all water users affected by the shutdown a minimum of 48 hours prior to the actual shutdown. Indicate the date and precise hours that the main will be taken out of service.

13. Fire flow for this project is _____ gpm at 20 psi residual

14. Contractor shall conform to the street excavation replacement standards of the City of Beaumont or Riverside County, whichever has jurisdiction.

15. Contractor shall notify the District at (951) 845-9581 two working days prior to placement of concrete for sidewalks.

16. Air vacuum release assemblies per District Standard Plates No. 5-1 and 5-2 shall be installed at all high points on the water main. Additional assemblies over those shown on the drawings may be necessary when substructures require a change in line or grade of the water line.

17. Contractor to install minimum 1" copper, Type K, service laterals in accordance with District specifications shown on District Standard Plate 6-2, Plate 6-3, and Plate 12.

18. Contractor shall coordinate all reconnects with District personnel prior to any connections or retirements of any District facilities.

19. Contractor shall restrain all joints at tees, elbows, dead ends, etc. as indicated on the plans, as a minimum. See Construction Note _____ on Sheet _____.

20. Contractor shall bear all costs for the correction or removal and replacement of defective work, and all additional direct and indirect costs the City, County, or District may incur on account of defective work, including the costs of additional administrative, professional consultant, inspection, testing, and other services.

21. Contractor shall install blue reflective pavement markers in accordance with the Riverside County Fire Department "Guidelines for Fire Hydrant Markings" latest revision and Detail ____ on Sheet _____.

22. All fire hydrant barrels are to be chrome yellow with tops and nozzle caps painted with the following capacity-indicating color scheme; Class-A green.

23. All dry-utilities shall be located on opposite property line from water service lateral or no closer than 2' to any water service lateral.

24. All pipe shall be hydro tested, disinfected and approved prior to final connection to existing water lines.

25. Basis of water line stationing shall be along street centerline, unless otherwise noted.

26. All materials shall be of domestic origin and not of foreign manufacture.

27. Contractor shall furnish to the District electronic files in AutoCAD format of the signed and approved "Record Drawings" and GIS digital data definition tables, per District standards, prior to final acceptance of the work.

28. Contractor shall furnish to the District copies of all soil compaction test reports for the installed water mains two (2) working days prior to hydro testing of pipelines.

29. Contractor shall furnish to the District intersect tie plates in accordance with District Standard Plate No. D-2 for all valve locations prior to final acceptance of the work.

RECYCLED WATER GENERAL NOTES

1. All work shown on these plans shall be performed in accordance with the "District Standards for the Furnishing of Materials and the Construction of Water and Recycled Water Facilities and Preparation of Water System Plans", latest revision, and the adopted addendums thereto.

2. Work shall be performed by a contractor licensed in the state of California, experienced in water utility construction.

3. Contractor shall obtain construction permit from the District and pay inspection and valve cover deposit prior to construction.

4. Unless otherwise indicated, all pipe shall be cement mortar lined ductile iron pipe, minimum Pressure Class 150, with push-on joints. All ductile iron pipe shall be installed with purple color-coded polyethylene encasement in accordance with AWWA C105 and recommendations from the Ductile Iron Pipe Research Association (DIPRA). Color shall be Pantone 512. Polyethylene material shall be 8-mil linear low-density (LLD) film. Installation method shall be in accordance with Method A per AWWA C105. Tracer wire shall be 14-gauge, insulated (blue color) solid copper wire. Polyethylene bags and/or warning tape shall have the words "Caution – Water Reclamation Line" or similar wording in black printing. The warning tape shall be continuous along the entire pipeline and laterals and shall be taped to the pipeline at intervals not to exceed 10 feet. All above ground appurtenances shall be color coded purple, Pantone 512 and marked/signage indicating: "Non Potable Water – Do Not Drink" or similar wording and identified per AWWA Standards and Section 116815 of the California Health and Safety Code.

5. For separation requirements between water and recycled water, storm drains, and sewer lines, see Riverside County Standard No. 609 and California Code of Regulations, Title 22, Section 64572.

6. The contractor shall contact underground service alert of southern California at 811 / 800-227-2600 for location of all underground utilities, two working days prior to commencing work.

7. Contractor shall obtain necessary permits from city of Beaumont, and/or Riverside County, as appropriate, prior to construction.

8. Contractor shall notify the District at (951) 845-9581 two working days prior to commencing work on the recycled water utility installation. Contractor shall notify District by preceding Wednesday at 4:00 p.m. prior to working

during the weekend. Cancellations shall be notified to the District by preceding Friday at 3:00 p.m.

9. No existing distribution system valve shall be operated by the contractor. District personnel will operate all necessary valves.

10. No deviations from these plans shall be permitted without the approval of the District.

11. Existing recycled water mains shall not be taken out of service for more than 4 hours. Contractor shall notify all water users affected by the shutdown a minimum of 48 hours prior to the actual shutdown. Indicate the date and precise hours that the main will be taken out of service.

12. Contractor shall conform to the street excavation replacement standards of the city of Beaumont or Riverside County, whichever has jurisdiction.

13. Contractor shall notify the District at (951) 845-9581 two working days prior to placement of concrete for sidewalks.

14. Air vacuum release assemblies per District Standard Plates No. 5-1 and 5-2 shall be installed at all high points on the water main. Additional assemblies over those shown on the drawings may be necessary when substructures require a change in line or grade of the water line. Air/vacuum piping shall be purple color-coded tape wrapped or with polyethylene encasement per General Note 4.

15. Contractor to install minimum 1" copper, Type K, service laterals in accordance with District specifications shown on District Standard Plate 6-2 and Plate 12.

16. All copper services shall be installed with tape wrap or with polyethylene encasement per General Note 4.

17. Contractor shall coordinate all reconnects with District personnel prior to any connections or retirements of any District facilities.

18. Contractor shall restrain all joints at tees, elbows, dead ends, etc. as indicated on the plans, as a minimum. See Construction Note _____ on Sheet _____.

19. Contractor shall bear all costs for the correction or removal and replacement of defective work, and all additional direct and indirect costs the City, County, or District may incur on account of defective work, including the costs of additional administrative, professional consultant, inspection, testing, and other services.

20. All dry-utilities shall be located on opposite property line from water service lateral or no closer than 2' from any water service lateral.

21. All pipe shall be hydro tested, disinfected and approved prior to final connection to existing recycled water lines.

22. Basis of recycled water line stationing shall be along street centerline, unless otherwise noted.

23. All materials shall be of domestic origin and not of foreign manufacture.

24. Contractor shall furnish to the District electronic files in AutoCAD format of the signed and approved "Record Drawings" and GIS digital data definition tables, per District standards, prior to final acceptance of the work.

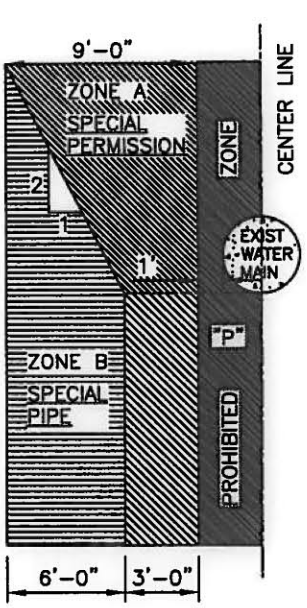
25. Contractor shall furnish to the District copies of all soil compaction test reports for the installed recycled water mains prior to final acceptance of the work.

26. Contractor shall furnish to the District intersect tie plates in accordance with District Standard Plate No. D-2 for all valve locations prior to final acceptance of the work.

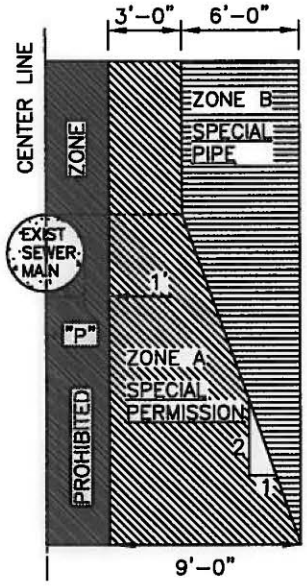
CONSTRUCTION NOTES

POTABLE AND RECYCLED WATER

1. All mechanical fittings to be restrained.
2. All hydrant tees shall be mechanical joint X flange outlet.
3. All joints to be restrained shall be with U. S. Pipe, "Field-Lok 350", mega lugs (if mechanical joint), McWane, Sure Stop 350 gaskets, or District approved equal.
4. All hydrant, drain, and blow-off laterals shall have restrained joints.
5. Install restrained joints (two pipe lengths) before and after all tees, crosses, and elbows (horizontal and vertical), as a minimum.
6. All proposed 4 inch blow-off and air vacuum valve assemblies at interface connections are temporary.
7. Domestic water line shall be minimum Pressure Class 200 DIP under storm drain crossings. A 20' length of DIP shall be centered under storm drain such that no water main joints are within 4' of the outside diameter of the storm drain. The vertical clear separation shall be minimum 1 foot.



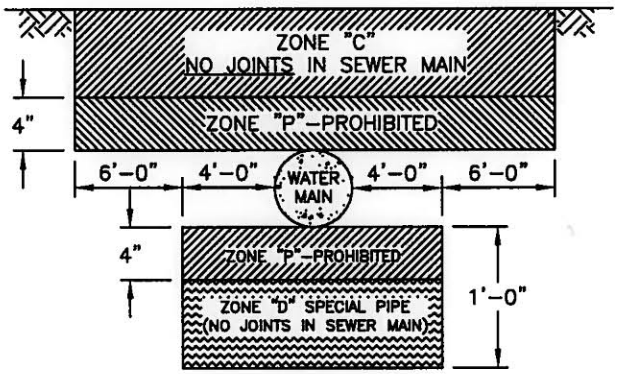
NEW SEWER MAIN



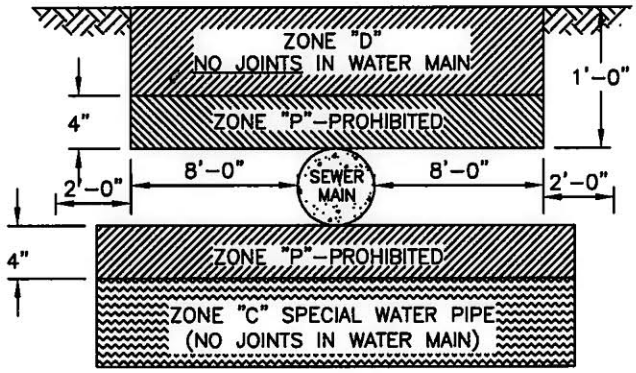
NEW WATER MAIN

NOTE:
ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES.
ZONES "P" IS A PROHIBITED ZONE SECTION 64630 (e) (2) CALIFORNIA CODE OF REGULATIONS, TITLE 22 (CURRENT); OR SECTION 64572 (a) CALIFORNIA CODE OF REGULATIONS, TITLE 22 (PROPOSED).
DIMENSIONS ARE FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER.

PARALLEL CONSTRUCTION



NEW SEWER MAIN



NEW WATER MAIN

CROSSINGS

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT
03/10	APPROVED:	DATE: 11/5/11	
	DISTRICT ENGINEER		WATER–SEWER SEPARATION REQUIREMENTS — PLATE D4–1

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

BEAUMONT CHERRY VALLEY WATER DISTRICT

WATER - SEWER SEPARATION REQUIREMENTS

Appropriate alternative construction criteria for two different cases in which the regulatory criteria for sanitary sewer main and water main separation cannot be met are shown in District Standard Plate No. D4-1.

- Case 1 – New sanitary sewer main and a new or existing water main; alternative construction criteria apply to the sanitary sewer main.
- Case 2 – New water main and an existing sanitary sewer main; alternative construction criteria may apply to either or both the water main and sanitary sewer main.

Case 1: New Sanitary Sewer Main Installation

ZONE **SPECIAL CONSTRUCTION REQUIRED FOR SEWER**

A. Sewer lines will not be permitted in this zone without prior written approval from the Health Department and Beaumont Cherry Valley Water District.

B. If the water main does not meet the class 2 Zone B requirements given below, the sewer should be constructed of one of the following:
1. High-density-polyethylene (HDPE) pipe with fusion welded joints (per AWWA C906);
2. Spirally-reinforced HDPE pipe with gasketed joints (per ASTM F-894);
3. Extra strength vitrified clay pipe with compression joints;
4. Class 4000, Type II, asbestos-cement pipe with rubber gasket joints;
5. PVC sewer pipe with rubber ring joints (per ASTM D3034) or equivalent;
6. Cast or ductile iron pipe with compression joints; or
7. Reinforced concrete pressure pipe with compression joints (per AWWA C302).

C. If the water main crossing below the sanitary sewer main does not meet the requirements for Case 2 Zone C, the sanitary sewer main should have no joints within ten feet from either side of the water main (in Zone C) and should be constructed of one of the following:
1. A continuous section of ductile iron pipe with hot dip bituminous coating; or
2. One of the Zone D options 1, 3, 4, or 5 below.

D. If the water main crossing above the sanitary sewer main does not meet the Case 2 Zone D requirements, the sanitary sewer main should have no joints within four feet from either side of the water main (in Zone D) and be constructed of one of the following:
1. HDPE pipe with fusion-welded joints (per AWWA C906)
2. Ductile iron pipe with hot dip bituminous coating and mechanical joints (gasketed, bolter joints);
3. A continuous section of Class 200 (DR 14 per AWWA C900) PVC pipe or equivalent, centered over the pipe being crossed; or
4. A continuous section of reinforced concrete pressure pipe (per AWWA C302) centered over the pipe being crossed; or
5. Any sanitary sewer main within a continuous sleeve.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED: DATE: 11/5/11		
	DISTRICT ENGINEER	WATER–SEWER SEPARATION REQUIREMENTS	PLATE D4–2

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

Case 2: Special Construction Required for Water Main

ZONE	SPECIAL CONSTRUCTION REQUIRED FOR SEWER

A. No water mains shall be constructed without prior written authorization from the Health Department.

B. If the sewer does not meet the Case 1 Zone B requirements given above, the water main shall be constructed of one of the following:
   1. Ductile iron pipe with hot dip bituminous coating.
   2. Dipped and wrapped one-fourth-inch-think welded steel pipe.

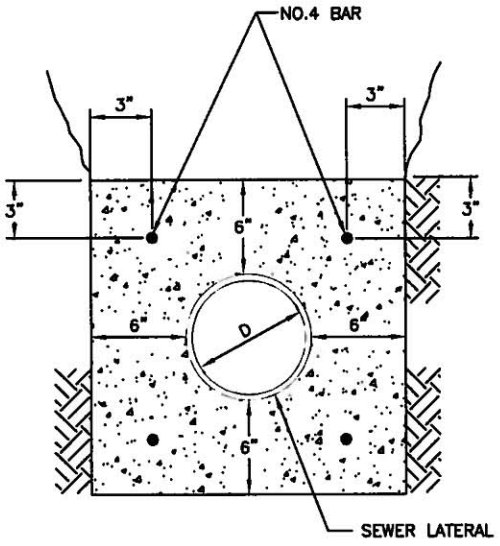
C. If the sewer crossing above the water main does not meet the Class 1 Zone C requirements given above, the water main should have no joints within ten feet from either side of the sewer main (in Zone C) and be constructed of one of the following:
   - Ductile iron pipe with hot dip bituminous coating.
   - Dipped and wrapped one-fourth-inch-think welded steel pipe.

D. If the sanitary sewer main crossing below the water main does not meet the requirements for Case 1 Zone D, the water main should have no joints within eight feet from either side of the sanitary sewer main (in Zone D) and should be constructed as for Zone C.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED: DATE: 4/5/11		
	DISTRICT ENGINEER	WATER–SEWER SEPARATION REQUIREMENTS	PLATE D4–3

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



HOUSE LATERALS:

THE SPECIAL CONSTRUCTION REQUIREMENTS SHALL APPLY TO SEWER HOUSE LATERALS THAT CROSS ABOVE A WATER MAIN, BUT NOT TO THOSE SEWER HOUSE LATERALS THAT CROSS BELOW A WATER MAIN.

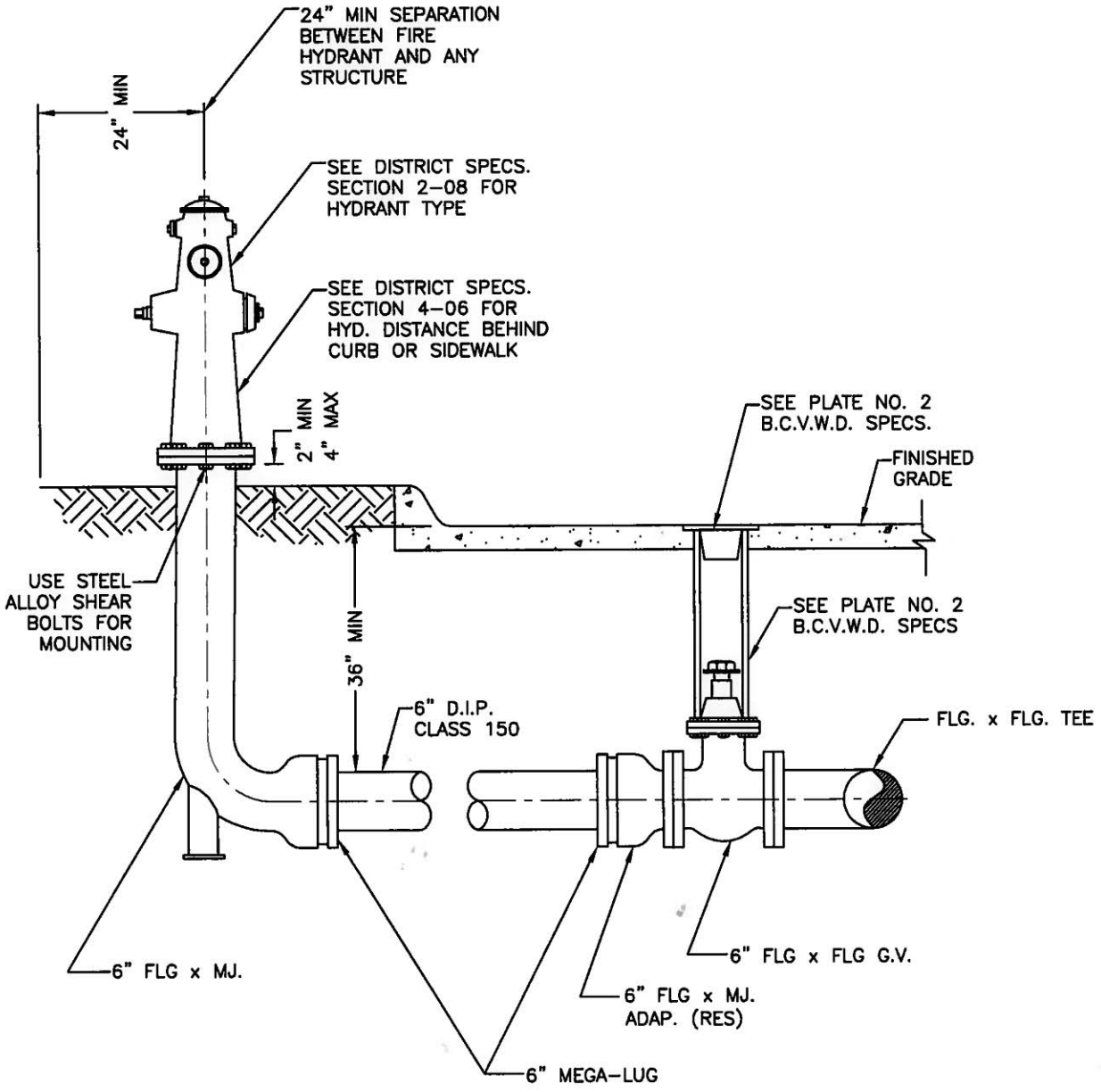
CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH, OF 3000 PSI.

CONCRETE ENCASEMENT SHALL EXTEND 10' BEYOND WATER SEVICE ON BOTH SIDES.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED: DATE: 4/5/11		
	DISTRICT ENGINEER	HOUSE WATER AND SEWER LATERAL CROSSINGS	PLATE D4-4

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

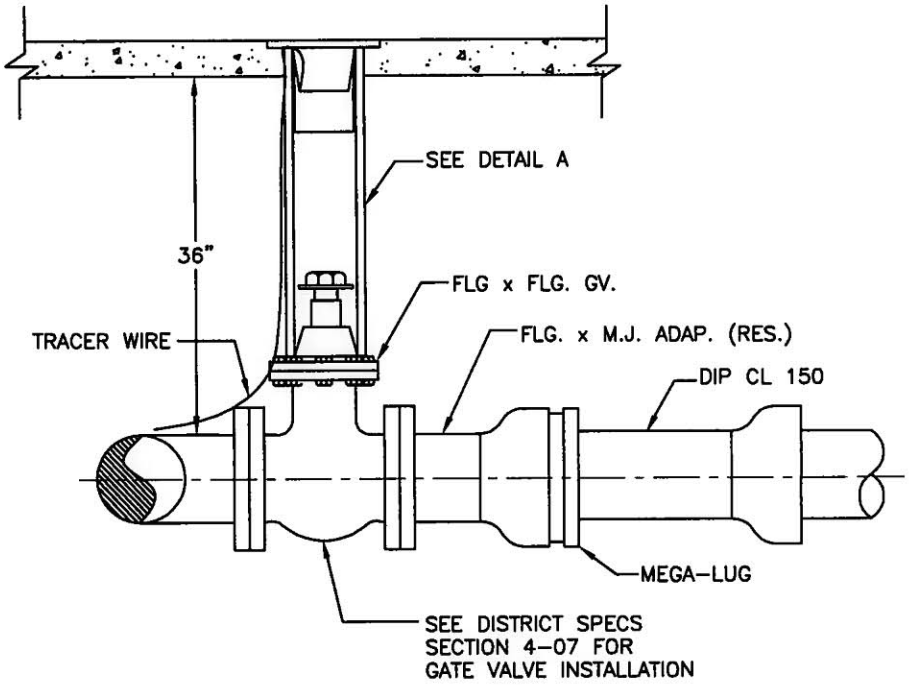


NOTE:
SHEAR BOLTS SHALL BE USED EVEN IF BREAK AWAY SPOOLS ARE USED ON TOP OF BURY.

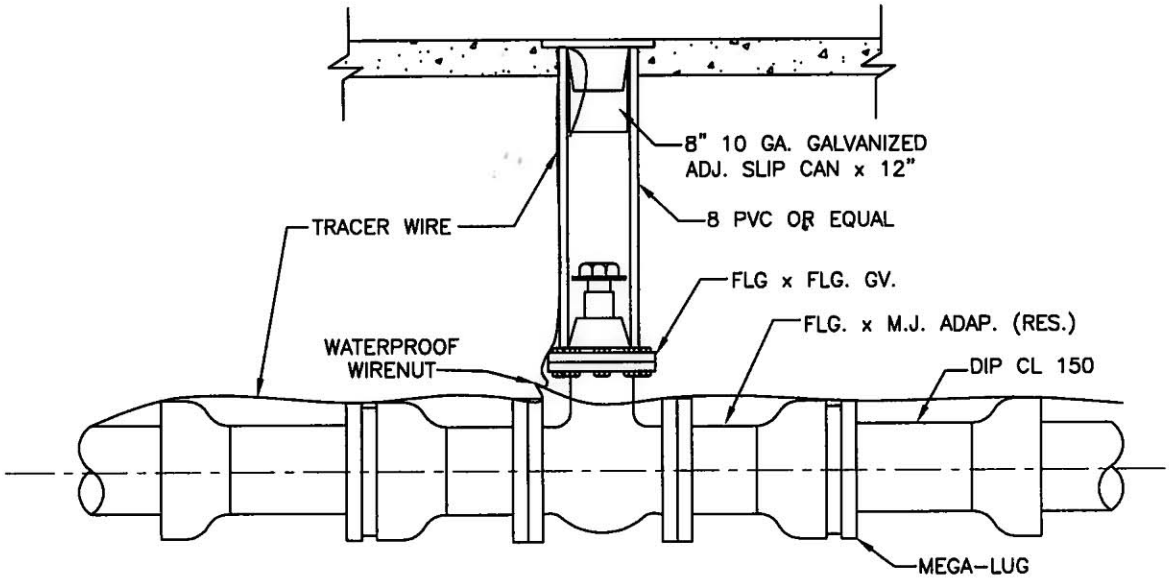
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/11		
	DISTRICT ENGINEER		STANDARD FIRE HYDRANT	PLATE 1

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



DETAIL B-(LATERAL VALVE)

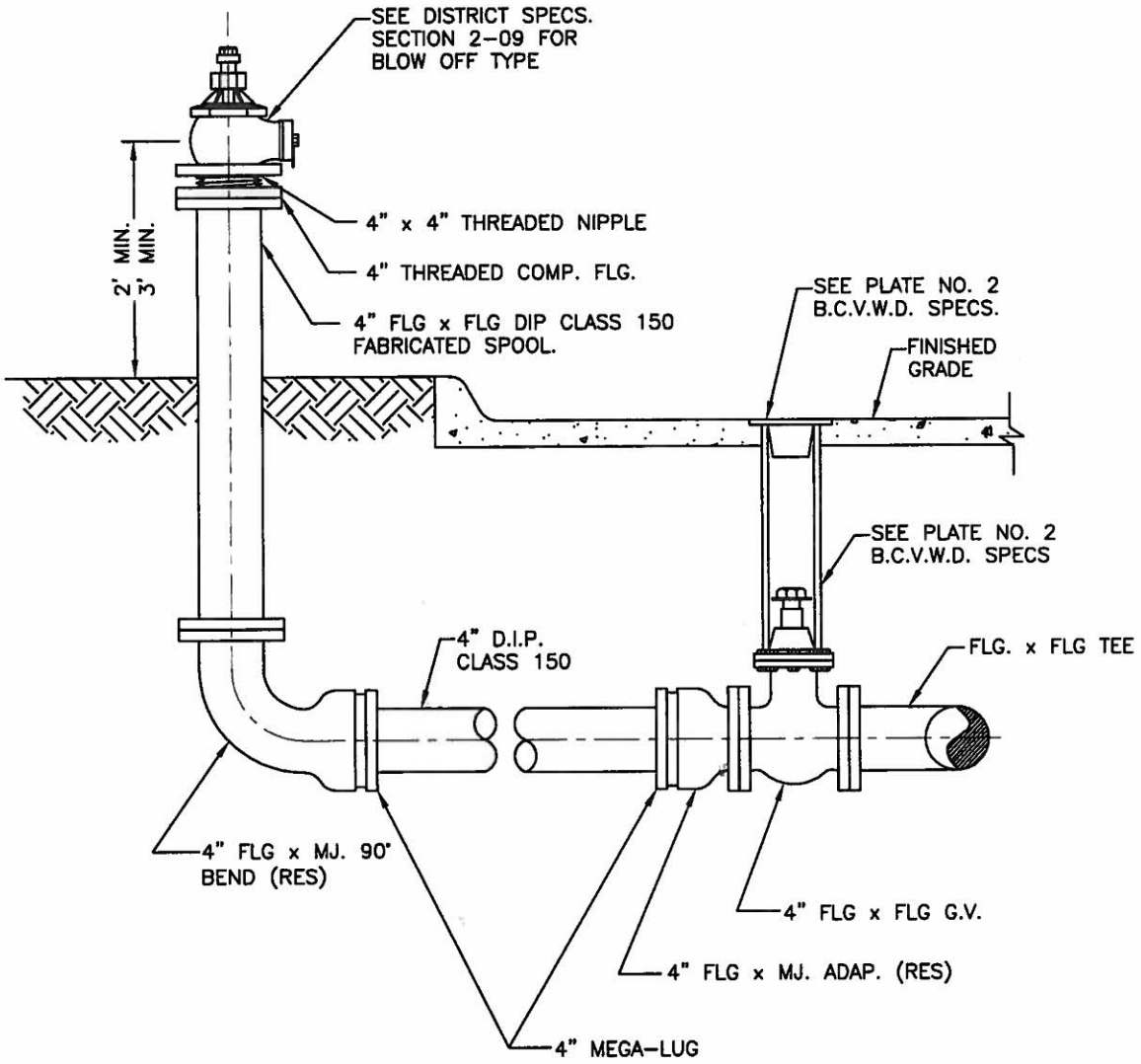


DETAIL-A (IN LINE VALVE)

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED: DATE: 11/5/11		
	DISTRICT ENGINEER	GATE VALVE/VALVE CAN INSTALLATION	PLATE 2

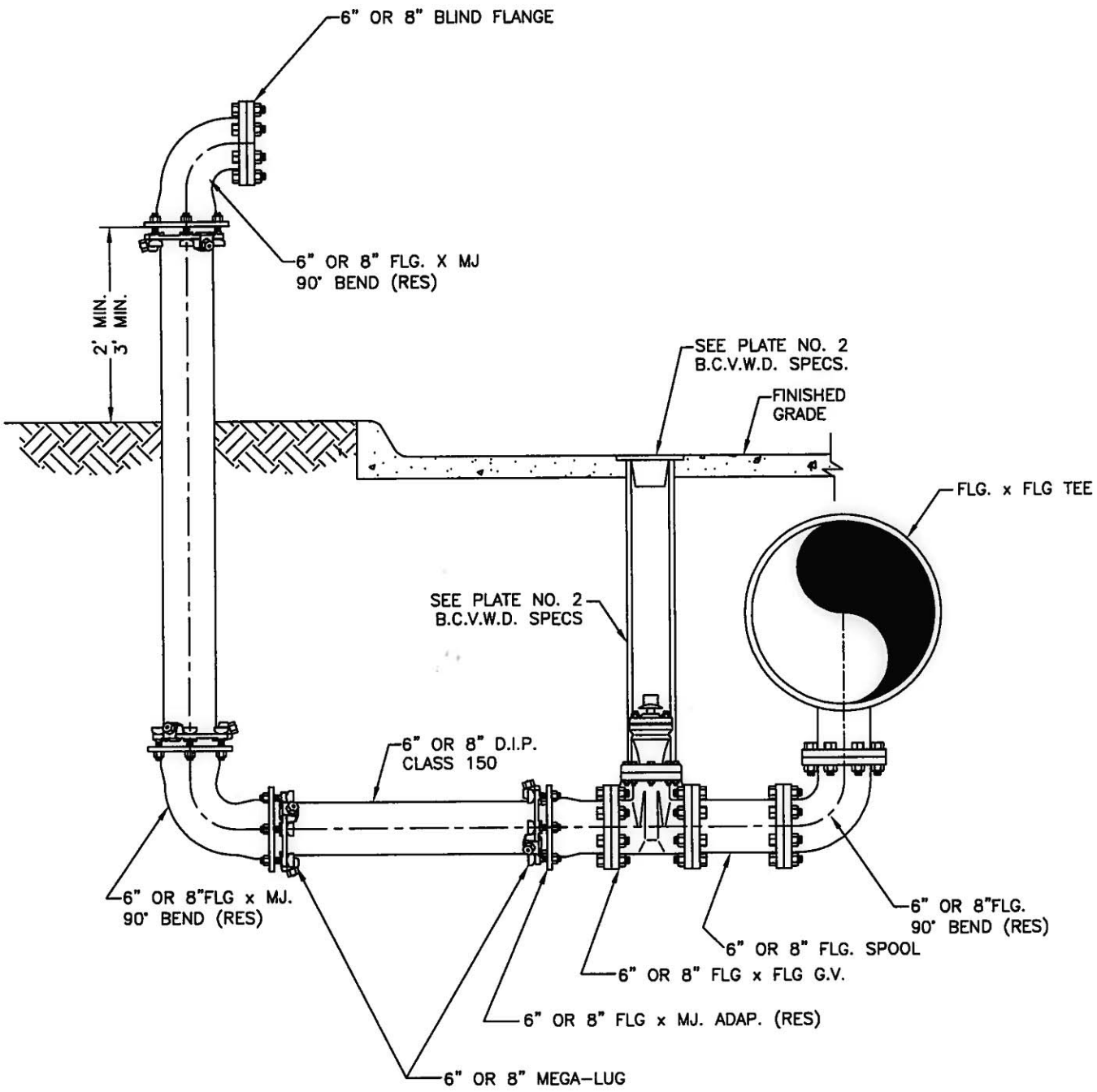
FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/10		
	DISTRICT ENGINEER		4-INCH BLOWOFF DETAIL	PLATE 3-1

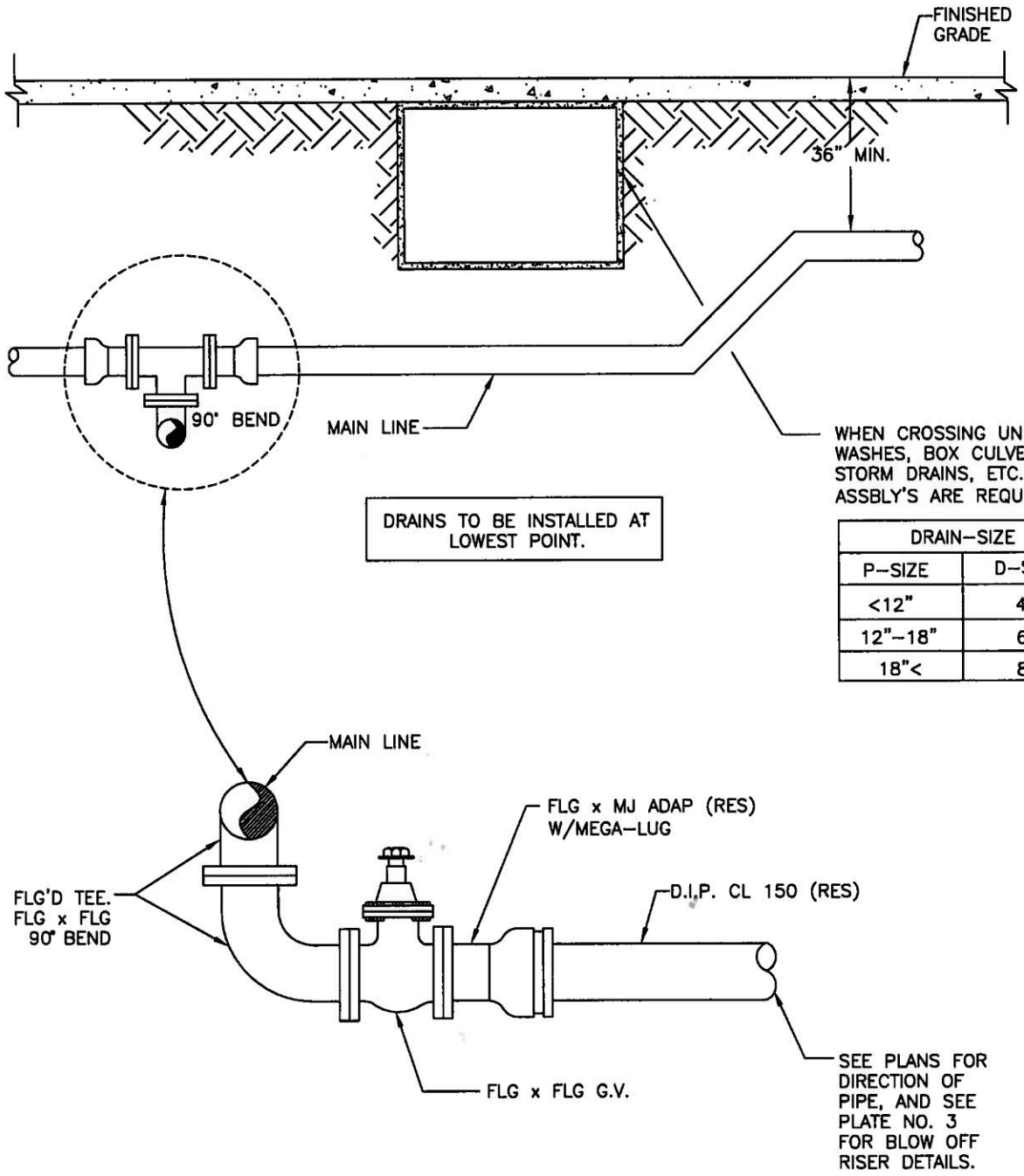
FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/11		
	DISTRICT ENGINEER		6 & 8-INCH BLOWOFF DETAIL	PLATE 3-2

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



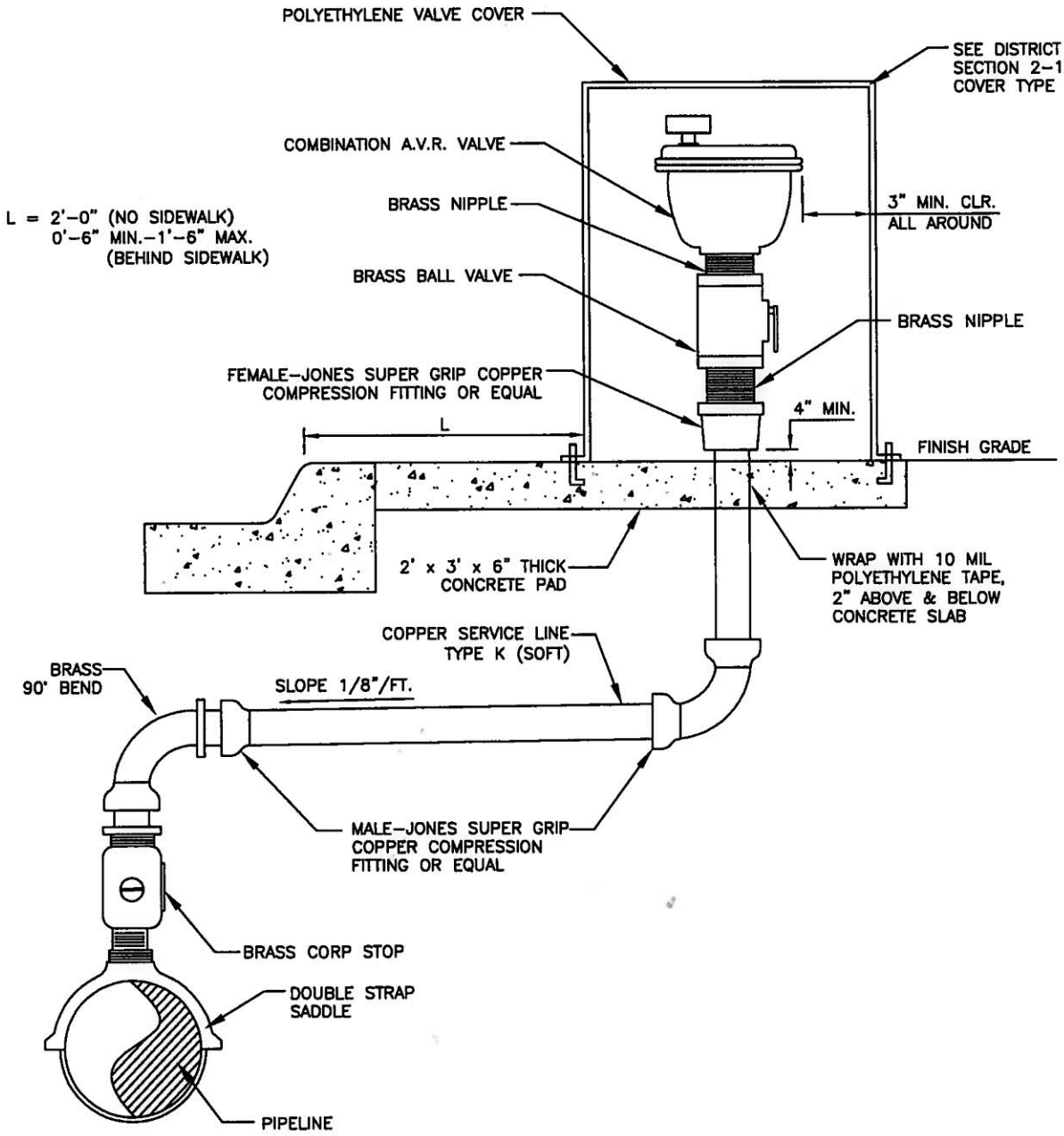
DRAIN–SIZE	
P–SIZE	D–SIZE
<12"	4"
12"–18"	6"
18"<	8"

NOTE: NO WATER MAIN JOINTS UNDER STORM DRAIN FACILITIES ARE ALLOWED.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	DISTRICT ENGINEER		DRAIN DETAIL	PLATE 4

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

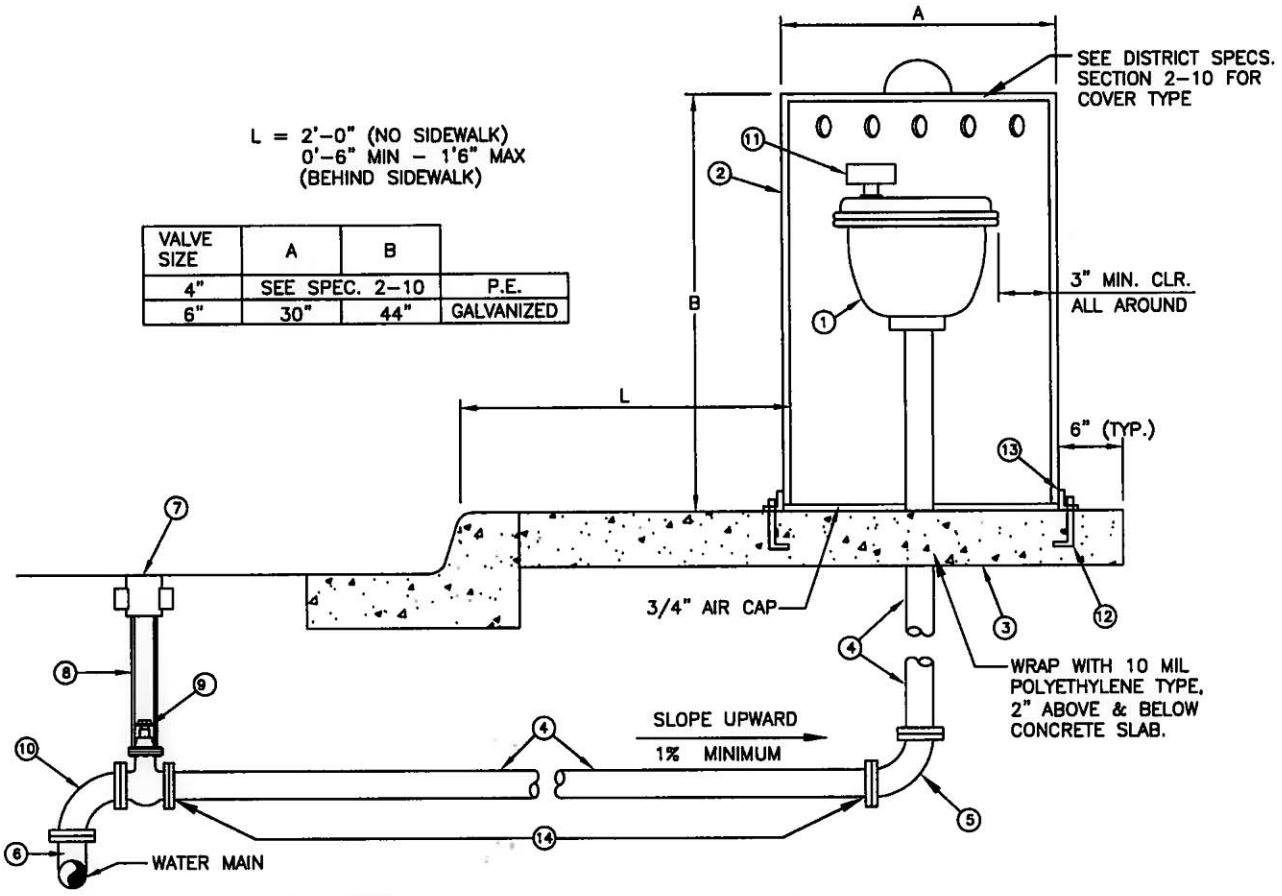


NOTE:
COLOR SHALL BE DETERMINED BY THE DISTRICT.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT
12/10	APPROVED: DATE: 11-5-14	
	DISTRICT ENGINEER	2" COMBINATION AIR-VAC ASSEMBLY DETAIL — PLATE 5-1

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



VALVE SIZE	A	B	
4"	SEE SPEC. 2-10		P.E.
6"	30"	44"	GALVANIZED

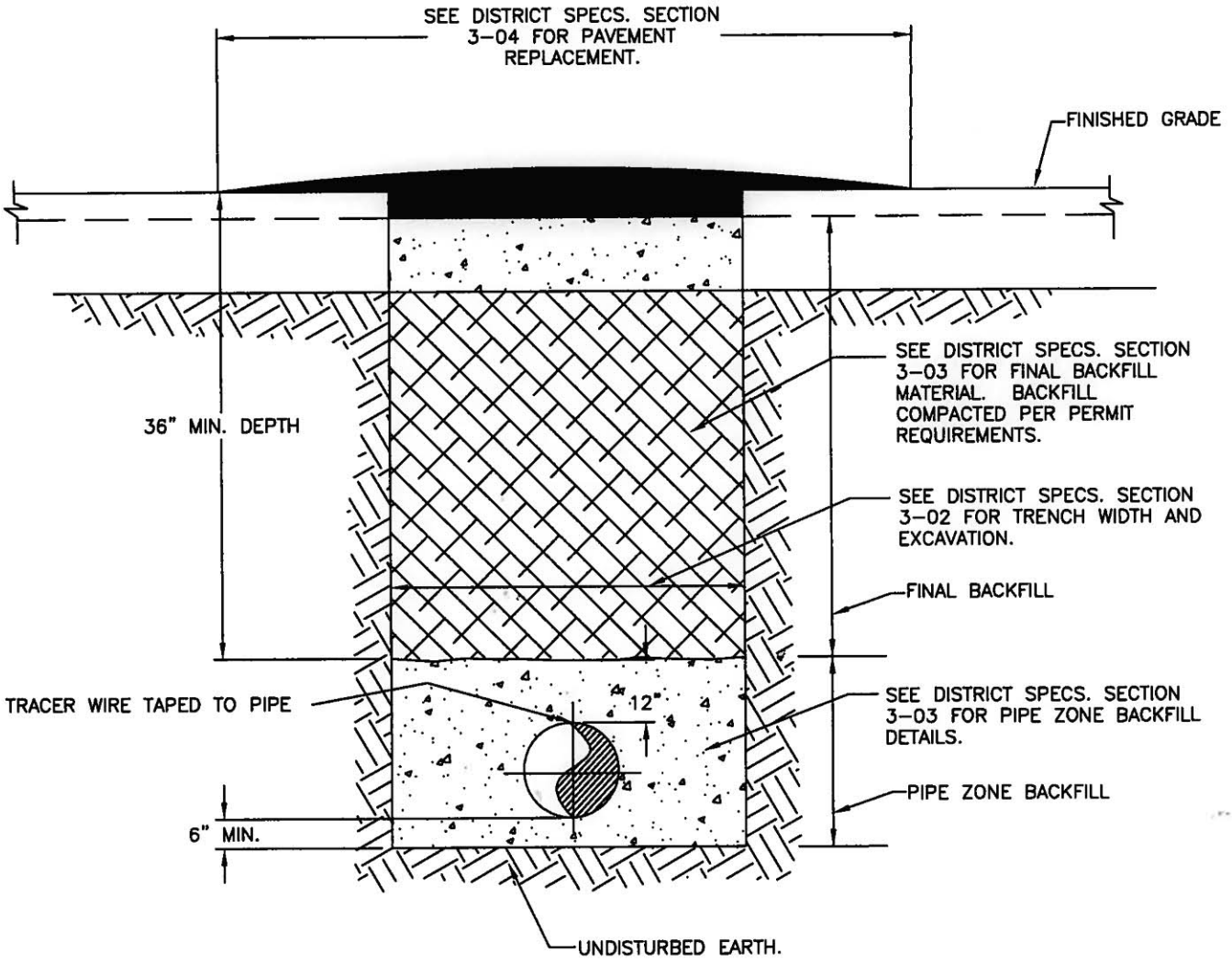
DETAIL NOTES:

1. COMBINATION AIR/VACUUM VALVE. SEE DISTRICT STANDARDS
2. ENCLOSURE
3. 6" THICK CONCRETE PAD
4. DUCTILE IRON PIPE. ALL JOINTS RESTRAINED.
5. 90° BEND FLANGED OR M.J. (RES).
6. FLANGED TEE w/FLG. X M.J. ADPT
7. VALVE BOX ASSEMBLY PER DISTRICT STANDARD PLATE NO. 2
8. NOT USED
9. RESILIENT SEAT GATE VALVE, FLANGED
10. 90° BEND FLANGED OR M.J. (RES).
11. THREADED PRE-FAB PVC SCREEN OUTLET WITH RIGID STAINLESS STEEL SCREEN
12. 4-5/8" X 3" ANCHOR BOLTS CAST IN PLACE OR REDHEAD (EQUALLY SPACED) (FOR 6" BLOWOFFS ONLY)
13. 4-2"x2"x1 1/2"x1/4" L-CLIPS
14. FLG x MJ ADAPTERS (RES).

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	DISTRICT ENGINEER		4" & 6" COMBINATION AIR-VAC ASSEMBLY DETAIL	PLATE 5-2

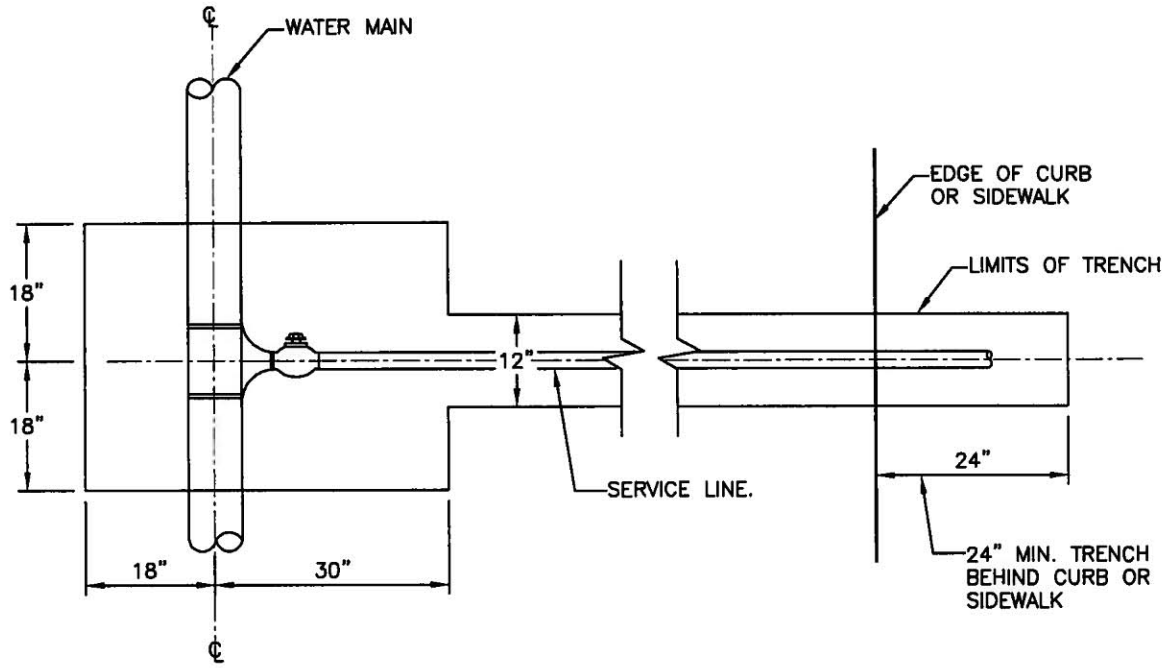
FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

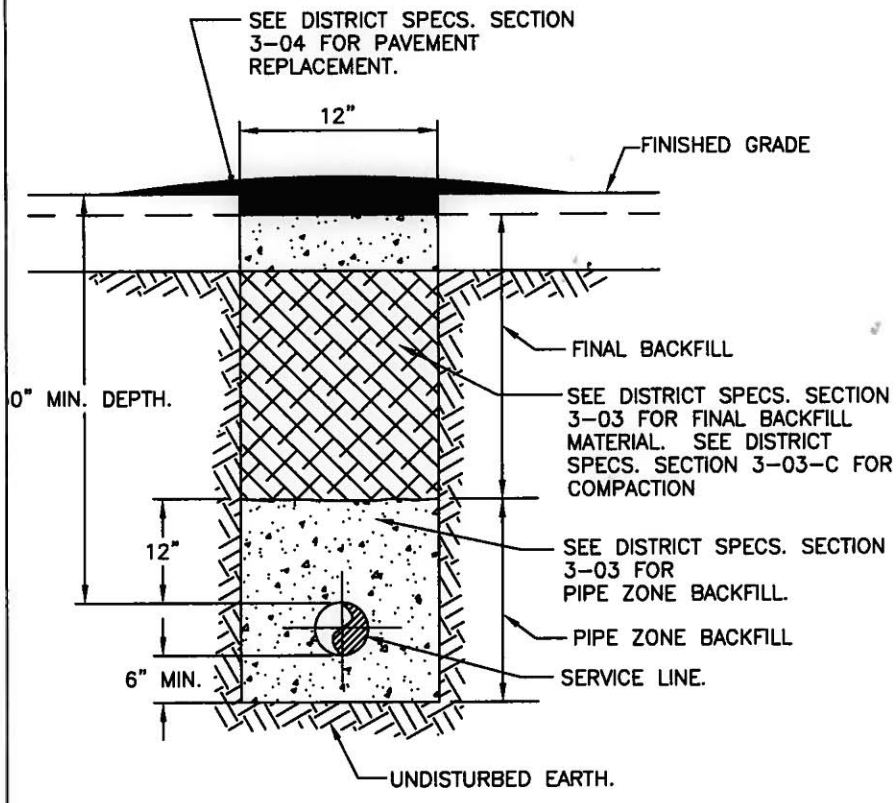


NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	DISTRICT ENGINEER		TRENCH DETAIL	PLATE 6-1

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

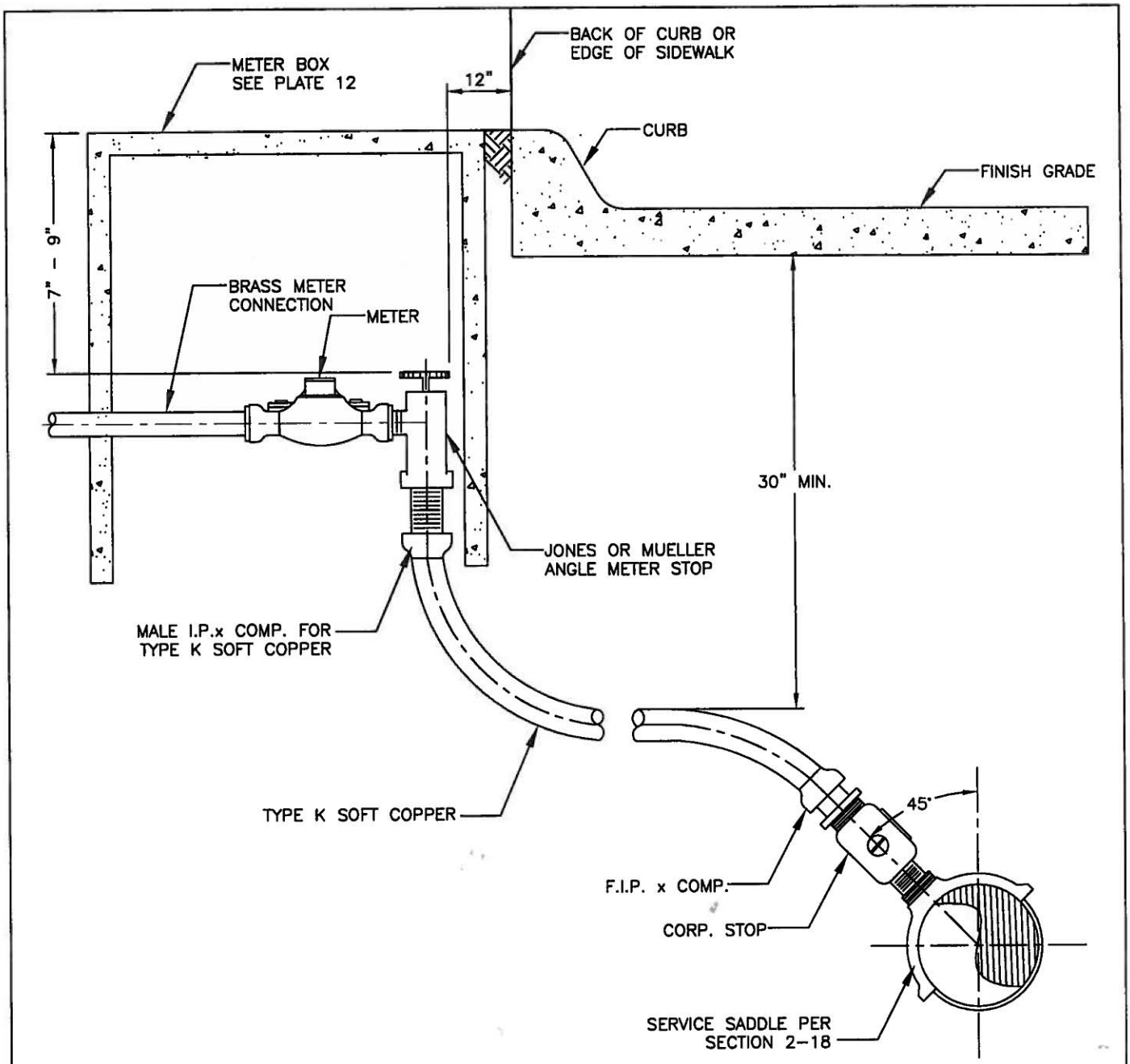




NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT
12/10	APPROVED:	DATE: 11/5/10	
	DISTRICT ENGINEER		SERVICE TRENCH DETAIL — PLATE 6-2

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



NOTES:

NO INTERMEDIATE COUPLINGS ARE ALLOWED BETWEEN CORPORATION STOP AND ANGLE METER STOP.

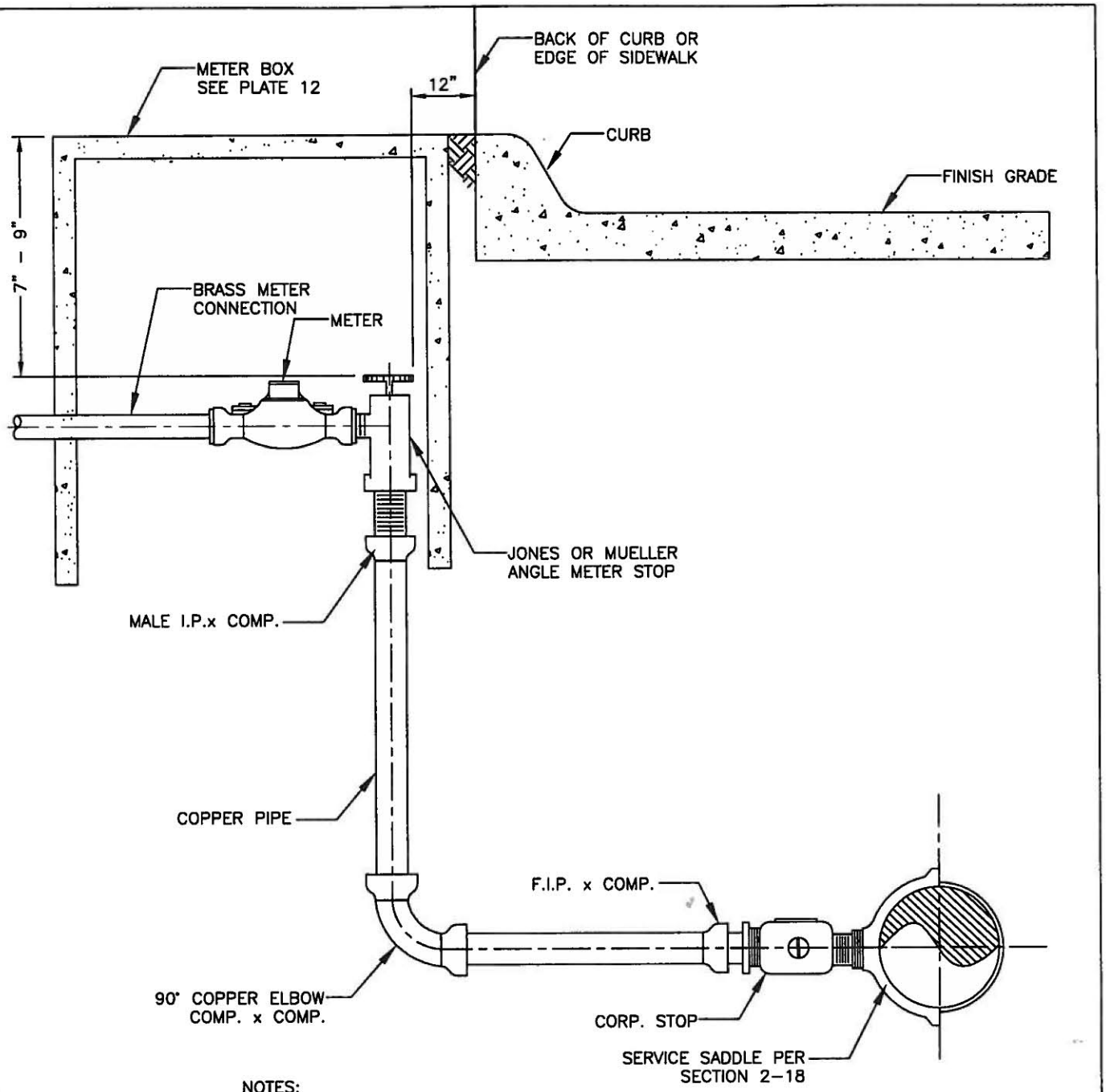
MINIMUM SPACING BETWEEN ANY 2 ADJACENT SADDLES ON THE MAIN LINE SHALL BE 18".

SERVICE LINE SHALL BE FREE OF KINKS AND COUPLINGS. ALL SERVICES WITH KINKS OR COUPLINGS SHALL BE REMOVED FROM CORPORATION STOP AT THE MAIN.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/10		
	DISTRICT ENGINEER		1" SERVICE LINE DETAIL	PLATE 6-3

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



NOTES:

NO INTERMEDIATE COUPLINGS ARE ALLOWED BETWEEN CORPORATION STOP AND ANGLE METER STOP.

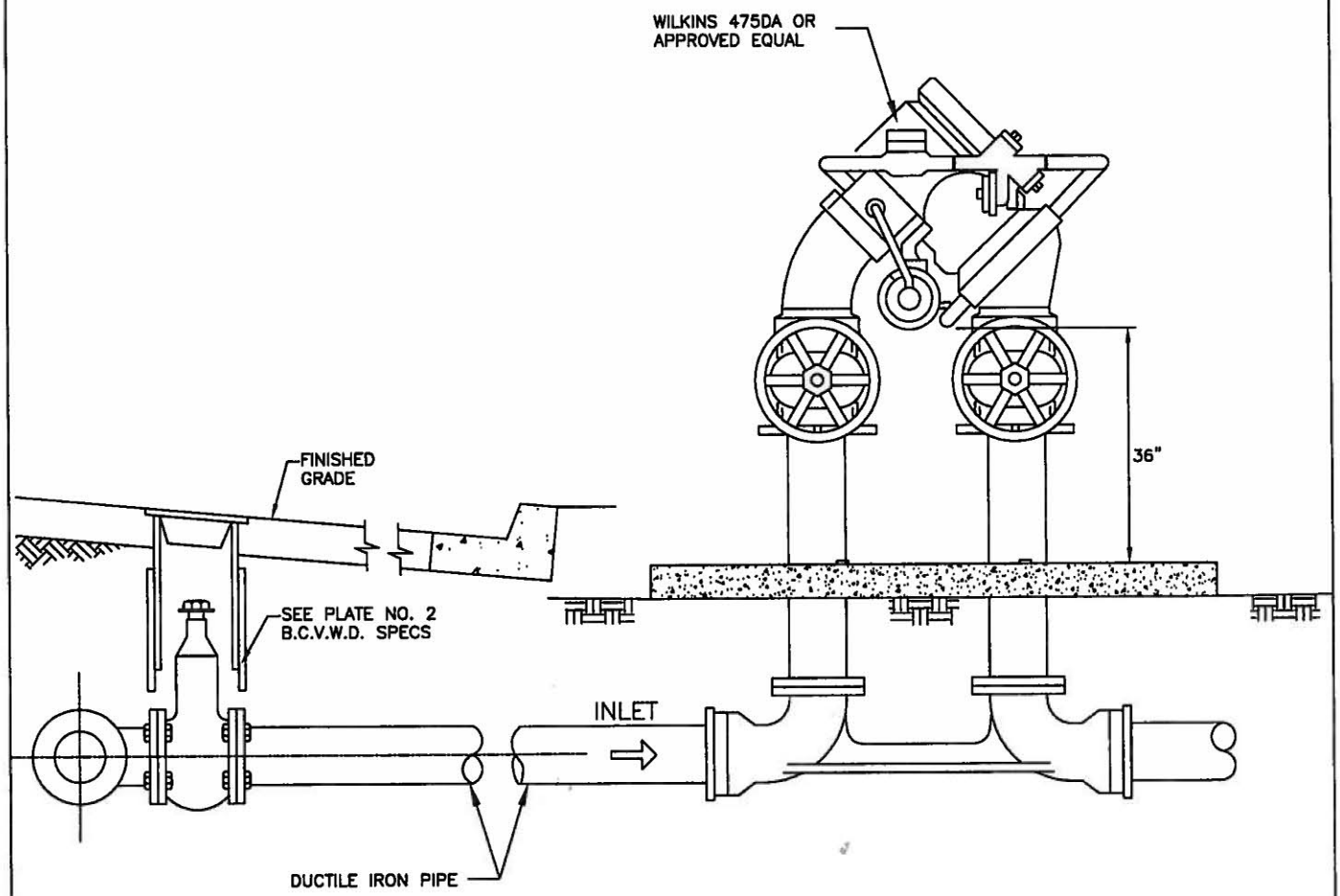
MINIMUM SPACING BETWEEN ANY 2 ADJACENT SADDLES ON THE MAIN LINE SHALL BE 18".

SERVICE LINE SHALL BE FREE OF KINKS AND COUPLINGS. ALL SERVICES WITH KINKS OR COUPLINGS SHALL BE REMOVED FROM CORPORATION STOP AT THE MAIN.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	DISTRICT ENGINEER		2" SERVICE LINE DETAIL	PLATE 6-4

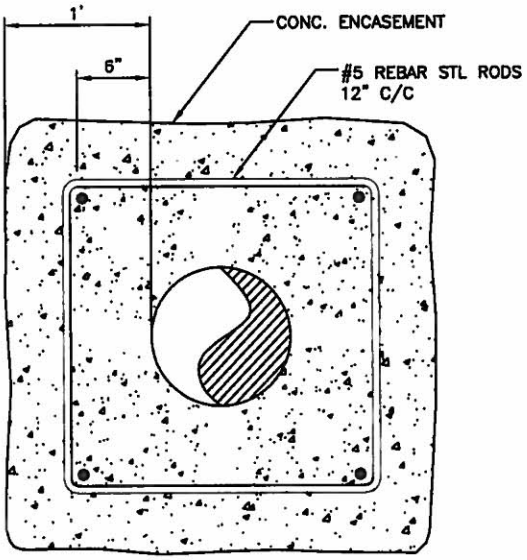
FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



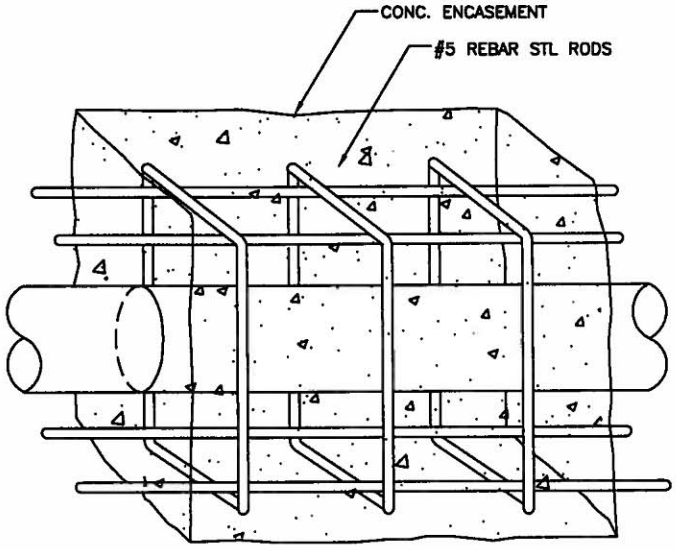
NOT TO SCALE

REVISED	PREPARED BY: BCVWD	DATE: 11-09	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/6/11		
	DISTRICT ENGINEER		FIRE SERVICE METER ASSEMBLY W/WILKINS 475DA BACKFLOW	PLATE 7

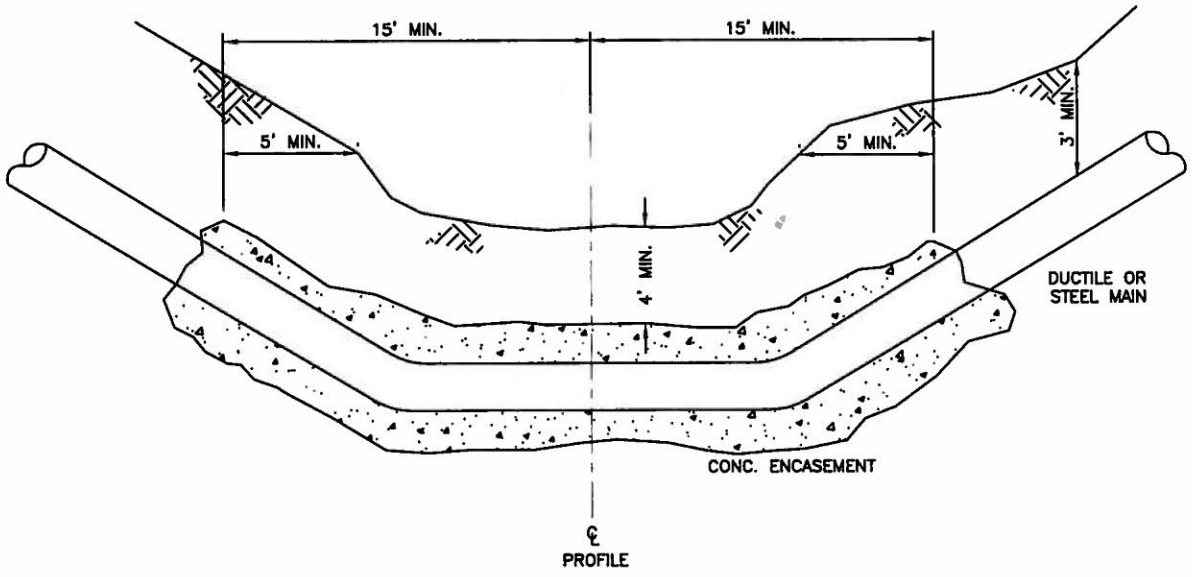
FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



END VIEW



SIDE VIEW



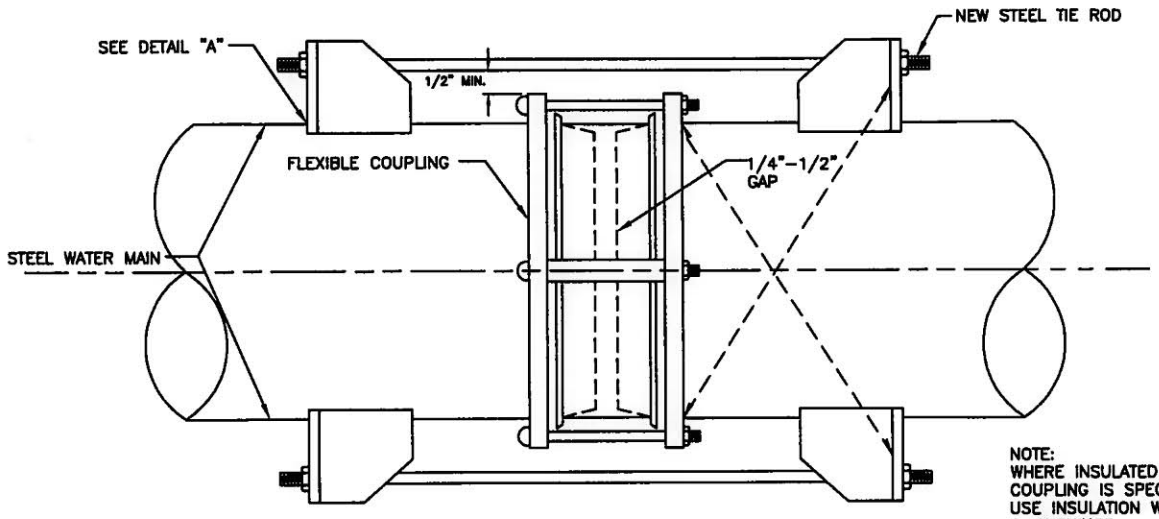
℄
PROFILE

NOTE:
ALL PIPE TO BE CONCRETE ENCASED SHALL BE POLYETHYLENE WRAPPED.

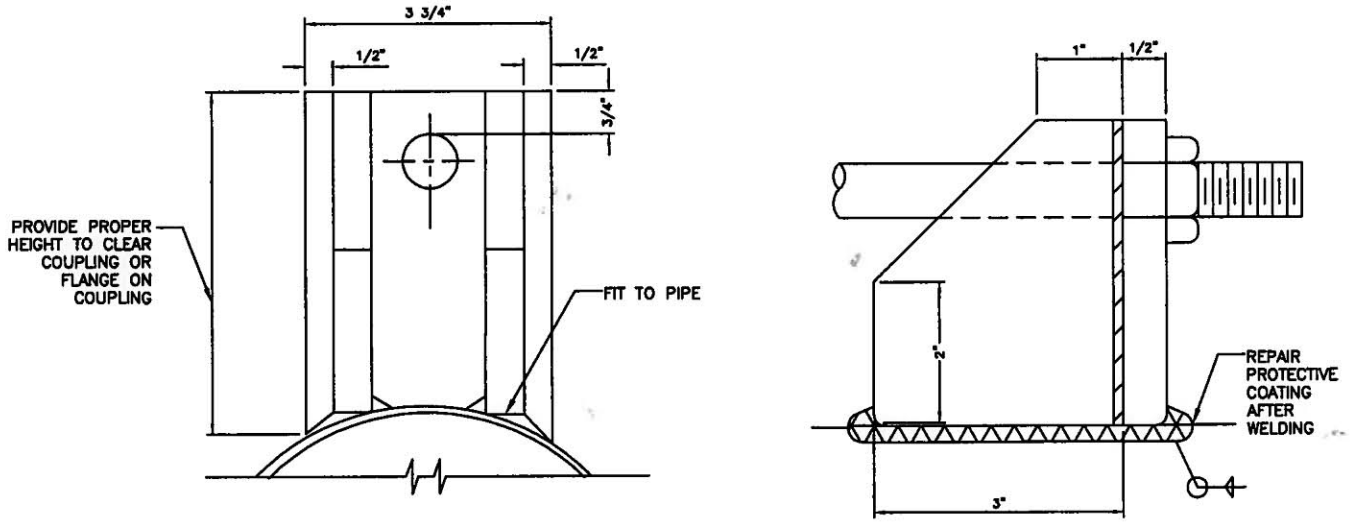
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT
12/10	APPROVED:	DATE: 11/5/11	
	DISTRICT ENGINEER		CONCRETE ENCASEMENT DETAILS — PLATE 8

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



PLAN VIEW



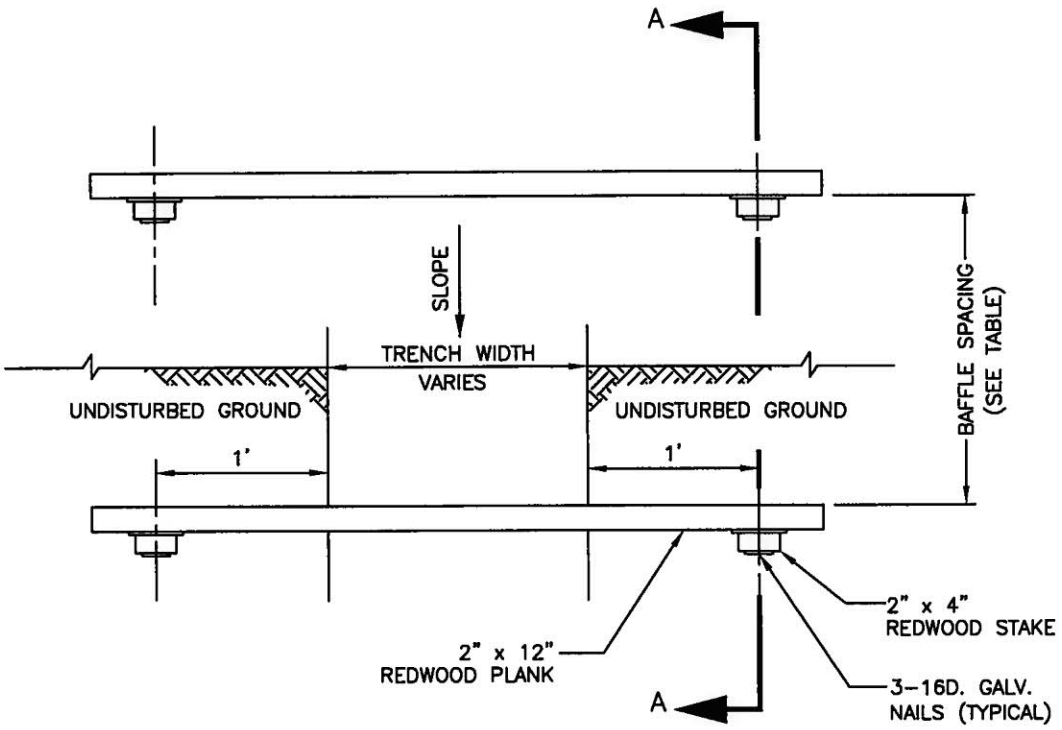
DETAIL "A"

NOTE:
1. INSTALL TIES ALONG THE HORIZONTAL AXIS OF PIPELINE.
2. CONTRACTOR TO FURNISH COAL TAR ENAMEL AND PAINT ALL EXPOSED SURFACES.
3. HARNESS LUG DESIGN SHALL BE PER AWWA M-11.

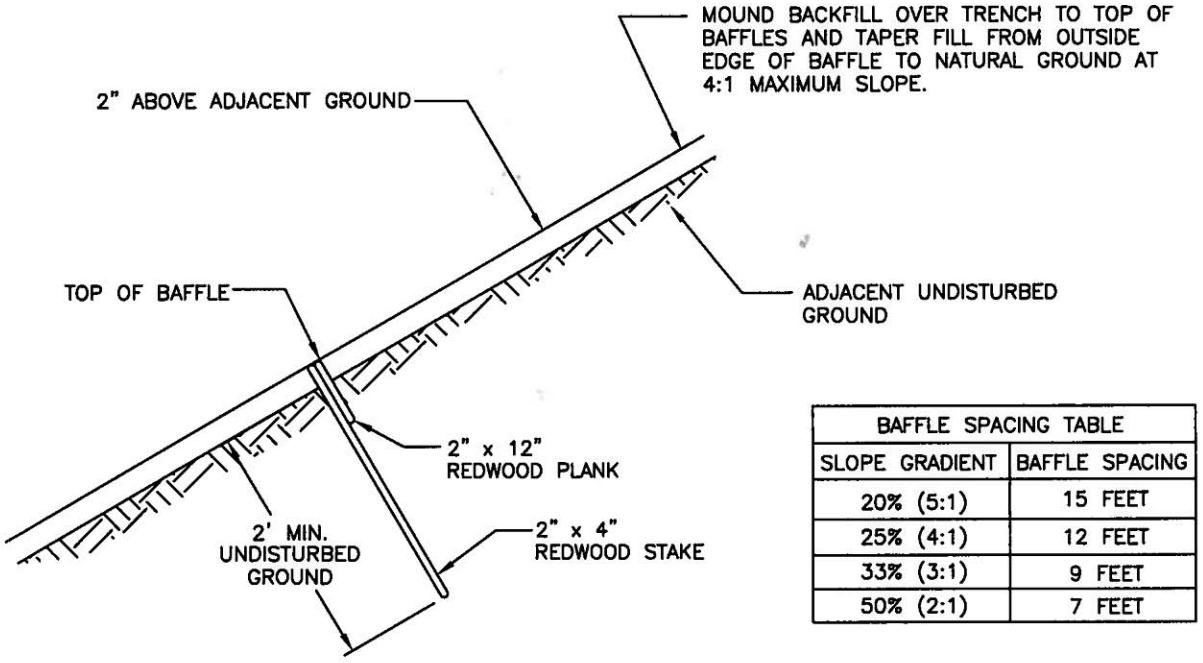
NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED: DATE: 1/5/11		
	DISTRICT ENGINEER	FLEXIBLE COUPLING TIE DETAILS	PLATE 9

FILE: W\Pasadena Sector\Projects\BCVWD\STANDARDS



PLAN



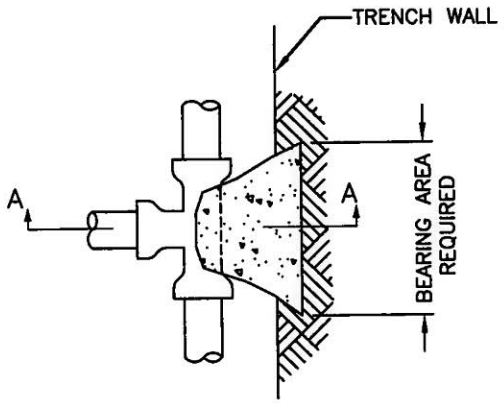
BAFFLE SPACING TABLE	
SLOPE GRADIENT	BAFFLE SPACING
20% (5:1)	15 FEET
25% (4:1)	12 FEET
33% (3:1)	9 FEET
50% (2:1)	7 FEET

SECTION A-A

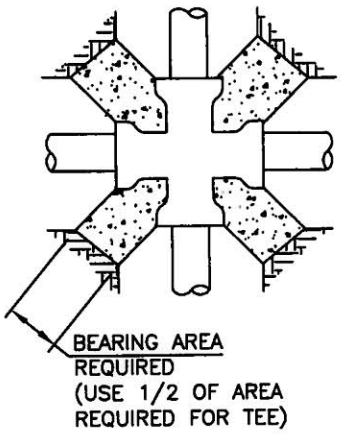
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT
12/10	APPROVED:	DATE: 1/5/11	
	DISTRICT ENGINEER		BAFFLE INSTALLATION DETAILS — PLATE 10

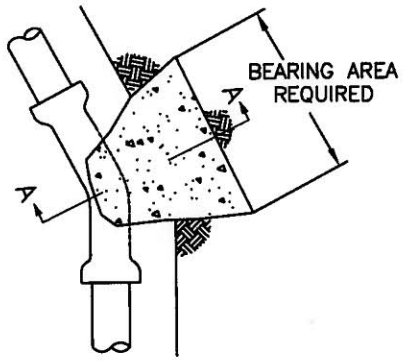
FILE: W\Pasadena Sector\Projects\BCVWD\Standards\Plates



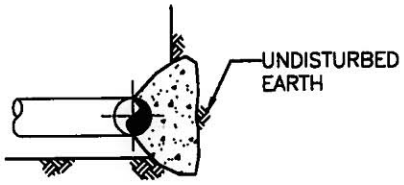
TEE



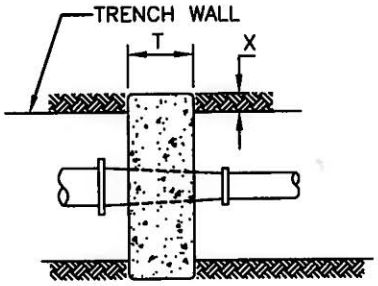
CROSS



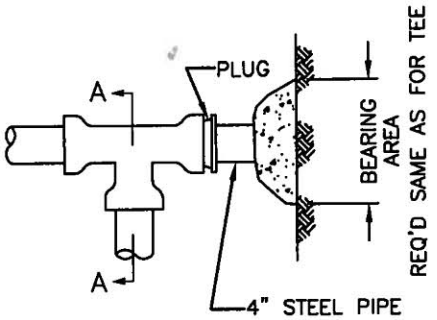
HORIZONTAL ELBOW



SECTION A



REDUCER



TEE WITH PLUG

NOTE:
FOR THRUST BLOCK SIZES SEE PLATE NO. 11–2.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED: DATE: 1/25/11		
	DISTRICT ENGINEER	THRUST BLOCK DETAILS	PLATE 11–1

FILE: W\Pasadena Sector\Projects\BCVWD\STANDARDS

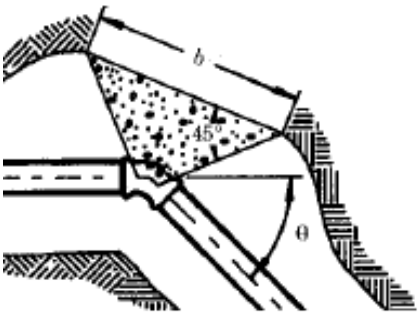
PLATE 11-2

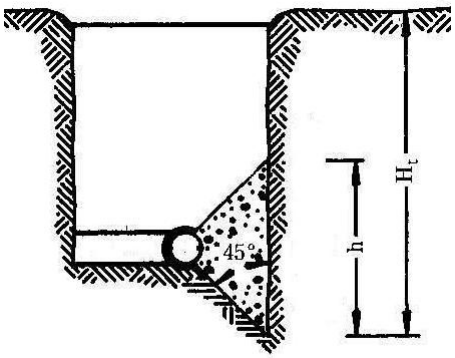
Beaumont Cherry Valley Water District
THRUST BLOCK SIZE FOR HORIZONTAL PRESSURES
(BASED ON 2500 LB/SQ.FT. BEARING PRESSURE)

PIPE DIA	PIPE CLASS	PRES psi	Area in Square Feet				
			Tee	90˚ Bend	45º Bend	22½º Bend	11¼º Bend
6	150	150	3.4	4.8	2.6	1.3	0.7
		225	5.0	7.1	3.9	2.0	1.0
8	150	150	5.8	8.2	4.4	2.3	1.1
		225	7.7	10.9	5.9	3.0	1.5
10	150	150	8.7	12.3	6.7	3.4	1.7
		225	13.1	18.5	10.0	5.1	2.6
12	150	150	12.3	17.4	9.4	4.8	2.4
		225	18.5	26.1	14.1	7.2	3.6
14	150	150	16.5	23.4	12.7	6.5	3.2
		225	24.8	35.1	19.0	9.7	4.9

REDUCERS

Reducer Size	Pipe Class	Pressure (psi)	Dimensions		
			b	h	t
8 X 6	150	150	14”	2’ – 2”	12”
		225	18”	2’ – 6”	12”
10 X 8	150	150	16”	2’ – 4”	12”
		225	20”	2’ – 10”	12”
12 X 10	150	150	18”	2 – 6”	12”
		225	20”	3’ – 4”	12”
14 X 12	150	150	18”	2 – 10”	12”
		225	22”	3’ – 6”	12”





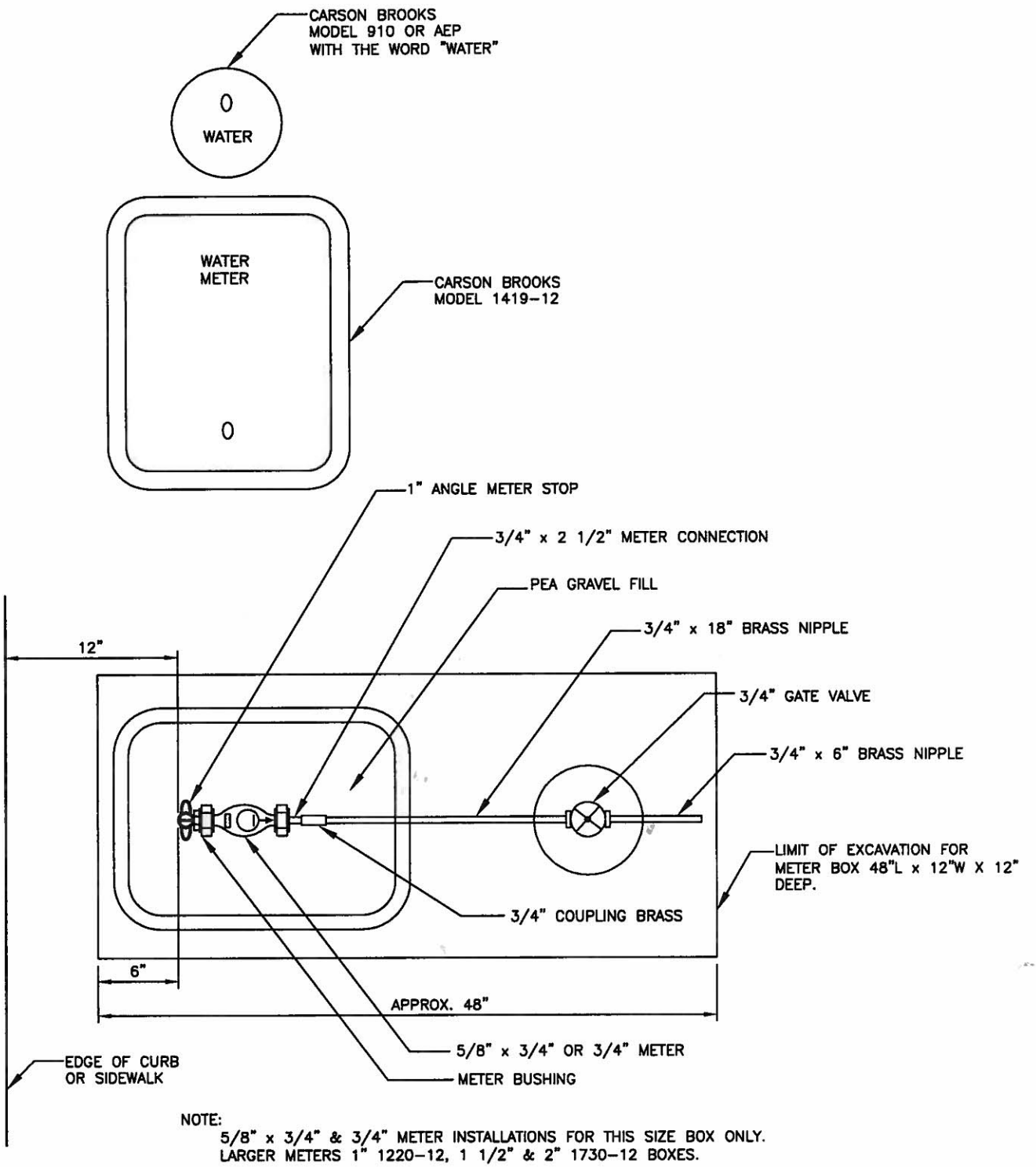
General criteria for bearing block design:

1. Bearing surface should, where possible, be placed against undisturbed soil. Where it is not possible, the fill between the bearing surface and undisturbed soil must be compacted to at least 90% Standard Proctor density.

2. Block height (h) should be equal to or less than one-half the total depth to the bottom of the block, (H_T), but not less than the pipe diameter (D).

3. Block height (h) should be chosen such that the calculated block with (b) varies between one and two times the height.

4. For bearing capacities less than 2500 LB/SQ.FT. a proportional increase in bearing area will be required. Provide supporting geotechnical report.



NOTE:
5/8" x 3/4" & 3/4" METER INSTALLATIONS FOR THIS SIZE BOX ONLY.
LARGER METERS 1" 1220-12, 1 1/2" & 2" 1730-12 BOXES.

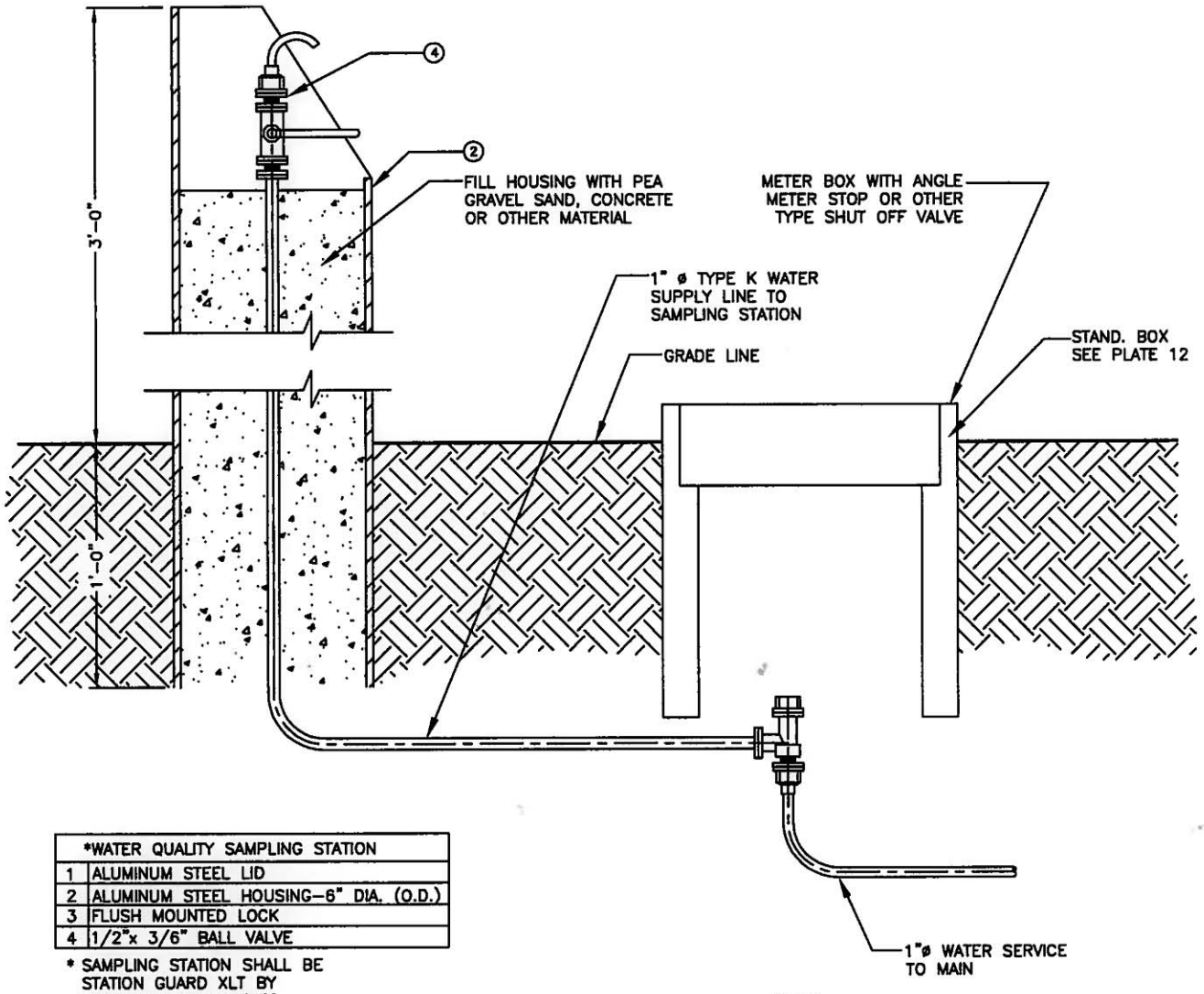
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT
12/10	APPROVED:	DATE: 1/5/11	
	DISTRICT ENGINEER		METER BOX INSTALLATION — PLATE 12

FILE: W\Pasadena Sector\Projects\BCVWD\STANDARDS

NOTE:

ANGLE STOP 12" FROM CURB OR EDGE OF SIDEWALK.



*WATER QUALITY SAMPLING STATION	
1	ALUMINUM STEEL LID
2	ALUMINUM STEEL HOUSING-6" DIA. (O.D.)
3	FLUSH MOUNTED LOCK
4	1/2"x 3/6" BALL VALVE

* SAMPLING STATION SHALL BE STATION GUARD XLT BY KORALEEN ENTERPRISES

NOTE:

1). TEFLON TAPE SHALL BE USED AT ALL THREADED CONNECTIONS. NO CUTTING – OIL ALLOWED.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	DISTRICT ENGINEER		TYPICAL INSTALLATION SAMPLING STATION	PLATE 13

FILE: W\Pasadena Sector\Projects\BCVWD\STANDARDS

APPENDIX A

DIGITAL DATA STANDARDS LANGUAGE FOR DEVELOPER/CONTRACTORS

FEBRUARY 12, 2010

In accordance with the District's request, Parsons has prepared the following language for use as a set of guidelines for all developers and contractors submitting potable and non-potable water facility improvement plan as-built digital spatial data to the District.

The Beaumont Cherry Valley Water District (District) has adopted the use of a Geographic Information System (GIS) to store, manage, and maintain spatial information related to the operation and maintenance of the District's potable and non-potable water facilities. This GIS is based on Environmental Research Systems Institute (ESRI) technology, and is maintained using the ArcGIS suite of software.

The District requires developers and contractors to submit as-built (project record drawings) of installed potable and non-potable water facilities in a format that is consistent with the goal of seamlessly incorporating these data into the new GIS system. Accordingly, all spatial data submitted to the District must comply with the following guidelines:

1. All digital files will be delivered using media approved by the District. Such media include CDROM or DVDROM. Each tract and phase of the tract, if applicable, shall be on one disc. Combining multiple tracts and/or phases on one disc will be returned. The District must approve the use of any alternate media.

2. All submittals will include one mylar set accompanied with an additional hard copy of all "as-built" record plans and drawings. All "as-built" record plans and drawings shall also be provided electronically in PDF format.

3. All spatial data shall be captured and stored using either CAD file formats (AutoCAD .dwg) or ESRI shapefile (.shp) formats. CAD files shall use layers to separate features thematically. Shapefiles will also be divided thematically. For example, parcel boundaries, water lines, meters and services, valves, hydrants, and other potable and non-potable water facilities will all be stored on separate layers, or in separate ArcView shapefiles. This facilitates the import of these data into the GIS. A template that can be imported into ArcGIS will be available on the District's website (www.bcvwd.org).

4. All parcel boundaries and continuous line features must be stored as complete logical entities. For example, pipelines should be represented as solid lines, with no text breaking the continuity of a pipe. The pipeline should snap to the features at each endpoint (e.g. the start of another pipe segment, a valve, a meter, etc.). Similarly, parcel boundaries must be solid lines, snapped closed, and free of other symbology (text, symbols, etc., that break line continuity).

5. A metadata file that describes the development of the spatial data, associated accuracies, use constraints, and contact information shall accompany all submittals.

6. All potable and non-potable water facilities and parcel boundaries shall be in accordance with 2nd Order, Class II survey grade accuracy standards.

7. All coordinates will be referenced to California State Plane coordinates, Zone VI, NAVD88, Epoch Date 2002.00, US Survey Feet. Note that this means that local coordinates are NOT to be used; the AutoCAD or ArcGIS file must store the spatial entities in the native State Plane coordinates.

8. Vertical Datum will be NGVD29 (National Geodetic Vertical Datum 1929) City of Beaumont BM, Adjusted 1982, No. A.05.82

9. All facilities must be separated into two sets of files, potable water facilities and non-potable water facilities. Files that contain both on one layer will be sent back to the developer/contractor for corrections.

10. Attached are the data definitions and supporting information requirements for all facilities installed within the District's service area. This information must accompany the electronic files provided by the developer/contractor in either shapefile format or CAD files accompanied by excel spreadsheets containing the required information. All data dictionary input shall be in columnar format and all feature input in rows.

11. Submittals must be made to and approved by the District Engineer before the District will serve water to any developer or contractor.

Any further questions or clarifications can be obtained by contacting the District, District's Engineer or representative.

Attachment 1 – Data Definition Tables

Layer List

Potable	Non-Potable
Nodes	**Nodes**
Airvac	Airvac
Blowoff	Blowoff
Fire Hydrant	Fire Hydrant
Fittings	Fittings
Meter	Meter
Pipeline	**Pipeline**
Airvac Service	Airvac Service
Blowoff Service	Blowoff Service
Distribution Main	Distribution Main
Fire Lateral	Fire Lateral
Service	Service
Valve	**Valve**
Airvac Iso Valve	Airvac Iso Valve
Blowoff Iso Valve	Blowoff Iso Valve
Distribution Valve	Distribution Valve
Fire Hydrant Iso Valve	Fire Hydrant Iso Valve
Uncommon Features	**Uncommon Features**
Sample Station	Sample Station
Sample Station Service	Sample Station Service
Pressure Regulating Valve	Pressure Regulating Valve

Nodes				
Airvac	**Blowoff**	**Fire Hydrant**	**Fittings**	**Meter**
AirvacID	BlowoffID	FireHydID	FittingID	Acct_No
Street_No	Street_No	Street_No	Street	Street_No
Street	Street	Street	Street_Sfx	Street
Street_Sfx	Street_Sfx	Street_Sfx	Fitting_Type	Street_Sfx
Manufact	Outlet	Manufact	Manufact	Size
Model	Manufact	Model	Model	Cust_Type
Size	Model	Outlet	Depth	Conn_Type
Condition	Condition	Condition	YrInstall	YrInstall
YrInstall	YrInstall	YrInstall	PressZone	PressZone
PressZone	PressZone	PressZone	Elevation	Elevation
Elevation	Elevation	Elevation	Notes	Notes
Notes	Notes	Notes		

Pipeline				
Airvac Service	**Blowoff Service**	**Distribution Main**	**Fire Lateral**	**Service**
AirvacID	BlowoffID	Street	FireHydID	Acct_No
Street_No	Street_No	Street_Sfx	Street_No	Street_No
Street	Street	Diameter	Street	Street
Street_Sfx	Street_Sfx	Pipe_OD	Street_Sfx	Street_Sfx
Diameter	Diameter	Condition	Pipe_OD	Diameter
Condition	Condition	Material	Condition	Condition
Material	Material	Lining	Material	Material
YrInstall	YrInstall	Coating	Lining	Cust_Type
PressZone	PressZone	YrInstall	Coating	YrInstall
Notes	Notes	PressZone	YrInstall	PressZone
		Notes	PressZone	Notes
			Notes	

Valves			
Airvac Iso Valve	**Blowoff Iso Valve**	**Distribution Valve**	**Fire Hydrant Iso Valve**
AirvacID	BlowoffID	DistVlvID	FireHydID
Street_No	Street_No	Street	Street_No
Street	Street	Street_Sfx	Street
Street_Sfx	Street_Sfx	Valve_Type	Street_Sfx
Valve_Type	Valve_Type	Size	Valve_Type
Size	Size	Manufact	Size
Manufact	Manufact	Model	Manufact
Model	Model	Turns	Model
Turns	Turns	Depth	Turns
Depth	Depth	Condition	Depth
Condition	Condition	YrInstall	Condition
YrInstall	YrInstall	PressZone	YrInstall
PressZone	PressZone	Elevation	PressZone
Elevation	Elevation	Notes	Elevation
Notes	Notes		Notes

GIS Detailed Requirements

Nodes

This feature class contains single points of interest within the distribution system. These points do not include valves but do cover airvacs, blowoffs, fire hydrants, fittings, and meters. Each feature shall be contained within its own individual feature class using the following naming schedule: (Potable or NonPotable)_Nodes_(Feature Class)_(Tract Number).

Example

Potable_Nodes_Airvac_32100-5

- Airvac
  - An airvac, as described in Section 2-10, shall be collected at the location of the device.
  - Attribute Data
    - AirvacID
      - Developer is to leave this data empty for District input
      - Alias: AirVac ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String

        - Width: 10
        - Precision: 0
        - Scale: 0
- Manufact
    - Description: Manufacture of the device (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Model
    - Description: Model number of the device (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Size
    - Description: Size of the device inlet given in inches (ie, 2, 4, ect.)
    - Alias: Size
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer

- Width: 4
- Precision: 0
- Scale: 0

- Elevation
  - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
  - Alias: Elevation
  - Data Type: Double
  - Width: 6
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Blowoff
  - A blowoff, as described in Section 2-09, shall be collected at the location of the device.
  - Attribute Data
    - BlowoffID
      - Developer is to leave this data empty for District input
      - Alias: Blowoff ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.).
      - Alias: Street
      - Data Type: String
      - Width: 20

        - Precision: 0
        - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Outlet
    - Description: Size of the outlet of the device given in inches (ie. 2, 2.5, 3, ect.).
    - Alias: Size of Outlet
    - Data Type: Double
    - Width: 4
    - Precision: 0
- Manufact
    - Description: Manufacture of the device (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Model
    - Description: Model number of the device (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 15
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8

- Precision: 0
- Scale: 0

- PressZone
  - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
  - Alias: Pressure Zone
  - Data Type: Small Integer
  - Width: 4
  - Precision: 0
  - Scale: 0
- Elevation
  - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
  - Alias: Elevation
  - Data Type: Double
  - Width: 6
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Fire_Hydrant
  - A fire hydrant, as described in Section 2-08, shall be collected at the location of the device.
  - Attribute Data
    - FirehydID
      - Developer is to leave this data empty for District input
      - Alias: Fire Hydrant ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0

        - Scale: 0
- Street
    - Description: Street for the location of the feature (ie. Magnolia, Main, ect.).
    - Alias: Street
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Outlets
    - Description: Size of the outlet of the device given in inches (ie. 4" x 2½", 4"x 2-2½", ect.).
    - Alias: Size of Outlets
    - Data Type: String
    - Width: 30
    - Precision: 0
- Manufact
    - Description: Manufacture of the device (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Model
    - Description: Model number of the device (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 15
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0

- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer
    - Width: 4
    - Precision: 0
    - Scale: 0
- Elevation
    - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
    - Alias: Elevation
    - Data Type: Double
    - Width: 6
    - Precision: 0
    - Scale: 0
- Notes
    - Description: This section is reserved for any notes regarding the device.
    - Alias: Notes
    - Data Type: String
    - Width: 255
    - Precision: 0
    - Scale: 0

- Fittings
    - A fitting is a feature used to create a change in the velocity or direction of the flow. These features are usually tees and elbows but can be flex couplings or other features that may not belong to a category. Tees for fire hydrant laterals should not be included. These features shall be collected at the location of the device.
    - Attribute Data
        - FittingID
            - Developer is to leave this data empty for District input
            - Alias: Fitting ID
            - Data Type: String

        - Width: 8
        - Precision: 0
        - Scale: 0
- Street
    - Description: Street for the location of the feature (ie. Magnolia, Main, ect.).
    - Alias: Street
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Fitting_Type
    - Description: Type of fitting (ie. Tee, 90 ell, ect.)
    - Alias: Fitting Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Depth
    - Description: Depth of the fitting from the surface to the top of the fitting in feet (ie. 8.0, 7.3, ect.). If the fitting is above ground it should be noted in the Notes section.
    - Alias: Model
    - Data Type: Double
    - Width: 15
    - Precision: 0
    - Scale: 0
- Manufact
    - Description: Manufacture of the device (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition

- Data Type: String
- Width: 20
- Precision: 0
- Scale: 0

- YrInstall
  - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
  - Alias: Date of Installation
  - Data Type: Date
  - Width: 8
  - Precision: 0
  - Scale: 0
- PressZone
  - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
  - Alias: Pressure Zone
  - Data Type: Small Integer
  - Width: 4
  - Precision: 0
  - Scale: 0
- Elevation
  - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
  - Alias: Elevation
  - Data Type: Double
  - Width: 6
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Meter
  - A meter is any point of delivery to a consumer and is not dependant upon the installation of an actual meter, shall be collected at the location of the device.
  - Attribute Data
    - Acct_No.
      - Developer is to leave this data empty for District input
      - Alias: Account Number
      - Data Type: Integer
      - Width: 4

        - Precision: 0
        - Scale: 0
- Street_No
    - Description: Street address number for the location of the feature (ie. 560).
    - Alias: House No.
    - Data Type: Integer
    - Width: 10
    - Precision: 0
    - Scale: 0
- Street
    - Description: Street for the location of the feature (ie. Magnolia, Main, ect.).
    - Alias: Street
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Size
    - Description: The size of the connection, such as the meter stop diameter in inches (ie. 1, 2, ect.).
    - Alias: Size of Meter Connection
    - Data Type: Single
    - Width: 4
    - Precision: 0
- Cust_Type
    - Description: Intent of the service (ie. residential , irrigation, ect.).
    - Alias: Consumer Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Conn_Type
    - Description: Type of connection to service (ie. threaded, flanged, ect.).
    - Alias: Connection Type
    - Data Type: String
    - Width: 20

        - Precision: 0
        - Scale: 0
    - Condition
        - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
        - Alias: Condition
        - Data Type: String
        - Width: 20
        - Precision: 0
        - Scale: 0
    - YrInstall
        - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
        - Alias: Date of Installation
        - Data Type: Date
        - Width: 8
        - Precision: 0
        - Scale: 0
    - PressZone
        - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
        - Alias: Pressure Zone
        - Data Type: Small Integer
        - Width: 4
        - Precision: 0
        - Scale: 0
    - Elevation
        - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
        - Alias: Elevation
        - Data Type: Double
        - Width: 6
        - Precision: 0
        - Scale: 0
    - Notes
        - Description: This section is reserved for any notes regarding the device.
        - Alias: Notes
        - Data Type: String
        - Width: 255
        - Precision: 0
        - Scale: 0

Pipelines

This feature class contains line features including airvac services, blowoff services, distribution mains, fire laterals, and services. Each feature shall be contained within its own individual feature class using the following naming schedule: (Potable or NonPotable)_Pipeline_(Feature Class)_(Tract Number).

Example

NonPotable_Pipeline_Distribution_Main_32100-5

- Airvac_Service
  - An airvac service is described as the lateral that services an airvac. A single line should properly represent the placement of each service.
  - Attribute Data
    - AirvacID
      - Developer is to leave this data empty for District input
      - Alias: AirVac ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Diameter
      - Description: General diameter of the pipe given in inches (ie. 1, 2, ect.).

        - Alias: Diameter
        - Data Type: Single
        - Width: 4
        - Precision: 0
        - Scale: 0
- Material
    - Description: Material the pipe is made of (ie. copper, poly, ect.).
    - Alias: Material
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of pipe (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer
    - Width: 4
    - Precision: 0
    - Scale: 0
- Notes
    - Description: This section is reserved for any notes regarding the device.
    - Alias: Notes
    - Data Type: String
    - Width: 255
    - Precision: 0
    - Scale: 0

- Blowoff_Service
  - A blowoff service is described as the lateral that services a blowoff. A single line should properly represent the placement of each service.
  - Attribute Data
    - BlowoffID
      - Developer is to leave this data empty for District input
      - Alias: Blowoff ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Diameter
      - Description: General diameter of the pipe given in inches (ie. 1, 2, ect.).
      - Alias: Diameter
      - Data Type: Single
      - Width: 4
      - Precision: 0
      - Scale: 0
    - Material
      - Description: Material the pipe is made of (ie. copper, poly, ect.).
      - Alias: Material

- Data Type: String
- Width: 20
- Precision: 0
- Scale: 0

- Condition
  - Description: Condition of pipe (ie. Good, Fair, Poor, Needs Replacement).
  - Alias: Condition
  - Data Type: String
  - Width: 20
  - Precision: 0
  - Scale: 0
- YrInstall
  - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
  - Alias: Date of Installation
  - Data Type: Date
  - Width: 8
  - Precision: 0
  - Scale: 0
- PressZone
  - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
  - Alias: Pressure Zone
  - Data Type: Small Integer
  - Width: 4
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Distribution_Main
  - A distribution main is described as the any pipeline not used for a specific service. A single line should properly represent the placement of each main. The main should go from fitting to fitting. A main should never go through a fitting or end without a fitting.
  - Attribute Data
    - MainID
      - Developer is to leave this data empty for District input
      - Alias: Main ID

        - Data Type: String
        - Width: 8
        - Precision: 0
        - Scale: 0
- Street
    - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
    - Alias: Street
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Diameter
    - Description: General diameter of the pipe given in inches (ie. 1, 2, ect.).
    - Alias: Diameter
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Pipe_OD
    - Description: Outside diameter of the pipeline given in inches (ie. 9.05, 13.20, ect.).
    - Alias: Pipe OD
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Material
    - Description: Material the pipe is made of (ie. copper, poly, ect.).
    - Alias: Material
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Lining
    - Description: Material type used for the lining of the pipeline (ie. concrete, none, ect.).

        - Alias: Lining
        - Data Type: String
        - Width: 20
        - Precision: 0
        - Scale: 0
- Coating
    - Description: Material type used for the coating of the pipeline (ie. bituminous, none, ect.).
    - Alias: Coating
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of pipe (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer
    - Width: 4
    - Precision: 0
    - Scale: 0
- Notes
    - Description: This section is reserved for any notes regarding the device.
    - Alias: Notes
    - Data Type: String
    - Width: 255
    - Precision: 0
    - Scale: 0

- Fire_Lateral
  - A fire lateral is described as the any pipeline used to connect a fire hydrant to a main. A single line should properly represent the placement of each fire lateral. The lateral should go from fitting to the fire hydrant.
  - Attribute Data
    - FirehydID
      - Developer is to leave this data empty for District input
      - Alias: Fire Hydrant ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Diameter
      - Description: General diameter of the pipe given in inches (ie. 1, 2, ect.).
      - Alias: Diameter
      - Data Type: Single
      - Width: 4
      - Precision: 0
      - Scale: 0
    - Pipe_OD
      - Description: Outside diameter of the pipeline given in inches (ie. 9.05, 13.20, ect.).
      - Alias: Pipe OD
      - Data Type: Single
      - Width: 4
      - Precision: 0
      - Scale: 0
    - Material

        - Description: Material the pipe is made of (ie. copper, poly, ect.).
        - Alias: Material
        - Data Type: String
        - Width: 20
        - Precision: 0
        - Scale: 0
- Lining
    - Description: Material type used for the lining of the pipeline (ie. concrete, none, ect.).
    - Alias: Lining
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Coating
    - Description: Material type used for the coating of the pipeline (ie. bituminous, none, ect.).
    - Alias: Coating
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of pipe (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer
    - Width: 4
    - Precision: 0

- Scale: 0

- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Service
  - A service is described as the lateral that services a meter. A single line should properly represent the placement of each service.
  - Attribute Data
    - Acct_No
      - Developer is to leave this data empty for District input
      - Alias: Account No
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String
      - Width: 10
      - Precision: 0
      - Scale: 0

- Diameter
    - Description: General diameter of the pipe given in inches (ie. 1, 2, ect.).
    - Alias: Diameter
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Material
    - Description: Material the pipe is made of (ie. copper, poly, ect.).
    - Alias: Material
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Cust_Type
    - Description: Intent of the service (ie. residential, irrigation, fire, ect.).
    - Alias: Consumer Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of pipe (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer
    - Width: 4

- Precision: 0
- Scale: 0

- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

Valves

This feature class contains point features including airvac isolation valves, blowoff isolation valves, distribution valves, and fire lateral valves. Each feature shall be contained within its own individual feature class using the following naming schedule: (Potable or NonPotable)_Valves_(Feature Class)_(Tract Number).

Example

Potable_Valves_Blowoff_Valve_32100-5

- Airvac_Valve
  - An airvac valve is described as an isolation valve that controls the entire lateral and device. A single point should properly represent the placement of each airvac isolation valve.
  - Attribute Data
    - AirvacID
      - Developer is to leave this data empty for District input
      - Alias: Airvac ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String

        - Width: 20
        - Precision: 0
        - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Valve_Type
    - Description: Type of valve (ie. gate, butterfly, ect.).
    - Alias: Valve Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Flange_Type
    - Description: Type of flange on valve (ie. flange, MJ, ect.).
    - Alias: Flange Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Size
    - Description: Size of valve in inches (ie. 6, 12, ect.).
    - Alias: Size
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Manufact
    - Description: Manufacture of the valve (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Model
    - Description: Model number of the valve (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 15
    - Precision: 0

        - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Depth
    - Description: Depth from the surface to the top of the operating nut in feet (ie. 4.5, 6.7, ect.).
    - Alias: Depth
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Turns
    - Description: Number of turns it takes to fully close the valve from an open position.
    - Alias: Turns
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone
    - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
    - Alias: Pressure Zone
    - Data Type: Small Integer
    - Width: 4
    - Precision: 0
    - Scale: 0
- Elevation
    - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
    - Alias: Elevation

- Data Type: Double
- Width: 6
- Precision: 0
- Scale: 0

- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Blowoff_Valve
  - A blowoff valve is described as an isolation valve that controls the entire lateral and device. A single point should properly represent the placement of each blowoff isolation valve.
  - Attribute Data
    - BlowoffID
      - Developer is to leave this data empty for District input
      - Alias: Blowoff ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.
      - Data Type: Integer
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String

        - Width: 10
        - Precision: 0
        - Scale: 0
- Valve_Type
    - Description: Type of valve (ie. gate, butterfly, ect.).
    - Alias: Valve Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Flange_Type
    - Description: Type of flange on valve (ie. flange, MJ, ect.).
    - Alias: Flange Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Size
    - Description: Size of valve in inches (ie. 6, 12, ect.).
    - Alias: Size
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Manufact
    - Description: Manufacture of the valve (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Model
    - Description: Model number of the valve (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 15
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0

- Scale: 0

- Depth
  - Description: Depth from the surface to the top of the operating nut in feet (ie. 4.5, 6.7, ect.).
  - Alias: Depth
  - Data Type: Single
  - Width: 4
  - Precision: 0
  - Scale: 0
- Turns
  - Description: Number of turns it takes to fully close the valve from an open position.
  - Alias: Turns
  - Data Type: Single
  - Width: 4
  - Precision: 0
  - Scale: 0
- YrInstall
  - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
  - Alias: Date of Installation
  - Data Type: Date
  - Width: 8
  - Precision: 0
  - Scale: 0
- PressZone
  - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
  - Alias: Pressure Zone
  - Data Type: Small Integer
  - Width: 4
  - Precision: 0
  - Scale: 0
- Elevation
  - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
  - Alias: Elevation
  - Data Type: Double
  - Width: 6
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes

- Data Type: String
- Width: 255
- Precision: 0
- Scale: 0

- Distribution_Valve
  - A distribution valve is described as a valve that controls a section of main. A single point should properly represent the placement of each distribution valve.
  - Attribute Data
    - DistVlvID
      - Developer is to leave this data empty for District input
      - Alias: Valve ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street
      - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
      - Alias: Street
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Street_Sfx
      - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
      - Alias: Street Suffix
      - Data Type: String
      - Width: 10
      - Precision: 0
      - Scale: 0
    - Valve_Type
      - Description: Type of valve (ie. gate, butterfly, ect.).
      - Alias: Valve Type
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0
    - Flange_Type
      - Description: Type of flange on valve (ie. flange, MJ, ect.).
      - Alias: Flange Type
      - Data Type: String
      - Width: 20
      - Precision: 0
      - Scale: 0

- Size
    - Description: Size of valve in inches (ie. 6, 12, ect.).
    - Alias: Size
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Manufact
    - Description: Manufacture of the valve (ie. Muller, Crispin, ect.).
    - Alias: Manufacture
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Model
    - Description: Model number of the valve (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 15
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Depth
    - Description: Depth from the surface to the top of the operating nut in feet (ie. 4.5, 6.7, ect.).
    - Alias: Depth
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Turns
    - Description: Number of turns it takes to fully close the valve from an open position.
    - Alias: Turns
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- YrInstall

- Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
- Alias: Date of Installation
- Data Type: Date
- Width: 8
- Precision: 0
- Scale: 0

- PressZone
  - Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
  - Alias: Pressure Zone
  - Data Type: Small Integer
  - Width: 4
  - Precision: 0
  - Scale: 0
- Elevation
  - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
  - Alias: Elevation
  - Data Type: Double
  - Width: 6
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

- Fire_Hydrant_Valve
  - A fire hydrant valve is described as an isolation valve that controls the entire lateral and device. A single point should properly represent the placement of each fire hydrant isolation valve.
  - Attribute Data
    - FirehydID
      - Developer is to leave this data empty for District input
      - Alias: Fire Hydrant ID
      - Data Type: String
      - Width: 8
      - Precision: 0
      - Scale: 0
    - Street_No

        - Description: Street address number for the location of the feature (ie. 560).
        - Alias: House No.
        - Data Type: Integer
        - Width: 10
        - Precision: 0
        - Scale: 0
- Street
    - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
    - Alias: Street
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Valve_Type
    - Description: Type of valve (ie. gate, butterfly, ect.).
    - Alias: Valve Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Flange_Type
    - Description: Type of flange on valve (ie. flange, MJ, ect.).
    - Alias: Flange Type
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Size
    - Description: Size of valve in inches (ie. 6, 12, ect.).
    - Alias: Size
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Manufact
    - Description: Manufacture of the valve (ie. Muller, Crispin, ect.).

        - Alias: Manufacture
        - Data Type: String
        - Width: 20
        - Precision: 0
        - Scale: 0
- Model
    - Description: Model number of the valve (ie. AB-307, 65849, ect.)
    - Alias: Model
    - Data Type: String
    - Width: 15
    - Precision: 0
    - Scale: 0
- Condition
    - Description: Condition of device (ie. Good, Fair, Poor, Needs Replacement).
    - Alias: Condition
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Depth
    - Description: Depth from the surface to the top of the operating nut in feet (ie. 4.5, 6.7, ect.).
    - Alias: Depth
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- Turns
    - Description: Number of turns it takes to fully close the valve from an open position.
    - Alias: Turns
    - Data Type: Single
    - Width: 4
    - Precision: 0
    - Scale: 0
- YrInstall
    - Description: Date of the installation of the device (ie. 2009, 2010, ect.). If actual day is unknown then the date of January 1st of the given year shall be used.
    - Alias: Date of Installation
    - Data Type: Date
    - Width: 8
    - Precision: 0
    - Scale: 0
- PressZone

- Description: Pressure zone in which the device is located (ie. 2750, 2650, ect.).
- Alias: Pressure Zone
- Data Type: Small Integer
- Width: 4
- Precision: 0
- Scale: 0

- Elevation
  - Description: Elevation of the device in feet above MSL (ie. 2654.7, 2557.0, ect.).
  - Alias: Elevation
  - Data Type: Double
  - Width: 6
  - Precision: 0
  - Scale: 0
- Notes
  - Description: This section is reserved for any notes regarding the device.
  - Alias: Notes
  - Data Type: String
  - Width: 255
  - Precision: 0
  - Scale: 0

Parcel Data (Tract Maps Submittal)

This feature class is a polygon data set of all properties within the project. Each parcel must have the address or APN, lot number and tract number within its attribute data. The name of the feature class shall be named using the name "Parcels_(tract number)."

Example

Parcels_32100-5

- Parcels
  - Attribute Data
    - APN
      - Assessors Parcel Number
      - Alias: APN
      - Data Type: long
      - Width: 15
      - Precision: 0
      - Scale: 0
    - Street_No
      - Description: Street address number for the location of the feature (ie. 560).
      - Alias: House No.

- Data Type: Integer
- Width: 10
- Precision: 0
- Scale: 0

- Street
  - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
  - Alias: Street
  - Data Type: String
  - Width: 20
  - Precision: 0
  - Scale: 0
- Street_Sfx
  - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
  - Alias: Street Suffix
  - Data Type: String
  - Width: 10
  - Precision: 0
  - Scale: 0
- Tract
  - Tract number
  - Alias: Tract
  - Data Type: String
  - Width: 15
  - Precision: 0
  - Scale: 0
- Lot
  - Lot number of each parcel
  - Alias: Tract
  - Data Type: String
  - Width: 15
  - Precision: 0
  - Scale: 0

Street Centerline Data (Tract Maps Submittal)

This feature class is a line data set of all street center lines within the project. Each centerline must have the official street name as recorded by the county in its attribute data. The name of the feature class shall be named using the name "Streets_(tract number)."

Example

Streets_32100-5

- Streets
  - Attribute Data
    - Street_No

        - Description: Street address number for the location of the feature (ie. 560).
        - Alias: House No.
        - Data Type: Integer
        - Width: 10
        - Precision: 0
        - Scale: 0
- Street
    - Description: Street for the location of the feature (ie. Magnolia, Main, ect.)
    - Alias: Street
    - Data Type: String
    - Width: 20
    - Precision: 0
    - Scale: 0
- Street_Sfx
    - Description: Street suffix for the location of the feature (ie. Ave, St, ect.). Do not include periods
    - Alias: Street Suffix
    - Data Type: String
    - Width: 10
    - Precision: 0
    - Scale: 0
- Tract
    - Tract number
    - Alias: Tract
    - Data Type: String
    - Width: 15
    - Precision: 0
    - Scale: 0

APPENDIX B

SUPPLEMENTAL REQUIREMENTS

Beaumont Cherry Valley Water District (District) is providing the following guidelines to assist the installation Contractor in the construction and activation of District water.

Prior to start of any work, the Contractor shall have approved water improvement plans on hand and available for review at the jobsite. In addition, all Facility Construction Agreements shall be executed and all Facility Fees and deposits paid prior to start of any work.

All work shall be performed in accordance with approved plans and District Standard Specifications. The District's authorized representative shall review and approve any field changes required that involve the relocation of any appurtenance, lateral, hydrant, water service, etc. more than one foot from locations as shown on the drawings.

In the event that any facility relocation as discussed above is required, the new location of the facility shall be indicated on the Contractor's field record drawings and/or intersection plate.

Temporary construction water meters are available from the District. These meters will require the Developer/Contractor make application at the District offices and pay all the required deposits/fees. These meters will be the only units available for the delivery of water prior to the approval and acceptance on the facility.

The final, permanent water meters shall be installed after all grading, trenching and landscaping has been completed. All necessary meter deposits/fees shall be paid prior to installation of any permanent water meters.

Angle meter stops shall be installed in accordance with District Plate No. 6-2 of the Standard Specifications.

Prior to meter installation, per District Plate No. 12, an area of 1 ft x 4 ft shall be excavated to accommodate the meter box appurtenance.

Developer/Contractor shall be responsible for the procurement and installation of the meter boxes and the gate valve boxes, two separate items. The meter box shall have a lid, which locks in place that cannot be opened with a common tool. The District will provide the name of the approved manufacturer and model number for the meter box.

The District will not install permanent water meters prior to the submittal, review and approval of the record "as-built" drawings and intersection plates prepared by the Developer/Contractor.

APPENDIX C

State of California Department of Health Services

Memorandum

Date: April 14, 2003 **(Revised Date: October 16, 2003)**

To: Regional and District Engineers

From: David P. Spath, Ph.D., Chief *(Original signed by Dave)*
Drinking Water and Environmental Management
601 North 7th Street, MS 216
Sacramento, CA 95814
(916) 322-2308

Subject: **GUIDANCE MEMO NO. 2003-02: GUIDANCE CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES**

The purpose of this memo is to update guidance dated April 5, 1983 for consistency with proposed 2003 regulations. Should there be any modification to the proposed Water Works Standards that may impact the content of this guidance, the guidance will be amended accordingly.

GUIDANCE: CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES

BACKGROUND

When buried water mains are in close proximity to non-potable pipelines, the water mains are vulnerable to contamination that can pose a risk of waterborne disease outbreaks. For example, sewers (sanitary sewer mains and sewage force mains) frequently leak and saturate the surrounding soil with sewage due to structural failure, improperly constructed joints, and/or subsidence or upheaval of the soil encasing the sewer. If a nearby water main is depressurized and no pressure or negative pressure occurs, that situation is a public health hazard that is compounded if an existing sewer is broken during the installation or repair of the water main. Further, failure of a water main in close proximity to other pipelines may disturb their bedding and cause them to fail. In the event of an earthquake or other disaster, simultaneous failure of all pipelines could occur.

The most effective protection against this type of drinking water contamination is adequate construction and separation of non-potable pipelines and water mains. The Waterworks Standards (Title 22, Chapter 16, Section 64572) provide separation criteria for new construction. However, when these criteria cannot be met, the risk of contamination can be reduced by increasing the structural integrity of pipe materials and joints, and ensuring minimum separation requirements are met. Therefore, the following guidance details construction criteria for the installation of water mains and non-potable pipelines to minimize the risk of contamination of drinking water.

DEFINITIONS

- COMPRESSION JOINT - A push-on joint that seals by means of the compression of a rubber ring or gasket between the pipe and a bell or coupling.
- CONTINUOUS SLEEVE - A protective tube of high-density-polyethylene (HDPE) pipe with heat fusion joints or other non-potable metallic casing without joints into which a pipe is inserted.
- DISINFECTED TERTIARY RECYCLED WATER - Wastewater that has been filtered and subsequently disinfected in accordance with Section 60301.230, Chapter 3 (Water Recycling Criteria), Title 22, California Code of Regulations.
- HOUSE LATERAL - A sewer line connecting the building drain and the sanitary sewer main serving the street.
- SUPPLY LINE - Pipelines conveying raw water to be treated for drinking purposes in accordance with Section 64572 ©, **proposed** Water Works Standards.
- WATER MAIN – Means any pipeline, except for user service lines, within the distribution system in accordance with Section 64551.70, **proposed** Water Works Standards.
- RATED WORKING WATER PRESSURE - A pipe classification system based on internal working pressure of the fluid in the pipe, type of pipe material, and the thickness of the pipe wall.
- SANITARY SEWER MAIN - A gravity sewer conveying untreated municipal wastewater.
- SEWAGE FORCE MAIN - A pressurized sewer conveying untreated municipal wastewater.

APPLICABILITY

Note that the construction criteria presented in this document apply to house laterals that cross above a water main, but not to those house laterals that cross below a water main.

Water mains or non-potable pipelines that are 24-inches in diameter or larger may pose a higher degree of public health concern because of the large volumes of flow involved. Therefore, installation of water mains or non-potable pipelines 24-inches in diameter or larger should be reviewed and approved in writing by the Department on a case-by-case basis prior to construction.

In no case, should water mains and non-potable pipelines conveying sewage or other liquids be installed in the same trench.

REGULATORY REQUIREMENTS

Any new development project in which all the underground facilities are being constructed for the first time must comply with the following regulatory requirements:

Existing requirements:

Section 64630.(Title 22 CA Code of Regulations) Water Main Installation"

(c) Water mains shall be installed at least:

(1) Ten feet (3 meters) horizontally from and 1 foot (0.3 meters) higher than sanitary sewer mains located parallel to the main.

(2) One foot (0.3 meters) higher than sanitary sewer mains crossing the main.

(3) Ten feet (3 meters), and preferably 25 feet (7.5 meters), horizontally from sewage leach fields, cesspools, seepage pits and septic tanks.

(d) Separation distances specified in (c) shall be measured from the nearest outside edges of the facilities.

(e) Where the requirements of (c) and (d) cannot be met due to topography, inadequate right-of-way easements, or conflicts with other provisions of these regulations, lesser separation is permissible if:

(1) The water main and the sewer are located as far apart as feasible within the conditions listed above.

(2) The water main and the sewer are not installed within the same trench.

(3) The water main is appropriately constructed to prevent contamination of the water in the main by sewer leakage.

(f) Water mains shall be disinfected according to AWWA Standard C601-81 before being placed in service.

(g) Installation of water mains near the following sources of potential contamination shall be subject to written approval by the Department on a case-by-case basis:

(1) Storage ponds or land disposal sites for wastewater or industrial process water containing toxic materials or pathogenic organisms.

(2) Solid waste disposal sites.

(3) Facilities such as storage tanks and pipe mains where malfunction of the facility would subject the water in the main to toxic or pathogenic contamination.

Although the following requirements have not yet been adopted, they should be within the next two years and should be used as guidance for future construction.

Proposed requirements as of the date of this document:

Section 64572. Water Main Separation

(a) New water mains and new supply lines shall not be installed in the same trench as, and shall be at least 10 feet horizontally from, and one foot vertically above, any parallel pipeline conveying:

(1) Untreated sewage,
(2) Primary or secondary treated sewage,
(3) Disinfected secondary-2.2 recycled water (defined in section 60301.220),
(4) Disinfected secondary-23 recycled water (defined in section 60301.225), and
(5) Hazardous fluids such as fuels, industrial wastes, and wastewater sludge.

(b) New water mains and new supply lines shall be installed at least 4 feet horizontally from, and one foot vertically above, any parallel pipeline conveying:

(1) Disinfected tertiary recycled water (defined in section 60301.230), and
(2) Storm drainage.

(c) New supply lines conveying raw water to be treated for drinking purposes shall be installed at least 4 feet horizontally from, and one foot vertically below, any water main.

(d) If crossing a pipeline conveying a fluid listed in subsection (a) or (b), a new water main shall be constructed perpendicular to and at least one foot above that pipeline. No connection joints shall be made in the water main within eight horizontal feet of fluid pipeline.

(e) The vertical separation specified in subsections (a), (b), and (c) is required only when the horizontal distance between a water main and pipeline is ten feet or less.

(f) New water mains shall not be installed within 100 horizontal feet of any sanitary landfill, wastewater disposal pond, or hazardous waste disposal site, or within 25 feet of any cesspool, septic tank, sewage leach field, seepage pit, or groundwater recharge project site.

(g) The minimum separation distances set forth in this section shall be measured from the nearest outside edge of each pipe barrel.

ALTERNATIVE CRITERIA FOR CONSTRUCTION

Water Mains, and Sewers and Other Non-potable Fluid-carrying Pipelines

When new water mains, new sanitary sewer mains, or other non-potable fluid-carrying pipelines are being installed in existing developed areas, local conditions (e.g., available space, limited slope, existing structures) may create a situation in which there is no alternative but to install water mains, sanitary sewer mains, or other non-potable pipelines at a distance less than that required by the regulations [existing Section 64630 (proposed Section 64572)]. In such cases, through permit action, the Department may approve

alternative construction criteria. The alternative approach is allowed under the proposed regulation Section 64551(c):

> "A water system that proposes to use an alternative to the requirements in this chapter shall demonstrate to the Department how it will institute additional mitigation measures to ensure that the proposed alternative would not result in an increased risk to public health."

Appropriate alternative construction criteria for two different cases in which the regulatory criteria for sanitary sewer main and water main separation cannot be met are shown in **Figures 1 and 2.**

- **Case 1** - New sanitary sewer main and a new or existing water main; alternative construction criteria apply to the sanitary sewer main.
- **Case 2** - New water main and an existing sanitary sewer main; alternative construction criteria may apply to either or both the water main and sanitary sewer main.

Case 1: New Sanitary Sewer Main Installation (Figures 1 and 2)

Zone	***Special Construction Required for Sanitary Sewer Main***
A	Sanitary sewer mains parallel to water mains shall not be permitted in this zone without prior written approval from the Department and public water system.
B	If the water main paralleling the sanitary sewer main does not meet the Case 2 Zone B requirements, the sanitary sewer main should be constructed of one of the following:

1. High-density-polyethylene (HDPE) pipe with fusion welded joints (per AWWA C906-99);
2. Spirally-reinforced HDPE pipe with gasketed joints (per ASTM F-894);
3. Extra strength vitrified clay pipe with compression joints;
4. Class 4000, Type II, asbestos-cement pipe with rubber gasket joints;
5. PVC sewer pipe with rubber ring joints (per ASTM D3034) or equivalent;
6. Cast or ductile iron pipe with compression joints; or
7. Reinforced concrete pressure pipe with compression joints (per AWWA C302-95).

C If the water main crossing below the sanitary sewer main does not meet the requirements for Case 2 Zone C, the sanitary sewer main should have no joints within ten feet from either side of the water main (in Zone C) and should be constructed of one of the following:

1. A continuous section of ductile iron pipe with hot dip bituminous coating; or
2. One of the Zone D options 1, 3, 4, or 5 below.

D If the water main crossing above the sanitary sewer main does not meet the Case 2 Zone D requirements, the sanitary sewer main should have no joints within four feet from either side of the water main (in Zone D) and be constructed of one of the following:

1. HDPE pipe with fusion-welded joints (per AWWA C906-99);
2. Ductile iron pipe with hot dip bituminous coating and mechanical joints (gasketed, bolted joints);
3. A continuous section of Class 200 (DR 14 per AWWA C900-97) PVC pipe or equivalent, centered over the pipe being crossed;
4. A continuous section of reinforced concrete pressure pipe (per AWWA C302-95) centered over the pipe being crossed; or
5. Any sanitary sewer main within a continuous sleeve.

Case 2: New water mains Installation (Figures 1 and 2)

Zone Special Construction Required for Water Main

A No water mains parallel to sanitary sewer mains shall be constructed without prior written approval from the Department.

B If the sanitary sewer main paralleling the water main does not meet the Case 1 Zone B requirements, the water main should be constructed of one of the following:

1. HDPE pipe with fusion welded joints (per AWWA C906-99);
2. Ductile iron pipe with hot dip bituminous coating;
3. Dipped and wrapped one-fourth-inch-thick welded steel pipe;
4. Class 200, Type II, asbestos-cement pressure pipe;

5. Class 200 pressure rated PVC water pipe (DR 14 per AWWA C900-97 & C905-97) or equivalent; or

6. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-97 or C302-99 or C303-95).

C If the sanitary sewer main crossing above the water main does not meet the Case 1 Zone C requirements, the water main should have no joints within ten feet from either side of the sanitary sewer main (in Zone C) and be constructed of one of the following:

1. HDPE pipe with fusion-welded joints (per AWWA C906-99);

2. Ductile iron pipe with hot dip bituminous coating;

3. Dipped and wrapped one-fourth-inch-thick welded steel pipe;

4. Class 200 pressure rated PVC water pipe (DR 14 per AWWA C900-97 & C905-97); or

5. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-97 or C301-99 or C303-95).

D If the sanitary sewer main crossing below the water main does not meet the requirements for Case 1 Zone D, the water main should have no joints within eight feet from either side of the sanitary sewer main (in Zone D) and should be constructed as for Zone C.

Water Mains and Pipelines Conveying Non-potable Fluids

When the basic separation criteria cannot be met between water mains and pipelines conveying non-potable fluids, the requirements described above for sanitary sewer mains should apply. This includes the requirements for selecting special construction materials and the separation requirements shown in Figures 1 and 2. Note that not all construction materials allowed for sanitary sewer mains will be appropriate for other non-potable fluid lines. For example, certain plastic lines may not be appropriate for the transport of some fuel products. The selection of compatible materials of construction for non-potable fluids is a decision to be made by the project engineer.

Water Mains and Sewage Force Mains

- Sewage force mains shall not be installed within ten feet (horizontally) of a water main.

- When a sewage force main must cross a water main, the crossing should be as close as practical to the perpendicular. The sewage force main should be at least one foot below the water main.

- When a new sewage force main crosses under an existing water main, and a one-foot vertical separation cannot be provided, all portions of the sewage force main within eight feet (horizontally) of the outside walls of the water main should be enclosed in a continuous sleeve. In these cases, a minimum vertical separation distance of 4 inches should be maintained between the outside edge of the bottom of the water main and the top of the continuous sleeve.

- When a new water main crosses over an existing sewage force main, the water main should be constructed of pipe materials with a minimum rated working pressure of 200 psig or the equivalent.

Water Mains and Tertiary Treated Recycled Water or Storm Drainage

The basic separation criteria for water mains and pipelines conveying tertiary treated recycled water or storm drainage lines are a 4-foot horizontal separation where lines are running parallel and a 1-foot vertical separation (water line above recycled or storm drainage) where the lines cross each other.

When these criteria cannot be met, the Zone A criteria apply where lines are running parallel, and the Zone C and Zone D criteria apply where the lines cross each other as shown on Figures 1 and 2. For these situations, the Zone "P" criteria are in effect and prohibit construction less than 1 foot in parallel installations and less than 4 inches in vertical (crossing) situations.

For tertiary treated recycled water and storm drainage lines, the Zone B criteria (requirements for special pipe) do not apply as the basic separation criteria is a four-foot horizontal separation criteria for parallel lines. The tertiary treated recycled water lines should be constructed in accordance with the color-coding, and labeling requirements per Section 116815, California Health and Safety Code of Regulations.

MISCELLANEOUS GUIDANCE

- More stringent requirements may be necessary if conditions such as high groundwater exist. HDPE or similar pipe may be required to provide flexibility to move without potential joint leaks.

- Sanitary sewer mains should not be installed within 25 feet horizontally of a low head (5 psig or less pressure) water main.

- New water mains and sanitary sewer mains should be pressure tested in accordance with manufacturer's specifications.

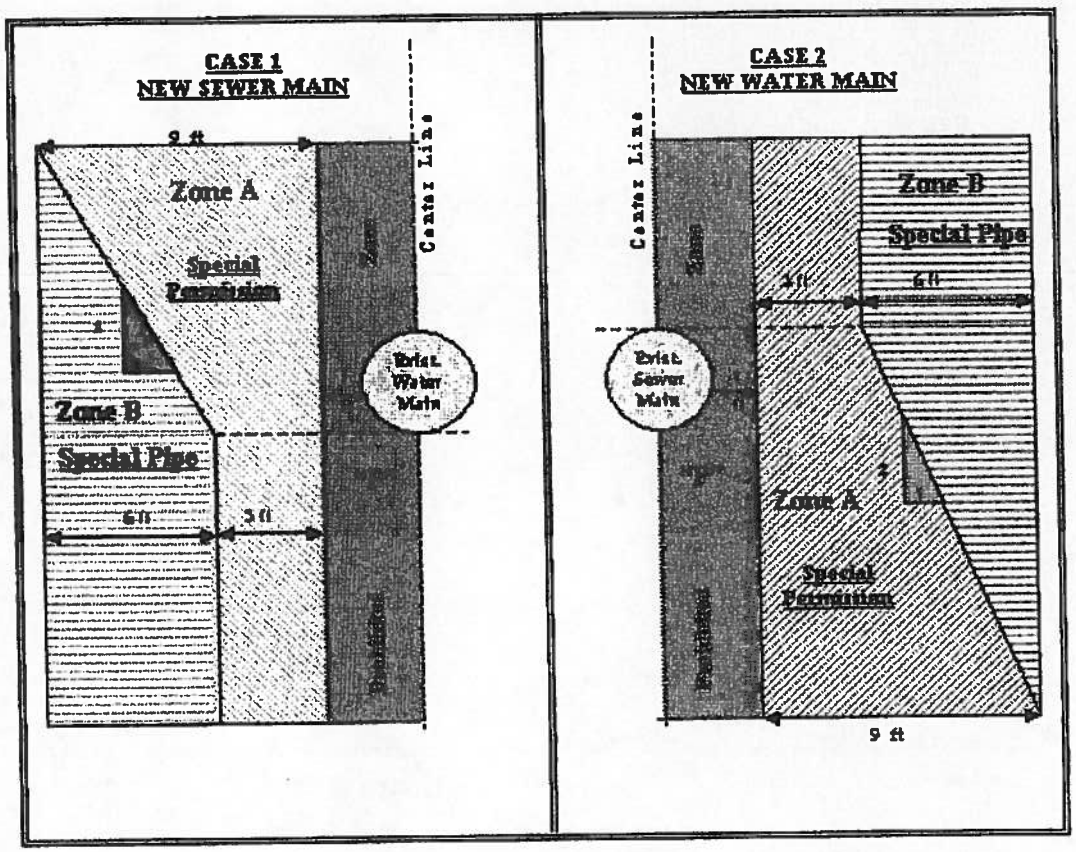
- When installing water mains, sewers, or other pipelines, measures should be taken to prevent or minimize disturbances of existing pipelines. Disturbance of the conduit's supporting base could eventually result in pipeline failure.

- Special consideration should be given to the selection of pipe materials if corrosive conditions are likely to exist. These conditions may be due to soil type and/or the nature of the fluid conveyed in the conduit, such as a septic sewage producing corrosive hydrogen sulfide.

NOTE: Dimensions are from the outside of the water main to the outside of the other pipeline, manhole, or sleeve.

FIGURE 1 PARALLEL CONSTRUCTION

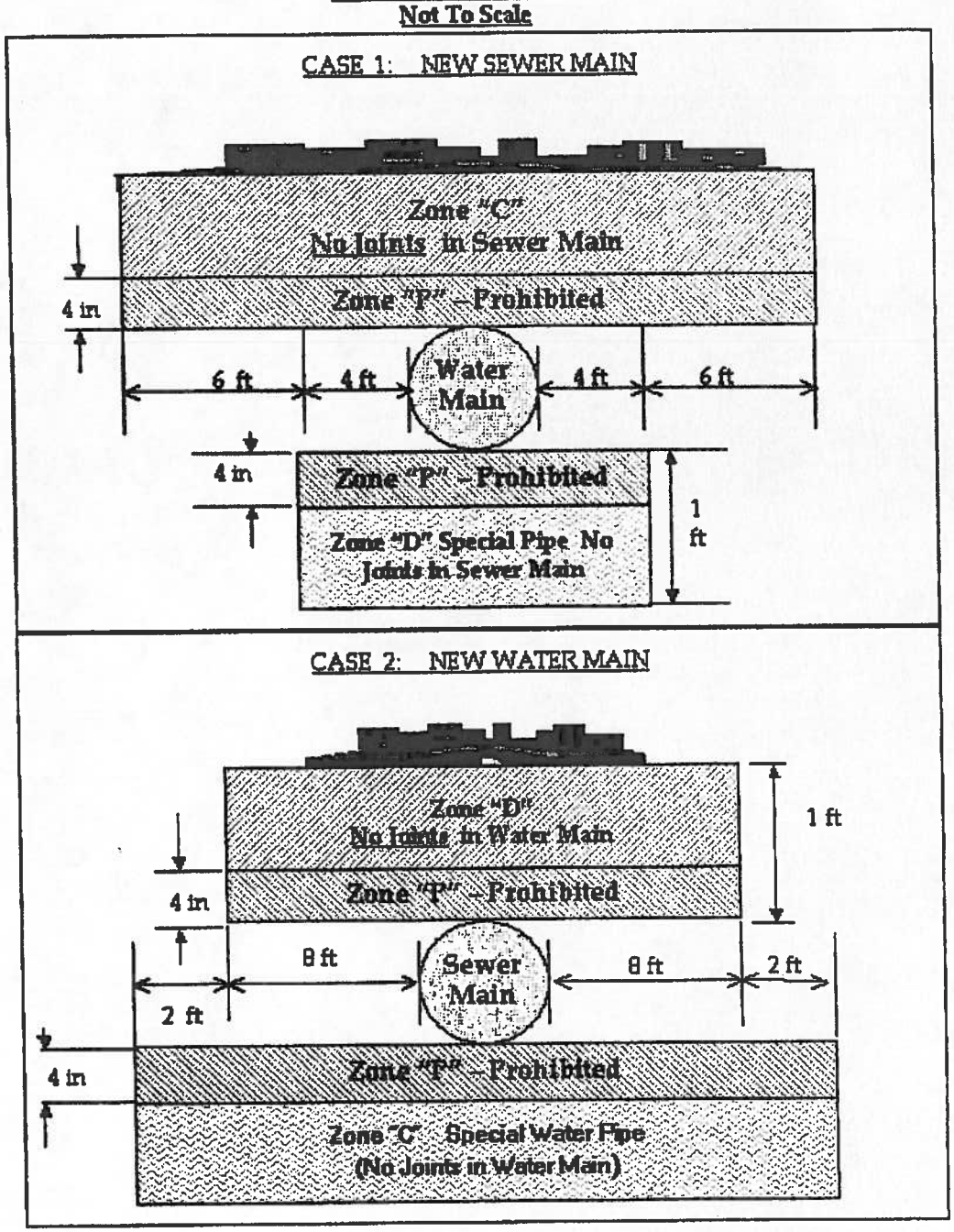
Not To Scale



Note: Zones identical on either side of center lines.

Zones "P" is a prohibited zone. Section 64630 (e) (2) California Code of Regulations, Title 22 (Current); or Section 64572 (a) California Code of Regulations, Title 22 (Proposed).

FIGURE 2 CROSSINGS
Not To Scale



APPENDIX D

BEAUMONT CHERRY VALLEY WATER DISTRICT

PLAN CHECKING GUIDELINES

1. Verify general notes, construction notes and quantities. Need typical street sections indicating location of underground utilities, pavement marker details for fire hydrants, pipeline intersection details, lot service details and with fire hydrant, and typical details.
2. Provide vicinity map and location map. Provide abbreviations and symbol legend, and description of index of sheets. Provide Private Engineer's Notice to Contractors, District Engineer's Certificate, Applicant's Engineer Certificate, County Fire Department approval block, Description of benchmark and basis of bearings.
3. Provide drawing sheet index list w/station limits that agree with each sheet's title block and plan and profile match points.
4. Index map shall show tract lot numbers. Circle highest lot number.
5. Show all pipe crossings in profile.
6. Show all storm drains, sewers, and recycled water lines to be installed parallel to proposed water line in profile as “shadow” dashed lines and label.
7. Verify right-of-way (R/W) is called out.
8. Verify water meters 4' minimum from property lines.
9. Verify fire hydrants on property line.
10. Verify air vacuum release valves on property line.
11. Verify blowoffs on property line.
12. Verify drains on property line.
13. Verify that air vacuum release valves are installed at all high points, drains at all low points and blowoffs or fire hydrants less than 30' from end of line.
14. Show street dimensions and water line locations.
15. Provide stations for road centerline intersections, pipe crossovers and water line intersections.
16. Provide curve data for water line – only on plan view. Indicate BC, EC, PRC, and PCC on plan view. Make sure surveyor can stake line.
17. Indicate bearing along straight segments of pipeline or include in pipe data table.
18. Place fire hydrants on short side, on property lines, call out on plan and profile, indicate stations, verify agreement in plan and profile, and indicate pavement markers.
19. Verify vertical and horizontal match up at pipe intersections and road centerlines from sheet-to-sheet.
20. Make sure pipe callouts [LF, pipe material, pressure class] are in profiles.

21. Each sheet shall show north arrow. Indicate horizontal scale in plan and horizontal and vertical scale in profile.
22. Verify circled construction note callouts (®) pertain to sheet. Check spelling and grammar.
23. BCVWD, Beaumont Cherry Valley Water District. Not City of Beaumont.
24. Label roads and tracts, if adjoining, and on all sheets.
24. Verify restraints, especially at tract interfaces and pipe intersections. Verify drains, air vacs and blowoffs. Use 4" drain or blowoff and 2" air vacuum release valve for pipe up to 12" diameter pipe.
25. Check vertical and horizontal clearances between different pipelines and joint relationships.
26. Every pipe intersection or change of direction requires a specific, typical or standard detail.
27. Check cross-references of street name and sheet number.
28. Check pipe station, invert elevation and sheet number match from one sheet to the next at match lines.
29. Check stations and elevations at tract interfaces. Review adjoining tract drawings to obtain information.
30. Dash water line branches shown on other sheets.
31. Make fonts consistent.
32. Verify that street names and street limits match in title block, drawing view and index.
33. Check that fire hydrants match drawing index map.
34. Verify note regarding dry utilities, Note No.23, is included in General Notes.
35. Check pressure zone pressures and 3' minimum cover over pipeline is shown in all profiles for pipe sizes 8”-16”. Four feet of cover for pipe sizes larger than 16”.
36. Restraints solve only vertical problems in parallel construction. 4' clear horizontal and 1' clear vertical separation is required between water and storm drain lines, with water above storm drain line.
37. Verify proper horizontal and vertical clearance between water and recycled water lines. See District standard specifications and California Code of Regulations, Title 22, Section 64572.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

REPLACEMENT PIPELINE CONSTRUCTION COST ESTIMATE

Replacement Pipeline P-2750-0064 - 8" DIP - Antonell Court (Pennsylvania to Cherry)

ITEM NO.	DESCRIPTION	QTY	UNIT	ENGINEER'S ESTIMATE	
				UNIT PRICE	TOTAL
1	**Mobilization**				
1.1	Mobilization	1	L.S.	$3,800.00	$3,800.00
1.2	Bonds/Insurance	1	L.S.	$3,420.00	$3,420.00
1.3	Schedule of Values	1	L.S.	$950.00	$950.00
1.4	Preliminary Project Schedule	1	L.S.	$950.00	$950.00
1.5	Demobilization	1	L.S.	$2,375.00	$2,375.00
				Sub Total:	**$11,495.00**
2	**Dust Control**				
2.1	Dust Control	0	L.S.	$2,500.00	$0.00
				Sub Total:	**$0.00**
3	**SWPPP**				
3.1	Erosion Contol Plan	0	L.S.	$1,000.00	$0.00
3.2	Install Initial BMPS	0	L.S.	$1,200.00	$0.00
3.3	Maintain BMPS	0	L.S.	$500.00	$0.00
				Sub Total:	**$0.00**
4	**Traffic Control**				
4.1	Implement Traffic Control	1	L.S.	$1,500.00	$1,500.00
				Sub Total:	**$1,500.00**
5	**Potable Water Pipeline**				
5.1	8" Potable Water Pipeline (DIP) - Delivered and Offloaded	590	L.F.	$ 24.75	$14,602.50
5.2	Handle Pipe and Materials	1	EA	$ 1,500.00	$1,500.00
5.3	Trench Excavation & Backfill & Compaction	590	L.F.	$ 20.50	$12,095.00
5.4	Pipe Laid in Place	590	L.F.	$ 2.60	$1,534.00
5.5	Test and Cleanup	590	L.F.	$ 6.75	$3,982.50
5.6	Sand Material	88	CY	$ 14.10	$1,238.56
5.7	Excess Dirt Hauloff & Haulin	262	CY	$ 6.25	$1,636.17
5.8	Process Backfill Material	262	CY	$ 6.25	$1,636.17
5.9	Furnish and Install Class II Base	36	CY	$ 12.00	$437.91
5.10	10" Tee	1	EA	$ 675.00	$675.00
5.11	10" x "L" FLG x PE Spool	2	EA	$ 550.00	$1,100.00
5.12	10" Gate Valve	2	EA	$ 925.00	$1,850.00
5.13	10" Flexible Coupling	2	EA	$ 825.00	$1,650.00
5.14	Thrust Block	2	EA	$ 1,000.00	$2,000.00
5.15	Welded Bars & Ties (Includes Labor for Welding)	2	EA	$ 1,800.00	$3,600.00
5.16	10"x8" Concentric Reducer	1	EA	$ 900.00	$900.00
5.17	8" Gate Valve	2	EA	$ 800.00	$1,600.00
5.18	8" FLG x MJ Adapter	2	EA	$ 600.00	$1,200.00
5.19	24" Tee	1	EA	$ 2,400.00	$2,400.00
5.20	24" x "L" FLG x PE Spool	2	EA	$ 1,300.00	$2,600.00
5.21	24" Sleeve w/ Megalug	2	EA	$ 1,100.00	$2,200.00
5.22	24" x 8" Concentric Reducer	1	EA	$ 1,300.00	$1,300.00
5.23	1" Service Connection	9	EA	$ 1,500.00	$13,500.00
5.24	Fire Hydrant Assembly Incl. Valve	2	EA	$ 7,000.00	$14,000.00
5.25	Restrained Joints (Romac)	6	EA	$ 350.00	$2,100.00
				Sub Total:	**$91,337.82**

REGISTERED PROFESSIONAL ENGINEER MARK B. SWANSON No. 72332 Expires 6-30-22 CIVIL STATE OF CALIFORNIA

BEAUMONT-CHERRY VALLEY WATER DISTRICT

REPLACEMENT PIPELINE CONSTRUCTION COST ESTIMATE

Replacement Pipeline P-2750-0064 - 8" DIP - Antonell Court (Pennsylvania to Cherry)

ITEM NO.	DESCRIPTION	QTY	UNIT	ENGINEER'S ESTIMATE	
				UNIT PRICE	TOTAL
6	**Pavement Removal Repair and Replacement**				
6.1	Temporary Pavement	3835	SF	$3.00	$11,505.00
6.2	Furnish HMA Material	52.038	Ton	$95.00	$4,943.61
6.3	Existing Pavement Removal	3835	SF	$2.50	$9,587.50
6.4	Cold Plane (0.10')	3835	SF	$1.75	$6,711.25
6.5	Overlay (0.10')	3835	SF	$1.75	$6,711.25
				Sub Total:	**$39,458.61**
7	**Field Inspection/Engineering Support**				
7.1	Field Inspections	1	LS	$2,000.00	$2,000.00
7.2	Engineering Support	1	LS	$700.00	$700.00
				Sub Total:	**$2,700.00**
8	**Contract Administration**				
8.1	Construction Administration	1	LS	$750.00	$750.00
8.2	Review of Submittals	1	LS	$500.00	$500.00
8.3	Labor Compliance	1	LS	$750.00	$750.00
8.4	Project Management	1	LS	$1,000.00	$1,000.00
				Sub Total:	**$3,000.00**
SUBTOTAL ENGINEERS ESTIMATE (CONSTRUCTION)					$149,491.43
CONSTRUCTION CONTINGENCY (20%) (CONSTRUCTION)					**$29,898.29**
TOTAL PIPELINE CONSTRUCTION ESTIMATE AND CONTINGENCIES					**$179,389.71**

BEAUMONT-CHERRY VALLEY WATER DISTRICT

REPLACEMENT PIPELINE CONSTRUCTION COST ESTIMATE

Replacement Pipeline P-2750-0064 - 8" DIP - Antonell Court (Pennsylvania to Cherry)

ITEM NO.	DESCRIPTION	QTY	UNIT	ENGINEER'S ESTIMATE	
				UNIT PRICE	TOTAL
	OTHER COSTS ESTIMATE (SOFT COSTS)				
50	**Environmental**				
50.1	Technical Analyses (Acoustical/Air Quality)	0	L.S.	$0.00	$0.00
50.2	Biological Investigation	0	L.S.	$4,750.00	$0.00
50.3	Cultural Resources Investigation & AB 52 Consultation	0	L.S.	$1,900.00	$0.00
50.4	IS/MND (Draft & Final)	0	L.S.	$5,700.00	$0.00
				Sub Total:	**$0.00**
51	**Preliminary Engineering**				
51.1	Engineering Planning	1	L.S.	$500.00	$500.00
51.2	Horizontal Layout	1	L.S.	$950.00	$950.00
51.3	Exhibits	1	L.S.	$550.00	$550.00
				Sub Total:	**$2,000.00**
52	**Permitting**				
52.1	Encroachment (County)	0	L.S.	$0.00	$0.00
52.2	SMARTS	0	L.S.	$2,500.00	$0.00
52.3	Utility Coordination	1	L.S.	$1,500.00	$1,500.00
52.4	Public Notice (Advertisement - Contractor)	1	L.S.	$1,500.00	$1,500.00
				Sub Total:	**$3,000.00**
53	**Mapping/Survey/ Research**				
53.1	Aerial Topographic Mapping	0	L.S.	$1,520.00	$0.00
53.2	Supplemental Topographic Survey	0	L.S.	$1,520.00	$0.00
53.3	Record Base Map Perparation	0	L.S.	$1,520.00	$0.00
53.4	Preliminary Design Report	0	L.S.	$1,520.00	$0.00
53.5	Potholing	1	L.S.	$1,500.00	$1,500.00
53.6	Title Report	0	L.S.	$1,000.00	$0.00
				Sub Total:	**$1,500.00**
54	**Plans, Specifications & Estimates (PS&E)**				
54.1	Plan Preparation	1	L.S.	$1,200.00	$1,200.00
54.2	Specifications	1	L.S.	$1,800.00	$1,800.00
54.3	Engineer's Cost Estimate	1	L.S.	$650.00	$650.00
				Sub Total:	**$3,650.00**
55	**City/County Processing & Coordination**				
55.1	Processing and Coordination	1	L.S.	$750.00	$750.00
				Sub Total:	**$750.00**
56	**Bid & Award**				
56.1	Administrative & Advertisements	1	L.S.	$1,500.00	$1,500.00
56.2	Bid Prep	1	L.S.	$1,400.00	$1,400.00
				Sub Total:	**$2,900.00**
57	**Geotechnical**				
57.1	Field Exploration & Data Collection	0	L.S.	$0.00	$0.00
57.2	Laboratory Testing & Analysis	0	L.S.	$0.00	$0.00
57.3	Draft & Final Report	0	L.S.	$0.00	$0.00
				Sub Total:	**$0.00**
58	**Project Close-Out**				
58.1	Field As-Builts	1	L.S.	$500.00	$500.00
58.2	Engineering As-Builts & GIS	1	L.S.	$1,200.00	$1,200.00

BEAUMONT-CHERRY VALLEY WATER DISTRICT

REPLACEMENT PIPELINE CONSTRUCTION COST ESTIMATE

Replacement Pipeline P-2750-0064 - 8" DIP - Antonell Court (Pennsylvania to Cherry)

ITEM NO.	DESCRIPTION	QTY	UNIT	ENGINEER'S ESTIMATE	
				UNIT PRICE	TOTAL
58.3	Administration	1	L.S.	$1,200.00	$1,200.00
58.4	Project Management & Reporting	1	L.S.	$1,200.00	$1,200.00
				Sub Total:	**$4,100.00**
SUBTOTAL OTHER COSTS ESTIMATE (SOFT COSTS)					**$17,900.00**
OTHER COSTS CONTINGENCY (15%) (SOFT COSTS)					**$2,685.00**
TOTAL OTHER COSTS ESTIMATE AND CONTINGENCY (SOFT COSTS)					**$20,585.00**
LAND ACQUISTION					**$0.00**
TOTAL PIPELINE NO. 1A CONSTRUCTION ESTIMATE AND CONTINGENCIES					**$199,974.71**