

# ARCADIA RIDGE PHASE 1 - UNIT 4B-2

BEXAR COUNTY, TEXAS

## WATER IMPROVEMENTS PLAN OF RECORD

### GENERAL WATER NOTES

- All materials and construction procedures within the scope of this project shall be approved by the San Antonio Water System (SAWS) and comply with the following as applicable:
    - Current "San Antonio Water System Standard Specifications for Construction"
    - Current "San Antonio Water System Utility Service Regulations"
    - Current City of San Antonio "Standard Specifications for Public Works Construction"
    - Current TxDOT "Standard Specification for Construction of Highways, Streets and Drainage"
    - Current City of San Antonio "Right - Of - Way Ordinance and Criteria Manual".
  - The Contractor shall not proceed with any pipe installation work until they obtain a copy of the approved G.C.P. from the Consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements.
  - The locations and depths of existing utilities, including service laterals, and drainage structures shown on the plans are approximate only. The Contractor shall verify the exact location and depths of underground utilities at least 48 hours prior to construction whether shown on plans or not, and to protect the same during construction.
- |   |                |
|---|----------------|
| San Antonio Water System (Water, Sewer & Recycle Water) | 210-233-2010   |
| COSA Drainage   | 210-207-8200   |
| City Sidewalk and Trenching Division                    | 210-821-3240   |
| COSA Traffic Signal Operations                          | 210-207-7765   |
| Texas State Wide One Call Locator                       | 1-800-545-6005 |
| City Public Service                                     | -              |
| AT & T  | -              |
| Time Warner   | -              |
| Valero Energy Co.                                       | -              |
- No meter boxes to be set in driveways. Any meter boxes set in driveways will be relocated at contractor's and/or Developer's expense.
  - The Contractor shall be responsible for restoring to its original or better condition from damage done to existing fences, curbs, streets, driveways, landscaping and structures.
  - The Contractor shall avoid cutting roots larger than one inch in diameter when excavating near existing trees. Excavation in vicinity of trees shall proceed with caution. The Contractor shall contact the City Arborist at 207-8053 and the SAWS construction inspector for guidance.

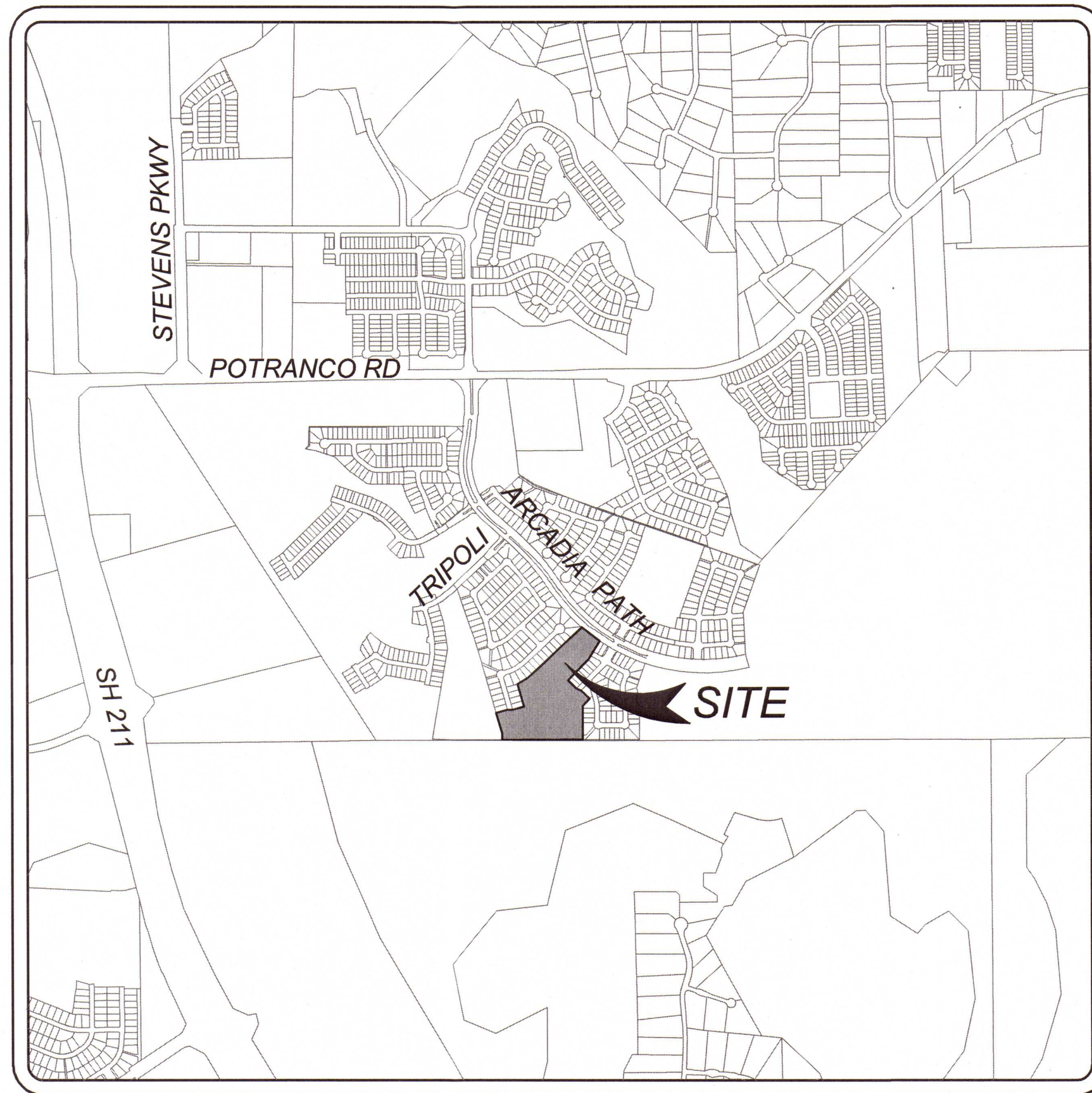
### SUPPLEMENTARY NOTES

- No extra-payment shall be allowed for work called for on the plans but not included on the bid schedule. This incidental work will be required and shall be included under the pay item to which it relates.
- The Developer dedicates the water mains upon completion by the Developer and acceptance by the San Antonio Water System. The San Antonio Water System will own and maintain said water mains which are located within this particular subdivision. (As applicable)
- Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation safety protection that complies with as a minimum, OSHA Standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA Standards governing the presence and activities of individuals working in and around trench excavation.
- WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE NOTICE TO PROCEED WITH THE SAN ANTONIO WATER SYSTEM CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
- The contractor will keep the area on top of and around the water meter box free of all objects and debris.
- Water System to be completely restrained. Restrained length calculations are for P.V.C. Pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note: These calculations are provided for reference. The restrained lengths shall be designed base upon the conditions encountered during the installation. See SAWS Specification Book

### ADDITIONAL WATER NOTES

- All valves shall read "open right"
- Lead Free Fire Hydrants:  
"SAWS require GCPs and counter permits to use lead free (< 0.25% lead) fire hydrants."
- PRVs Required:  
Contractor to verify that no portion of the tract is below ground elevation of 765 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 765 feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if PRV is required for such lot(s); only single service connections shall be allowed. \*Note: A pressure regulator is also known as a pressure reducing valve (PRV).
- 98% COMPACTION NOTE:  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item #847):  
Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.
- Spills, Overflows, or Discharges of Wastewater:  
Attention Contractors: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to your counter permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge - regardless of size. Your compliance will enable SAWS to fulfill regulatory reporting requirements.  
  
It is the Contractor's responsibility to control sewer flows so that a spill overflow, or discharge does not occur. In the event that a spill, overflows, or discharge occurs, the Contractor may liable for:
  - All fines, penalties, or other costs assessed to or against SAWS by any State, Federal, or other governmental agency.
  - SAWS staff and material costs to respond to the spill, overflow, or discharge, or to mitigate the effects of the spill, overflow, or discharge, or to support the cleanup effort.
  - All damages caused to SAWS, or any other persons or entities that result from the spill, overflow or discharge.
- Fire Hydrants within DSP Areas (former Bexar Metropolitan Water District areas):  
Fire hydrants shall be painted with appropriate SAWS colors.
- Back Flow Prevention Devices for Residential Subdivisions:  
All irrigation services within residential areas are required to have back flow prevention devices.



## LOCATION MAP

N.T.S.

OWNER/DEVELOPER:  
CTMGT RANCHO DEL LAGO, LLC  
1800 VALLEY VIEW LANE, SUITE 300  
FARMERS BRANCH, TX 75234  
PHONE: (469) 892-7200

## INDEX

DESCRIPTION	SHEET NO.
WATER IMPROVEMENT COVER SHEET	7.0
WATER DISTRIBUTION PLAN	7.1
WATER DETAIL SHEET	7.2

6" DI F.H.	8" PVC (C-900)	8" DI
1' 103' 24"	4'	
1.5' 24' 108.5'		
1' 16' 14'		
1' 84' 14'		
1' 393' 52'		
1.5' 115' 9'		
1' 26' 4.5'		
1' 73' 145'		
1' 26.5' 3.5'		
1.5' 63' 13'		
1' 41' 5'		
1' 13.5' 83.5'		
1' 7' 15.5'		
1.5' 66' 14'		
1' 126' 123'		
1' 25' 41'		
1' 56' 27.5'		
1.5' 25' 66'		
1' 13' 27'		
1' 6' 8.5'		
**		*
17.5 L.F.	2100.5 L.F.	4 L.F.

\* DI PIPE PAID AS PVC

\*\* NON PAY ITEM



### "PLAN OF RECORD"

I HEREBY CERTIFY THAT THIS PLAN OF RECORD IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND WAS PREPARED UNDER MY SUPERVISION.

NOTE: INFORMATION FOR PLAN OF RECORD DRAWING WAS PROVIDED TO KFW ENGINEERS BY THE CONTRACTOR AND WAS NOT BASED ON SURVEYED DATA.

ARCADIA RIDGE PHASE 1, UNIT 4B-2 PLAN OF RECORD MATERIAL LIST	
CONTRACTOR: SACC, INC.	
S.A.W.S. INSPECTOR: RICK CARASU	
FIELD ACCEPTANCE DATE: 12/21/2018	
ITEM	MANUFACTURING
PIPE	NORTH AMERICAN
VALVE	AMERICAN FLOW CENTRAL
FITTINGS	TYLER
HYDRANTS	AMERICAN FLOW CENTRAL

# KFW

ENGINEERS + SURVEYING

3421 Paessanos Pkwy Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-8444 • Fax #: (210) 979-8441  
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

### SAWS PRESSURE ZONE 1080

DEVELOPER'S NAME: CTMGT RANCHO DEL LAGO, LLC			
DEVELOPER'S ADDRESS: 1800 VALLEY VIEW LANE, SUITE 300			
CITY: FARMERS BRANCH	STATE: TEXAS	ZIP: 75234	
PHONE#: (469) 892-7200	FAX#: N/A	TOTAL ACREAGE: 15.47 AC.	
SAWS BLOCK MAP#: 076574		TOTAL EDU'S: 66.5	
TOTAL LINEAR FOOTAGE OF PIPE: 2104.5 L.F. ~ 8"		PLAT NO.: 170303	
NUMBER OF LOTS: 65	SAWS JOB#: 17-1059		

PLAT NO. 170303

SHEET 7.0

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.



# WATER PLAN NOTES:

1. ALL PVC PIPE 8" TO BE C-900 DR 18 CLASS 150.
2. FOR TYPICAL STREET SECTIONS SEE DETAIL THIS SHEET.
3. FOR ADDITIONAL WATER NOTES AND DETAILS SEE SHEET 7.0 & 7.2
4. WATER METER BY LOCATIONS ARE SHOWN SYMBOLICALLY TO SERVICE THE LOTS BUT SHALL BE LOCATED IN ACCORDANCE WITH THE STANDARD WATER DETAILS, SEE SHEET 7.2
5. WHERE WATER SERVICES AND LIGHT POLE FOUNDATIONS ARE PROPOSED TO BE AT THE SAME LOT CORNERS, SERVICE TAPS AND LEADS SHOULD BE AT LEAST 3 FEET FROM THE LIGHT POLE FOUNDATION.
6. ALL VALVES SHALL READ "OPEN RIGHT"
7. FOR PRV DETAIL SEE SHEET 7.2 DETAIL DD-833-03

## BACK FLOW PREVENTION DEVICES FOR RESIDENTIAL SUBDIVISIONS:

ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACK FLOW PREVENTION DEVICES.

## SAWS NOTE:

"SAWS REQUIRES GCPs AND COUNTER PERMIT TO USE LEAD FREE (+0.25% LEAD) FIRE HYDRANTS."

## WATER/SEWER CROSSING NOTE:

ALL WATER/SEWER CROSSINGS SHALL COMPLY WITH 30 TAC 217.53(d) AND 290.44(e) AS PER DETAIL THIS SHEET.

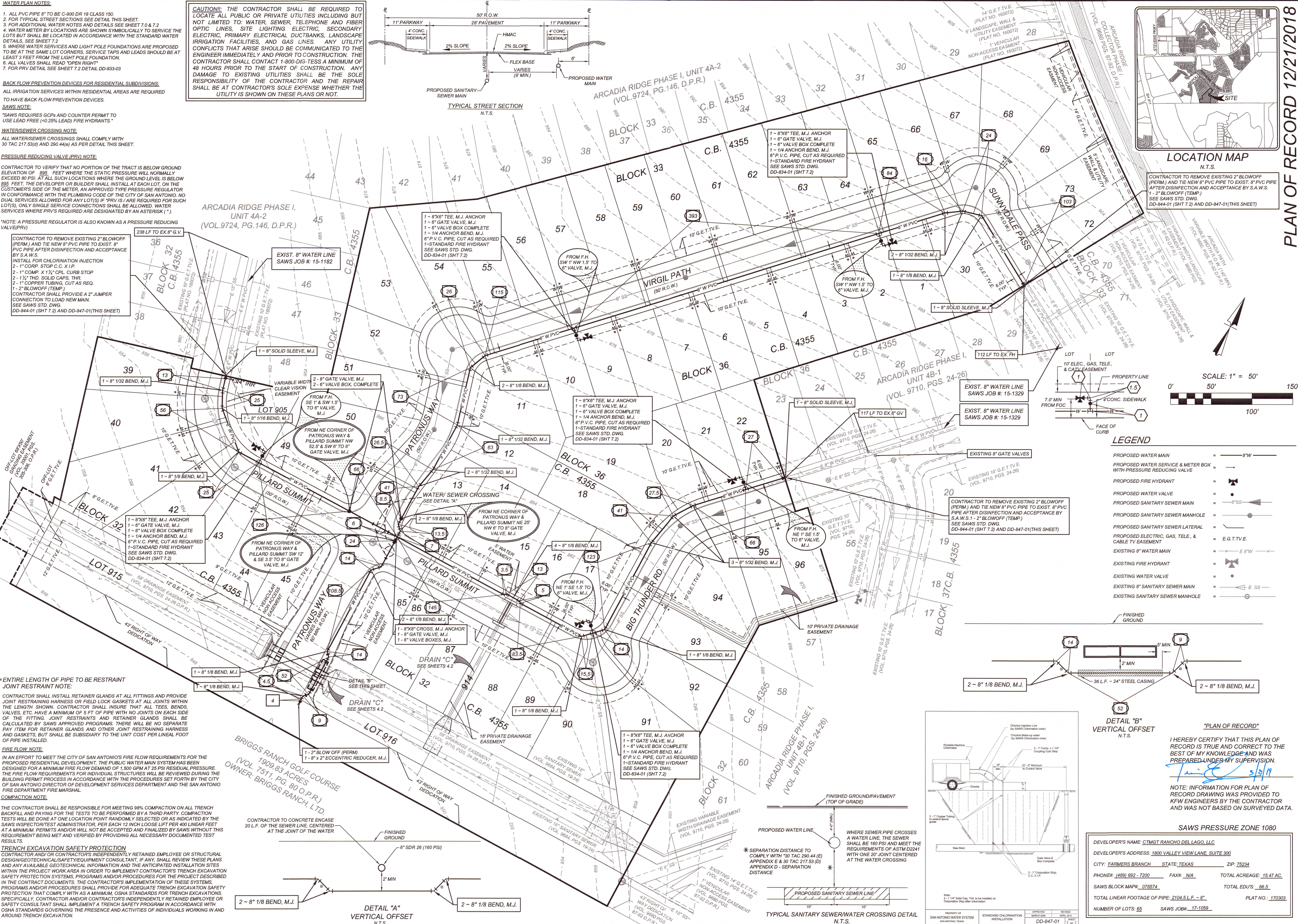
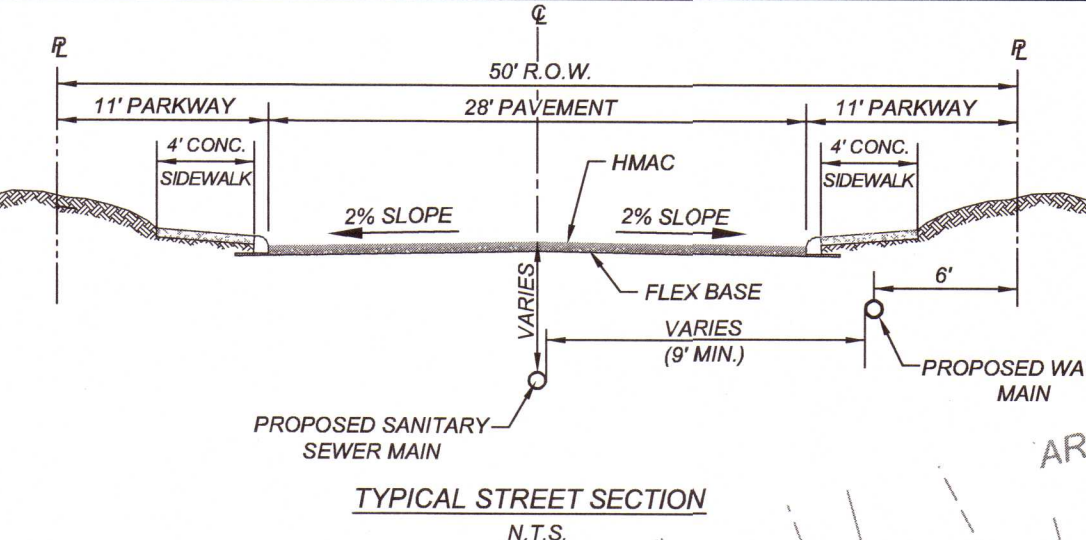
## PRESSURE REDUCING VALVE (PRV) NOTE:

CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 895 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 895 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF "PRV IS" ARE REQUIRED FOR SUCH LOT(S). ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. WATER SERVICES WHERE PRVs ARE REQUIRED ARE DESIGNATED BY AN ASTERISK (\*).

\*NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV)

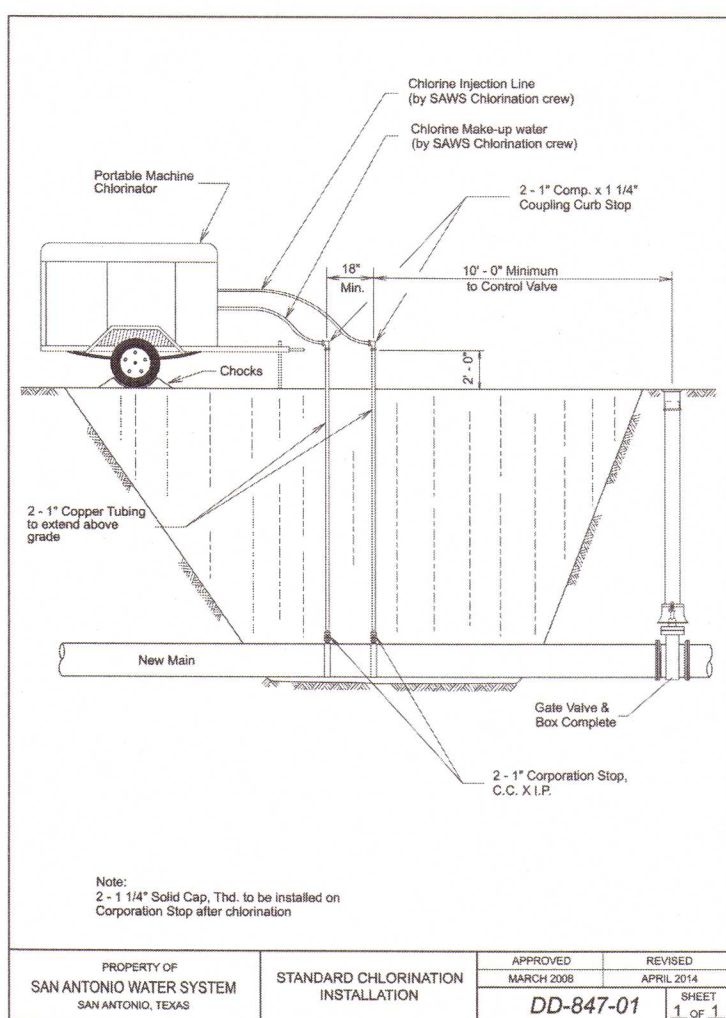
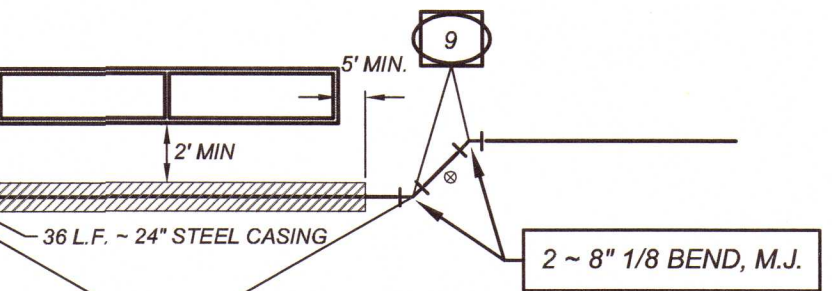
CONTRACTOR TO REMOVE EXISTING 2" BLOWOFF (PERM) AND THE NEW 8" PVC PIPE TO EXIST. 8" PVC PIPE AFTER DISINFECTION AND ACCEPTANCE BY S.A.W.S. INSTALL FOR CHLORINATION INJECTION  
2 - 1" CORR. STOP C.C. X 1/2"  
2 - 1" COMP. X 1/2" CPL. CURB STOP  
2 - 1/4" THD. SOLID CAPS, THR.  
2 - 1" COPPER TUBING, CUT AS REQ.  
1 - 2" BLOWOFF (TEMP.)  
CONTRACTOR SHALL PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN.  
SEE SAWS STD. DWG. DD-844-01 (SHT 7.2) AND DD-847-01 (THIS SHEET)

**CAUTION!!** THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



**LEGEND**

PROPOSED WATER MAIN	= 8"W
PROPOSED WATER SERVICE & METER BOX WITH PRESSURE REDUCING VALVE	= 1"
PROPOSED FIRE HYDRANT	= 4"
PROPOSED WATER VALVE	= 8"
PROPOSED SANITARY SEWER MAIN	= 8"SS
PROPOSED SANITARY SEWER MANHOLE	= 48"
PROPOSED SANITARY SEWER LATERAL	= E.G.T.T.V.E.
PROPOSED ELECTRIC, GAS, TELE, & CABLE TV EASEMENT	= E.G.T.T.V.E.
EXISTING 8" WATER MAIN	= 8"W
EXISTING FIRE HYDRANT	= 4"
EXISTING WATER VALVE	= 8"
EXISTING 8" SANITARY SEWER MAIN	= 8"SS
EXISTING SANITARY SEWER MANHOLE	= 48"
FINISHED GROUND	= ---



**"PLAN OF RECORD"**

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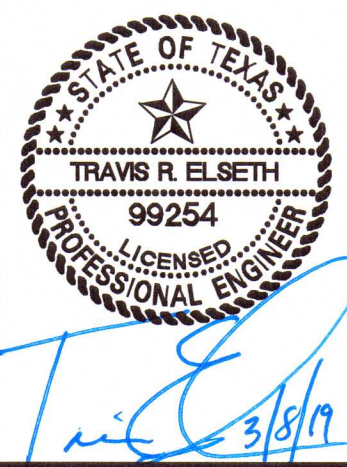
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**SAWS PRESSURE ZONE 1080**

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CITY: FARMERS BRANCH STATE: TEXAS ZIP: 75234	PHONE#: (469) 892-7200 FAX#: N/A
SAWS BLOCK MAP#: 076574	TOTAL ACRES: 15.47 AC.
TOTAL LINEAR FOOTAGE OF PIPE: 2104.5 L.F. - 8"	PLAT NO.: 170303
NUMBER OF LOTS: 65	SAWS JOB#: 17-1059

PLAN OF RECORD 12/21/2018

**KFW**  
ENGINEERS + SURVEYING  
2421 Patterson Freeway, Suite 200, San Antonio, Texas 78217  
Tel: 210.491.7993 • Fax: 210.491.7994 • TBP#S Firm #: 10123300



**ARCADIA RIDGE PHASE 1, UNIT - 4B-2**  
BEXAR COUNTY, TX

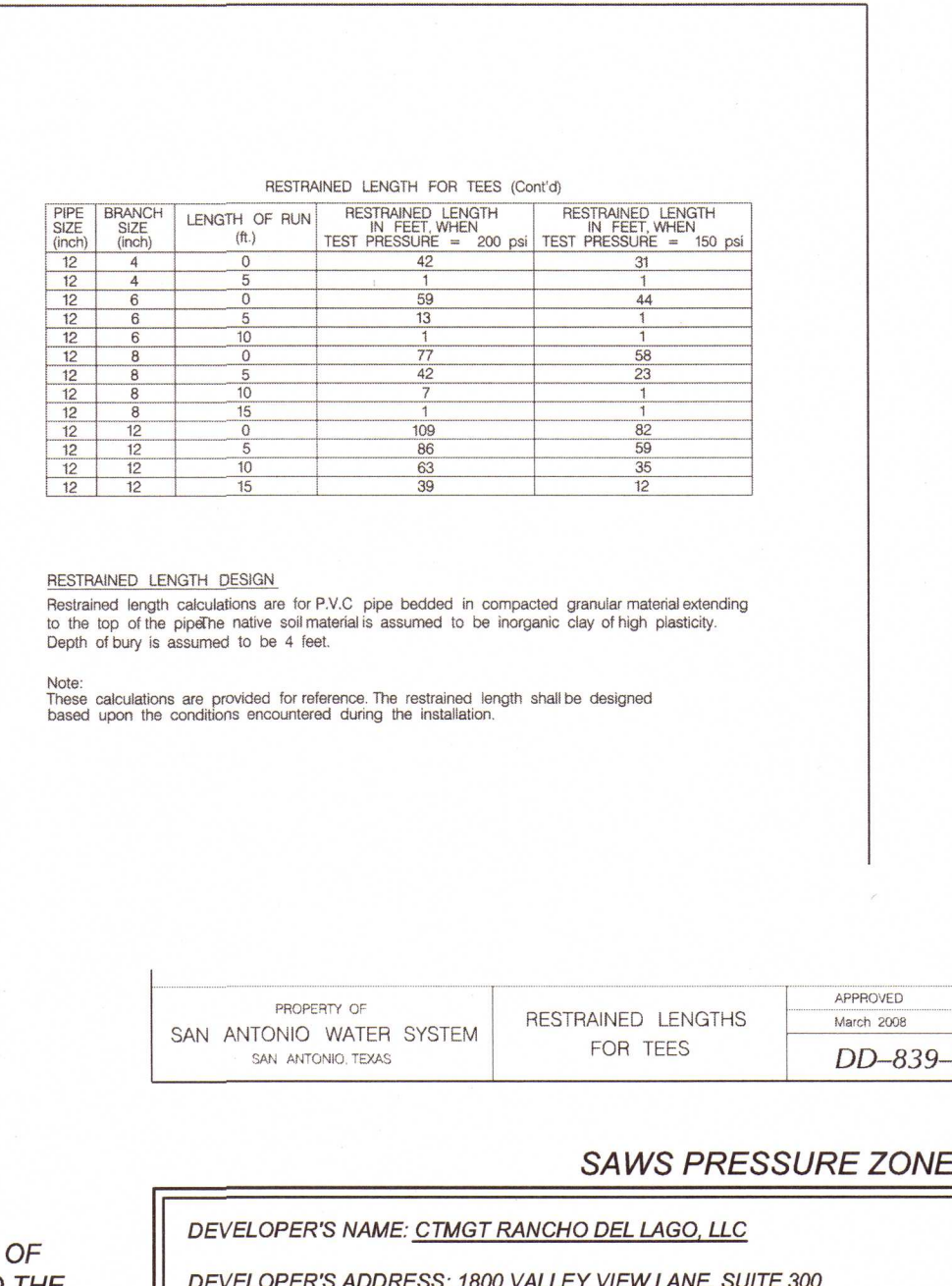
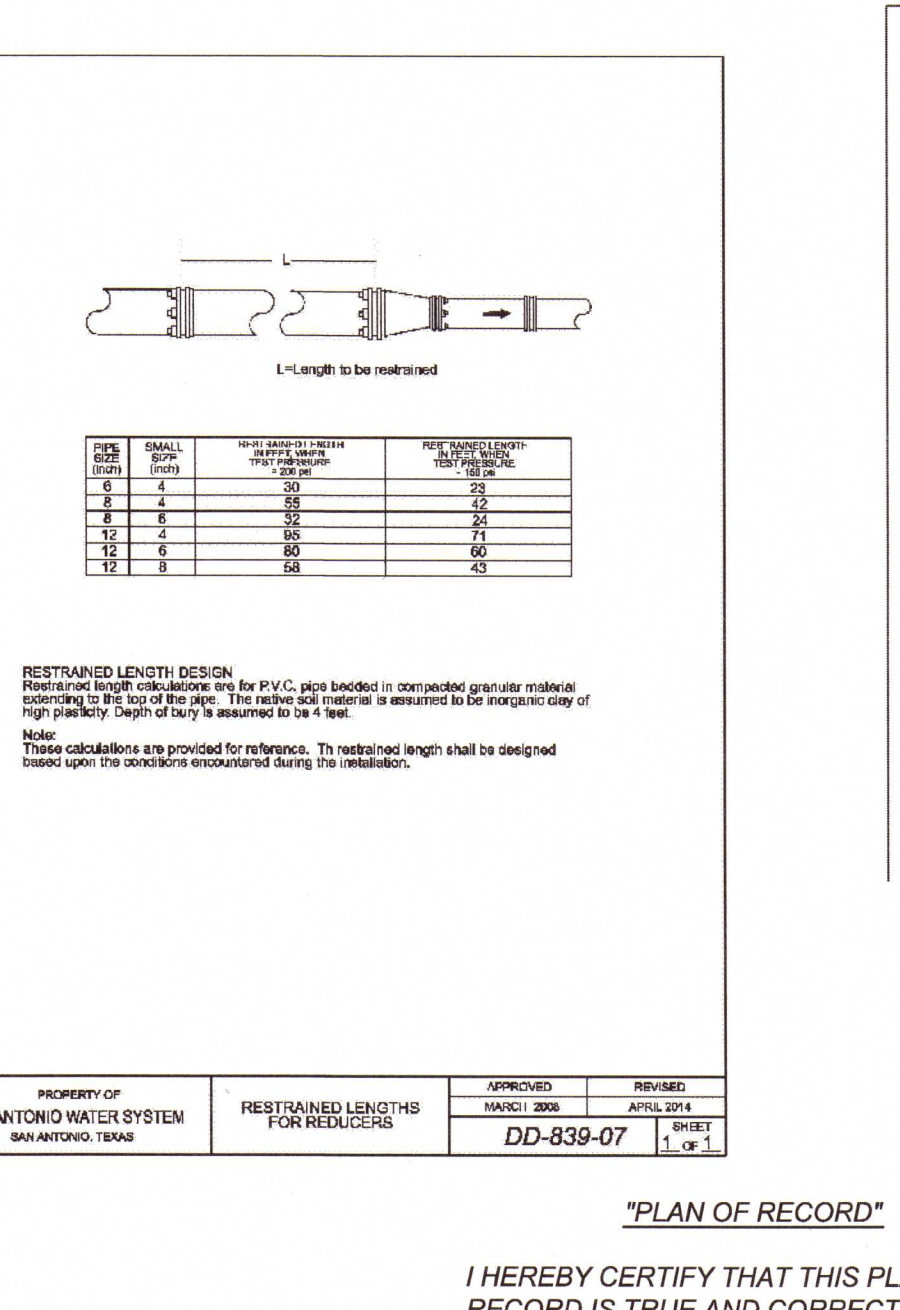
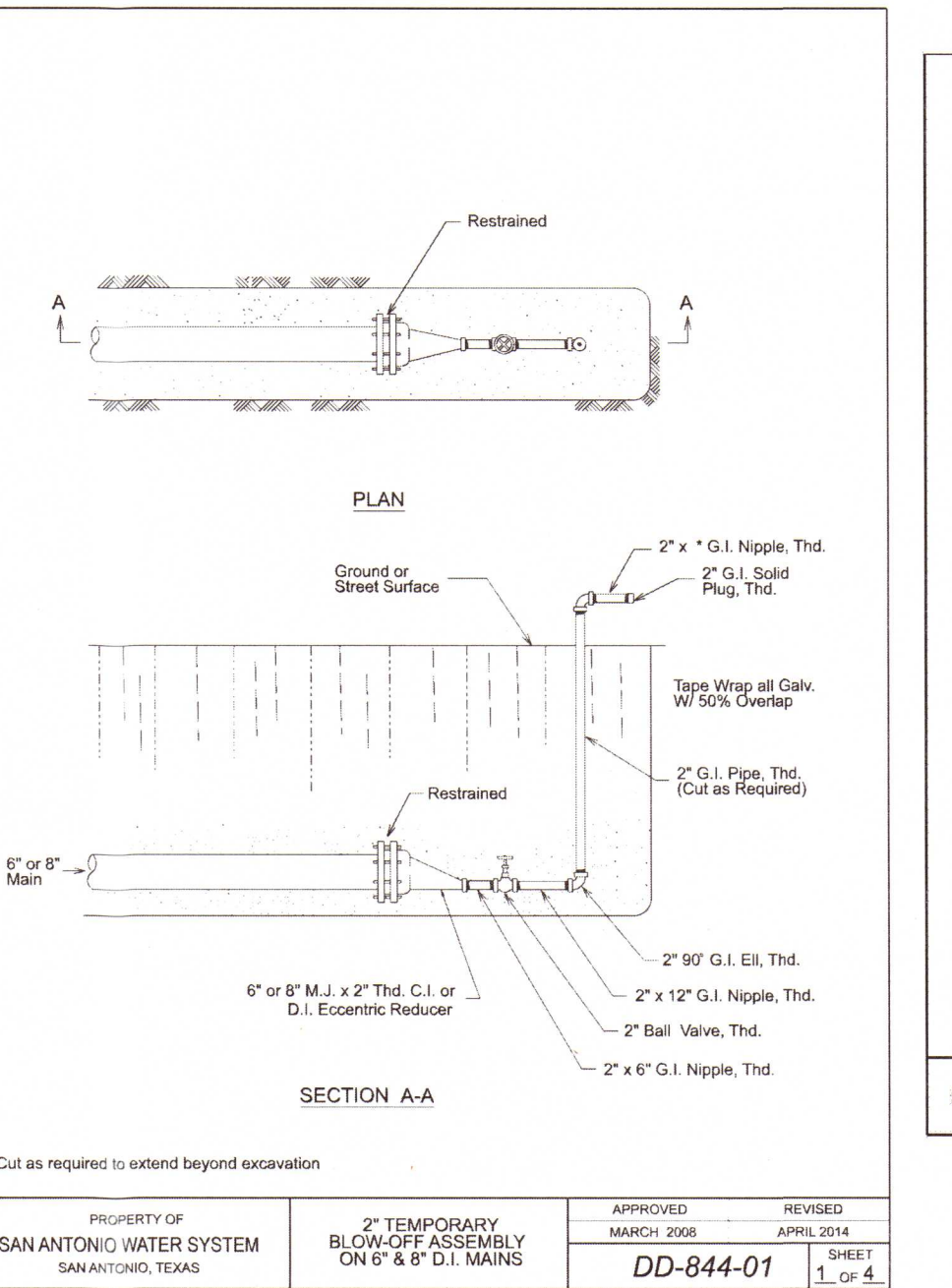
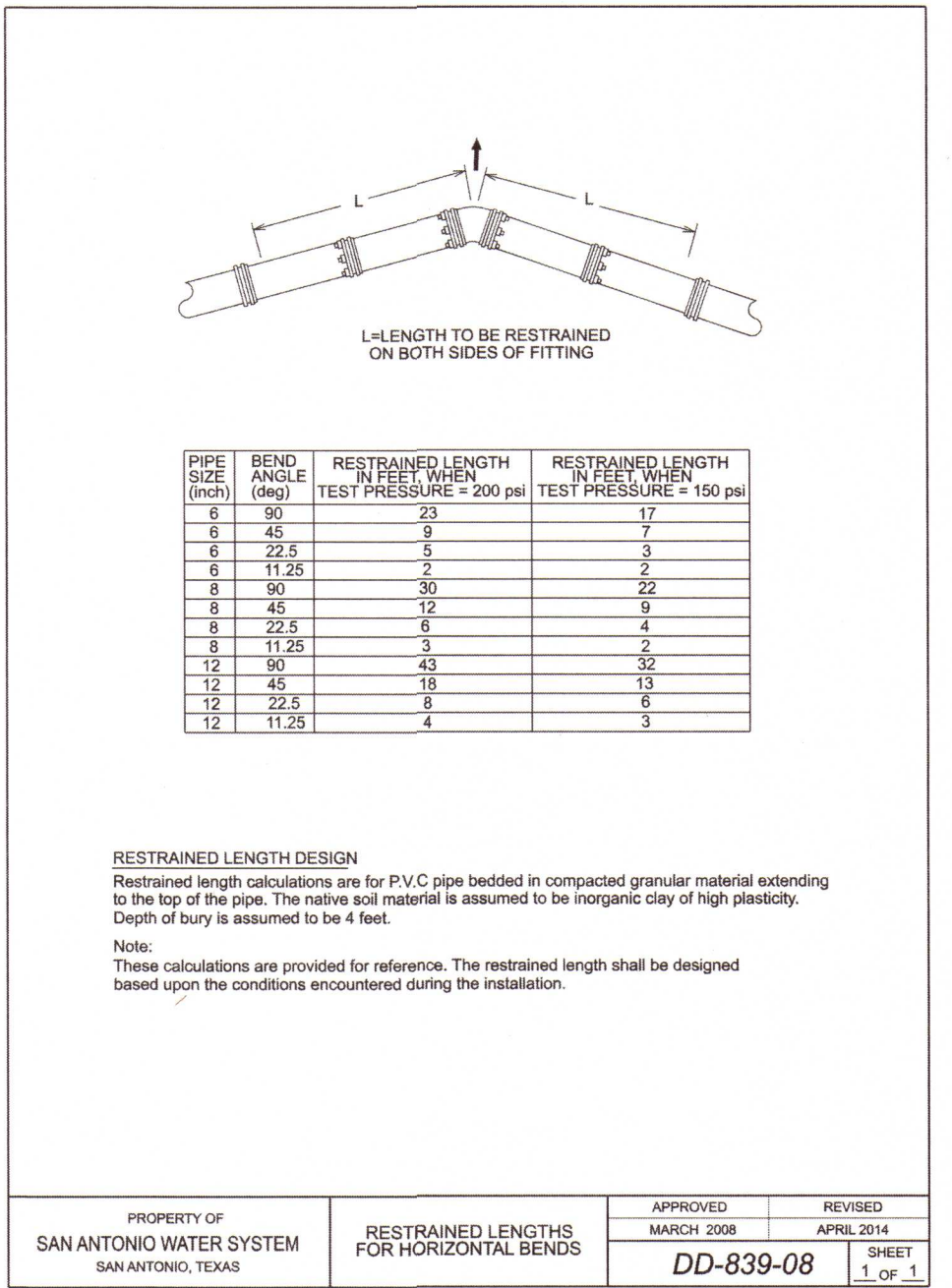
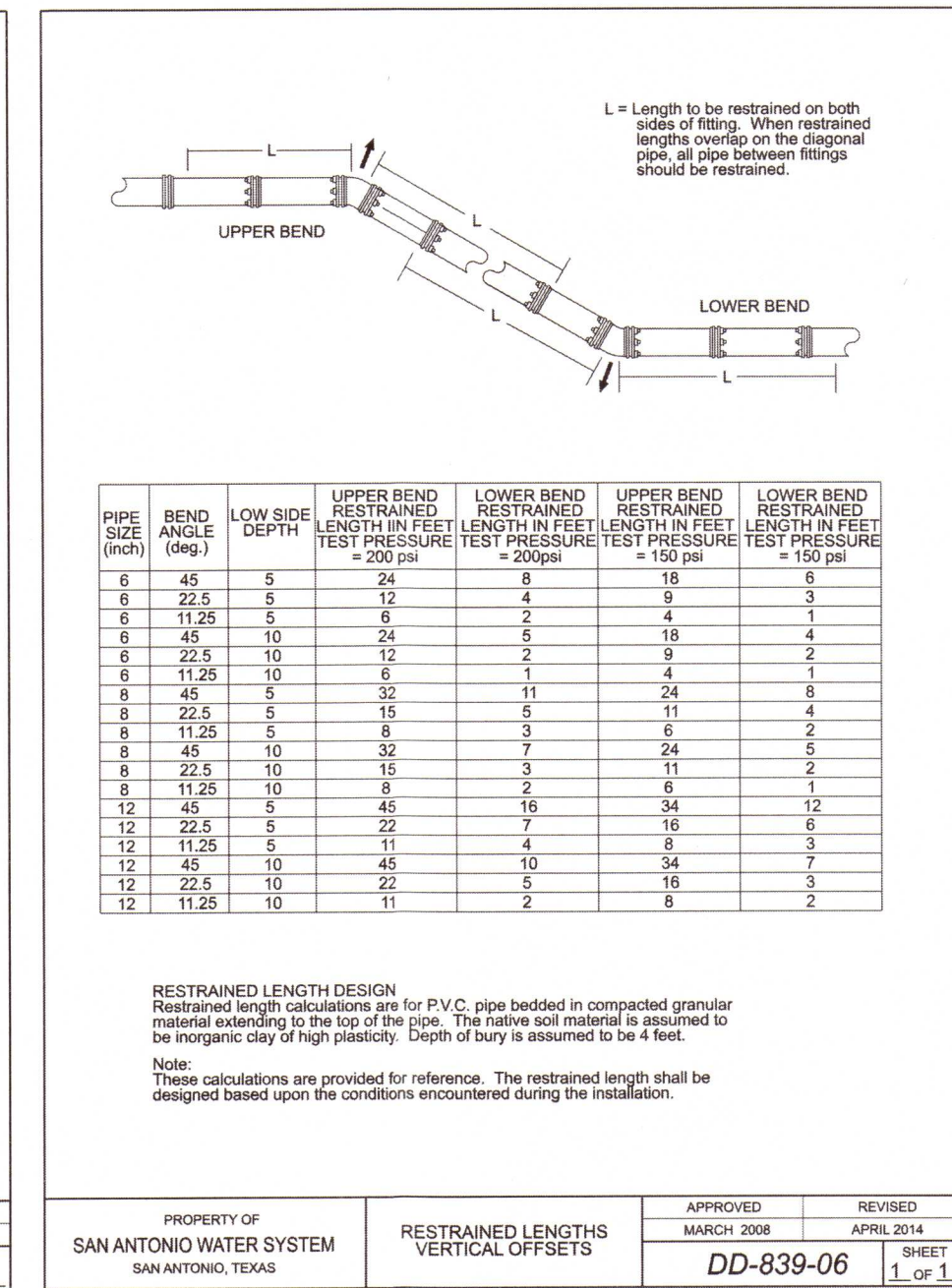
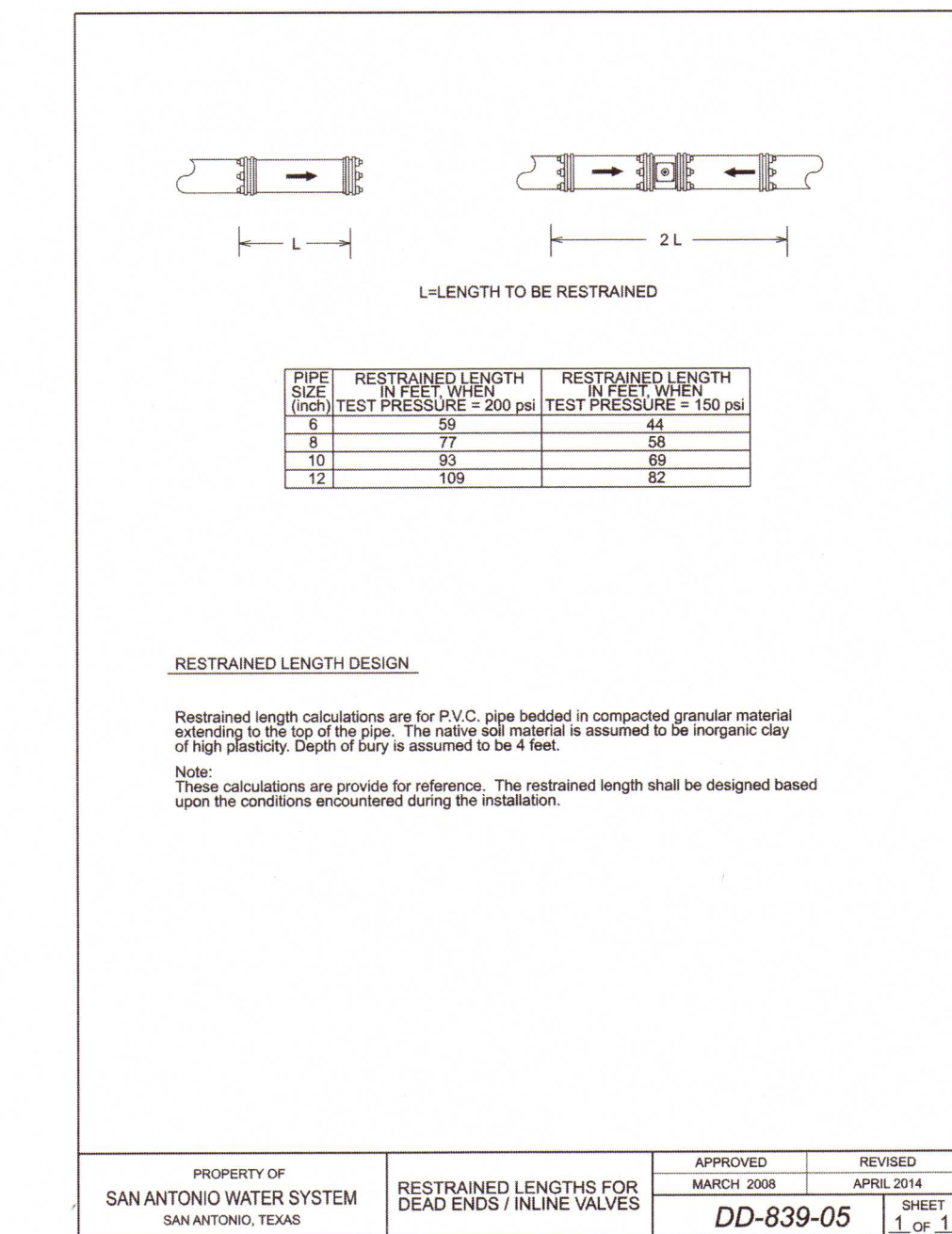
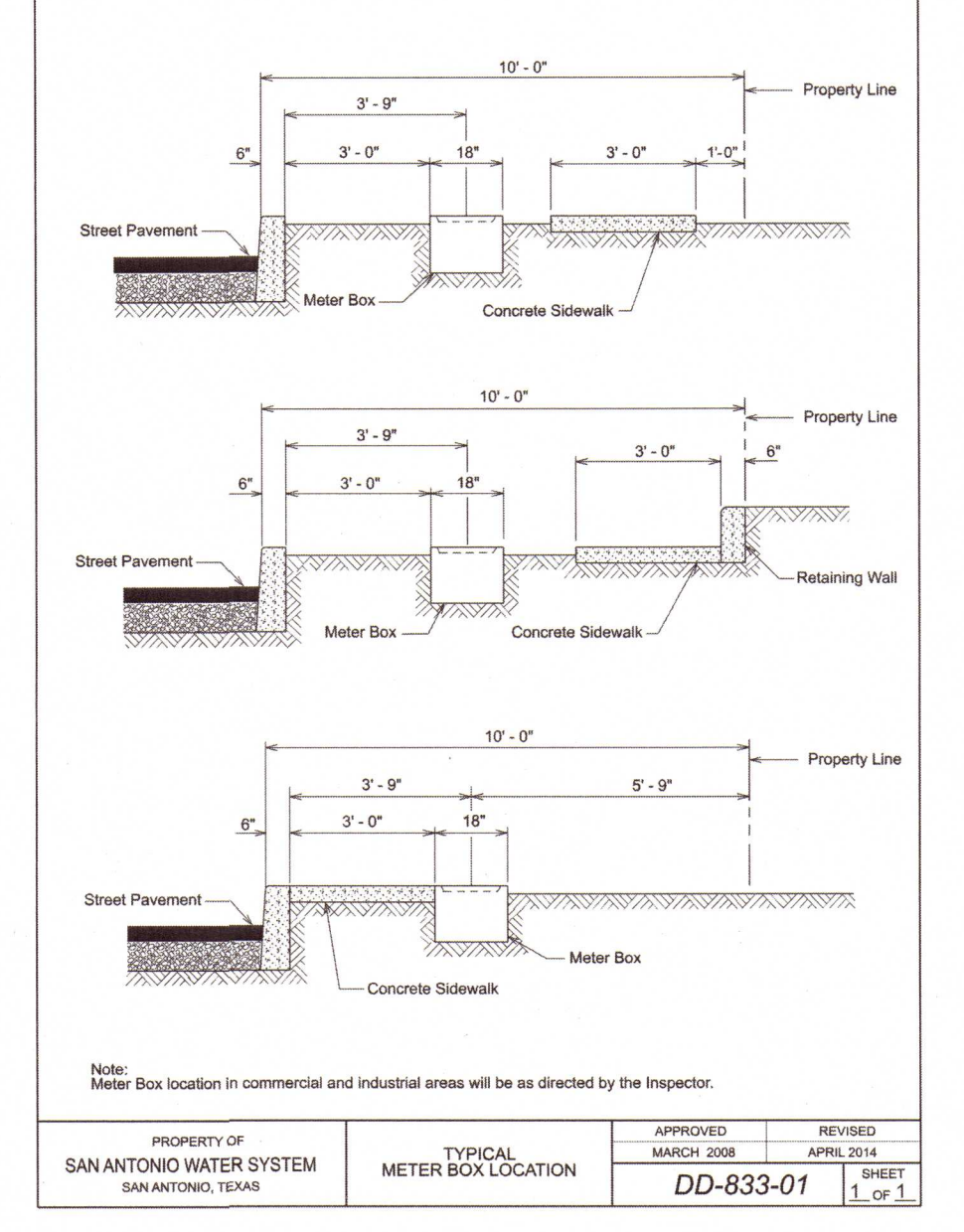
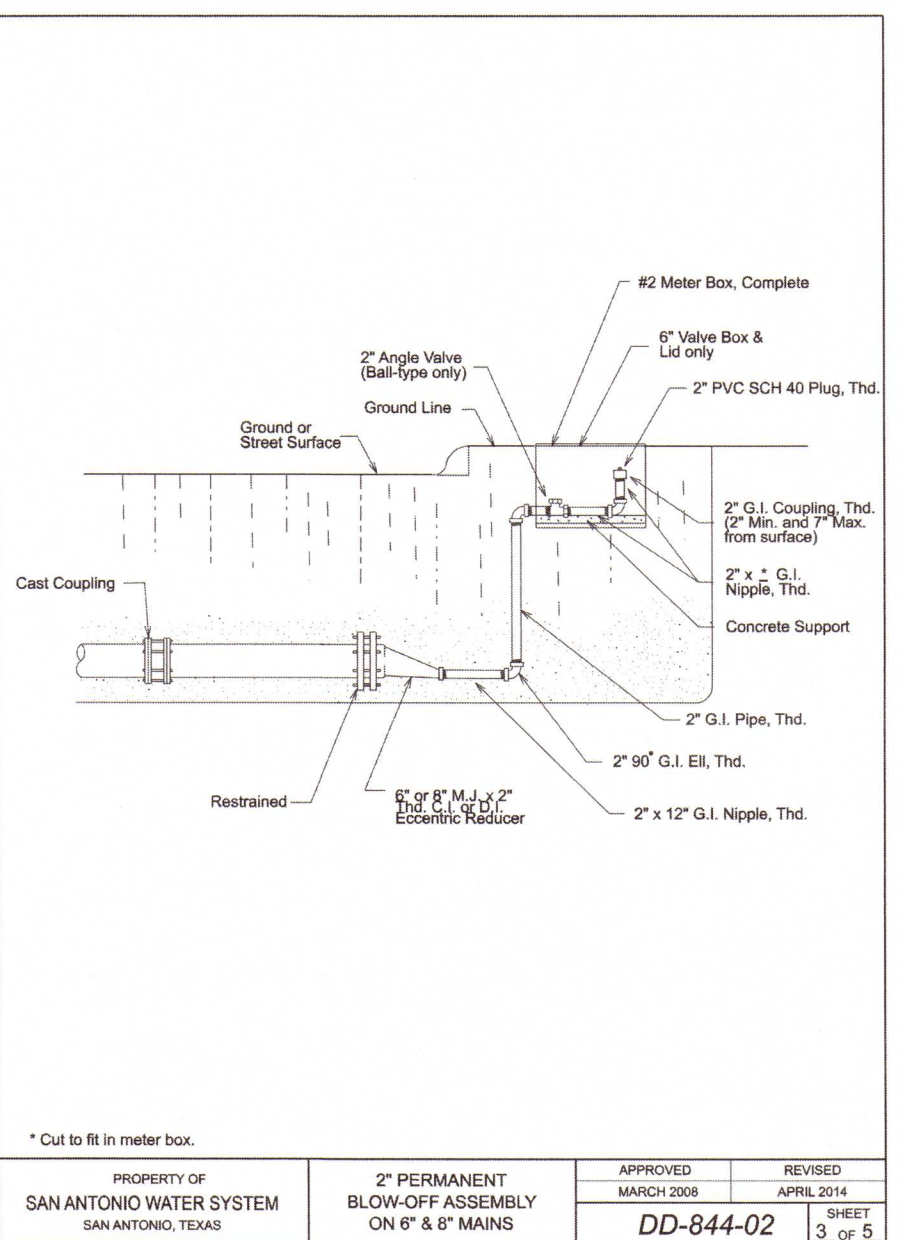
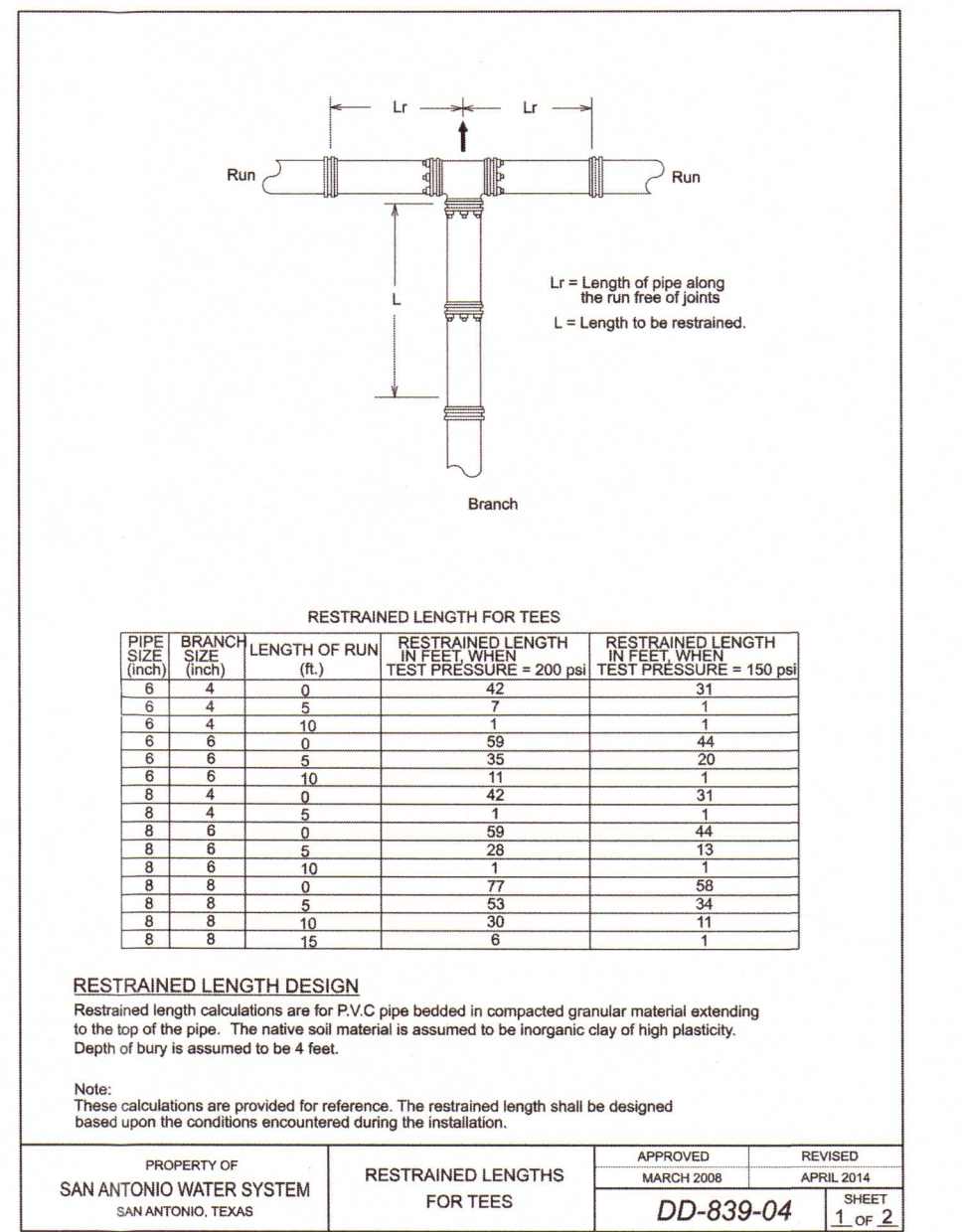
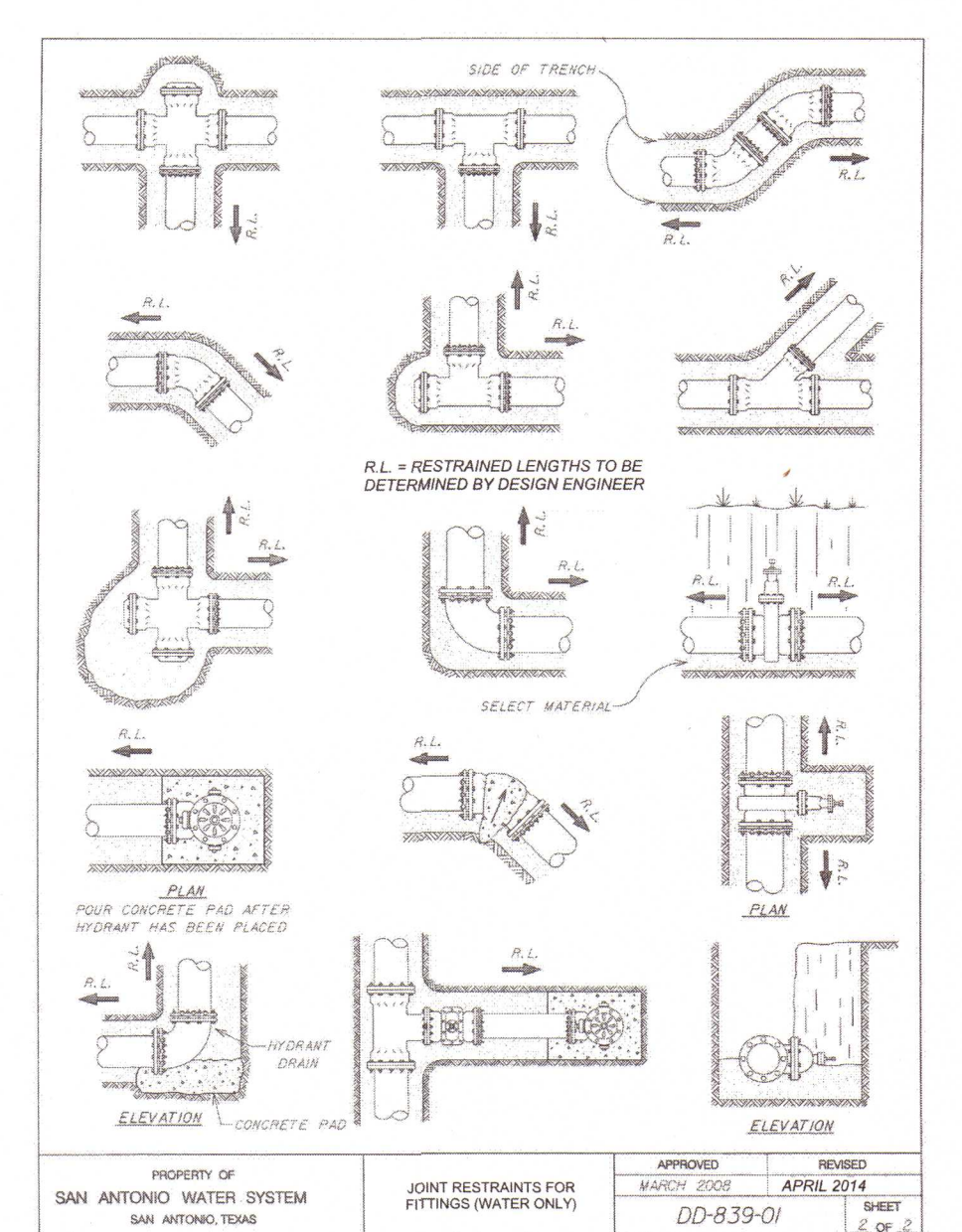
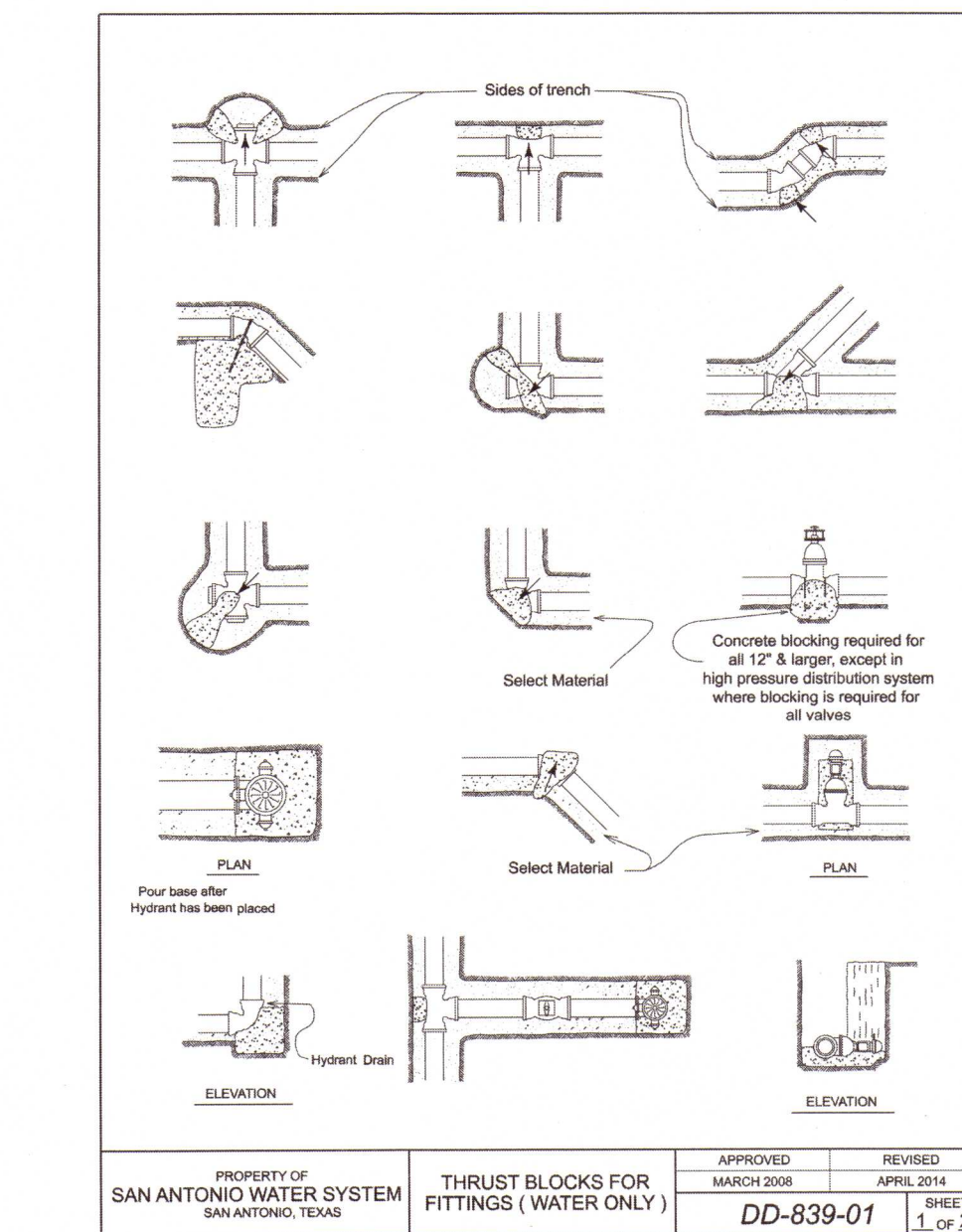
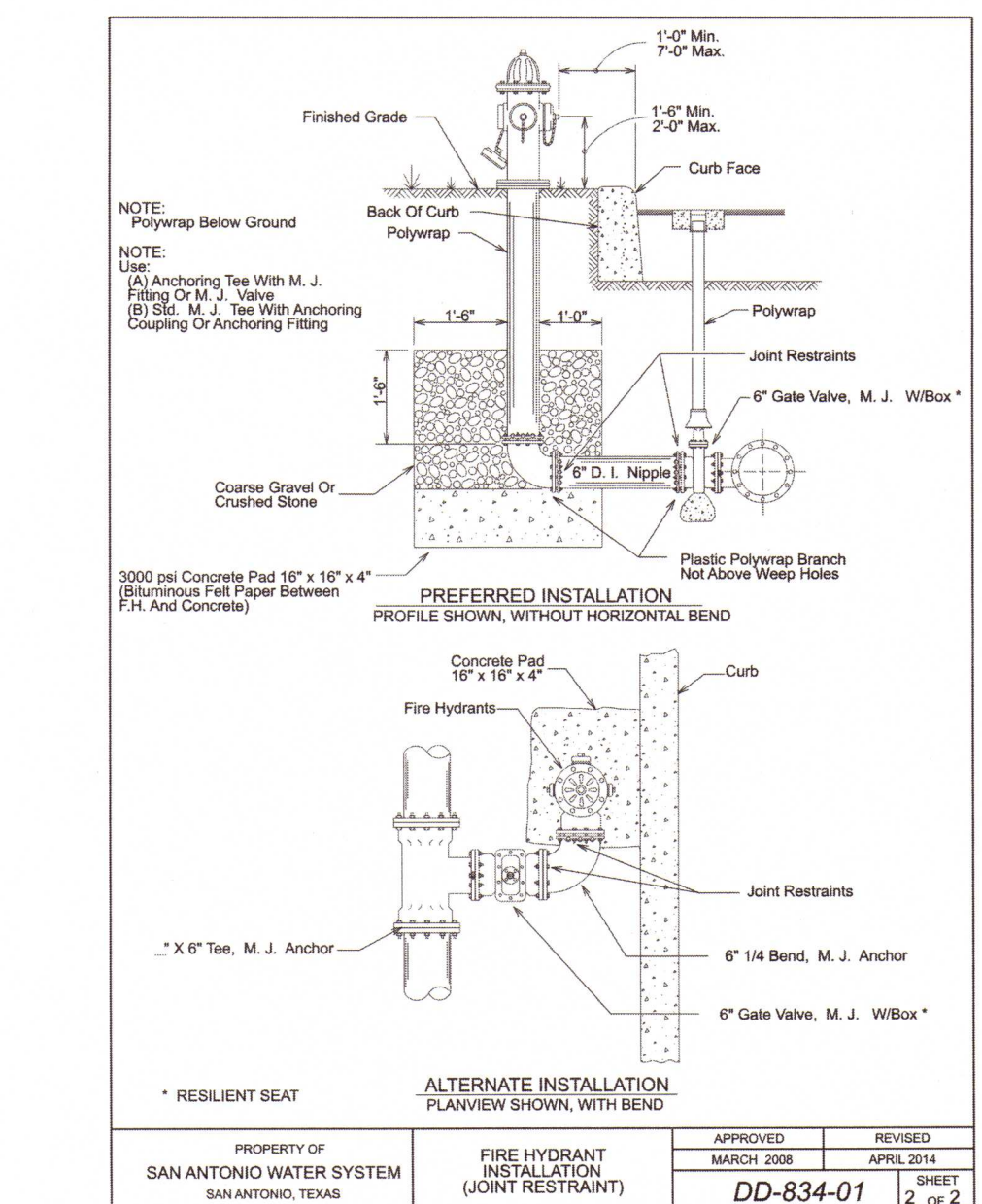
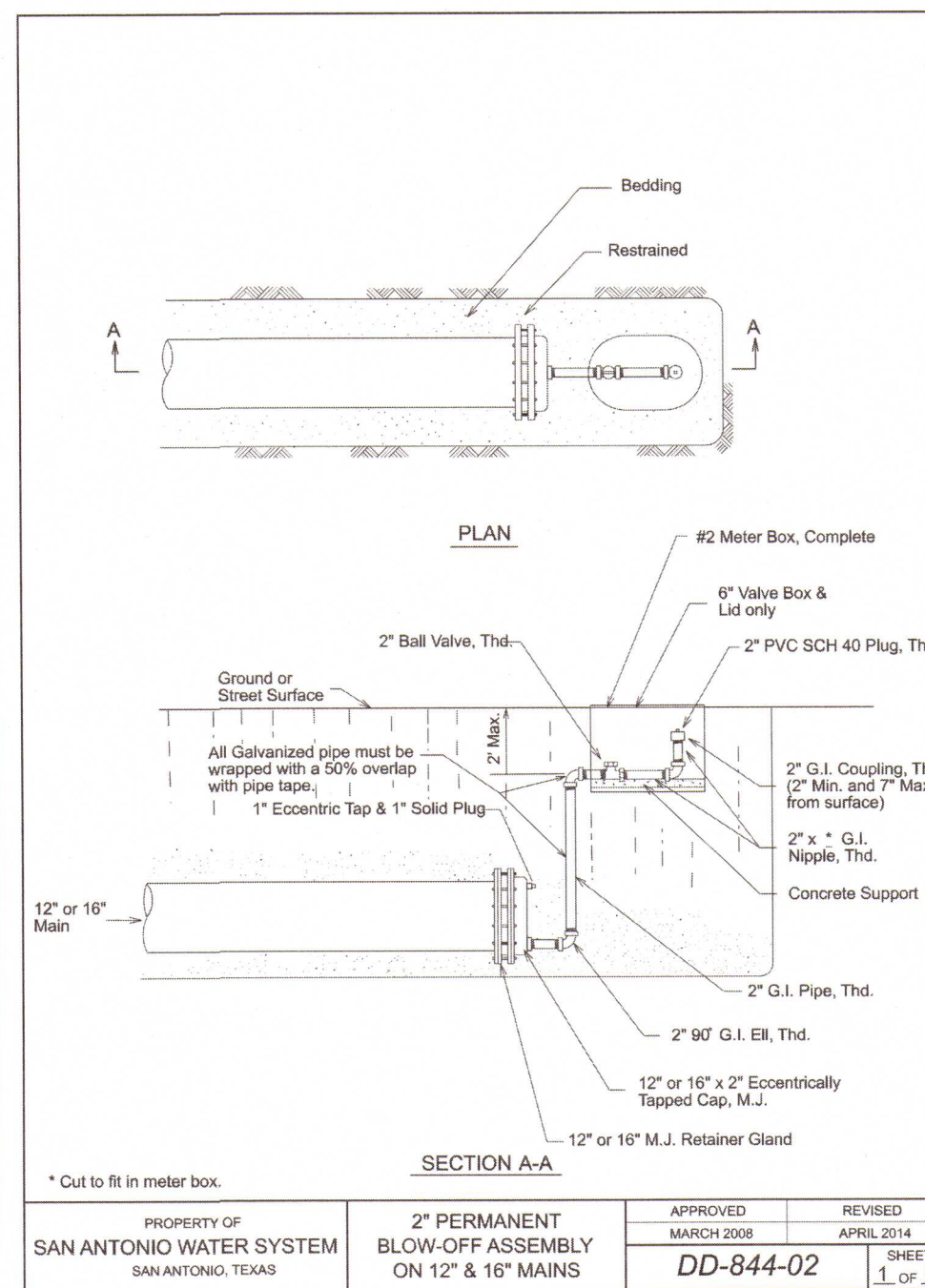
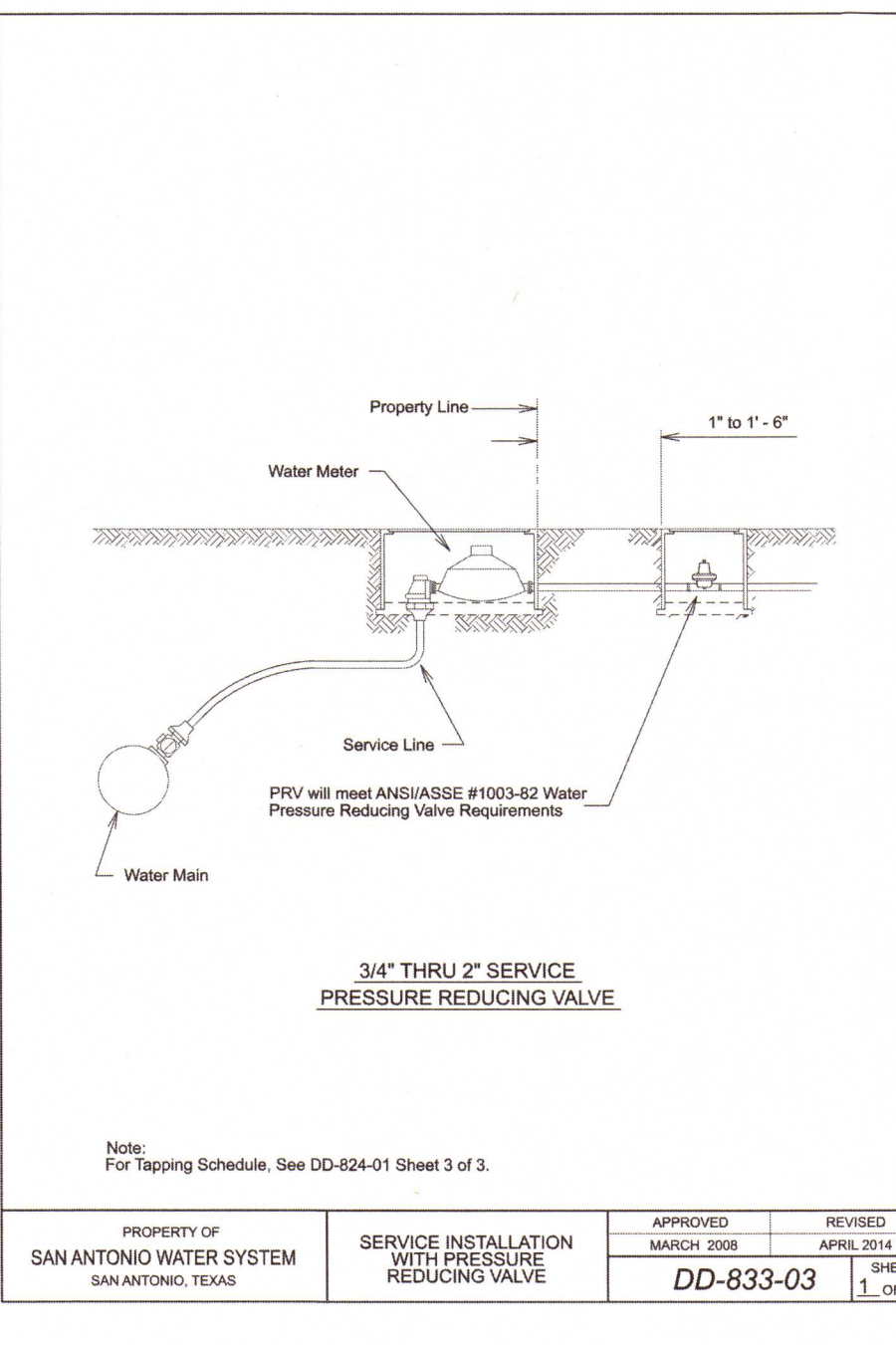
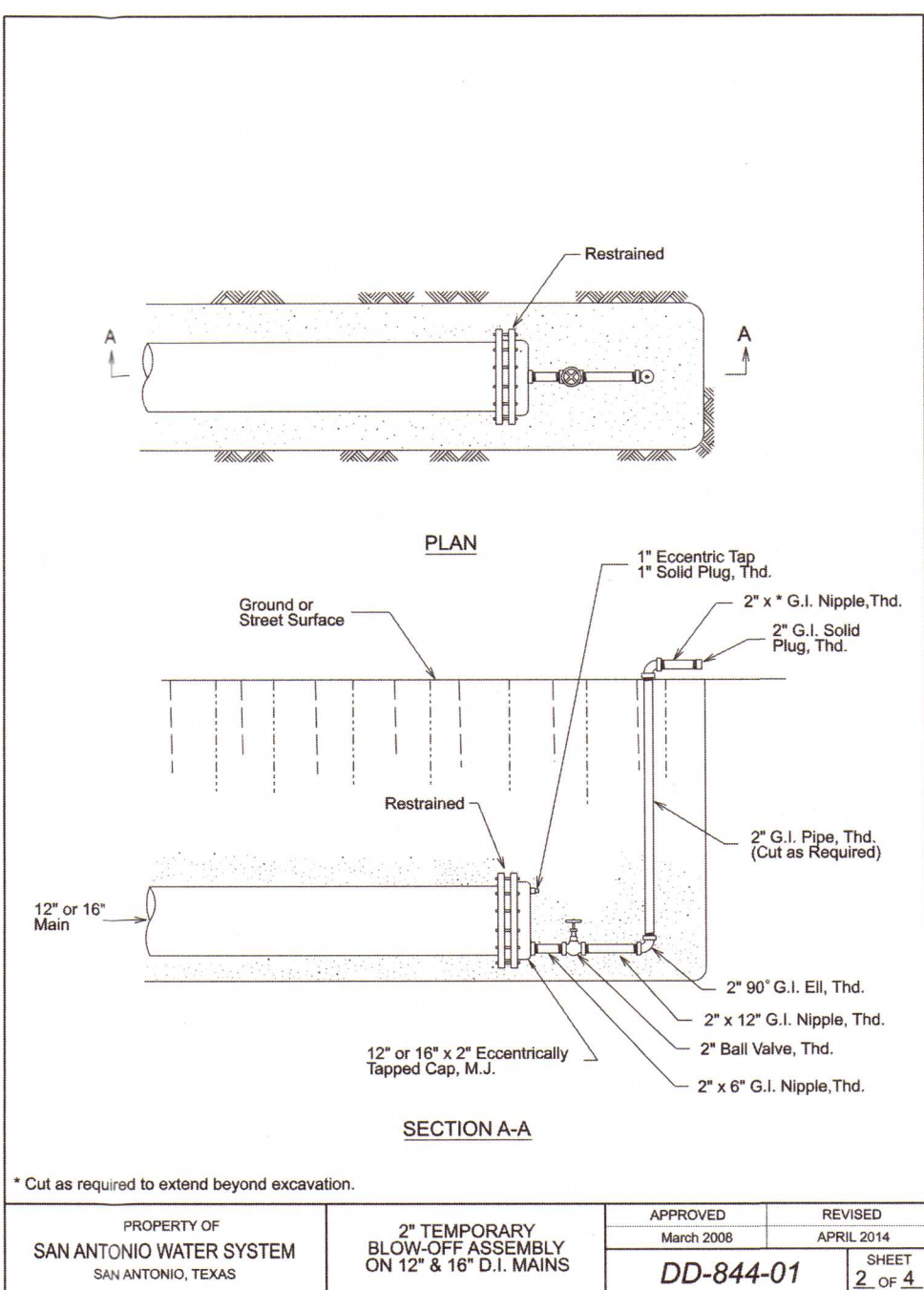
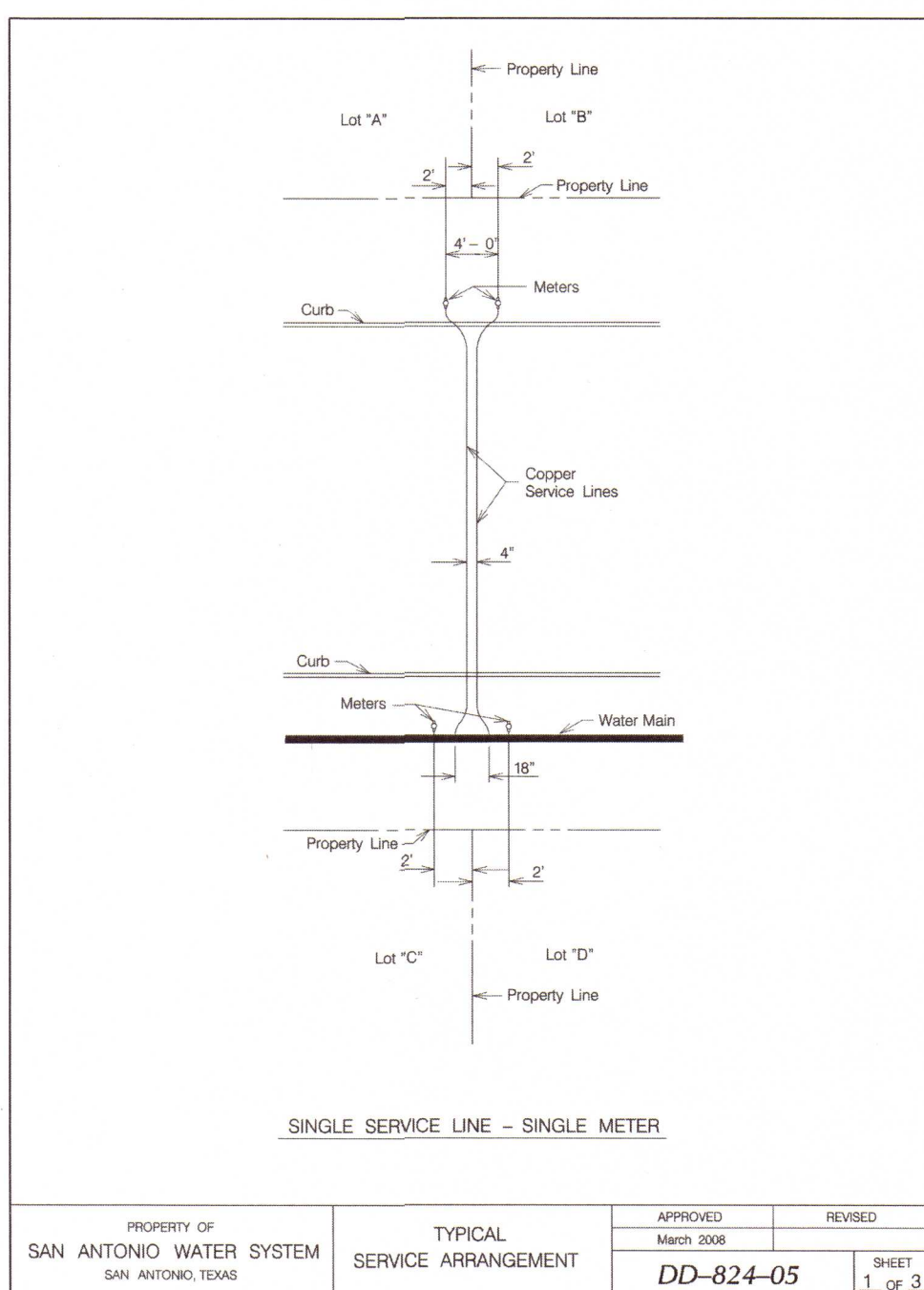
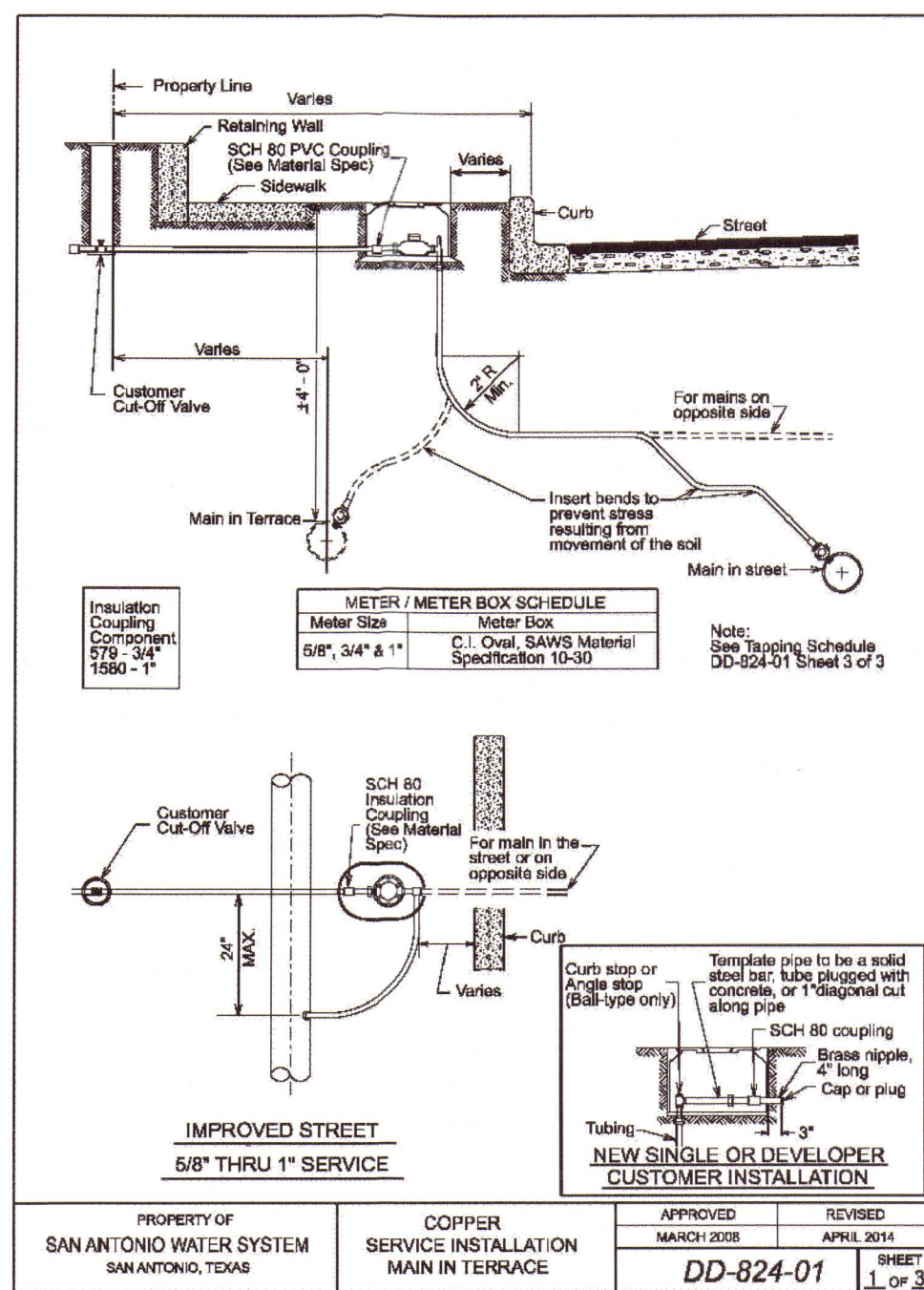
**OVERALL WATER DISTRIBUTION PLAN**

PLAT NO. 170303  
JOB NO. 251-04-09  
DATE: OCTOBER 2017  
DRAWN: SC CHECKED: OE  
SHEET NUMBER:



PIPE TAPPING SCHEDULE		SERVICE SIZE			
PIPE DIAMETER		1"	1 1/2"	2"	
6" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
6" C.I. or D.I.	Tap	Tap	Tap	Tap	
8" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
8" C.I. or D.I.	Tap	Tap	Tap	Tap	
8" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
10" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
10" C.I. or D.I.	Tap	Tap	Tap	Tap	
10" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
12" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
12" C.I. or D.I.	Tap	Tap	Tap	Tap	
12" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
16" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	
16" C.I. or D.I.	Tap	Tap	Tap	Tap	

Notes:  
 For direct tap to main, see Tapping Schedule.



PLAN OF RECORD 12/21/2018

**KFW**  
**ENGINEERS + SURVEYING**  
 TRAVIS R. ELST  
 Phone #: (210) 878-8444 • Fax #: (210) 878-8441  
 TBPE Firm #: 8513 • TBPE S. Firm #: 1012300

ISSUE DATE  
 REVISIONS

STATE OF TEXAS  
 99254  
 LICENSED PROFESSIONAL ENGINEER

3/8/19

ARCADIA RIDGE PHASE 1, UNIT - 4B-2  
 BEXAR COUNTY, TX  
 WATER DETAIL SHEET

PLAT NO.  
 170303  
 JOB NO: 251-04-09  
 DATE: OCTOBER 2017  
 DRAWN: SC CHECKED: OE  
 SHEET NUMBER:  
 7.2