

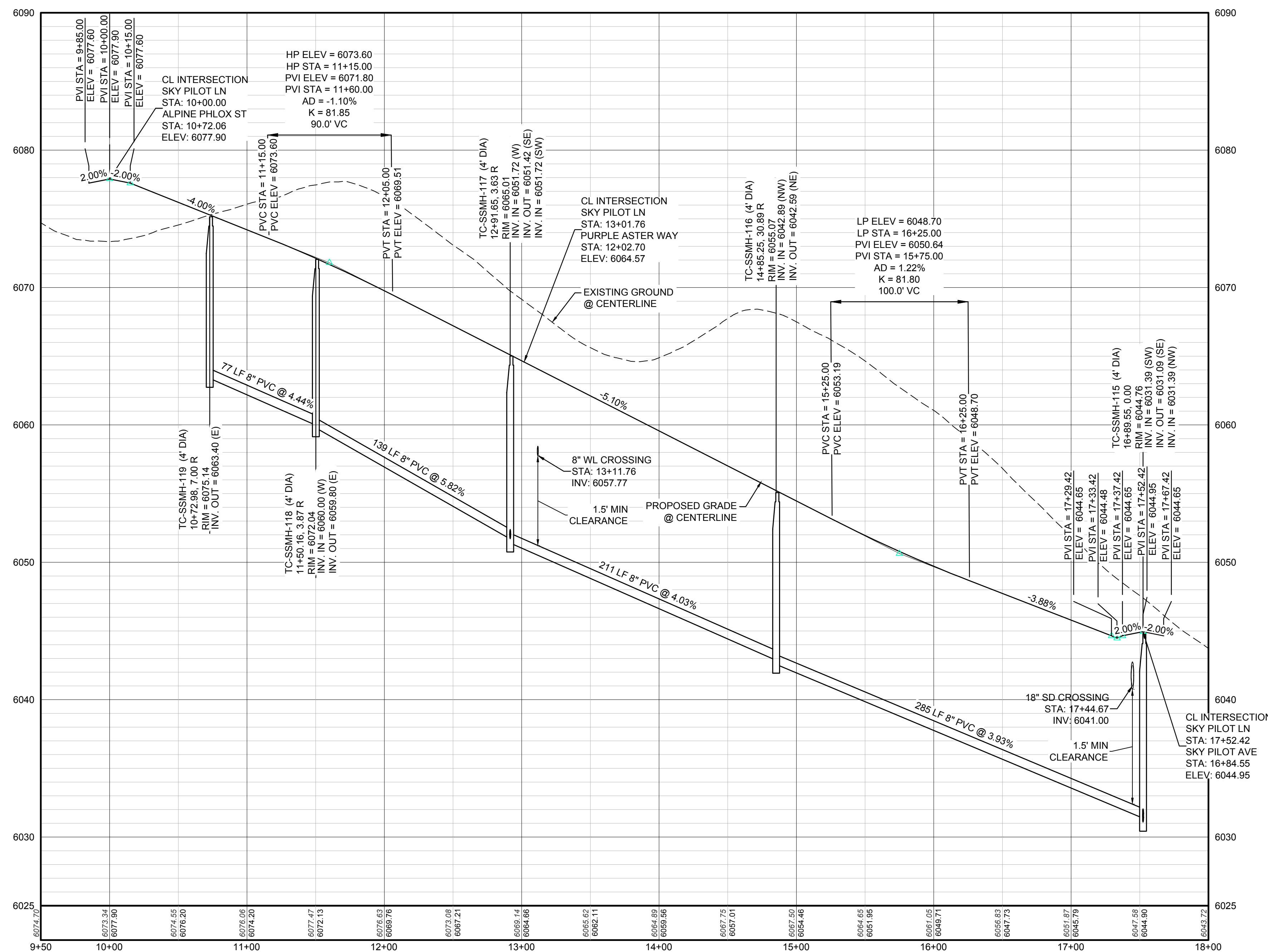
KEYMAP
N.T.S.
LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊕	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⌋	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⊘	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊕	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊕	PROPOSED FIRE HYDRANT	5615	EXISTING 5' CONTOUR
⊕	PROPOSED WL FITTING WITH THRUST BLOCK	5616	EXISTING 1' CONTOUR
⊕	PROPOSED FLARED END SECTION	5620	PROPOSED 5' CONTOUR
⊕	PROPOSED LOW POINT BLOW-OFF	5607	PROPOSED 1' CONTOUR
⊕	PROPOSED AIR VALVE	---	PROPOSED STORM DRAIN
⊕	FUTURE PHASE VALVE	---	PROPOSED SEWER LINE WITH MANHOLE
⊕	FUTURE FIRE HYDRANT	---	PROPOSED SEWER LATERAL
⊕	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
⊕	PROPOSED SIDEWALK	---	PROPOSED WATER LATERAL W/ METER
⊕	PROPOSED SIDEWALK RAMP	---	SECTION LINE
10.00	EXISTING ELEVATION	---	FILING BOUNDARY
10.00	PROPOSED DESIGN ELEVATION	FO	EXISTING FIBER OPTIC LINE
⊕	PROPOSED STORM DRAIN INLET	OH	EXISTING OVERHEAD POWER
⊕	PROPOSED STORM DRAIN MANHOLE	TEL	EXISTING TELEPHONE LINE

ABBREVIATIONS

AD	ANGLE DIFFERENCE	MH	MANHOLE
AV	AIR VAC RELEASE VALVE	N.T.S.	NOT TO SCALE
BVC	BEGIN VERTICAL CURVE	PVC	POLYVINYL CHLORIDE
BVP	BEGIN VERTICAL PROFILE	PVI	PT. OF VERTICAL INTERSECTION
CBO	CAP WITH BLOW OFF	PVT	POINT OF VERTICAL TANGENT
CRR	CURB RETURN RADIUS	ROBC	REINFORCED CONCRETE BOX CULVERT
ELEVATION	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EVC	END VERTICAL CURVE	SC	SANITARY CAP
EVP	END VERTICAL PROFILE	SD	STORM DRAIN
FG	FINISHED GROUND	SL	SECTION LINE
FH	FIRE HYDRANT	SS	SANITARY SEWER
FL	FLOW LINE	STA	STATION
GV	GATE VALVE	T.O.P.	TOP OF PIPE
HCR	HANDICAP CURB RAMP	UE	UTILITY EASEMENT
HP	HIGH POINT	VC	VERTICAL CURVE
INV	INVERT	WL	WATER LINE
K	CURVATURE COEFFICIENT	WLC	WATER LINE CONNECTION
LF	LINEAR FEET	WSE	WATER SURFACE ELEVATION

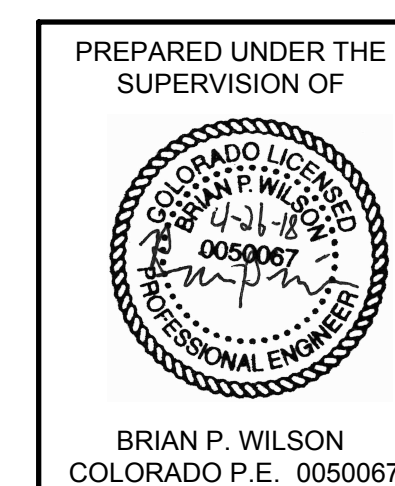
1. SEE SHEET 3 - AREA UTILITY PLAN FOR SANITARY SERVICE TABLES.



PROFILE: SKY PILOT LN STA: 9+50.00 TO 18+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, BEING A 3-3/4" ALUMINUM CAP BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.



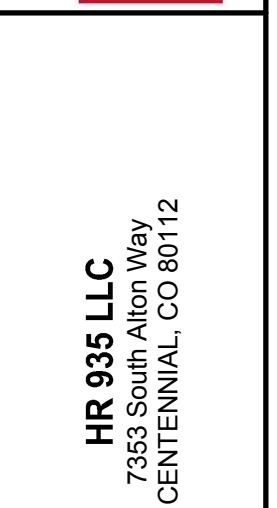
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Apr 07 2021
PARKER WATER AND SANITATION DISTRICT

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\BENCHM\WATER AND SANITATION\SSR\PLAN AND PROFILE\13 SKY PILOT LANE SANITARY DWG.CHRISTOPHER.B. 3/13/2016 2:28 PM

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SHEET NUMBER	5	DATE	SEPTEMBER 2017	FILE NO.	8130283701	SCALE	AS SHOWN	DRAWN BY	JLR	CHECKED BY	JU	APPROVED		DATE		INITIALS		APPROVED		DATE	
	DATE		SEPTEMBER 2017		FILE NO.		8130283701		SCALE		AS SHOWN		DRAWN BY		JLR		CHECKED BY		JU		APPROVED

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Fax: (720) 482-9548



HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
SKY PILOT LANE

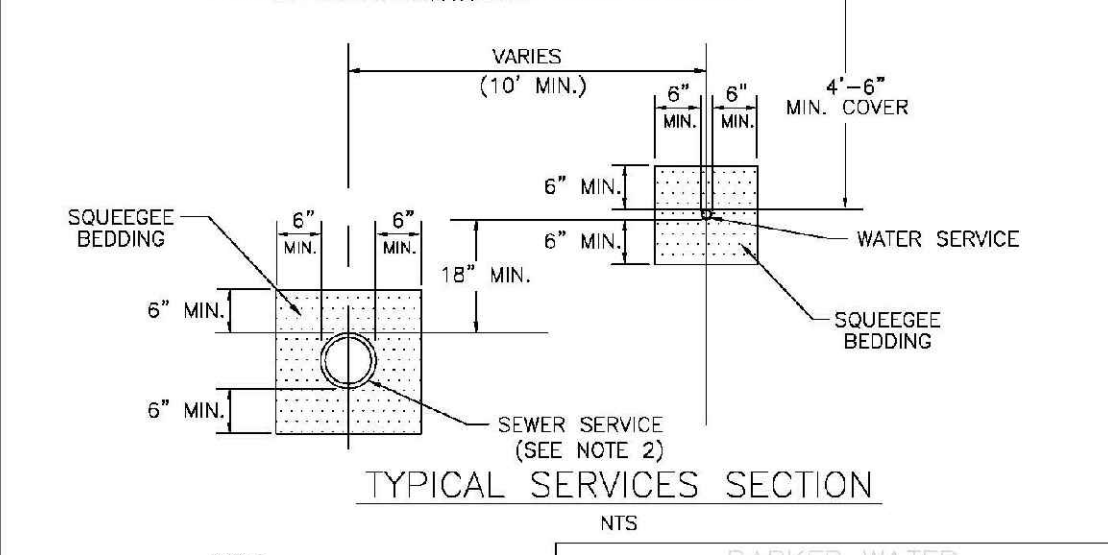
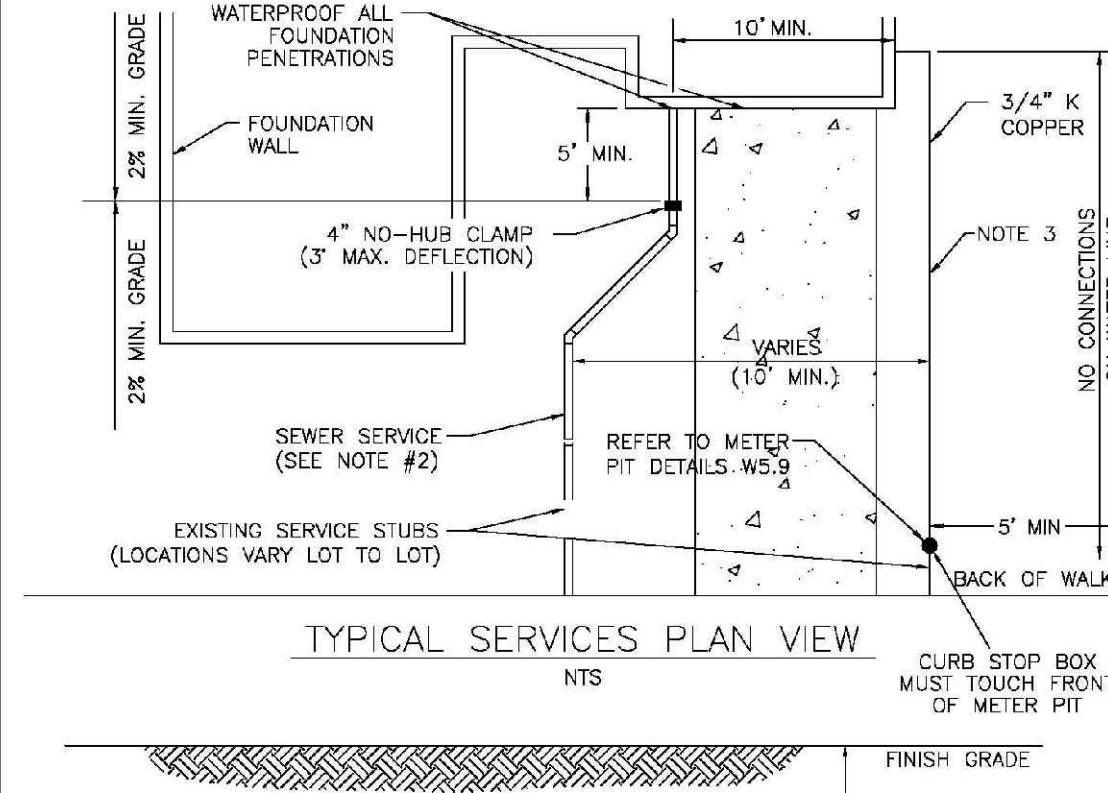
- INSPECTION POLICY:**
1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
 2. SERVICE INSPECTIONS WILL OCCUR BETWEEN 1:00 P.M. AND 3:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
 3. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE OR SERVICE FAILS, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE AND A RE-INSPECTION FEE CHARGED.
 4. SHOULD THE SERVICE LINES BE DAMAGED BY LATER CONSTRUCTION, AN INSPECTION OF THE REPAIR WILL BE REQUIRED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
 5. THE CONTRACTOR SHALL LEAVE ALL PIPE AND FITTINGS EXPOSED FOR THE INSPECTOR TO OBSERVE. INSPECTORS WILL NOT ENTER ANY EXCAVATIONS TO CHECK MATERIALS. THE TOP LAYER OF BEDDING CAN BE ADDED AFTER THE INSPECTION HAS BEEN COMPLETED.
 6. ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
 7. LOTS WITHOUT BUILDING ADDRESSES BEFORE DISTRICT INSPECTION OR METER SET WILL FAIL AUTOMATICALLY.
 8. CONTRACTOR MUST BE PRESENT AT TIME OF INSPECTION, UNLESS COORDINATED WITH DISTRICT INSPECTOR.

- INSTALLATION NOTES:**
- WATER**
1. ACCEPTABLE PIPE MATERIALS SHALL BE K-COPPER TUBING, (3/4" MIN.)
 2. APPROVED BEDDING TO BE SQUEEGEE.
 3. ONLY ONE COUPLING WILL BE ALLOWED BETWEEN THE SUB-IN AND BUILDING. COMPRESSION COUPLINGS WILL NOT BE ALLOWED ON NEW CONSTRUCTION. SILVER SOLDERED JOINTS MUST BE USED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWS BEFORE BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.
 4. A WATER SERVICE WHICH CROSSES A SEWER SERVICE CAN DO SO ONLY AT A 45-90° ANGLE. WATER SERVICES SHALL BE LOCATED A MINIMUM OF 18" ABOVE SEWER SERVICE.
 5. WATER SERVICE FOUNDATION PENETRATIONS SHALL BE WATERPROOFED USING MASTIC OR OTHER APPROVED METHOD. CRAWL SPACE REQUIRES CONTINUOUS COPPER WITH A 1" BURY.
 6. CURB STOP MUST BE PLUMB AND CENTERED OVER THE NUT. IT SHOULD BE STRAPPED TO THE METER PIT (RESIDENTIAL INSTALLATIONS) OR CENTERED OVER THE EASEMENT LINE (COMMERCIAL INSTALLATIONS). THE ASSEMBLY MUST BE AT OR SLIGHTLY ABOVE FINISH GRADE.
 7. MOVED CURB BOXES MUST BE INSPECTED BY PWS PRIOR TO BURIAL.
 8. WATERLINE MUST BE ATTACHED TO A SUPPORT BOARD THAT IS MOUNTED TO THE WALL.
 9. NO VOIDS ALLOWED UNDER WATERLINES FROM STOP BOX TO FOUNDATION.
 10. CURBSTOP BOXES AND METER PITS CANNOT BE IN DRIVEWAYS.
 11. ONLY 3/4" (JUMPER) PIPES (RESIDENCES) ARE ALLOWED. (JUMPER) PIPES WILL BE REMOVED PRIOR TO METER SET DATE.
 12. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:
"X" FOR SANITARY SEWER SERVICE
"W" FOR WATER SERVICES
 13. NO SPLICES OR FLARED COUPLINGS ALLOWED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWS PRIOR TO BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.

PARKER WATER & SANITATION DISTRICT	
DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

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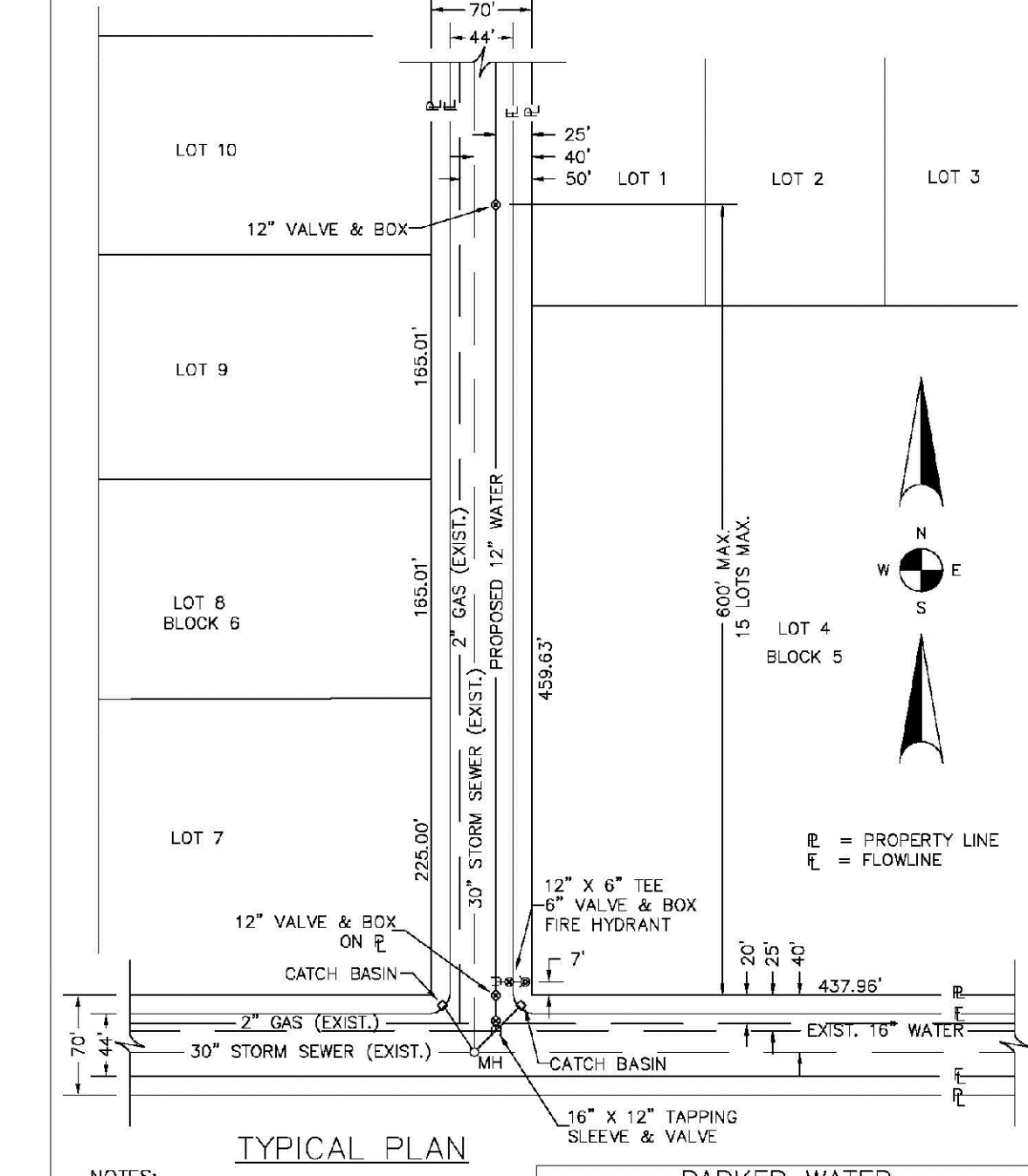
SHEET W1.1



PARKER WATER & SANITATION DISTRICT	
TYPICAL WATER SERVICES	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/04 10/16 09/06 12/07 1/16
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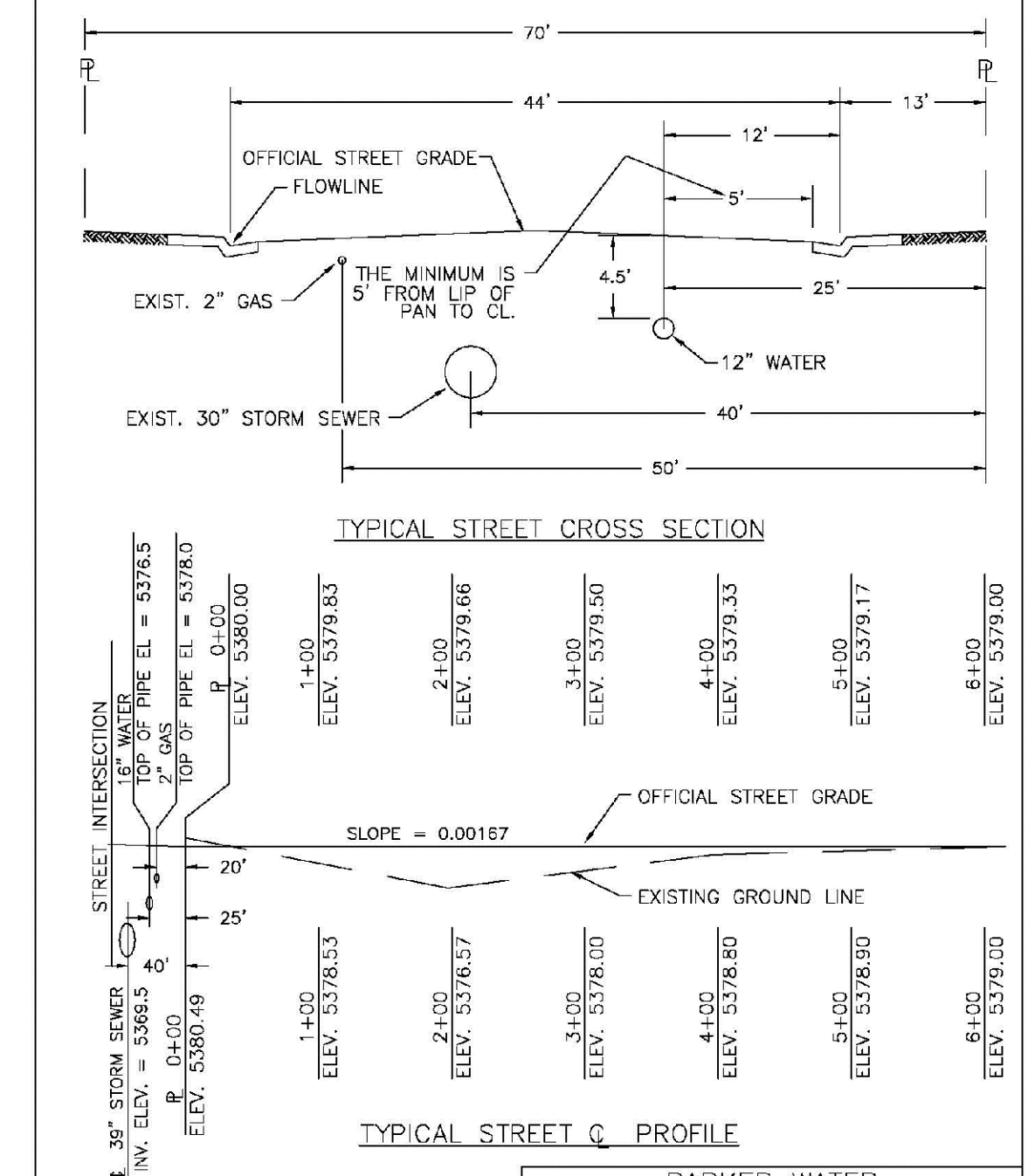
SHEET W1.2



PARKER WATER & SANITATION DISTRICT	
WATER DISTRIBUTION SYSTEM TYPICAL PLAN	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

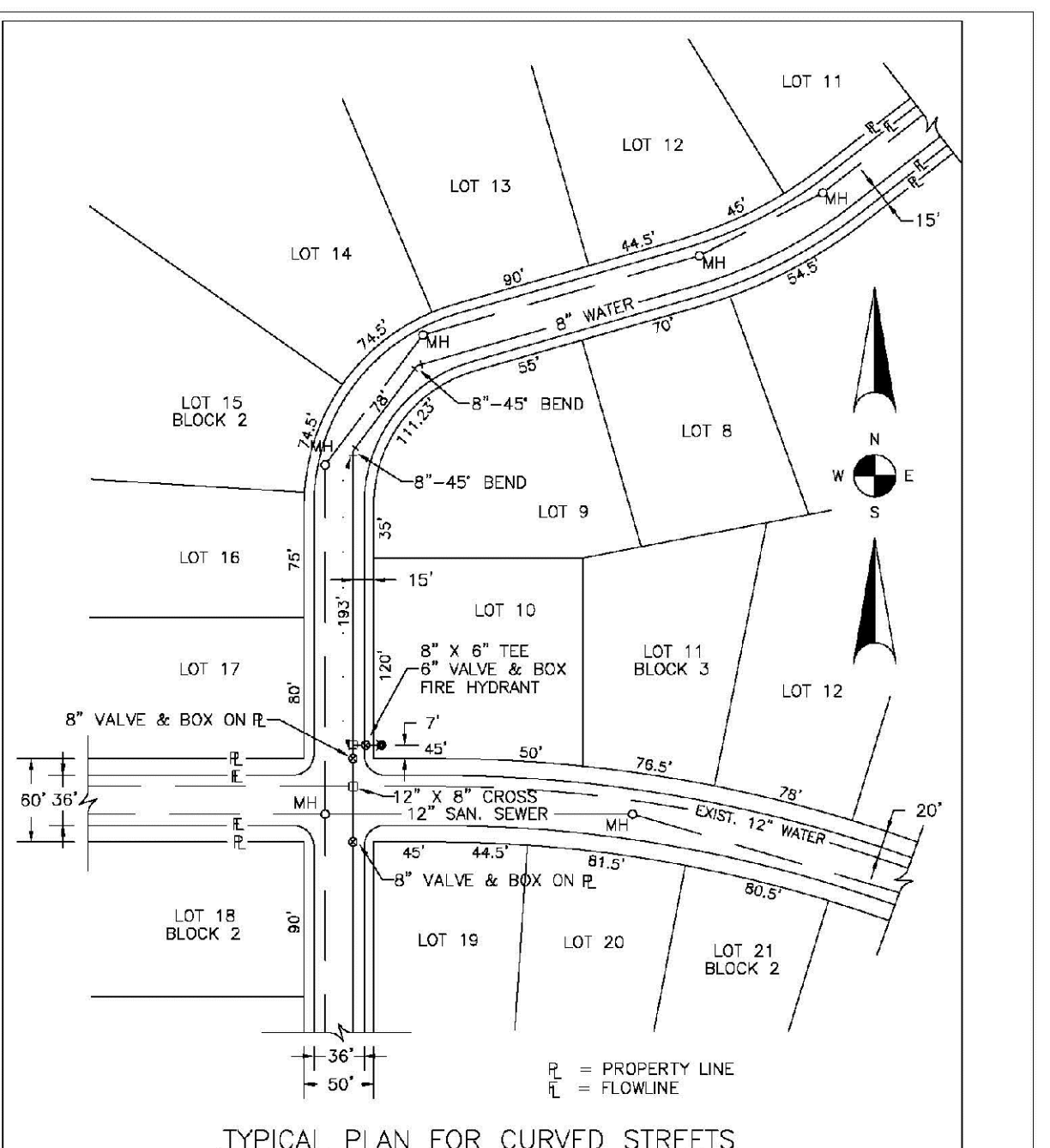
SHEET W2.1



PARKER WATER & SANITATION DISTRICT	
TYPICAL STREET CROSS SECTION	
SCALE: NONE	DATE: 2/96
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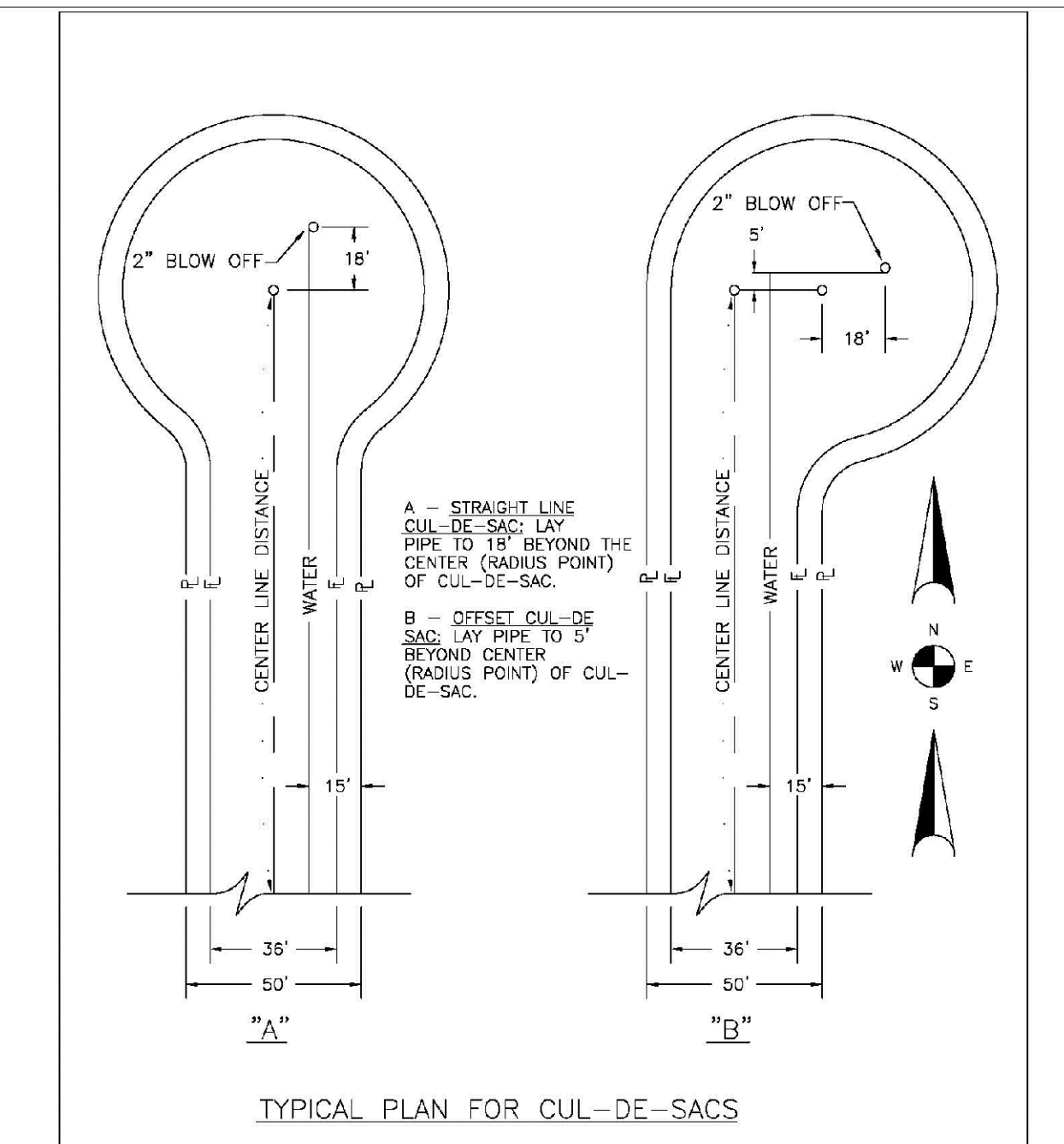
SHEET W2.2



PARKER WATER & SANITATION DISTRICT	
WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CURVED STREETS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
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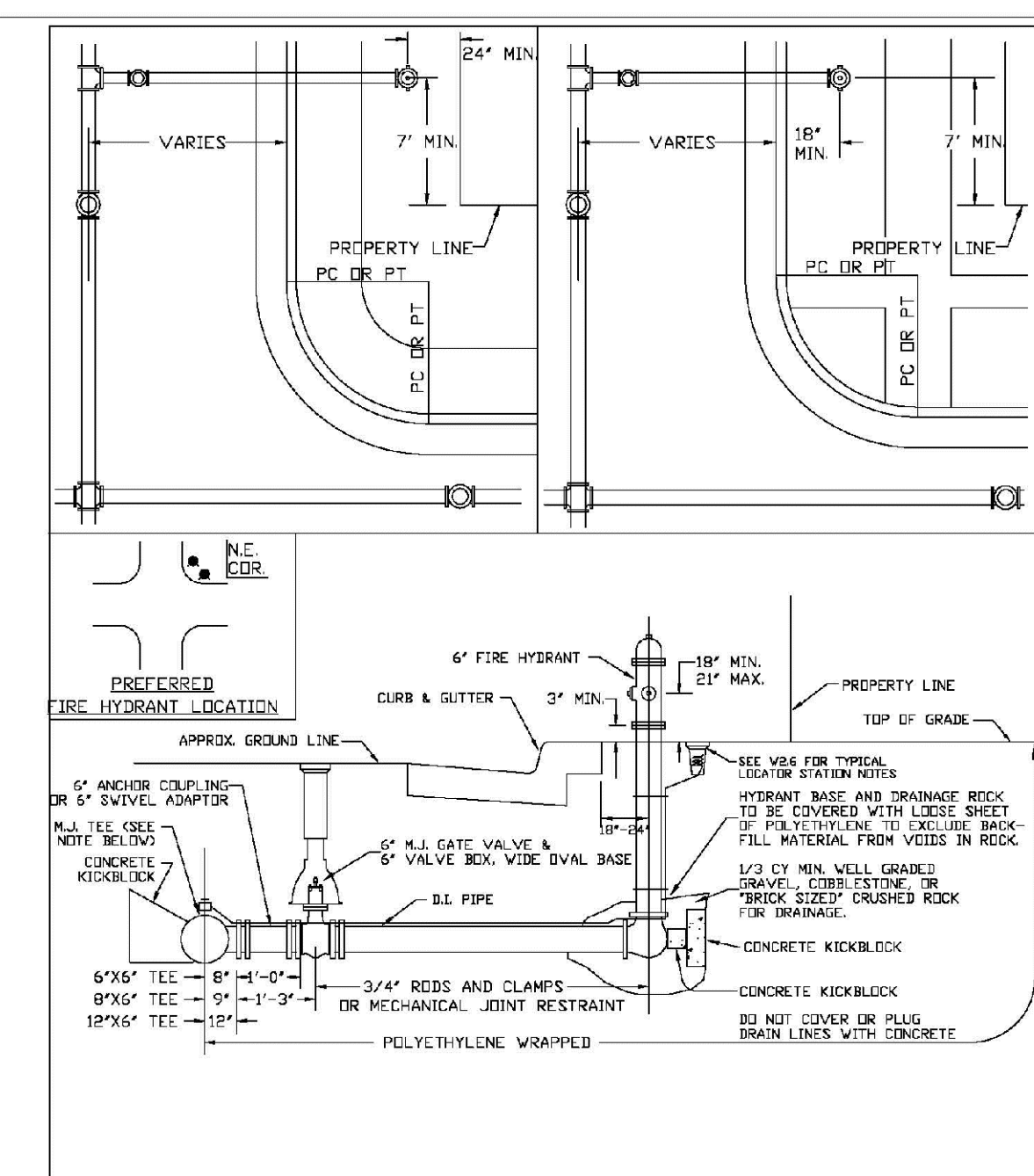
SHEET W3.3



PARKER WATER & SANITATION DISTRICT	
WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CUL-DE-SACS	
SCALE: NONE	DATE: 2/96
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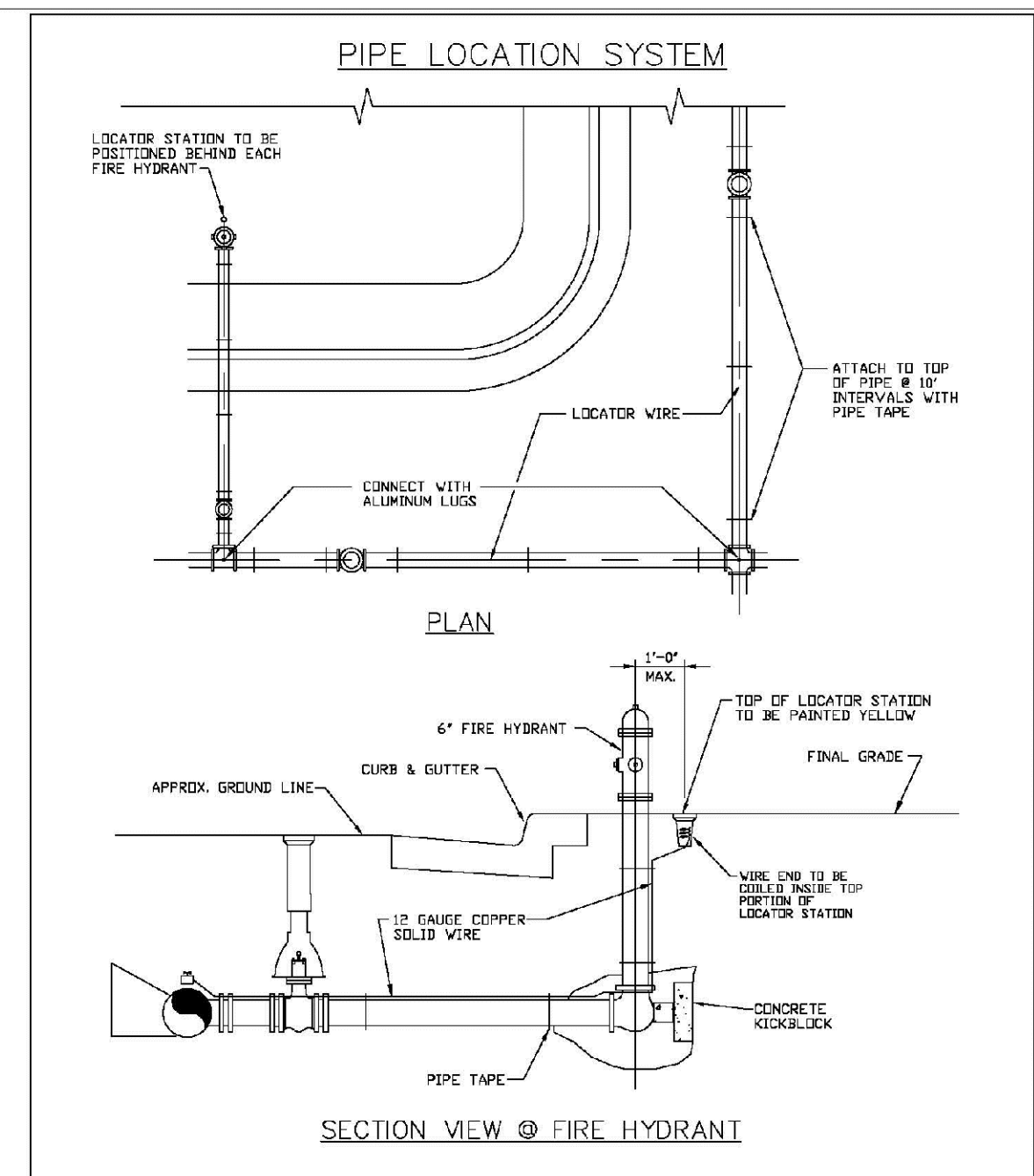
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PARKER WATER & SANITATION DISTRICT	
FIRE HYDRANTS LOCATION & INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 10/16 01/02 10/27 1/16
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SHEET W3.5



PARKER WATER & SANITATION DISTRICT	
LOCATOR WIRE DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 10/16 01/02 10/16 10/16
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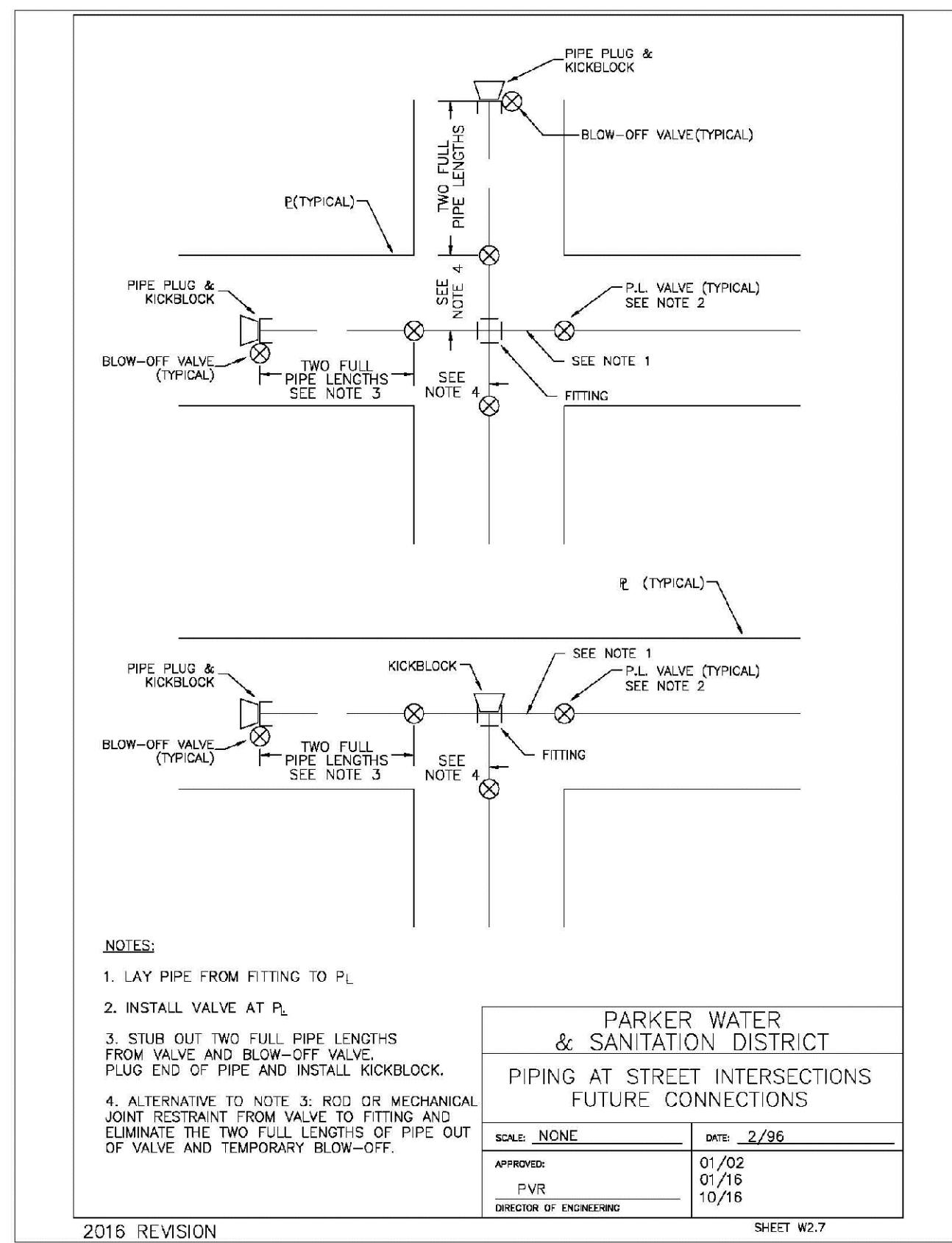
SHEET W3.6

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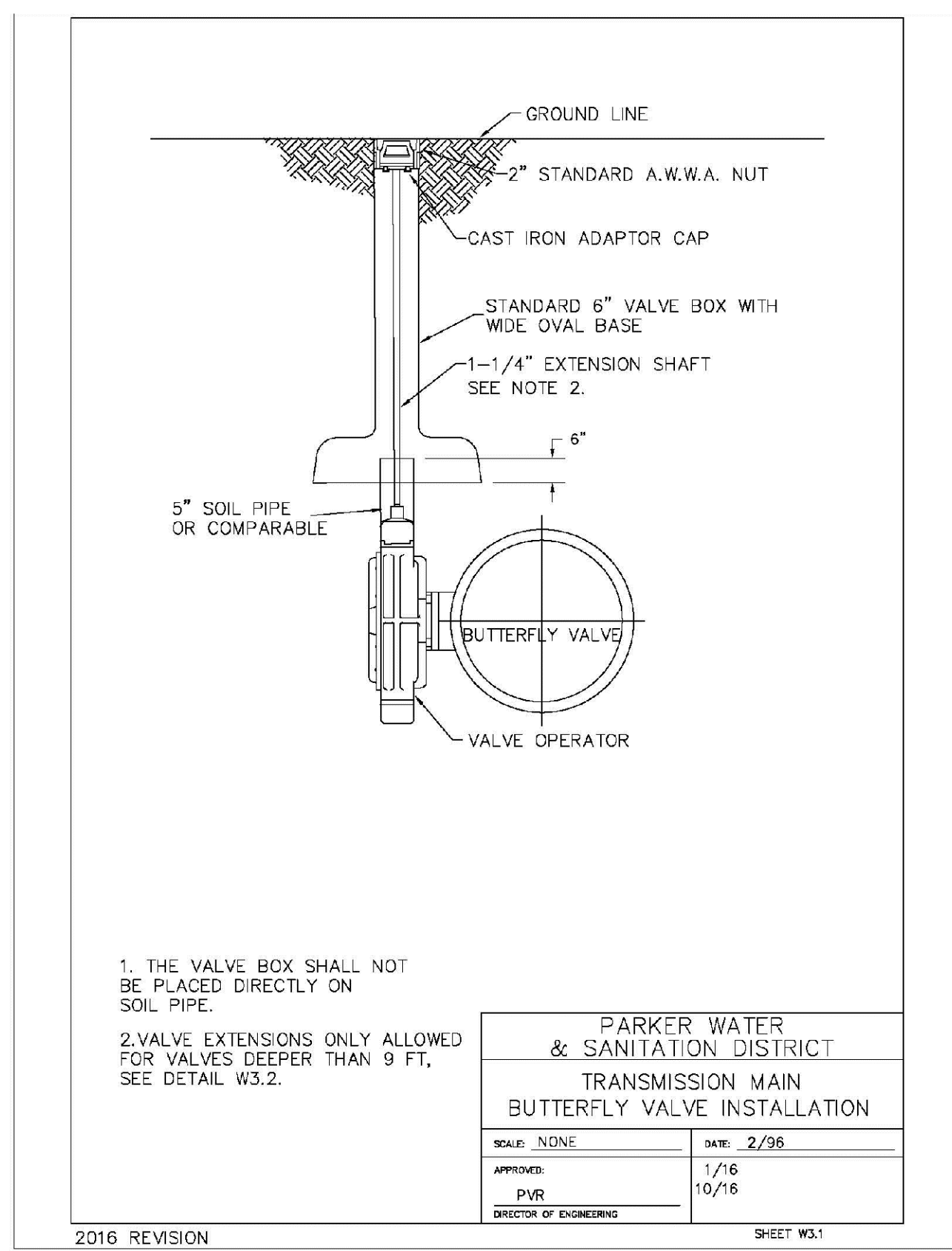
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10339 E. Dry Creek Rd. Suite 410 Centennial, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546				CVL CONSULTANTS			



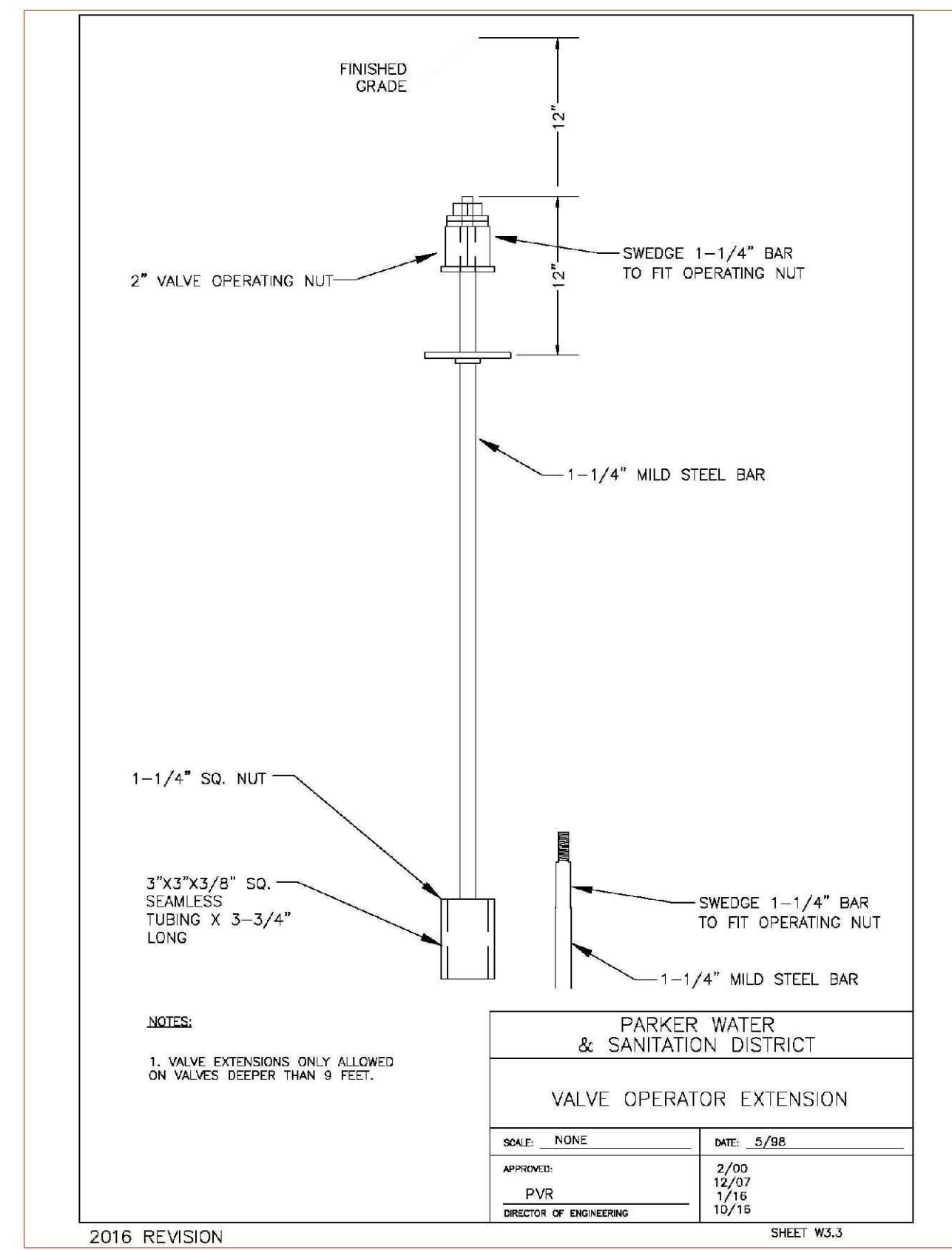
PARKER WATER & SANITATION DISTRICT	
PIPING AT STREET INTERSECTIONS FUTURE CONNECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
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2016 REVISION SHEET W3.7



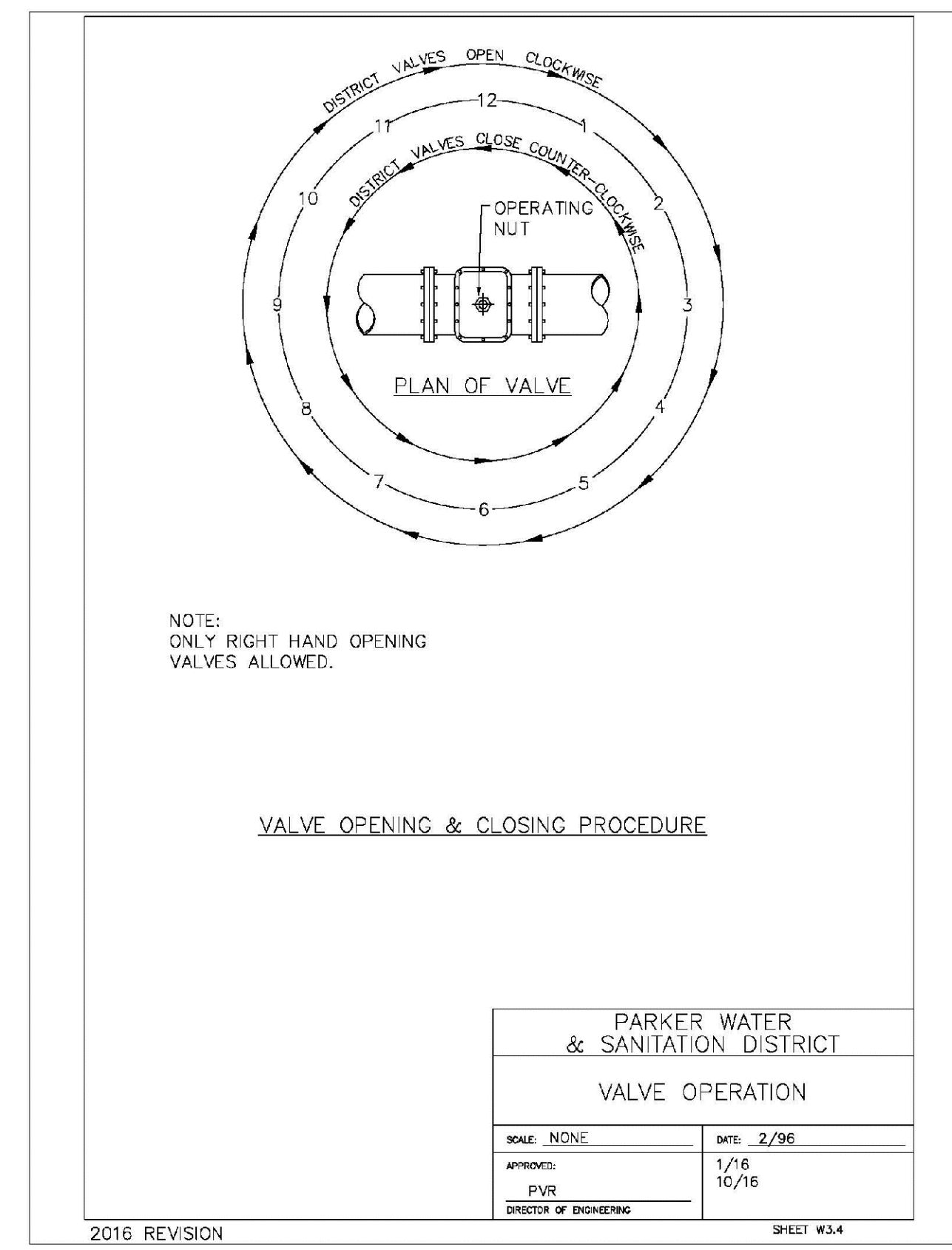
PARKER WATER & SANITATION DISTRICT	
TRANSMISSION MAIN BUTTERFLY VALVE INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
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2016 REVISION SHEET W3.1



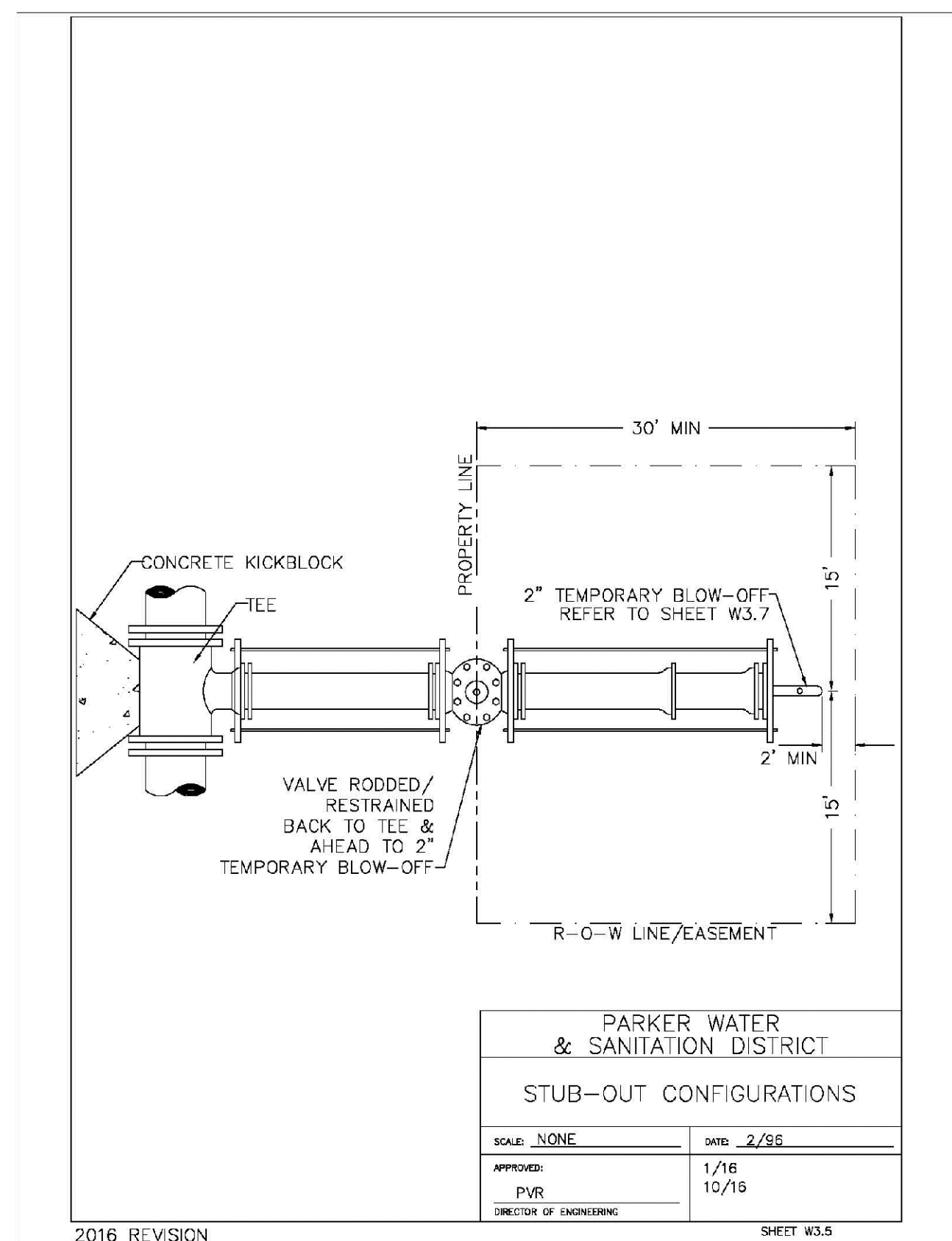
PARKER WATER & SANITATION DISTRICT	
VALVE OPERATOR EXTENSION	
SCALE: NONE	DATE: 5/98
APPROVED: PVR	2/95 12/07 1/16 10/16
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2016 REVISION SHEET W3.3



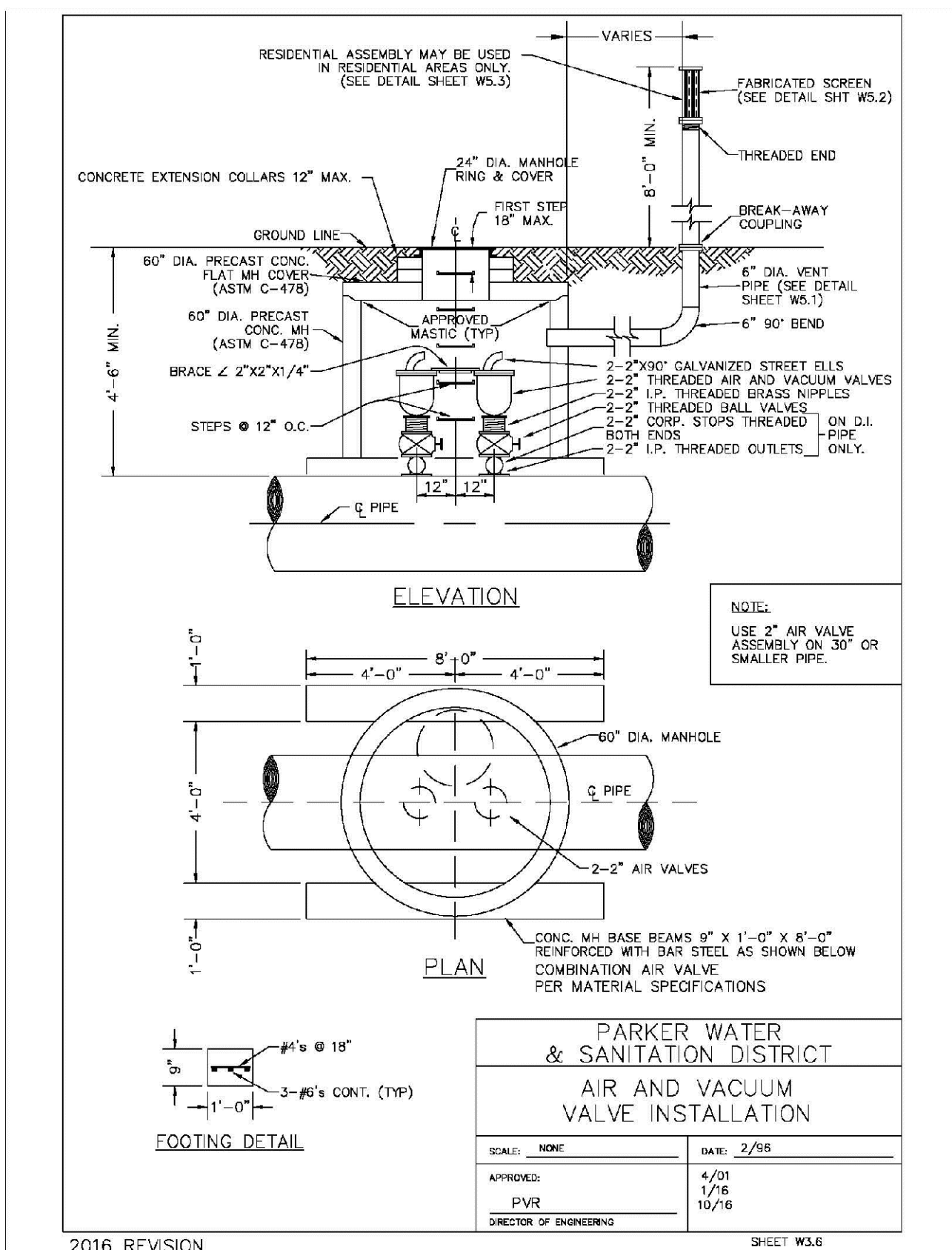
PARKER WATER & SANITATION DISTRICT	
VALVE OPERATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
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2016 REVISION SHEET W3.4



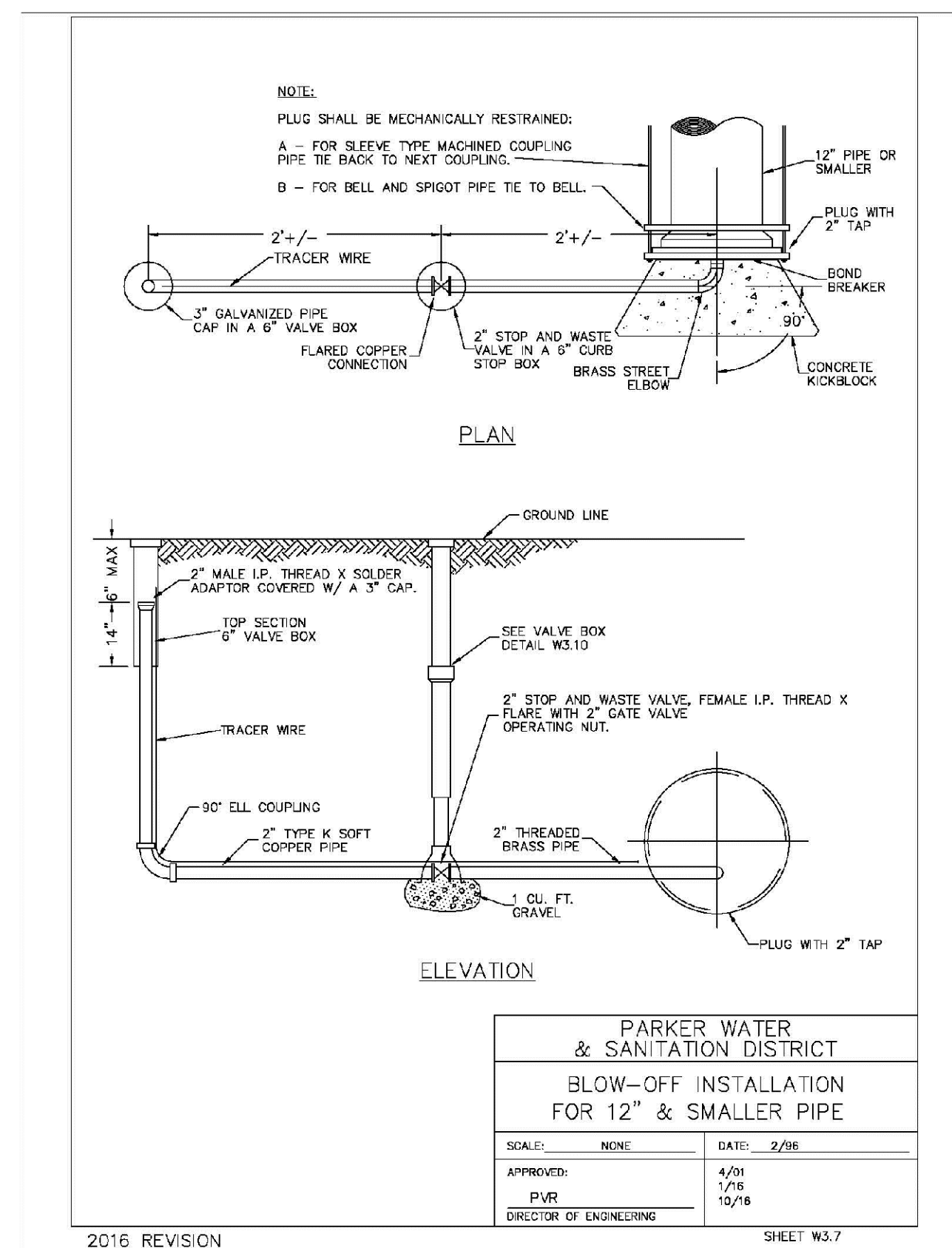
PARKER WATER & SANITATION DISTRICT	
STUB-OUT CONFIGURATIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
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2016 REVISION SHEET W3.5



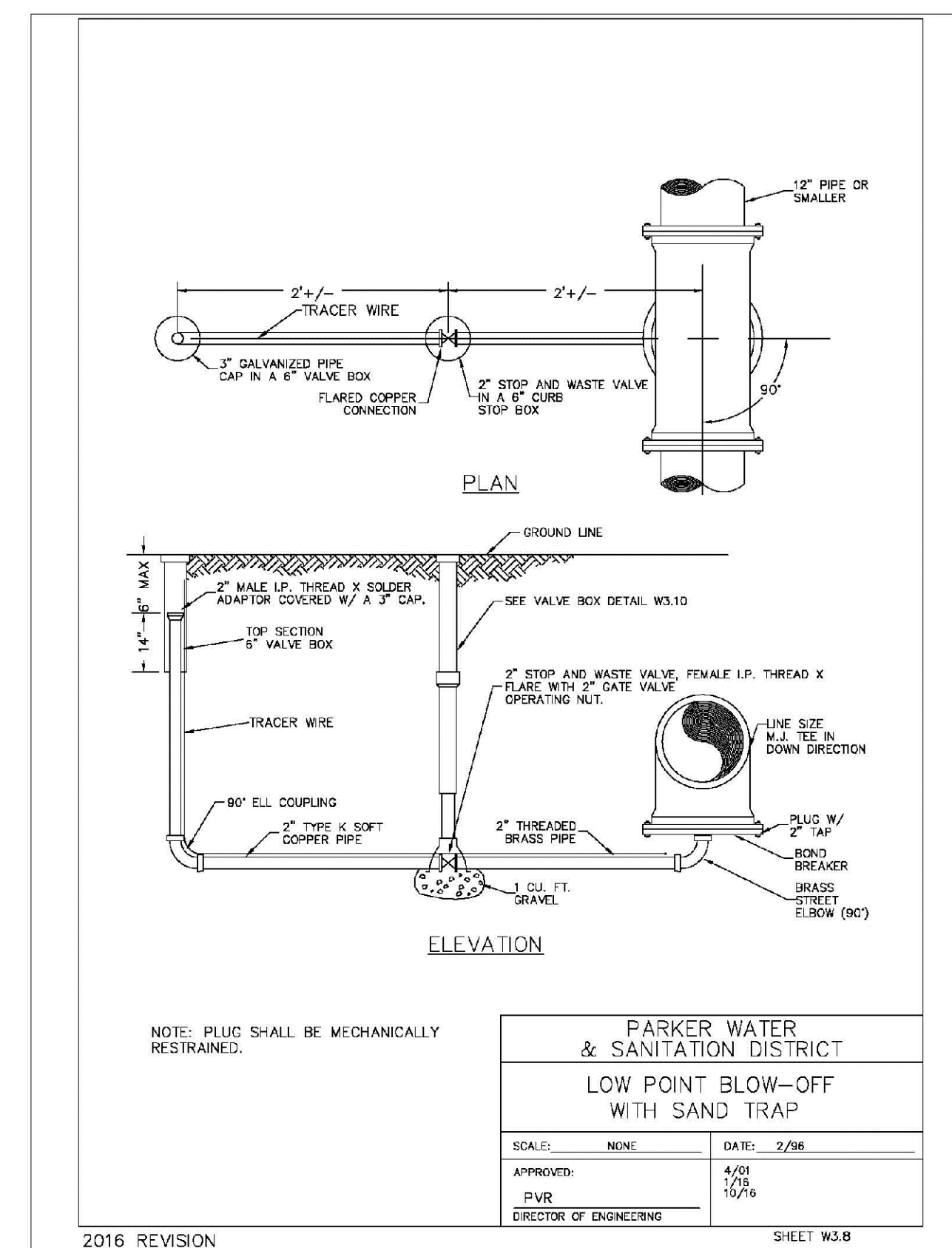
PARKER WATER & SANITATION DISTRICT	
AIR AND VACUUM VALVE INSTALLATION	
SCALE: NONE	DATE: 2/96
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2016 REVISION SHEET W3.6



PARKER WATER & SANITATION DISTRICT	
BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
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2016 REVISION SHEET W3.7



PARKER WATER & SANITATION DISTRICT	
LOW POINT BLOW-OFF WITH SAND TRAP	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
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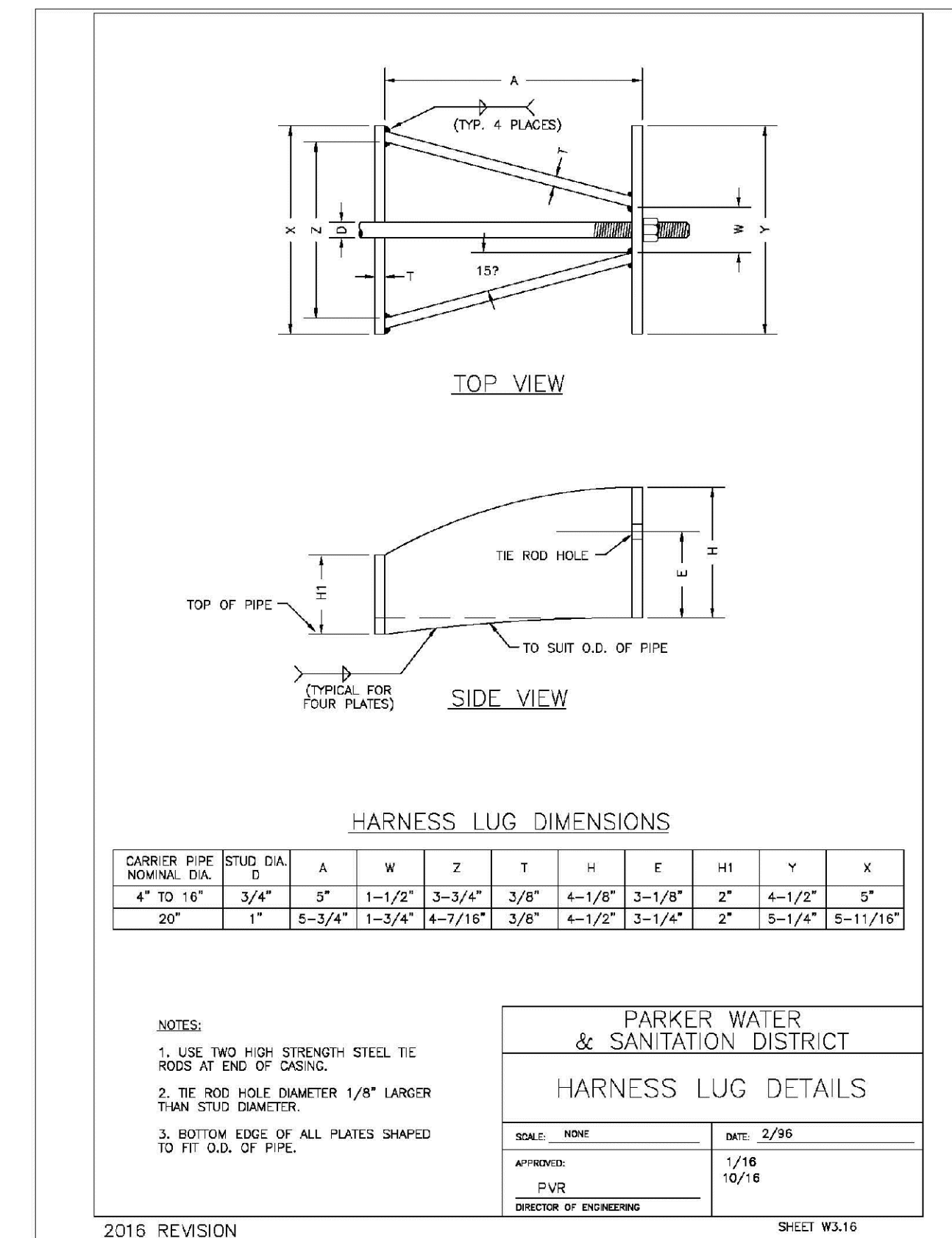
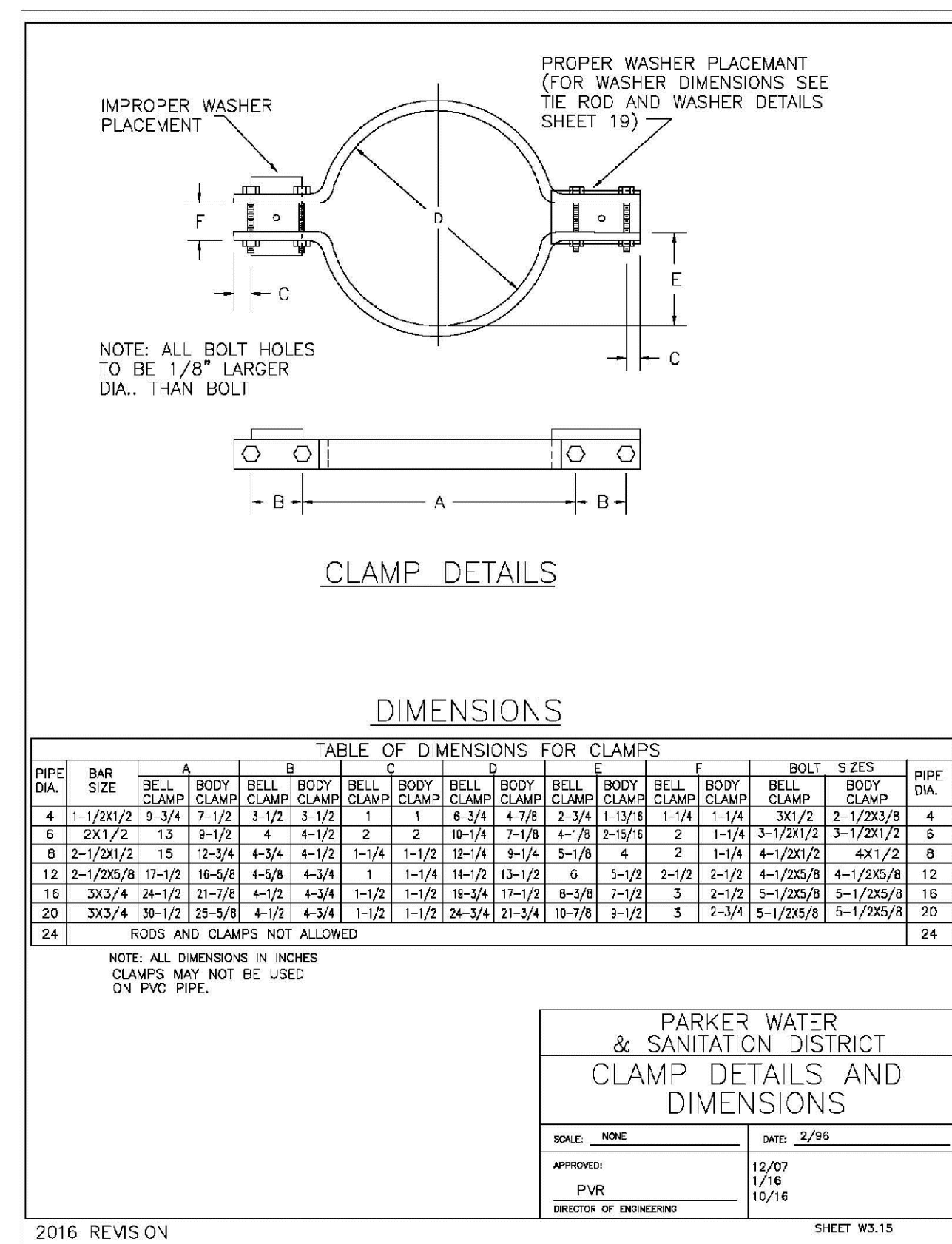
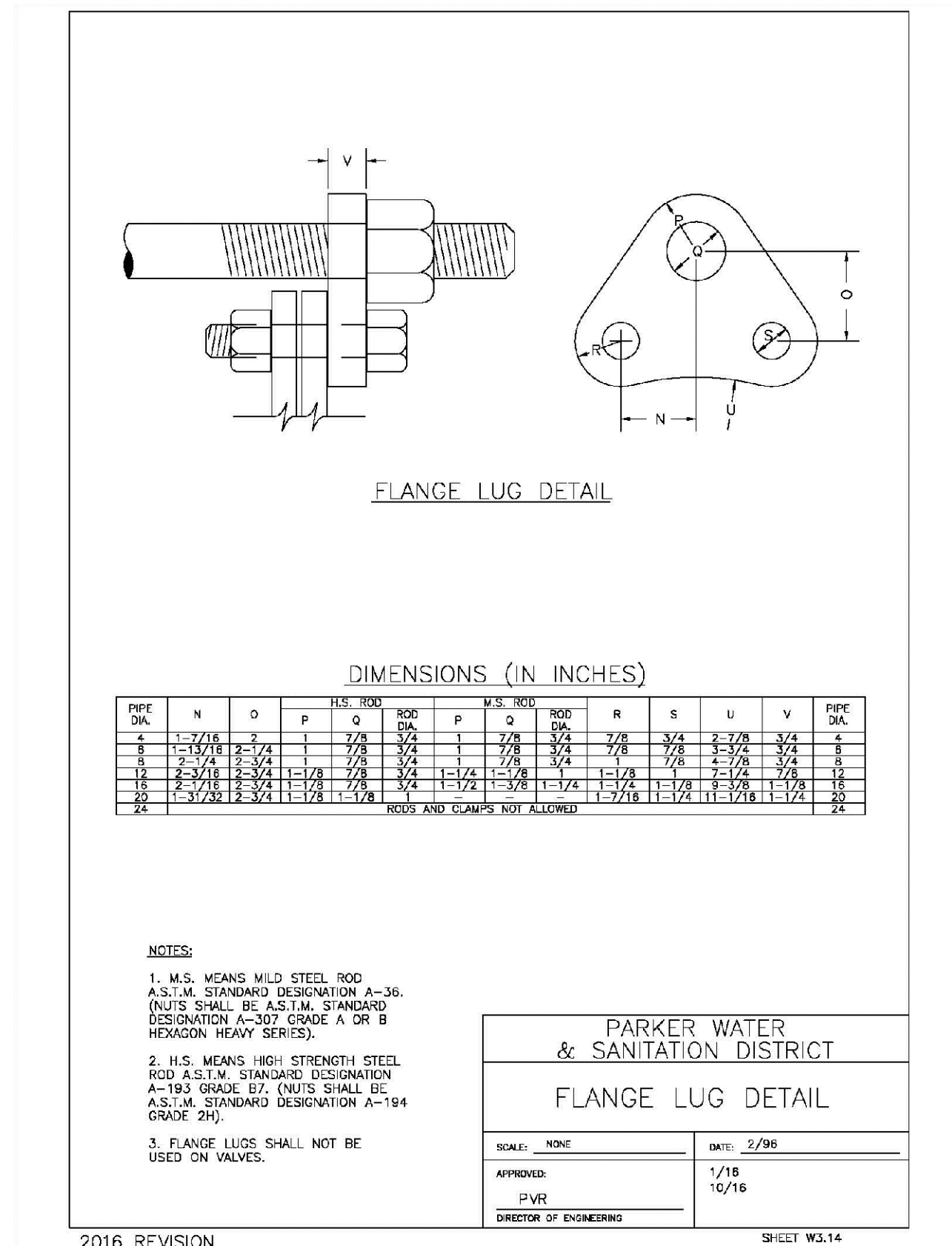
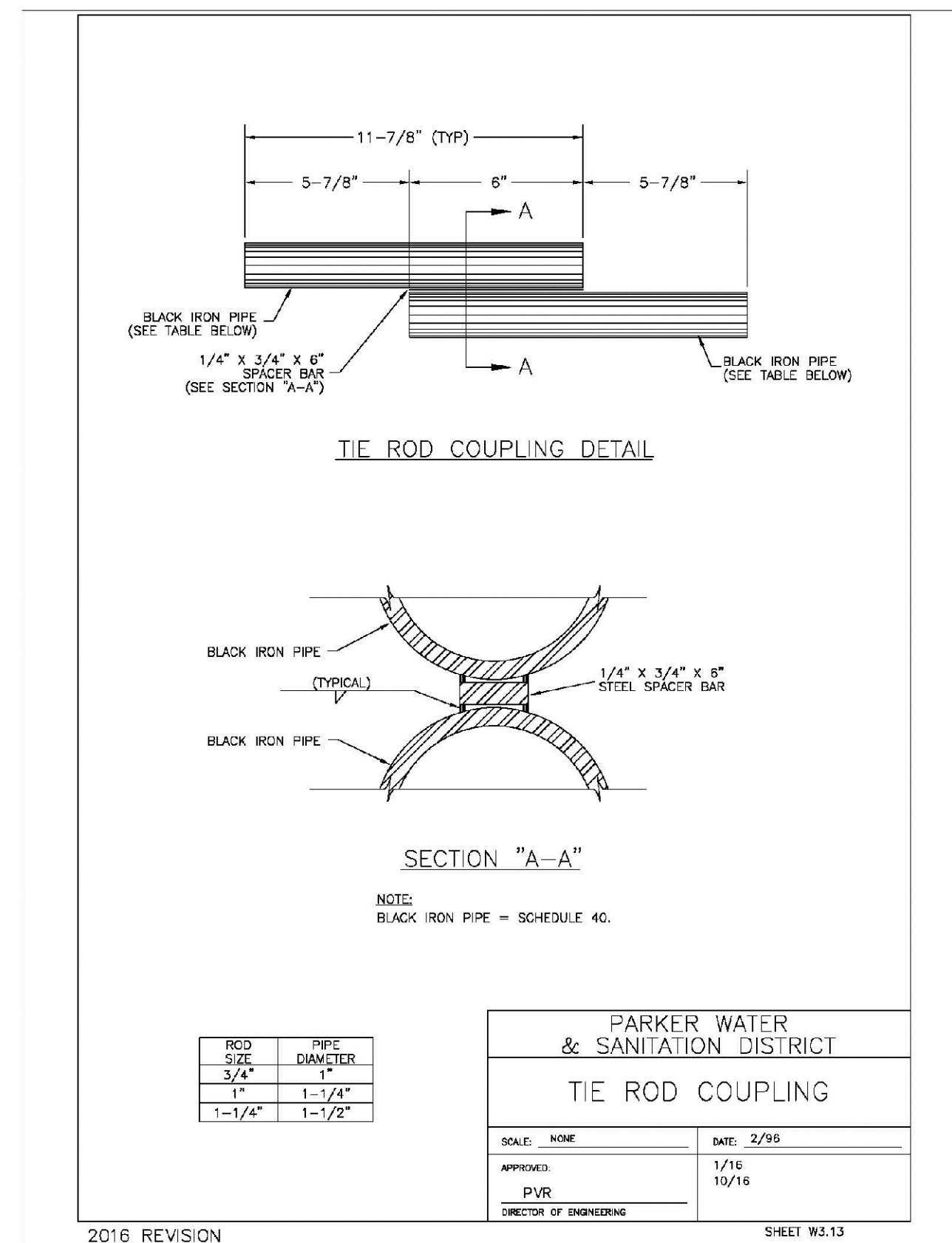
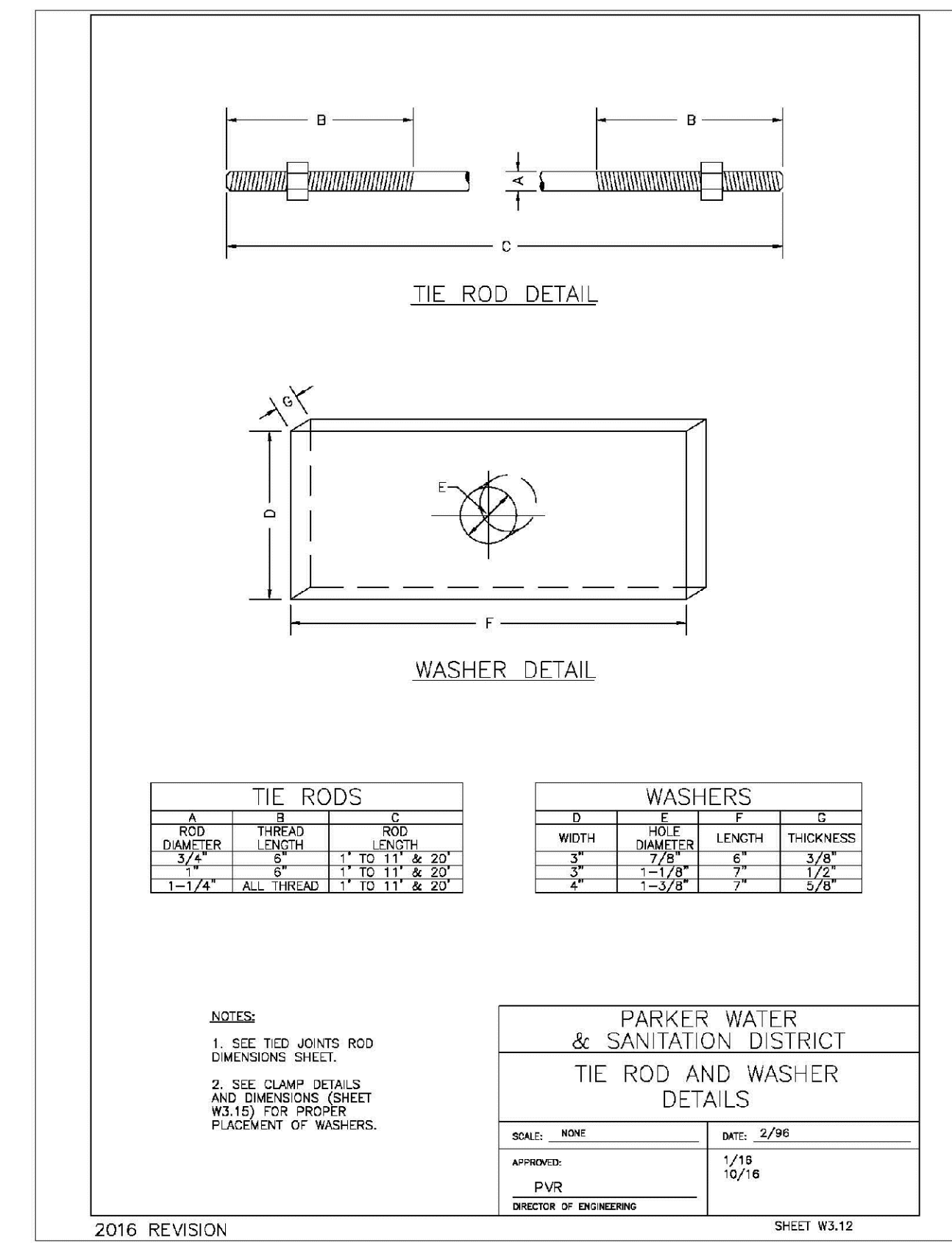
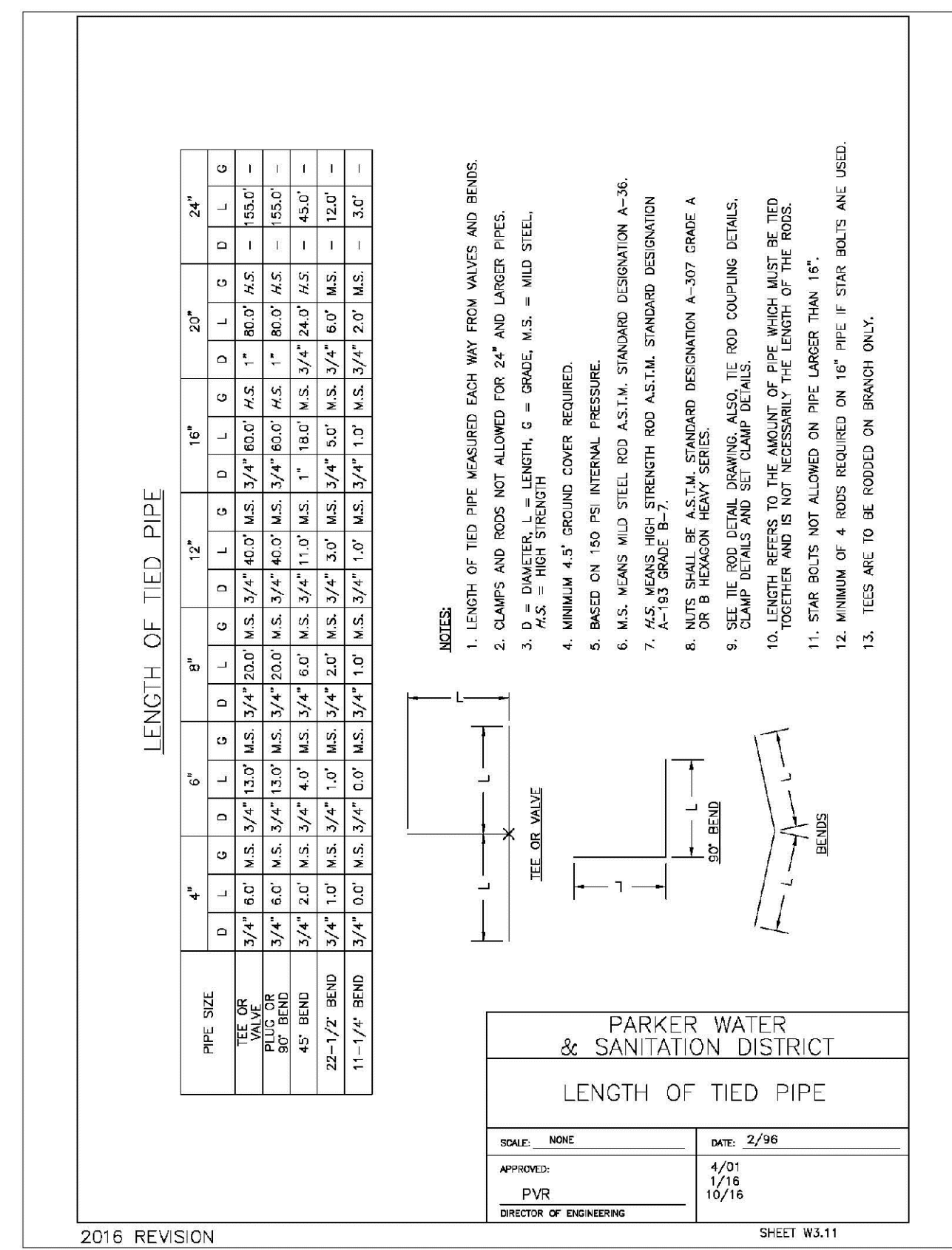
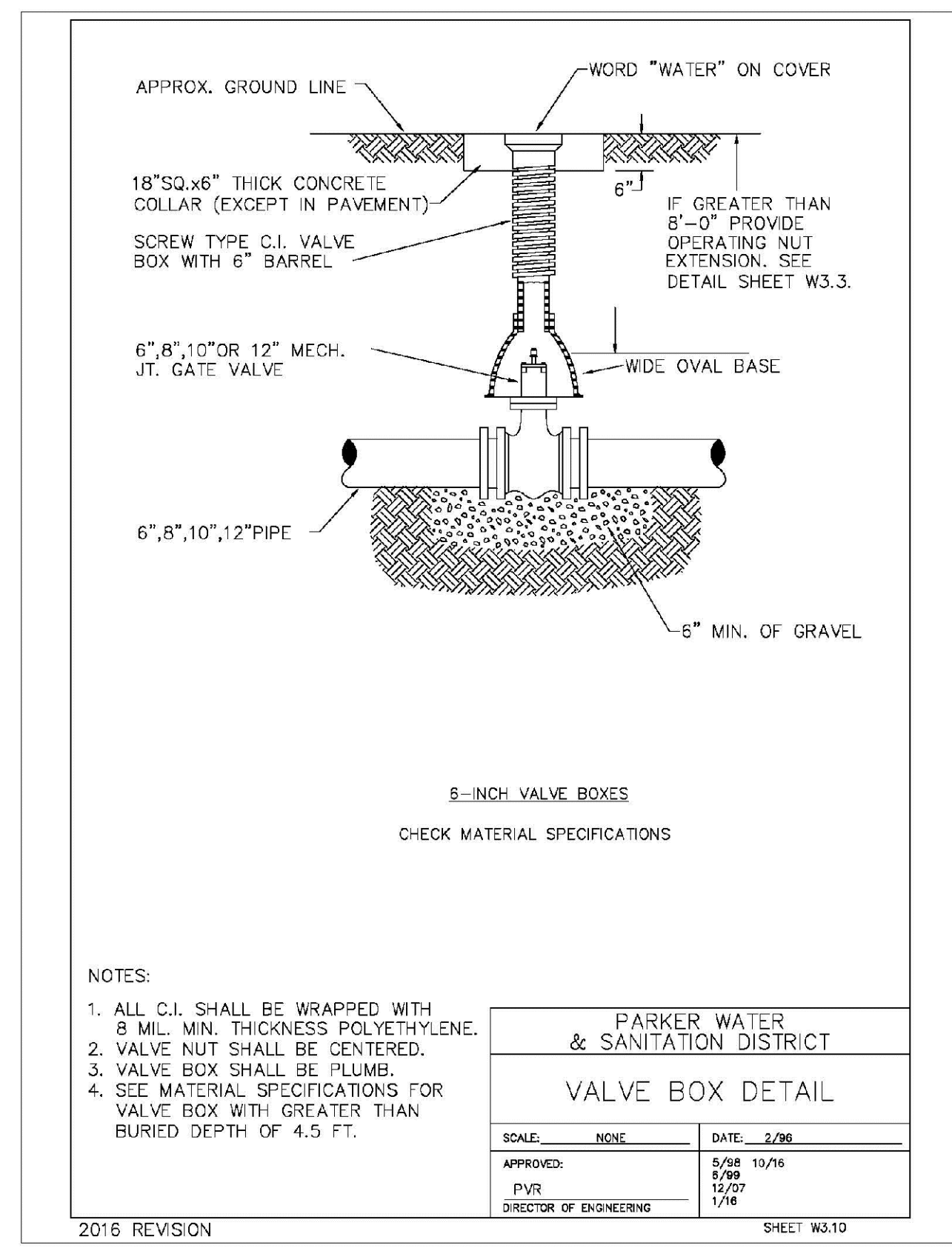
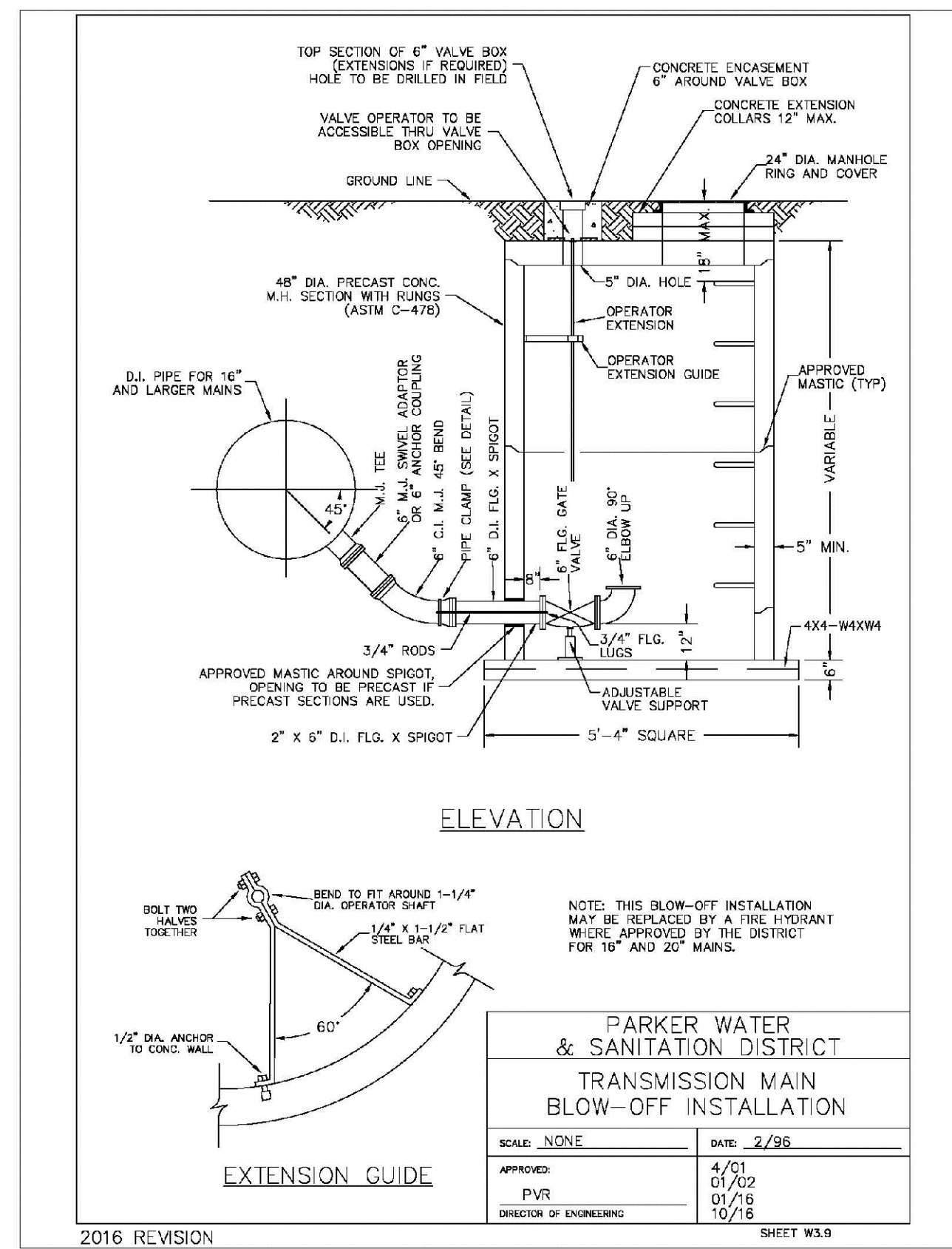
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				DATE: SEPTEMBER 2017	FILE NO: 8130283701				
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CVL
CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
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WATER DETAILS

MECHANICAL JOINT RESTRAINT

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	K1 INCHES	F INCHES	M INCHES
4"	2	2				
6"	3	3	11.12	9.5	7.00	0.88
8"	4	4	13.37	11.75	8.75	1.00
10"	5	5	15.62	14.00	11.20	1.00
12"	6	6	17.88	16.25	13.30	1.25

NOTES:
1. DIMENSIONS FOR 16" AND 20" D.I. PIPE NOT SHOWN.

**PARKER WATER & SANITATION DISTRICT
MECHANICAL JOINT RESTRAINT DETAILS**

SCALE: NONE DATE: 2/96
APPROVED: 2/90 12/07 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W3.17

11-1/4", 22-1/2", 45" & 90" BENDS

DEAD END

TYPICAL CROSS SECTION

SIZE OF PIPE	11-1/4" BENDS	22-1/2" BENDS	45" BENDS	90" BENDS	TEE OR DEAD END
4"	1.00	1.20	1.00	1.80	1.50
6"	1.00	1.45	1.25	4.00	3.00
8"	1.00	2.00	4.00	7.50	3.50
10"	2.00	2.25	2.25	10.50	11.00
12"	3.50	6.50	12.50	23.00	18.50
20"	5.50	10.00	19.50	38.50	29.00
24"	5.50	13.00	26.00	47.00	33.00

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

NOTES:
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.
2. WATER HAMMER: 1" IC
16", 20" AND 24" WATER HAMMER = 70 PSI.
3. SOIL BEARING CAPACITY = 3,000 LBS./SQ. FT.

**PARKER WATER & SANITATION DISTRICT
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION**

SCALE: NONE DATE: 2/96
APPROVED: 4/01 1/16 10/16
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2016 REVISION SHEET W3.18

HALF PLAN

TYPICAL CROSS SECTION

24" DIAMETER RING AND COVER

NOTES:
1. Coating Specifications: ASTM A-48 With a Minimum Tensile Strength of 20 KSI (Class 20)
2. All Castings to be Dipped in Asphalt Base Coat (Or Approved Lead)

**PARKER WATER & SANITATION DISTRICT
24" DIAMETER RING AND COVER**

SCALE: NONE DATE: 6/20
APPROVED: 12/07 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W2.19

ACCESS MANHOLE

ACCESS MANHOLE AND AIR VALVE ASSEMBLY

NOTES:
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPES.
2. RESIDENTIAL ASSEMBLY MAY BE USED IN RESIDENTIAL AREAS ONLY (SEE DETAIL SHEET W6.3)

**PARKER WATER & SANITATION DISTRICT
ACCESS MANHOLE ASSEMBLY**

SCALE: NONE DATE: 2/96
APPROVED: 4/01 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W3.20

STANDARD TRENCH SECTION

STREET CUT PATCH

**PARKER WATER & SANITATION DISTRICT
TYPICAL TRENCH SECTION PIPE PROTECTION**

SCALE: NONE DATE: 2/96
APPROVED: 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W4.1

PIPE BEDDING

(a) Installation of Bedding and Pipes After completion of the trench excavation and proper preparation of the foundation, six inches (6") of bedding material shall be placed on the trench bottom for support under the pipe. Bed holes shall be dug deep enough to provide a minimum of two inches (2") of clearance between the soil and bedding material. All pipe shall be installed in such a manner as to insure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade, and the joint is made, the bedding material shall be carefully placed and tamped under the fullness of the pipe and in the previously dug bed holes.

Tamping is herein defined as the act of placing approved bedding material under the fullness of the pipe, paying particular attention to voids, bed holes, and silt holes. The purpose of tamping is to ensure uniform support for the pipe.

The limits of bedding shall be from six inches (6") below the bottom of the pipe to twelve inches (12") above the top of the pipe. Approved bedding may then be installed to the groundline. See Chapter 2 of these Standards for details and composition of bedding.

Composition of bedding is not required. The only requirement is sufficient tamping to achieve uniform support under the pipe. See Sheet W4.1 of the Standard Details for a typical trench cross section.

(b) Bedding Material: the bedding material shall be a clean well-graded sand or spongy sand and shall conform to the following limits when tested by means of laboratory sieves.

Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 4	70-100
No. 6	35-83
No. 16	20-80
No. 30	5-60
No. 50	2-30
No. 100	1-10
No. 200	0-3

Spongy Sand
for use with 20-inch or smaller

Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 200	0-3

If approved by the District, fines from the trench walls and spoils pile may be used to provide uniform support for the pipe. No rock or stone larger than that allowed by the sieve analysis, or any other detrital materials, shall be placed closer to the pipe than six inches (6"). Approved bedding materials shall be stockpiled on the jobsite to be used in the event natural materials become unsatisfactory. The District reserves the right to require the use of the specified bedding material at any time.

**PARKER WATER & SANITATION DISTRICT
PIPE BEDDING**

SCALE: NONE DATE: 2/96
APPROVED: 5/08 2/00 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W4.2

PLAN VIEW

PROFILE

TYPICAL SECTION

NOTES:
1. ALL CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 PSI USING TYPE I PORTLAND CEMENT AND 3/4" AGGREGATE. ALL CONCRETE SHALL HAVE 5-7% ENTRAINED AIR CONTENT AND A MAXIMUM SLUMP OF 4".
2. ALL REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60.
3. ALL REINFORCEMENT SHALL HAVE 2" MIN. CONCRETE COVER.
4. THE SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY PRIOR TO FORMING THE STRUCTURE.
5. PIPE SHALL BE WRAPPED WITH FELT LAYER BEFORE ENCASING.

**PARKER WATER & SANITATION DISTRICT
WATERLINE ENCASEMENT**

SCALE: NONE DATE: 5/20
APPROVED: 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W4.3

PLAN FOR PERPENDICULAR CROSSING

PLAN FOR ANGLE CROSSING

PROFILE

FORMULA FOR FINDING C:
$$C = B + (2)(1.5) \left[\frac{B}{2} + A + F \right]$$

FORMULA FOR FINDING L:
$$L = \frac{C}{\sin \phi}$$

NOTES:
1. FINAL APPROVAL OF BORING AND CASING METHOD AND MATERIALS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.

**PARKER WATER & SANITATION DISTRICT
BORED CROSSINGS BENEATH CONDUITS**

SCALE: NONE DATE: 2/96
APPROVED: 2/00 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W4.4

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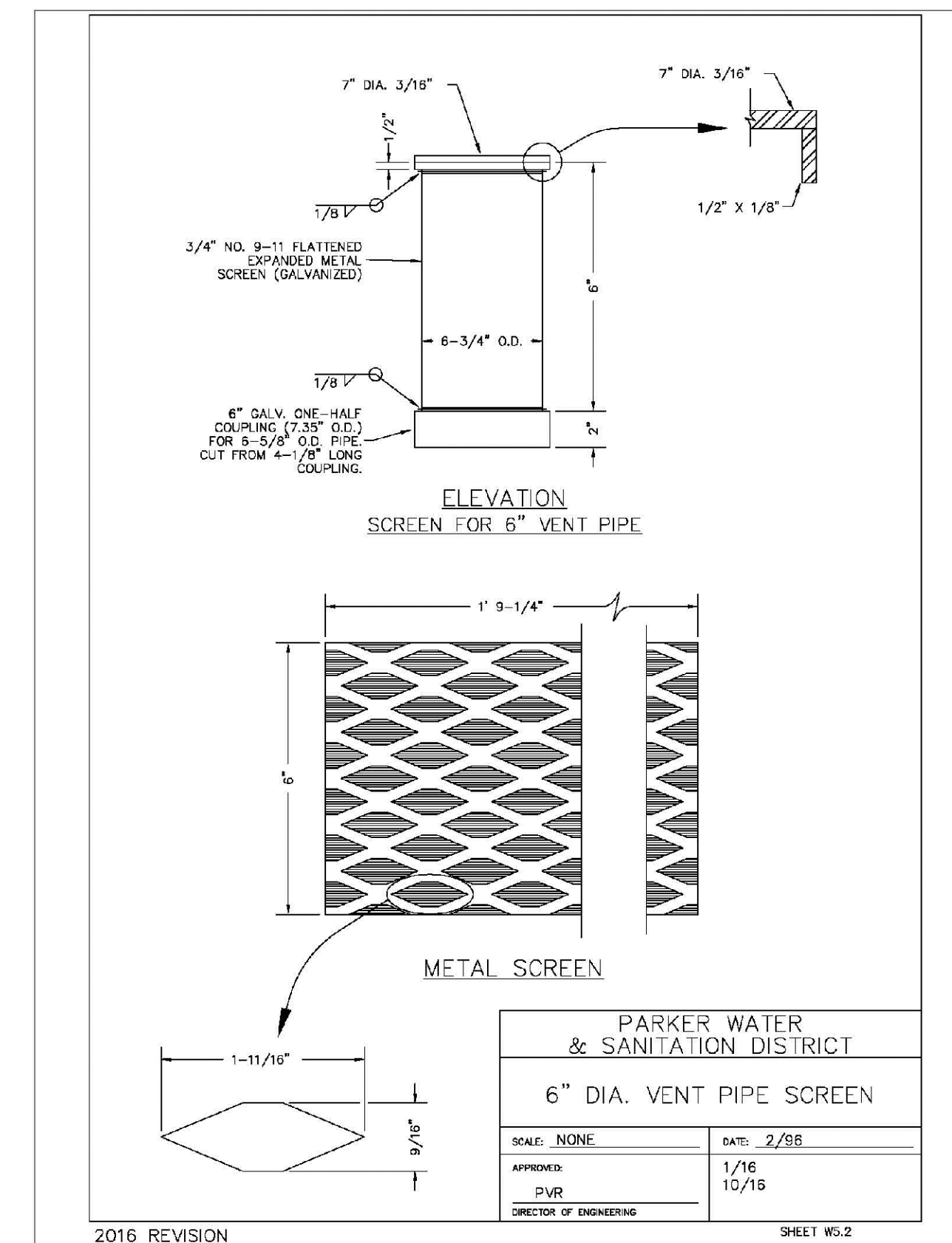
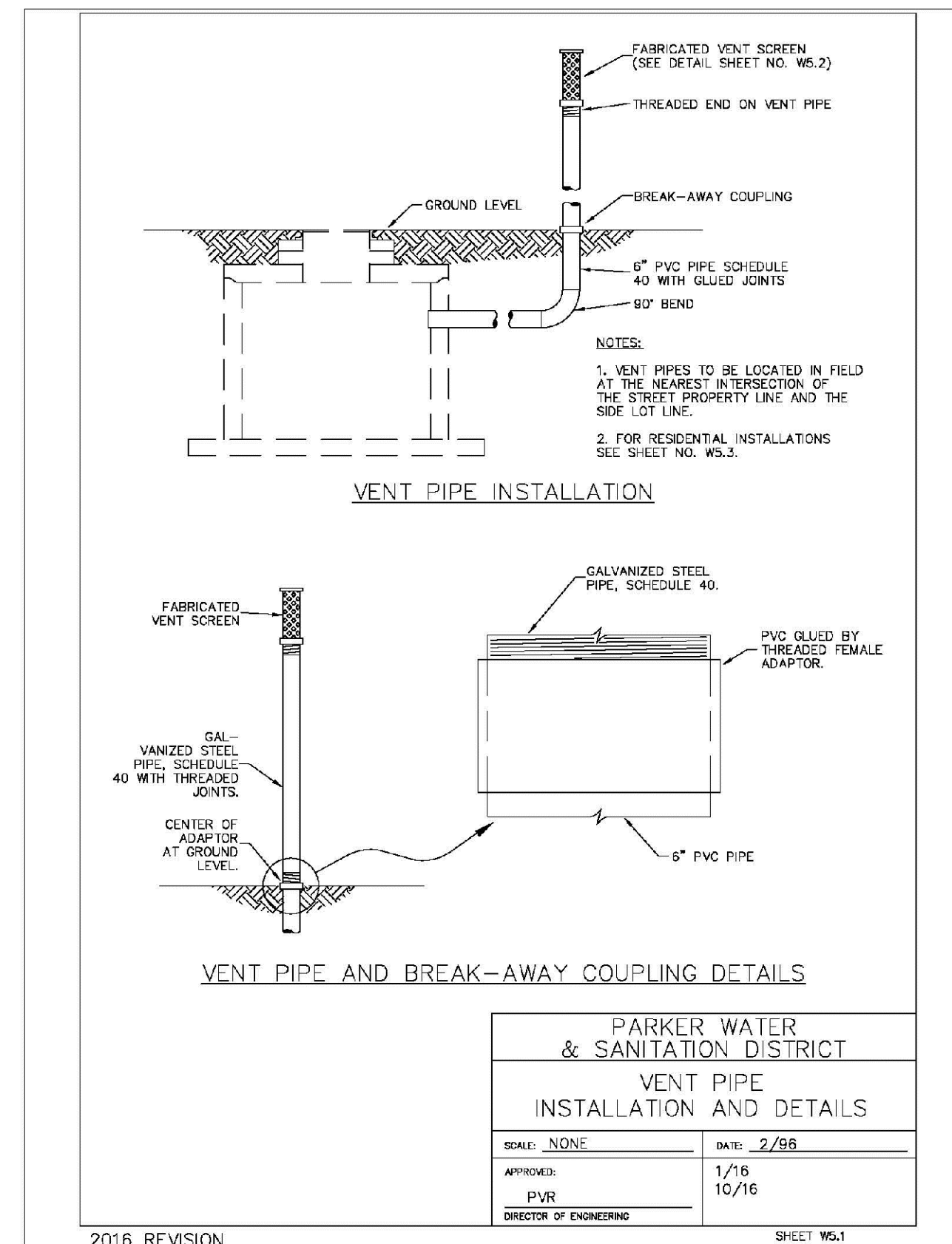
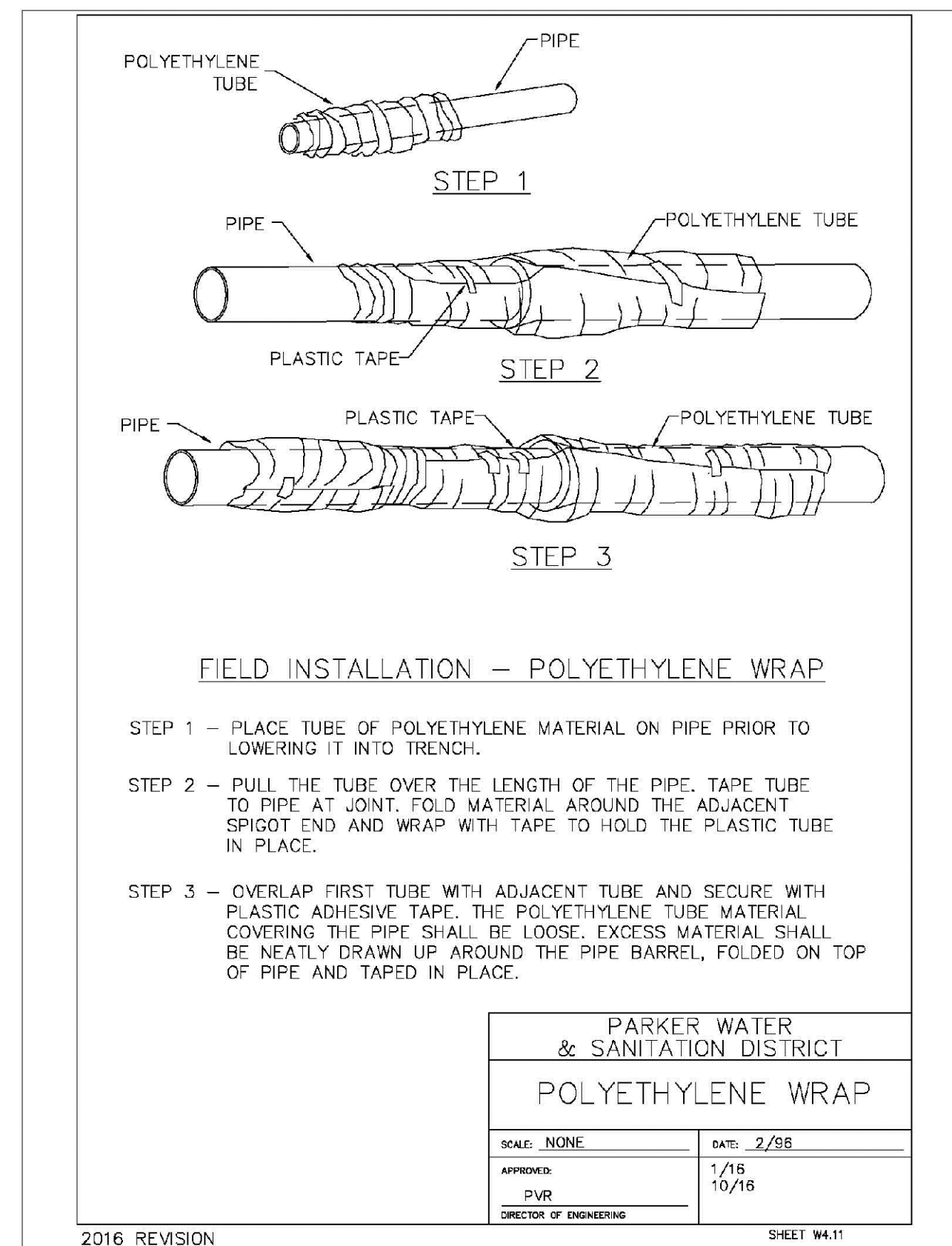
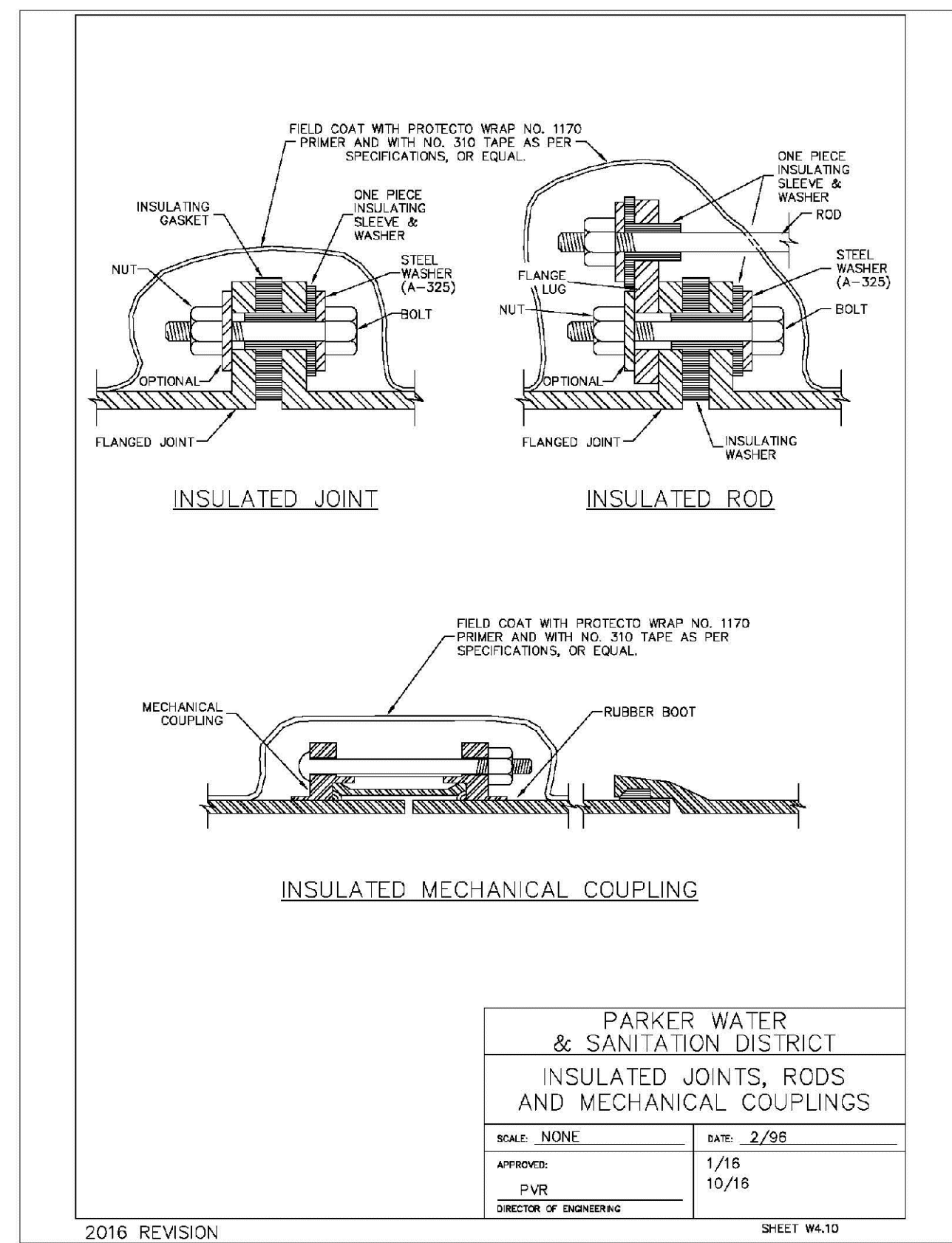
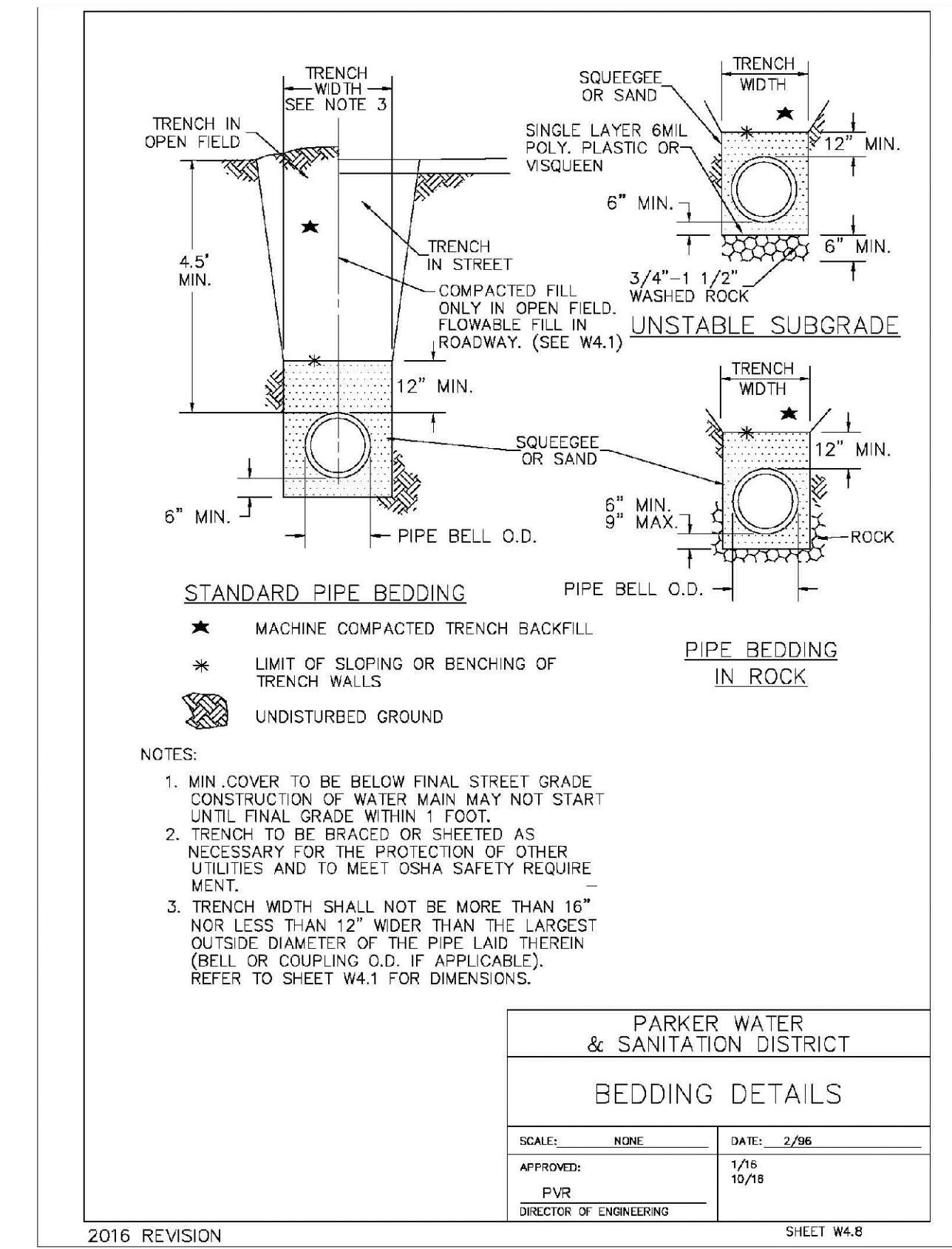
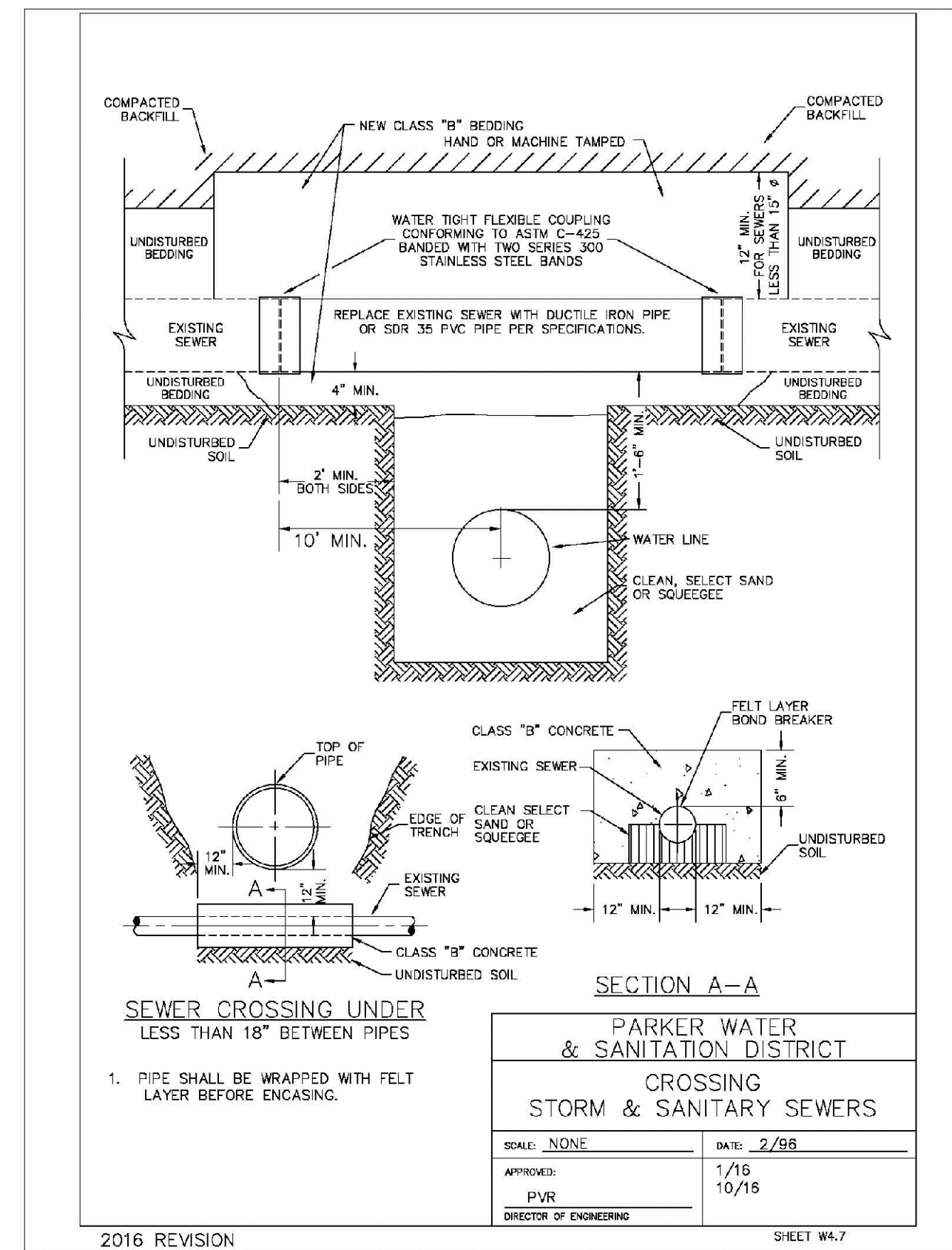
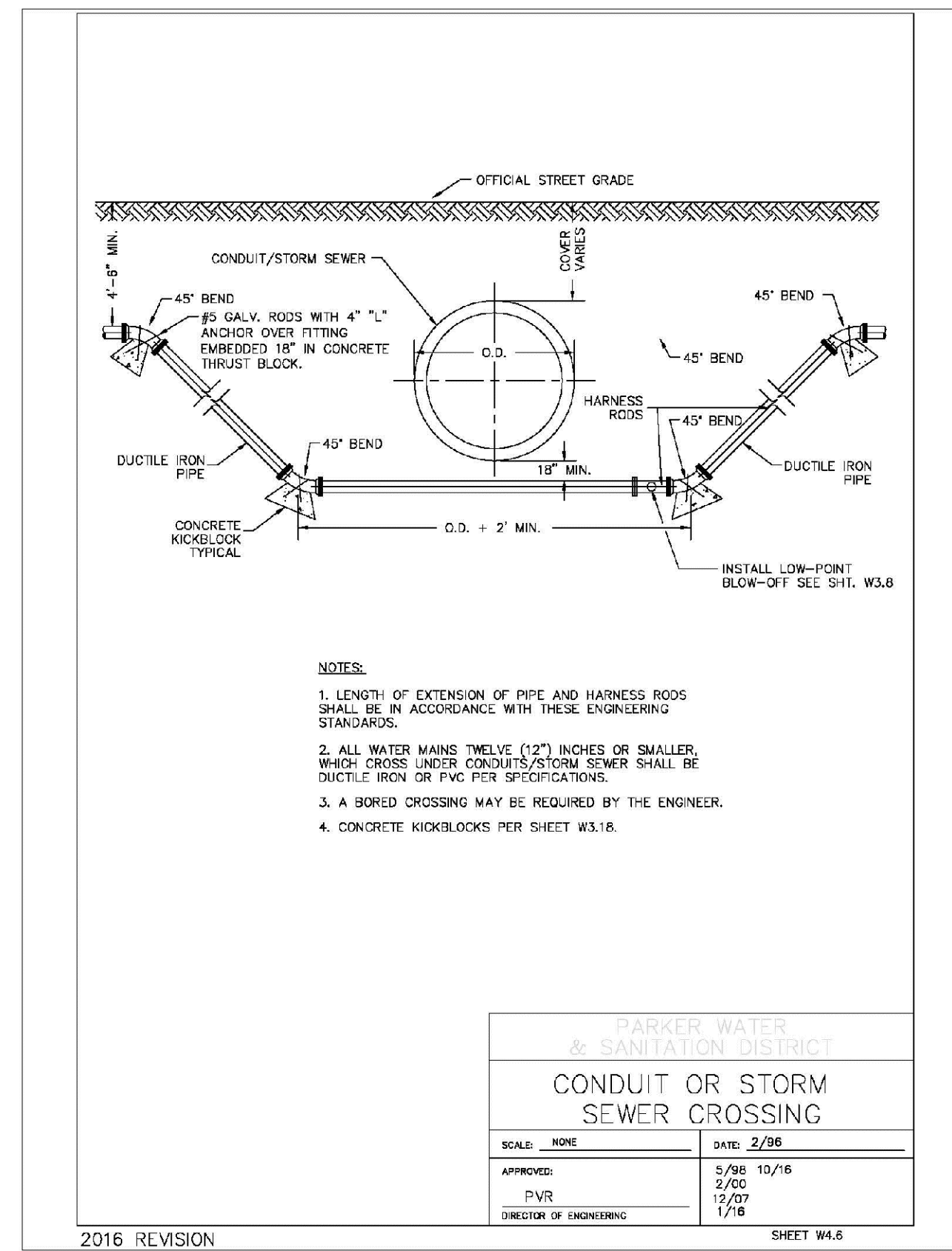
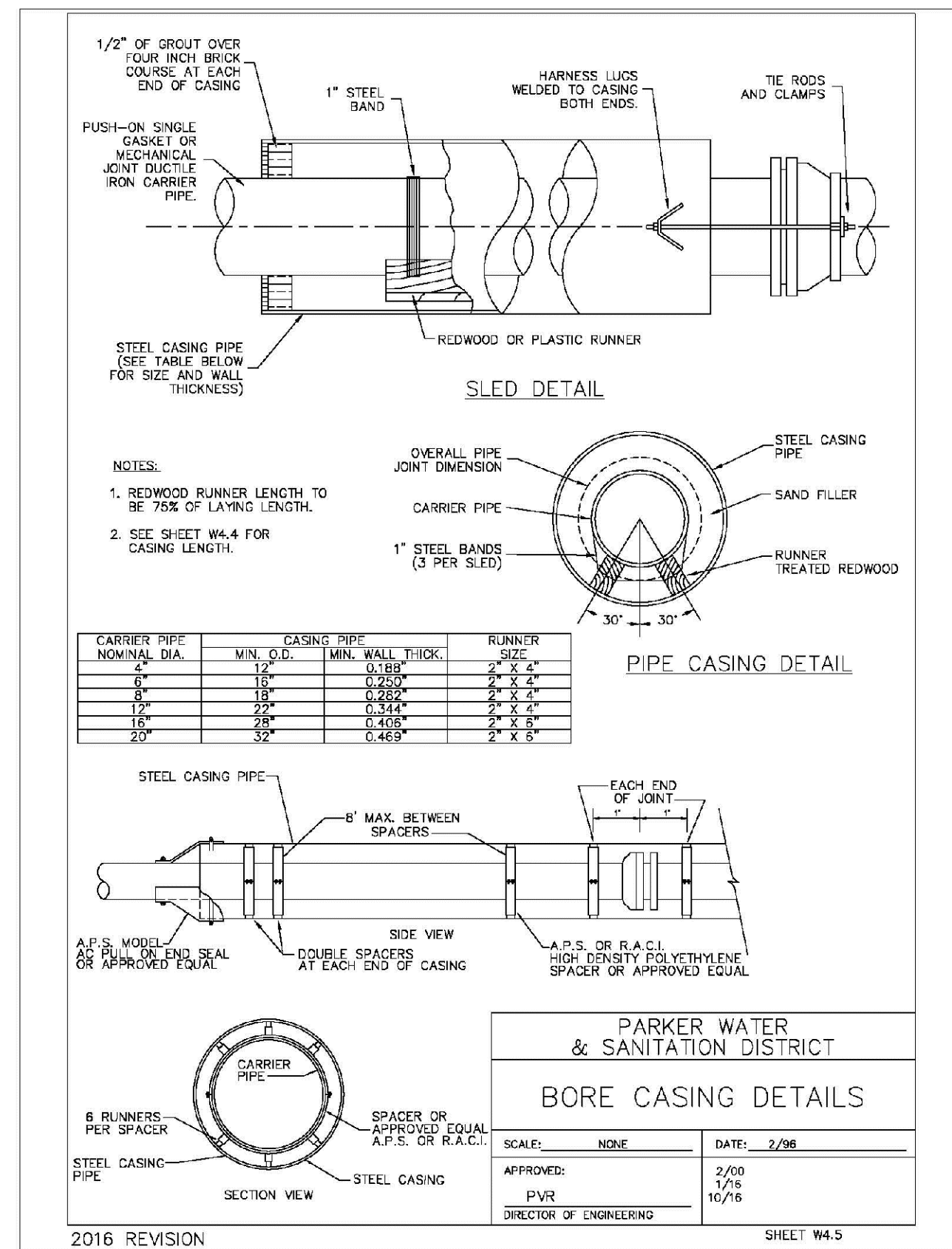
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TRAILS AT CROWFOOT
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SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JF
CHECKED BY: JU
DATE: SEPTEMBER 2017

SHEET NUMBER: 16

Revisions: No. Date Init. Appr. Date



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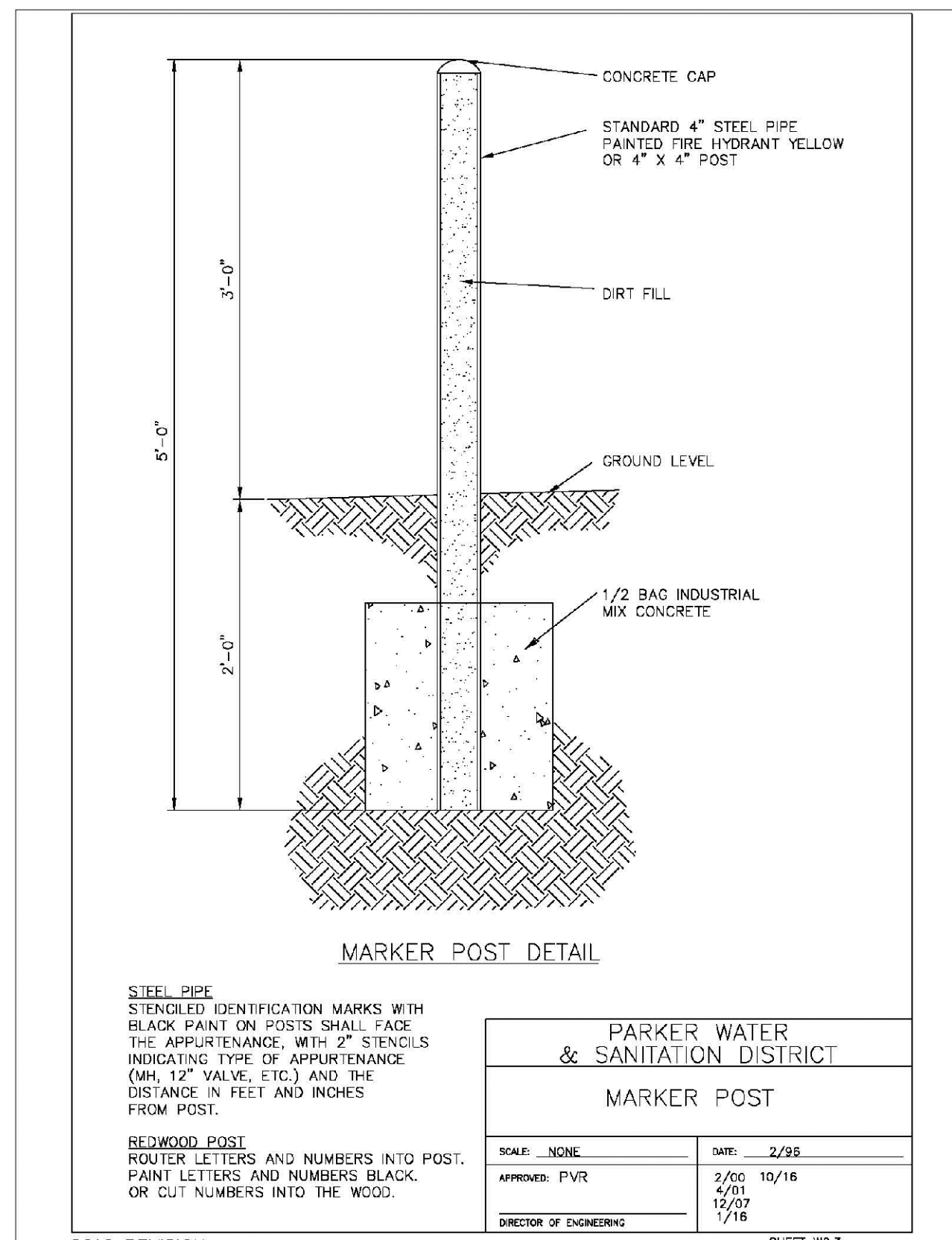
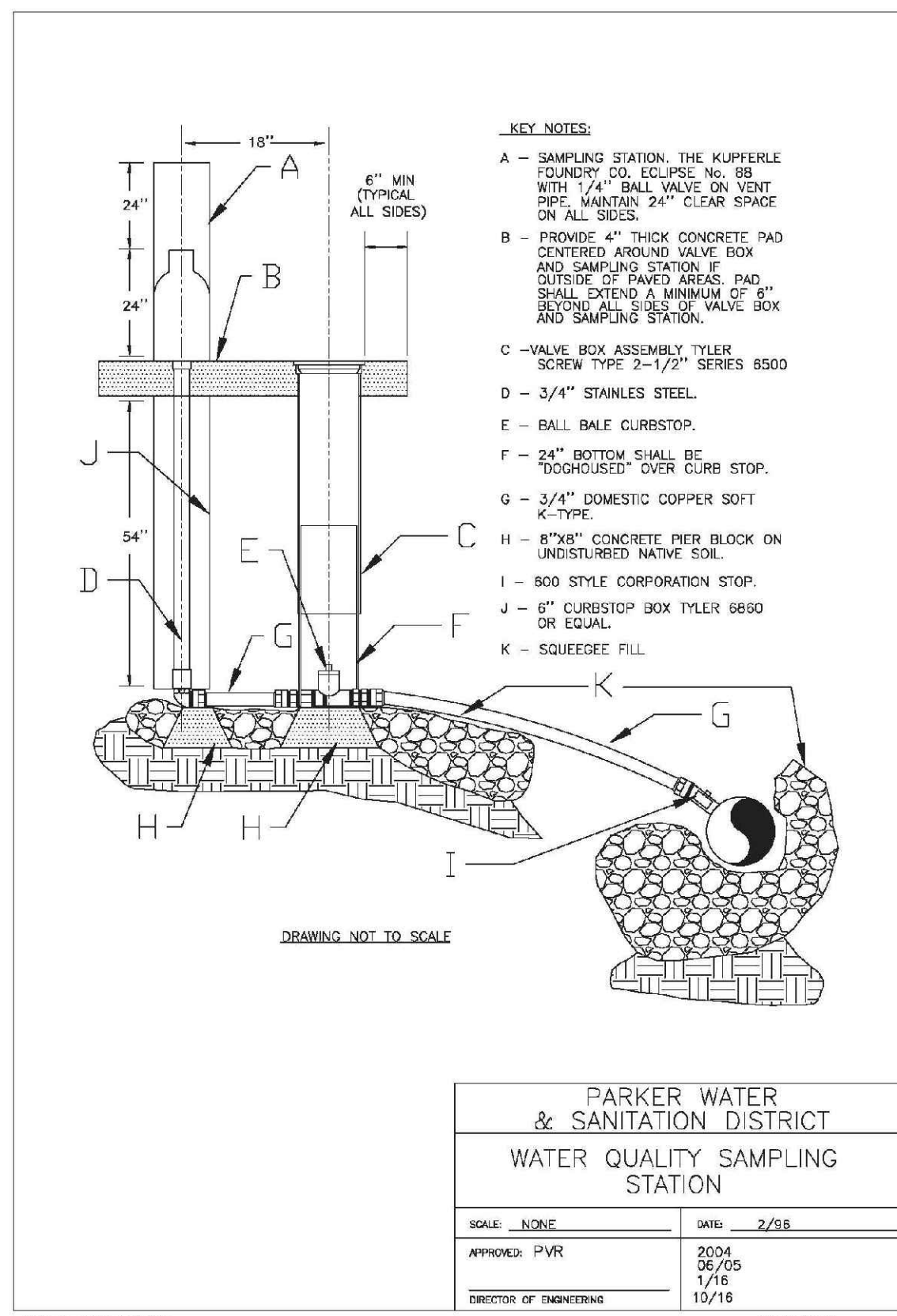
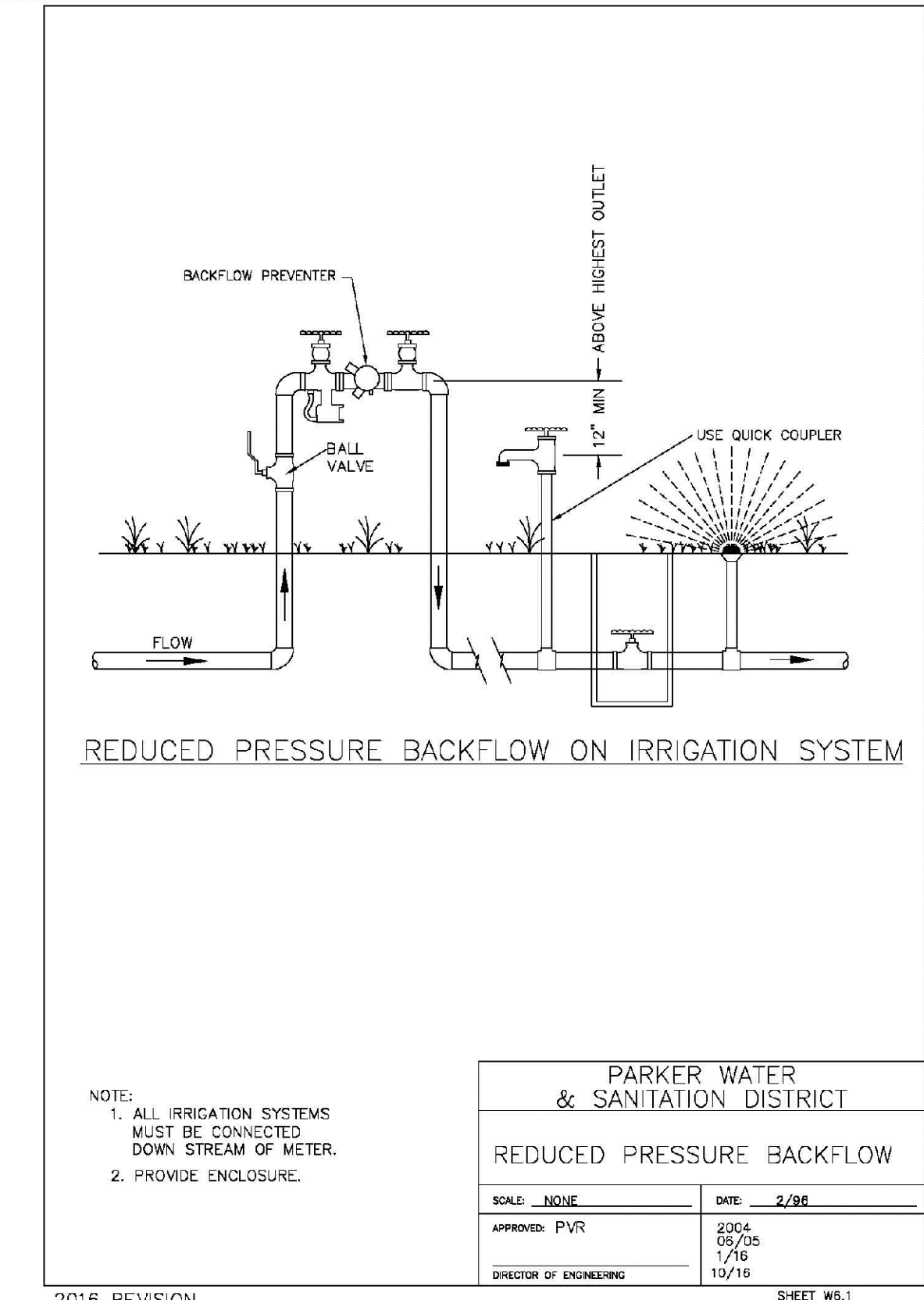
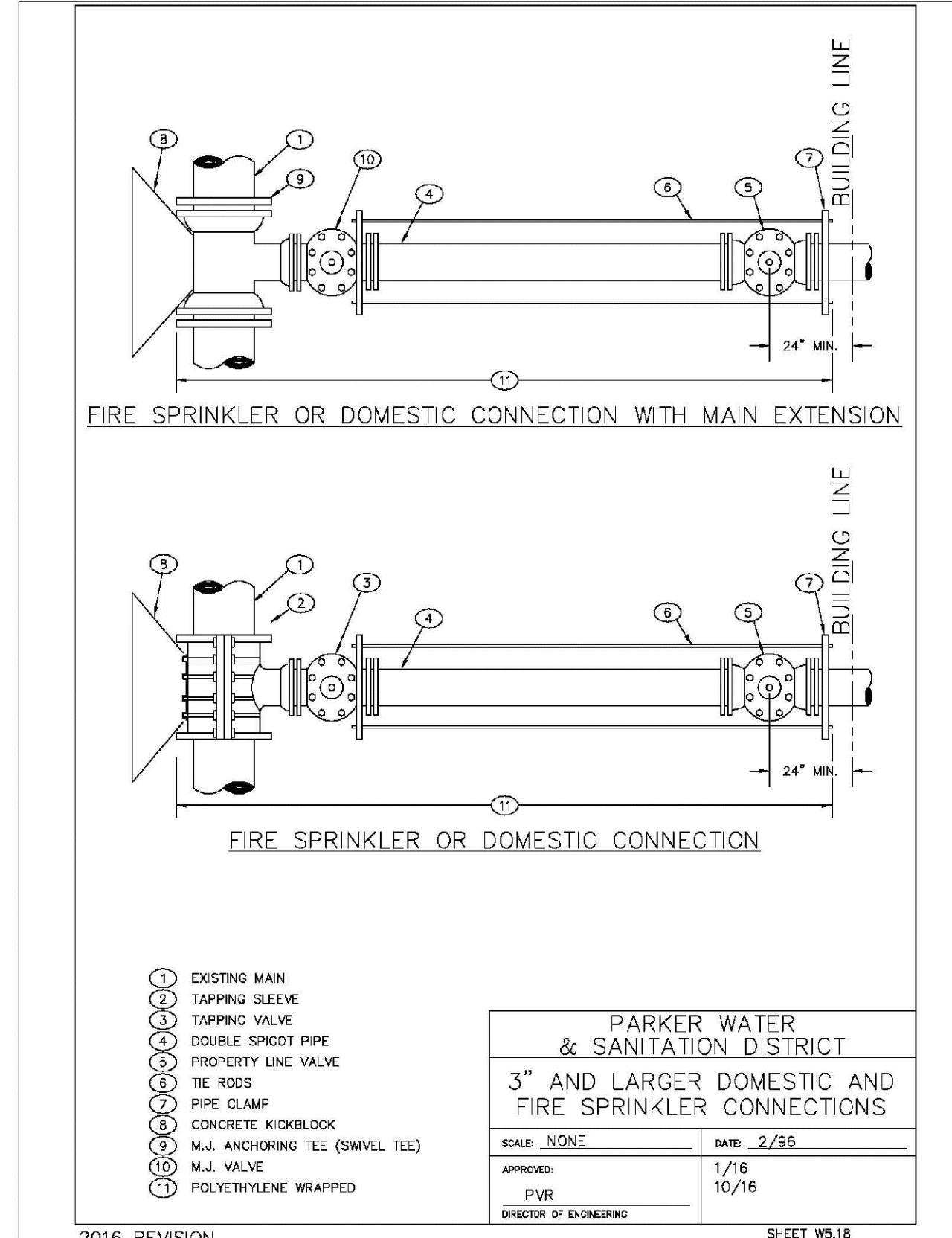
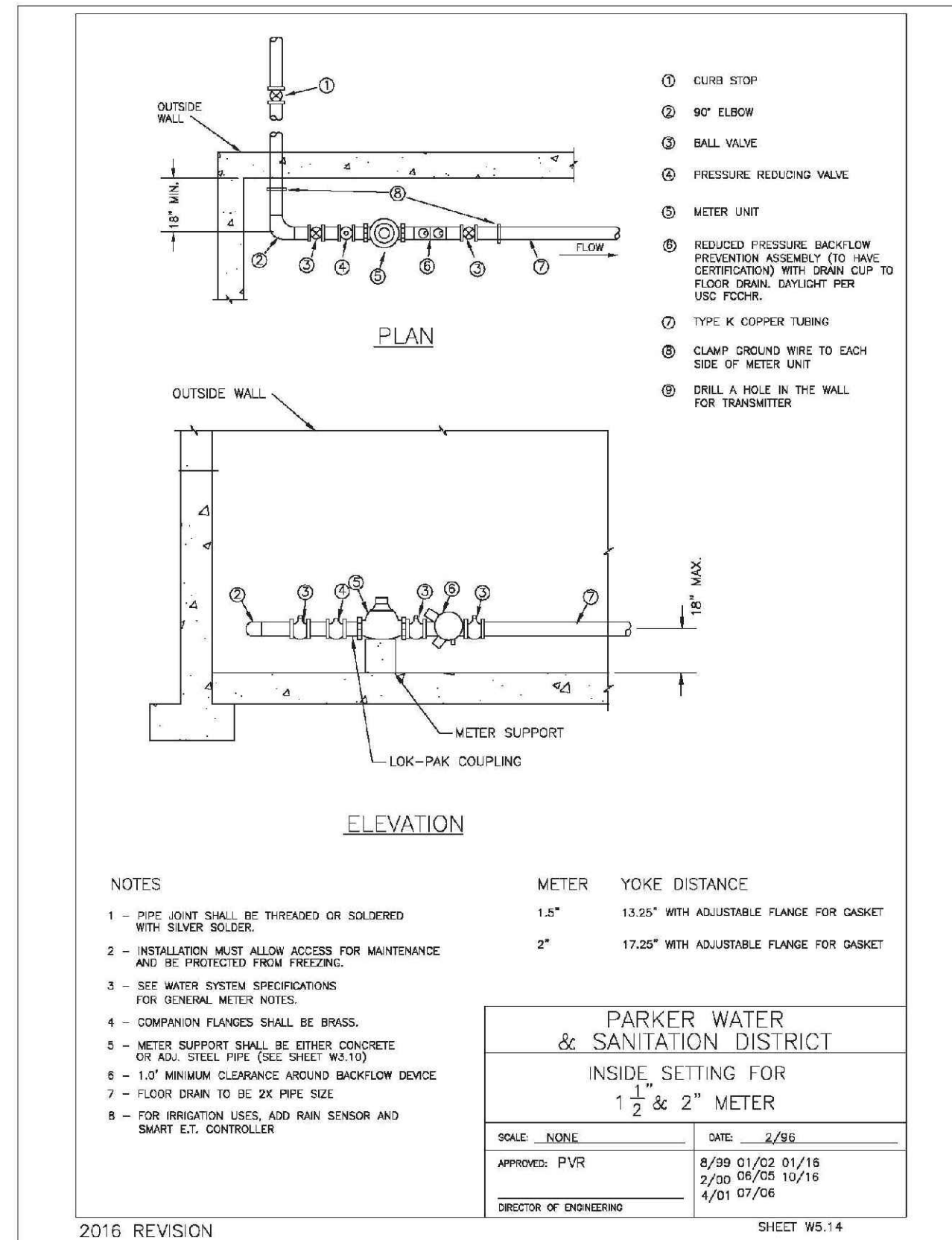
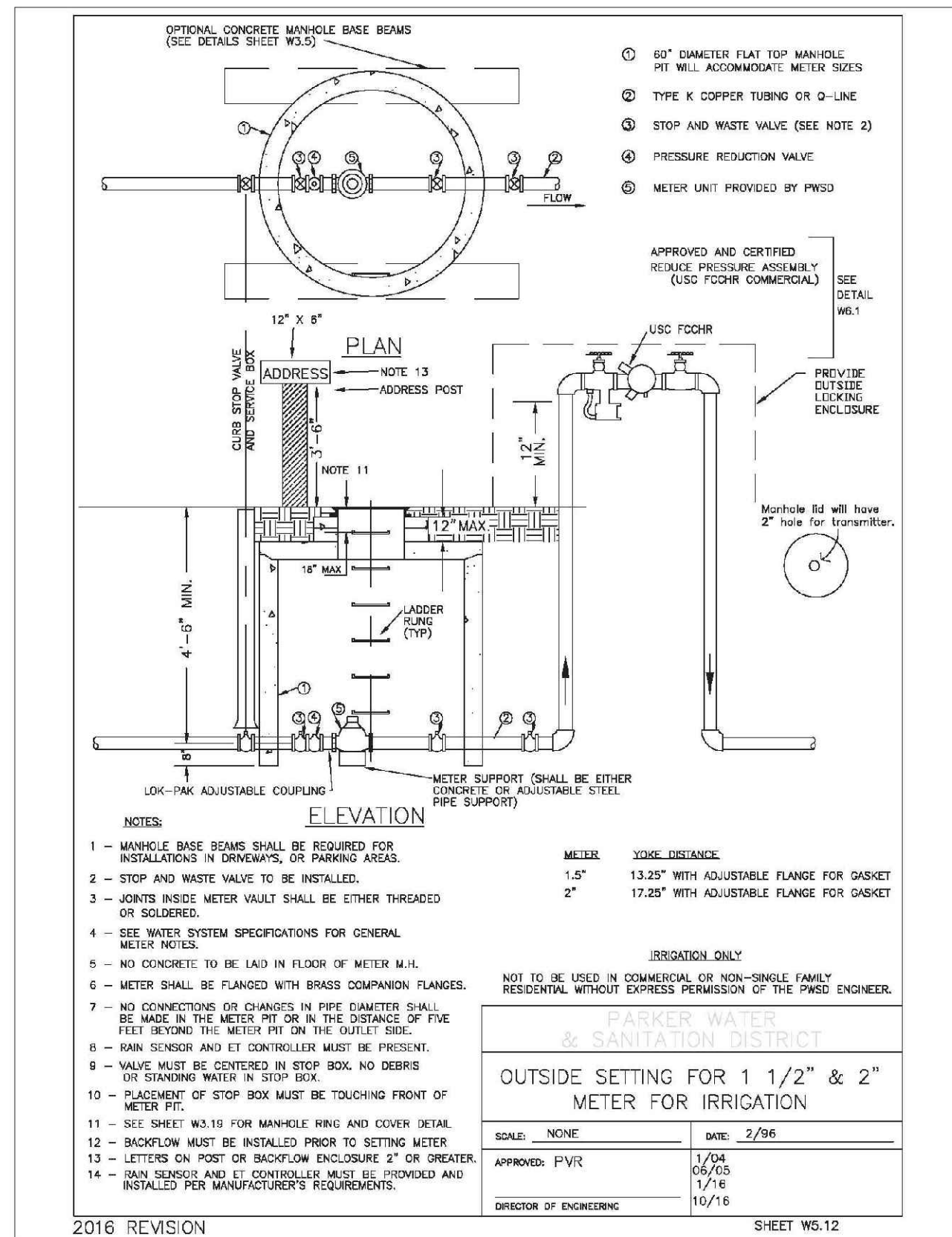
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NO.	NO.	NO.	NO.
REVISIONS	REVISIONS	REVISIONS	REVISIONS
INIT.	INIT.	INIT.	INIT.
APPR.	APPR.	APPR.	APPR.
DATE	DATE	DATE	DATE

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SHEET NUMBER	19	DRAWN BY:	JF	SCALE:	AS SHOWN	FILE NO.:	8130283701	DATE:	SEPTEMBER 2017	Revisions	No.	Date	Appr.	Date
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