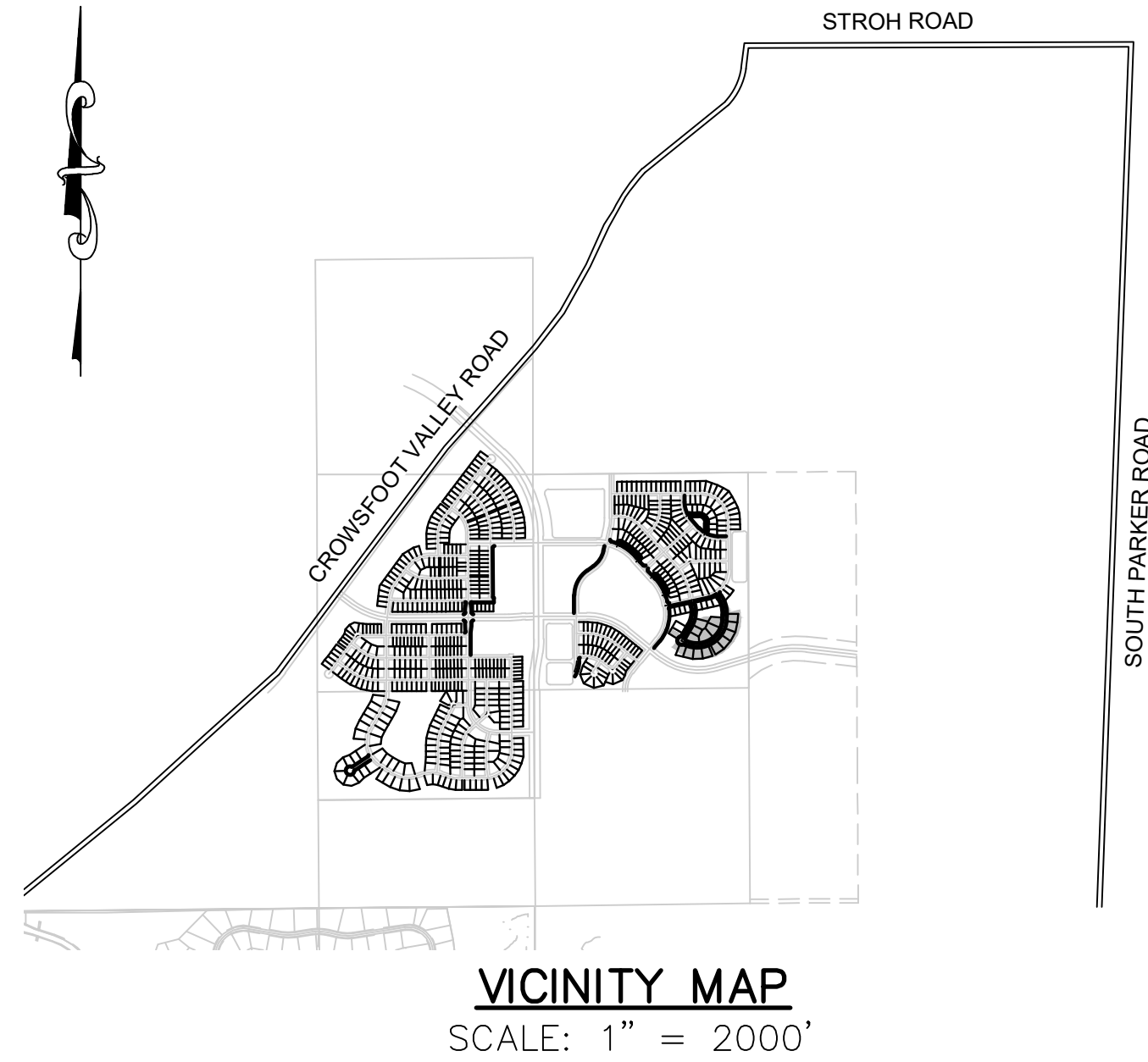


# TRAILS AT CROWFOOT FILING 12

## PARKER WATER AND SANITATION CONSTRUCTION PLANS

SECTIONS 4, 8, AND 9 TOWNSHIP 7 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN COUNTY OF DOUGLAS, STATE OF COLORADO

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	PARKER WATER AND SANITATION NOTES
3	AREA UTILITY PLAN
4	SANITARY P&P BEEBALM WAY
5	SANITARY P&P BEEBALM WAY
6	WATER P&P BEEBALM WAY
7	WATER P&P BEEBALM WAY
8	SANITARY SEWER DETAIL
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10	SANITARY SEWER DETAIL
11	WATER DETAILS
12	WATER DETAILS
13	WATER DETAILS
14	WATER DETAILS
15	WATER DETAILS
16	WATER DETAILS
17	WATER DETAILS



MATERIALS LIST		
DESCRIPTION	QUANTITY	UNIT
8" SEWER (PVC)	1,266	L.F.
4' DIA. MANHOLE	9	EA.
4" SEWER SERVICE	18	EA.
CONNECTION TO EXISTING MAIN	1	EA.
6" WATERPIPE (DIP)	40	L.F.
8" WATERPIPE (PVC)	1,494	L.F.
6" GATE VALVE	2	E.A.
8" GATE VALVE	2	EA.
8" MISC. FITTINGS	14	EA.
2" BLOW OFF VALVE (8" LINE-LOW POINT)	1	EA.
FIRE HYDRANT WITH 6" LEAD	2	EA.
DOMESTIC WATER SERVICE	18	EA.
CONNECTION TO EXISTING MAIN	2	EA.

### FIRE DEPARTMENT APPROVAL

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

(FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE) \_\_\_\_\_ DATE \_\_\_\_\_

(NOTE- UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA24 WHEN SUBMITTING FOR REVIEW.)

THE DISTRICT INSPECTOR MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CALL PARKER WATER AND SANITATION DISTRICT AT 303-841-4627. THE DISTRICT WILL PROVIDE PERIODIC INSPECTIONS OF THE WORK. 24 HOUR NOTICE TO THE INSPECTOR IS REQUIRED FOR SCHEDULED INSPECTIONS. ANY WORK ACCOMPLISHED WITHOUT THE APPROVAL OF THE INSPECTOR WILL BE SUBJECT TO REJECTION.

REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

BY: \_\_\_\_\_  
(DISTRICT REPRESENTATIVE)

DATE SIGNED: \_\_\_\_\_

APPROVED FOR CONSTRUCTION:  
PARKER WATER AND SANITATION DISTRICT

BY: \_\_\_\_\_  
(DISTRICT ENGINEER)

DATE SIGNED: \_\_\_\_\_

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" 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.

### DEVELOPER

**HR 935 LLC**  
7353 SOUTH ALTON WAY  
CENTENNIAL, CO 80112  
TEL: (303) 770-9111  
CONTACT: MATT JANKE

### PLANNER/ LANDSCAPE DESIGNER:

**PCS GROUP, INC.**  
200 KALAMATH STREET  
DENVER, CO 80233  
TEL: (303) 531-4905  
CONTACT: JOHN PRESTWICH

### SURVEYOR/ ENGINEER:

**CVL, A WESTWOOD TEAM**  
10333 E. DRY CREEK RD. STE 240  
ENGLEWOOD, CO 80112  
TEL: (720) 482-9526  
CONTACT: JIM JANNICKE

### UTILITY DISTRICT

**PARKER WATER AND  
SANITATION DISTRICT**  
18100 E. WOODMAN DRIVE  
PARKER, CO 80134  
TEL: (303) 841-4627

CALL 811  
TWO WORKING DAYS  
BEFORE YOU DIG  
**UNCC**  
UTILITY NOTIFICATION  
CENTER OF COLORADO  
1-800-922-1987

Revisions	No.	Date	Appr.	Date

10333 E. Dry Creek Rd  
Suite 240  
Englewood, CO 80112  
Tel: 720.482.9526  
www.cvlinc.net  
westwoodpjt.com

**CVL**  
a Westwood team

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 12 CONSTRUCTION DRAWINGS  
COVER SHEET

SCALE: AS SHOWN  
FILE NO: 8130283701

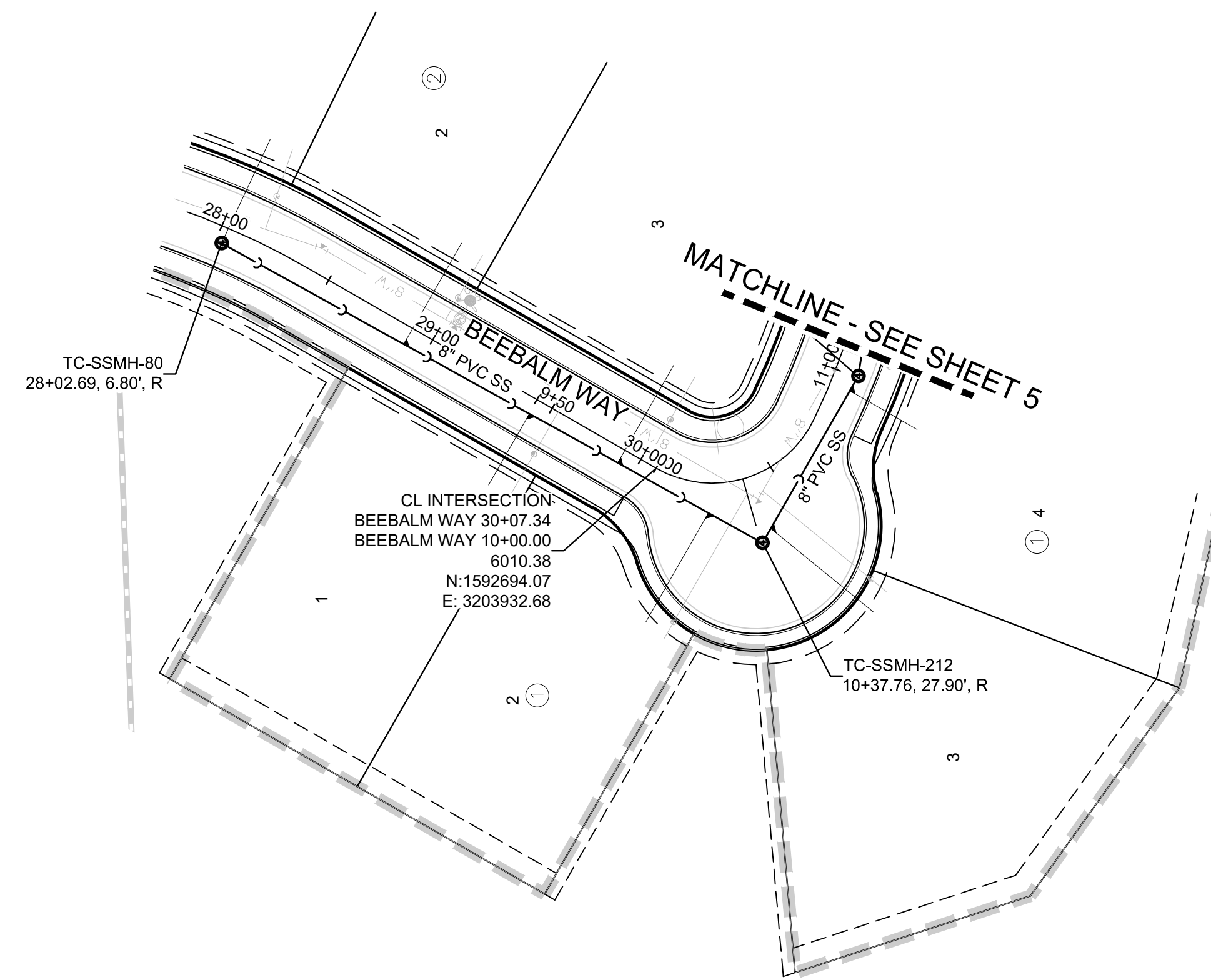
DRAWN BY: KJD  
CHECKED BY: JJJ  
DATE: SEPTEMBER 2017

SHEET NUMBER **1**

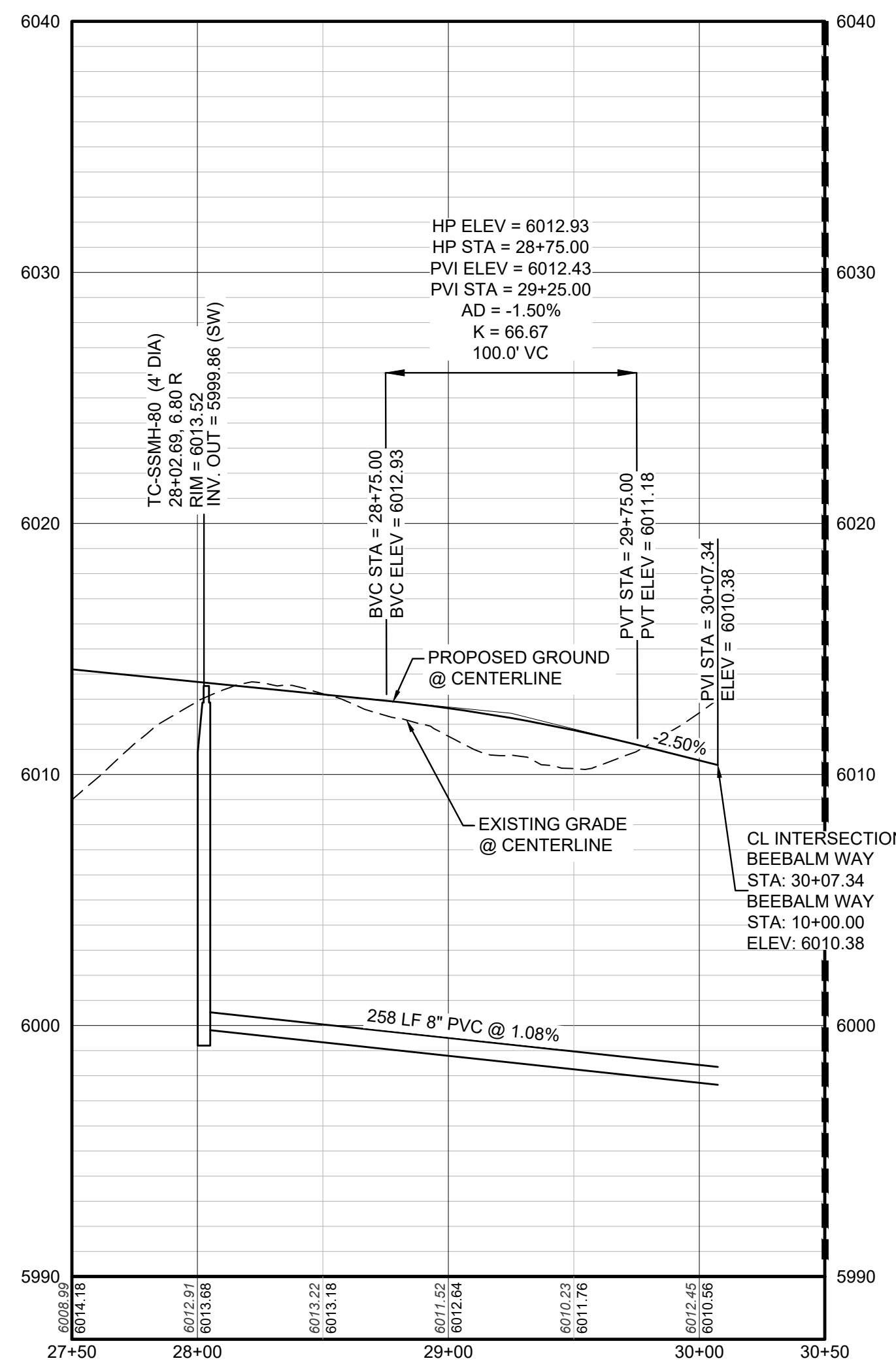
N:\PROJECTS\HR 935\ENGINEERING\SET\SET\12\CROWFOOT\12\CROWFOOT\12\CROWFOOT.DWG, BPRWILSON, 5/25/21, 3:10 PM



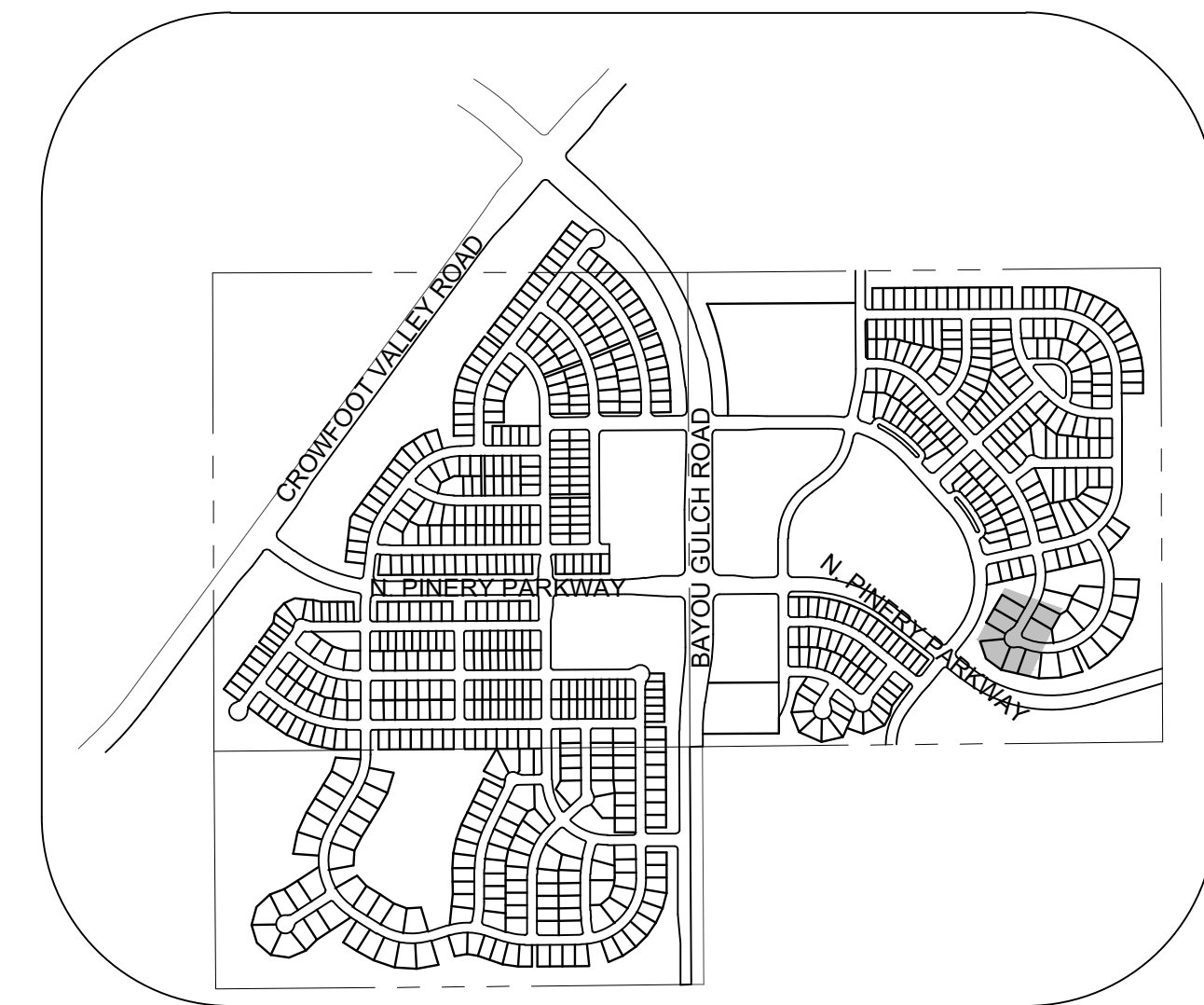
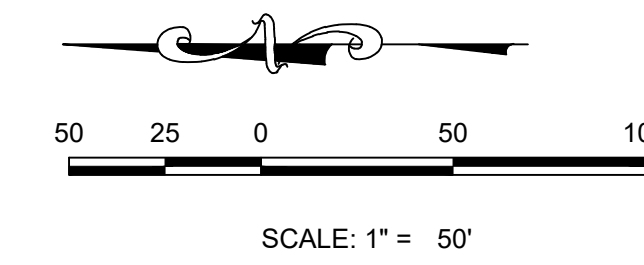




PLAN: BEEBALM WAY STA: 28+00.00 TO 30+50.00  
HORIZONTAL SCALE: 1" = 50'



PROFILE: BEEBALM WAY STA: 27+50.00 TO 30+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



KEYMAP  
N.T.S.  
LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT CENTERLINE
Ⓐ	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 RAMP	---	PROPOSED WATER LATERAL W/ METER
10.00	EXISTING ELEVATION	---	SECTION LINE
10.00	PROPOSED DESIGN ELEVATION	---	FILING BOUNDARY
Ⓜ	PROPOSED STORM DRAIN INLET	FO	EXISTING FIBER OPTIC LINE
Ⓜ	PROPOSED STORM DRAIN MANHOLE	OH	EXISTING OVERHEAD POWER
Ⓜ		TEL	EXISTING TELEPHONE LINE
		---	PWSD EASEMENT
		---	TYP. EASEMENT

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	RCBC	REINFORCED CONCRETE BOX CULVERT
EL	ELEVATION	ROP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EVC	END VERTICAL CURVE	SC	SANITARY CAP
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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 FOR SANITARY SERVICE TABLES

N:\PROJECTS\HSS RANCH\ENGINEERING\SSHEETS\SS\12\BEEBALM WAY SANITARY DWG.BIP\WILSON\_5/26/2017 3:37 PM

CALL 811  
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UNCC  
1-800-922-1987

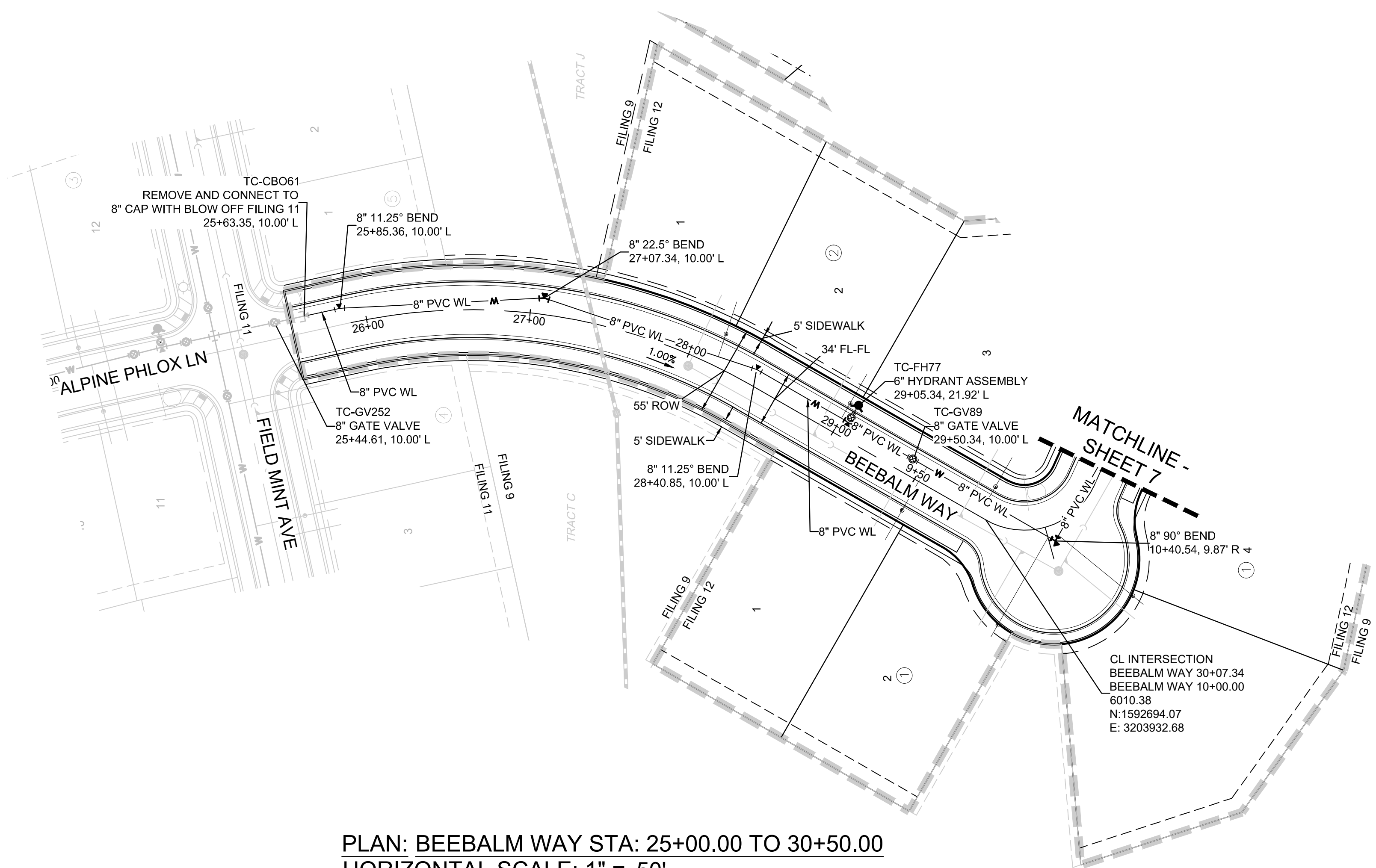
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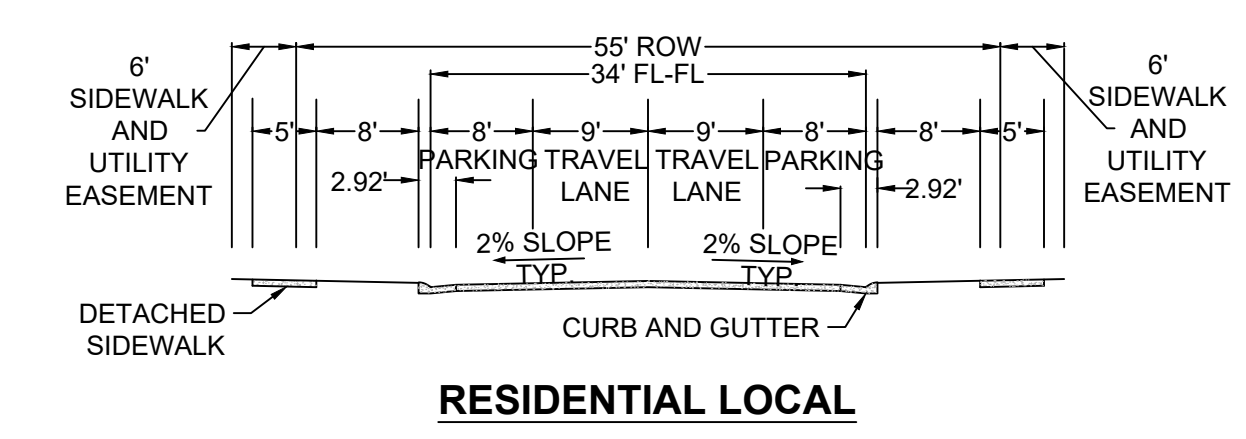
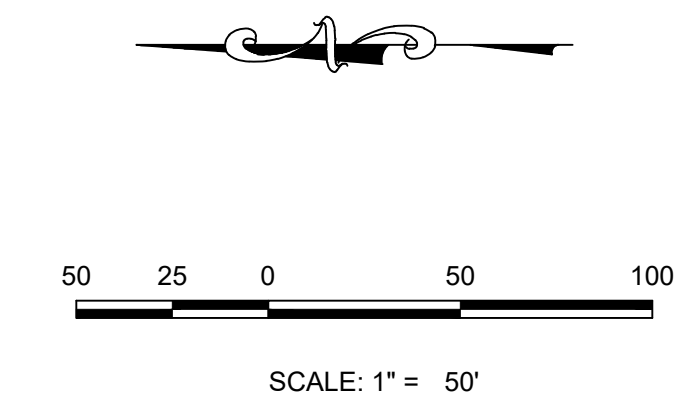
PREPARED UNDER THE SUPERVISION OF  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067

SHEET NUMBER	DRAWN BY: JLR	CHECKED BY: JLU	DATE: SEPTEMBER 2017	SCALE: AS SHOWN	FILE NO: 8130283701
				NO. REVISIONS	DATE
4	TRAILS AT CROWFOOT FILING 12 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE BEEBALM WAY			HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	
	10333 E. Dry Creek Rd Suite 240 Englewood, CO 80112 Tel: 720.482.952 www.cvlinc.net westwoodjpa.com			a Westwood team	

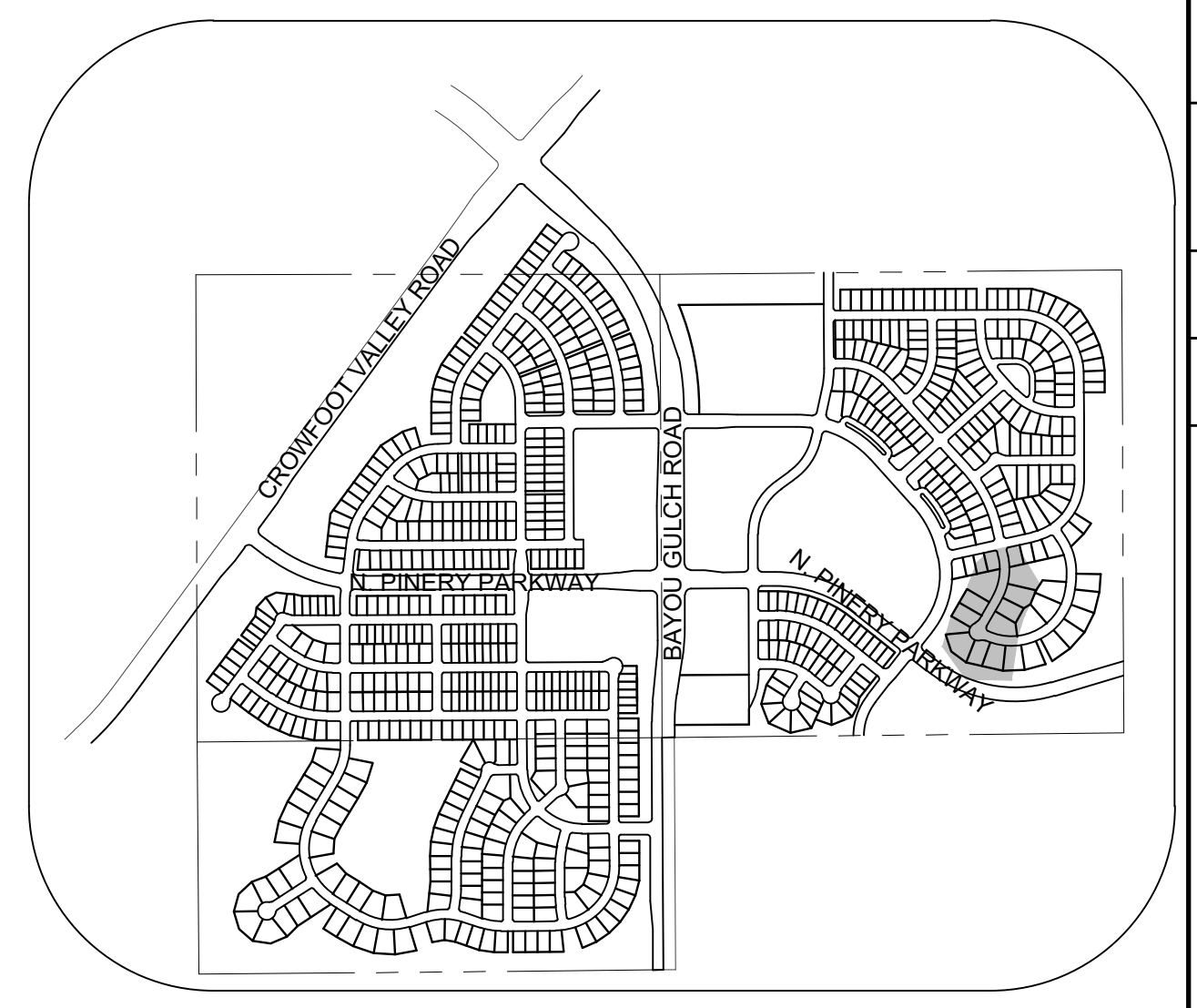




PLAN: BEEBALM WAY STA: 25+00.00 TO 30+50.00  
HORIZONTAL SCALE: 1" = 50'



RESIDENTIAL LOCAL



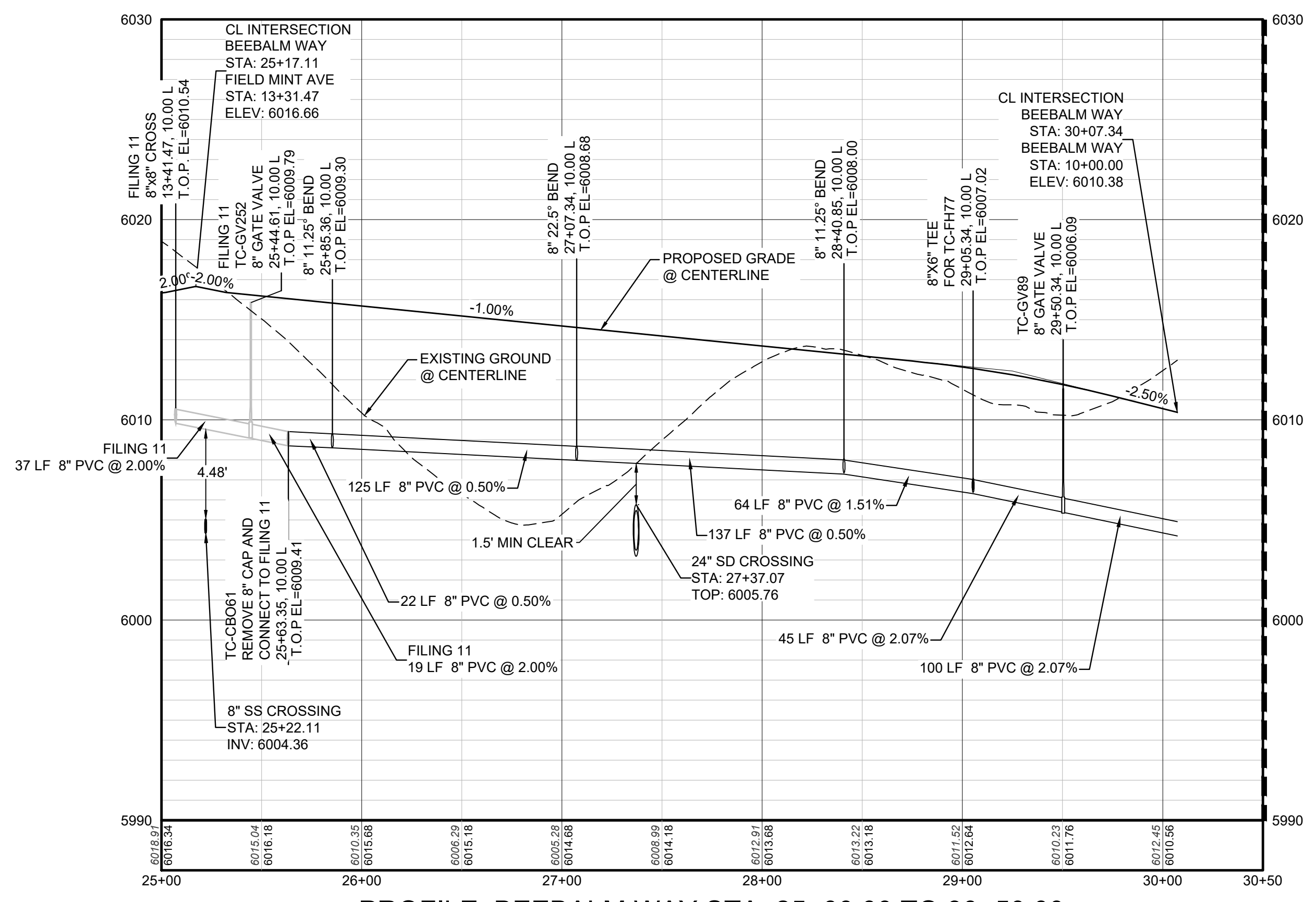
KEYMAP  
N.T.S.  
LEGEND

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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 FOR WATER SERVICE TABLES



PROFILE: BEEBALM WAY STA: 25+00.00 TO 30+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

MATCHLINE - SHEET 7

BENCHMARK  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" 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.

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PREPARED UNDER THE SUPERVISION OF  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067

CALL 811  
TWO WORKING DAYS  
BEFORE YOU DIG  
UNCC  
1-800-922-1987

SHEET NUMBER	DRAWN BY:	CHECKED BY:	DATE:	NO.	DATE	INIT.	APPR.	DATE
				6				
SCALE:				TRAILS AT CROWFOOT FILING 12 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE BEEBALM WAY				
AS SHOWN				FILE NO: 8130283701				
SEPTEMBER 2017								

10333 E. Dry Creek Rd  
Suite 240  
Englewood, CO 80112  
Tel: 720.482.952  
www.cvlinc.net  
westwoodjpa.com

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 12 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
BEEBALM WAY





**ALUMINUM STEP**

NOTES:

- ALUMINUM ALLOY SPECIFICATIONS
  - F35C-90-A-200/9 (ALUMINUM-MAGNESIUM-SILICATE ALLOY)
  - MINIMUM TENSILE STRENGTH= 35,000 P.S.I.
  - MINIMUM YIELD STRENGTH= 35,000 P.S.I.
  - MINIMUM ELONGATION=10% IN 2 INCHES
- MINIMUM LOAD CAPACITY (APPLIED AT CENTER OF STEP)
  - 1000 LB. WITH 6" PROJECTION FROM WALL.
  - 1500 LB. WITH 4" PROJECTION FROM WALL.
- WEIGHT PER STEP=2.23 POUNDS
- STEPS TO BE CAST, UNALTERED, IN MANHOLE WALL IN STRAIGHT LINE, VERTICALLY, AT THE SAME TIME THE BARREL OR CONE SECTIONS ARE CAST.
- VERTICAL SPACING BETWEEN STEPS SHALL BE CONSISTENT IN EACH INDIVIDUAL MANHOLE.
- TOE POCKETS ARE REQUIRED IN STORM SEWER MANHOLES IF TOP OF BENCH IS MORE THAN 18" ABOVE INVERT. TOE POCKETS ARE NOT REQUIRED IN SANITARY SEWER MANHOLES UNLESS OTHERWISE SPECIFIED.

**TYPICAL INSTALLATION**

**TOE POCKET DETAILS**

**STANDARD EXTRUDED ALUMINUM MANHOLE STEP**

**PARKER WATER & SANITATION DISTRICT**  
STANDARD EXTRUDED ALUMINUM MANHOLE STEP

SCALE: NONE DATE: 2/98  
APPROVED: PVR 01/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 53.10

**PIN FOR PRESS STEP**

**POLYPROPYLENE REINFORCED PLASTIC STEP**

NOTES:

- ASTM SPECIFICATIONS:
  - ASTM C-419
  - ASTM A-815 GRADE 60 (STEEL ROD)
  - ASTM 2140-99, TYPE II, GRADE 180 (POLYPROPYLENE)
- STEPS INSTALLED IN MANHOLE BARREL SECTIONS OR VERTICAL WALLS OF STRUCTURE SHALL HAVE A 3-7/8 INCH LEG AND SHALL PROJECT FROM THE WALL 8-5/8 INCHES.
- STEPS INSTALLED IN MANHOLE CONE SECTIONS SHALL HAVE AN 8-1/4 INCH LEG AND SHALL PROJECT FROM THE WALL 4-7/8 INCHES.
- ALL STEPS SHALL HAVE A PENETRATION DEPTH INTO THE WALL OF 3-3/8 INCHES.
- STEPS SHALL BE INSTALLED BY THE "PRESS-FIT" METHOD UTILIZING A SPECIALLY FABRICATED PIN TO FORM THE INSERT HOLE AS SHOWN.
- INSTALLED STEPS SHALL BE CAPABLE OF WITHSTANDING A PULL OUT FORCE OF 2500 P.S.I. PER LEG FOR A MINIMUM PERIOD OF TWO MINUTES.
- STEPS SHALL BE INSTALLED BY THE "PRESS-FIT" METHOD EXCLUSIVELY FOLLOWING MANUFACTURER'S RECOMMENDED PROCEDURE AND SHALL NOT BE GROUTED IN PLACE.

**PARKER WATER & SANITATION DISTRICT**  
POLYPROPYLENE REINFORCED PLASTIC MANHOLE STEP

SCALE: NONE DATE: 2/05  
APPROVED: PVR 01/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 53.11

**CAST ALUMINUM MANHOLE STEP**

NOTES:

- THE CAST ALUMINUM MANHOLE STEP SHALL ONLY BE USED WHEN SPECIFIED ON THE DRAWINGS.
- ALUMINUM ALLOY SPECIFICATIONS:
  - F35C-90-A-200/9 (ALUMINUM-MAGNESIUM-SILICATE ALLOY)
  - MIN. TENSILE STRENGTH= 40 K.S.I.
  - MIN. YIELD STRENGTH= 20 K.S.I.
  - MIN. SHEAR STRENGTH= 27.45 K.S.I.
  - ELONGATION= 10% IN 2 INCHES
  - BRIEFLY HARDNESS= 70
- MINIMUM LOAD CAPACITY, STEP SPACING AND ALIGNMENT, TOE POCKET DETAILS AND OTHER APPLICABLE NOTES OR DETAILS SPECIFIED FOR EXTRUDED ALUMINUM MANHOLE STEP SHALL ALSO APPLY TO THIS STANDARD.
- MIN. WT. = 2.0 LB.

**PARKER WATER & SANITATION DISTRICT**  
CAST ALUMINUM MANHOLE STEP

SCALE: NONE DATE: 2/98  
APPROVED: PVR 01/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 53.12

**MARKER POST DETAIL**

**PARKER WATER & SANITATION DISTRICT**  
MARKER POST DETAIL

SCALE: NONE DATE: 2/98  
APPROVED: PVR 2/02 10/16  
DIRECTOR OF ENGINEERING

SHEET 53.13

**TYPICAL TRENCH DETAIL**

NOTES:

- Sloping or benching of trench side walls, where permitted, shall be in accordance with applicable Federal, State and Local safety regulations.
- Trench shall be benching and sloping as necessary to allow safe working conditions or to protect adjacent utilities, structures, etc. (Unless otherwise specified on the plans, no pavement will be made for removal, replacement or relocation of existing gutters, utilities, sidewalks, structures, etc. outside the maximum limits of excavation as shown and the contractor shall be responsible for protection of same.)
- If dimension "B<sub>2</sub>" is < 5', then existing asphalt pavement shall be removed and replaced up to the gutter. Maximum asphalt shall then be placed over the existing pavement.

**PARKER WATER & SANITATION DISTRICT**  
SEWER TRENCHING AND BEDDING DETAIL

SCALE: NONE DATE: 2/98  
APPROVED: PVR 5/98 1/16 12/96  
DIRECTOR OF ENGINEERING

SHEET 54.1

2015 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

**CONCRETE ARCH**

**CONCRETE CRADLE**

NOTE: The Design Engineer shall be responsible for structural design of the concrete cradle and/or concrete arch.

**PARKER WATER & SANITATION DISTRICT**  
TRENCHING AND BEDDING DETAIL - CLASS "A"

SCALE: NONE DATE: 2/98  
APPROVED: PVR 1/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 54.2

**CLASS "B" BEDDING**

**PARKER WATER & SANITATION DISTRICT**  
TRENCHING AND BEDDING DETAIL - CLASS "B"

SCALE: NONE DATE: 2/98  
APPROVED: PVR 5/98 2/02 1/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 54.3

**ROCK EXCAVATION**

**CLASS "B" BEDDING**

**PARKER WATER & SANITATION DISTRICT**  
TRENCHING AND BEDDING DETAIL - CLASS "B"

SCALE: NONE DATE: 2/98  
APPROVED: PVR 5/98 2/02 1/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 54.4

**CLASS "B" BEDDING**

**PARKER WATER & SANITATION DISTRICT**  
TRENCHING AND BEDDING DETAIL - CLASS "B"

SCALE: NONE DATE: 2/98  
APPROVED: PVR 5/98 2/02 1/16 10/16  
DIRECTOR OF ENGINEERING

SHEET 54.5

**TYPE I CONCRETE ENCASEMENT FOR SANITARY SEWERS**

**PARKER WATER & SANITATION DISTRICT**  
CONCRETE ENCASEMENT TYPE I

SCALE: NONE DATE: 2/98  
APPROVED: JFN  
DISTRICT ENGINEER

SHEET 6

2016 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

2008 REVISION

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10333 E. Dry Creek Rd  
Suite 240  
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**Westwood team**

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

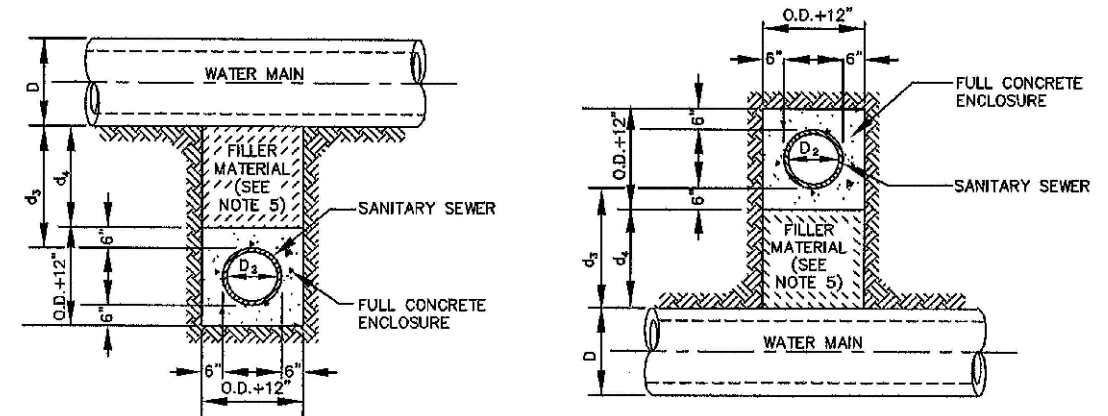
TRAILS AT CROWFOOT  
FILING 12 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAIL

SCALE: AS SHOWN  
FILE NO: 8130283701

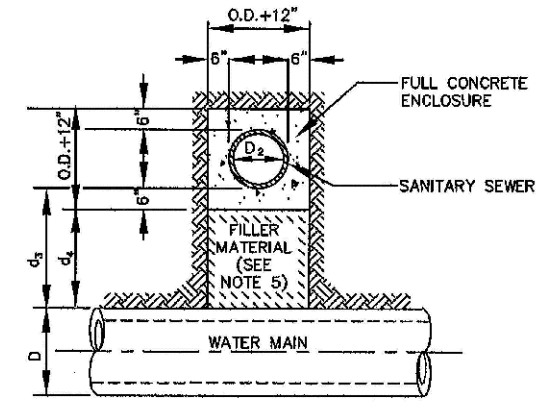
DRAWN BY: JF  
CHECKED BY: JJJ  
DATE: SEPTEMBER 2017

SHEET NUMBER: 9

Revisions: No. Date Init. Appr. Date



**TYPE IIa**  
SANITARY SEWER CROSSING UNDER WATER MAIN  
IF  $d_s > 2$  ft, ENCASMENT NOT REQUIRED



**TYPE IIb**  
SANITARY SEWER CROSSING OVER TOP OF WATER MAIN  
FULL ENCASMENT REQUIRED REGARDLESS OF DIMENSION  $d_s$ .

**TYPE II**  
CONCRETE ENCASMENT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAIN

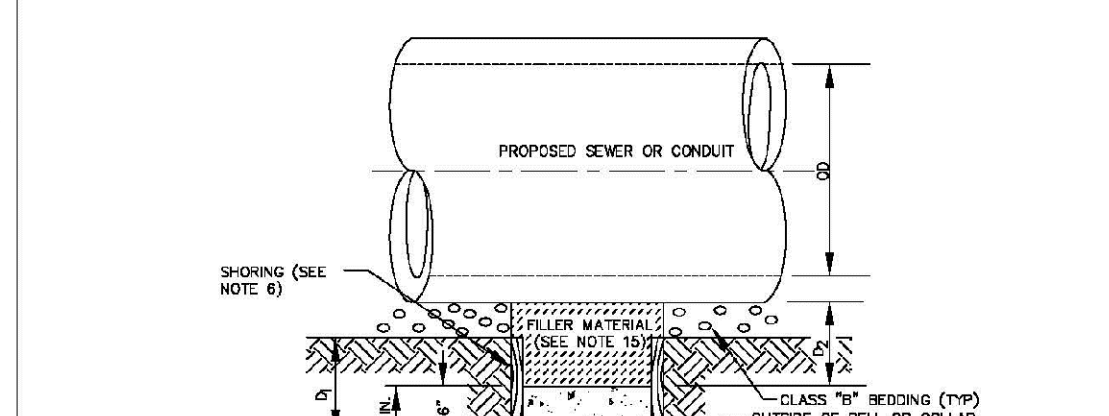
**GENERAL NOTES FOR TYPE I, II & III ENCASMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASMENT FOR:
  - TYPE I & TYPE II ENCASMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  ( $d_s \leq 12"$ ) EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS.
  - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS REGARDLESS OF DIMENSION  $d_s$ .
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHEN UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF SCHEDULE 40 PIPE (AWWA C-152 OR C-151), CONCRETE ENCASMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_s \leq 4"$  ( $d_s \leq 6"$ ).
  - COMPACTED CLASS "B" BEDDING IF  $d_s \leq 4"$  ( $d_s > 6"$ ).
  - IF  $d_s > 6"$  FOR TYPE III ENCASMENT POUR CONCRETE ON UNDISTURBED SOIL.
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASMENT.
- THESE ENCASMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

**PARKER WATER & SANITATION DISTRICT**  
CONCRETE ENCASMENT TYPE II

SCALE: NONE	DATE: 2/98
APPROVED: JFN	5/98
DISTRICT ENGINEER	1/08

SHEET 7



**TYPE III**  
CONCRETE ENCASMENT FOR SANITARY SEWERS (FULL ENCASMENT) NO SCALE

**TYPE III**  
CONCRETE ENCASMENT FOR SANITARY SEWERS

**GENERAL NOTES FOR TYPE I, II & III ENCASMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASMENT FOR:
  - TYPE I & TYPE II ENCASMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  ( $d_s \leq 12"$ ) EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS.
  - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS AND  $d_s \leq 24"$  ( $d_s \leq 18"$ ).
  - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHEN UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF SCHEDULE 40 PIPE (AWWA C-152 OR C-151), CONCRETE ENCASMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_s \leq 4"$  ( $d_s \leq 6"$ ).
  - COMPACTED CLASS "B" BEDDING IF  $d_s \leq 4"$  ( $d_s > 6"$ ).
  - IF  $d_s > 6"$  FOR TYPE III ENCASMENT POUR CONCRETE ON UNDISTURBED SOIL.
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASMENT.
- THESE ENCASMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.
- CONCRETE ENCASED PIPING SHALL BE LINED WITH FILL LAYER.

**PARKER WATER & SANITATION DISTRICT**  
CONCRETE ENCASMENT TYPE III

SCALE: NONE	DATE: 2/98
APPROVED: PVR	5/98
DIRECTOR OF ENGINEERING	1/78
	10/78

SHEET 8A.8



**MANHOLE INVERT TIE-IN**

**MANHOLE INVERT TIE-IN DETAIL**

**NOTES**

- NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

**PARKER WATER & SANITATION DISTRICT**  
MANHOLE INVERT TIE-IN DETAIL

SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/78
DIRECTOR OF ENGINEERING	10/78

SHEET 8A.9



**MANHOLE STUB-OUT DETAIL**

**MANHOLE STUB-OUT DETAIL**

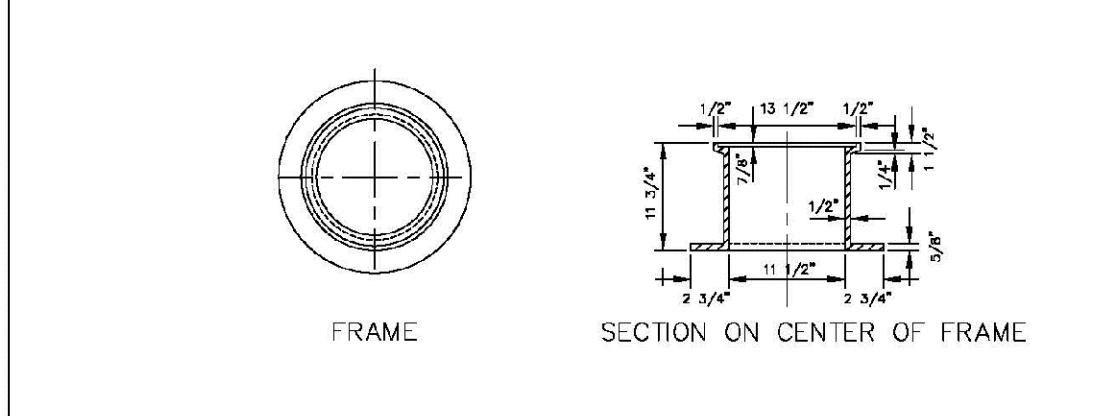
**NOTES**

- MECHANICAL PLUG SHALL BE TETHERED AND BOLTED TO WALL OF THE MANHOLE. MECHANICAL PLUGS SHALL BEAR THE NAME OF THE CONTRACTOR.

**PARKER WATER & SANITATION DISTRICT**  
MANHOLE STUB-OUT DETAIL

SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/78
DIRECTOR OF ENGINEERING	10/78

SHEET 8A.10



**IN-LINE CLEANOUT SECTIONS**

**IN-LINE CLEANOUT SECTIONS**

**NOTES**

- MECHANICAL PLUG SHALL BE TETHERED AND BOLTED TO WALL OF THE MANHOLE. MECHANICAL PLUGS SHALL BEAR THE NAME OF THE CONTRACTOR.

**PARKER WATER & SANITATION DISTRICT**  
IN-LINE CLEANOUT SECTIONS

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/00
DIRECTOR OF ENGINEERING	1/98
	10/78

SHEET 8A.12

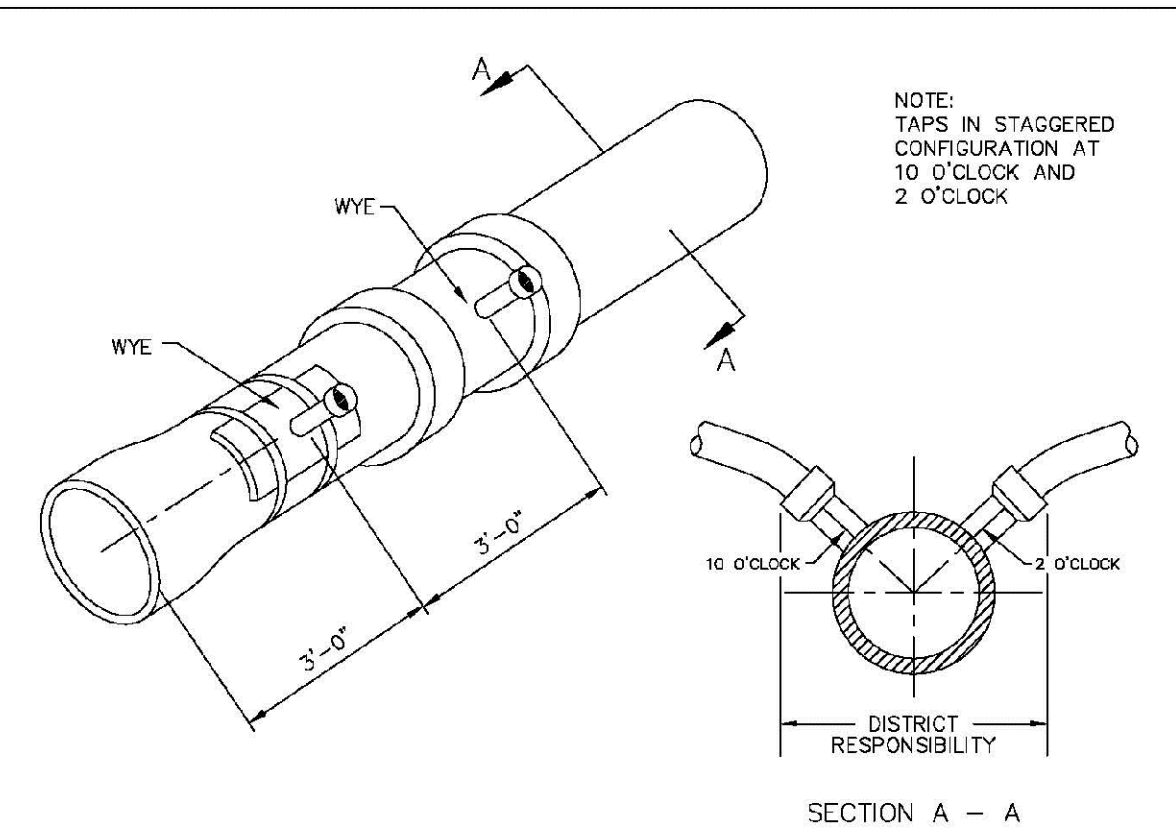
2008 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

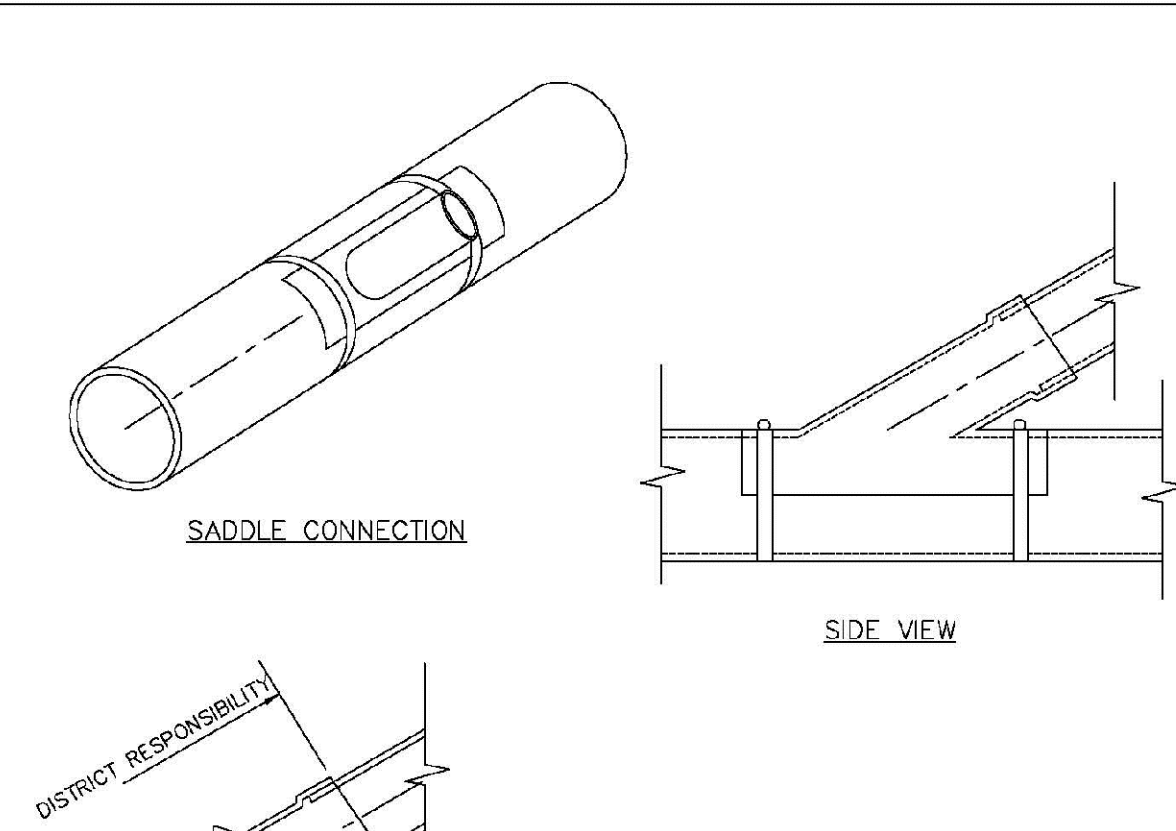


Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock position on the circumference of the sewer main. On new installations, tee or wye fittings shall be used. When tapping into existing sewer main, a saddle connection and approved coring method shall be used. The minimum distance between service connections made along the pipe shall be 3 feet. The minimum distance from either the bell or spigot end of a pipe shall be 3 feet. The minimum distance from the center of a manhole to a service connection shall be either 7 feet or the transition point from the manhole trench to the normal pipe trench, whichever is greater. A maximum of 4 sewer service connections shall be allowed per 20 foot length of pipe. In all cases, a specific soils investigation should be conducted to assure that the external loading will be within allowable limits regardless of the number of taps involved.

**PARKER WATER & SANITATION DISTRICT**  
DOMESTIC SEWER TAPPING DETAIL

SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01
DIRECTOR OF ENGINEERING	1/08
	10/78

SHEET 8A.13



**NOTES:**

- SADDLE FITTINGS TO BE PER ASTM D3034.
- CONNECTION SHALL BE Y - SADDLE WITH TWO BONDS.

**PARKER WATER & SANITATION DISTRICT**  
P.V.C. SADDLE CONNECTION DETAIL

SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/78
DIRECTOR OF ENGINEERING	10/78

SHEET 8A.14

2016 REVISION

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Tel: 720.482.952  
www.cvlinc.net  
westwoodjps.com

**HR 935 LLC**  
7353 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
FILING 12 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAIL

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: JF  
CHECKED BY: JU  
DATE: SEPTEMBER 2017

SHEET NUMBER: 10

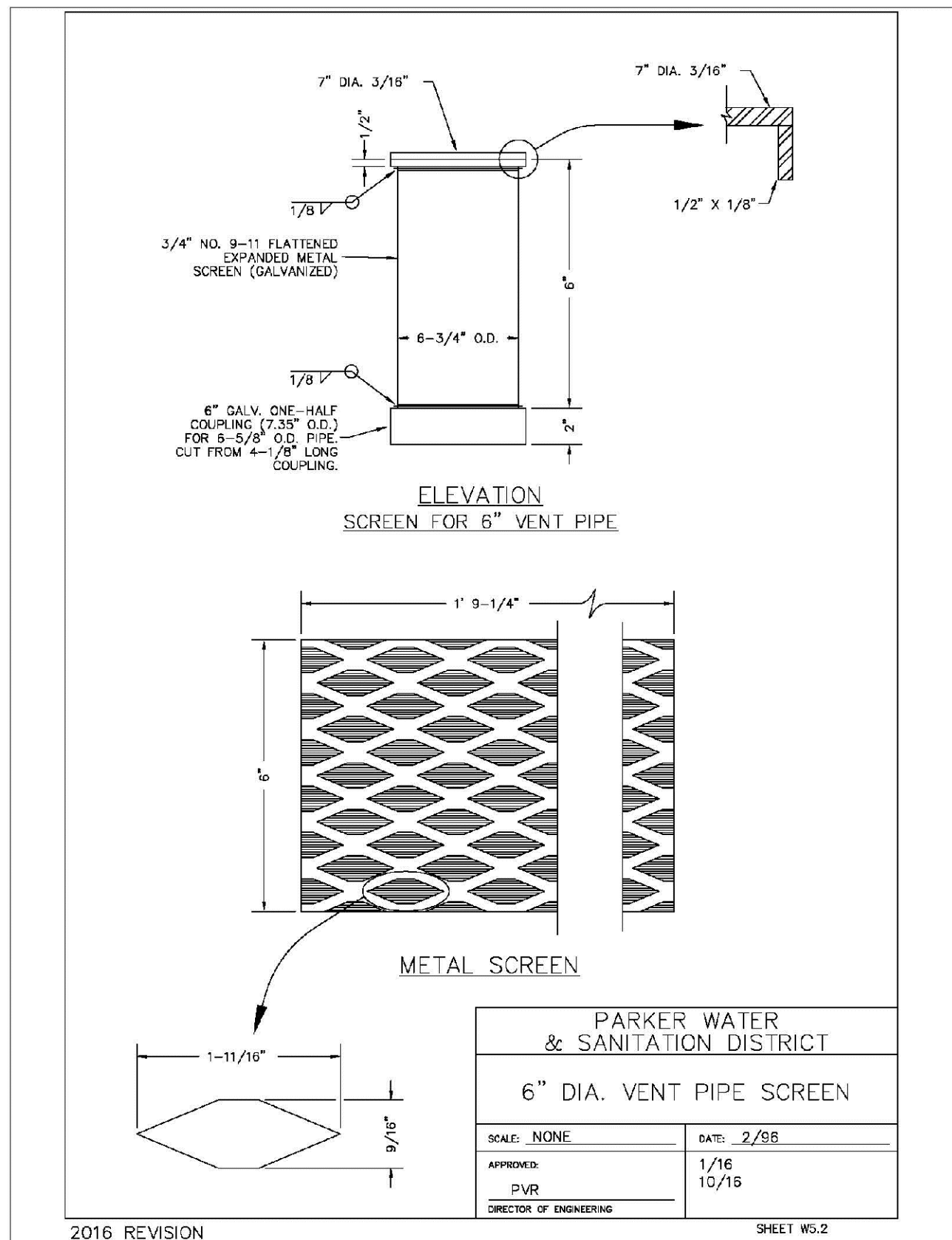
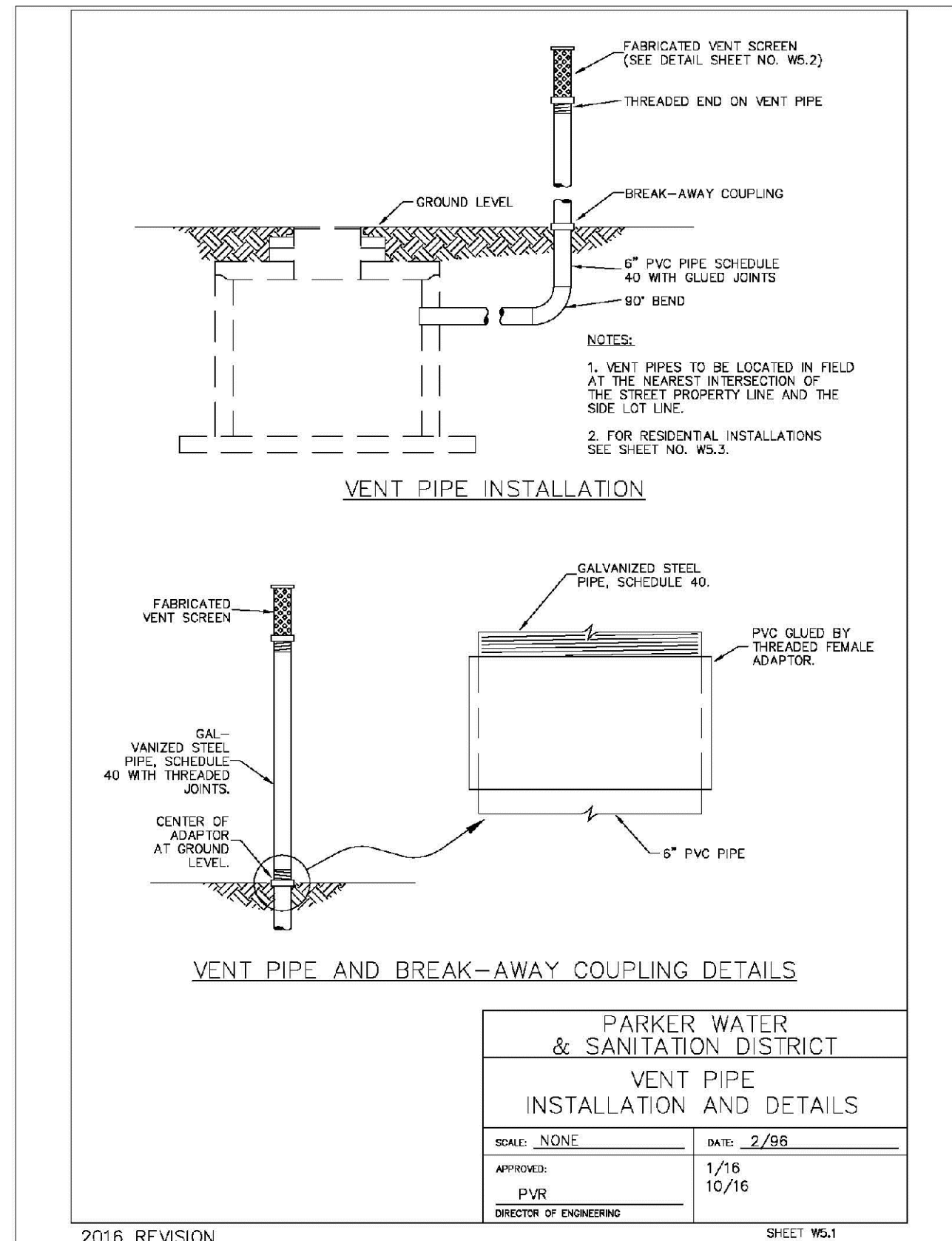
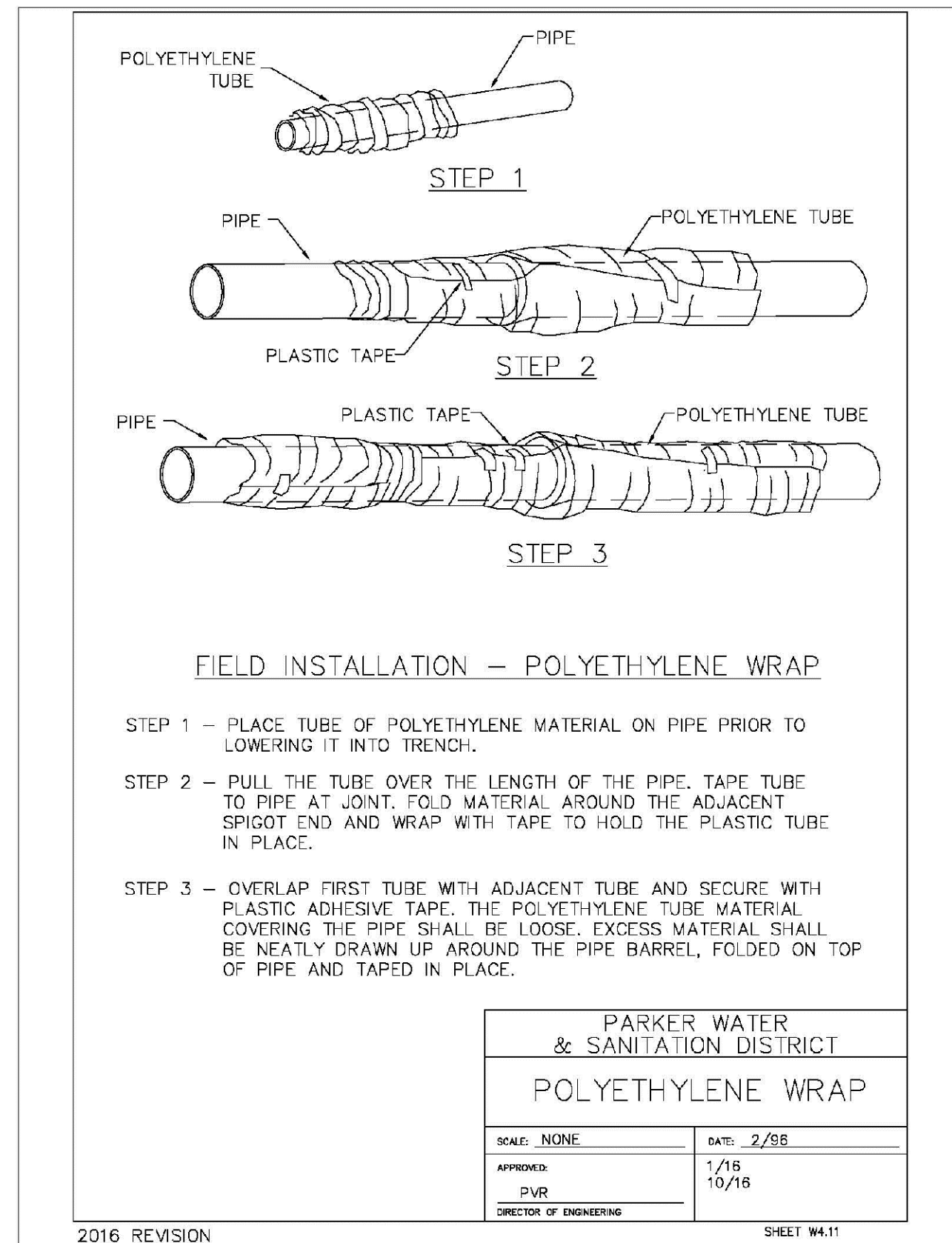
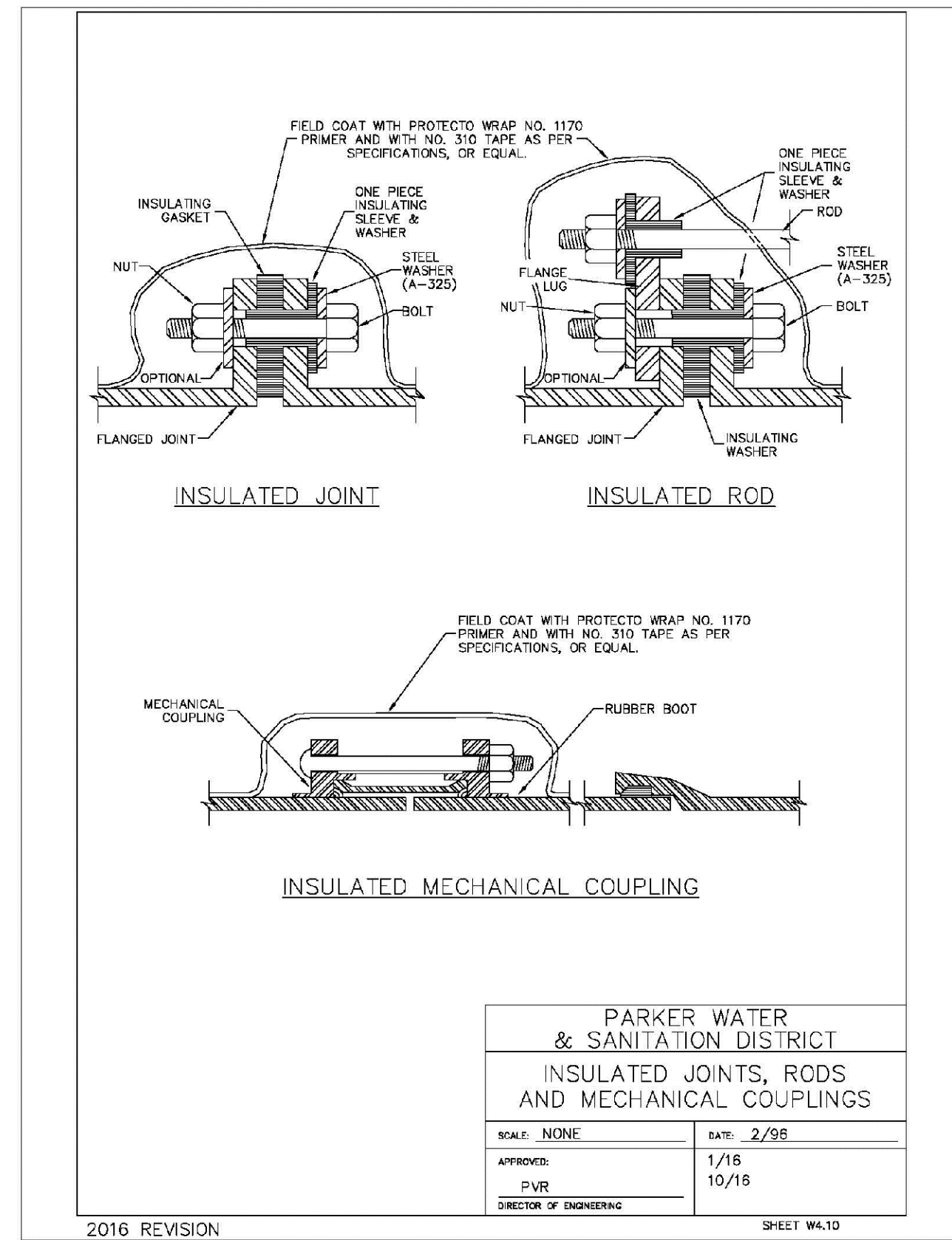
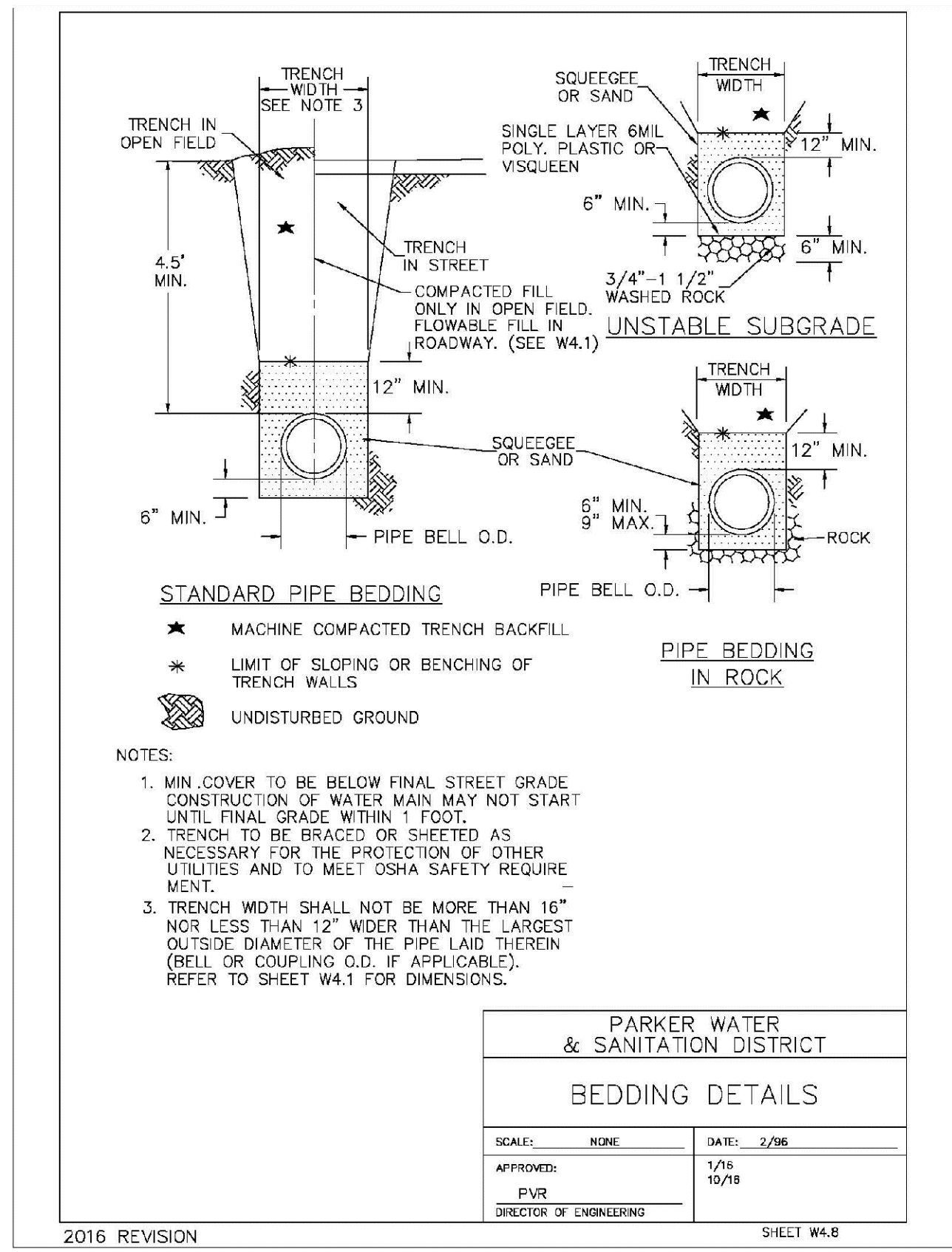
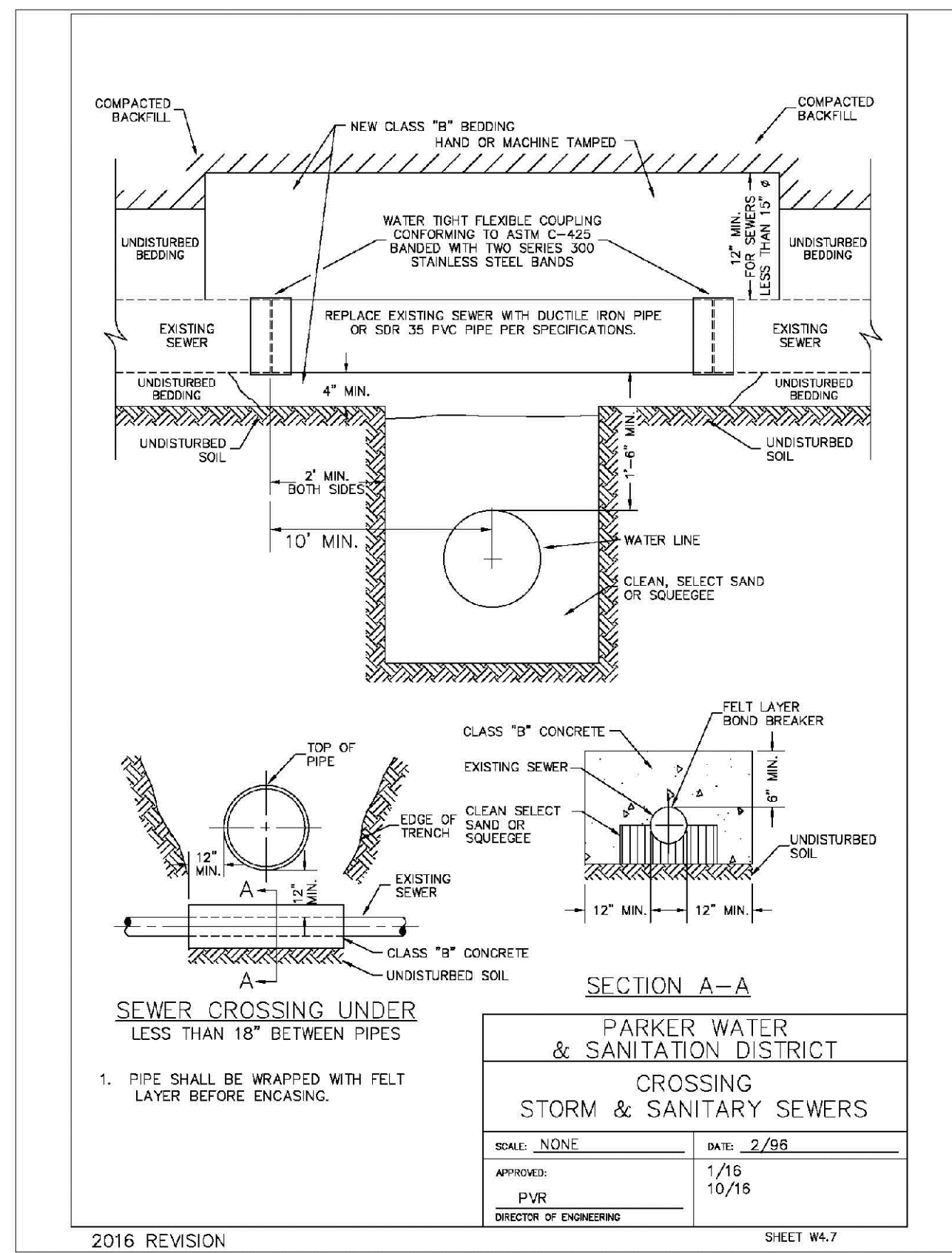
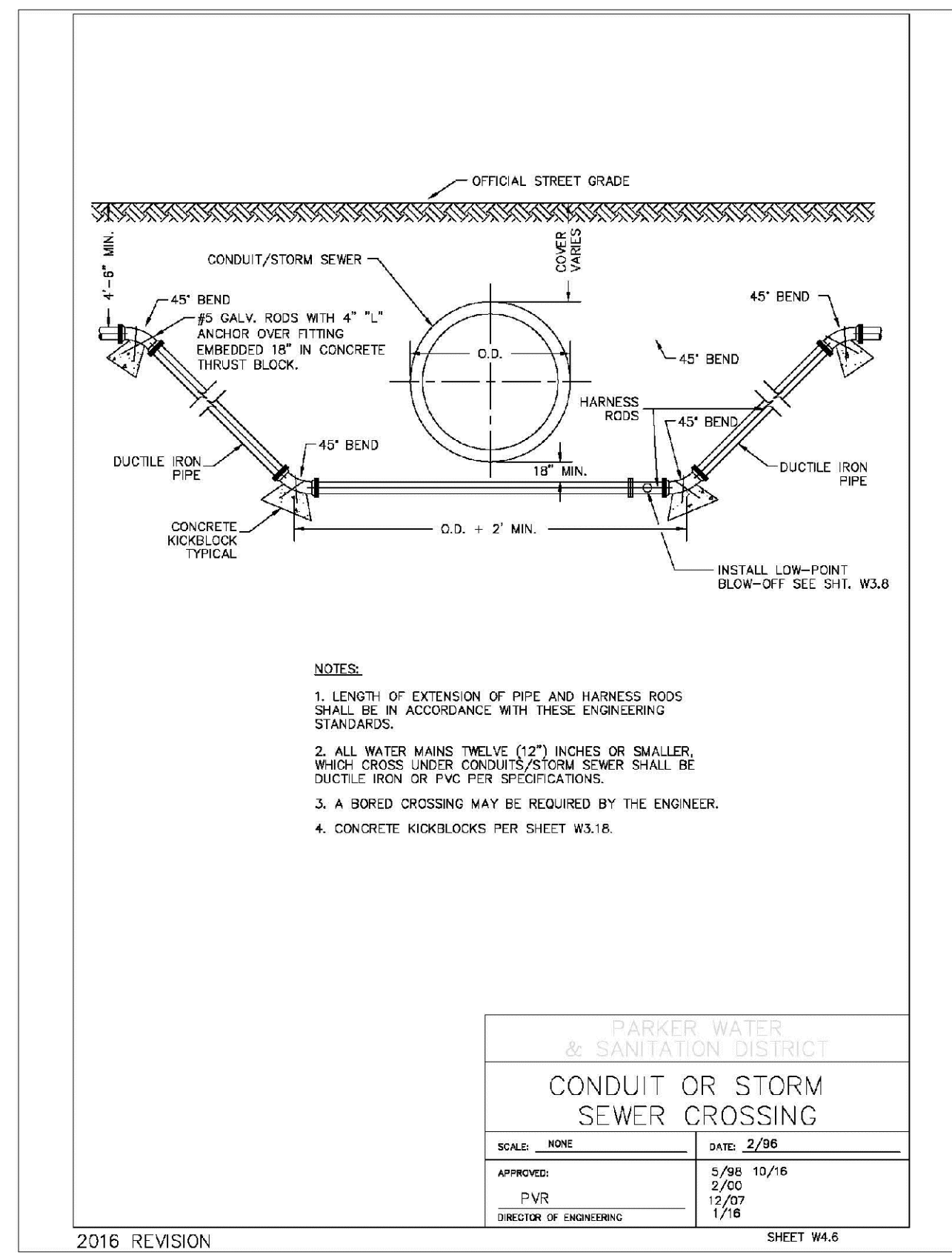
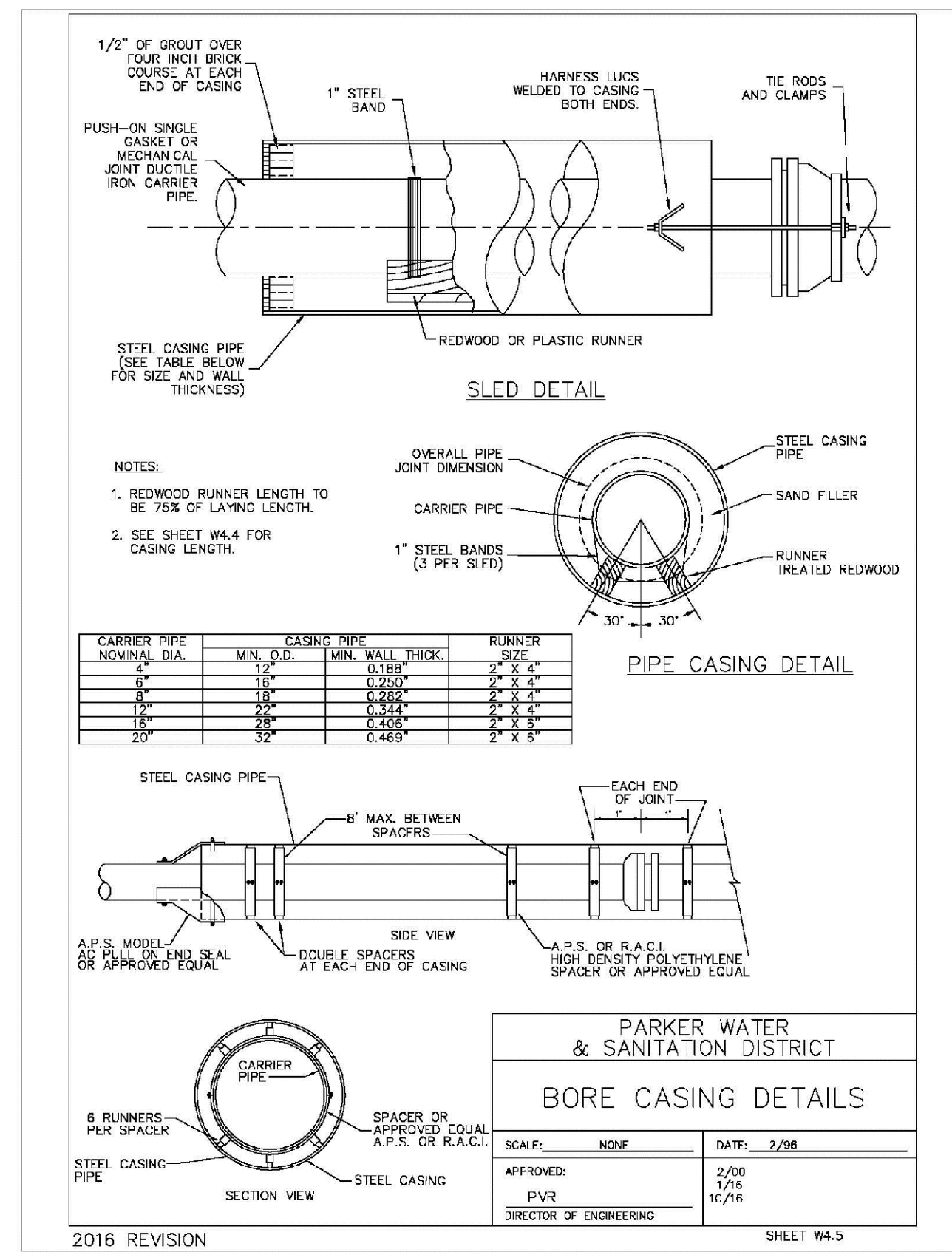
Revisions: No. Date Init. Appr. Date







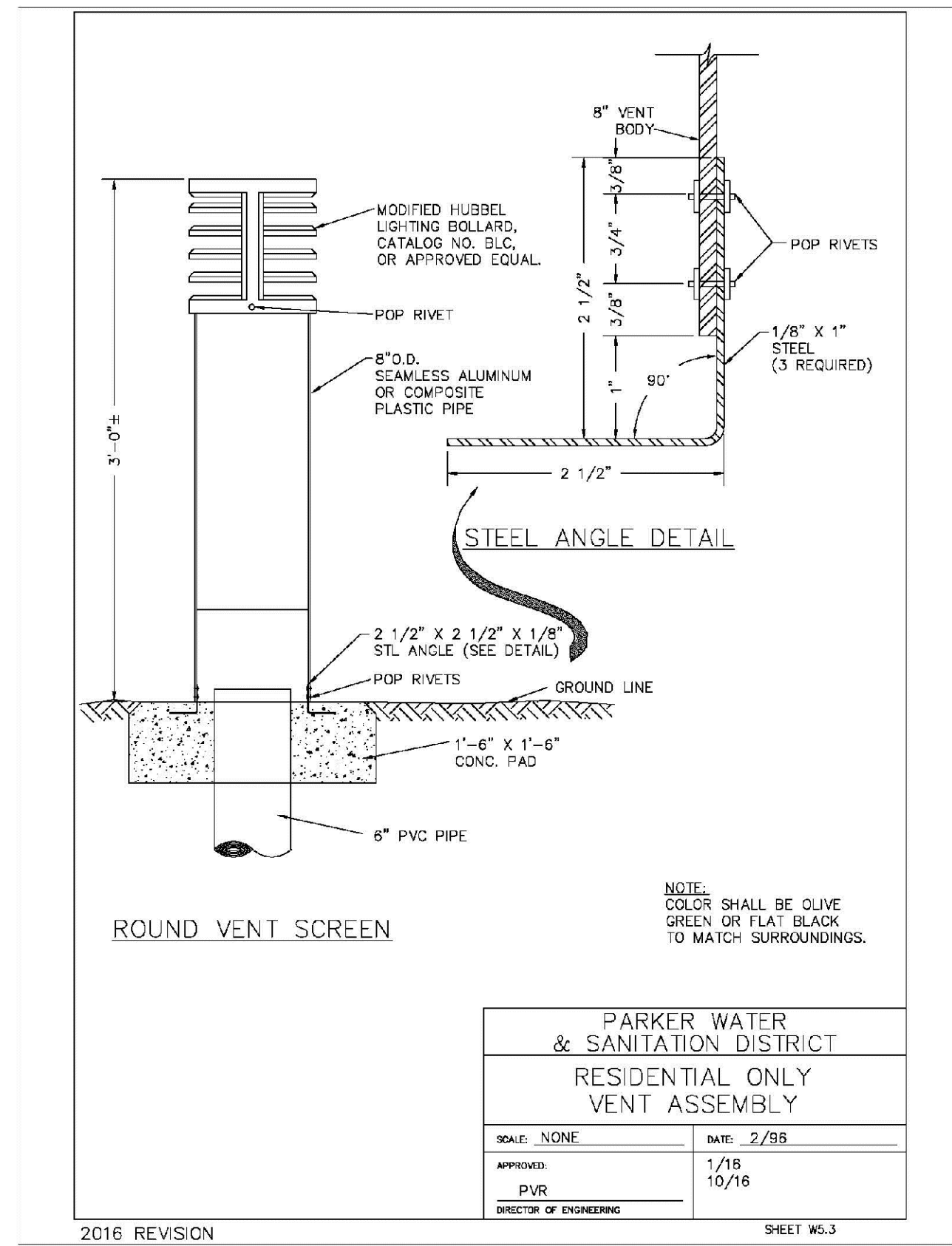




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 UTILITY NOTIFICATION  
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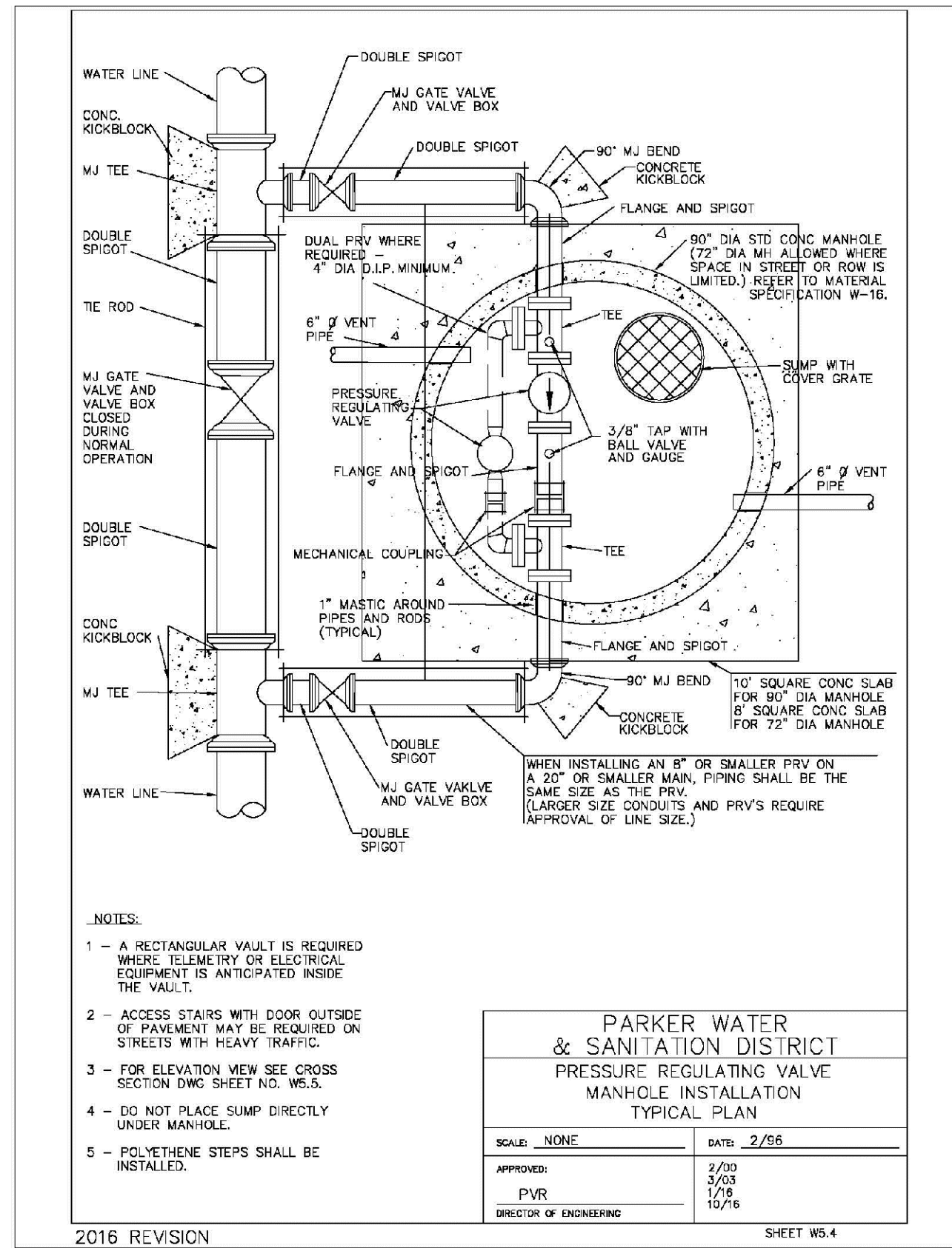
SHEET NUMBER	DRAWN BY: JF	CHECKED BY: JJJ	DATE: SEPTEMBER 2017	SCALE: AS SHOWN	FILE NO: 8130283701	Revisions	No.	Date	Init	Appr.	Date
				PROJECT: TRAILS AT CROWFOOT FILING 12 CONSTRUCTION DRAWINGS WATER DETAILS	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112						
 <b>a Westwood team</b>											
10333 E. Dry Creek Rd Suite 240 Englewood, CO 80112 Tel: 720.482.9512 www.cvlinc.net westwoodps.com											



**PARKER WATER & SANITATION DISTRICT  
RESIDENTIAL ONLY  
VENT ASSEMBLY**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/18 10/18
DIRECTOR OF ENGINEERING	

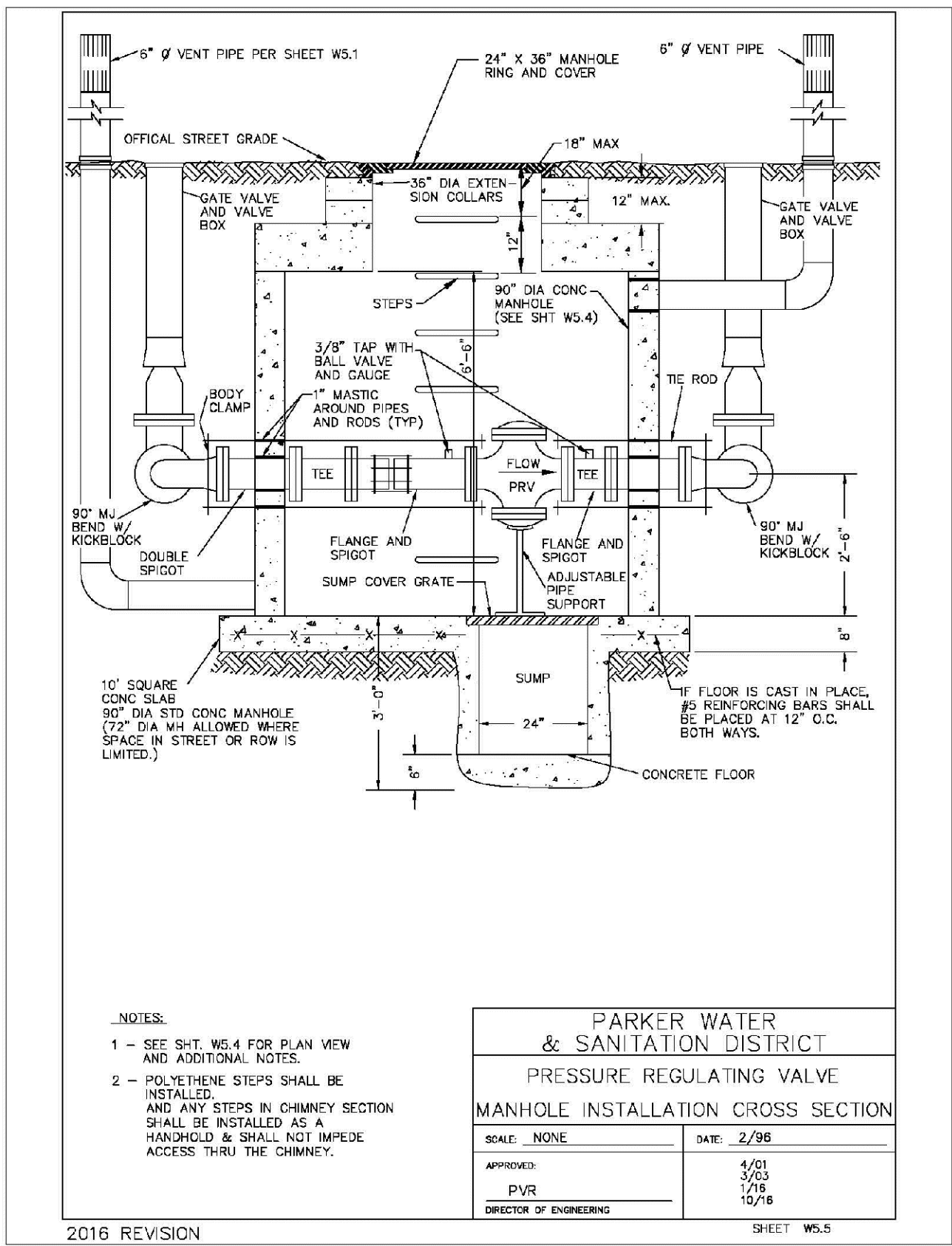
2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
PRESSURE REGULATING VALVE  
MANHOLE INSTALLATION  
TYPICAL PLAN**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/03 3/03 4/01 10/18
DIRECTOR OF ENGINEERING	

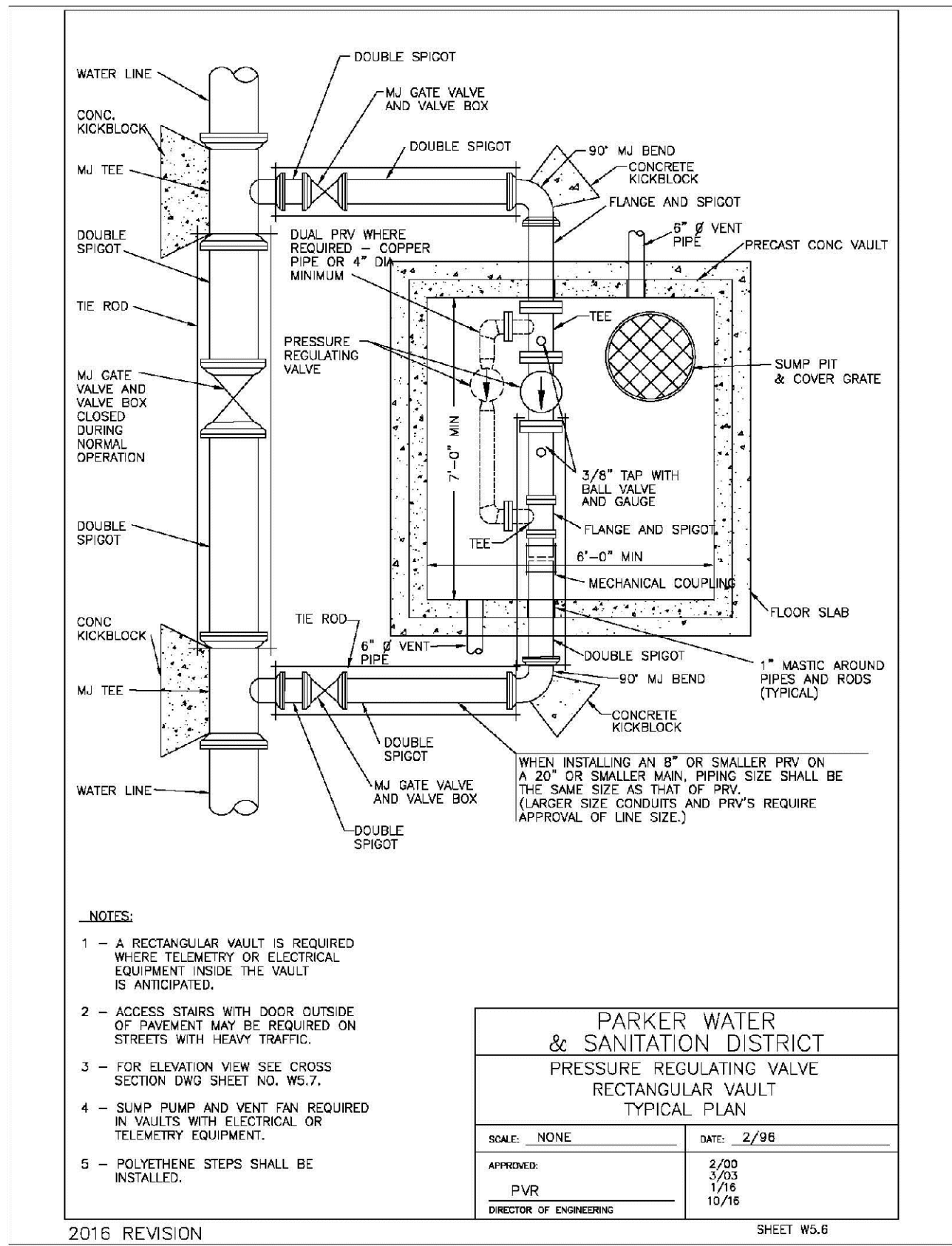
2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
PRESSURE REGULATING VALVE  
MANHOLE INSTALLATION  
CROSS SECTION**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/03 3/03 4/01 10/18
DIRECTOR OF ENGINEERING	

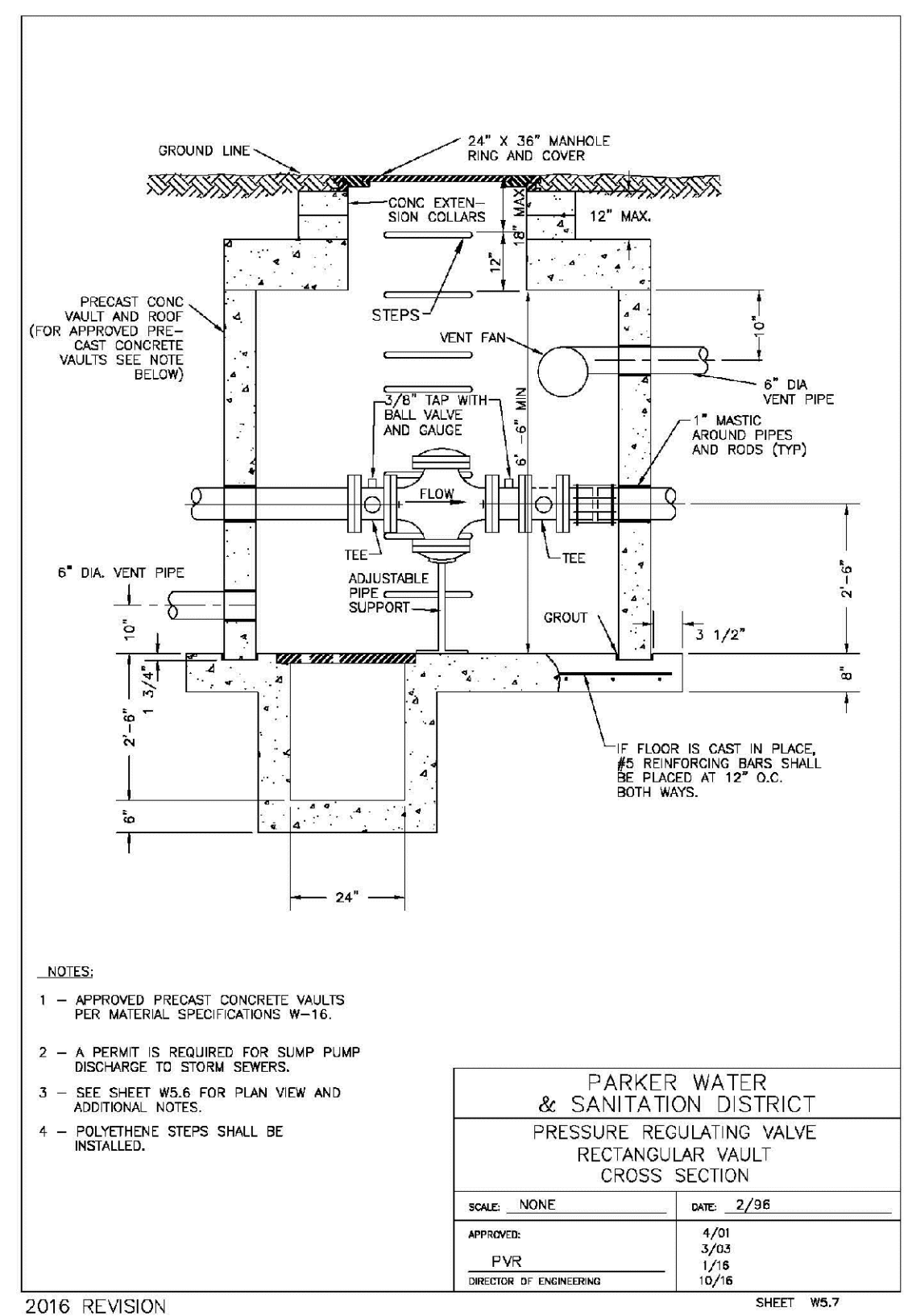
2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
PRESSURE REGULATING VALVE  
RECTANGULAR VAULT  
TYPICAL PLAN**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/03 3/03 4/01 10/18
DIRECTOR OF ENGINEERING	

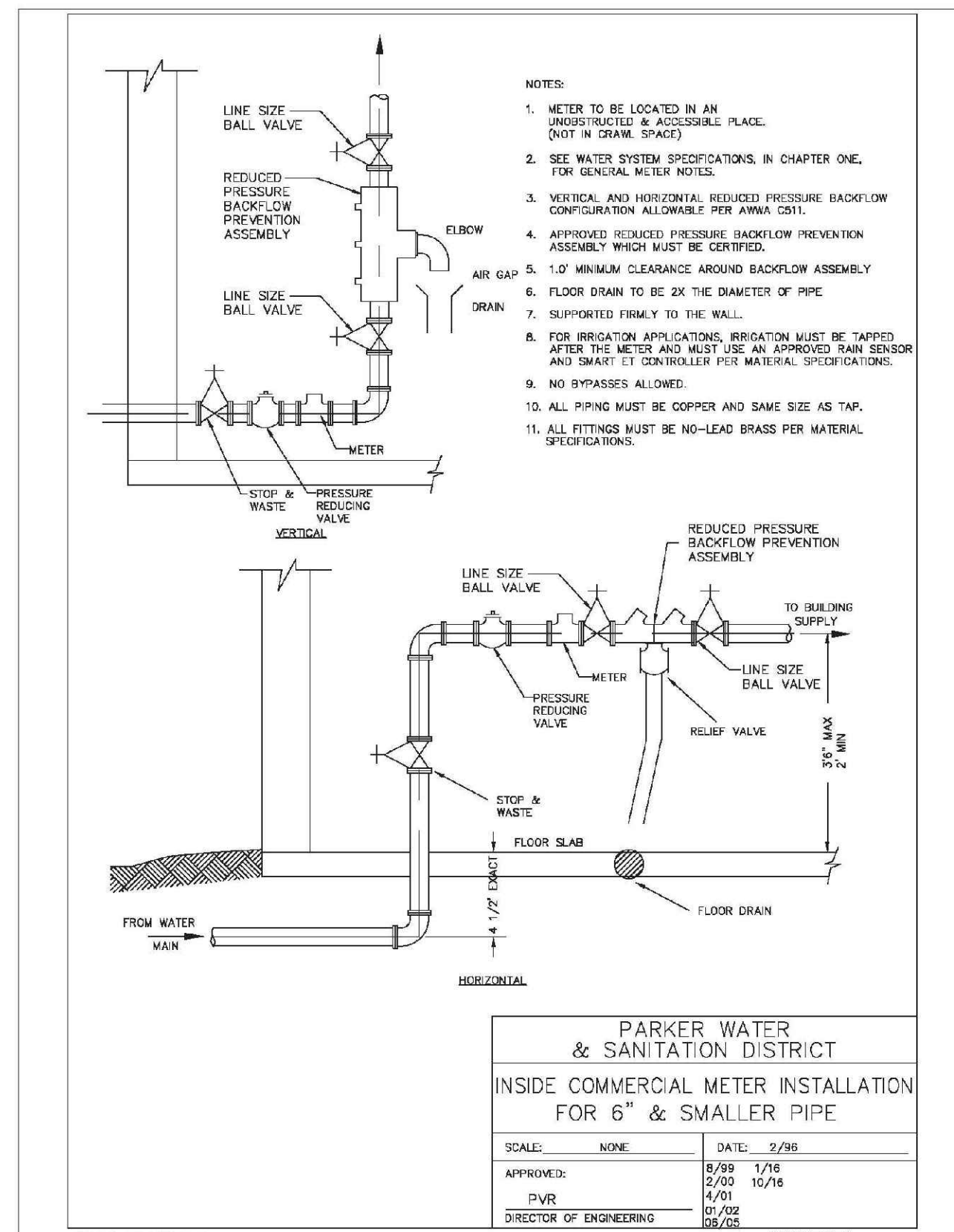
2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
PRESSURE REGULATING VALVE  
RECTANGULAR VAULT  
CROSS SECTION**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/03 3/03 4/01 10/18
DIRECTOR OF ENGINEERING	

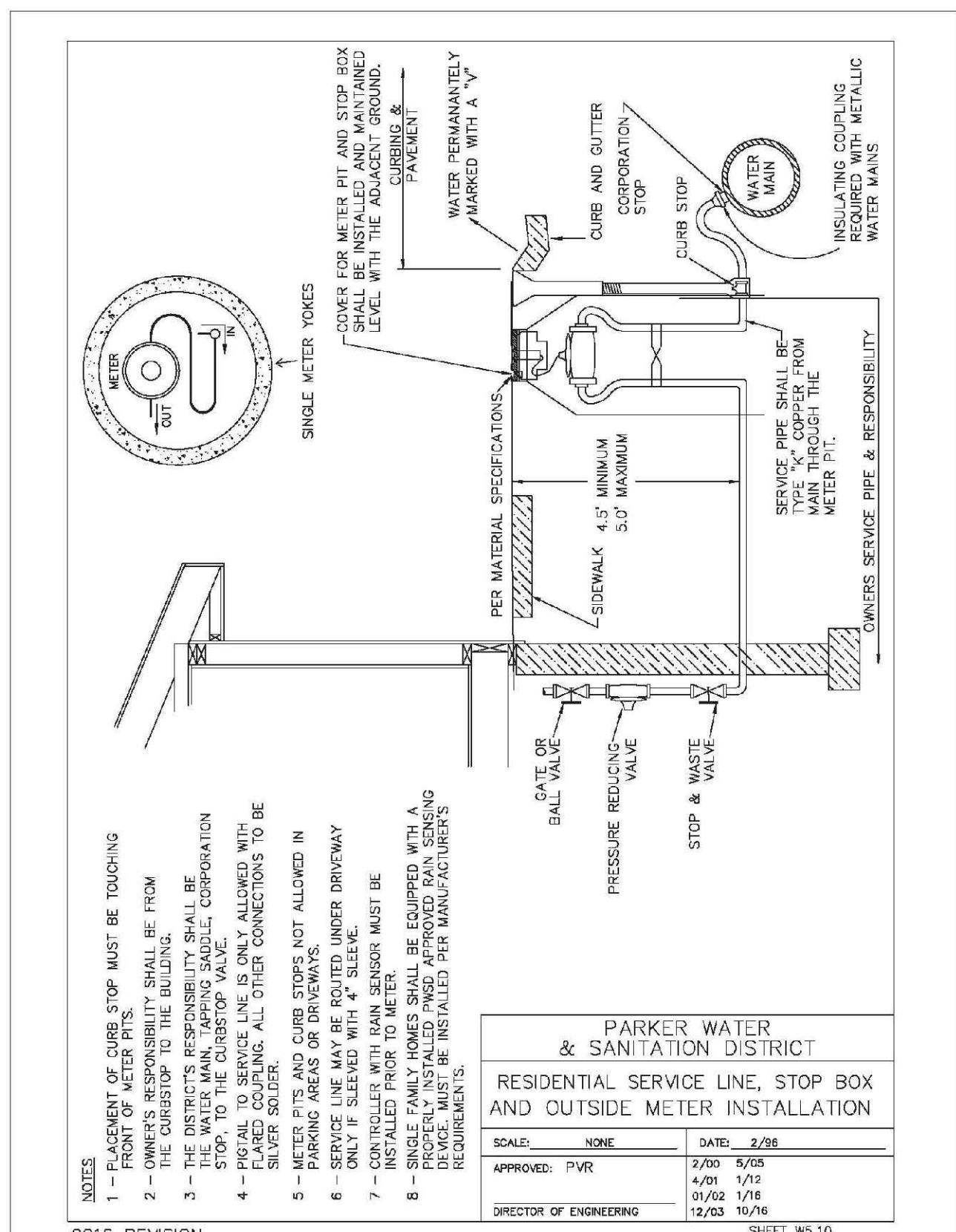
2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
INSIDE COMMERCIAL METER INSTALLATION  
FOR 6\"/>**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	8/89 1/76 2/03 4/01 10/18
DIRECTOR OF ENGINEERING	

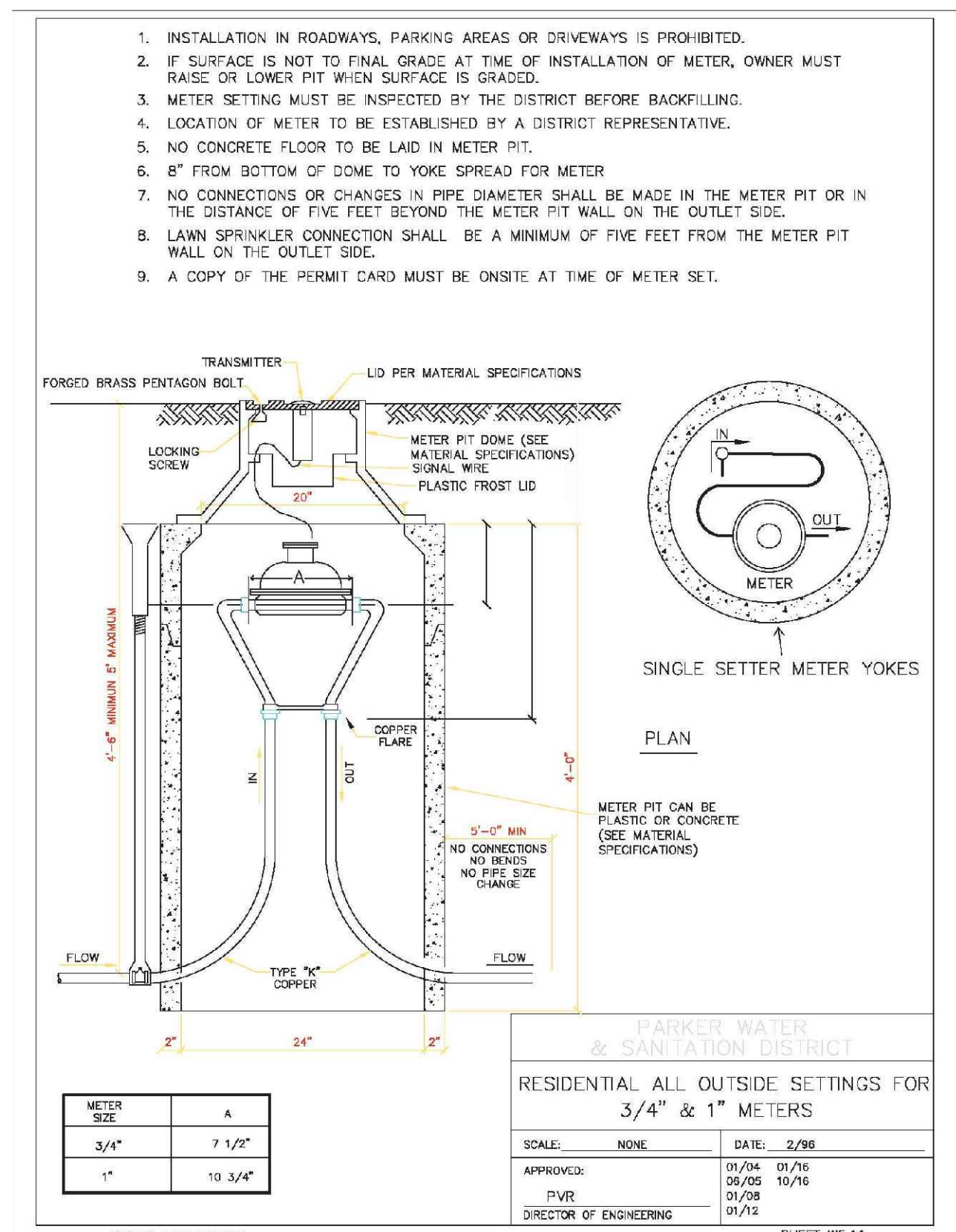
2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
RESIDENTIAL SERVICE LINE, STOP BOX  
AND OUTSIDE METER INSTALLATION**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/03 5/05 4/01 1/75 01/02 1/16 12/03 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION



**PARKER WATER & SANITATION DISTRICT  
RESIDENTIAL ALL OUTSIDE SETTINGS FOR  
3/4\"/>**

SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/04 01/76 04/05 10/76 01/08 01/72
DIRECTOR OF ENGINEERING	

2016 REVISION

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SHEET NUMBER	DRAWN BY: JF	CHECKED BY: JJ	DATE: SEPTEMBER 2017	SCALE:	AS SHOWN	FILE NO:	8130283701
				PROJECT:	TRAILS AT CROWFOOT	FILING 12 CONSTRUCTION DRAWINGS	WATER DETAILS
16	10333 E. Dry Creek Rd Suite 240 Englewood, CO 80112 Tel: 720.482.9522 www.cvlinc.net westwoodjps.com	CML a Westwood team	HR 935 LLC 7355 South Alton Way CENTENNIAL, CO 80112	NO.	Revisions	DATE	
				INIT.		DATE	

