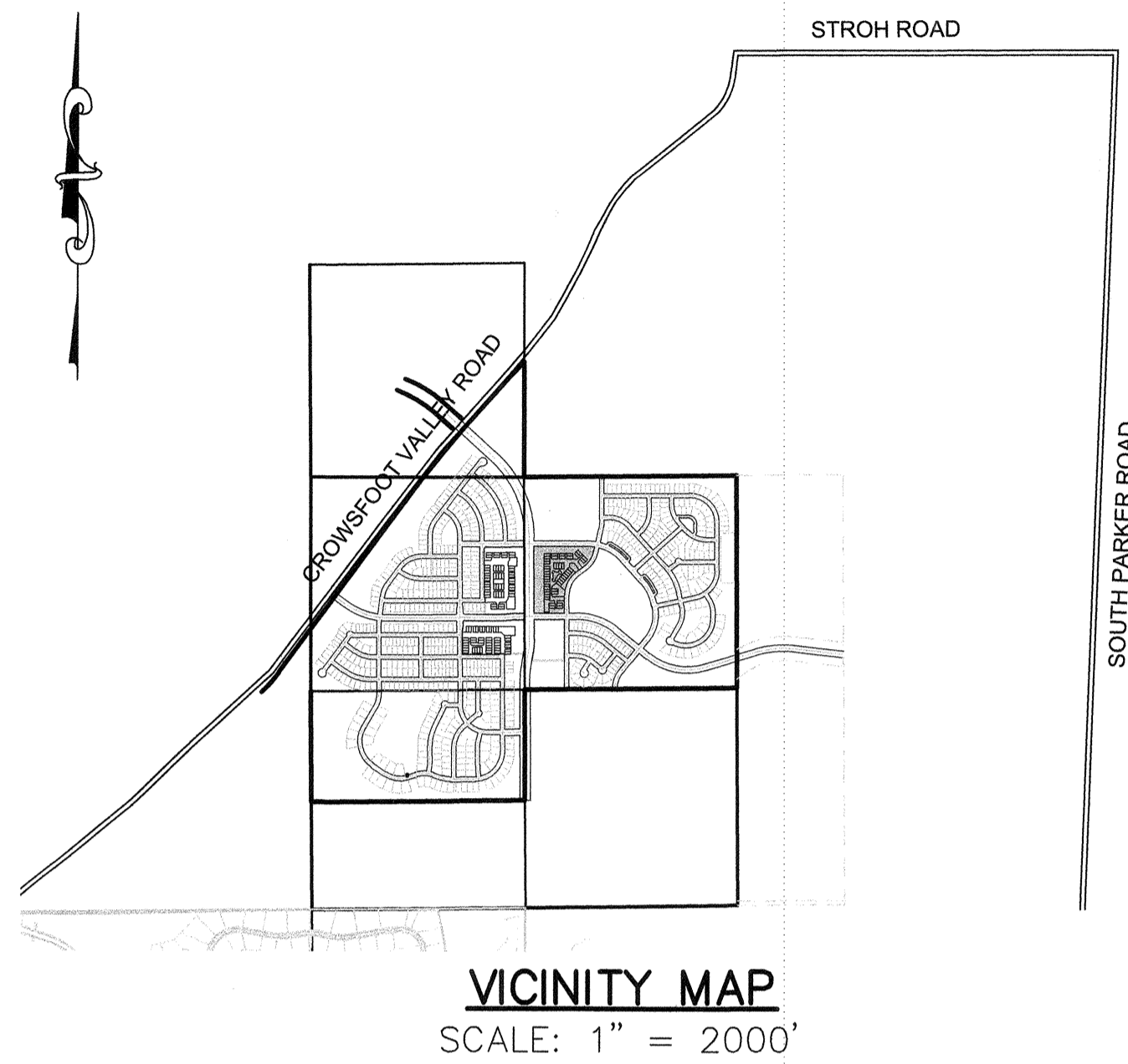


TRAILS AT CROWFOOT FILING 15

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	FILING 15 SS WEST
5	FILING 15 SS WEST-EAST & ROCK DAISY ST
6	MOCK ORANGE AVE
7	FILING 15 SS NORTH & NORTHEAST
8	MOCK ORANGE AVENUE
9	MOCK ORANGE WAY & MOCK ORANGE COURT
10	ROCK DAISY STREET & BLUE HEART COURT
11	ROCK DAISY TRAIL & ROCK DAISY LANE
12	SANITARY SEWER DETAILS
13	SANITARY SEWER DETAILS
14	SANITARY SEWER DETAILS
15	WATER DETAILS
16	WATER DETAILS
17	WATER DETAILS
18	WATER DETAILS
19	WATER DETAILS
20	WATER DETAILS
21	WATER DETAILS



MATERIALS LIST		
DESCRIPTION	QUANTITY	UNIT
8" SEWER (SDR-35 PVC)	1,490	L.F.
4' DIA. MANHOLE	14	EA.
SEWER SERVICE LATERAL W/ WYE TAP	30	EA.
CONNECTION TO EXISTING MAIN	1	EA.
6" WATERPIPE (DIP-FIRE HYDRANT LINE)	72	L.F.
8" WATERPIPE (C900)	2,037	L.F.
6" GATE VALVE W/ BOX	4	EA.
8" GATE VALVE W/ BOX	7	EA.
8" MISC FITTINGS	22	EA.
AIR / VACUUM VALVE	2	EA.
8" CAP WITH BLOW OFF	4	EA.
FIRE HYDRANT WITH 6" LEAD	4	EA.
IRRIGATION SERVICE W/ METER (2")	1	EA.
DOMESTIC WATER SERVICE W/ METER	44	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.

[Signature] 07/29/2019
FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE DATE

(NOTE - UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENT OF NFPA 24 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: *[Signature]*
(DISTRICT REPRESENTATIVE)

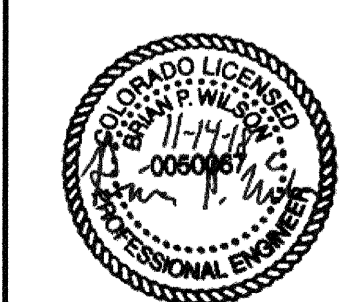
DATE SIGNED: 7-29-19

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: *[Signature]*
(DISTRICT ENGINEER)

DATE SIGNED: 9/29/19

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:

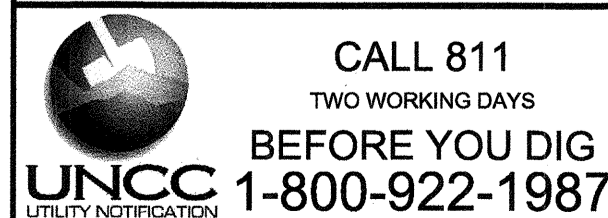
PCS GROUP, INC.
200 KALAMATH STREET
DENVER, CO 80233
TEL: (303) 531-4905
CONTACT: JOHN PRESTWICH

SURVEYOR/ ENGINEER:

CVL CONSULTANTS
OF COLORADO, INC.
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



SHEET NUMBER	DRAWN BY: RRR	CHECKED BY: BRW	DATE: JUNE 2018	SCALE:	AS SHOWN	FILE NO:	8130283701
				TRAILS AT CROWFOOT FILING 15 CONSTRUCTION DRAWINGS COVER SHEET			
				HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112			
				CVL CONSULTANTS 10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546			
				No.	Revisions		
				Date	Appr.		

N:\PROJECTS\HR 935\ENGINEERING\SH01 SETS\MULTIFAMILY\CDSF 15\PARKER WATER AND SANITATION\COVER.DWG, BRAUN, 11/22/2018 10:43 AM

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REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

BY: (DISTRICT REPRESENTATIVE) DATE

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: (DISTRICT ENGINEER) DATE

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGN, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

TOWN OF PARKER, DIRECTOR OF ENGINEERING DATE

LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
(A)	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
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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

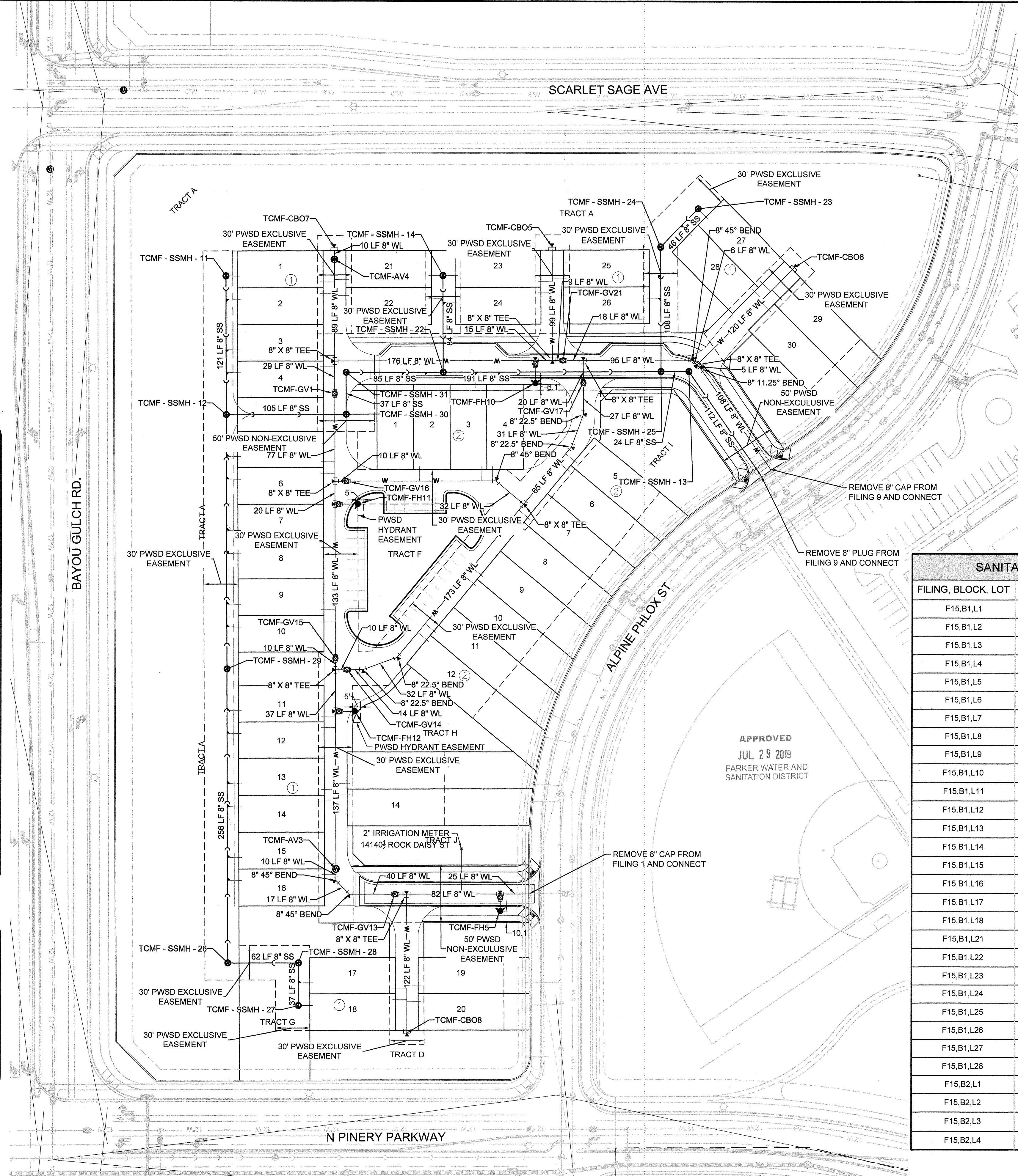
NOTES:
 1. SANITARY SERVICES FOR BLOCK 1, LOTS 19-20 & 29-30 & BLOCK 2, LOTS 5-14 WILL BE INSTALLED WITH TRAILS AT CROWFOOT FILING 9.
 2. THE PROPOSED UTILITY CONNECTION WILL REQUIRE A TOWN RIGHT-OF-WAY PERMIT PRIOR TO COMMENCING WORK. THE TOWN PREFERS CONNECTIONS TO BE BORED TO THE EXTENT POSSIBLE, AND ANY STREET CUT ALLOWED BY THE TOWN WILL BE REQUIRED TO BE PATCHED ACCORDING TO THE TOWN'S CONSTRUCTION STANDARDS AND DETAILS. THE LIMITS OF PATCHING WILL BE DETERMINED BY THE TOWN AT THE TIME OF CONSTRUCTION. THE TOWN OF PARKER DOES NOT ALLOW ROADWAY CLOSURES FOR UTILITY WORK.
 3. FIRE HYDRANT EASEMENTS ARE 5' BEHIND AND 10' TO EACH SIDE OF THE HYDRANTS.

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.

07/29/2019
 DATE
 (NOTE - UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENT OF NFPA 24 WHEN SUBMITTING FOR REVIEW.)

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



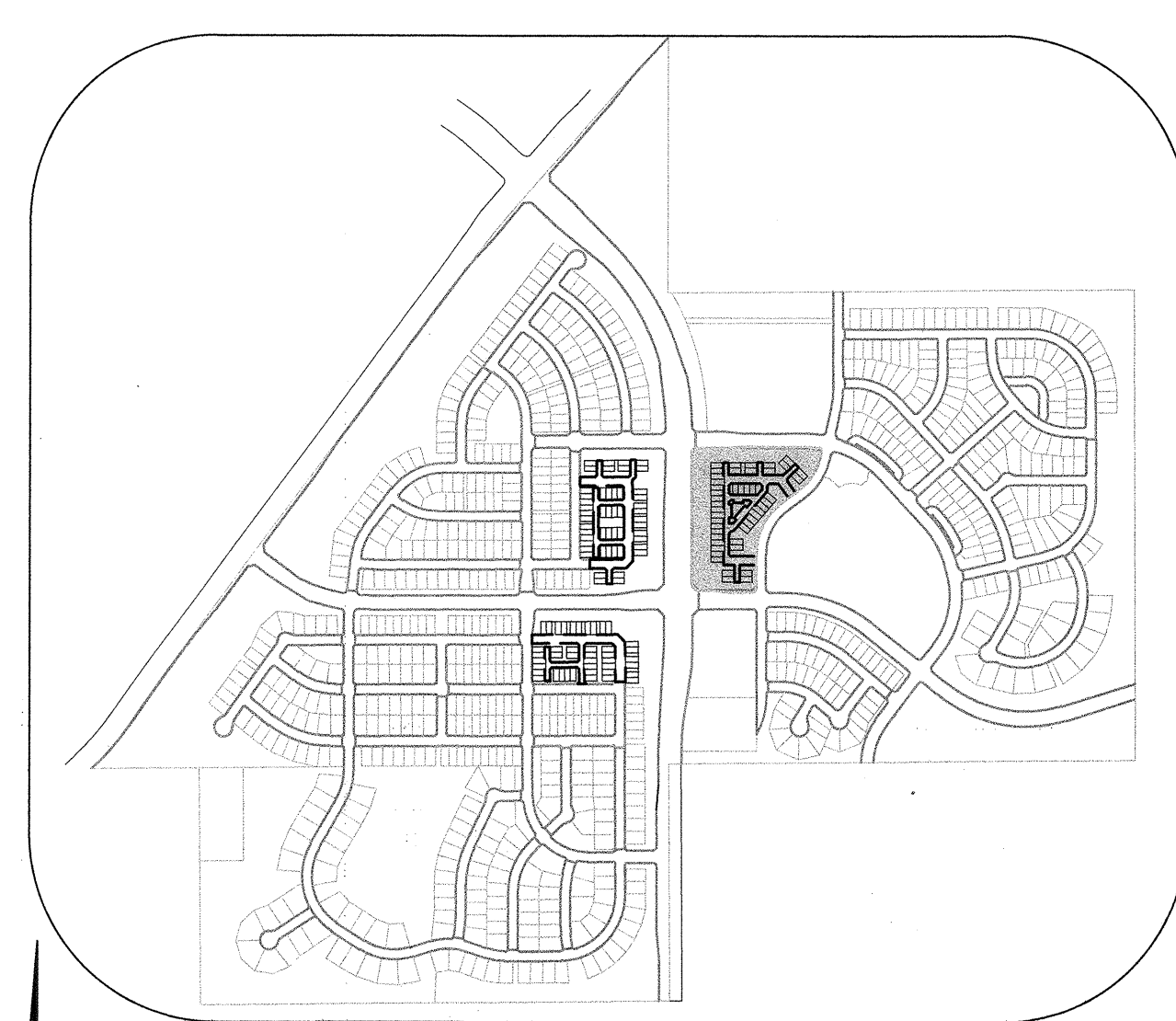
SCARLET SAGE AVE

BAYOU GULCH RD.

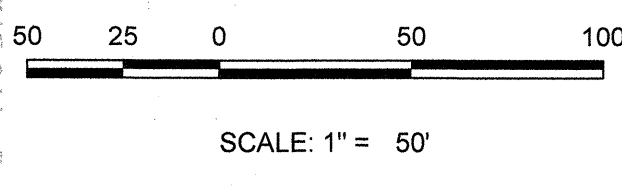
ALPINE PHLOX ST

N PINERY PARKWAY

APPROVED
 JUL 29 2019
 PARKER WATER AND SANITATION DISTRICT



KEYMAP
N.T.S.



SANITARY SERVICE TABLE

FILING, BLOCK, LOT	STREET	STATIONING
F15,B1,L1	FILING 15 SS WEST	16+98.25
F15,B1,L2	FILING 15 SS WEST	16+78.25
F15,B1,L3	FILING 15 SS WEST	16+34.25
F15,B1,L4	FILING 15 SS WEST	16+14.25
F15,B1,L5	FILING 15 SS WEST	15+40.25
F15,B1,L6	FILING 15 SS WEST	15+20.25
F15,B1,L7	FILING 15 SS WEST	14+76.25
F15,B1,L8	FILING 15 SS WEST	14+56.25
F15,B1,L9	FILING 15 SS WEST	14+12.25
F15,B1,L10	FILING 15 SS WEST	13+92.25
F15,B1,L11	FILING 15 SS WEST	13+18.83
F15,B1,L12	FILING 15 SS WEST	12+98.83
F15,B1,L13	FILING 15 SS WEST	12+54.83
F15,B1,L14	FILING 15 SS WEST	12+34.83
F15,B1,L15	FILING 15 SS WEST	11+90.83
F15,B1,L16	FILING 15 SS WEST	11+70.83
F15,B1,L17	FILING 15 SS WEST	10+20.00
F15,B1,L18	FILING 15 SS WEST	10+00.00
F15,B1,L21	FILING 15 SS NORTH	10+84.00
F15,B1,L22	FILING 15 SS NORTH	10+64.00
F15,B1,L23	FILING 15 SS NORTH	10+84.00
F15,B1,L24	FILING 15 SS NORTH	10+61.00
F15,B1,L25	FILING 15 SS NORTHEAST	10+84.00
F15,B1,L26	FILING 15 SS NORTHEAST	10+64.00
F15,B1,L27	FILING 15 SS NORTHEAST	11+54.29
F15,B1,L28	FILING 15 SS NORTHEAST	11+34.29
F15,B2,L1	MOCK ORANGE AVE	10+59.00
F15,B2,L2	MOCK ORANGE AVE	10+79.00
F15,B2,L3	MOCK ORANGE AVE	11+23.00
F15,B2,L4	MOCK ORANGE AVE	11+43.00

WATER SERVICE TABLE

FILING, BLOCK, LOT	STREET	STATIONING
F15,B1,L1	ROCK DAISY PT	10+27.00
F15,B1,L2	ROCK DAISY PT	10+37.00
F15,B1,L3	ROCK DAISY PT	10+91.00
F15,B1,L4	ROCK DAISY PT	11+01.00
F15,B1,L5	ROCK DAISY PT	11+85.00
F15,B1,L6	ROCK DAISY PT	11+95.00
F15,B1,L7	ROCK DAISY PT	12+49.00
F15,B1,L8	ROCK DAISY PT	12+59.00
F15,B1,L9	ROCK DAISY PT	13+13.00
F15,B1,L10	ROCK DAISY PT	13+23.00
F15,B1,L11	ROCK DAISY PT	14+06.42
F15,B1,L12	ROCK DAISY PT	14+16.42
F15,B1,L13	ROCK DAISY PT	14+70.42
F15,B1,L14	ROCK DAISY PT	14+80.42
F15,B1,L15	ROCK DAISY PT	15+34.19
F15,B1,L16	ROCK DAISY PT	15+42.76
F15,B1,L17	BLUE HEART CT	10+82.08
F15,B1,L18	BLUE HEART CT	10+92.08
F15,B1,L19	BLUE HEART CT	10+80.08
F15,B1,L20	BLUE HEART CT	10+94.08
F15,B1,L21	ROCK DAISY PT	10+25.00
F15,B1,L22	ROCK DAISY PT	10+39.00
F15,B1,L23	MOCK ORANGE WAY	10+27.00
F15,B1,L24	MOCK ORANGE WAY	10+37.00
F15,B1,L25	MOCK ORANGE WAY	10+25.00
F15,B1,L26	MOCK ORANGE WAY	10+39.00
F15,B1,L27	MOCK ORANGE CT	10+98.21
F15,B1,L28	MOCK ORANGE CT	10+88.21
F15,B1,L29	MOCK ORANGE CT	11+00.21
F15,B1,L30	MOCK ORANGE CT	10+86.21
F15,B2,L1	ROCK DAISY LN	10+64.00
F15,B2,L2	ROCK DAISY LN	10+74.00
F15,B2,L3	ROCK DAISY LN	11+27.91
F15,B2,L4	ROCK DAISY LN	11+37.07
F15,B2,L5	ROCK DAISY TRL	12+86.64
F15,B2,L6	ROCK DAISY TRL	12+76.64
F15,B2,L7	ROCK DAISY TRL	12+22.64
F15,B2,L8	ROCK DAISY TRL	12+12.64
F15,B2,L9	ROCK DAISY TRL	11+58.64
F15,B2,L10	ROCK DAISY TRL	11+48.64
F15,B2,L11	ROCK DAISY TRL	10+94.64
F15,B2,L12	ROCK DAISY TRL	10+84.64
F15,B2,L13	ROCK DAISY PT	14+65.32
F15,B2,L14	ROCK DAISY PT	14+75.32

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 68 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

10333 E Dry Creek Rd
 Suite 240
 Englewood, CO 80112
 Tel: (720) 482-9526
 Fax: (720) 482-9546

CVL
CONSULTANTS

HR 935 LLC
 735 S. ALCOBY
 CENTENNIAL, CO 80112

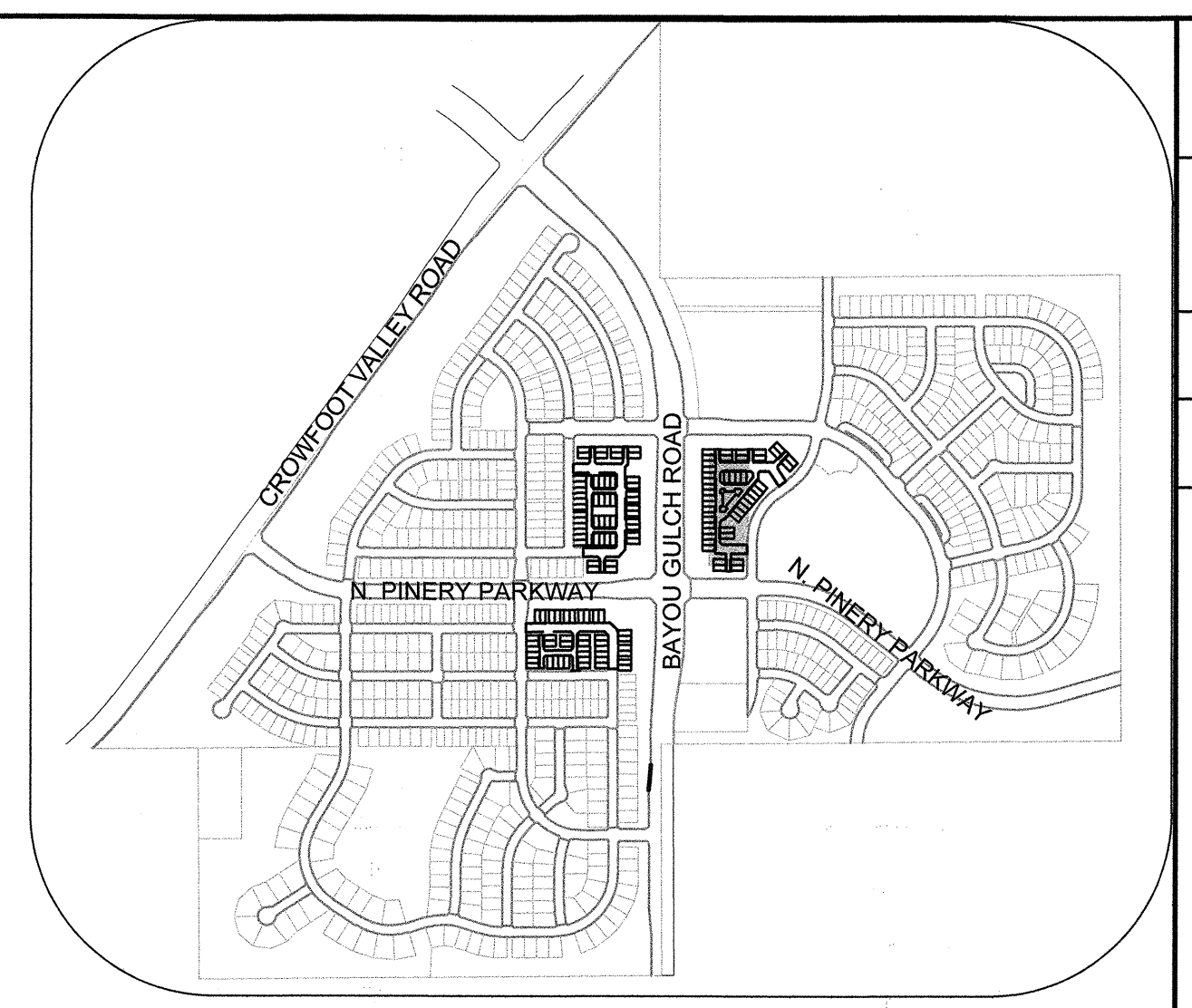
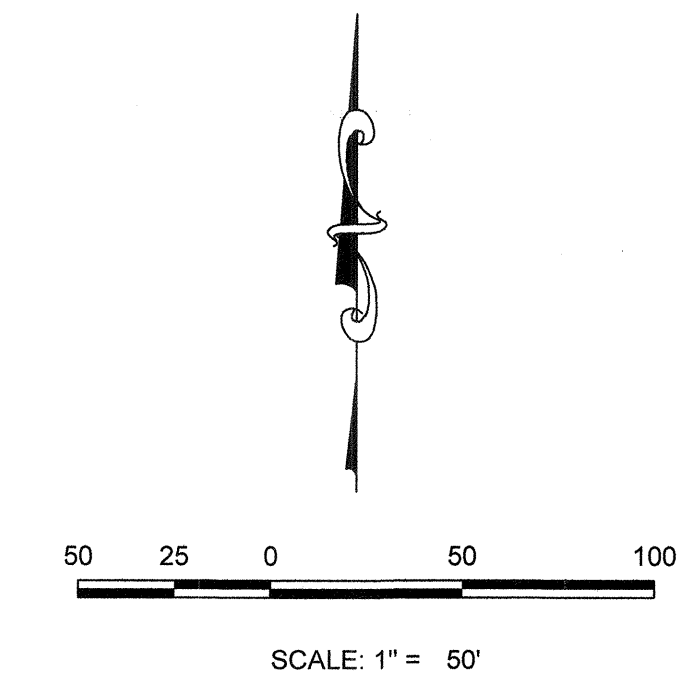
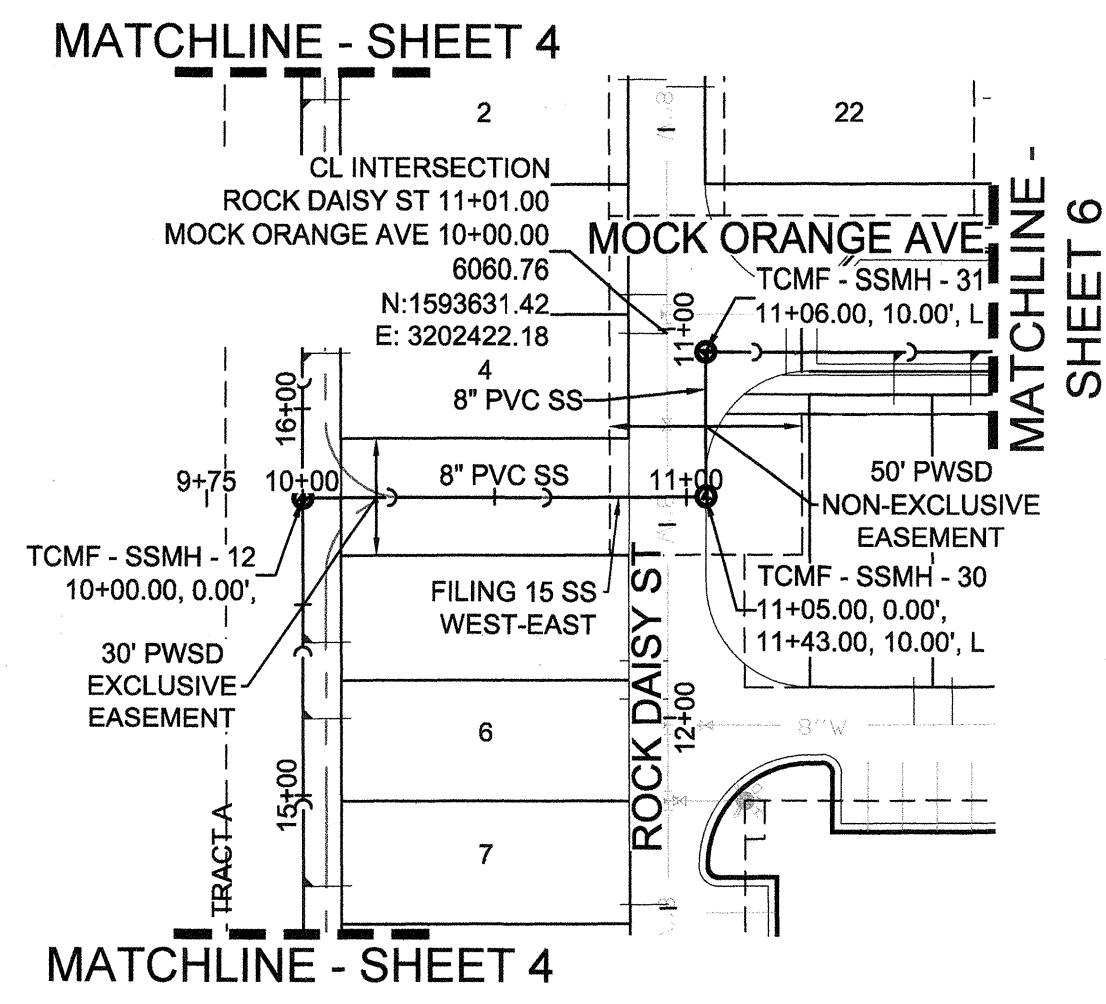
TRAILS AT CROWFOOT
 FILING 15 CONSTRUCTION DRAWINGS
 AREA UTILITY PLAN

SCALE: AS SHOWN
 FILE NO: 8130283701

DRAWN BY: BRW
 CHECKED BY: BRW
 DATE: JUNE 2018

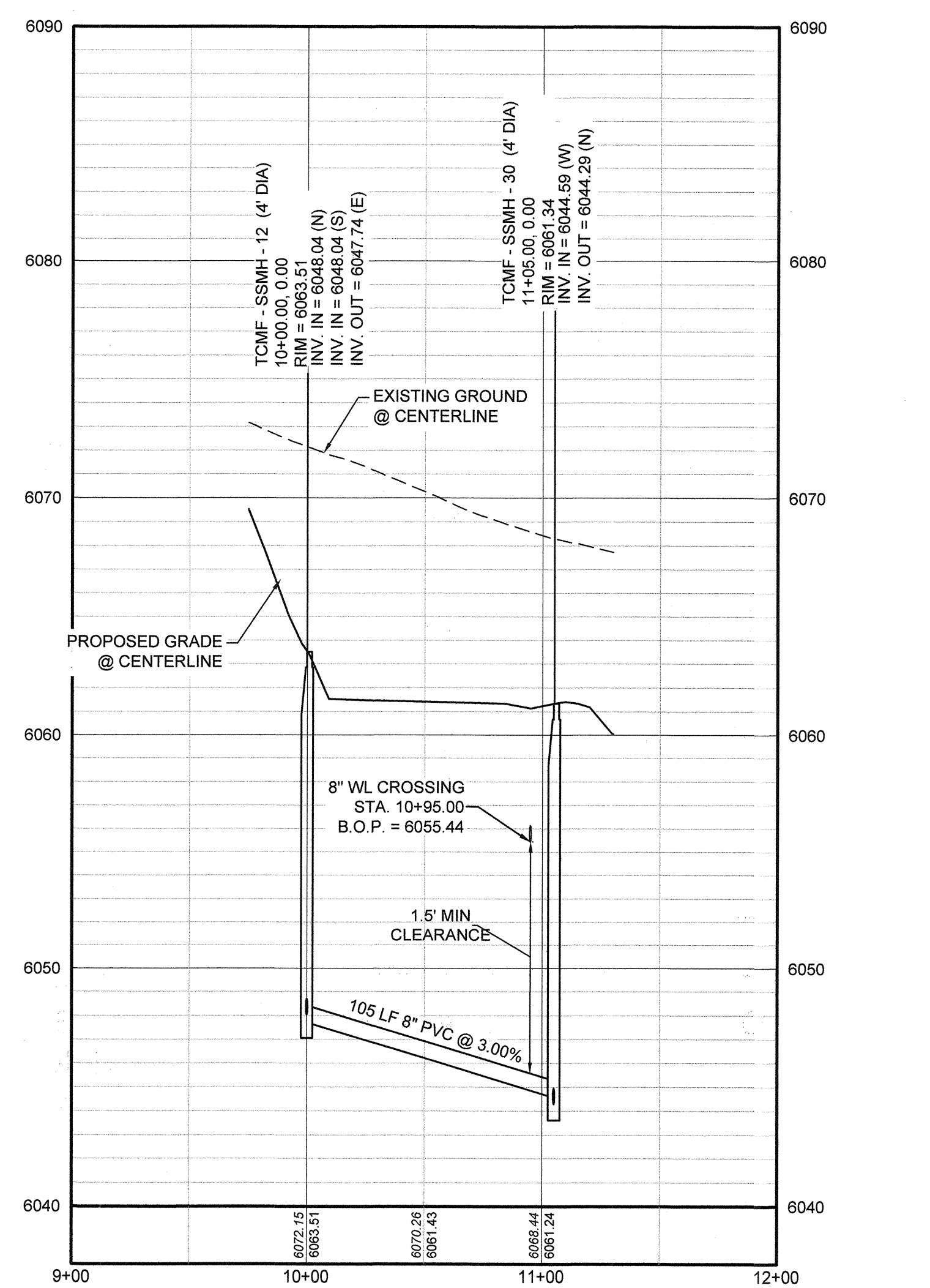
SHEET NUMBER: **3**

No.	Revisions	Date	Appr.	Date

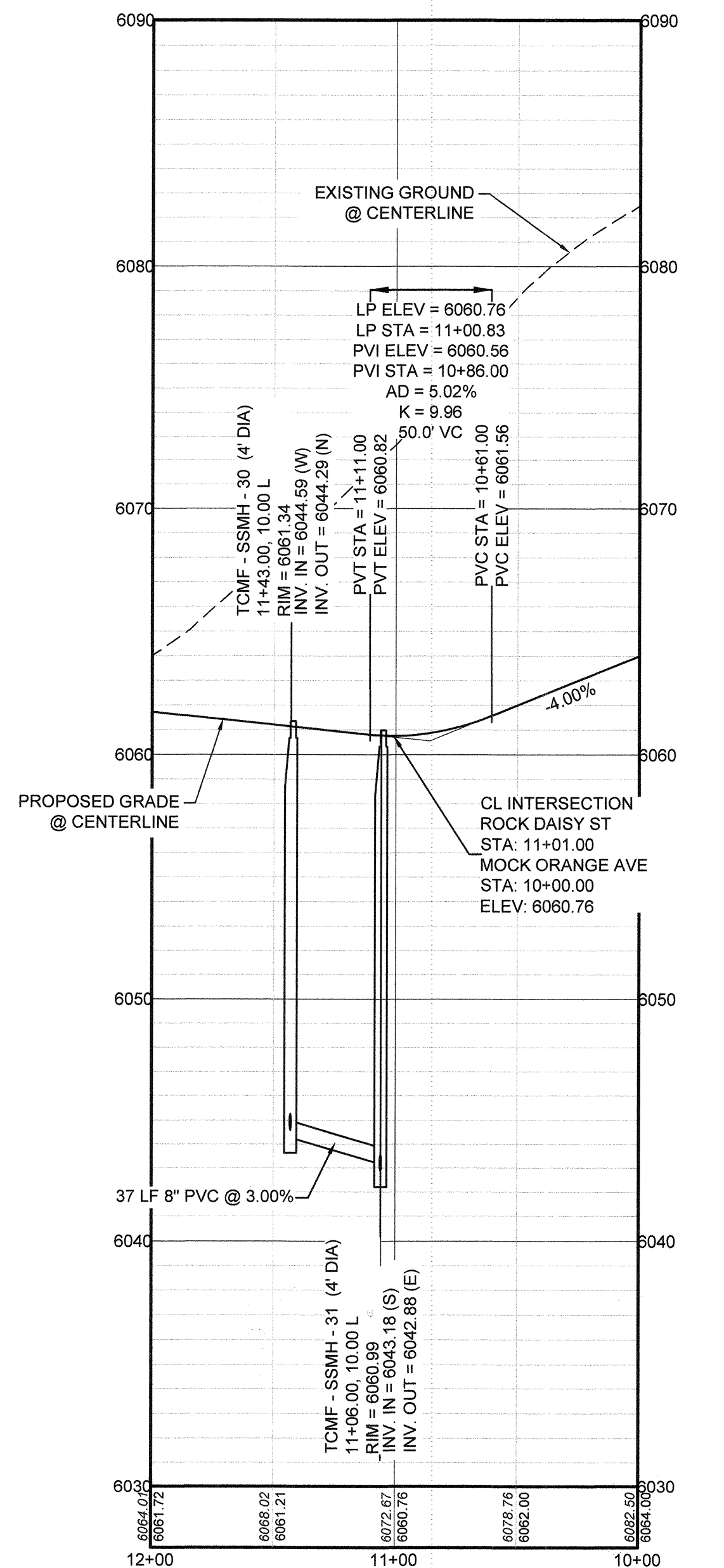


PLAN: FILING 15 SS WEST-EAST STA: 9+75.00 TO 11+50.00 & ROCK DAISY ST STA: 11+00.00 TO 12+00.00
HORIZONTAL SCALE: 1" = 50'

KEYMAP
N.T.S.



PROFILE: FILING 15 SS WEST-EAST STA: 9+00.00 TO 12+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



PROFILE: ROCK DAISY ST STA: 12+00.00 TO 10+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

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	---	EXISTING 5' CONTOUR
Ⓜ	PROPOSED WL FITTING WITH THRUST BLOCK	---	EXISTING 1' CONTOUR
Ⓜ	PROPOSED FLARED END SECTION	---	PROPOSED 5' CONTOUR
Ⓜ	PROPOSED LOW POINT BLOW-OFF	---	PROPOSED 1' CONTOUR
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Ⓜ	FUTURE FIRE HYDRANT	---	PROPOSED SEWER LATERAL
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Ⓜ	PROPOSED SIDEWALK RAMP	---	PROPOSED WATER LATERAL W/ METER
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Ⓜ	PROPOSED STORM DRAIN MANHOLE	---	EXISTING OVERHEAD POWER
		---	EXISTING TELEPHONE LINE

ABBREVIATIONS

AD	ANGLE DIFFERENCE	MH	MANHOLE
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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

NOTES:
 1. SEE SHEET 3 FOR SANITARY SERVICE TABLES.

N:\PROJECTS\SHSS RANCH\ENGINEERING\SHSS\MULTIFAMILY\DCS\FIPARKER WATER AND SANITATION\SANITARY SEWER SHEET\ROCK DAISY POINT DWG. BRIAN.W. 11/27/2018 10:49 AM

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

BENCHMARK
 THE 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 8 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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 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 6835 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF

 BRIAN P. WILSON
 COLORADO P.E. 0050067

APPROVED
 JUL 29 2019
 PARKER WATER AND SANITATION DISTRICT

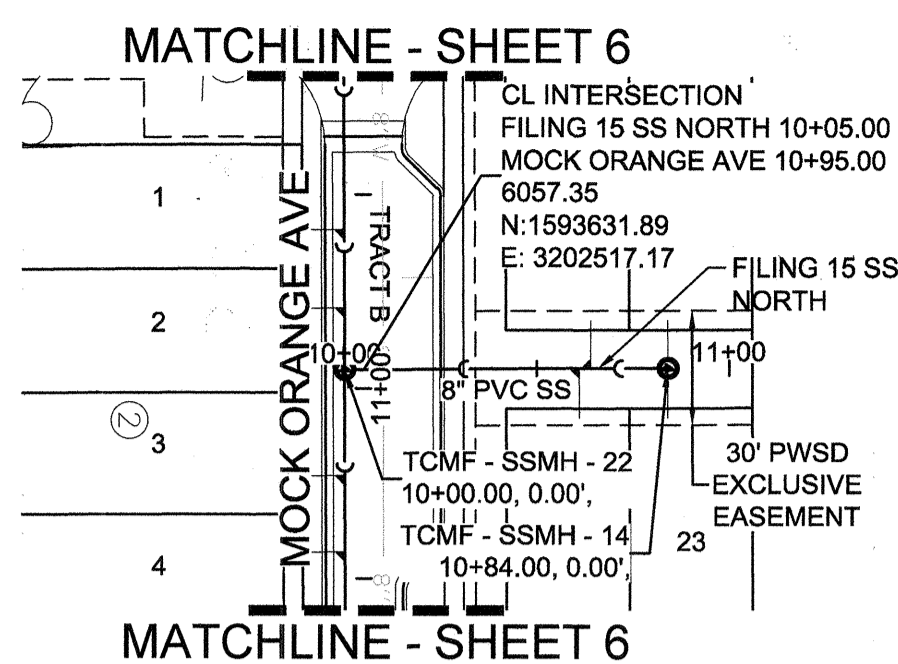
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 Fax: (720) 482-9546

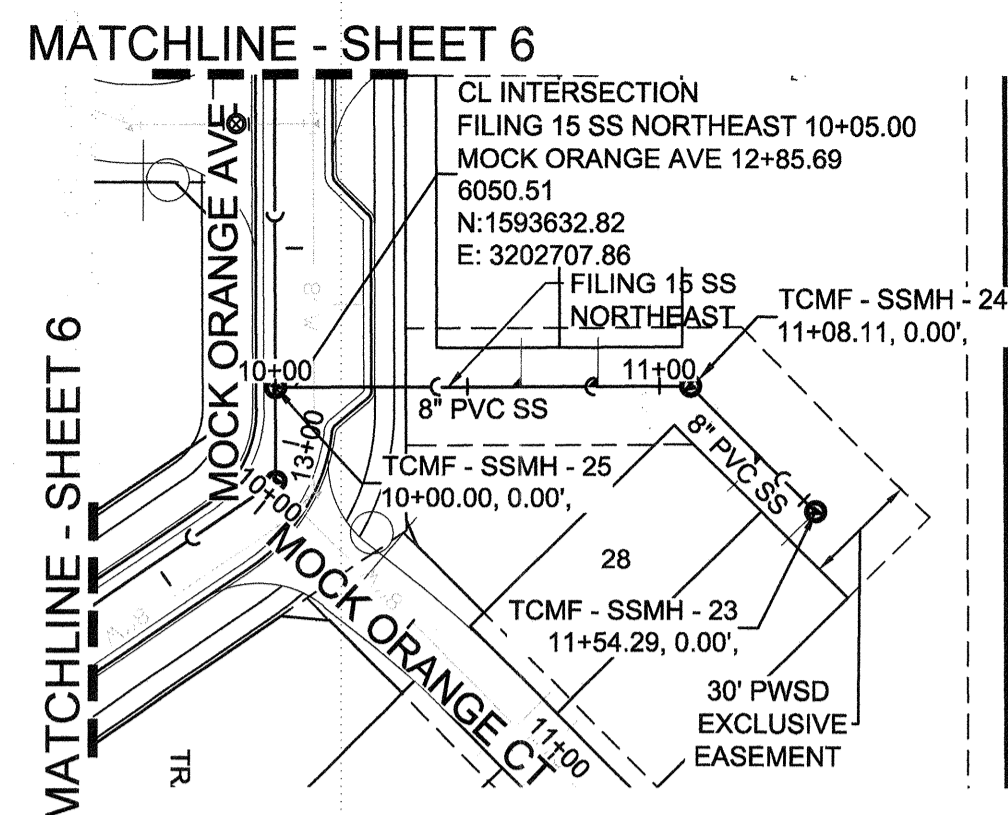
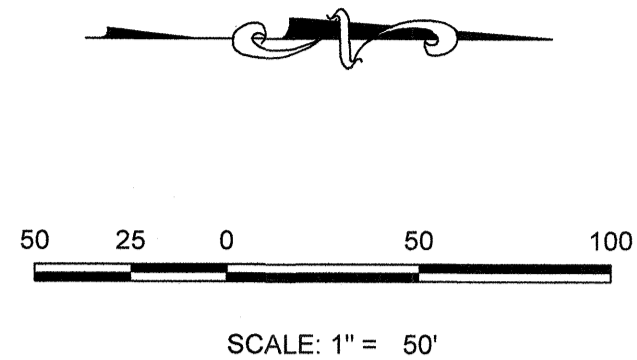
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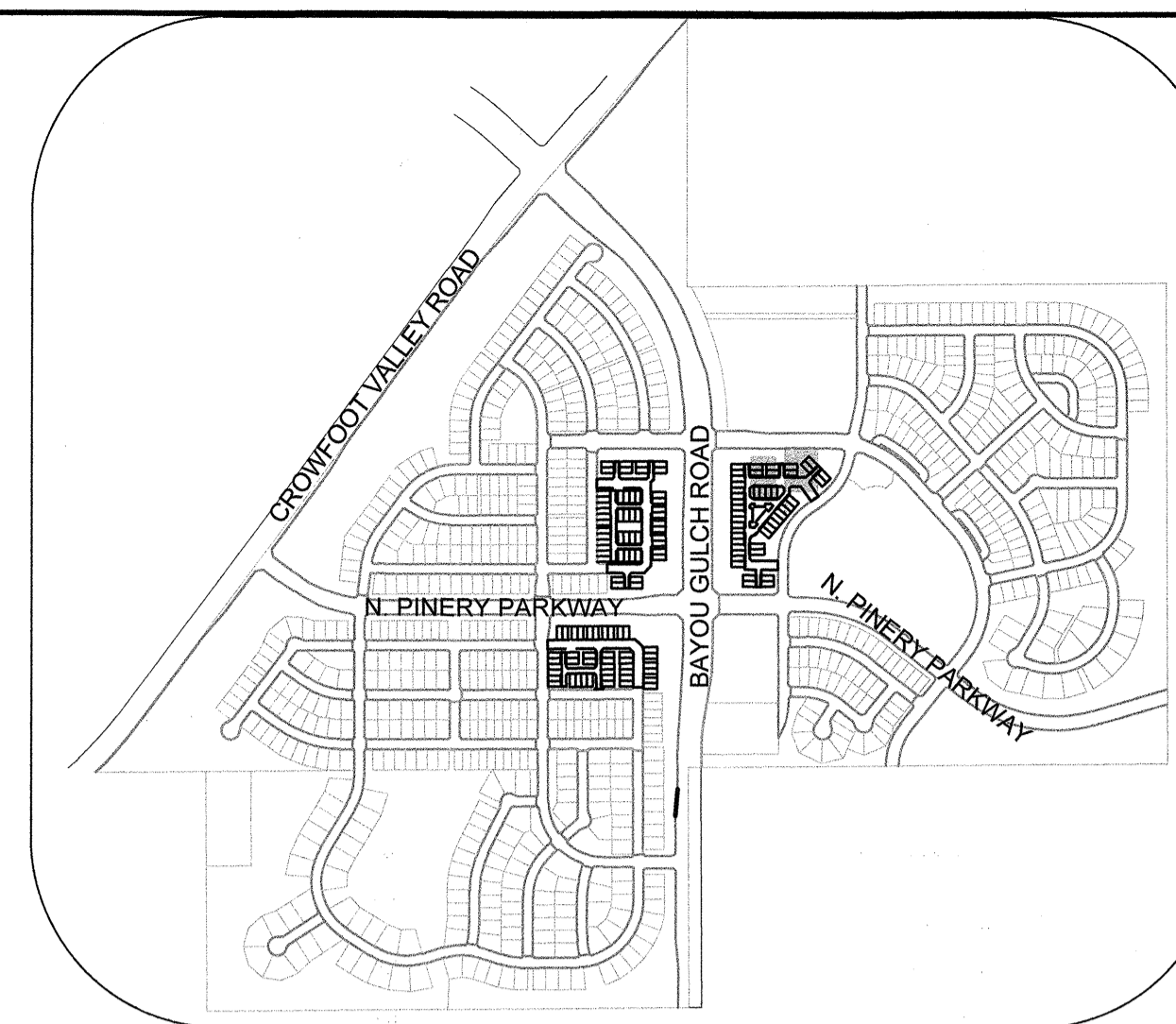
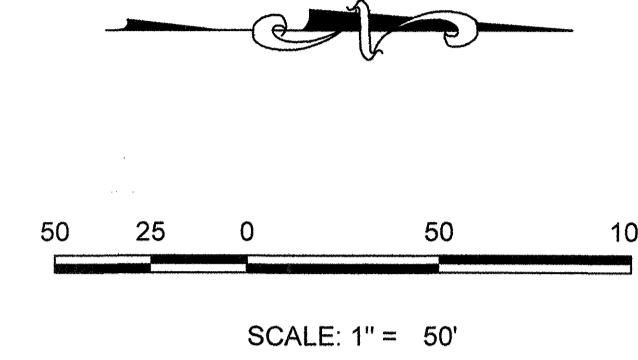
TRAILS AT CROWFOOT
FILING 15 CONSTRUCTION DRAWINGS
 SANITARY SEWER PLAN & PROFILE
 FILING 15 SS WEST-EAST & ROCK DAISY ST



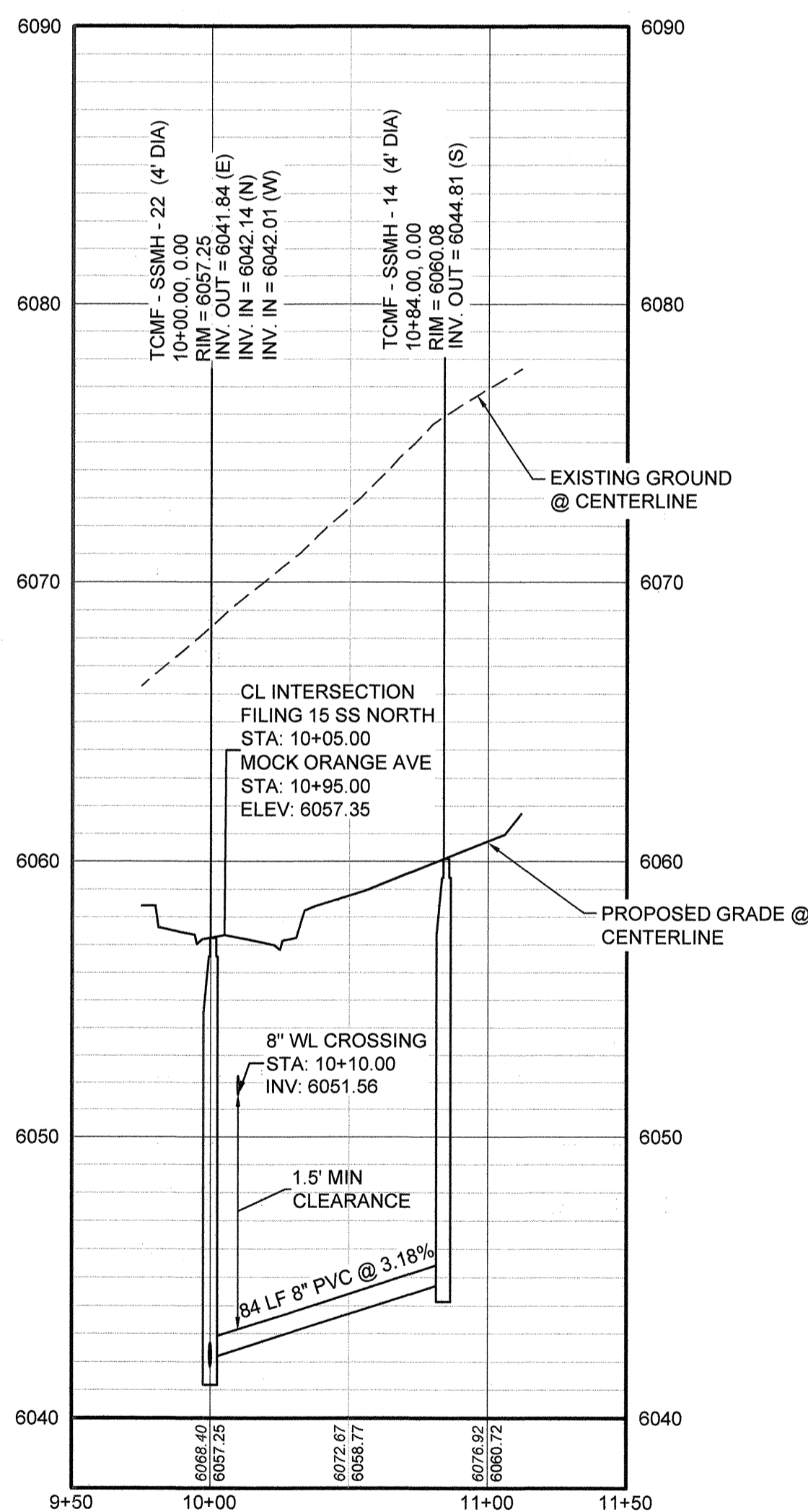
PLAN: FILING 15 SS NORTH STA: 9+50.00 TO 11+50.00
HORIZONTAL SCALE: 1" = 50'



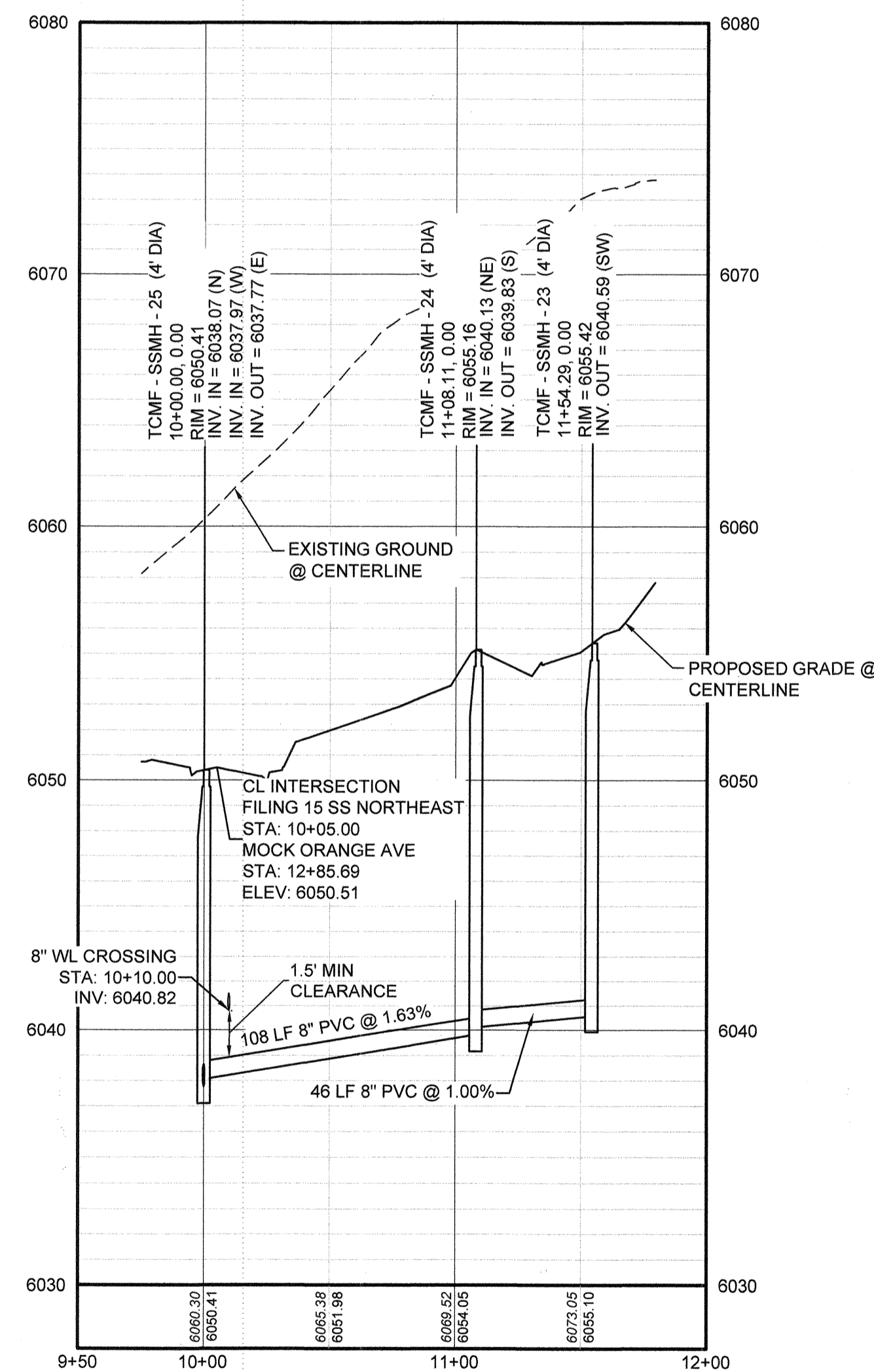
PLAN: FILING 15 SS NORTHEAST STA: 9+50.00 TO 12+00.00
HORIZONTAL SCALE: 1" = 50'



KEYMAP
N.T.S.



PROFILE: FILING 15 SS NORTH STA: 9+50.00 TO 11+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



PROFILE: FILING 15 SS NORTHEAST STA: 9+50.00 TO 12+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

LEGEND			
(2)	BLOCK NUMBER	△	PROPOSED RANGE POINT
(A)	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
(B)	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
(C)	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
(D)	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
(E)	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
(F)	PROPOSED FIRE HYDRANT	---	EXISTING 5' CONTOUR
(G)	PROPOSED WL FITTING WITH THRUST BLOCK	---	EXISTING 1' CONTOUR
(H)	PROPOSED FLARED END SECTION	---	PROPOSED 5' CONTOUR
(I)	PROPOSED LOW POINT BLOW-OFF	---	PROPOSED 1' CONTOUR
(J)	PROPOSED AIR VALVE	---	PROPOSED STORM DRAIN
(K)	FUTURE PHASE VALVE	---	PROPOSED SEWER LINE WITH MANHOLE
(L)	FUTURE FIRE HYDRANT	---	PROPOSED SEWER LATERAL
(M)	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
(N)	PROPOSED SIDEWALK	---	PROPOSED WATER LATERAL W/ METER
(O)	PROPOSED SIDEWALK RAMP	---	SECTION LINE
(P)	EXISTING ELEVATION	---	FILING BOUNDARY
(Q)	PROPOSED DESIGN ELEVATION	---	EXISTING FIBER OPTIC LINE
(R)	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
(S)	PROPOSED STORM DRAIN MANHOLE	---	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
CSO	CAP WITH BLOW OFF	PVT	POINT OF VERTICAL TANGENT
CRR	CURB RETURN RADIUS	RCBC	REINFORCED CONCRETE BOX CULVERT
EL	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
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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

NOTES:
1. SEE SHEET 3 FOR SANITARY SERVICE TABLES.

N:\PROJECTS\SS RANCH\CAD\ENGINEERING\SS\SET\MULTIFAMILY\CD\SF\SPARKER WATER AND SANITATION\SANITARY SEWER SHEETS\FILING 15 SS NORTH.DWG.BRIAN.W. 11/22/2018 10:53 AM

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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

APPROVED
JUL 29 2019
PARKER WATER AND SANITATION DISTRICT

SHEET NUMBER	DRAWN BY: RRR	CHECKED BY: BPW	DATE: JUNE 2018	SCALE: AS SHOWN	FILE NO: 8130283701	NO.	Revisions	Date	Appr.	Date

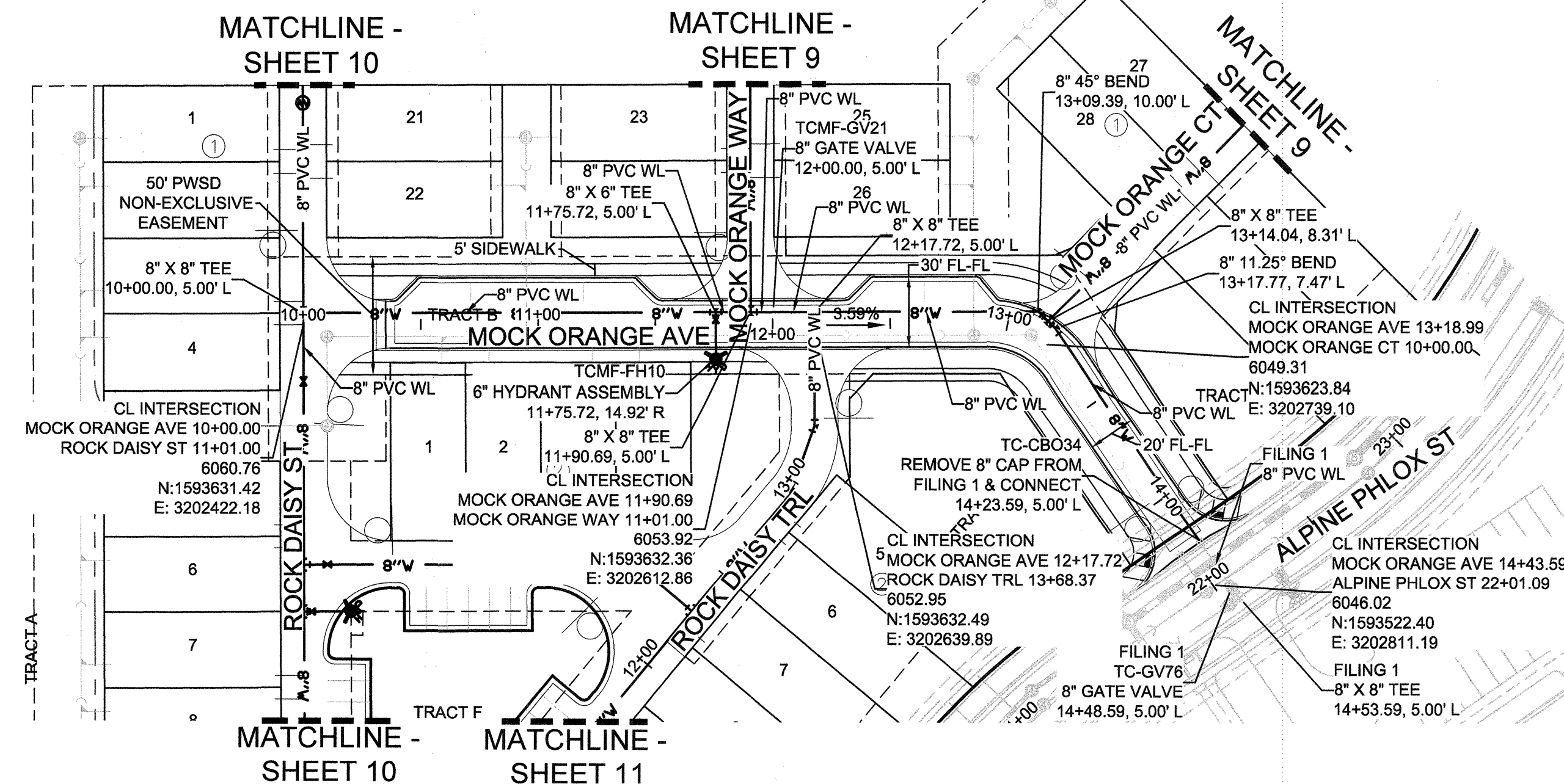
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

CVL
CONSULTANTS

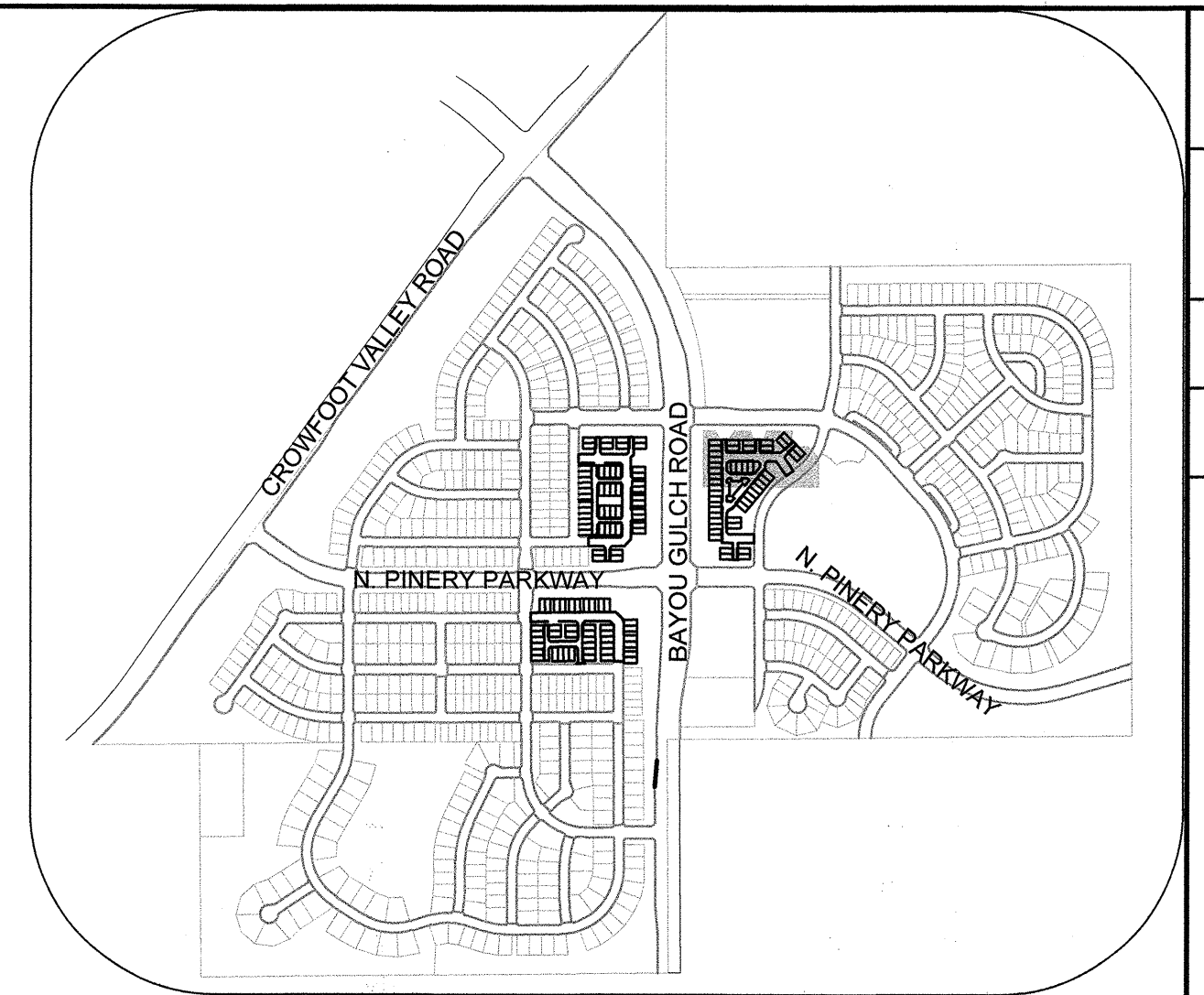
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 15 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN & PROFILE
FILING 15 SS NORTH & NORTHEAST

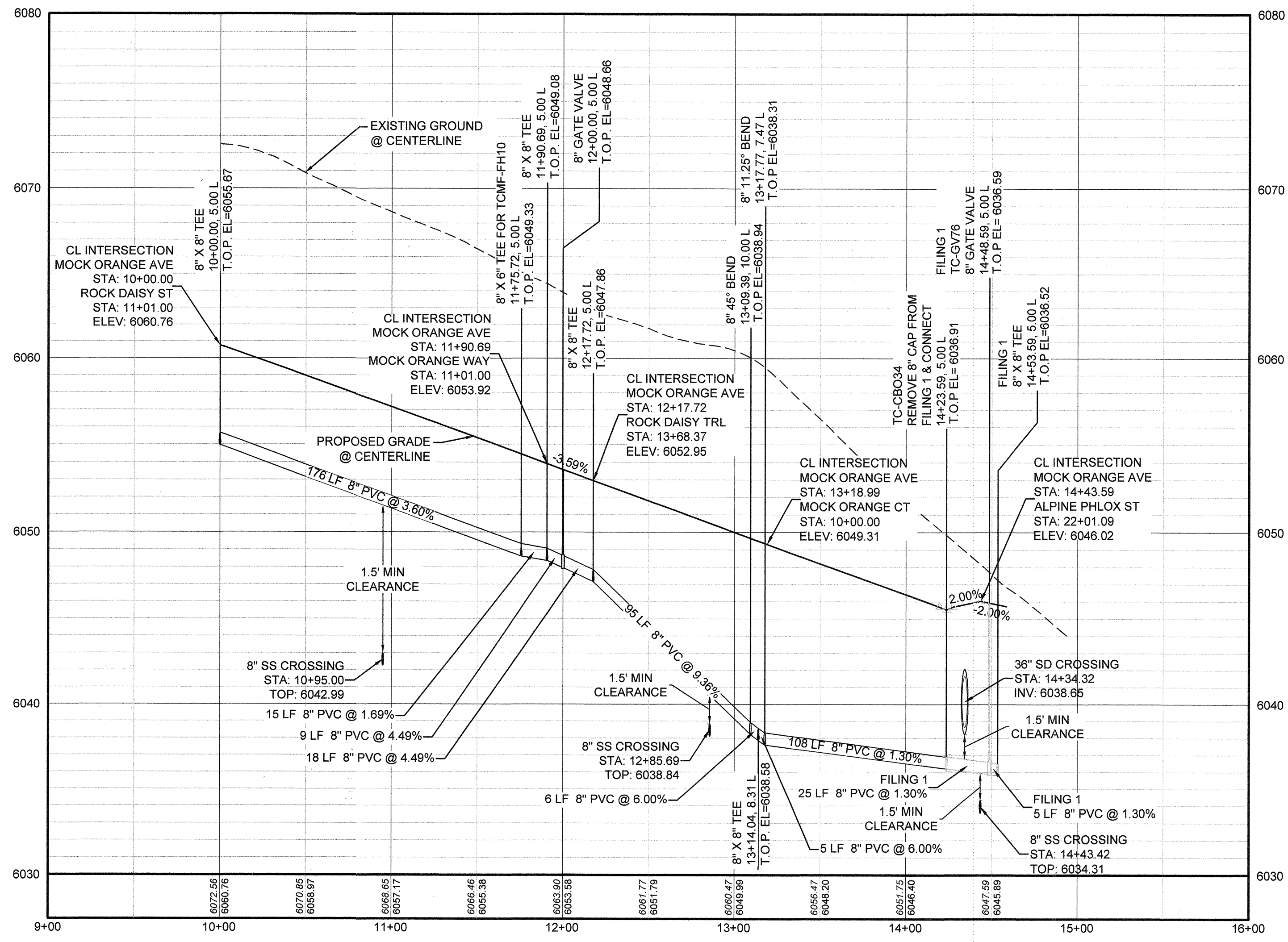
7



PLAN: MOCK ORANGE AVE STA: 9+00.00 TO 15+00.00
HORIZONTAL SCALE: 1" = 50'



KEYMAP
N.T.S.



PROFILE: MOCK ORANGE AVE STA: 9+00.00 TO 16+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

LEGEND			
②	BLOCK NUMBER	△	PROPOSED RANGE POINT
(A)	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	---	EXISTING 5' CONTOUR
⊕	PROPOSED WL FITTING WITH THRUST BLOCK	---	EXISTING 1' CONTOUR
⊕	PROPOSED FLARED END SECTION	---	PROPOSED 5' CONTOUR
⊕	PROPOSED LOW POINT BLOW-OFF	---	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	---	EXISTING FIBER OPTIC LINE
⊕	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊕	PROPOSED STORM DRAIN MANHOLE	---	EXISTING TELEPHONE LINE

ABBREVIATIONS			
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BVC	BEGIN VERTICAL CURVE	PVC	POLYVINYL CHLORIDE
BVP	BEGIN VERTICAL PROFILE	PVI	PT. OF VERTICAL INTERSECTION
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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

NOTES:
1. SEE SHEET 3 FOR WATER SERVICE TABLES.

N:\PROJECTS\SHERRANCH\ENGINEERING\SHERRANCH\MULTIFAMILY\CDS\B\F\SPARKER WATER AND SANITATION\WATER P&M\MOCK ORANGE AVE.DWG. BRIANW. 11/22/2018 10:56 AM

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BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.090032, 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

APPROVED
JUL 29 2019
PARKER WATER AND SANITATION DISTRICT

NO.	REVISIONS	DATE	INIT.	APPR.	DATE

10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 462-9526
Fax: (720) 462-9546

CVL
CONSULTANTS

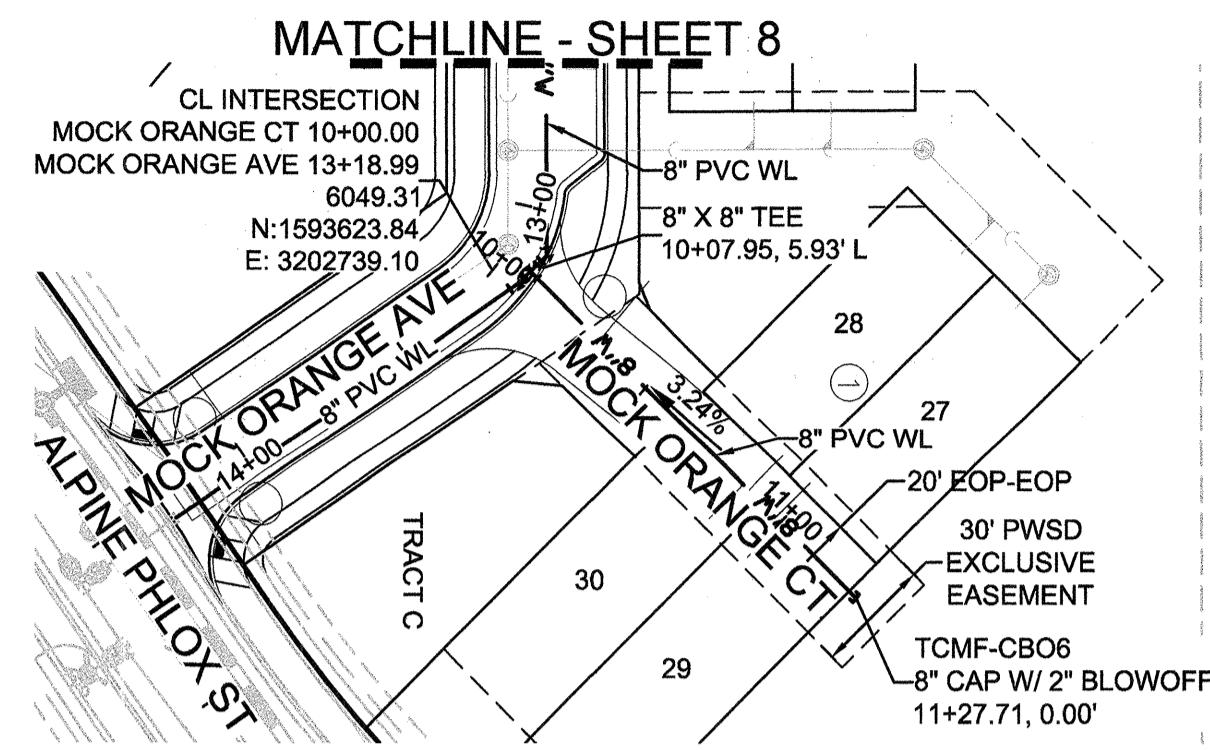
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 15 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
MOCK ORANGE AVENUE

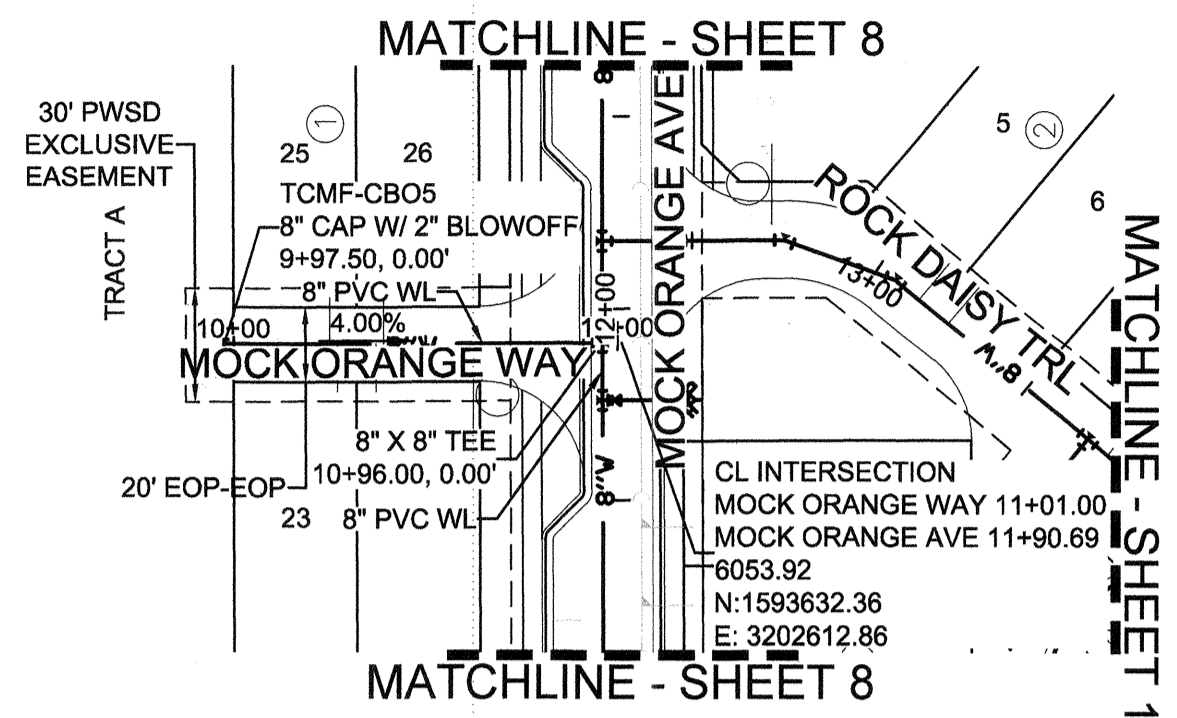
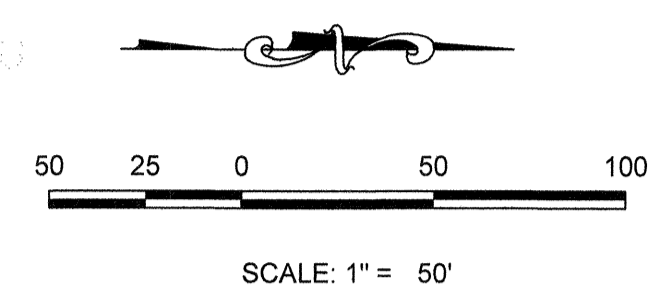
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DATE: JUNE 2018

FILE NO: 8130283701

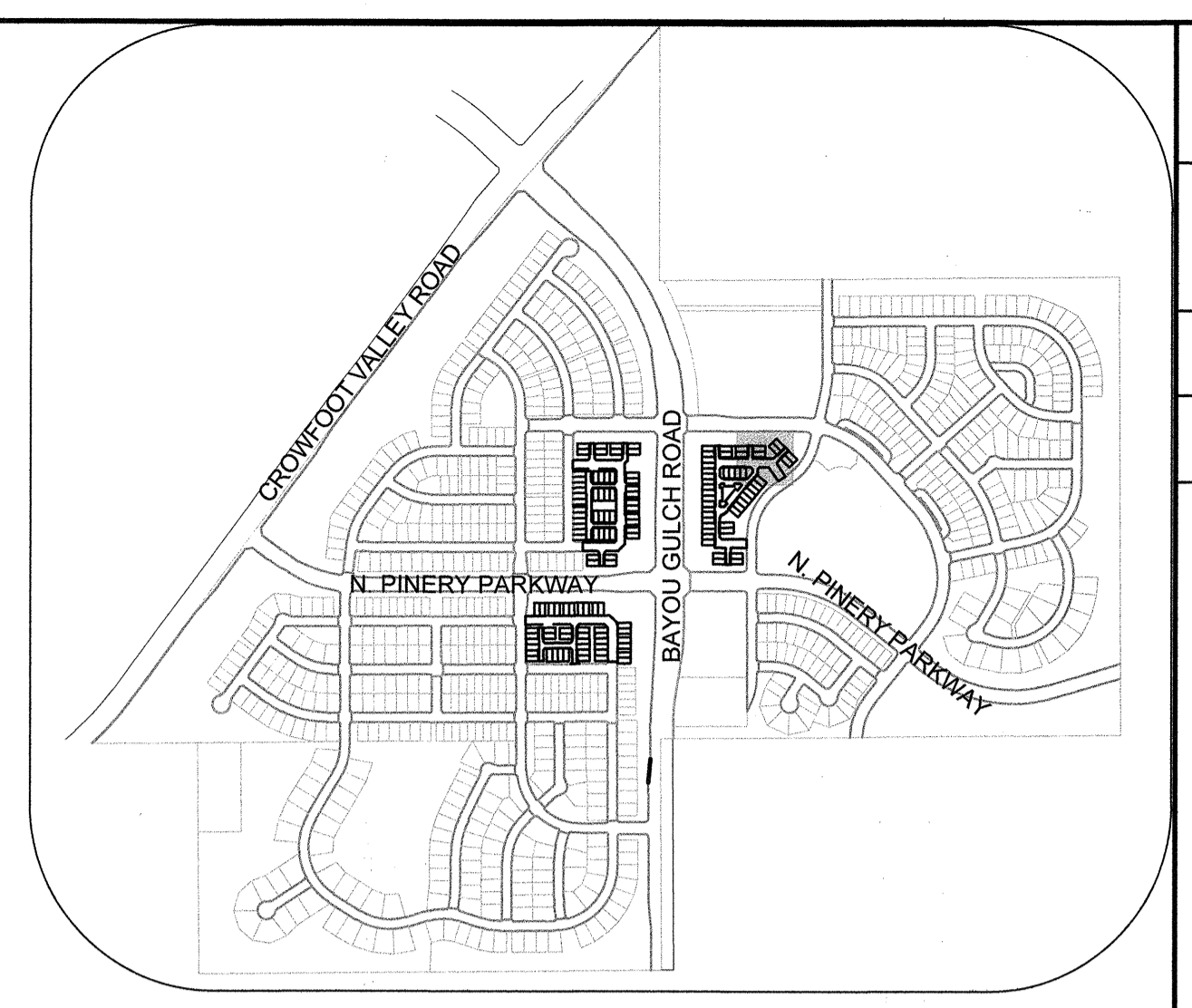
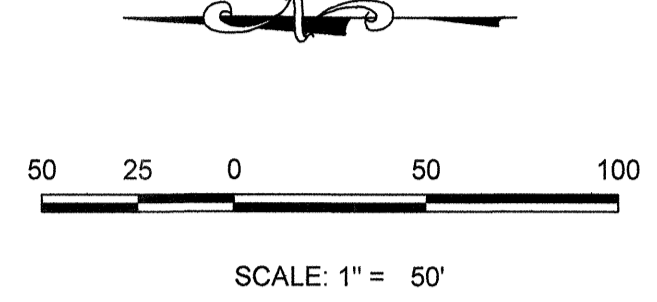
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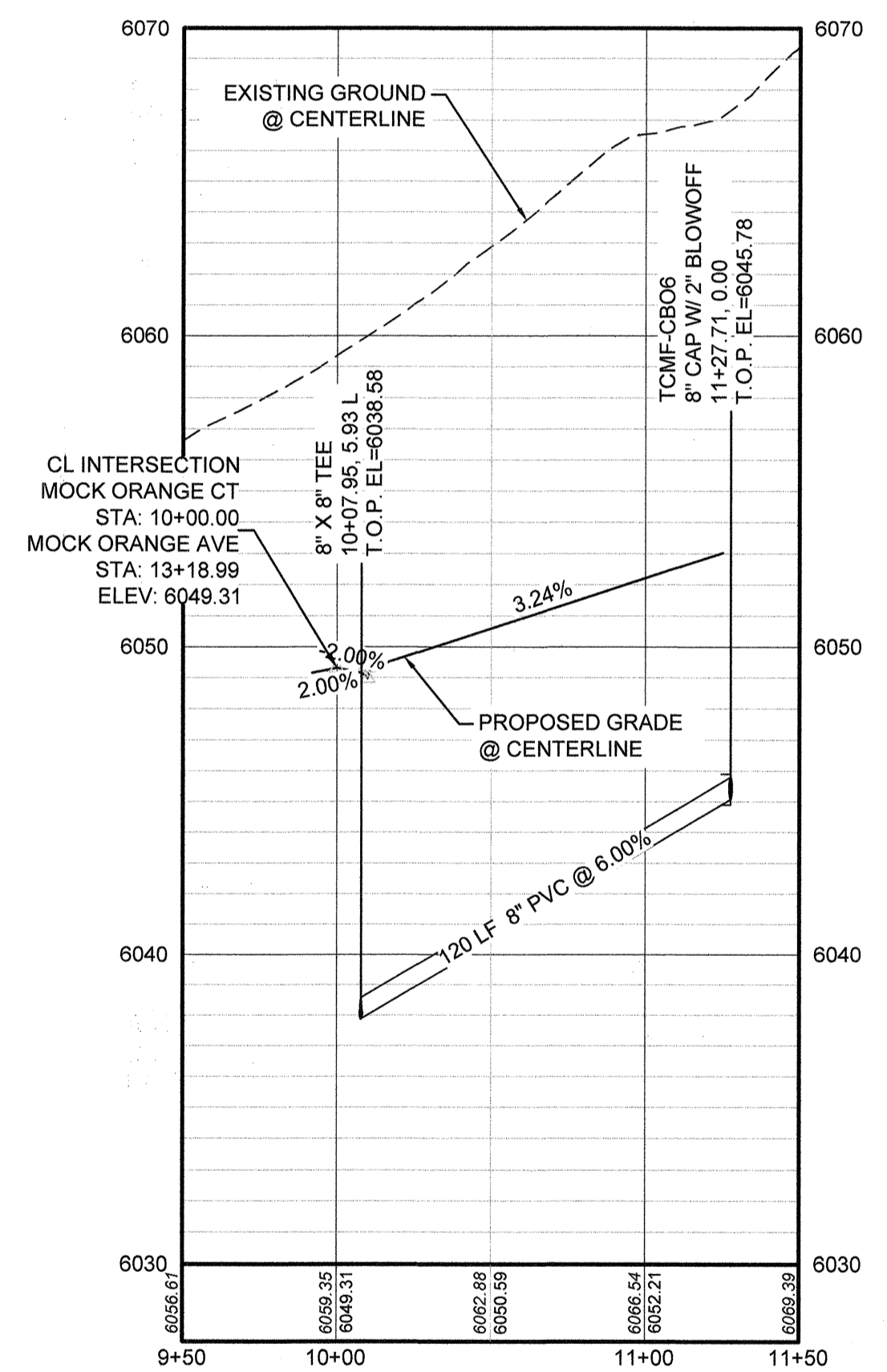
PLAN: MOCK ORANGE CT STA: 10+00.00 TO 11+50.00
HORIZONTAL SCALE: 1" = 50'



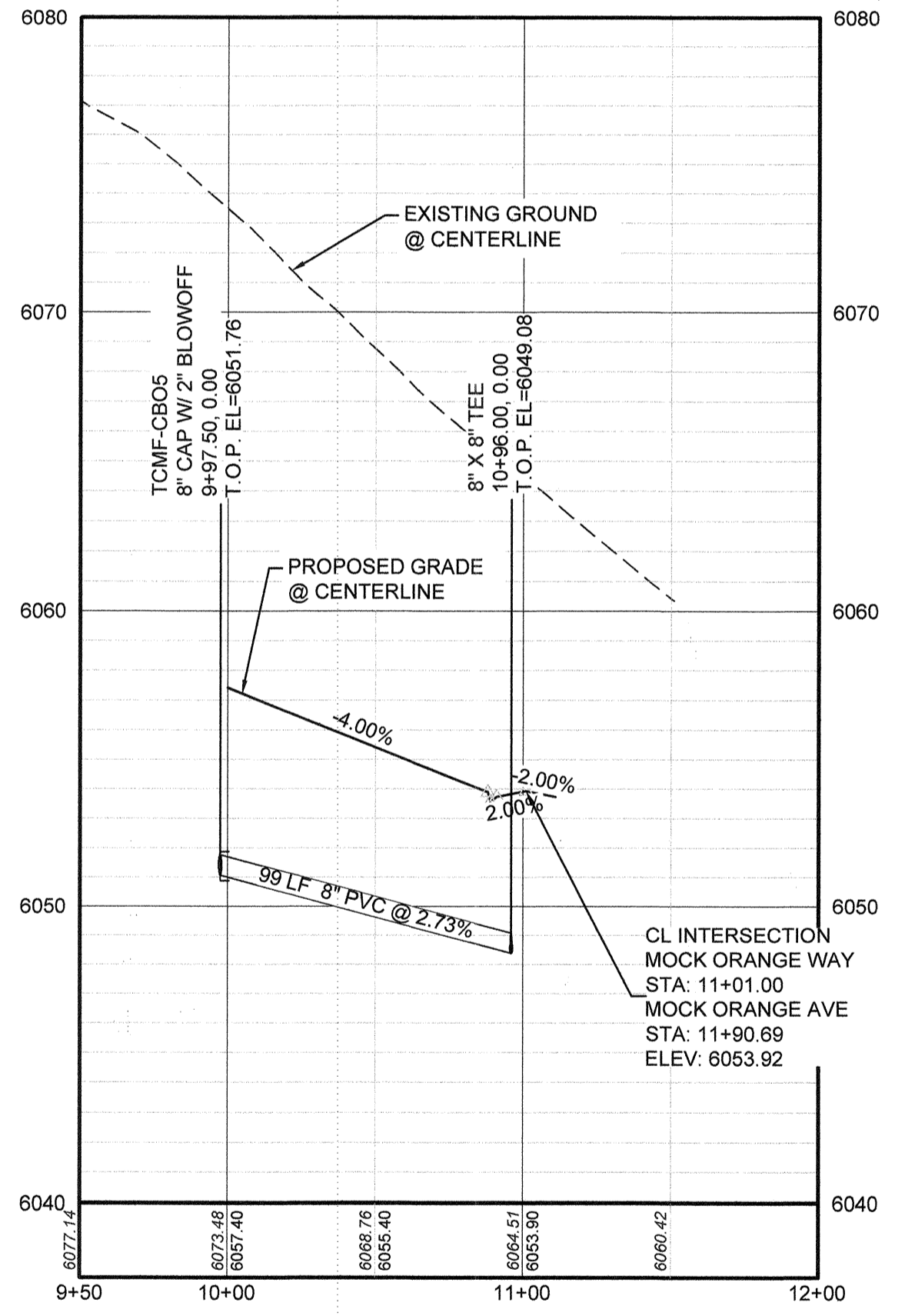
PLAN: MOCK ORANGE WAY STA: 9+50.00 TO 12+00.00
HORIZONTAL SCALE: 1" = 50'



KEYMAP
N.T.S.



PROFILE: MOCK ORANGE CT STA: 9+50.00 TO 11+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



PROFILE: MOCK ORANGE WAY STA: 9+50.00 TO 12+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
(A)	LOT TYPE	---	CENTERLINE
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⌋	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	---	EXISTING 5' CONTOUR
⊕	PROPOSED WL FITTING WITH THRUST BLOCK	---	EXISTING 1' CONTOUR
⊕	PROPOSED FLARED END SECTION	---	PROPOSED 5' CONTOUR
⊕	PROPOSED LOW POINT BLOW-OFF	---	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	---	EXISTING FIBER OPTIC LINE
⊕	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊕	PROPOSED STORM DRAIN MANHOLE	---	EXISTING TELEPHONE LINE

ABBREVIATIONS

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CRR	CURB RETURN RADIUS	RCBC	REINFORCED CONCRETE BOX CULVERT
EL	ELEVATION	RCR	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
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K	CURVATURE COEFFICIENT	WLC	WATER LINE CONNECTION
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NOTES:
1. SEE SHEET 3 FOR WATER SERVICE TABLES.

PROJECT SHESS MANCHANDI ENGINEERING SHEET SETS MULTIFAMILY DSDSIF PIPARKER WATER AND SANITATION WATER P&P MOCK ORANGE WAY DWG. BRIAN W. 11/22/2018 10:58 AM

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BENCHMARK
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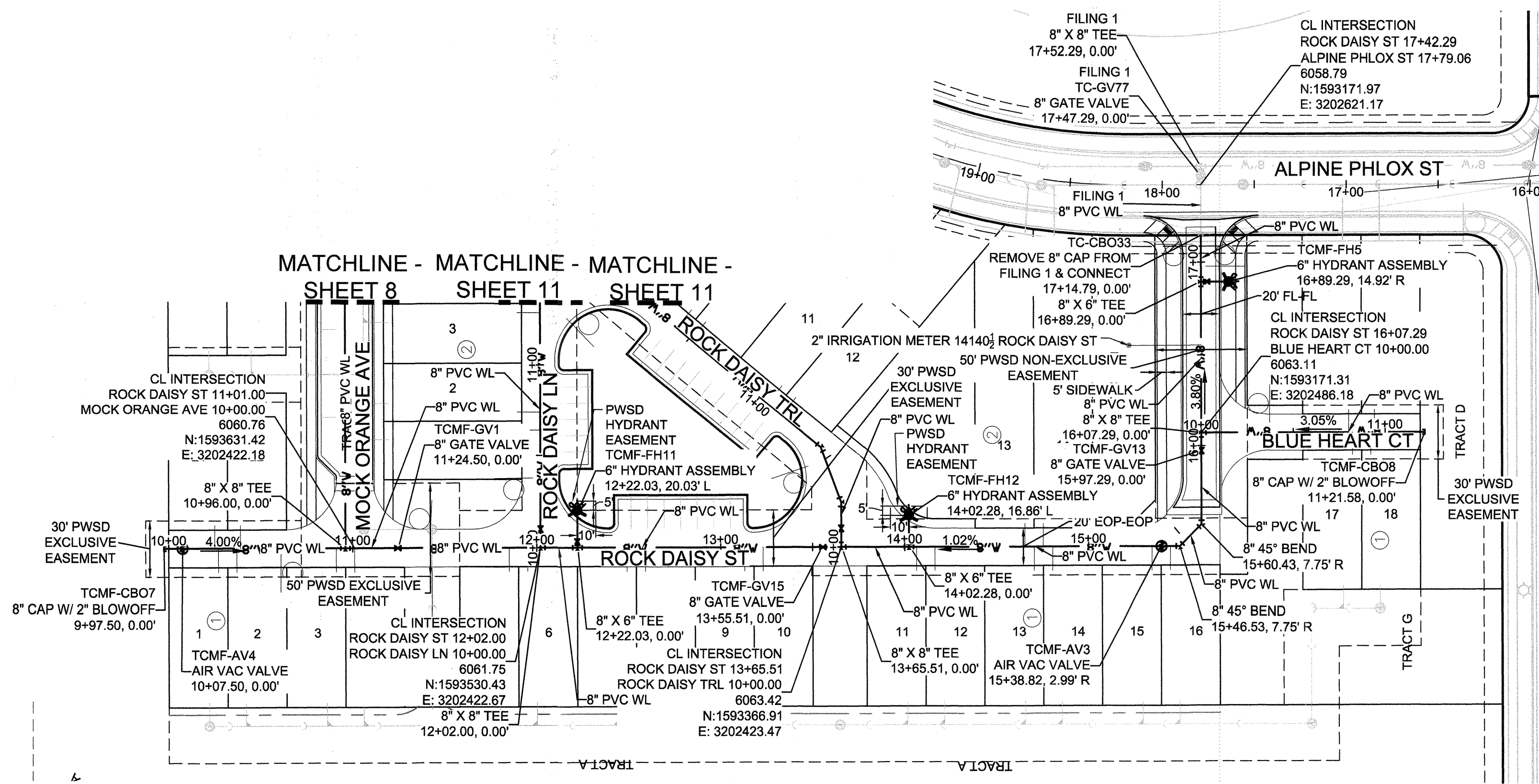
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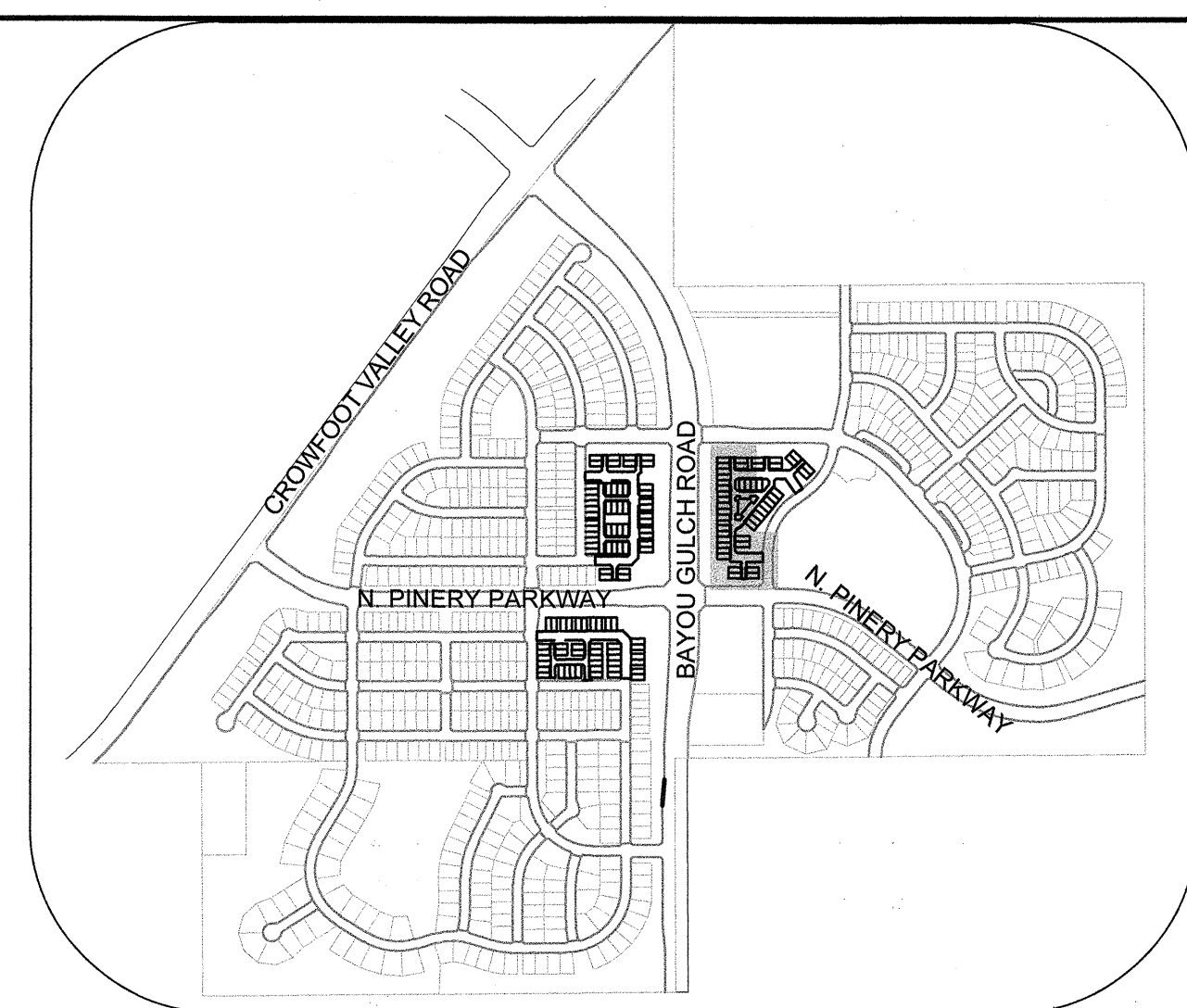
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
JUL 29 2019
PARKER WATER AND SANITATION DISTRICT

DATE	
APPR.	
DATE	
REVISIONS	
NO.	
 10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 485-9526 Fax: (720) 485-9546	
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	
TRAILS AT CROWFOOT FILING 15 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE MOCK ORANGE WAY & MOCK ORANGE COURT	
SCALE:	AS SHOWN
FILE NO.:	8130283701
DRAWN BY:	RRR
CHECKED BY:	BPW
DATE:	JUNE 2018
SHEET NUMBER	9



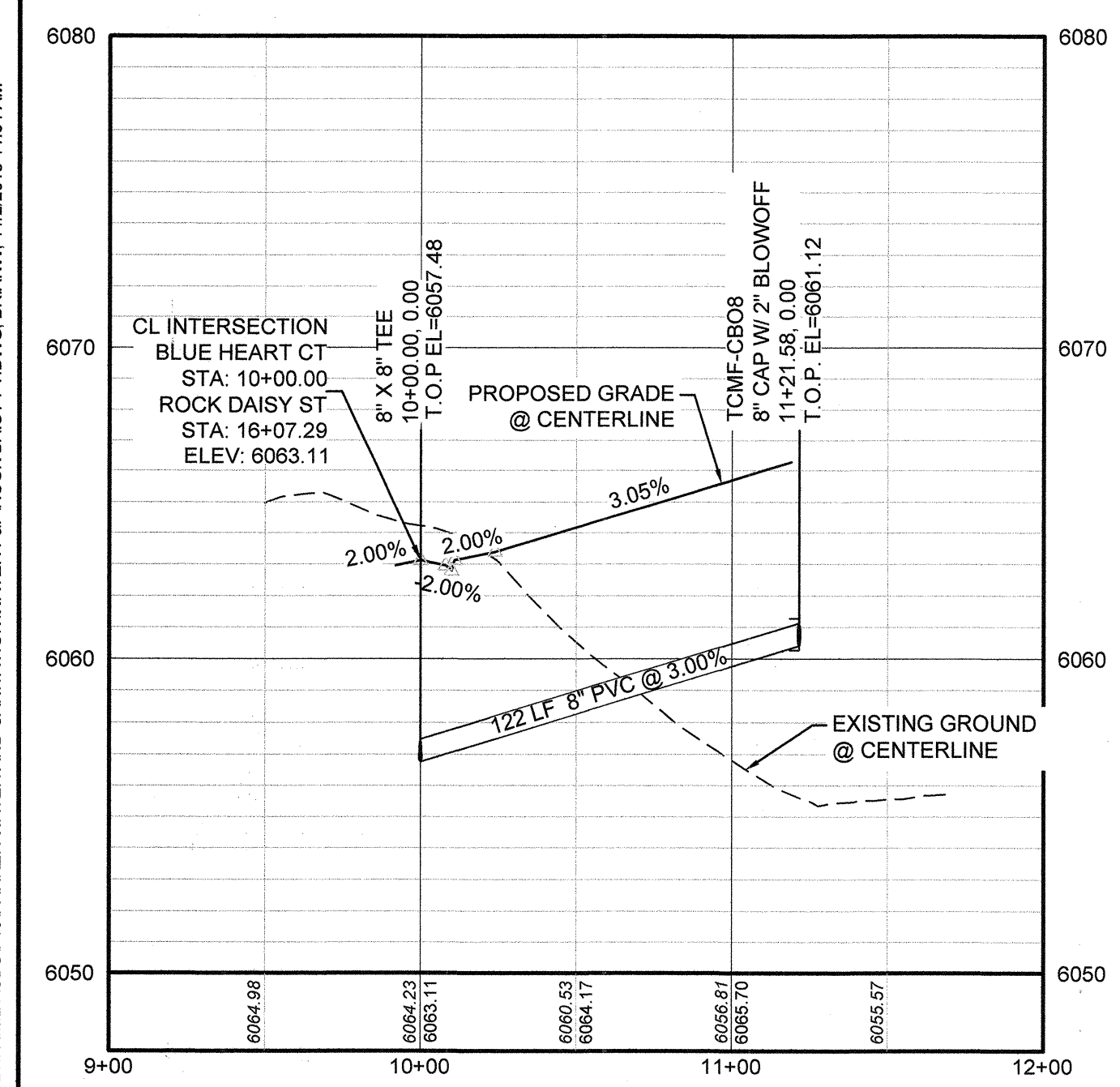
PLAN: ROCK DAISY ST STA: 9+50.00 TO 18+00.00 & BLUE HEART CT 10+00.00 TO 11+00.00
HORIZONTAL SCALE: 1" = 50'



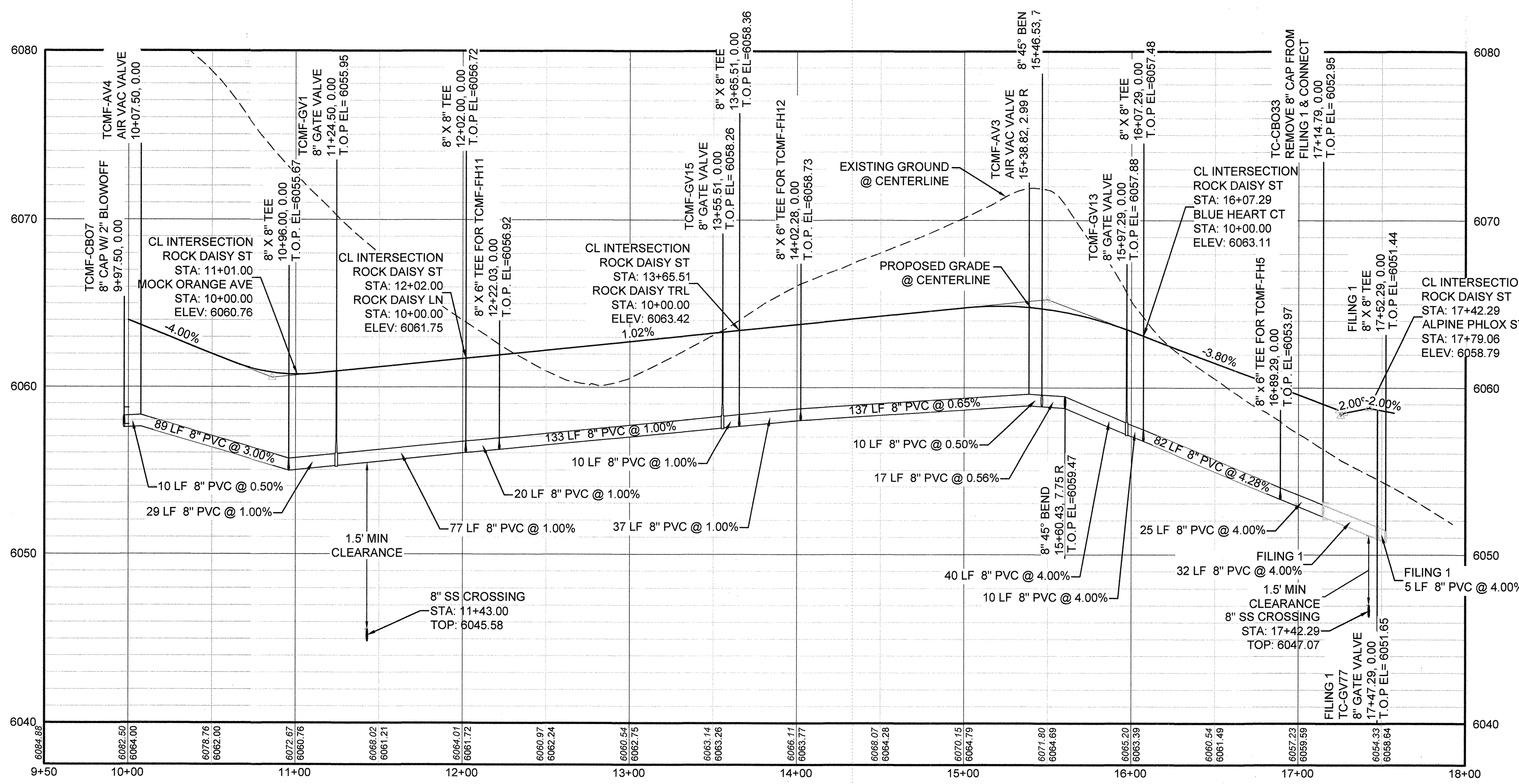
KEYMAP
N.T.S.

LEGEND

	BLOCK NUMBER		PROPOSED RANGE POINT
	LOT TYPE		CENTERLINE
	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		PROPOSED SLOPE & DIRECTION
	PROPOSED FIRE HYDRANT		EXISTING 5' CONTOUR
	PROPOSED WL FITTING WITH THRUST BLOCK		EXISTING 1' CONTOUR
	PROPOSED FLARED END SECTION		PROPOSED 5' CONTOUR
	PROPOSED LOW POINT BLOW-OFF		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
	EXISTING ELEVATION		FILING BOUNDARY
	PROPOSED DESIGN ELEVATION		EXISTING FIBER OPTIC LINE
	PROPOSED STORM DRAIN INLET		EXISTING OVERHEAD POWER
	PROPOSED STORM DRAIN MANHOLE		EXISTING TELEPHONE LINE



PROFILE: BLUE HEART CT STA: 9+00.00 TO 12+00.00
HORIZONTAL: 1" = 50'
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PROFILE: ROCK DAISY ST STA: 9+50.00 TO 18+00.00
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GV	GATE VALVE	STA	STATION
HCR	HANDICAP CURB RAMP	T.O.P.	TOP OF PIPE
HP	HIGH POINT	UE	UTILITY EASEMENT
INV	INVERT	VC	VERTICAL CURVE
K	CURVATURE COEFFICIENT	WL	WATER LINE
LF	LINEAR FEET	WLC	WATER LINE CONNECTION
		WSE	WATER SURFACE ELEVATION

NOTES:
1. SEE SHEET 3 FOR WATER SERVICE TABLES.

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BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.08032, 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.

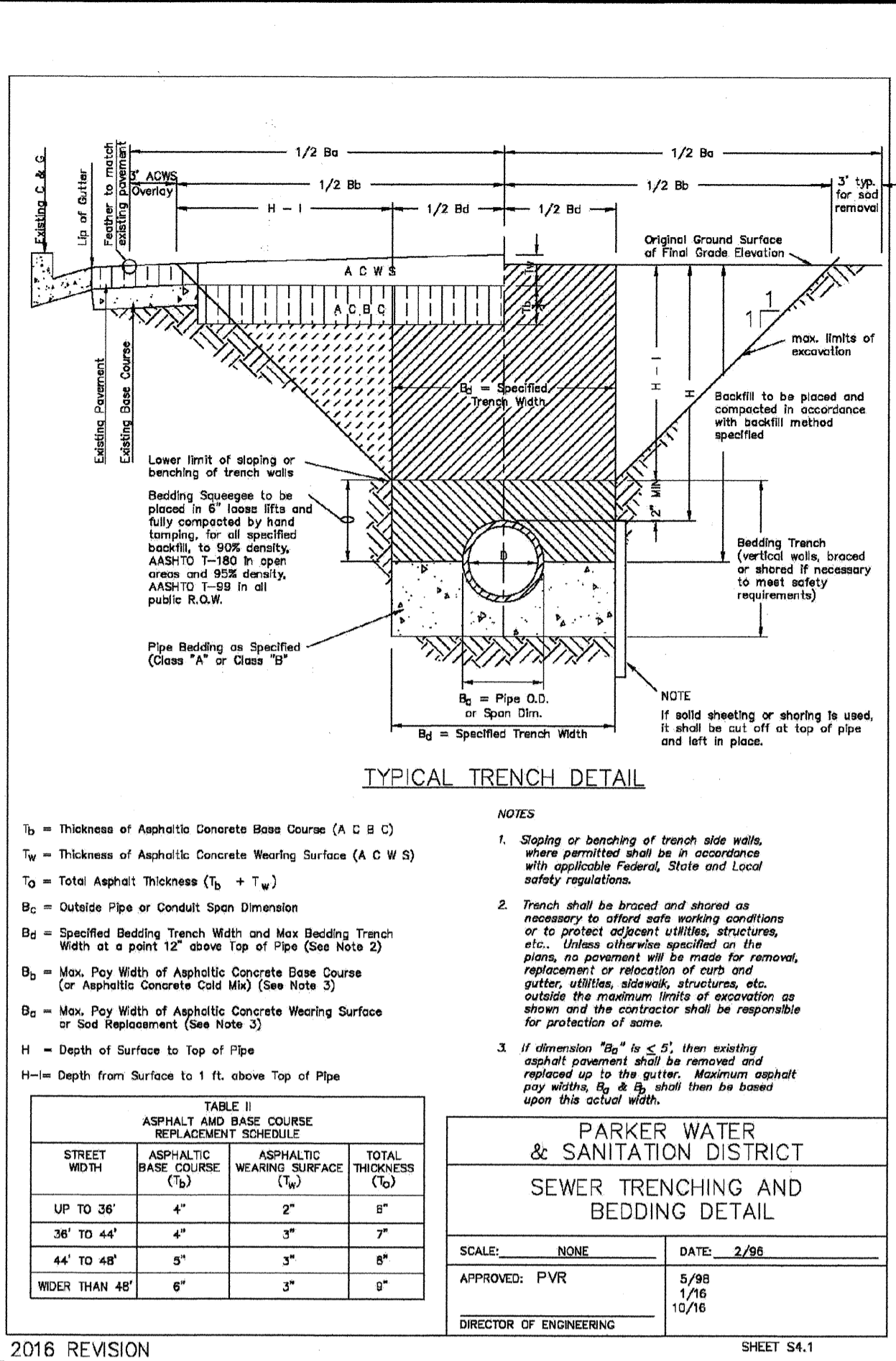
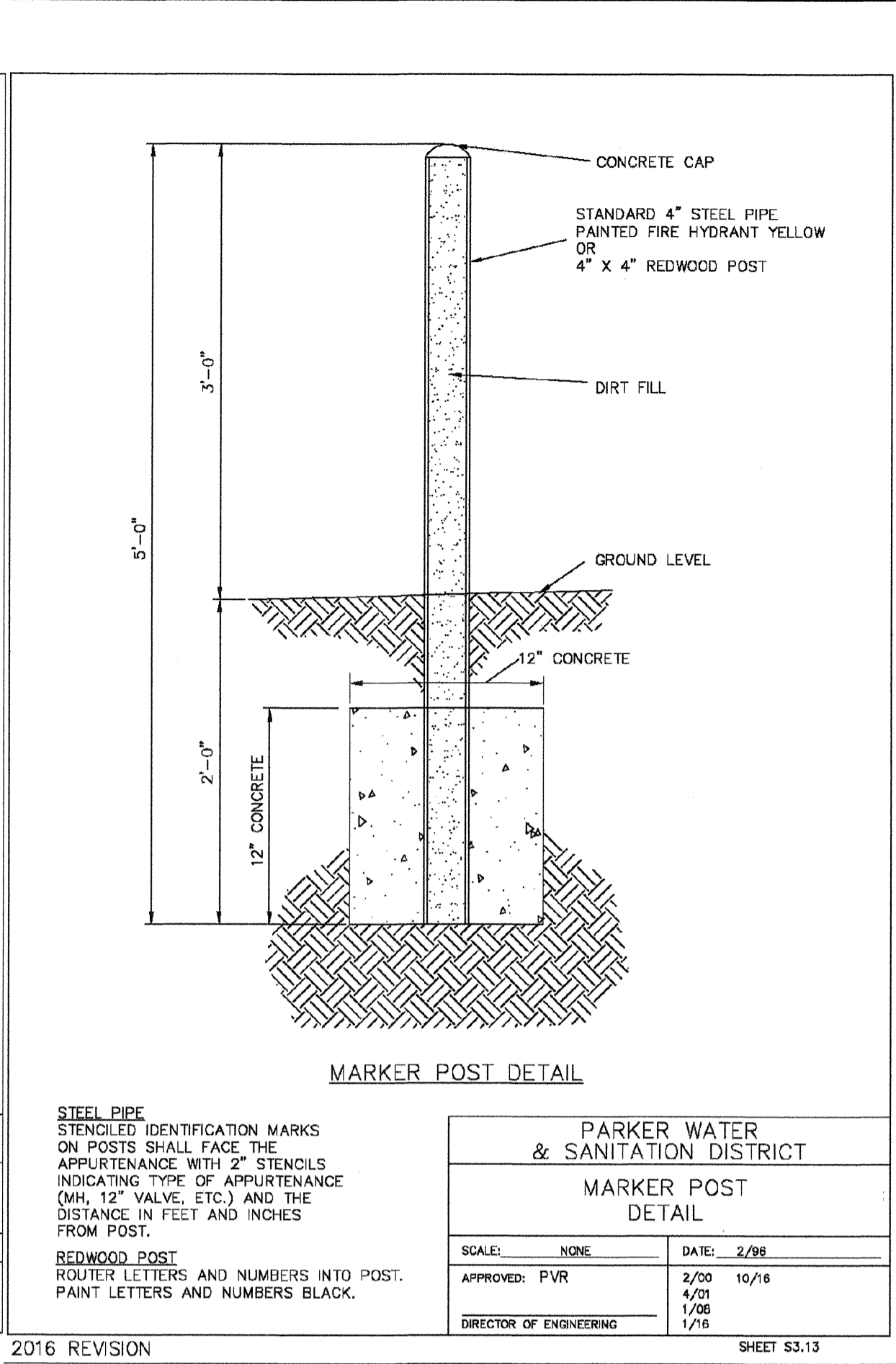
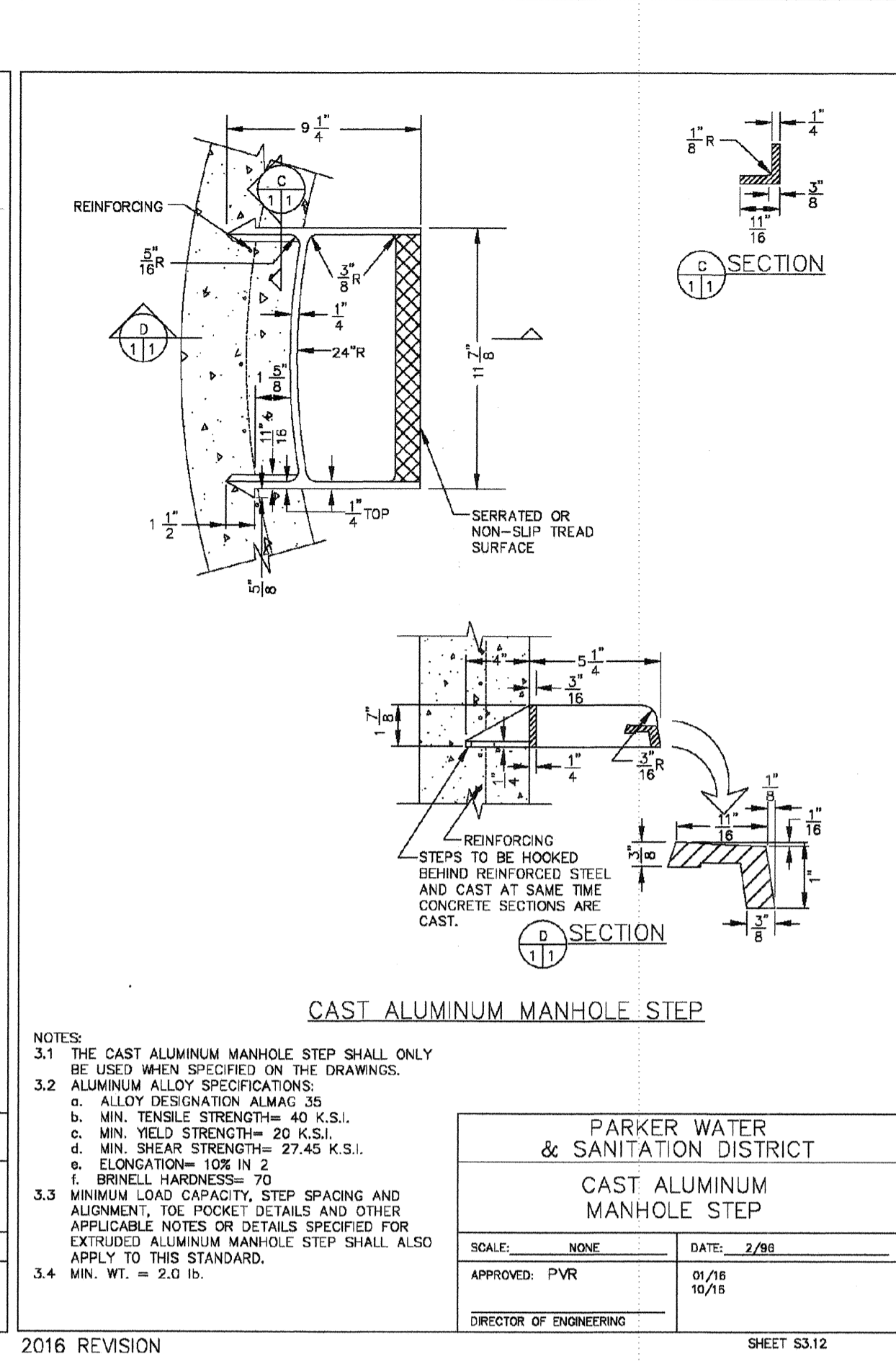
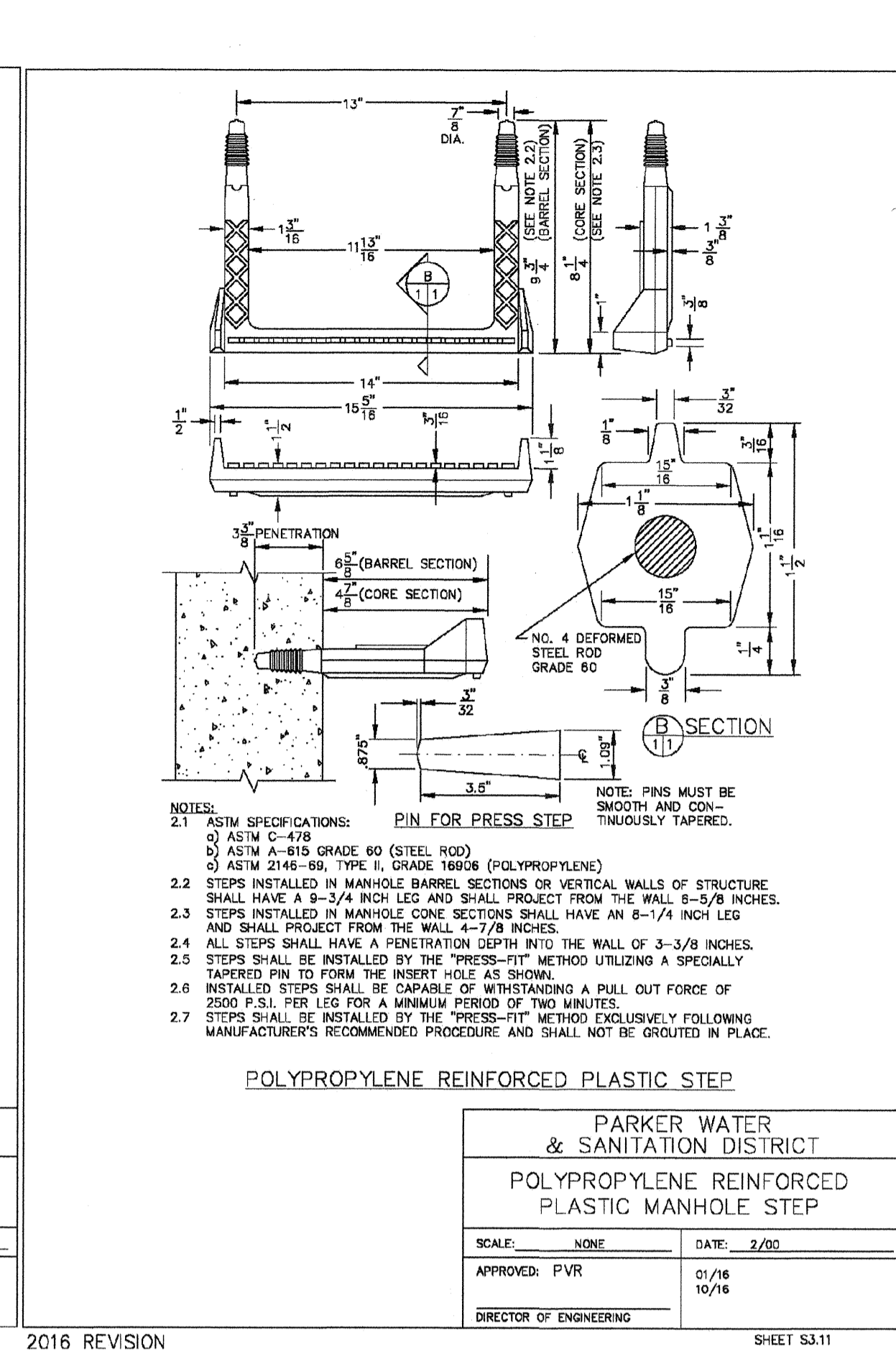
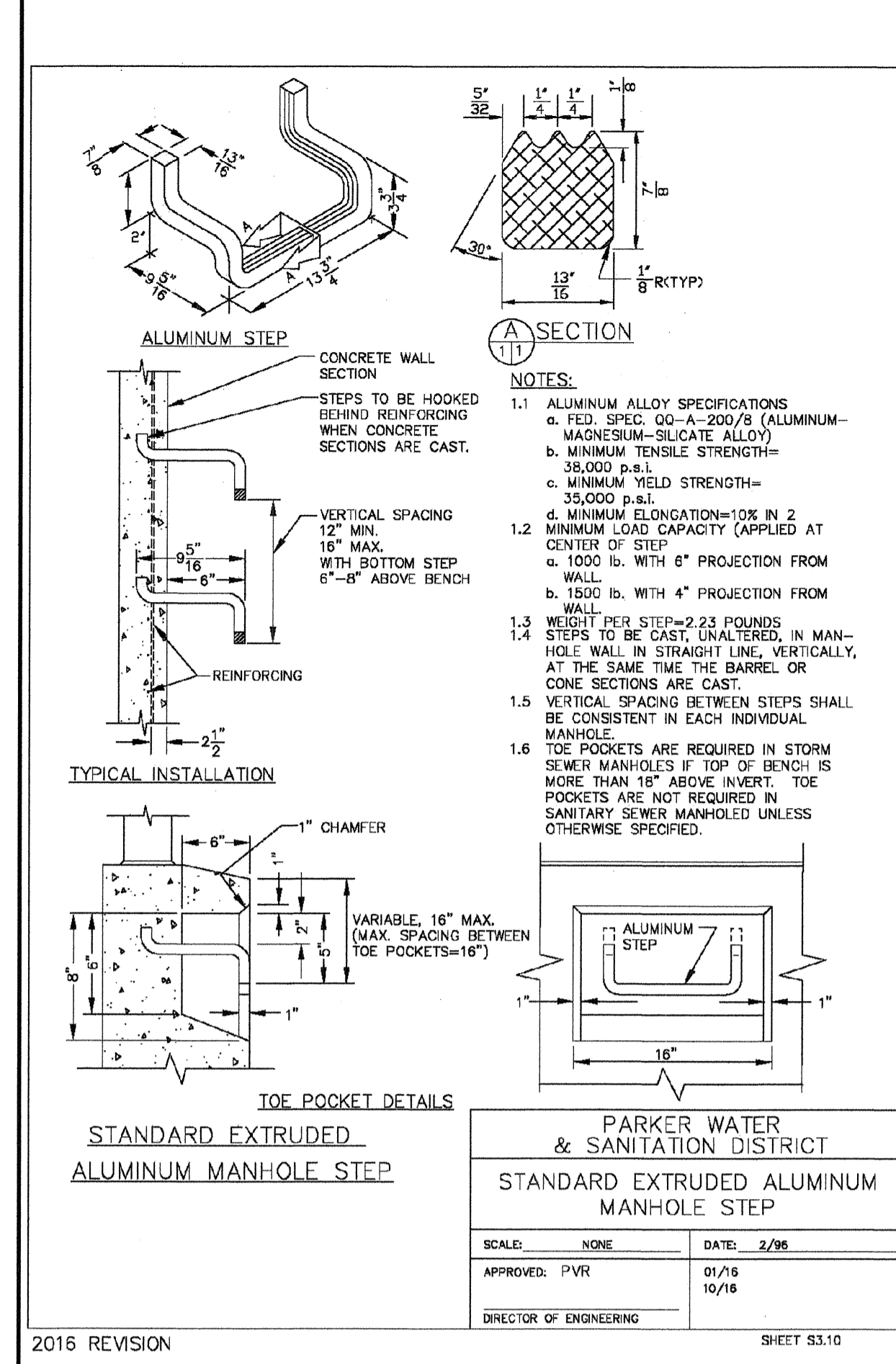
BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06"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

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
JUL 29 2019
PARKER WATER AND SANITATION DISTRICT

DATE	
APPR.	
DATE	
REVISIONS	
NO.	
 10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546	
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	
TRAILS AT CROWFOOT FILING 15 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE ROCK DAISY STREET & BLUE HEART COURT	
SCALE:	AS SHOWN
DRAWN BY:	RRR
CHECKED BY:	BRW
DATE:	JUNE 2018
SHEET NUMBER	10
FILE NO:	8130283701



2016 REVISION

SHEET S3.10

2016 REVISION

SHEET S3.11

2016 REVISION

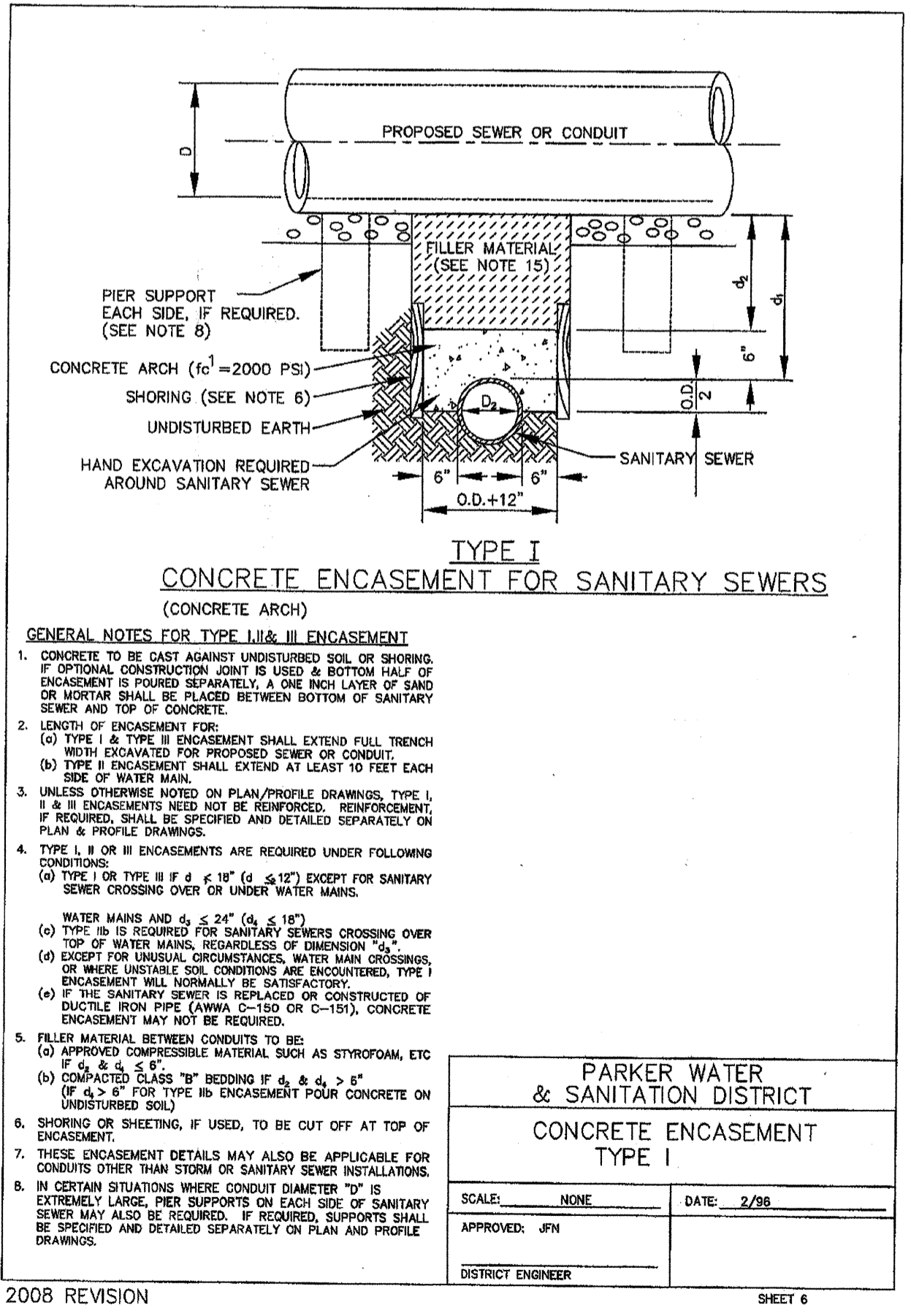
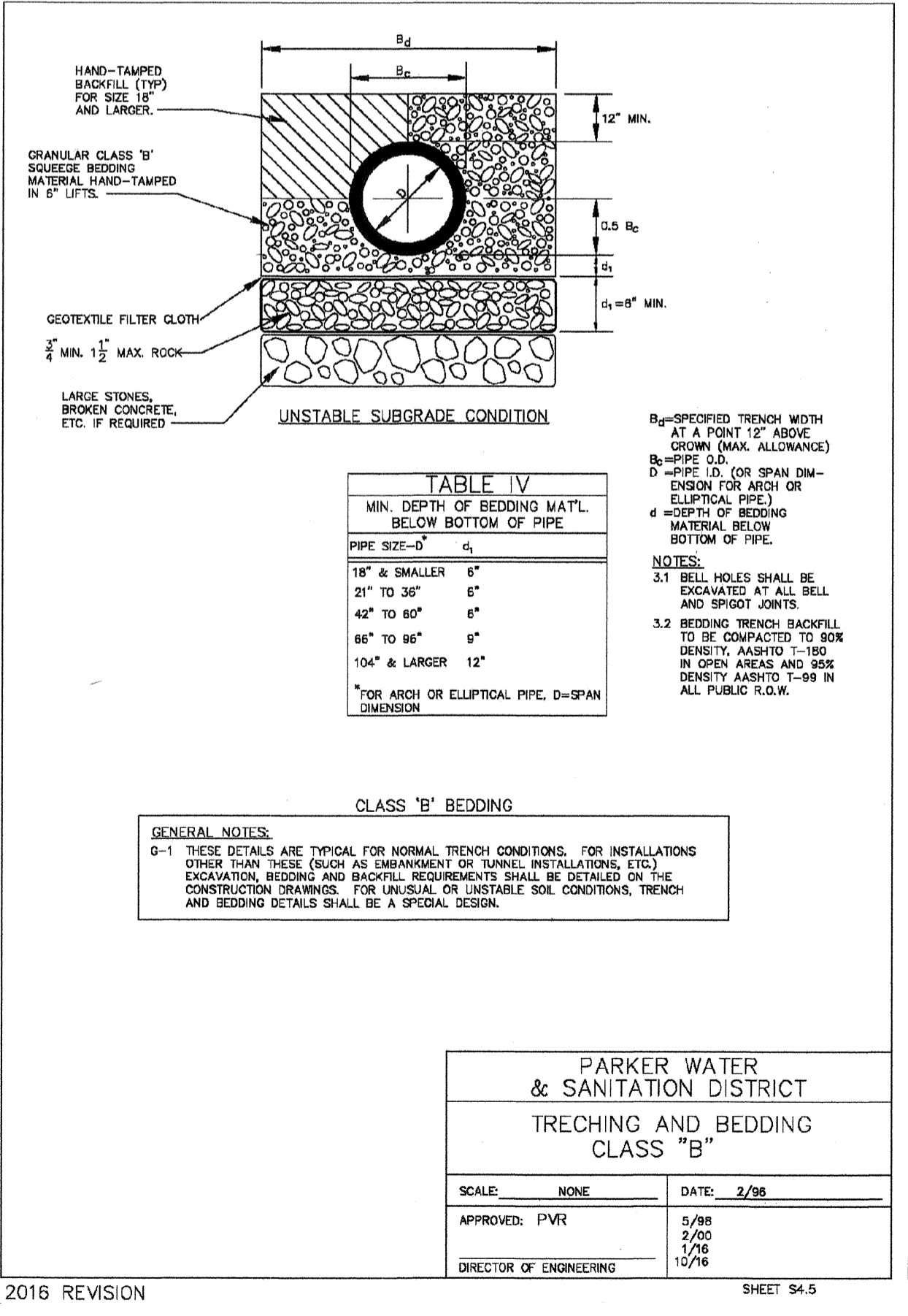
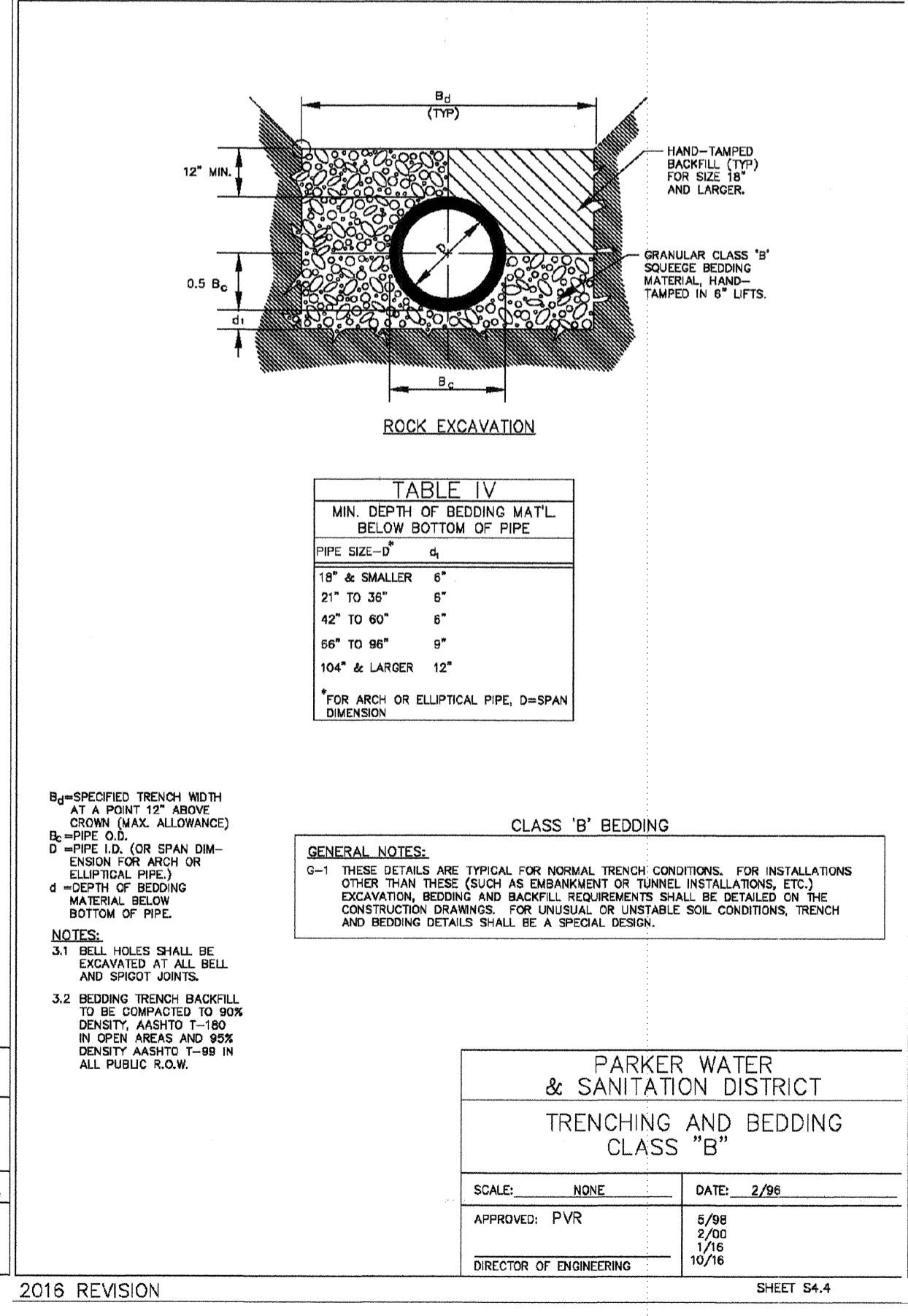
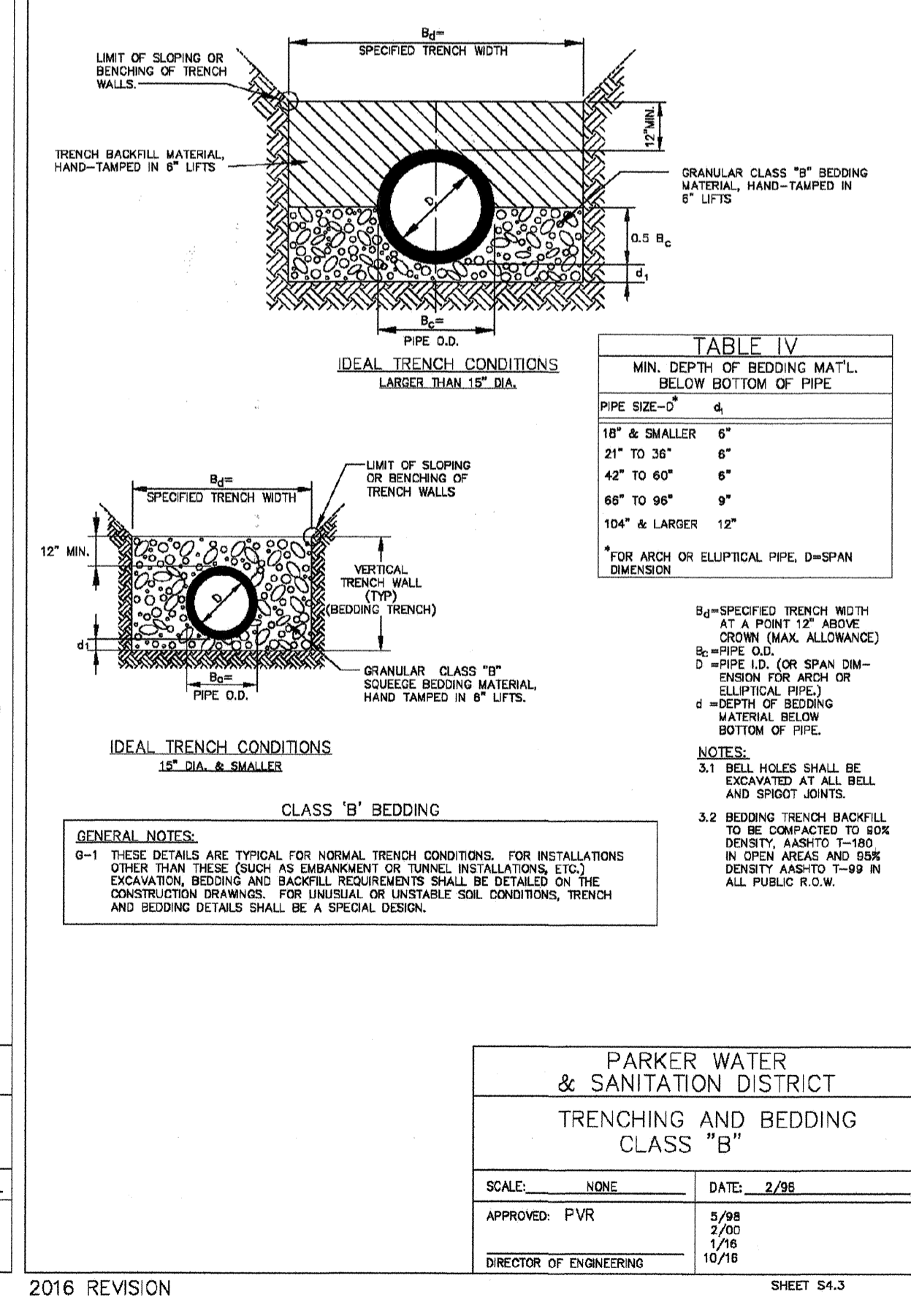
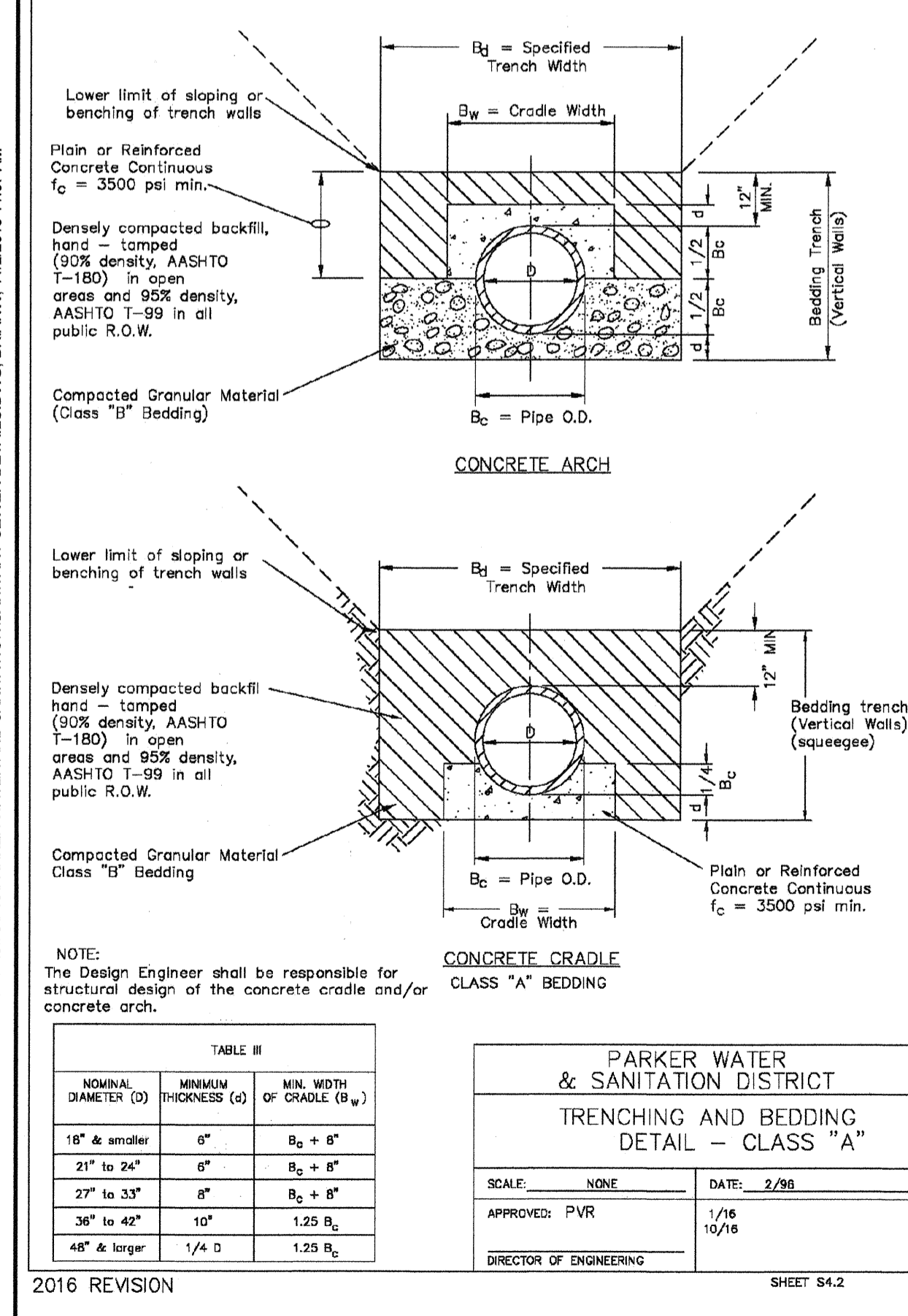
SHEET S3.12

2016 REVISION

SHEET S3.13

2016 REVISION

SHEET S4.1



2016 REVISION

SHEET S4.2

2016 REVISION

SHEET S4.3

2016 REVISION

SHEET S4.4

2016 REVISION

SHEET S4.5

2008 REVISION

SHEET 6

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CVL CONSULTANTS

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TRAILS AT CROWFOOT
FILING 15 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

SCALE: AS SHOWN
DRAWN BY: RHR
CHECKED BY: BWV
DATE: JUNE 2018

FILE NO: 8130283701

APPROVED
JUL 29 2019
PARKER WATER AND SANITATION DISTRICT

SHEET NUMBER
13

Revisions
Date
Init.
Date
Appr.

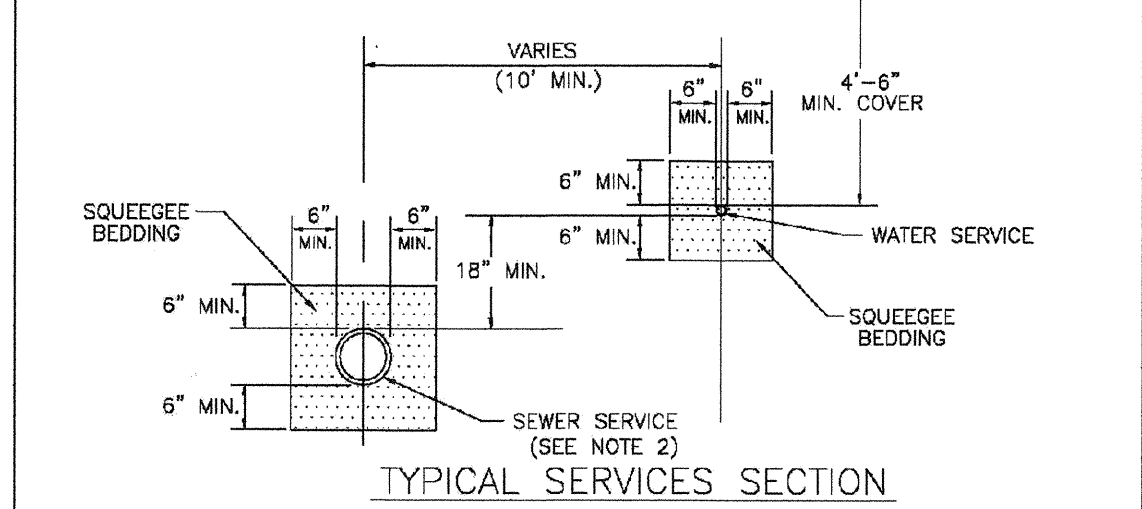
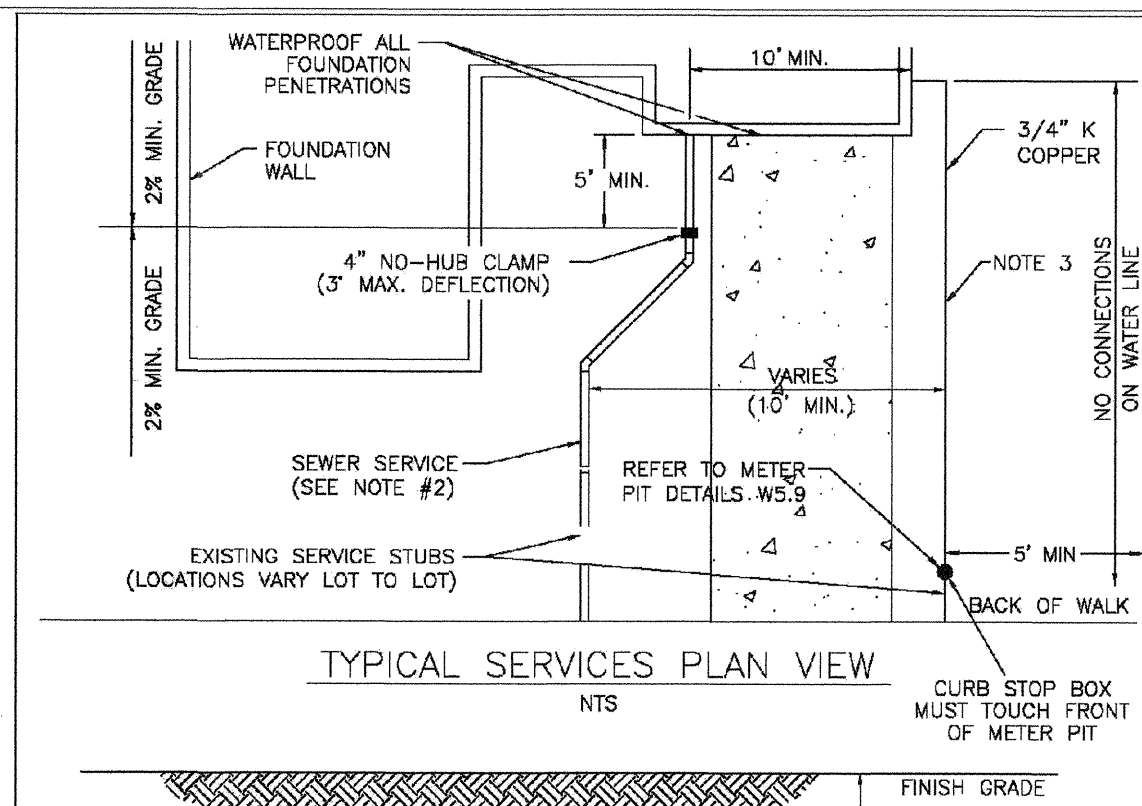
- INSPECTION POLICY:**
1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
 2. SERVICE INSPECTIONS WILL OCCUR BETWEEN 1:00 P.M. AND 3:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
 3. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR 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 STOP-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 PRIOR TO 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" BURR.
 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 FINISHED 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 USED IN MOVING STOPBOXES 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.

DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES	
SCALE: NONE	DATE: 2/96
APPROVED:	1/76
PVR	1/18
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W1.1

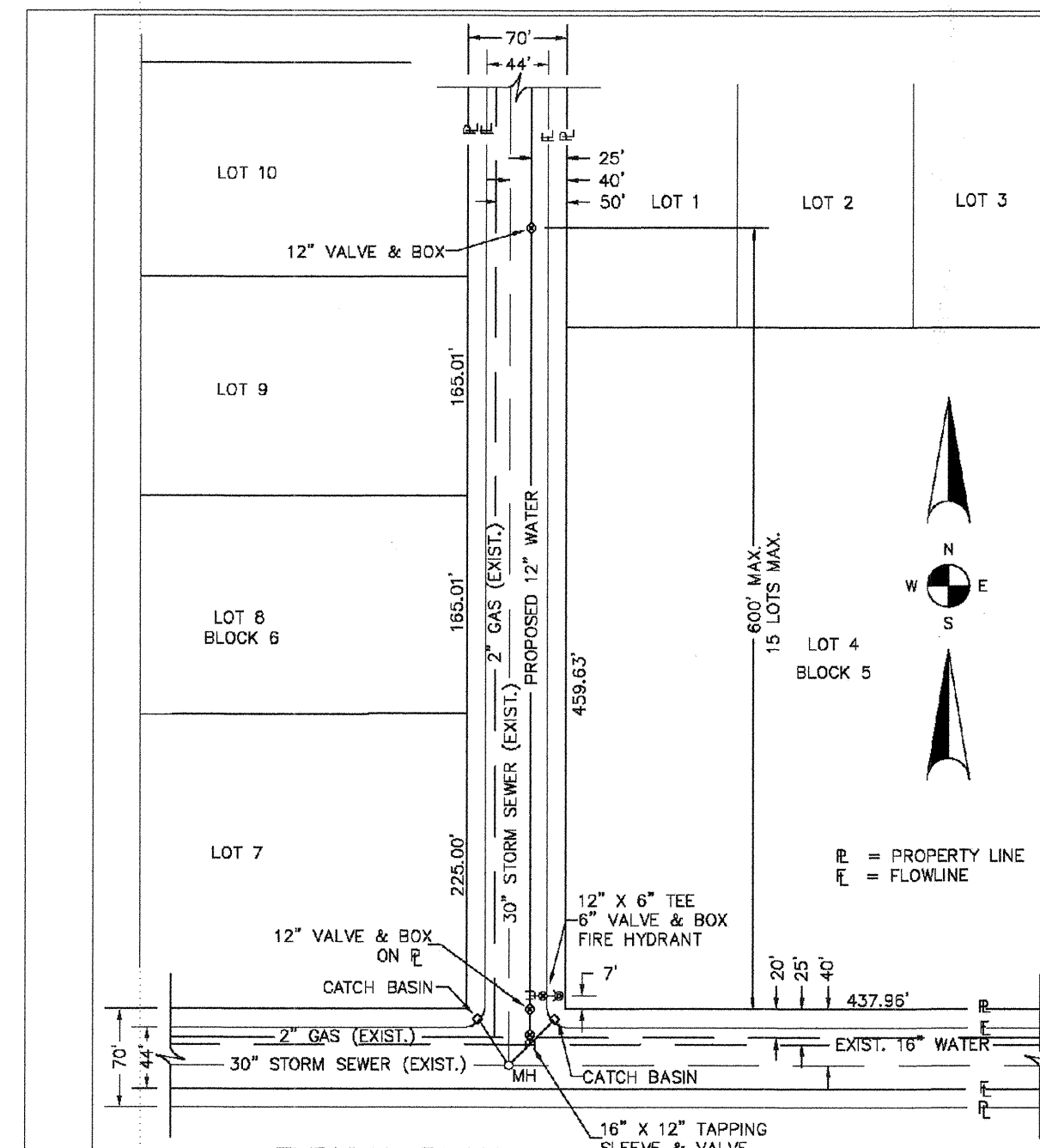


- NOTE:**
1. SEE SHEET W1.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
 2. REFER TO SEWER SERVICES DETAIL SHEET S1.2.
 3. 4" PVC SLEEVES REQUIRED FOR SERVICE LINES UNDER CONCRETE SURFACE.

TYPICAL WATER SERVICES	
SCALE: NONE	DATE: 2/96
APPROVED:	1/76
PVR	06/05
DIRECTOR OF ENGINEERING	12/07
	1/18

2016 REVISION

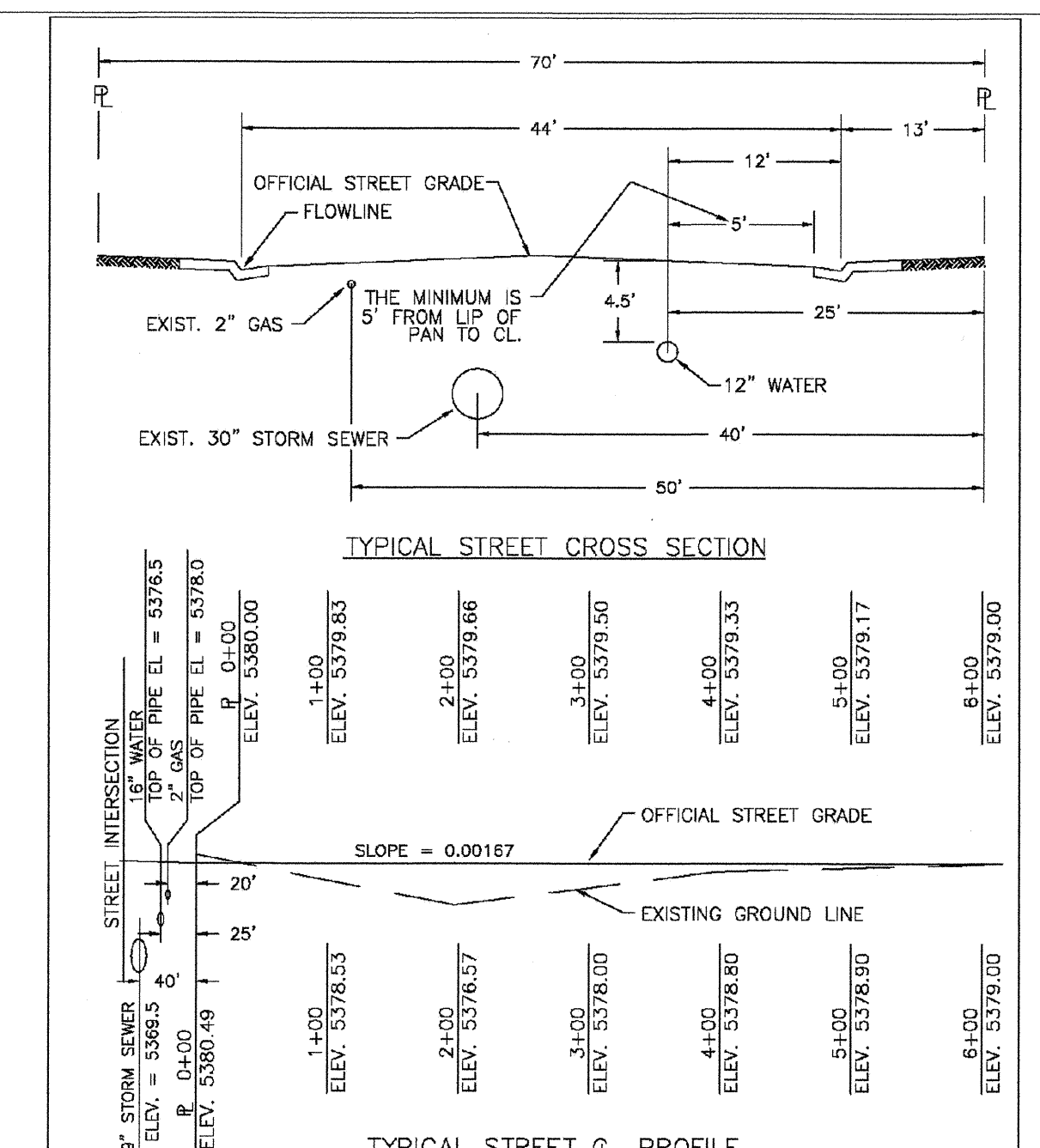
SHEET W1.2



PARKER WATER & SANITATION DISTRICT WATER DISTRIBUTION SYSTEM TYPICAL PLAN	
SCALE: NONE	DATE: 2/96
APPROVED:	1/76
PVR	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

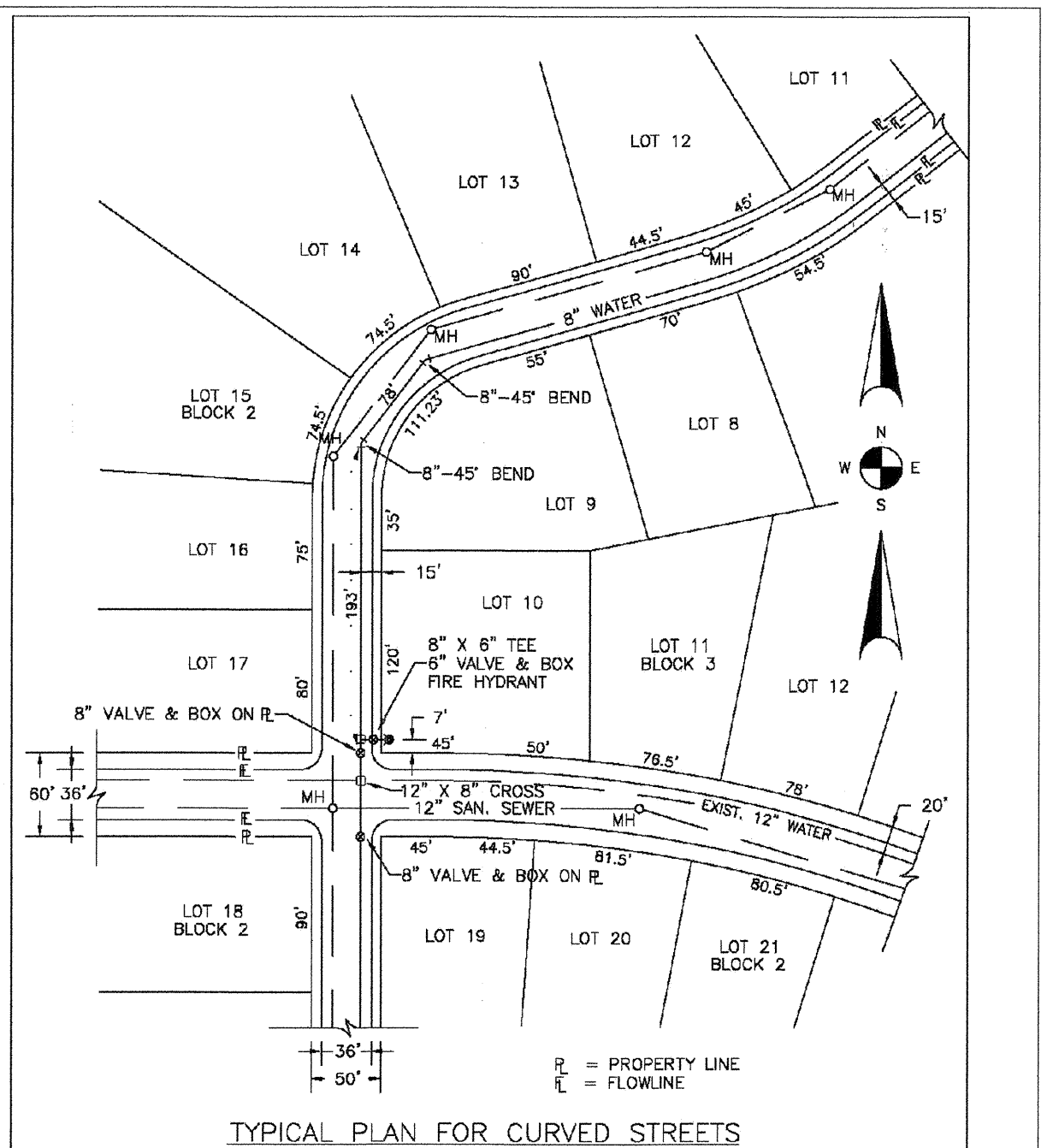
SHEET W2.1



PARKER WATER & SANITATION DISTRICT TYPICAL STREET CROSS SECTION TYPICAL STREET Q PROFILE	
SCALE: NONE	DATE: 2/96
APPROVED:	1/76
PVR	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

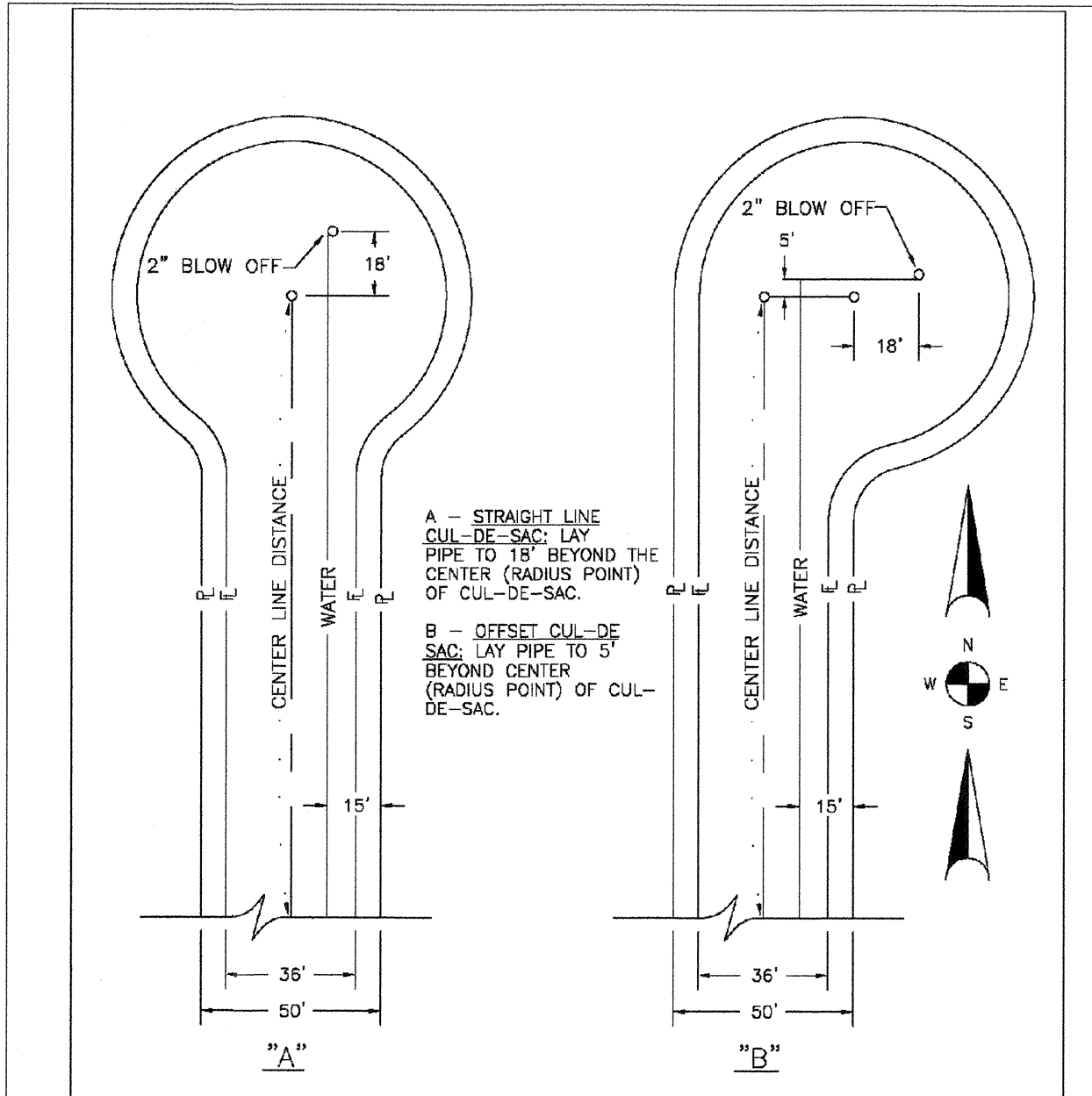
SHEET W2.2



PARKER WATER & SANITATION DISTRICT WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CURVED STREETS	
SCALE: NONE	DATE: 2/96
APPROVED:	1/76
PVR	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

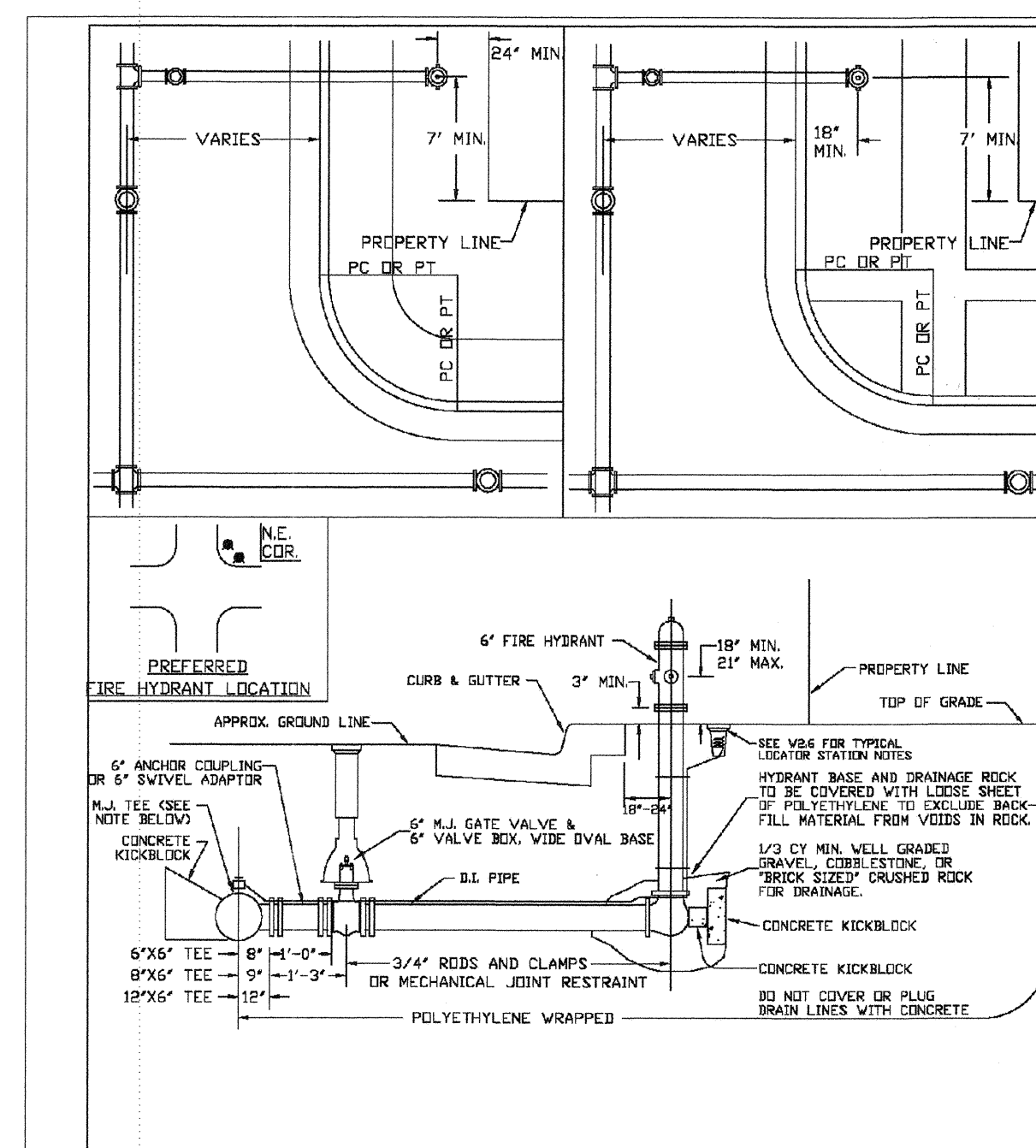
SHEET W2.3



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

2016 REVISION

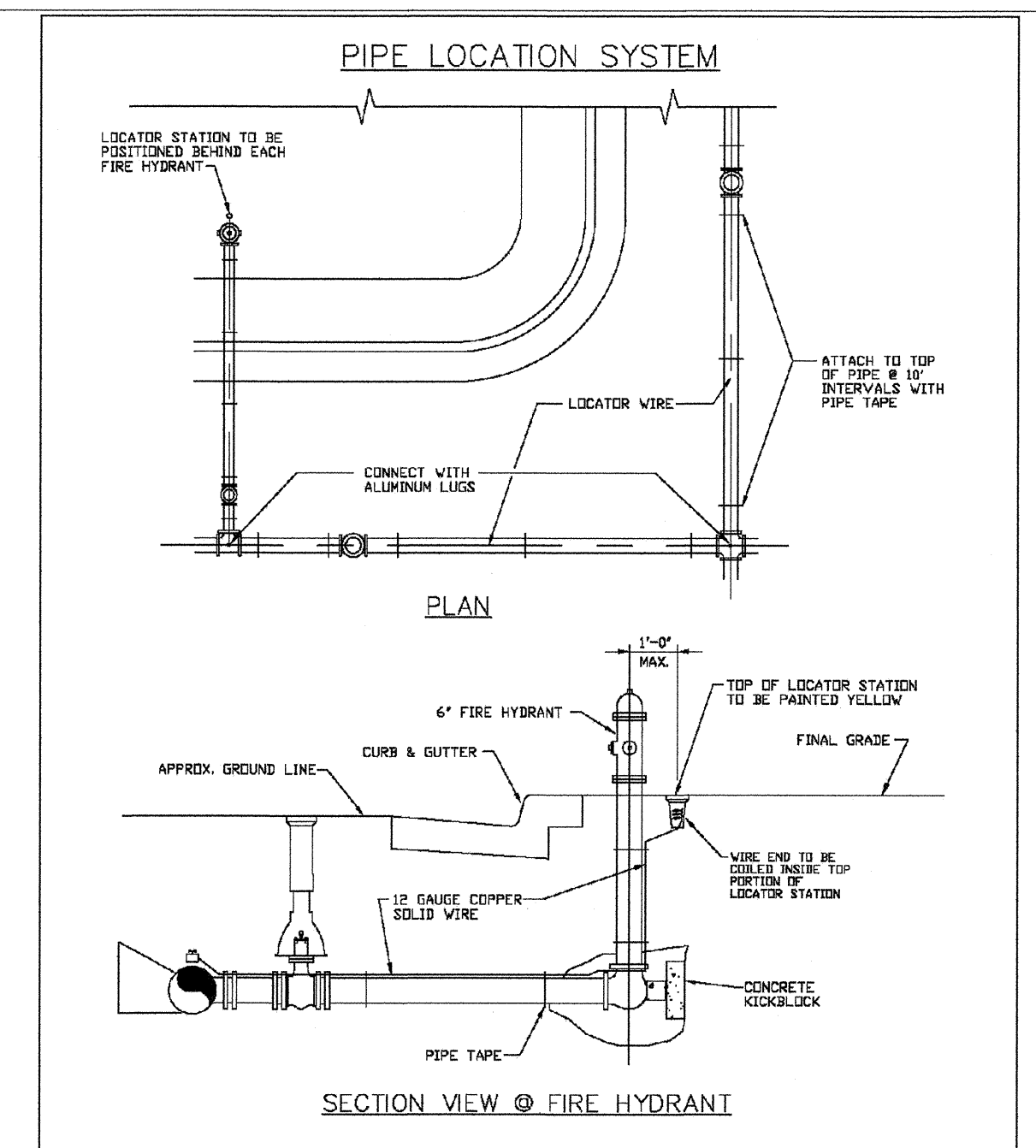
SHEET W2.4



PARKER WATER & SANITATION DISTRICT FIRE HYDRANTS LOCATION & INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED:	4/01
PVR	10/16
DIRECTOR OF ENGINEERING	12/07
	1/18

2016 REVISION

SHEET W2.5



PARKER WATER & SANITATION DISTRICT LOCATOR WIRE DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED:	4/01
PVR	01/03
DIRECTOR OF ENGINEERING	01/16
	10/16

2016 REVISION

SHEET W2.6

APPROVED
JUL 29 2019
PARKER WATER AND SANITATION DISTRICT

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DRAWN BY: RHR	CHECKED BY: BRW	DATE: JUNE 2018	SCALE: AS SHOWN	FILE NO: 8130283701	Revisions	Date
					No.	Appr.

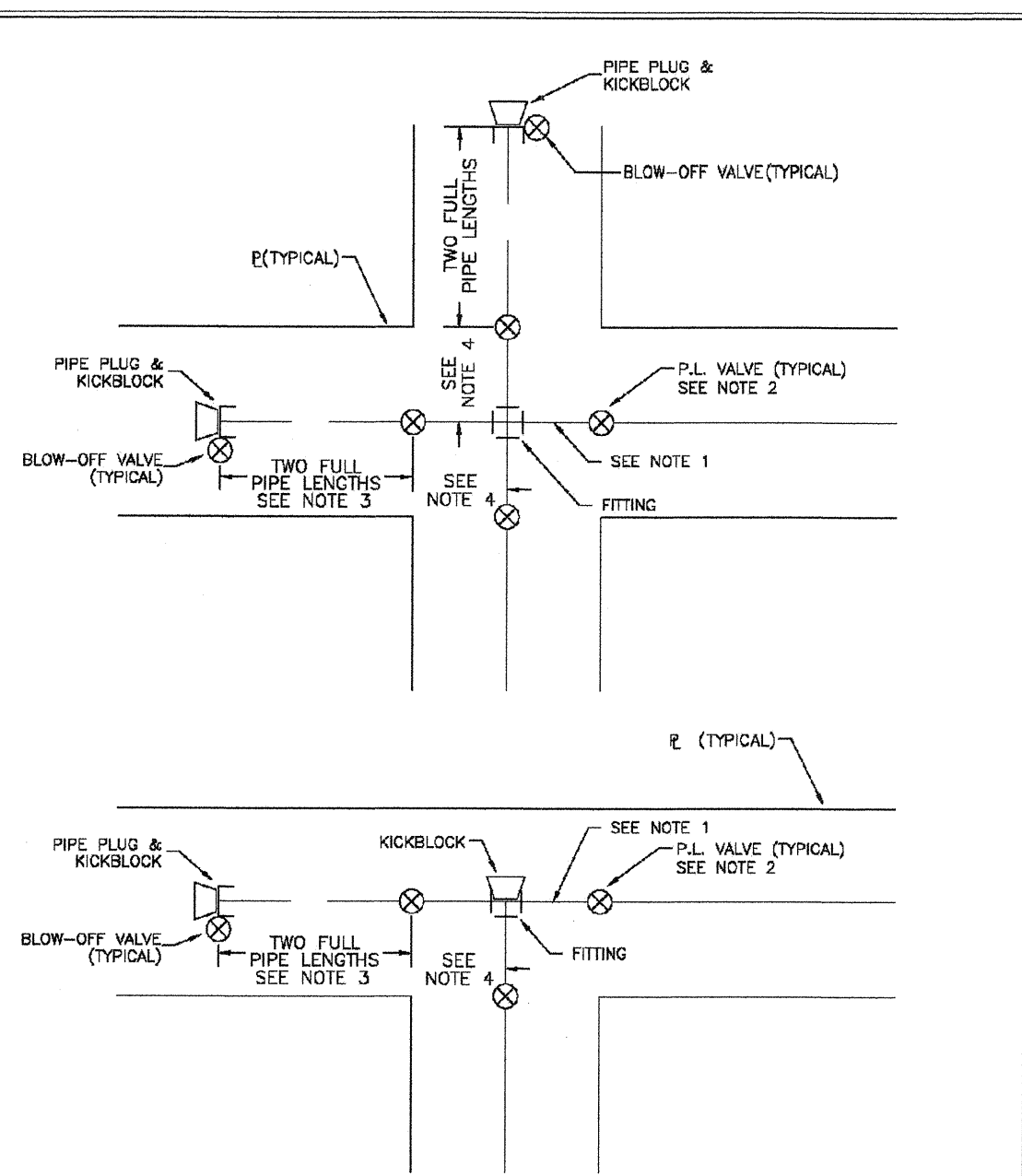
10335 E. Dry Creek Rd.
Suite 240
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Tel: (720) 482-9526
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CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 15 CONSTRUCTION DRAWINGS
WATER DETAILS

15

SHEET NUMBER



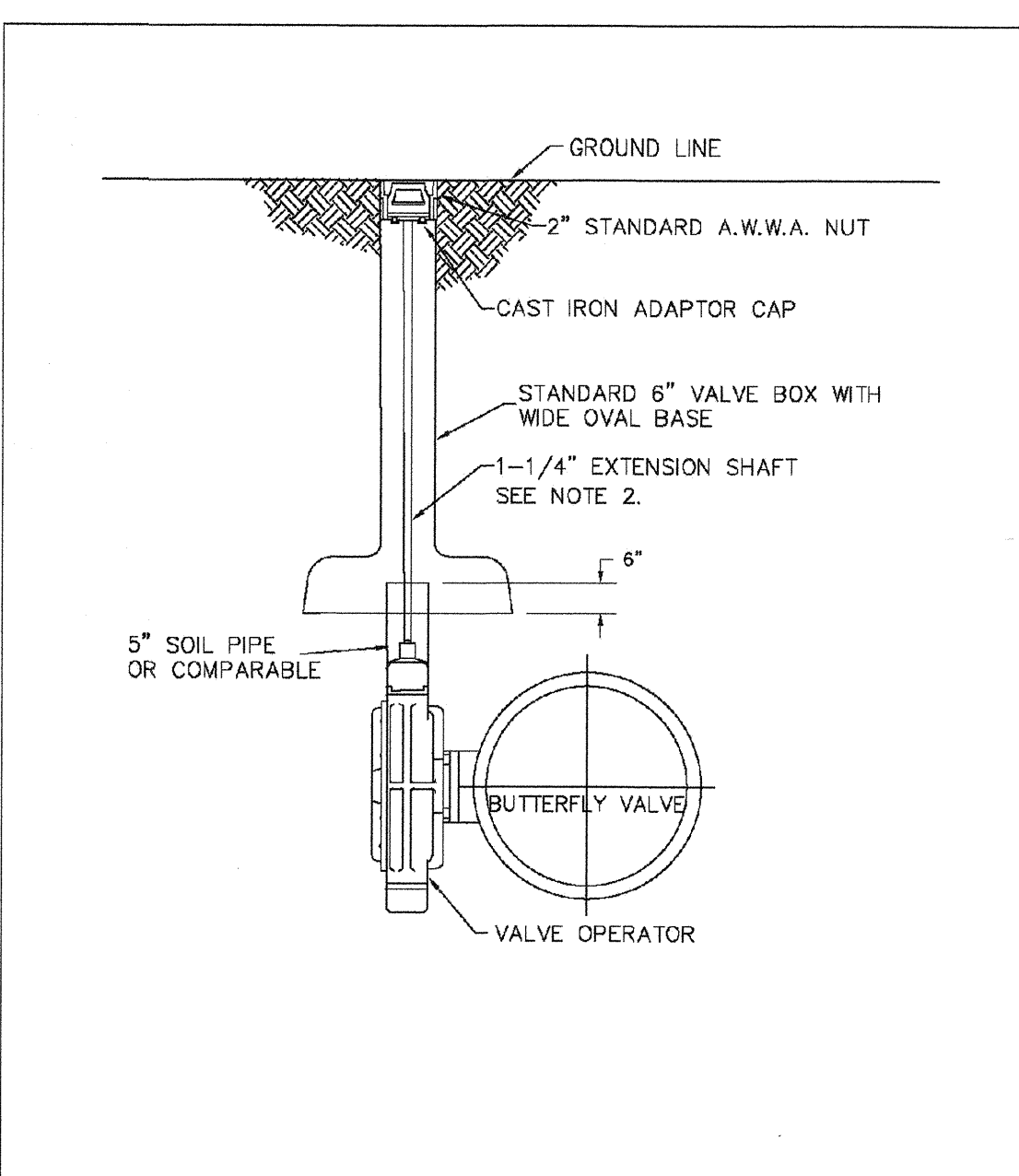
NOTES:

1. LAY PIPE FROM FITTING TO PL
2. INSTALL VALVE AT PL
3. STUB OUT TWO FULL PIPE LENGTHS FROM VALVE AND BLOW-OFF VALVE. PLUG END OF PIPE AND INSTALL KICKBLOCK.
4. ALTERNATIVE TO NOTE 3: ROD OR MECHANICAL JOINT RESTRAINT FROM VALVE TO FITTING AND ELIMINATE THE TWO FULL LENGTHS OF PIPE OUT OF VALVE AND TEMPORARY BLOW-OFF.

PARKER WATER & SANITATION DISTRICT
PIPING AT STREET INTERSECTIONS
FUTURE CONNECTIONS

SCALE: NONE	DATE: 2/98
APPROVED: PVR	DATE: 01/02
	DATE: 01/16
	DATE: 10/16

2016 REVISION SHEET W3.7



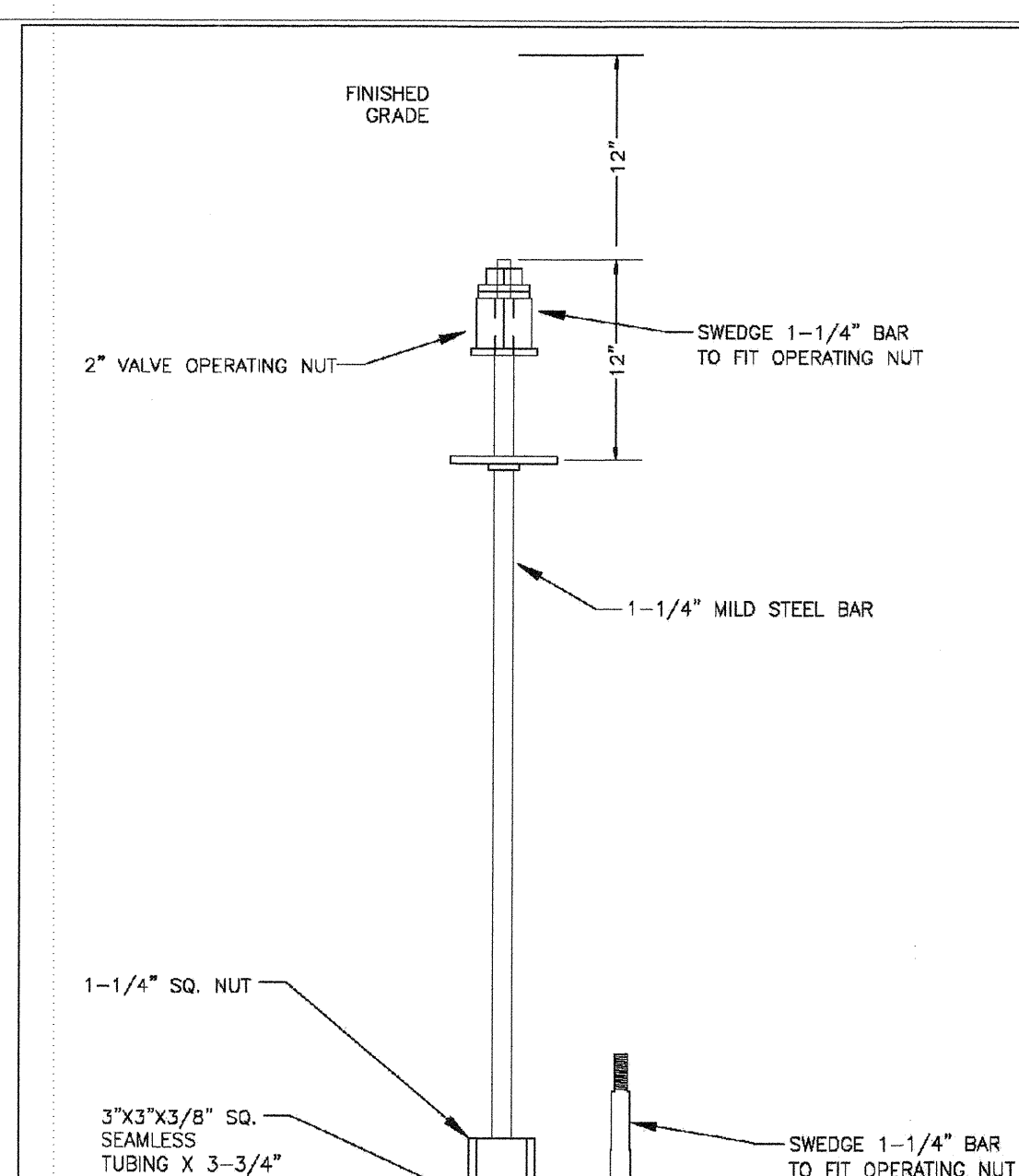
NOTES:

1. THE VALVE BOX SHALL NOT BE PLACED DIRECTLY ON SOIL PIPE.
2. VALVE EXTENSIONS ONLY ALLOWED FOR VALVES DEEPER THAN 9 FT. SEE DETAIL W3.2.

PARKER WATER & SANITATION DISTRICT
TRANSMISSION MAIN
BUTTERFLY VALVE INSTALLATION

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

2016 REVISION SHEET W3.1



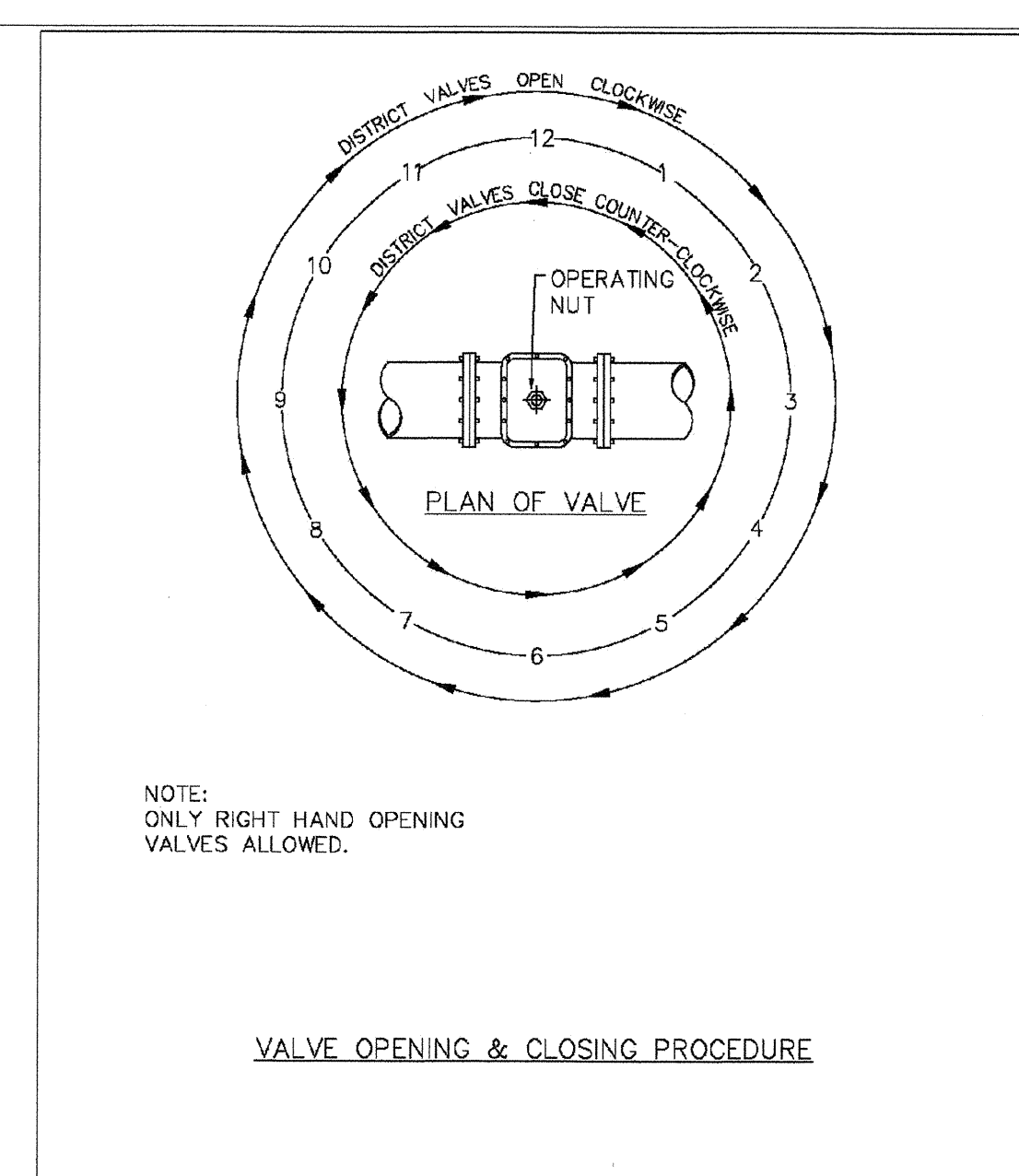
NOTES:

1. VALVE EXTENSIONS ONLY ALLOWED ON VALVES DEEPER THAN 9 FEET.

PARKER WATER & SANITATION DISTRICT
VALVE OPERATOR EXTENSION

SCALE: NONE	DATE: 2/98
APPROVED: PVR	DATE: 2/00
	DATE: 10/07
	DATE: 1/10
	DATE: 10/16

2016 REVISION SHEET W3.3



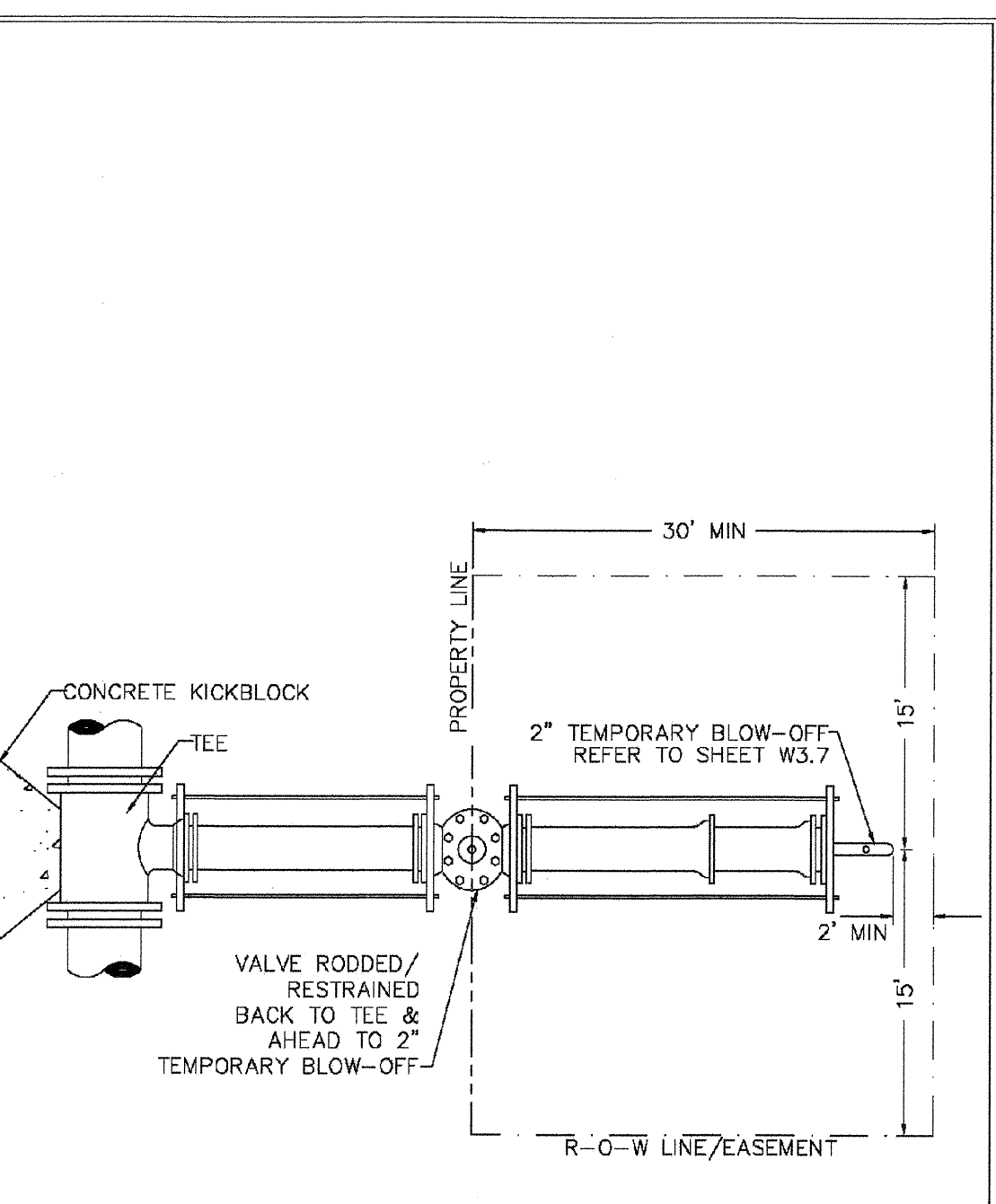
NOTE:
 ONLY RIGHT HAND OPENING VALVES ALLOWED.

VALVE OPENING & CLOSING PROCEDURE

PARKER WATER & SANITATION DISTRICT
VALVE OPERATION

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

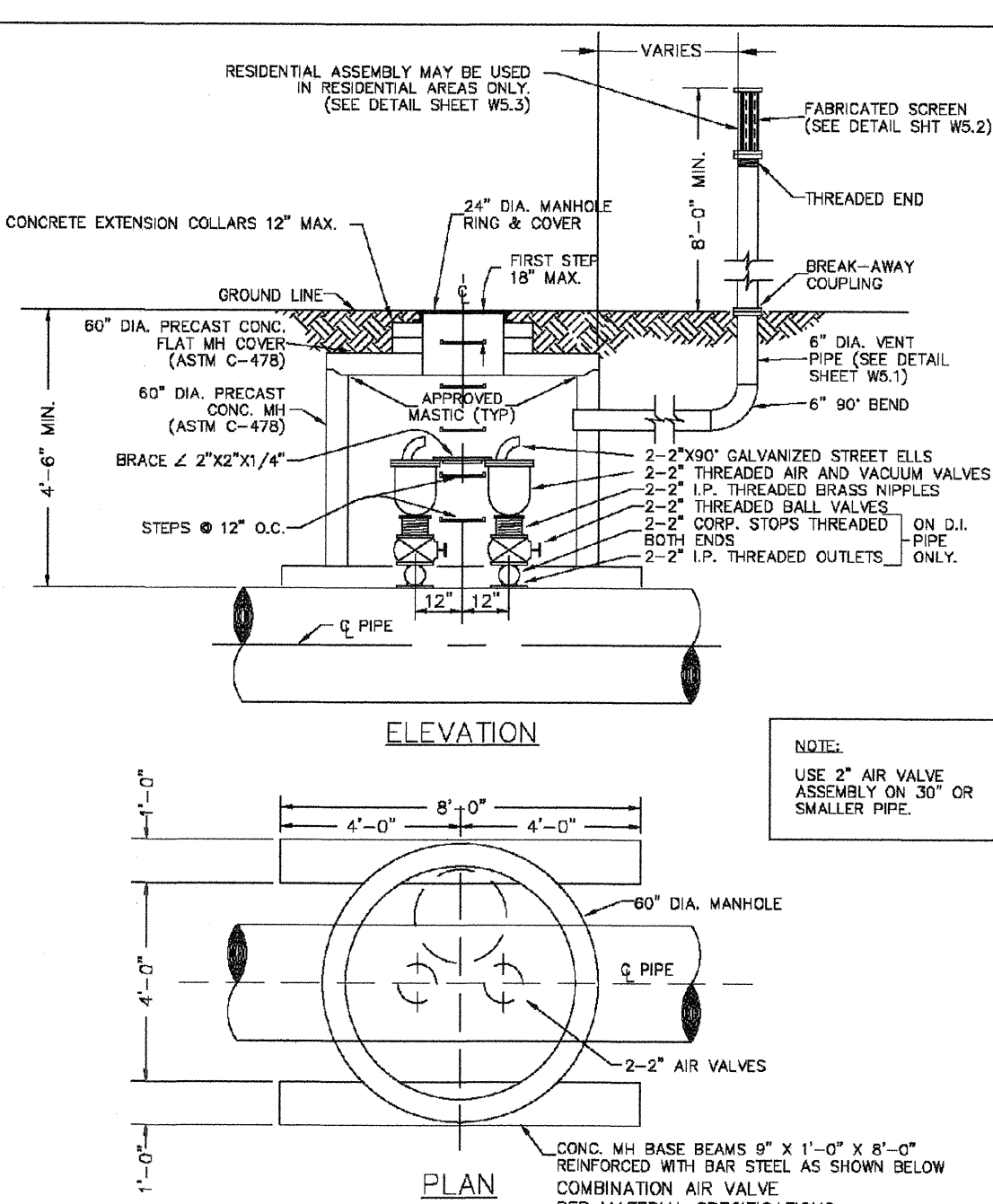
2016 REVISION SHEET W3.4



PARKER WATER & SANITATION DISTRICT
STUB-OUT CONFIGURATIONS

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

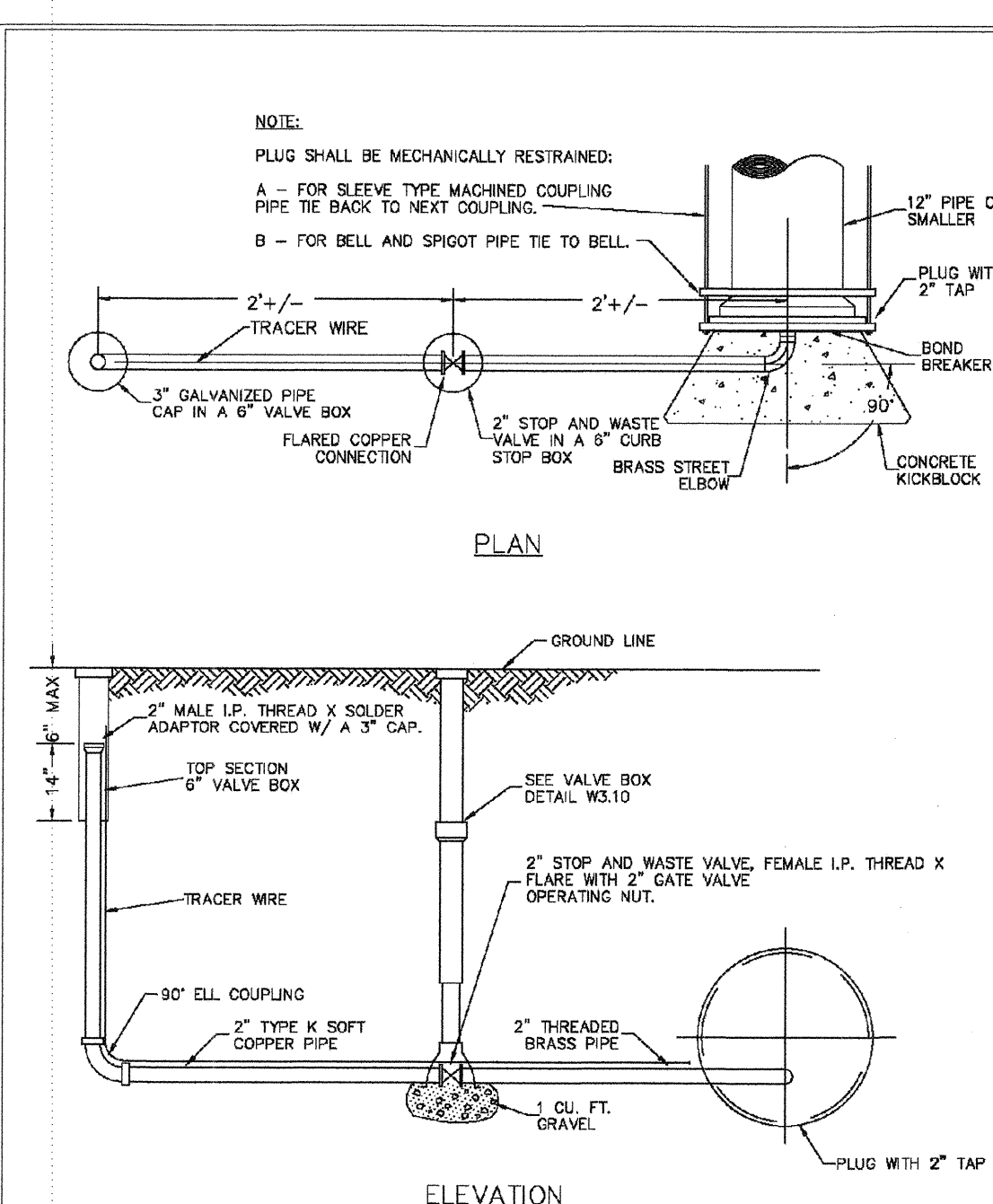
2016 REVISION SHEET W3.5



PARKER WATER & SANITATION DISTRICT
AIR AND VACUUM VALVE INSTALLATION

SCALE: NONE	DATE: 2/98
APPROVED: PVR	DATE: 4/01
	DATE: 1/16
	DATE: 10/16

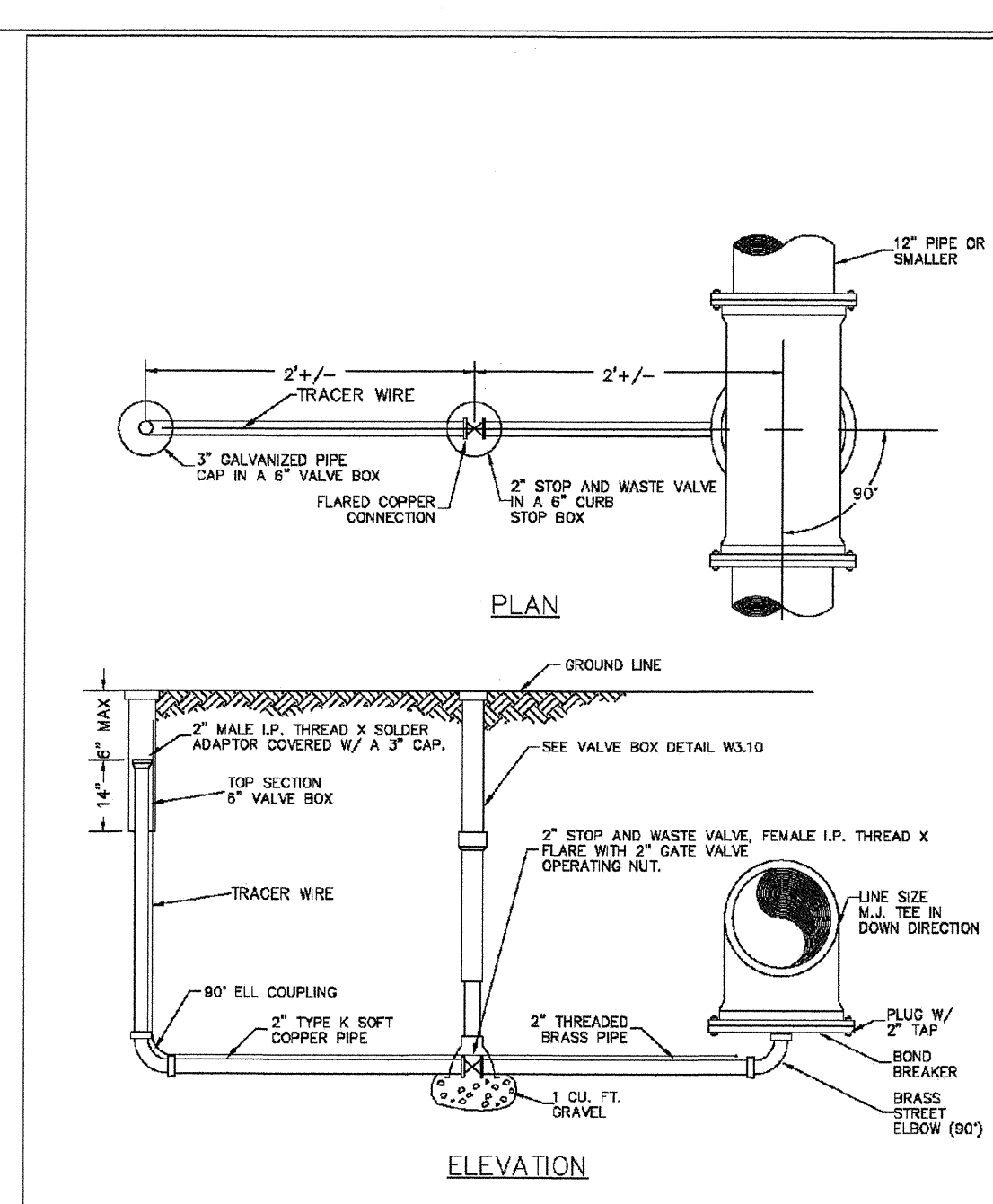
2016 REVISION SHEET W3.6



PARKER WATER & SANITATION DISTRICT
BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE

SCALE: NONE	DATE: 2/98
APPROVED: PVR	DATE: 4/01
	DATE: 1/16
	DATE: 10/16

2016 REVISION SHEET W3.7



PARKER WATER & SANITATION DISTRICT
LOW POINT BLOW-OFF WITH SAND TRAP

SCALE: NONE	DATE: 2/98
APPROVED: PVR	DATE: 4/01
	DATE: 1/16
	DATE: 10/16

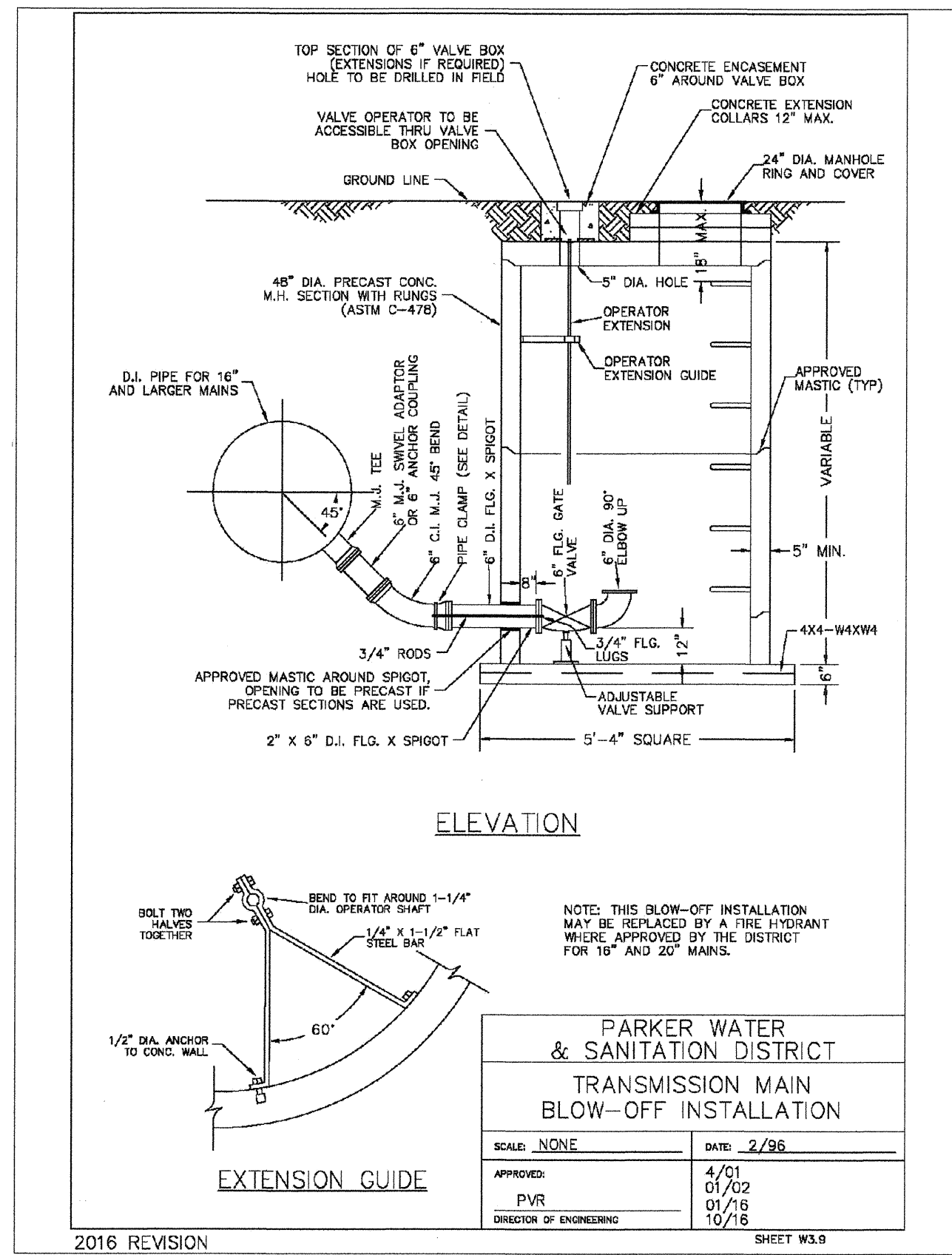
2016 REVISION SHEET W3.8

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JUL 29 2018
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N:\PROJECTS\SSR\ANCHOR\ENGINEERING\SHEET SETS\MULTIFAMILY\SSRF\BPARKER WATER AND SANITATION\WATER DETAILS.DWG, BRIAN.W., 11/22/2018 11:07 AM

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HR 985 LLC 7855 CENTENNIAL BOULEVARD CENTENNIAL, CO 80112	
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SCALE:	AS SHOWN
DRAWN BY:	RHR
CHECKED BY:	BPW
DATE:	JUNE 2018
FILE NO.:	8130283701
16	



ELEVATION

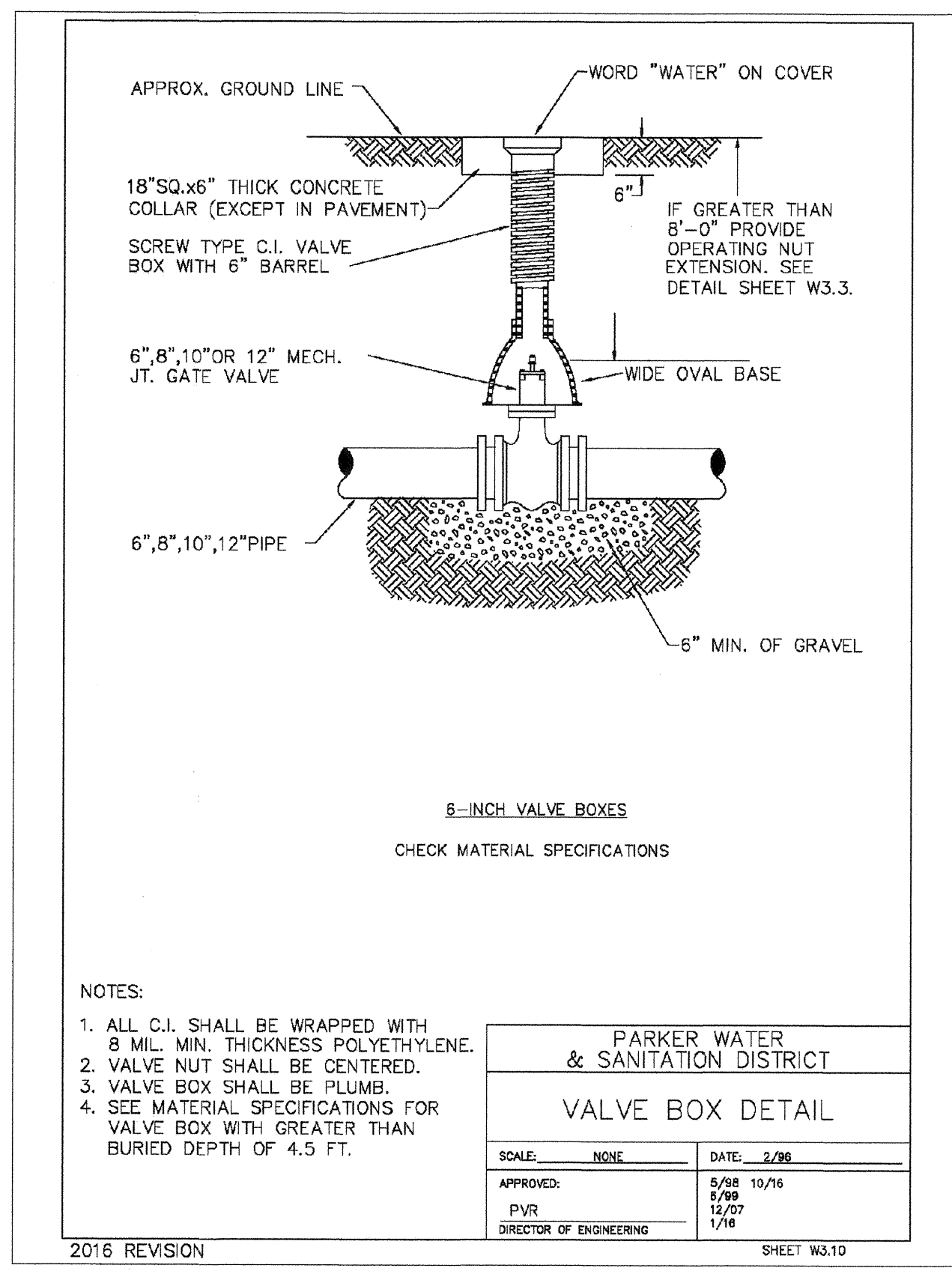
EXTENSION GUIDE

PARKER WATER & SANITATION DISTRICT
TRANSMISSION MAIN BLOW-OFF INSTALLATION

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 01/02
DIRECTOR OF ENGINEERING 01/16 10/16

SHEET W3.9



6-INCH VALVE BOXES
CHECK MATERIAL SPECIFICATIONS

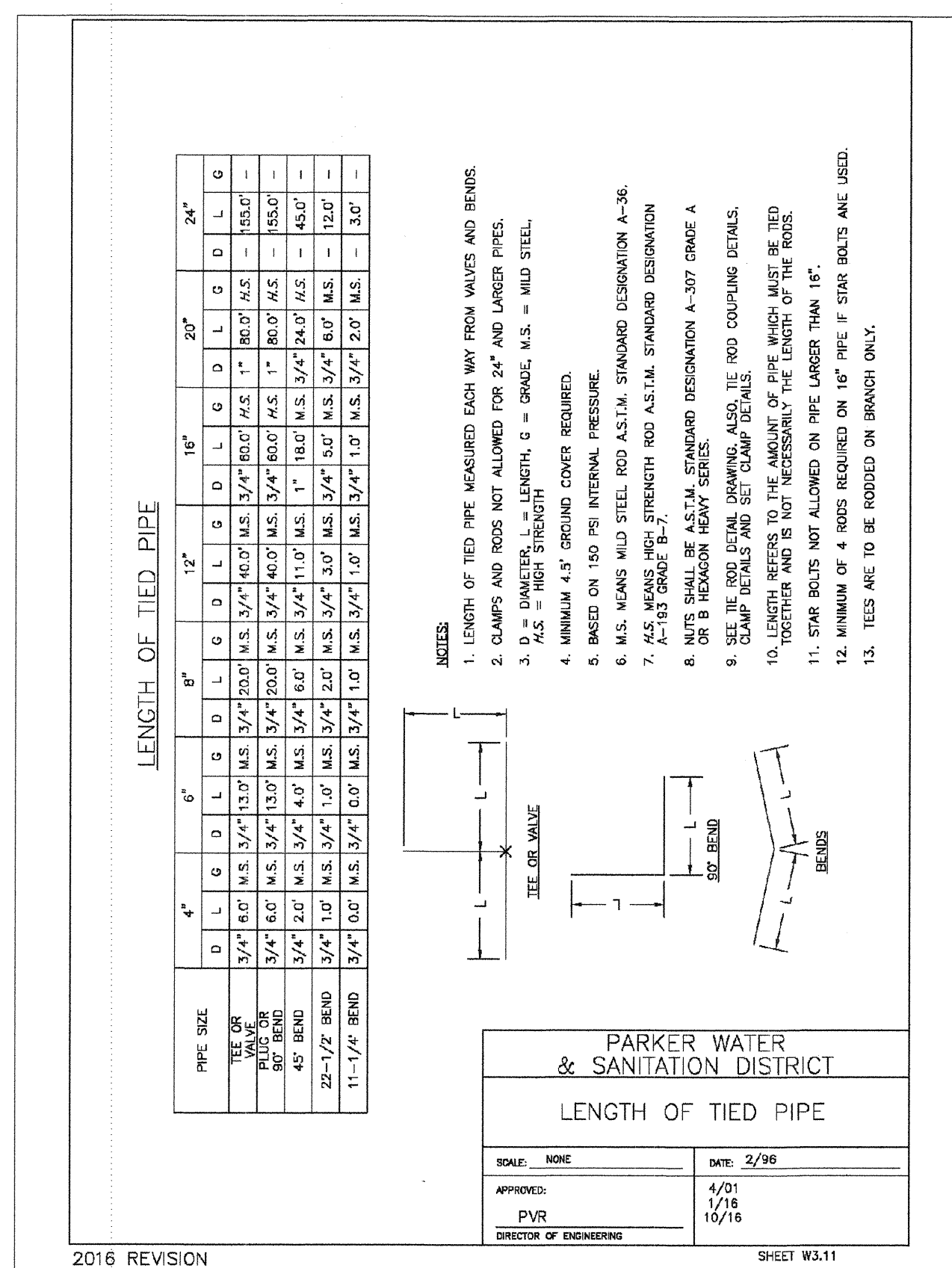
- NOTES:
1. ALL C.I. SHALL BE WRAPPED WITH 8 MIL. MIN. THICKNESS POLYETHYLENE.
 2. VALVE NUT SHALL BE CENTERED.
 3. VALVE BOX SHALL BE PLUMB.
 4. SEE MATERIAL SPECIFICATIONS FOR VALVE BOX WITH GREATER THAN BURIED DEPTH OF 4.5 FT.

PARKER WATER & SANITATION DISTRICT
VALVE BOX DETAIL

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 01/02
DIRECTOR OF ENGINEERING 01/16 10/16

SHEET W3.10



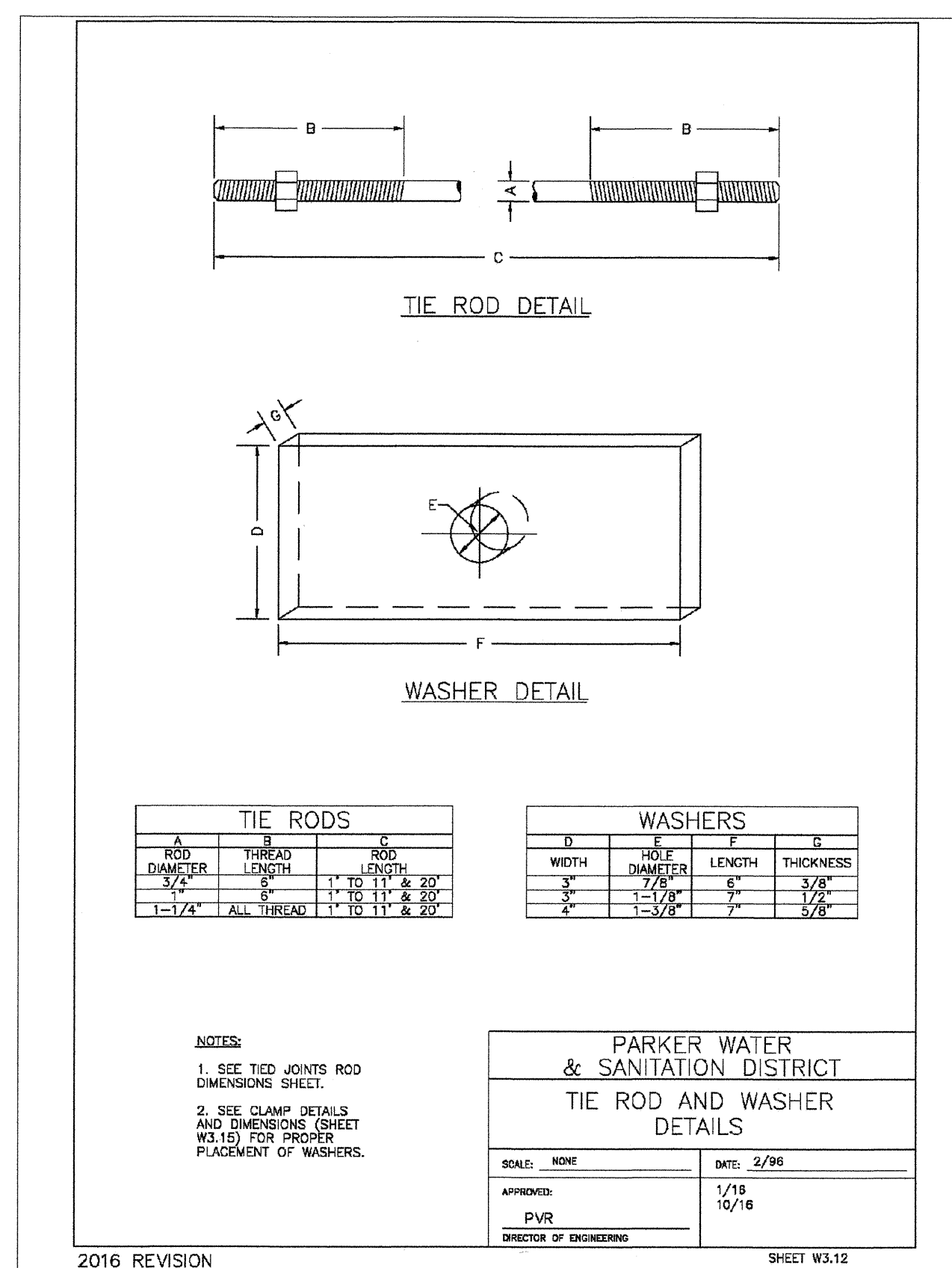
LENGTH OF TIED PIPE

PARKER WATER & SANITATION DISTRICT
LENGTH OF TIED PIPE

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 01/02
DIRECTOR OF ENGINEERING 01/16 10/16

SHEET W3.11



TIE ROD DETAIL

WASHER DETAIL

TIE RODS			WASHERS		
ROD DIAMETER	THREAD LENGTH	ROD LENGTH	WIDTH	DIAMETER	THICKNESS
3/4"	8"	11"	3"	3/8"	3/8"
1"	10"	13"	4"	1/2"	3/8"
1-1/4"	12"	15"	5"	3/4"	3/8"

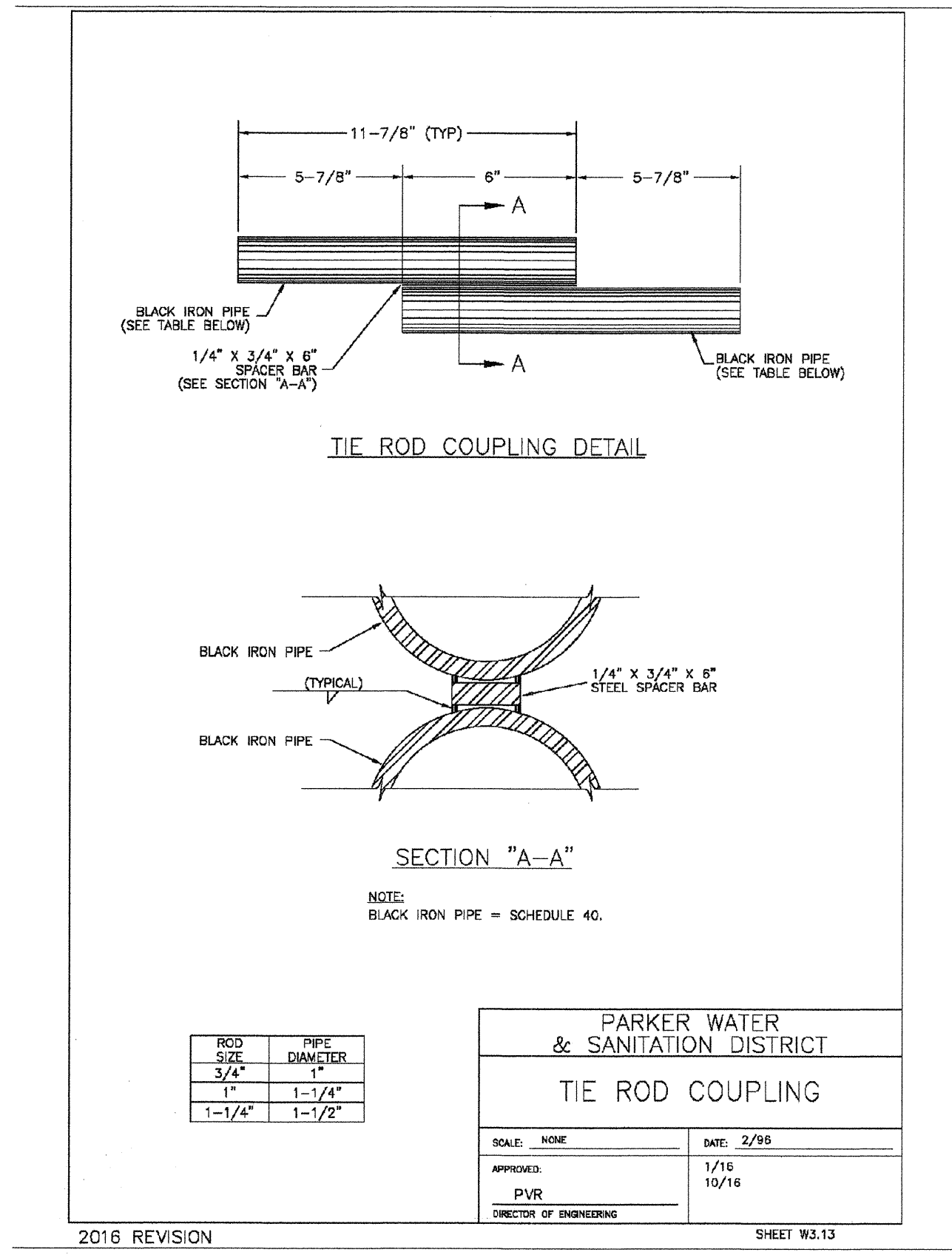
- NOTES:
1. SEE TIED JOINTS ROD DIMENSIONS SHEET.
 2. SEE CLAMP DETAILS AND DIMENSIONS (SHEET W3.15) FOR PROPER PLACEMENT OF WASHERS.

PARKER WATER & SANITATION DISTRICT
TIE ROD AND WASHER DETAILS

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 01/02
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SHEET W3.12



TIE ROD COUPLING DETAIL

SECTION "A-A"

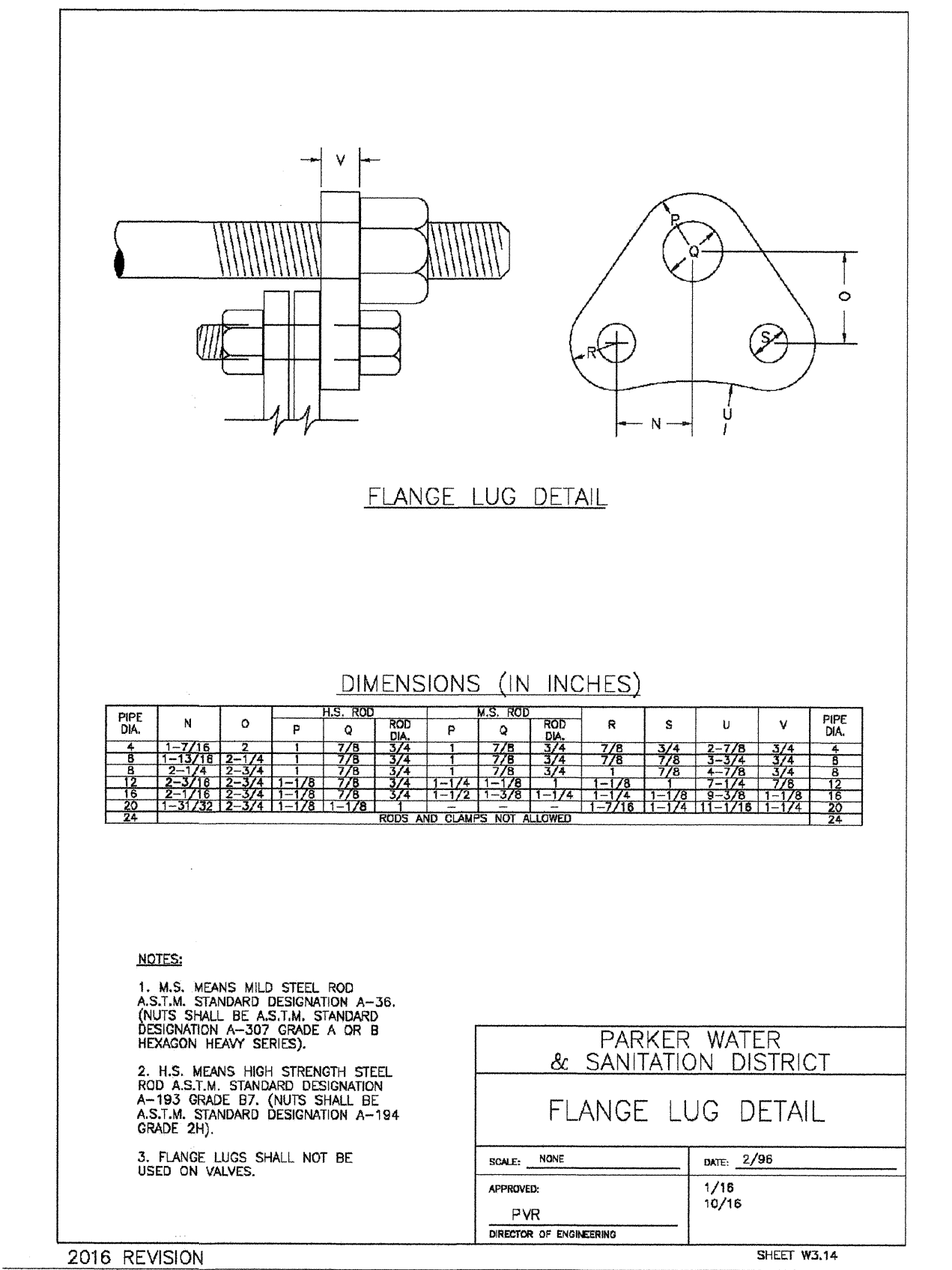
ROD SIZE	PIPE DIAMETER
3/4"	1"
1"	1-1/4"
1-1/4"	1-1/2"

PARKER WATER & SANITATION DISTRICT
TIE ROD COUPLING

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 01/02
DIRECTOR OF ENGINEERING 01/16 10/16

SHEET W3.13



FLANGE LUG DETAIL

DIMENSIONS (IN INCHES)

PIPE DIA.	N	O	P	Q	R	S	U	V	PIPE DIA.
4"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	4"
6"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	6"
8"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	8"
10"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	10"
12"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	12"
14"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	14"
16"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	16"
18"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	18"
20"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	20"
24"	1-1/2"	2-1/4"	1"	2/8"	3/4"	1"	2/8"	3/4"	24"

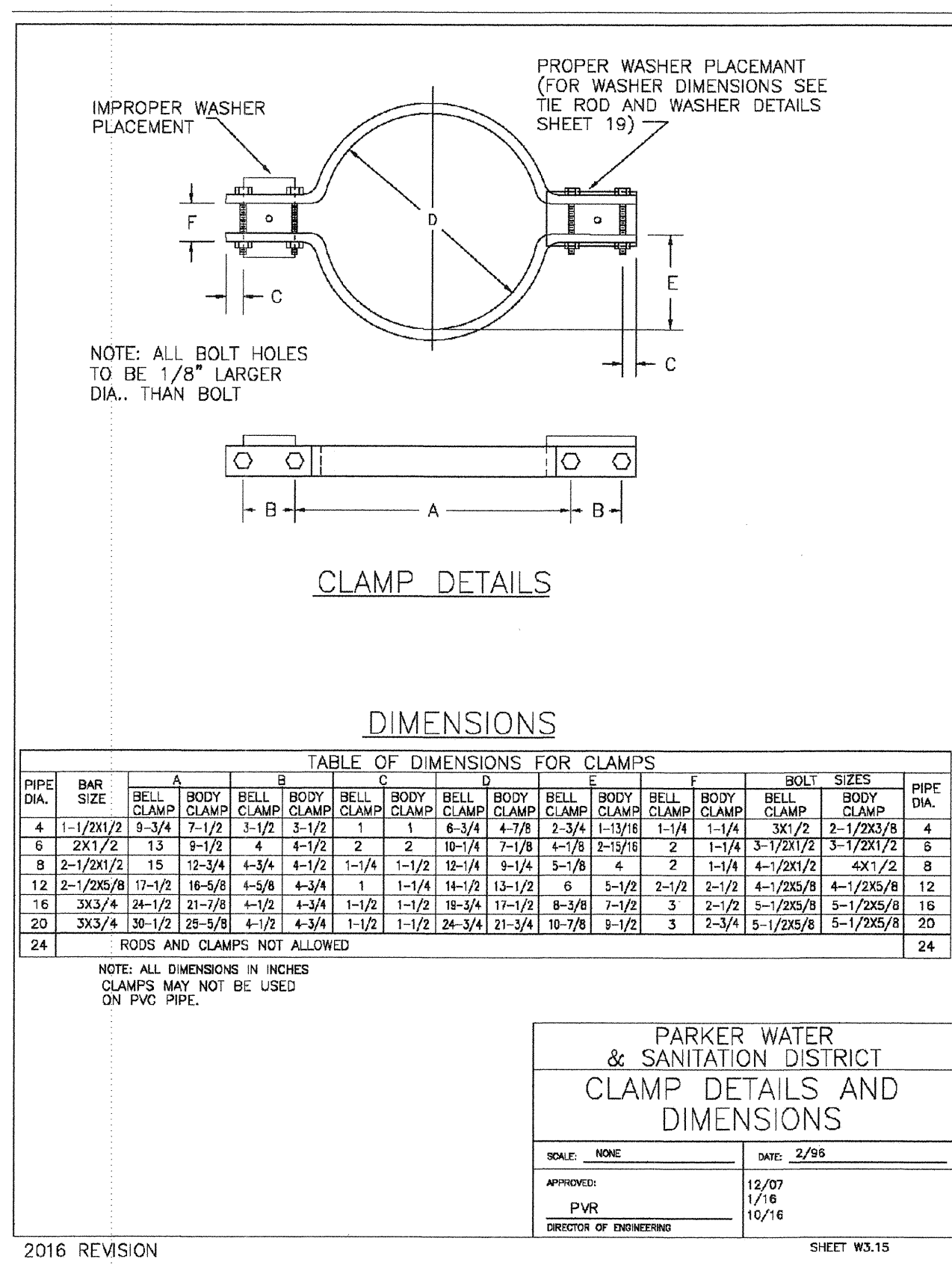
- NOTES:
1. M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36. (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES).
 2. M.S. MEANS HIGH STRENGTH STEEL ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE B7. (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-194 GRADE 2H).
 3. FLANGE LUGS SHALL NOT BE USED ON VALVES.

PARKER WATER & SANITATION DISTRICT
FLANGE LUG DETAIL

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 01/02
DIRECTOR OF ENGINEERING 01/16 10/16

SHEET W3.14



CLAMP DETAILS

DIMENSIONS

TABLE OF DIMENSIONS FOR CLAMPS

PIPE DIA.	BAR	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	PIPE DIA.
4"	1-1/2x1/2	3-3/4	1-1/2	3-1/2	1"	6-3/4	4-7/8	2-3/4	1-13/16	1-1/4	3x1/2	2-1/2x3/8	4"					
6"	2x1/2	4-1/2	2"	4-1/2	2"	8-1/4	5-7/8	3-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	6"					
8"	2-1/2x1/2	5-1/2	2-1/2"	5-1/2	2-1/2"	10-1/4	6-3/4	4-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	8"					
10"	3x1/2	6-1/2	3"	6-1/2	3"	12-1/4	7-3/4	5-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	10"					
12"	3-1/2x1/2	7-1/2	3-1/2"	7-1/2	3-1/2"	14-1/4	8-3/4	6-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	12"					
14"	4x1/2	8-1/2	4"	8-1/2	4"	16-1/4	9-3/4	7-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	14"					
16"	4-1/2x1/2	9-1/2	4-1/2"	9-1/2	4-1/2"	18-1/4	10-3/4	8-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	16"					
18"	5x1/2	10-1/2	4-1/2"	10-1/2	4-1/2"	20-1/4	11-3/4	9-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	18"					
20"	5-1/2x1/2	11-1/2	4-1/2"	11-1/2	4-1/2"	22-1/4	12-3/4	10-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	20"					
24"	6-1/2x1/2	13-1/2	4-1/2"	13-1/2	4-1/2"	26-1/4	14-3/4	12-1/2	1-1/4	1-1/2	3x1/2	2-1/2x3/8	24"					

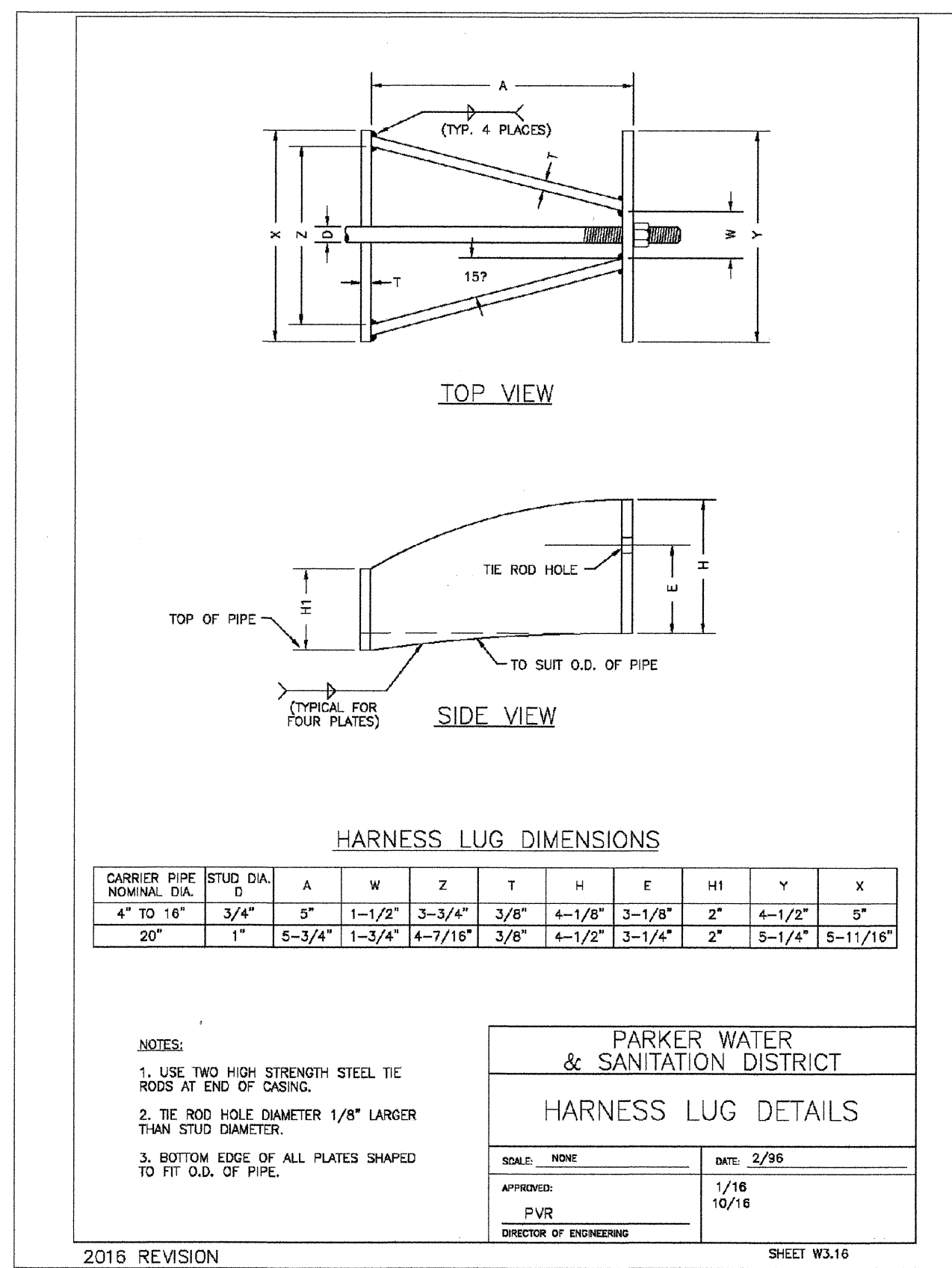
- NOTES:
1. ALL DIMENSIONS IN INCHES.
 - CLAMPS MAY NOT BE USED ON PVC PIPE.

PARKER WATER & SANITATION DISTRICT
CLAMP DETAILS AND DIMENSIONS

SCALE: NONE DATE: 2/96

APPROVED: 4/01
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DIRECTOR OF ENGINEERING 01/16 10/16

SHEET W3.15



HARNESS LUG DIMENSIONS

CARRIER PIPE NOMINAL DIA.	STUD DIA. D	A	W	Z	T	H	E	H1	Y	X
4" TO 16"	3/4"	5"	1-1/2"	3-3/4"	3/8"	4-1/8"	3-1/8"	2"	4-1/2"	5"
20"	1"	5-3/4"	1-3/4"	4-7/16"	3/8"	4-1/2"	3-1/4"	2"	5-1/4"	5-11/16"

- NOTES:
1. USE TWO HIGH STRENGTH STEEL TIE RODS AT END OF CASING.
 2. TIE ROD HOLE DIAMETER 1/8" LARGER THAN STUD DIAMETER.
 3. BOTTOM EDGE OF ALL PLATES SHAPED TO FIT O.D. OF PIPE.

PARKER WATER & SANITATION DISTRICT
HARNESS LUG DETAILS

SCALE: NONE DATE: 2/96

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SHEET W3.16

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HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 15 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE: AS SHOWN
DRAWN BY: RHR
CHECKED BY: BPW
DATE: JUL 29 2018

FILE NO: 8130283701

DATE: JUL 29 2018

APPROVED
JUL 29 2018
PARKER WATER AND SANITATION DISTRICT

NO. REVISIONS

DATE INIT. APPR.

SHEET NUMBER 17

MECHANICAL JOINT RESTRAINT

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	2	2	11.12	9.5	7.00	0.88
6"	3	3	13.37	11.76	9.15	1.00
8"	4	4	15.62	14.00	11.20	1.00
10"	5	5	17.88	16.25	13.30	1.25
12"	6	6	20.13	18.50	15.40	1.50

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: PVR 12/07 1/16 10/16
DIRECTOR OF ENGINEERING

2016 REVISION SHEET W3.17

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

DEAD END

TYPICAL CROSS SECTION

TEE

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

SIZE OF PIPE	BENDS	TEE OR DEAD END
11-1/4"	22-1/2"	45"
12"	15.00	1.76
16"	1.25	2.25
20"	1.50	2.75
24"	1.75	3.25
30"	2.25	4.25
36"	2.75	5.25
42"	3.25	6.25
48"	3.75	7.25
54"	4.25	8.25
60"	4.75	9.25
66"	5.25	10.25
72"	5.75	11.25
78"	6.25	12.25
84"	6.75	13.25
90"	7.25	14.25

NOTES:
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.
2. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
3. BASED ON 150 PSI PIPE PRESSURE PLUS WATER HAMMER.
4. 4" AND 6" WATER HAMMER = 120 PSI.
12" WATER HAMMER = 110 PSI.
16", 20" AND 24" WATER HAMMER = 70 PSI.
5. SOIL BEARING CAPACITY = 3,000 LBS./SQ. FT.

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

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

2016 REVISION SHEET W3.18

HALF PLAN

STANDARD LIFTING SLOT DETAIL

24" DIAMETER RING AND COVER

NOTES:
1. Coating Specifications: ASTM A-48 With A Minimum Tensile Strength of 28 KSI (Class 25)
2. All Casting To Be Shipped in Assembled Base Point (Or Approved Equal)

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

SCALE: NONE DATE: 6/05
APPROVED: PVR 12/07 1/16 10/16
DIRECTOR OF ENGINEERING

2016 REVISION SHEET W3.19

ACCESS MANHOLE

ACCESS MANHOLE AND AIR VALVE ASSEMBLY

NOTES:
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPE.
2. SEE SHEET W3.1 FOR CONCRETE MANHOLE BASE BEAMS AND AIR/VACUUM VALVE DETAILS.

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

SCALE: NONE DATE: 2/96
APPROVED: PVR 4/01 1/16 10/16
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2016 REVISION SHEET W3.20

STANDARD TRENCH SECTION

STREET CUT PATCH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
10"	2'-0"	3'-0"
12"	2'-2"	3'-2"
16"	2'-6"	3'-6"
20"	3'-0"	4'-0"
24"	3'-4"	4'-4"

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

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

2016 REVISION SHEET W4.1

PIPE BEDDING

INSTALLATION OF BEDDING AND PIPING: 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 bed and bedding material. All pipe shall be installed in such a manner as to insure full support of the pipe bottom over the 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 bottom of the pipe and in the previously dug bed holes.

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

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 backfill and compaction of backfill.

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.

Bedding Materials: The bedding material shall be a clean well-graded sand or silt-sand and shall conform to the following limits when tested by means of laboratory sieves:

Well-Graded Sand for (24-inch or larger diameter)

Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 4	70-100
No. 8	35-83
No. 16	20-80
No. 30	8-59
No. 60	2-30
No. 100	1-10
No. 200	0-3

Sandstone Sand for use with 20-inch or smaller

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

**PARKER WATER & SANITATION DISTRICT
PIPE BEDDING**

SCALE: NONE DATE: 2/98
APPROVED: PVR 3/08 2/02 1/16 10/16
DIRECTOR OF ENGINEERING

2016 REVISION SHEET W4.2

TYPICAL SECTION

WATERLINE ENCASEMENT

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 ENCASEMENT.

**PARKER WATER & SANITATION DISTRICT
WATERLINE ENCASEMENT**

SCALE: NONE DATE: 5/98
APPROVED: PVR 1/16 10/16
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:
$$L = \frac{C}{\sin \theta}$$

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
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DIRECTOR OF ENGINEERING

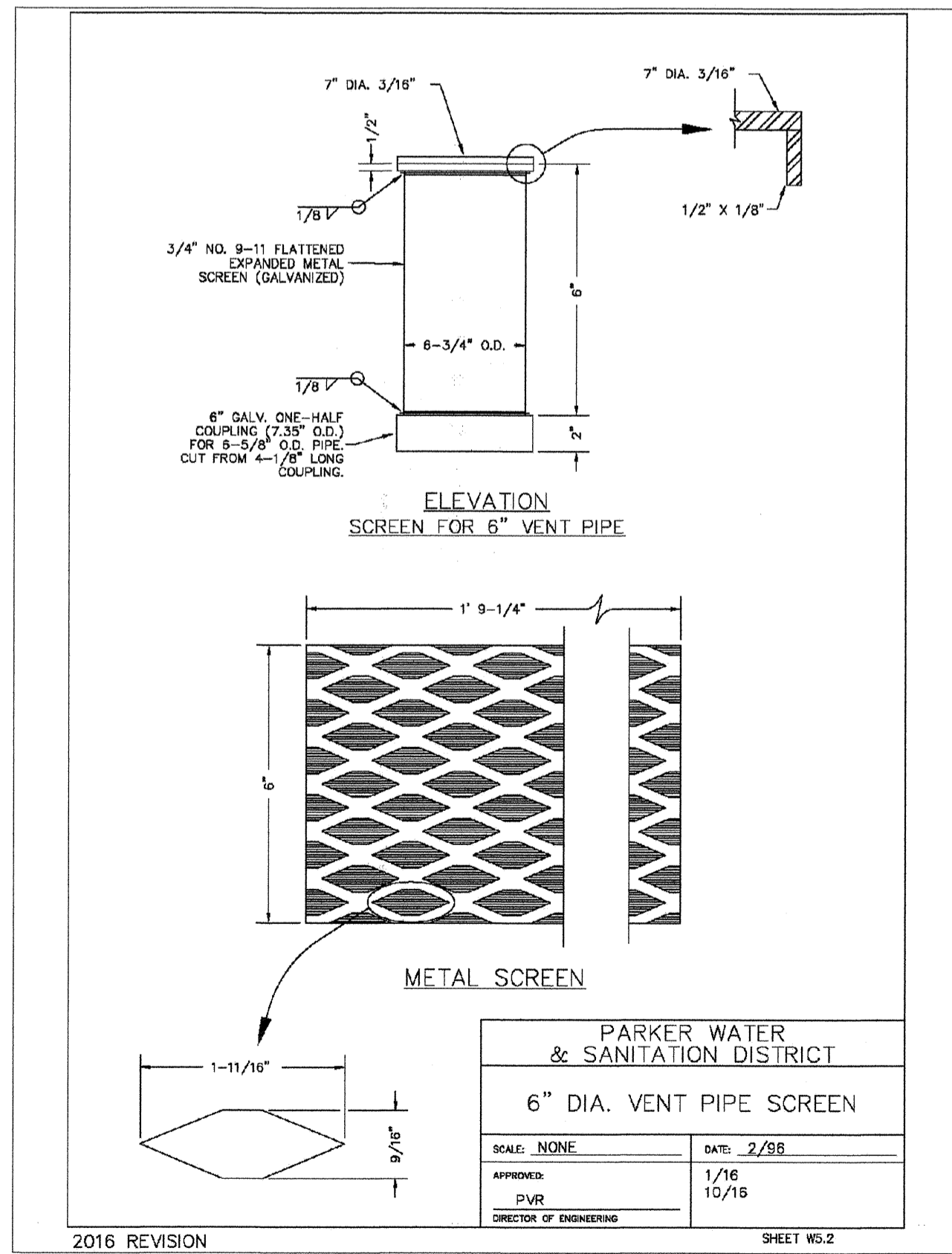
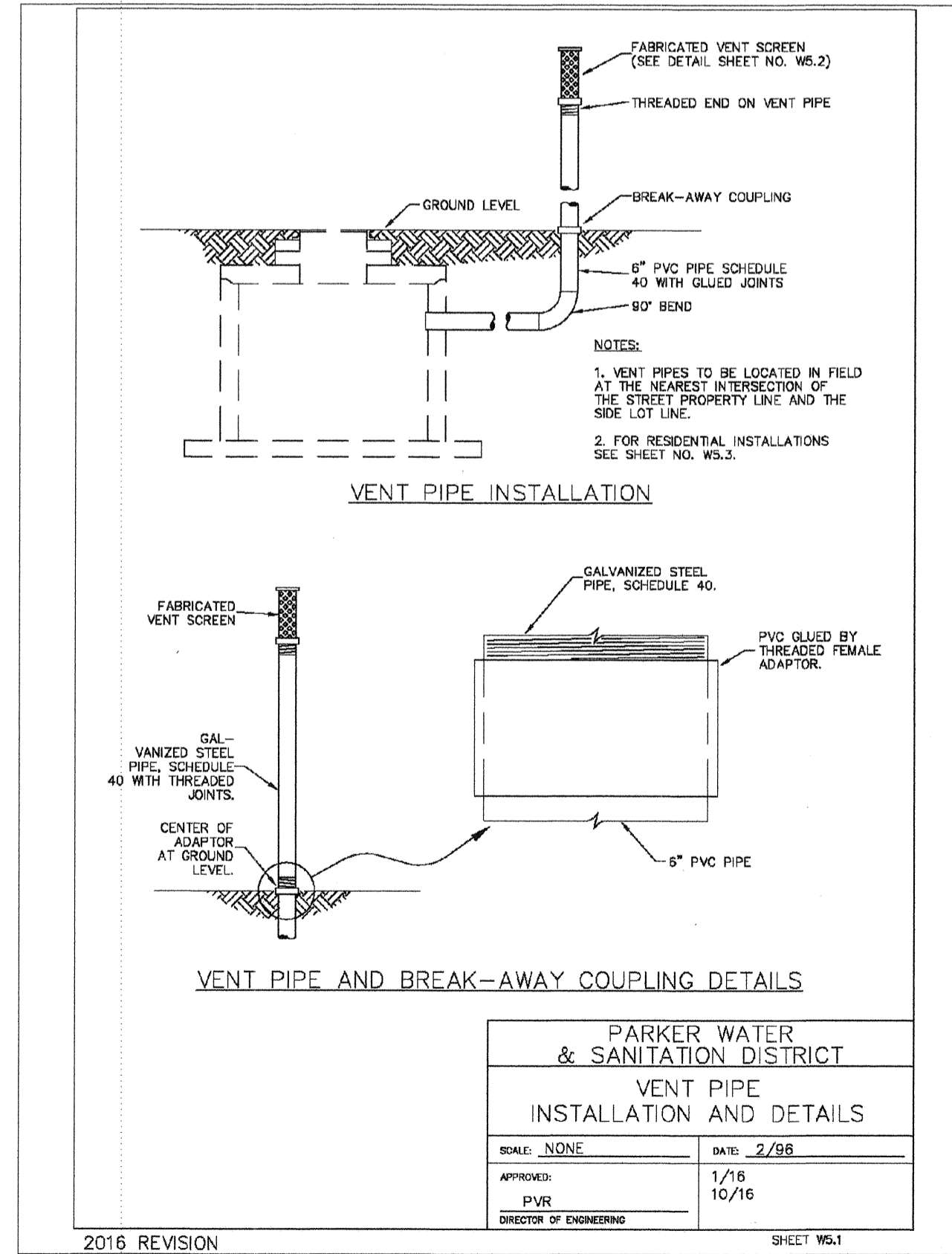
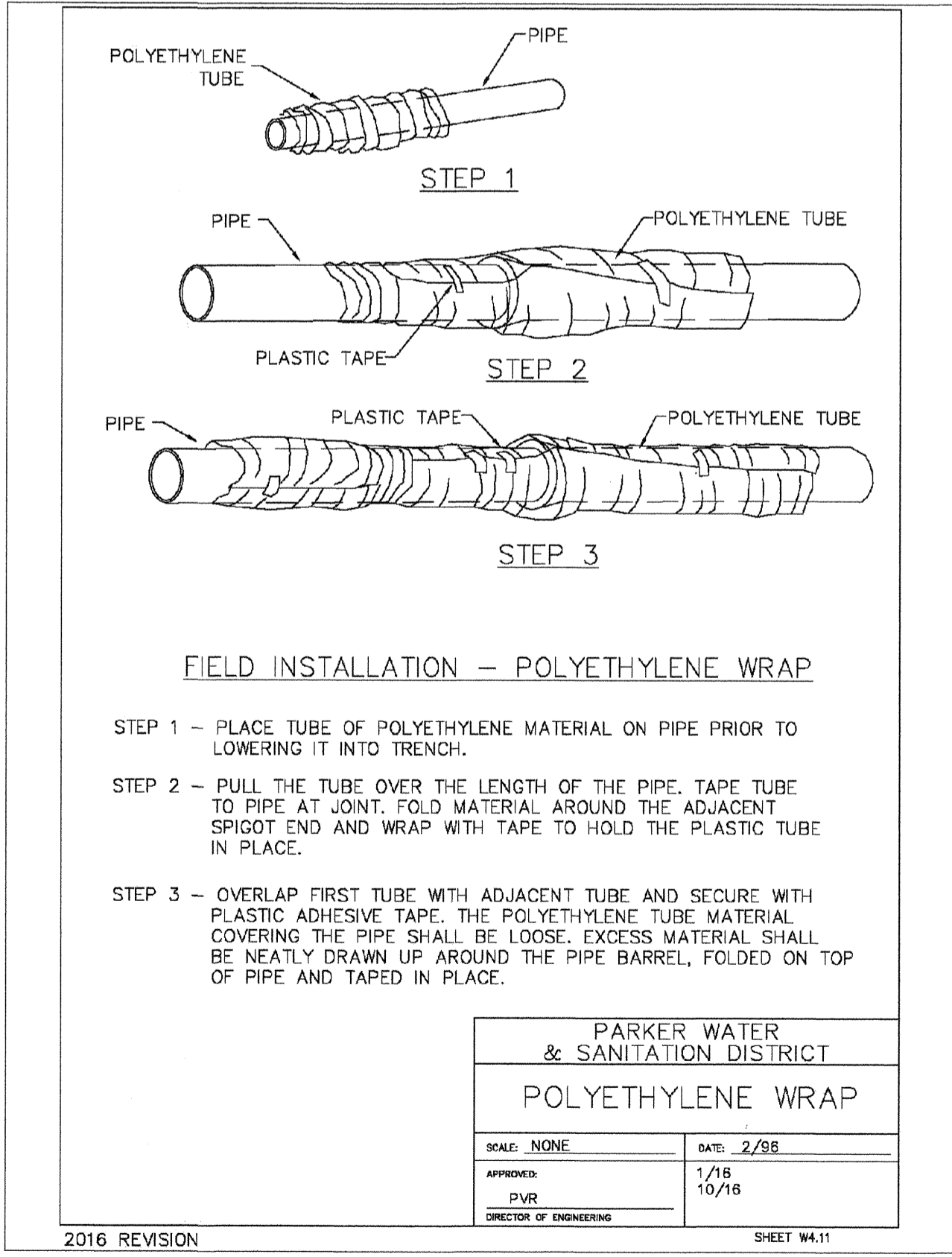
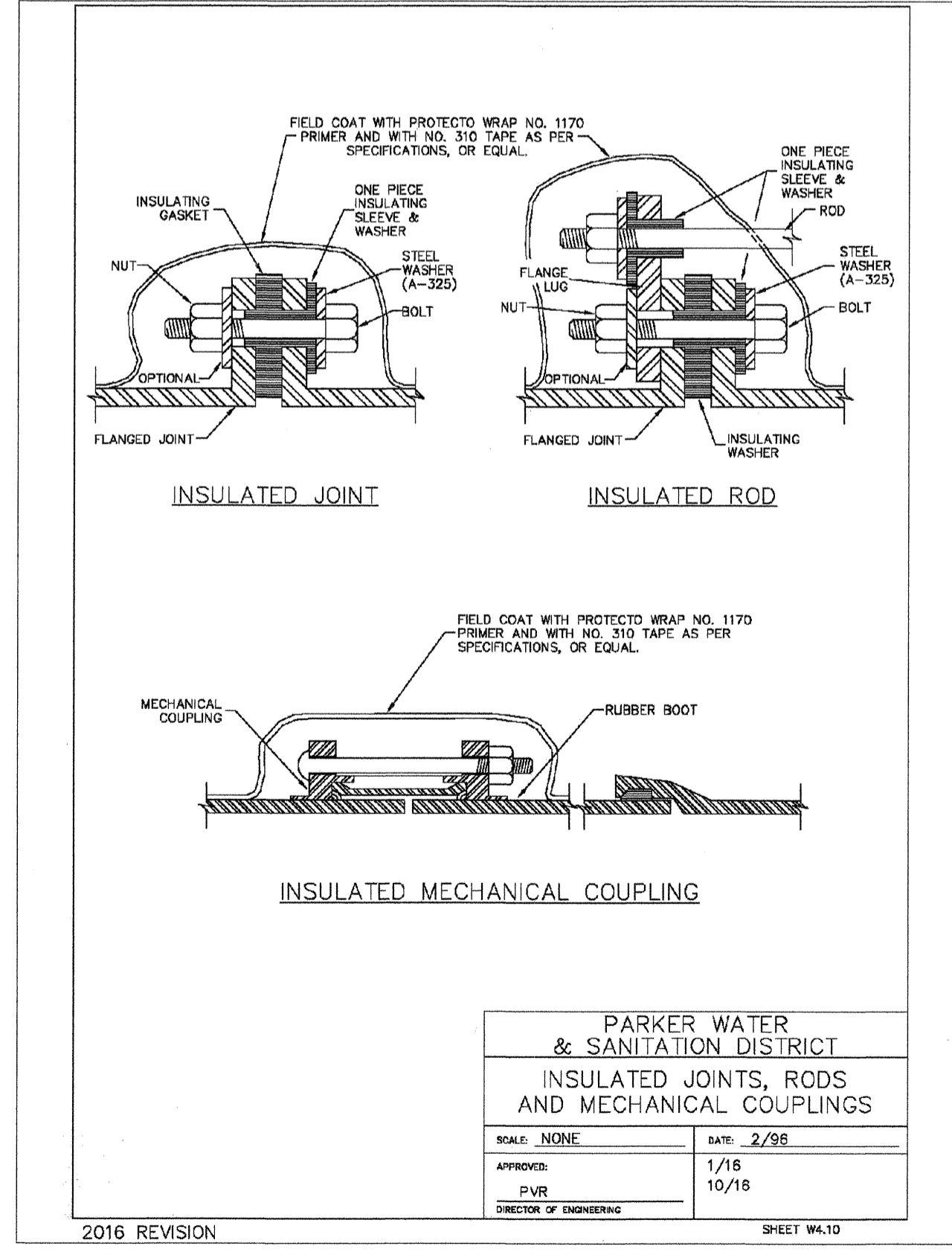
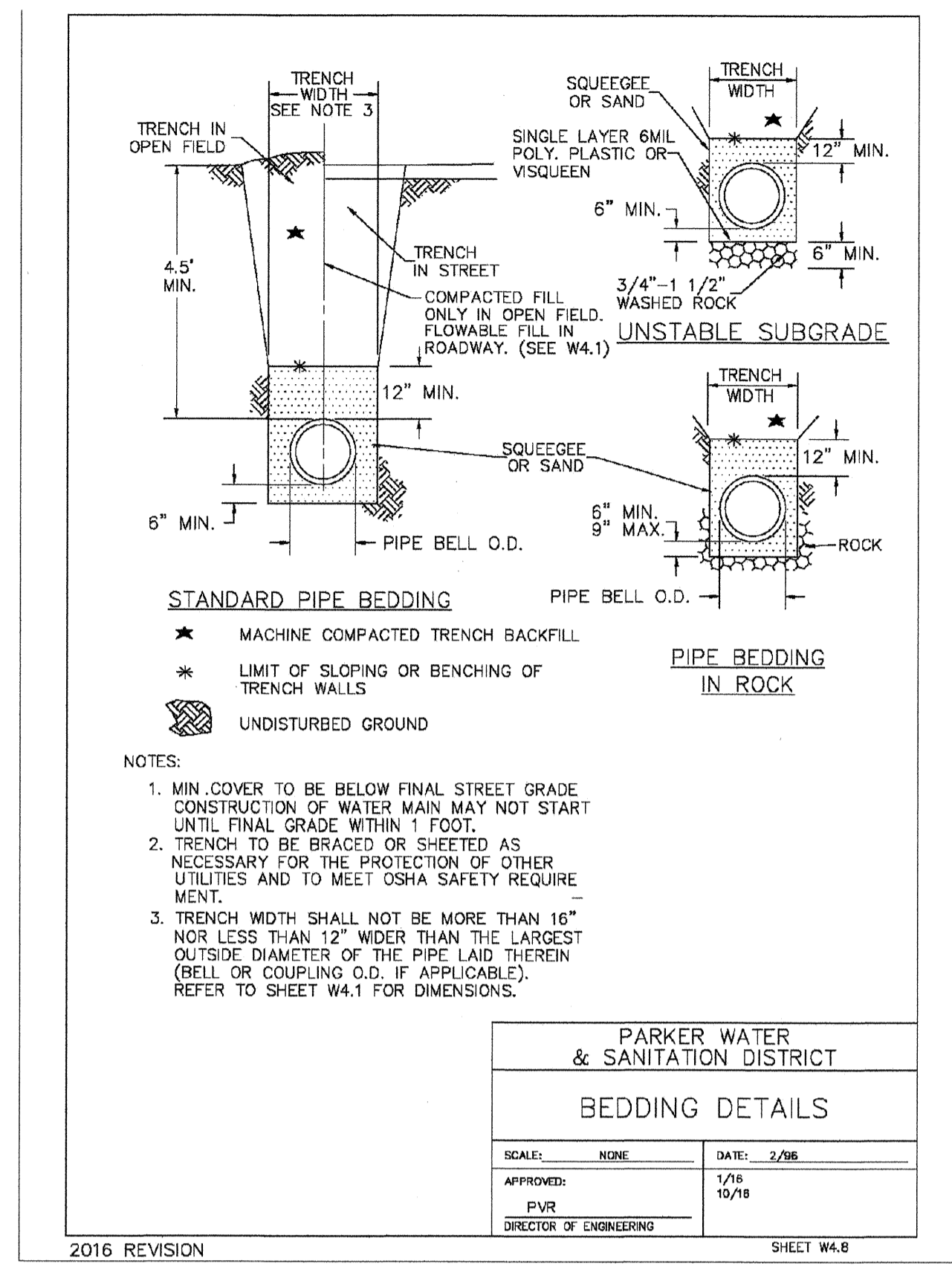
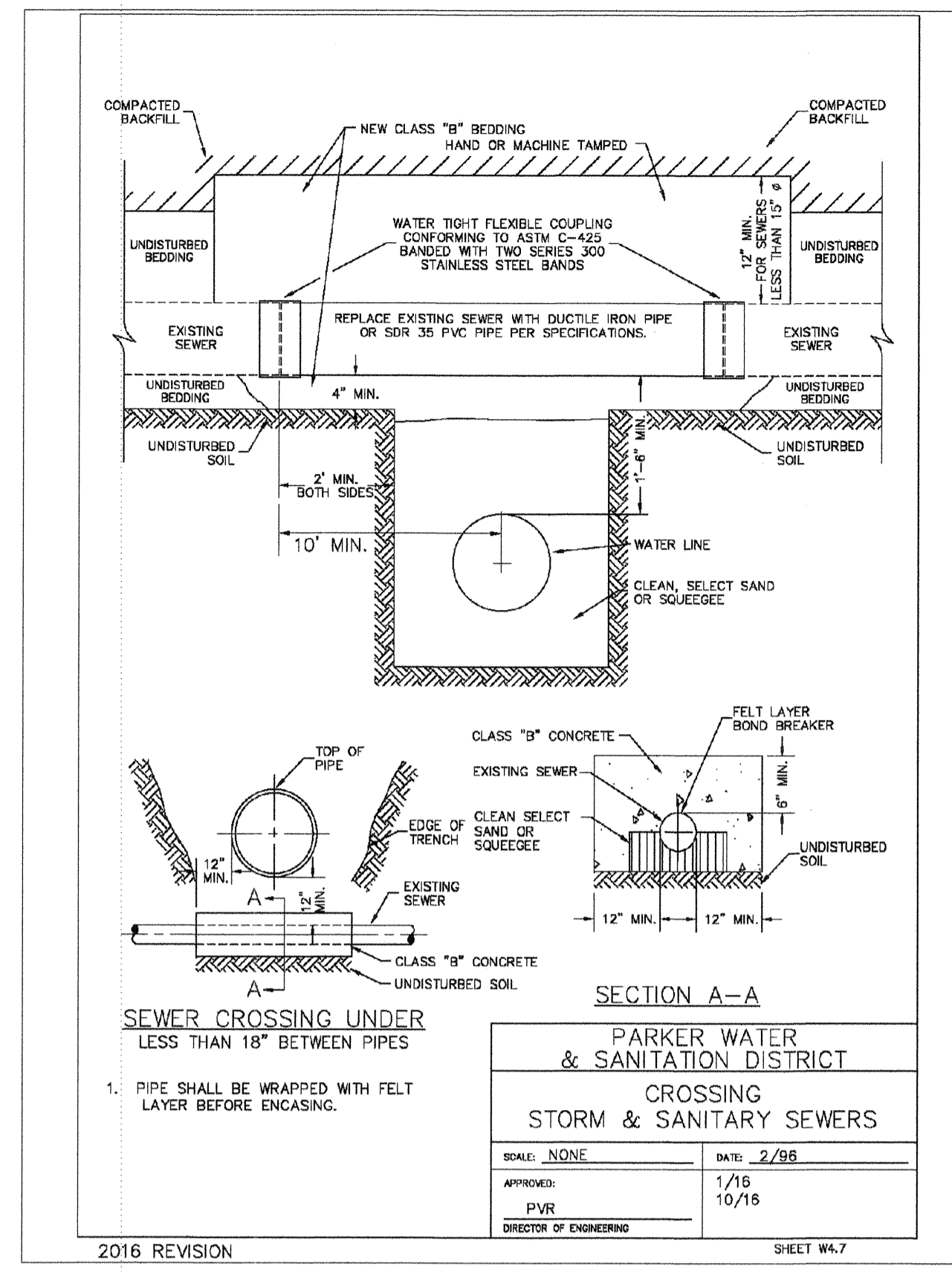
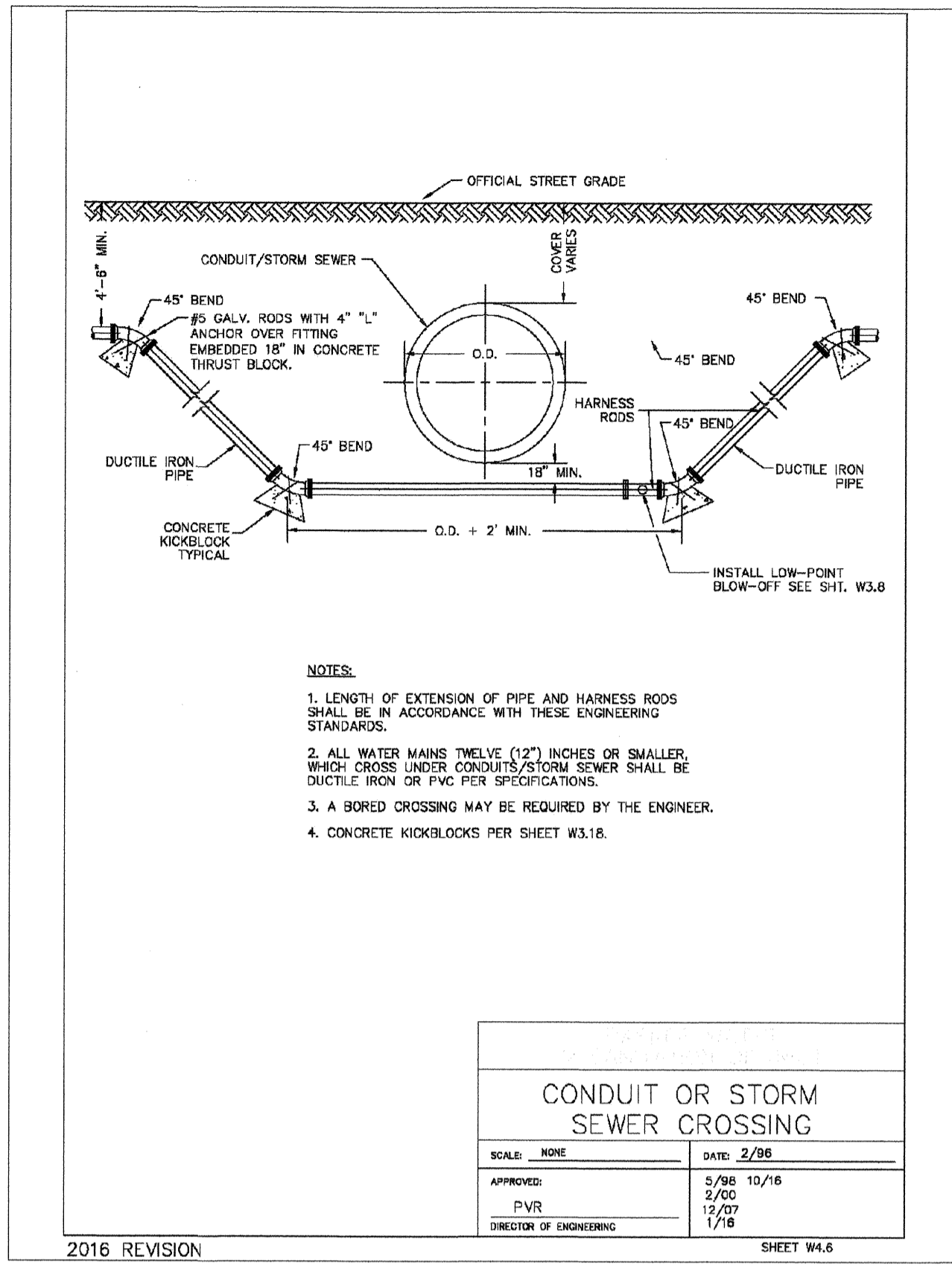
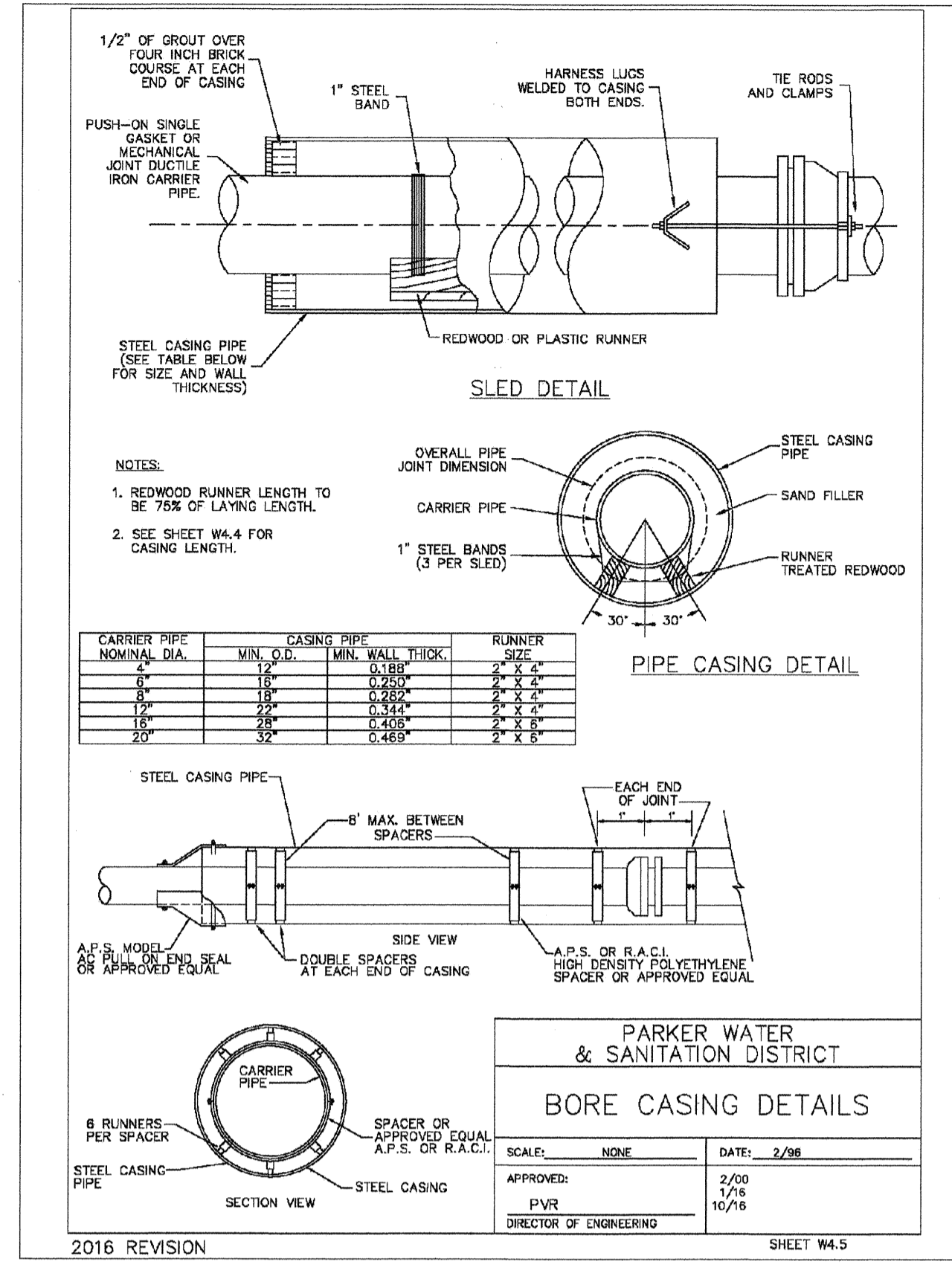
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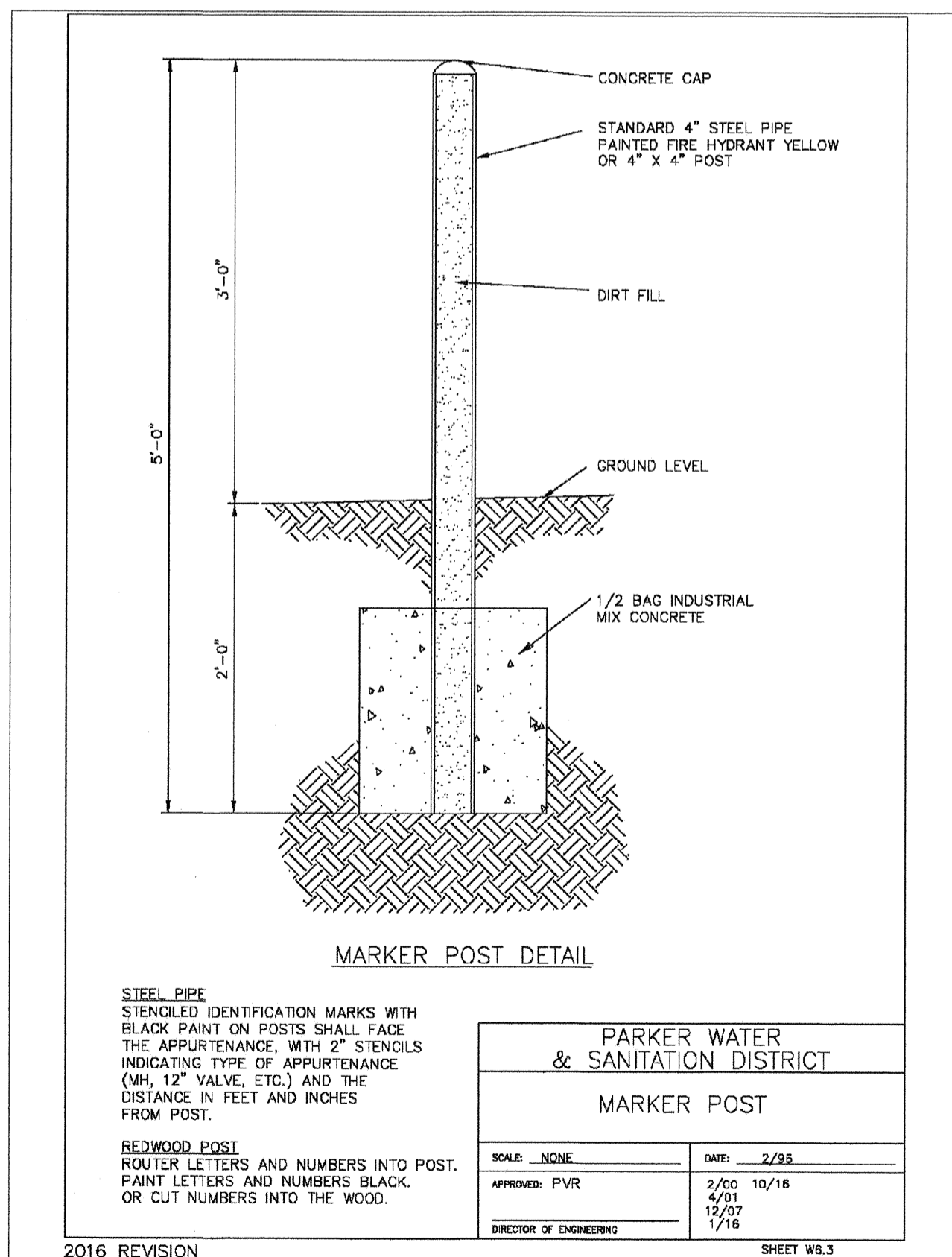
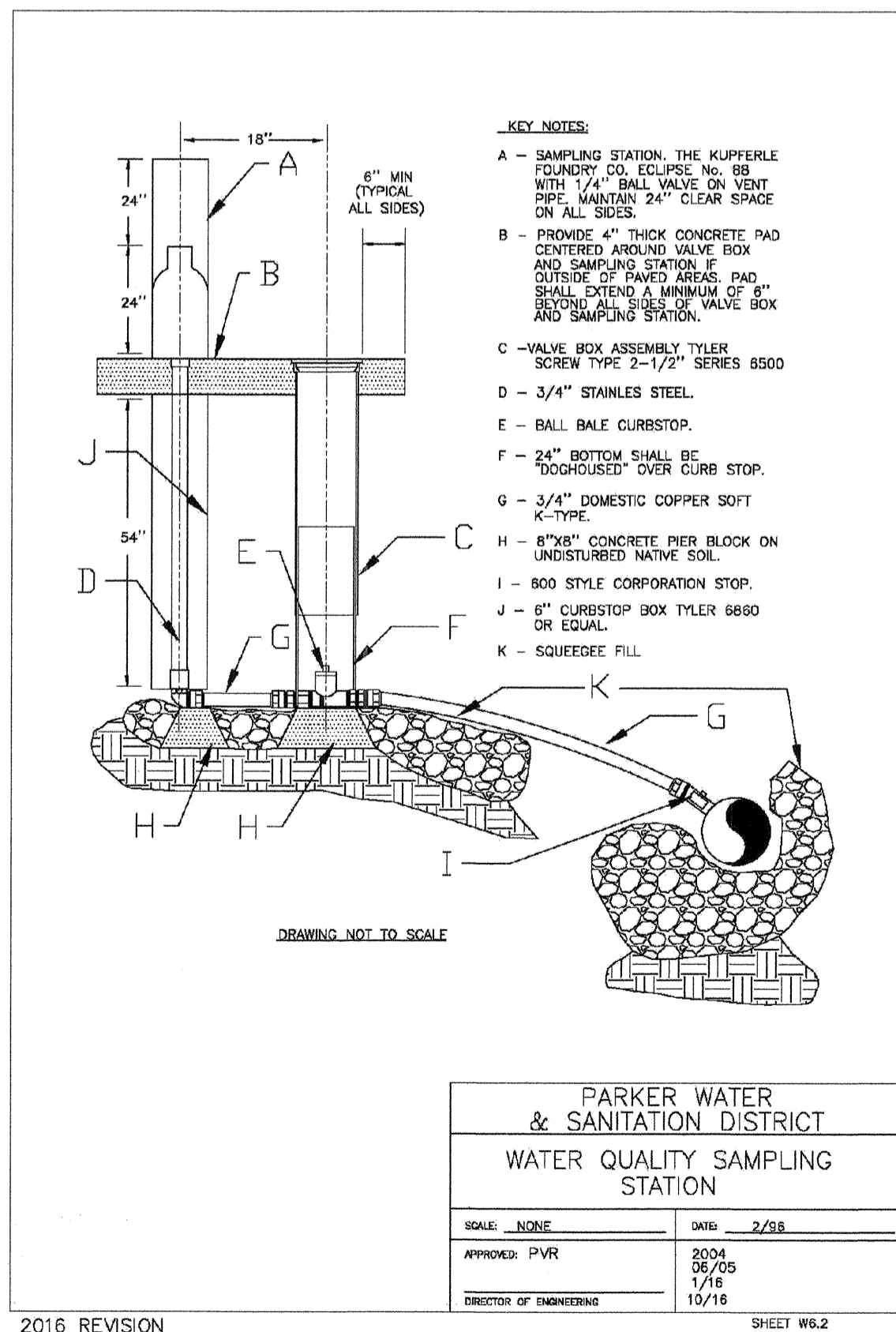
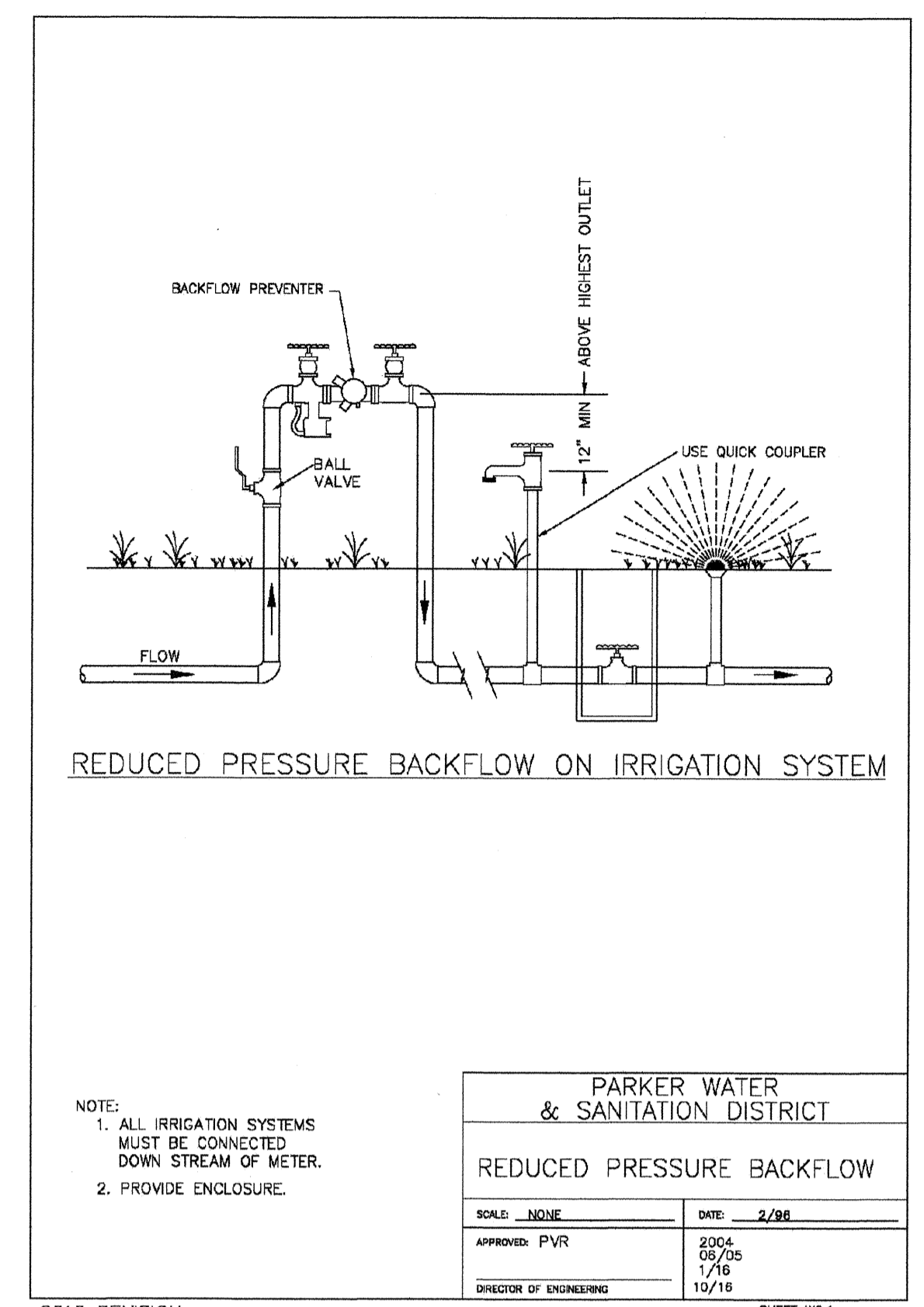
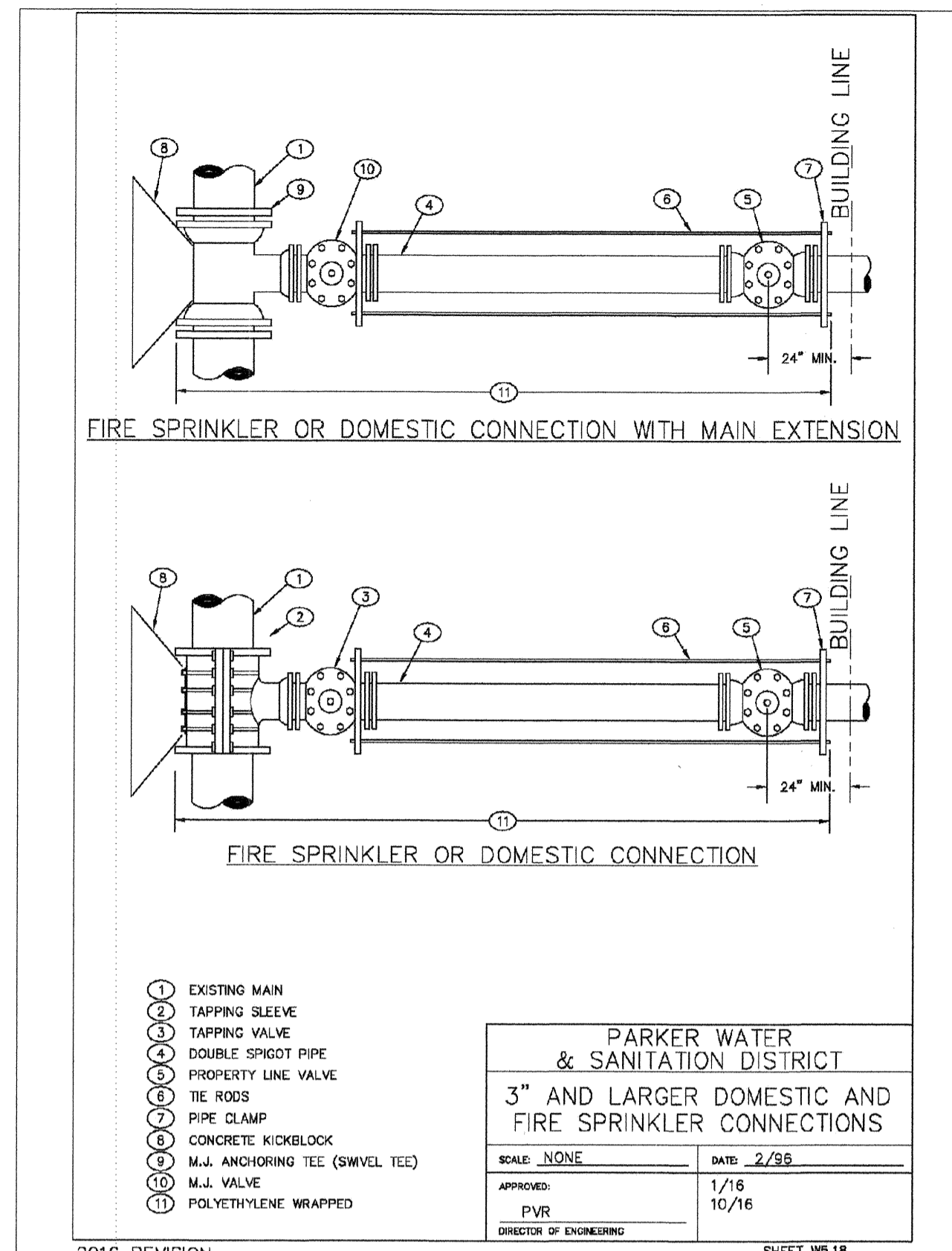
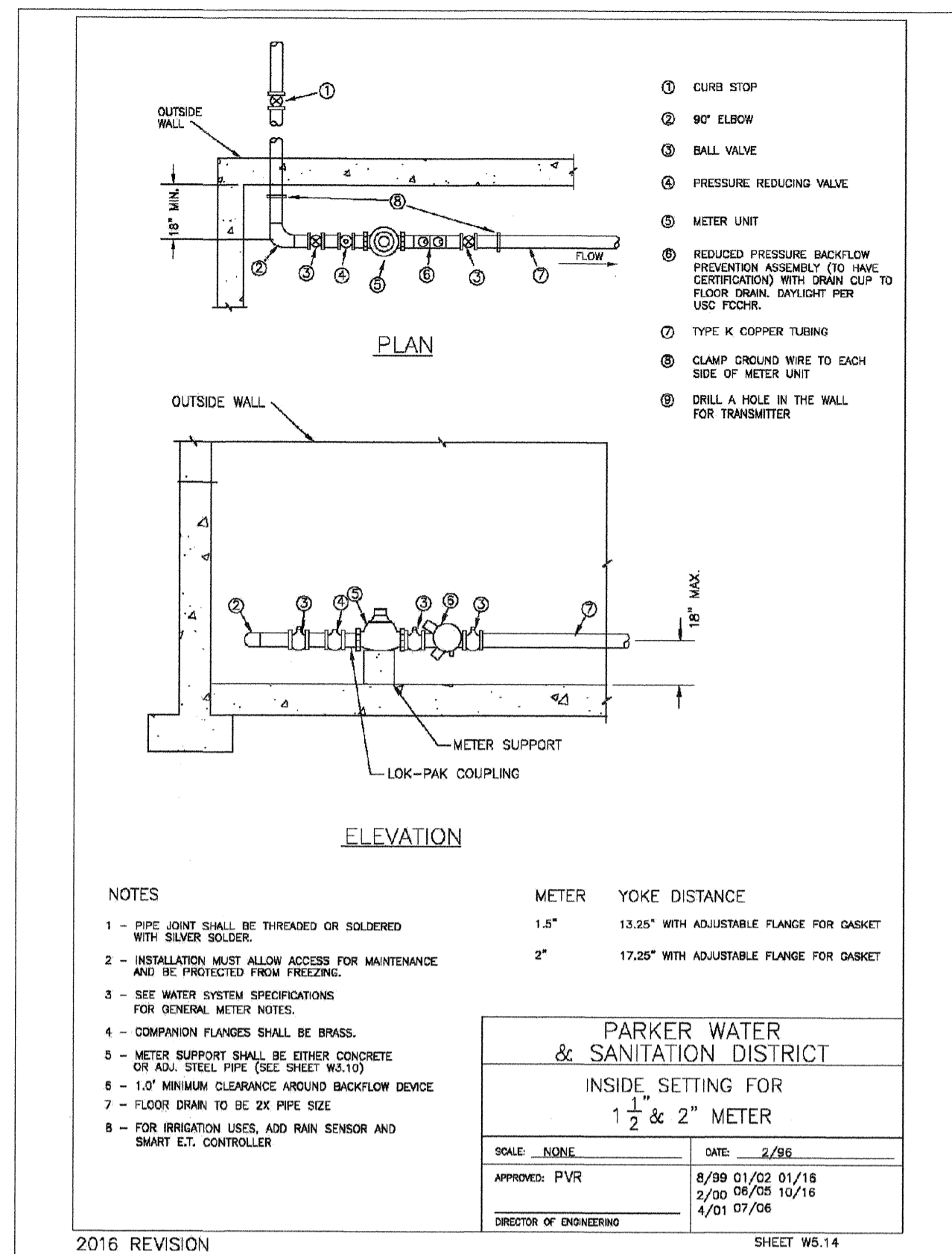
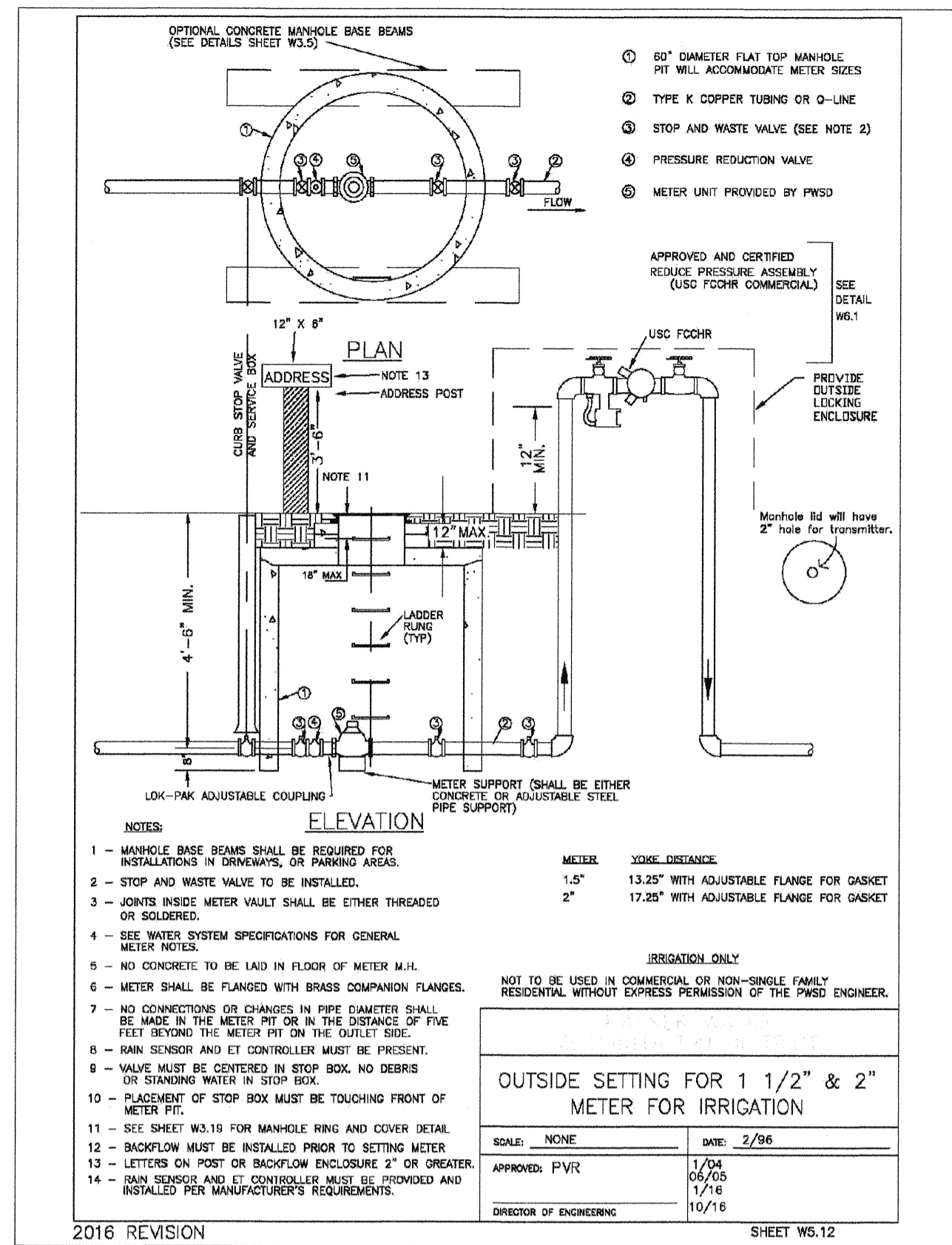
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