

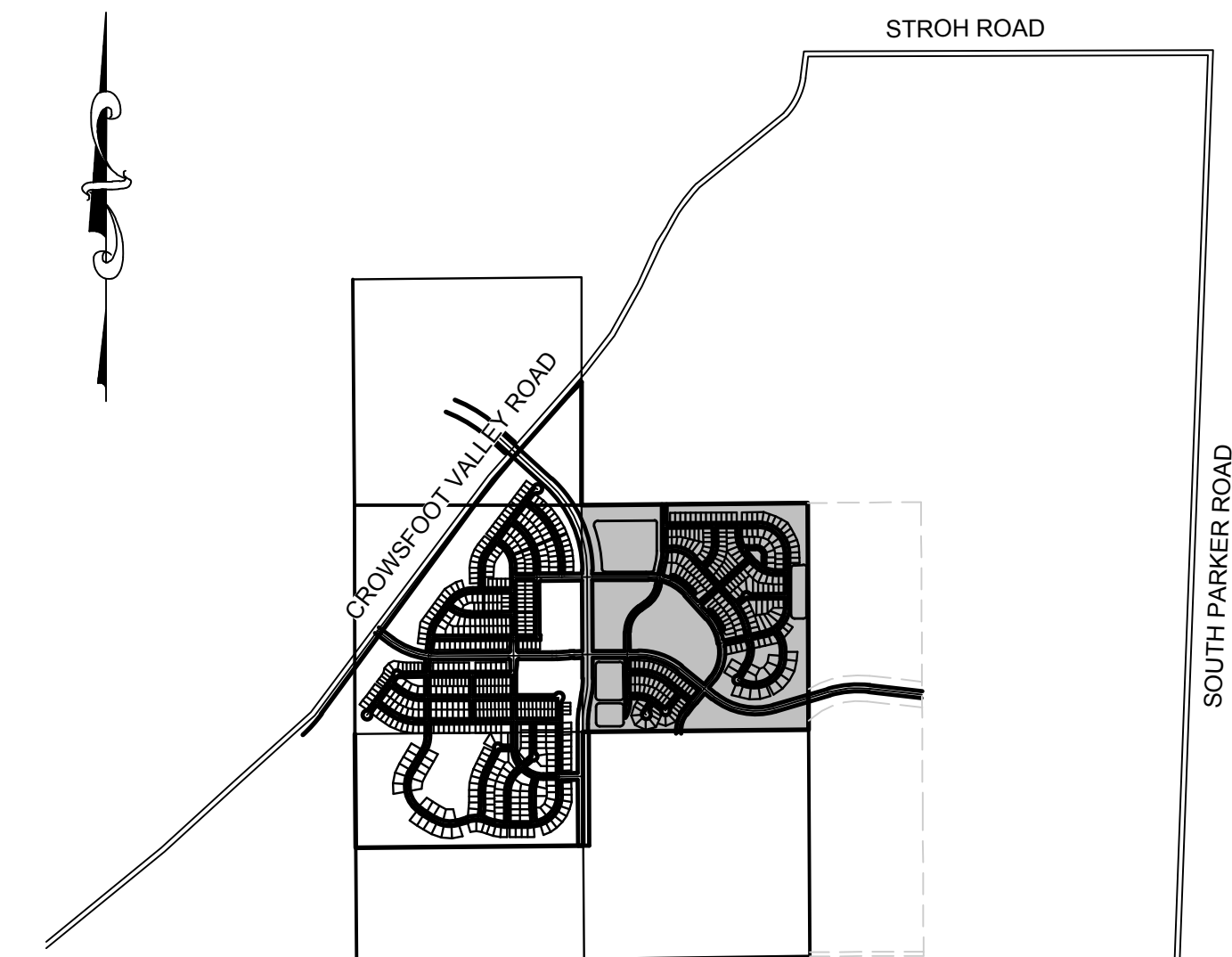
# TRAILS AT CROWFOOT FILING 9

## 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

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MATERIAL LIST		
DESCRIPTION	QUANTITY	UNIT
8" SEWER (PVC)	1,142	L.F.
12" SEWER (PVC)	0	L.F.
4' DIA. MANHOLE	10	EA.
5' DIA. MANHOLE	0	EA.
STANDARD CLEANOUT	0	EA.
DROP MANHOLE	0	EA.
INTERMEDIATE PLATFORM	0	EA.
4" SEWER SERVICE	0	EA.
CONNECTION TO EXISTING MAIN	1	EA.
6" WATERPIPE (DIP)	211	L.F.
8" WATERPIPE (PVC)	4,079	L.F.
12" WATERPIPE (PVC)	1,081	L.F.
6" GATE VALVE	9	EA.
8" GATE VALVE	23	EA.
12" GATE VALVE	3	EA.
16" BUTTERFLY VALVE	0	EA.
8" MISC. FITTINGS	16	EA.
12" MISC. FITTINGS	6	EA.
AIR / VACUUM VALVE	1	EA.
8" CAP WITH BLOW OFF	11	EA.
2" BLOW OFF VALVE (8" LINE-LOW POINT)	1	EA.
FIRE HYDRANTS WITH 6" LEAD	9	EA.
IRRIGATION SERVICE W/ METER(2")	5	EA.
DOMESTIC WATER SERVICE W/ METER	0	EA.
20" STEEL CASING	0	L.F.
CONNECTION TO EXISTING MAIN	5	EA.



VICINITY MAP  
SCALE: 1" = 2000'

### 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 SCHEDULE 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

### 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

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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.



N:\PROJECTS\HR 935\ENGINEERING\DRG\SET\CD\SP\PARKER WATER AND SANITATION\DWG\COVER.DWG, BRUNN, 12/27/2017 8:14 PM

SHEET NUMBER	DRAWN BY:	KJD	CHECKED BY:	JJ	DATE:	MAY 2017	SCALE:	AS SHOWN	FILE NO:	8130283701	TRAILS AT CROWFOOT FILING 9 CONSTRUCTION DRAWINGS COVER SHEET	ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112		10333 E. Dry Creek Rd. Suite 240 Englewood, Colorado Tel: (720) 482-9526 Fax: (720) 482-9546	Revisions	No.	Date	Appr.	Date

**GENERAL NOTES:**

1. ALL CONSTRUCTION SHALL COMPLY WITH PARKER WATER AND SANITATION DISTRICT SPECIFICATIONS.
2. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND THE TOWN OF PARKER PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
3. ALL ITEMS SHOWN ON THE PLANS AS EXISTING ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE ACTUAL LOCATIONS MAY VARY FROM THE PLANS, ESPECIALLY IN THE CASE OF UNDERGROUND UTILITIES. WHENEVER CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS, HE SHALL CONTACT THE ENGINEER IMMEDIATELY.
4. THE DISTRICT ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS THAT ARE NECESSARY TO PERFORM THE PROPOSED WORK.
6. ALL CONCRETE SHALL BE A MINIMUM OF CLASS A, 6 SACK, TYPE II, 3000-POUND COMPRESSION STRENGTH.
7. THE DESIGN ENGINEER SHALL SUBMIT ONE (1) SET OF ROLLED "AS-BUILT" BLUELINE PRINTS AND ELECTRONIC FILES TO THE DISTRICT ENGINEER FOR APPROVAL PRIOR TO PRINTING MYLAR SEPIAS FOR THE DISTRICT. AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT ENGINEER, FULL SIZE MYLAR SEPIA PRINTS SHALL BE TRANSMITTED TO THE PARKER WATER AND SANITATION DISTRICT OFFICE.
8. ALL BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. COMPACTION TESTS MUST BE SUBMITTED TO DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
9. TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR.
10. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF LINES (WATER AND SEWER) FOR UP TO TWO (2) YEARS FROM THE DATE OF PROBATIONARY ACCEPTANCE OF THE LINES BY THE DISTRICT. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIATED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT ENGINEER AT NO EXPENSE TO THE DISTRICT.
11. SURFACE GRADES ARE TO BE WITHIN PLUS OR MINUS ONE FOOT OF FINISHED GRADE AND VERIFICATION OF COMPACTION RESULTS OBTAINED PRIOR TO THE INSTALLATION OF WATER AND SEWER LINES. RESULTS MUST BE SUBMITTED TO THE DISTRICT ENGINEER.
12. NO WORK SHALL BE BACKFILLED UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE DISTRICT ENGINEER OR REPRESENTATIVE OF THE DISTRICT ENGINEER.
13. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS: "X" FOR SANITARY SERVICE SEWERS "V" FOR WATER SERVICES
14. NO TREES SHALL BE ALLOWED IN EASEMENTS OR WITHIN 8' OF ANY WATER OR SANITARY SEWER MAINS IN RIGHT OF WAY.
15. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PARKER WATER AND SANITATION DISTRICT SPECIFICATION MANUAL.

**WATER MAIN NOTES:**

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PARKER WATER AND SANITATION DISTRICT ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISIONS. ALL WORK SHALL BE INSPECTED AND APPROVED BY PERSONNEL OF THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER.
2. ALL WATER MAINS SHALL BE PER PWSO MATERIALS SPECIFICATIONS.
3. ALL BENDS, PLUGS, REDUCERS, AND FIRE HYDRANTS TO BE RODDED OR MEGA-LUGGED. ALL FITTINGS SHALL BE WRAPPED WITH 8-MIL MINIMUM THICKNESS POLYETHYLENE MATERIAL PER PWSO MATERIALS SPECIFICATIONS.
4. THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
5. FIRE HYDRANTS SHALL CONFORM TO AWWA C-502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPE, FITTINGS, VALVES, MATERIALS, AND LABOR WHICH ARE NECESSARY TO INSTALL THE HYDRANT COMPLETE IN PLACE. SEE MATERIALS SPECIFICATIONS FOR APPROVED MODELS
6. ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS AND PLUGS AT DEAD ENDS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS.
7. PRECAUTIONS SHALL BE TAKEN TO PROTECT THE INTERIOR OF PIPES, FITTINGS, AND VALVES AGAINST CONTAMINATION. ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH WATERTIGHT PLUGS WHEN PIPE LAYING IS STOPPED AT THE CLOSE OF THE DAY'S WORK OR FOR OTHER REASONS, SUCH AS REST BREAKS OR MEAL PERIODS. THE MORE CLOSELY THE RATE OF DELIVERY IS CORRELATED TO THE RATE OF PIPE LAYING, THE LOWER THE RISK OF CONTAMINATION.
8. CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PARKER WATER AND SANITATION STANDARDS AND SPECIFICATIONS. THE LINES SHALL BE CHLORINATED IN ACCORDANCE WITH ANSI/AWWA C-651-92., "DISINFECTING WATER MAINS." PARKER WATER AND SANITATION DISTRICT REQUIRES THE INITIAL DOSAGE RATE OF DISINFECTION BE AT LEAST 50 MG PER LITER. CHLORINE TABLETS SHOULD BE ADHERED TO THE TOP OF THE PIPE SECTION WITH PERMATEX NO.1 (RED). THE CHLORINATION OF ANY FINISHED PIPELINE SHALL BE DONE PRIOR TO THE HYDROSTATIC TESTING.
9. HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS. ALL PIPE SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI. ALL TESTING SHALL BE DONE IN THE PRESENCE OF A PARKER WATER AND SANITATION DISTRICT INSPECTOR. LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINES VALVES SHALL NOT EXCEED THE LIMITS SET FORTH IN THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS.
10. VALVES IN STREETS ARE TO BE LOCATED AT PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES WHERE AN ADDITIONAL VALVES SHALL BE PLACED ON THE TAPPING TEE. OTHER VALVE LOCATIONS, SUCH AS WHERE CROSS PANS EXIST, ARE SHOWN ON THE PLANS.
11. WHEN NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSING, A MINIMUM CLEARANCE OF 1.50 FEET SHALL BE MAINTAINED BETWEEN OUTSIDE OF PIPES.
12. THE CONTRACTOR SHALL NOTIFY THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION. IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP, THE CONTRACTOR MUST NOTIFY THE DISTRICT ENGINEER 48 HOURS PRIOR TO RE-START.
13. PIPE BEDDING SHALL BE A CLEAN, WELL-GRADED SAND OR SQUEEGEE SAND IN ACCORDANCE WITH PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS, LATEST REVISION.
14. THE CONTRACTOR SHALL NOTIFY THE PUBLIC UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO PROCEEDING WITH THE EXCAVATION. ALL WORK PERFORMED IN THE AREA OF THE PUBLIC UTILITIES SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THESE AGENCIES.
15. COMPACTION OF ALL TRENCHES MUST BE ATTAINED IN ACCORDANCE WITH THE SOILS REPORTS AND COMPACTION TEST RESULTS SUBMITTED TO THE DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
16. VALVE BOXES: TYLER SCREW-TYPE 6 INCHES CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE. CLAY AND BAILEY SCREW-TYPE 6 INCH CAST IRON VALVE BOX ASSEMBLY NO. P-108 WITH NO. 106 LARGE OVAL BASE.
17. ALL PIPE LENGTHS ARE APPROXIMATE.
18. AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVE OF OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER.

**SANITARY SEWER NOTES:**

1. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE PARKER WATER AND SANITATION DISTRICT SPECIFICATION.
2. ALL SEWER MAINS SHALL BE PVC, ASTM D-3034, SDR 35 OR APPROVED EQUAL. ALL SEWER MAIN SIZE IS 8" IN DIAMETER UNLESS OTHERWISE NOTED.
3. SEWER LINES SHALL BE INSTALLED 5.0 FEET SOUTH OR WEST OF STREET CENTERLINE, UNLESS OTHERWISE SHOWN ON PLANS. SEWER LINES SHALL BE 10.00 FEET FROM WATER LINES EXCEPT WHEN CROSSING EACH OTHER. SEWER LINES WHICH CROSS LESS THAN 1.50 FEET VERTICALLY FROM THE WATER MAIN SHALL BE ENCASED IN CONCRETE AS PER PARKER WATER AND SANITATION DISTRICT STANDARD AND SPECIFICATIONS. USE RUBBER GASKETS FOR PVC ENCASEMENT.
4. SEWER RIM ELEVATIONS SHOWN ARE APPROPRIATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. RING AND COVER SHALL BE SET IN CENTERED CONCRETE RINGS WITH RAM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
5. THE CONTRACTOR AND SURVEY CREW SHALL VERIFY ELEVATIONS OF EXISTING SEWER LINES AND MANHOLES TO BE TIED TO PRIOR TO CONSTRUCTION OR STAKING OF SANITARY SEWER.
6. NO UNDERDRAIN SYSTEM WILL BE ALLOWED TO BE PLACED IN MAINLINE OR SEWER SERVICE TRENCHES.
7. SEWER SERVICE TEES FOR EACH UNIT SHALL BE STAKED BY A SURVEY CREW AND FURNISHED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER "AS CONSTRUCTED" LOCATION OF TEES. SEWER WYES SHALL BE USED RATHER THAN TEES.
8. ALL MANHOLES SHALL BE 48-INCHES IN DIAMETER WITH 24-INCH RING AND COVER, ECCENTRIC CONE UNLESS OTHERWISE SPECIFIED.
9. PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67.
10. AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVES OF THE OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER TO SCHEDULE THIS MEETING.
11. ALL PIPE LENGTHS ARE APPROXIMATE.
12. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PARKER WATER AND SANITATION DISTRICT SPECIFICATION MANUAL.
13. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
14. ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS PRIOR TO ACCEPTANCE OR ANY CONNECTION TO AN EXISTING SEWER LINE.
15. PRIOR TO START WORK WHERE SEWER MAIN TO BE INSTALLED INTO EXISTING DISTRICT SEWER SYSTEMS. THE NEAREST MANHOLE TO THE POINT OF TIE-IN SHALL BE PLUGGED WITH A PLUMBER'S PLUG ON THE INLET SIDE BY THE CONTRACTOR. THIS PLUG SHALL REMAIN IN PLACE UNTIL FINAL ACCEPTANCE BY THE DISTRICT. ITS PURPOSE SHALL BE TO PREVENT ANY MUD, WATER OR OTHER MATERIALS FROM ENTERING THE LINE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING AND CLEANING THESE MANHOLES AND REMOVING THE PLUG WHEN SO INSTRUCTED BY THE DISTRICT.
16. PRIOR TO PROBATIONARY ACCEPTANCE WALK-THROUGH, THE CLIENT SHALL JET CLEAN THE ENTIRE SANITARY SEWER SYSTEM AND PUMP OUT AT THE PLUGGED MANHOLE.

**DISTRICT ACCEPTANCE NOTES:**

1. UPON COMPLETION OF SANITARY SEWER AND WATER CONSTRUCTION AND TESTING, THE DEVELOPER OR CONTRACTOR SHALL CONTACT THE DISTRICT FOR PROBATIONARY ACCEPTANCE INSPECTION. A PUNCHLIST WILL BE PROVIDED THE DEVELOPER AND CONTRACTOR UPON COMPLETION OF THE INITIAL WALK-THRU AND PROBATIONARY ACCEPTANCE WILL BE ISSUED FOLLOWING COMPLETION AND ACCEPTANCE OF THE WORK OUTLINED IN THE PUNCHLIST.
2. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE LINES FOR UP TO TWO (2) YEARS FROM THE DATE OF PROBATIONARY ACCEPTANCE OF THE LINES BY THE DISTRICT. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIATED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT ENGINEER AT NO EXPENSE TO THE DISTRICT.
3. THE DATE OF FINAL ACCEPTANCE WILL BE INDICATED IN THE CONDITIONS OF THE PROBATIONARY ACCEPTANCE LETTER. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT FOR FINAL INSPECTION AND FINAL ACCEPTANCE.


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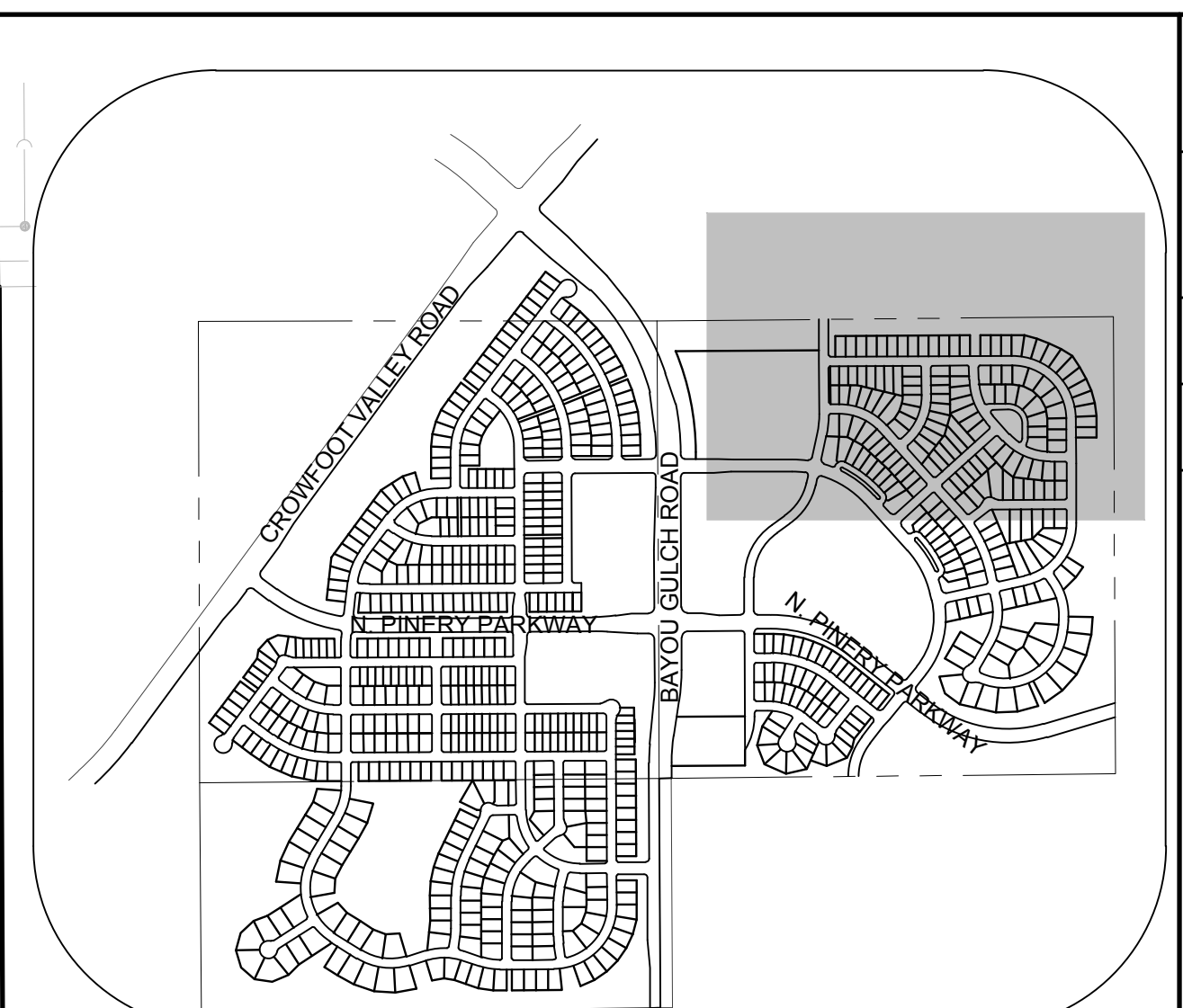
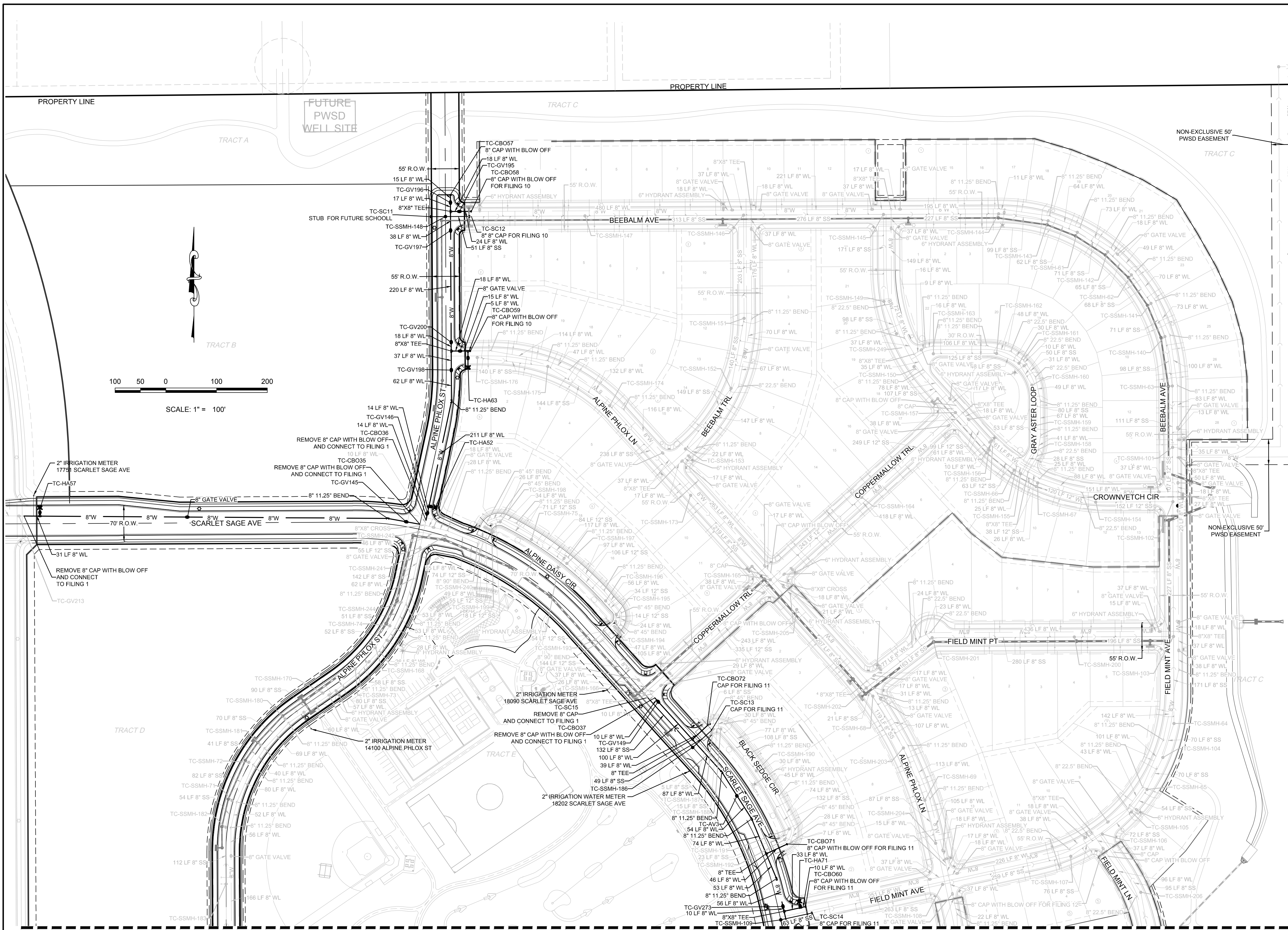
CALL 811  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
UNCC 1-800-922-1987  
UTILITY NOTIFICATION  
CENTER OF COLORADO

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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

SHEET NUMBER	DRAWN BY: KJD	CHECKED BY: JJ	DATE: MAY 2017	SCALE:	AS SHOWN	FILE NO:	8130283701
				TRAILS AT CROWFOOT FILING 9 CONSTRUCTION DRAWINGS PARKER WATER AND SANITATION NOTES			
2	ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112			 <p>10338 E. Dry Creek Rd. Suite 410 Englewood, CO 80110 Tel: (720) 482-9626 Fax: (720) 482-9546</p>			
	Revisions						
No.	Date	Init.	Appr.	Date			



### KEYMAP N.T.S. LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	- - -	CENTERLINE
6	LOT NUMBER	—	RIGHT-OF-WAY
⊕	PROPOSED BUTTERFLY VALVE	—	PROPERTY LINE
⊞	PROPOSED CAP WITH END OF LINE BLOW OFF	—	EDGE OF PAVEMENT
⊞	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊞	PROPOSED FIRE HYDRANT	1.0%	PROPOSED SLOPE & DIRECTION
⊞	PROPOSED WL FITTING WITH THRUST BLOCK	5615	EXISTING 5' CONTOUR
⊞	PROPOSED FLARED END SECTION	5616	EXISTING 1' CONTOUR
⊞	PROPOSED LOW POINT BLOW-OFF	5620	PROPOSED 5' CONTOUR
⊞	PROPOSED AIR VALVE	5607	PROPOSED 1' CONTOUR
⊞	FUTURE PHASE VALVE	—	PROPOSED STORM DRAIN
⊞	FUTURE FIRE HYDRANT	—	PROPOSED SEWER LINE WITH MANHOLE
⊞	PROPOSED LIGHT POLE	—	SEWER LATERAL
⊞	PROPOSED SIDEWALK	8"	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

### 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	RCP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EVC	END VERTICAL CURVE	SC	SANITARY CAP
EVP	END VERTICAL PROFILE	SD	STORM DRAIN
FG	FINISHED GROUND	SL	SECTION LINE
FL	FLOW LINE	SS	SANITARY SEWER
GV	GATE VALVE	STA	STATION
HA	HYDRANT ASSEMBLY	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
L	LINEAR FEET	WSE	WATER SURFACE ELEVATION

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 \_\_\_\_\_

**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.)

**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.

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

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 SCHEDULELINE 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: \_\_\_\_\_ DATE \_\_\_\_\_  
 (DISTRICT REPRESENTATIVE)

APPROVED FOR CONSTRUCTION:  
 PARKER WATER AND SANITATION DISTRICT

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

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

10338 E. Dry Creek Rd.  
 Suite 110  
 Englewood, CO 80110  
 Tel: (720) 482-9526  
 Fax: (720) 482-9548

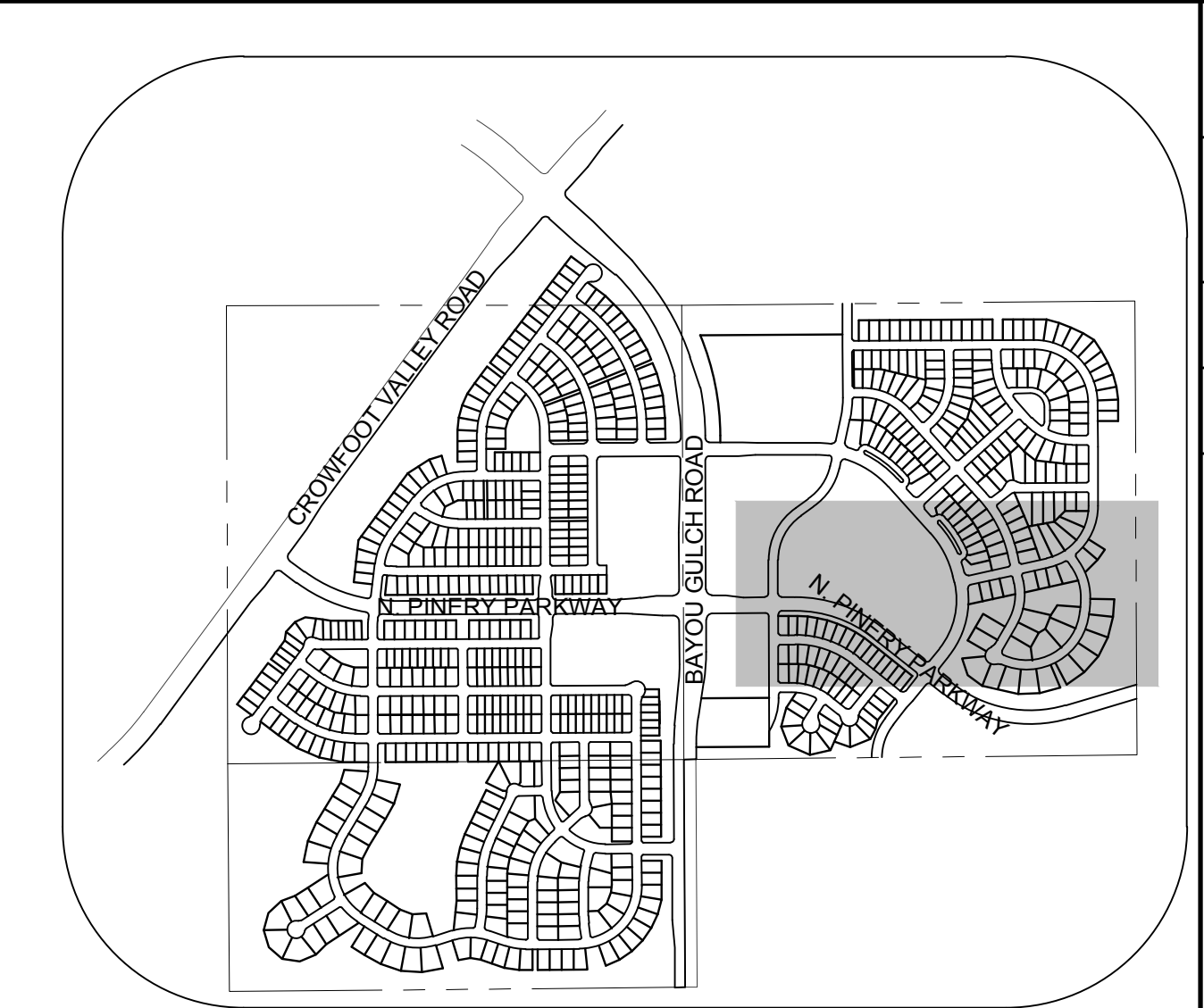
**CVL CONSULTANTS**

ESX MANAGEMENT  
 7353 South Alton Way  
 CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
 FILING 9 CONSTRUCTION DRAWINGS  
 AREA UTILITY PLAN

SCALE:	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	JLR	CHECKED BY:	JLU
SHEET NUMBER	3	DATE:	MAY 2017

No. \_\_\_\_\_  
 Revisions \_\_\_\_\_  
 Date \_\_\_\_\_  
 Init. \_\_\_\_\_  
 Date \_\_\_\_\_  
 Appr. \_\_\_\_\_  
 Date \_\_\_\_\_

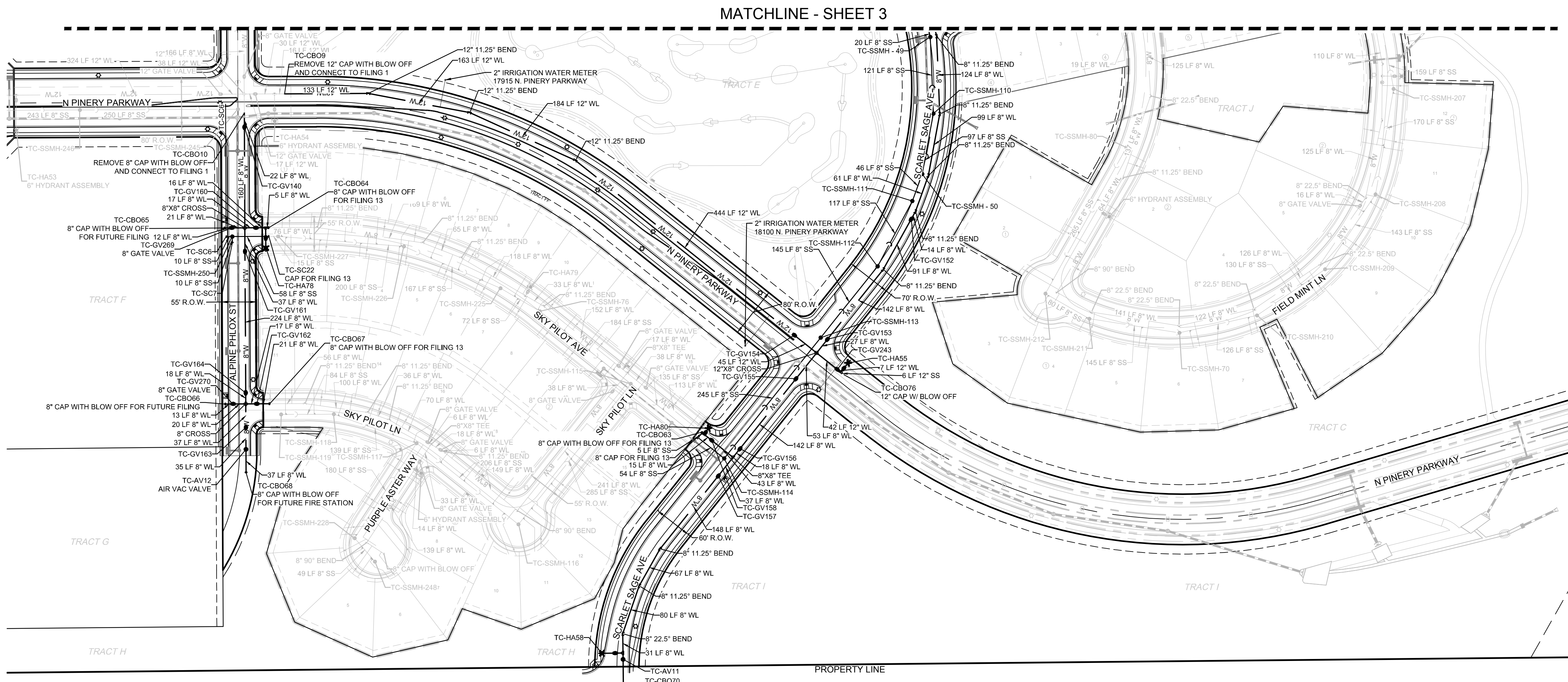


**KEYMAP**  
N.T.S.  
**LEGEND**

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊗	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⊠	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⊞	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊚	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊛	PROPOSED FIRE HYDRANT	---	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 WITH METER
⊞	PROPOSED LIGHT POLE	---	PROPOSED WATER LATERAL
⊞	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**

AD	ANGLE DIFFERENCE	MH	MANHOLE
AV	AIR VAC RELEASE VALVE	N.T.S.	NOT TO SCALE
BVC	BEGIN VERTICAL CURVE	PVC	POLYVINYL CHLORIDE
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GV	GATE VALVE	STA	STATION
HA	HYDRANT ASSEMBLY	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
L	LINEAR FEET	WSE	WATER SURFACE ELEVATION



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.

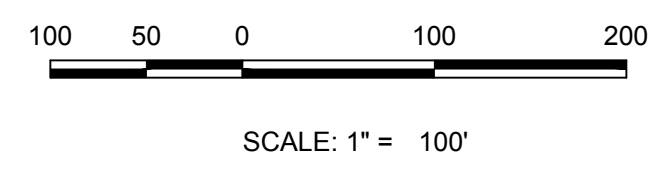
TOWN OF PARKER, DIRECTOR OF ENGINEERING \_\_\_\_\_ DATE \_\_\_\_\_

**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 NFP242 WHEN SUBMITTING FOR REVIEW.)

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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

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REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

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

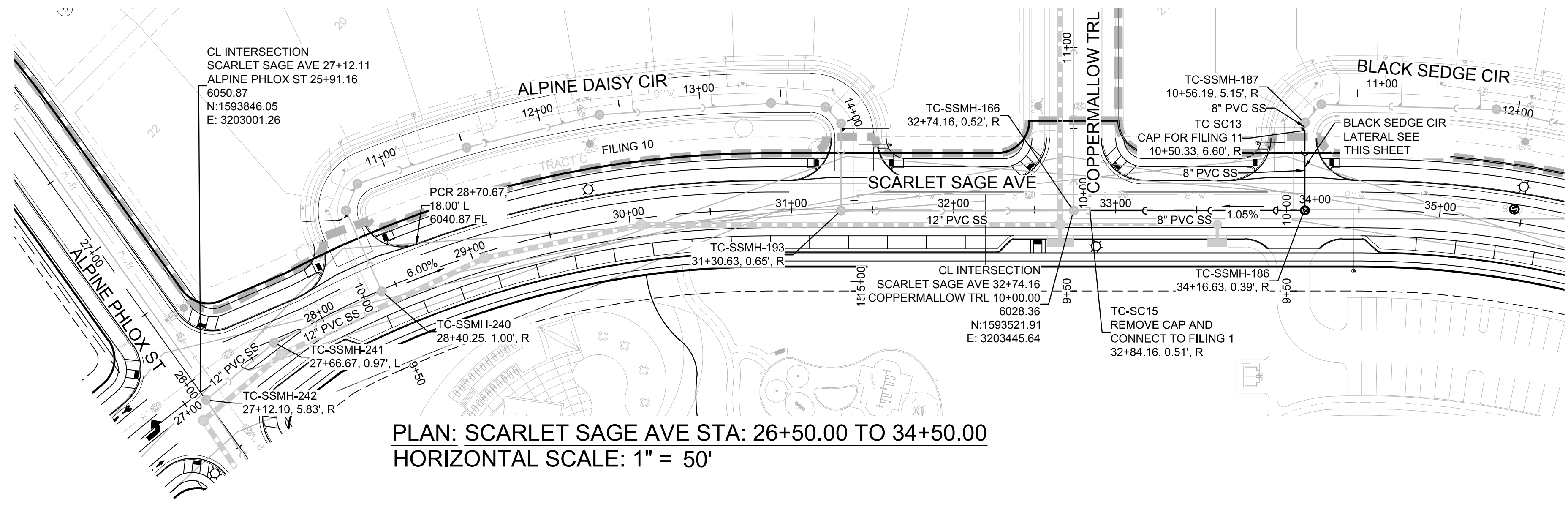
APPROVED FOR CONSTRUCTION:  
PARKER WATER AND SANITATION DISTRICT

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

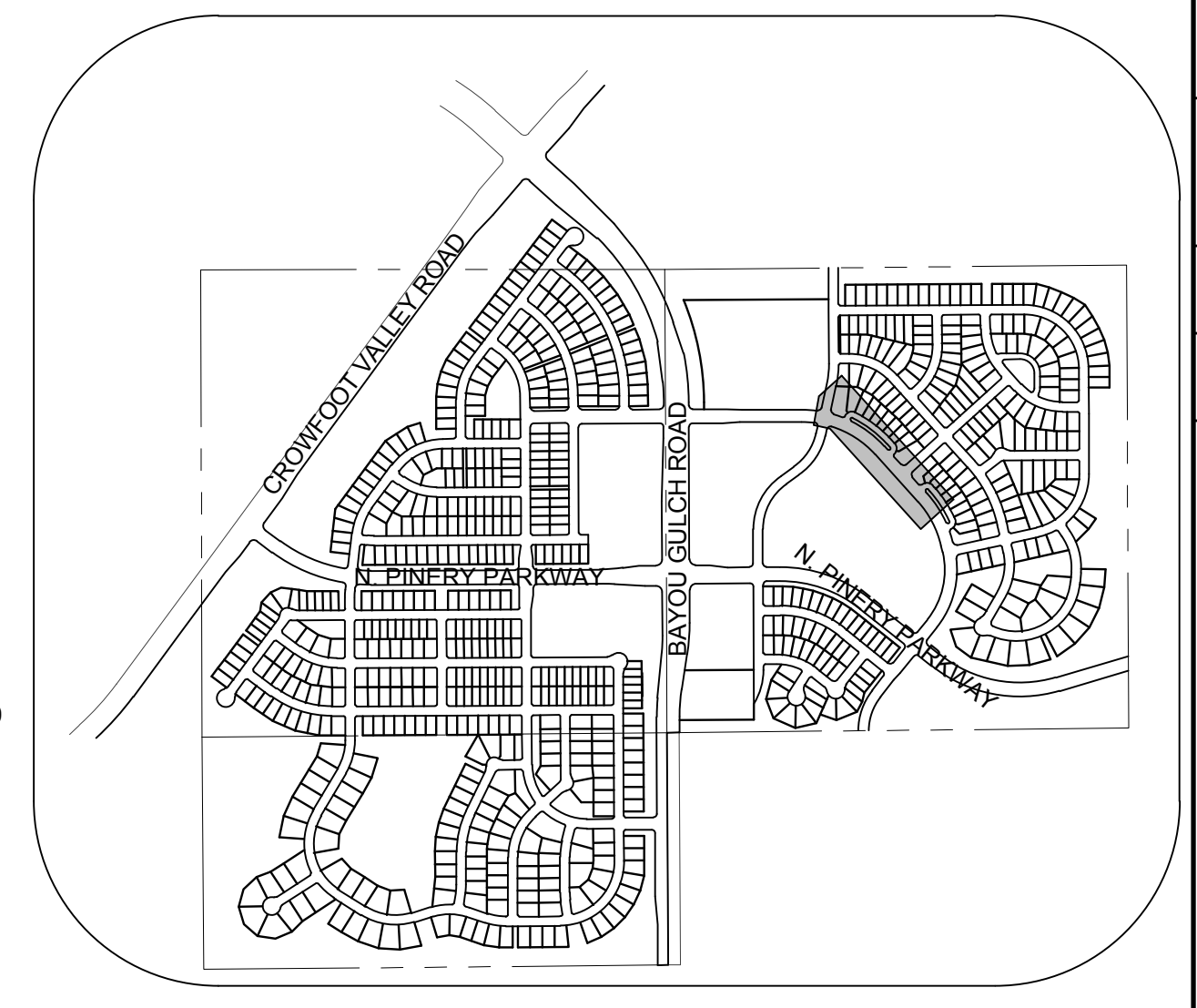
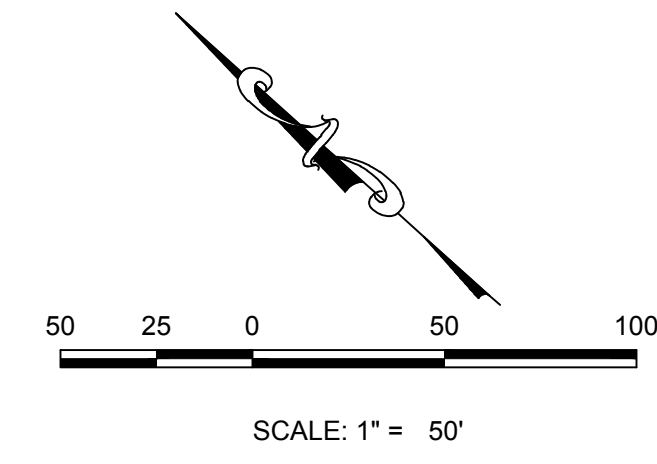
SCALE:	AS SHOWN	FILE NO.:	8130283701
DRAWN BY:	JLR	CHECKED BY:	JLU
SHEET NUMBER	4		DATE: MAY 2017
TRAILS AT CROWFOOT	FILING 9 CONSTRUCTION DRAWINGS		
AREA UTILITY PLAN			
ESX MANAGEMENT	7353 South Alton Way CENTENNIAL, CO 80112		
10339 E. Dry Creek Rd. Suite 410 Englewood, CO 80110 Tel: (720) 482-9256 Fax: (720) 482-9546			
No.	Revisions	Date	Appr.

CALL 811  
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**UNCC** 1-800-922-1987  
UTILITY NOTIFICATION  
CENTER OF COLORADO

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\BENCHM\AREA UTILITY PLAN\DWG\_BENCHM\_12172017.dwg, 12/20/17 8:23 PM

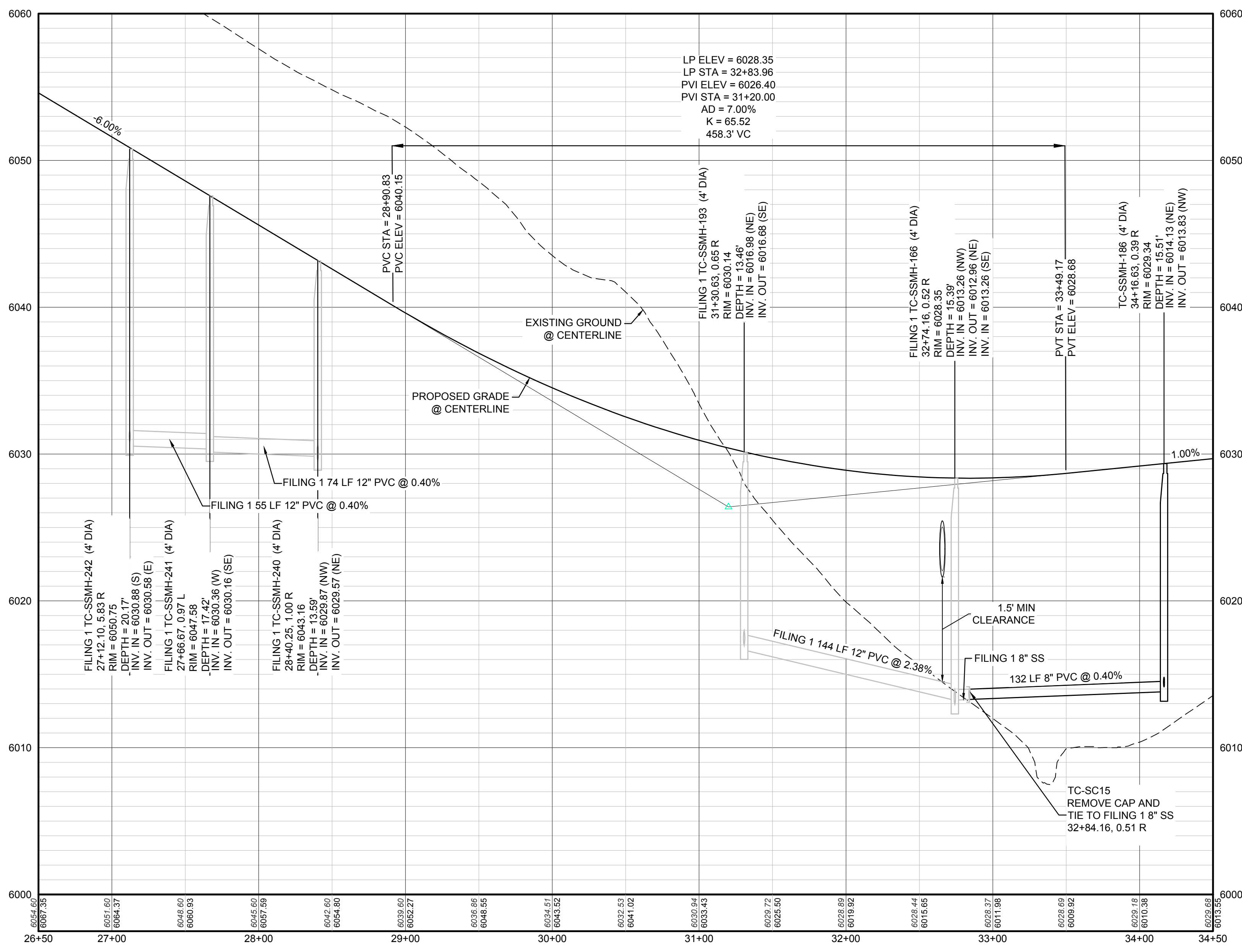


PLAN: SCARLET SAGE AVE STA: 26+50.00 TO 34+50.00  
HORIZONTAL SCALE: 1" = 50'

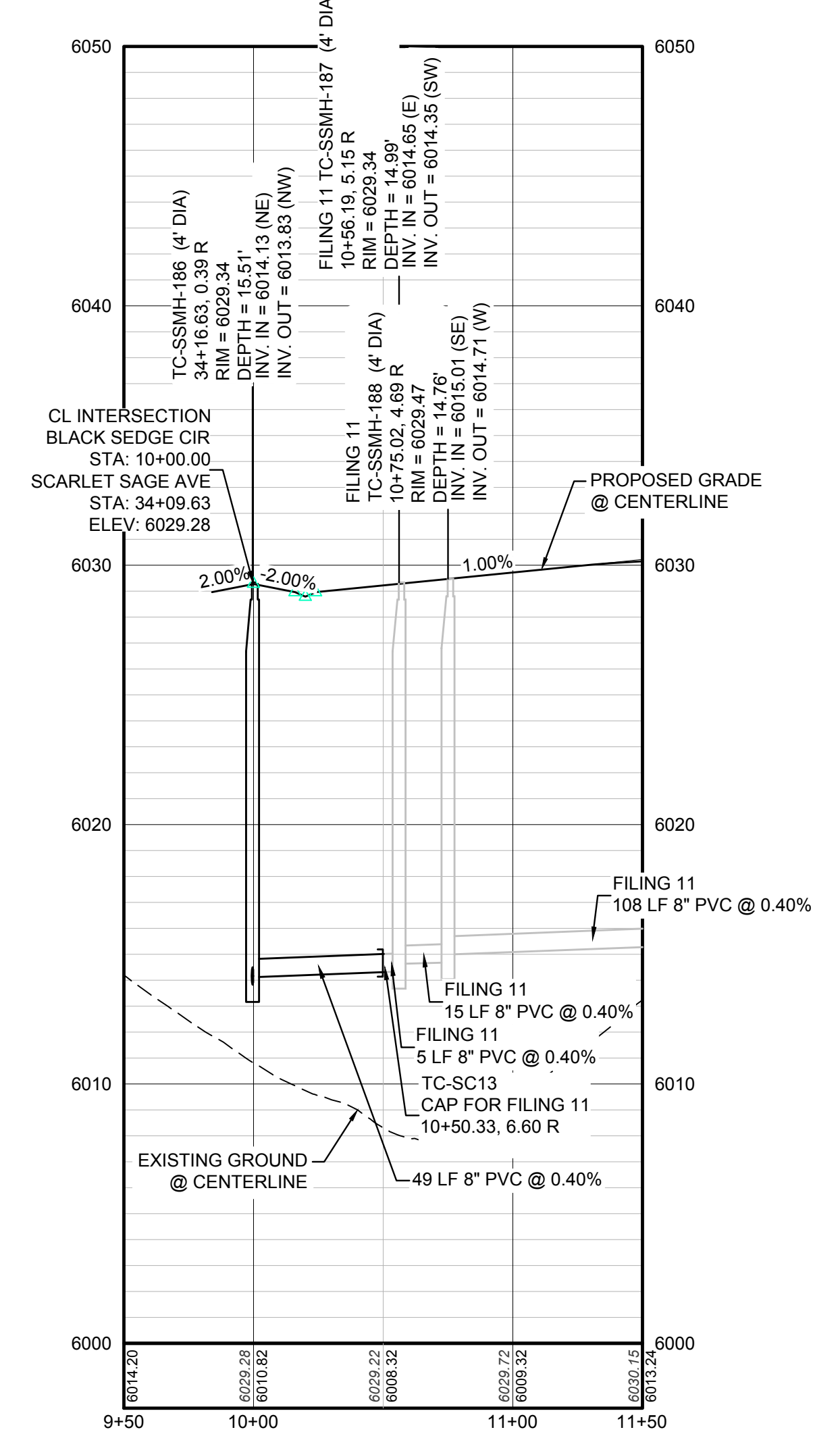


KEYMAP  
N.T.S.  
LEGEND

	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: SCARLET SAGE AVE STA: 26+50.00 TO 34+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



PROFILE: BLACK SEDGE CIR STA: 9+50.00 TO 11+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

PREPARED UNDER THE SUPERVISION OF

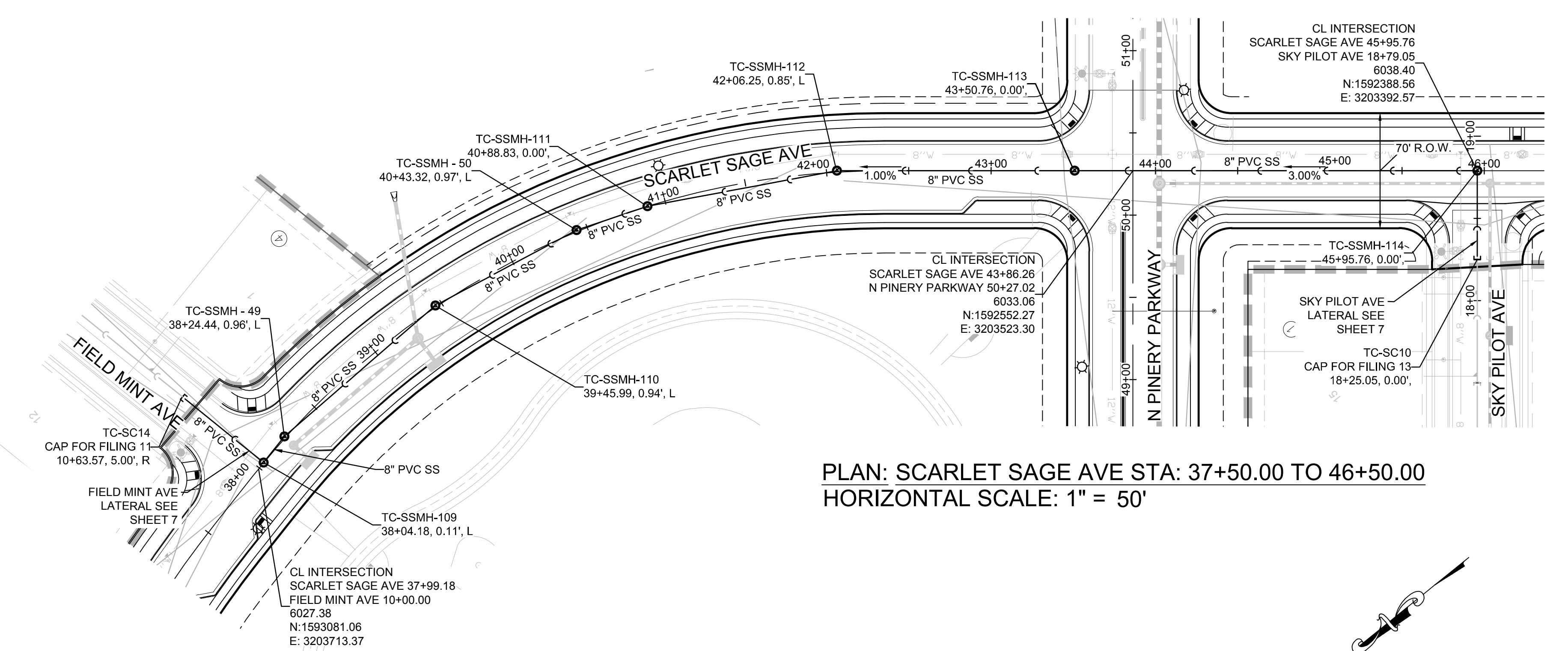
BRIAN P. WILSON  
COLORADO P.E. 0050067

**BENCHMARK**  
THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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.

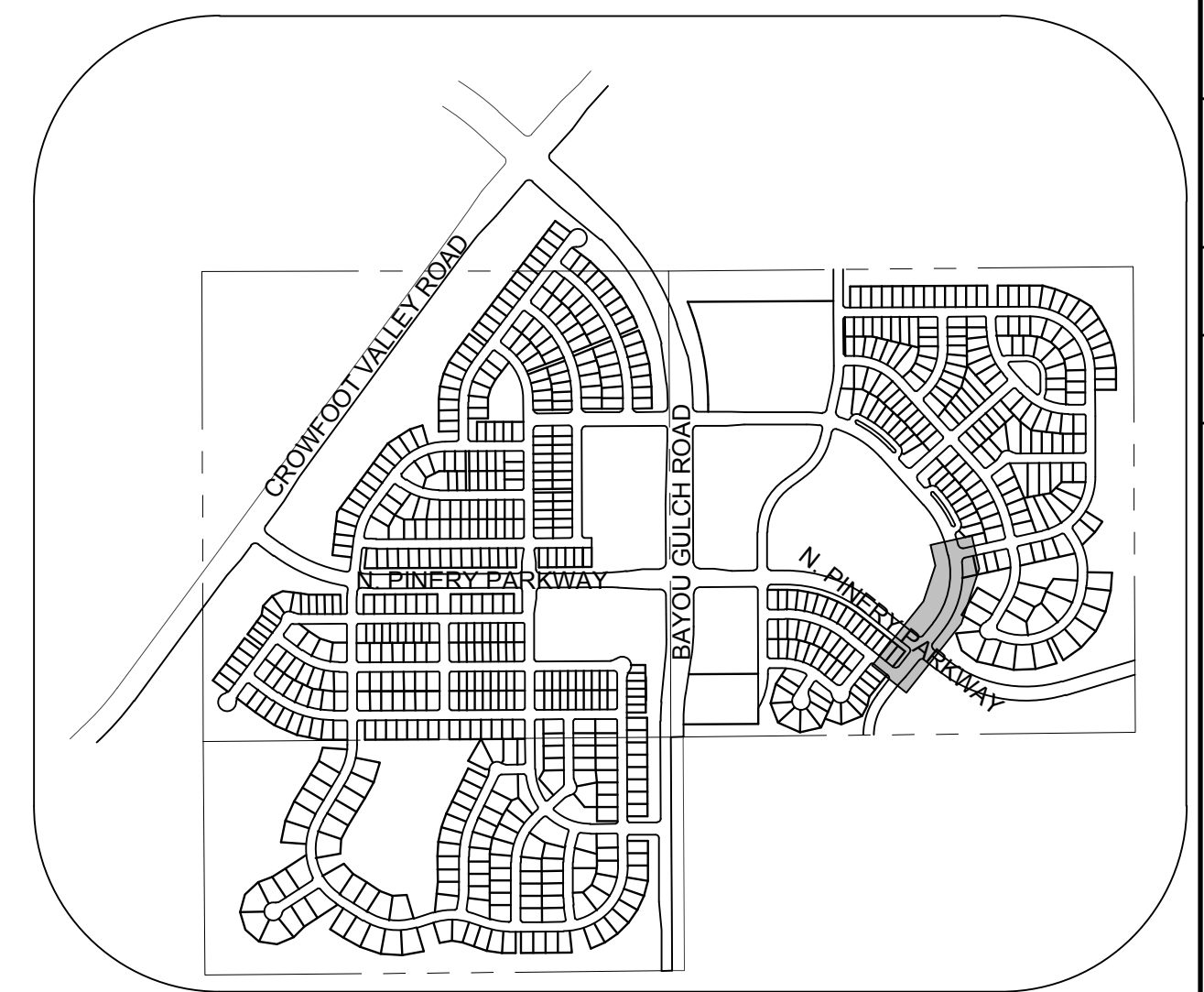
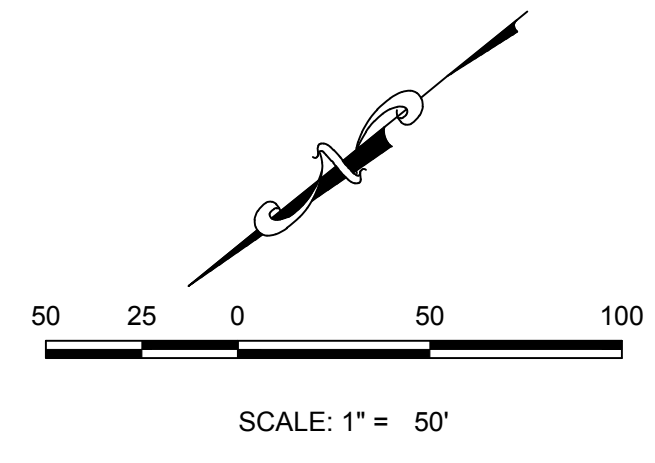
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TWO WORKING DAYS  
BEFORE YOU DIG  
UNCC 1-800-922-1987

SHEET NUMBER	DRAWN BY:	K.D.	CHECKED BY:	DATE:	SCALE:	AS SHOWN	FILE NO.:	8130283701	
					DATE:	MAY 2017			
5	TRAILS AT CROWFOOT FILING 9 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE SCARLET SAGE AVE	ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112	CVL CONSULTANTS 10333 E. Dry Creek Rd. Suite 410 Englewood, CO 80150 Tel: (720) 482-9526 Fax: (720) 482-9548	Revisions	No.	Date	Init.	Appr.	Date

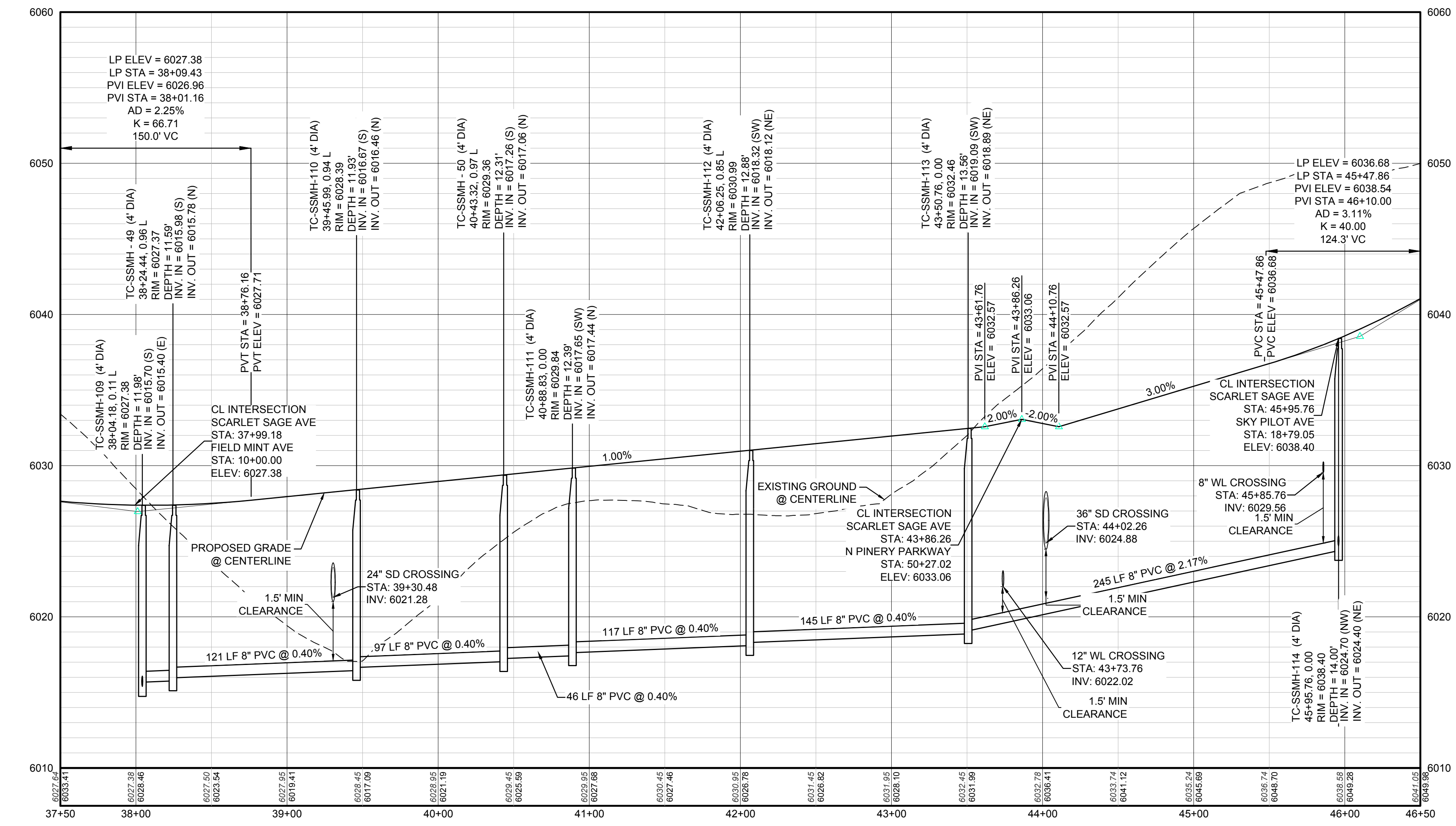


PLAN: SCARLET SAGE AVE STA: 37+50.00 TO 46+50.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.

LEGEND			
②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊕	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⌋	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⊗	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊗	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊕	PROPOSED FIRE HYDRANT	---	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 WATER LINE
⊕	PROPOSED LIGHT POLE	---	PROPOSED WATER LATERAL W/ METER
---	PROPOSED SIDEWALK	---	SECTION LINE
---	PROPOSED SIDEWALK RAMP	---	FILING BOUNDARY
10.00	EXISTING ELEVATION	---	EXISTING FIBER OPTIC LINE
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⊕	PROPOSED STORM DRAIN INLET	---	EXISTING TELEPHONE LINE
⊕	PROPOSED STORM DRAIN MANHOLE		



PROFILE: SCARLET SAGE AVE STA: 37+50.00 TO 46+50.00  
HORIZONTAL: 1" = 50'  
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ABBREVIATIONS			
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HCR	HANDICAP CURB RAMP	UE	UTILITY EASEMENT
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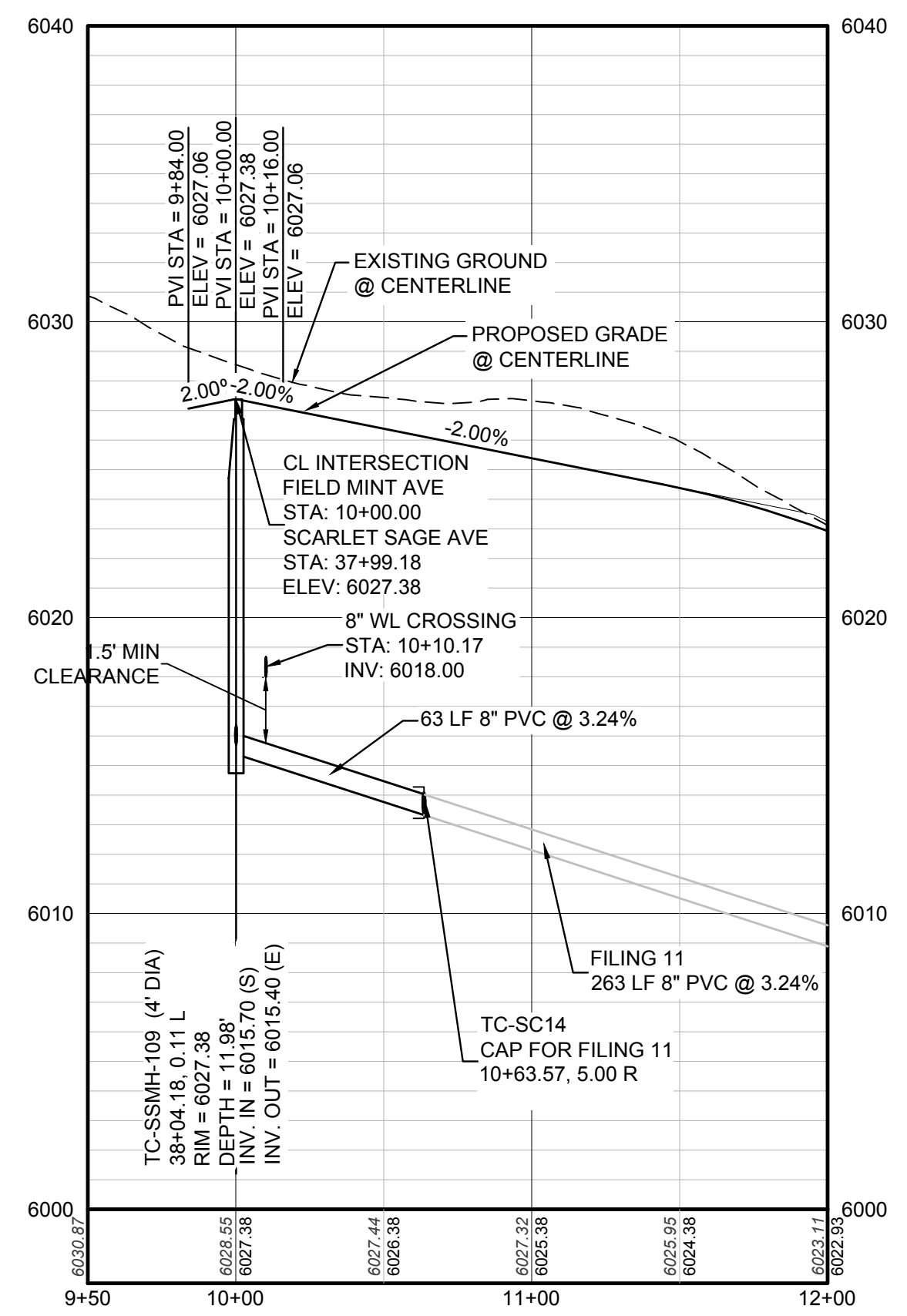
CALL 811  
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UNCC 1-800-922-1987

**BENCHMARK**  
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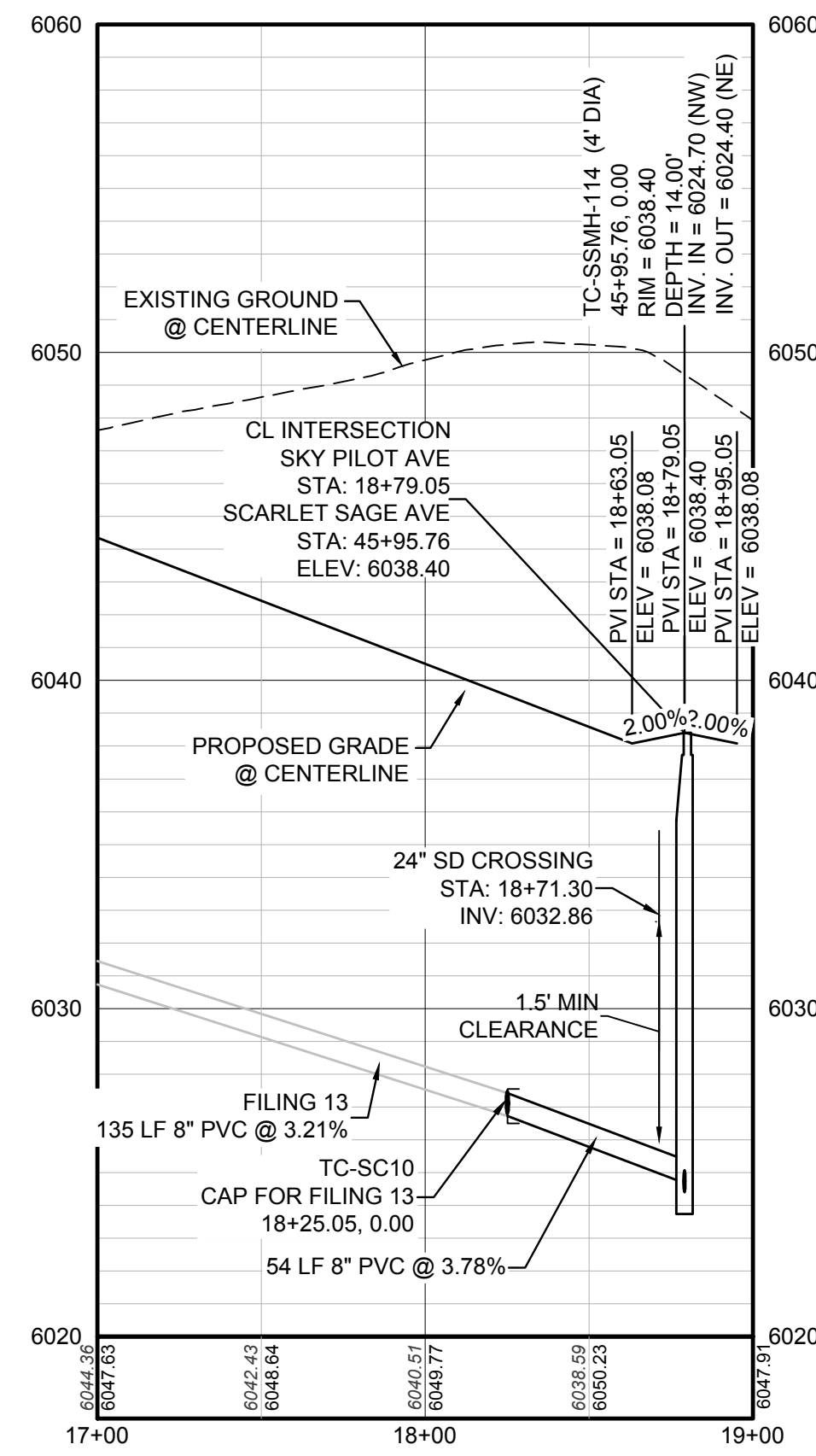
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PREPARED UNDER THE SUPERVISION OF  
  
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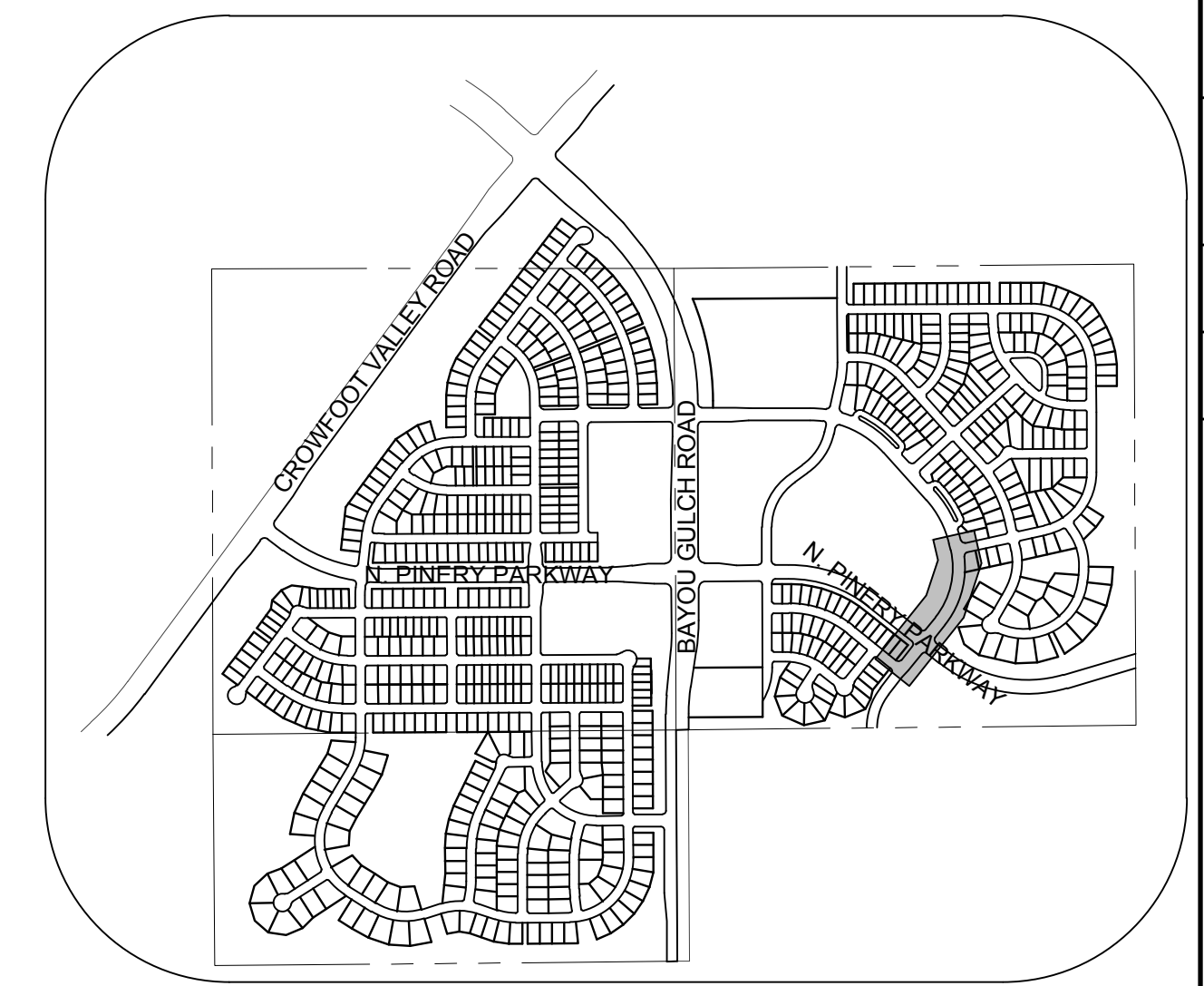
SHEET NUMBER	DRAWN BY: KJD	SCALE: AS SHOWN	CHECKED BY: JJJ	DATE: MAY 2017	FILE NO: 8130283701	Revisions	Appr.	Date
						No.		
6	EX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112					TRAILS AT CROWFOOT FILING 9 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE SCARLET SAGE AVE		
	10333 E. Dry Creek Rd. Suite 410 Englewood, CO 80151 Tel: (720) 482-9526 Fax: (720) 482-9548					CVL CONSULTANTS		



PROFILE: FIELD MINT AVE STA: 9+50.00 TO 12+00.00  
 HORIZONTAL: 1" = 50'  
 VERTICAL: 1" = 5'



PROFILE: SKY PILOT AVE STA: 17+00.00 TO 19+00.00  
 HORIZONTAL: 1" = 50'  
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KEYMAP  
 N.T.S.

**LEGEND**

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⊗	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
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⊗	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
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**ESX MANAGEMENT**  
 7353 South Alton Way  
 CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
**FILING 9 CONSTRUCTION DRAWINGS**  
 SANITARY SEWER PLAN AND PROFILE  
 SCARLET SAGE AVE LATERALS

SCALE: AS SHOWN  
 FILE NO: 8130283701

DRAWN BY: KJD  
 CHECKED BY: JJ  
 DATE: MAY 2017

N:\PROJECTS\SSR\BENCH\ENGINEERING\SSR\BENCH\WATER AND SANITATION\SANITARY PLAN AND PROFILE\F9 SCARLET SAGE AVE SANITARY.DWG, CDDVA, 12/7/2017 8:32 PM

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 CENTER OF EXCELLENCE

**BENCHMARK**  
 THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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

No.	Revisions	Date	Init.	Appr.	Date

SHEET NUMBER  
**7**

**INSPECTION POLICY:**

1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED WITH THE DISTRICT OFFICE AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
2. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTE 1 ABOVE AND A RE-INSPECTION FEE CHARGED.
3. 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.
4. 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.
5. ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
6. LOTS WITHOUT BUILDING ADDRESSES OR LOT AND BLOCK NUMBERS BEFORE DISTRICT INSPECTION OR METER SET WILL FAIL AUTOMATICALLY.
7. CONTRACTOR MUST BE PRESENT AT TIME OF INSPECTION UNLESS COORDINATED WITH DISTRICT INSPECTOR.

**INSTALLATION NOTES:**  
**SEWER**

1. ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SOLGEEGE.
2. NO-HUB CLAMPS SHALL BE USED TO JOIN 2 MALE PIPE ENDS WITH A MAXIMUM DEFLECTION OF 3°.
3. MINIMUM GRADE SHALL BE 2%.
4. INSTALLATION SHALL INCLUDE NO MORE THAN 3 BENDS. 90° BENDS ARE NOT ALLOWED. SOLVENT WELDED PIPE WILL NOT BE ALLOWED.
5. CLEAN-OUTS SHALL BE INSTALLED AT 100' INTERVALS AND EVERY CHANGE IN DIRECTION. CLEAN-OUTS ARE NOT REQUIRED FOR SERVICES LESS THAN 100' UNLESS THERE ARE CHANGES IN DIRECTION. PROVIDE DUAL CLEAN-OUT WITHIN 5 FEET OF FOUNDATION.
6. STRESSING OF THE PIPE BETWEEN FITTINGS WILL NOT BE ALLOWED.
7. SEWER SERVICE LINE SHALL NOT BE LOCATED UNDER CONCRETE SURFACE.
8. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:  
"X" FOR SANITARY SEWER SERVICE  
"V" FOR WATER SERVICES

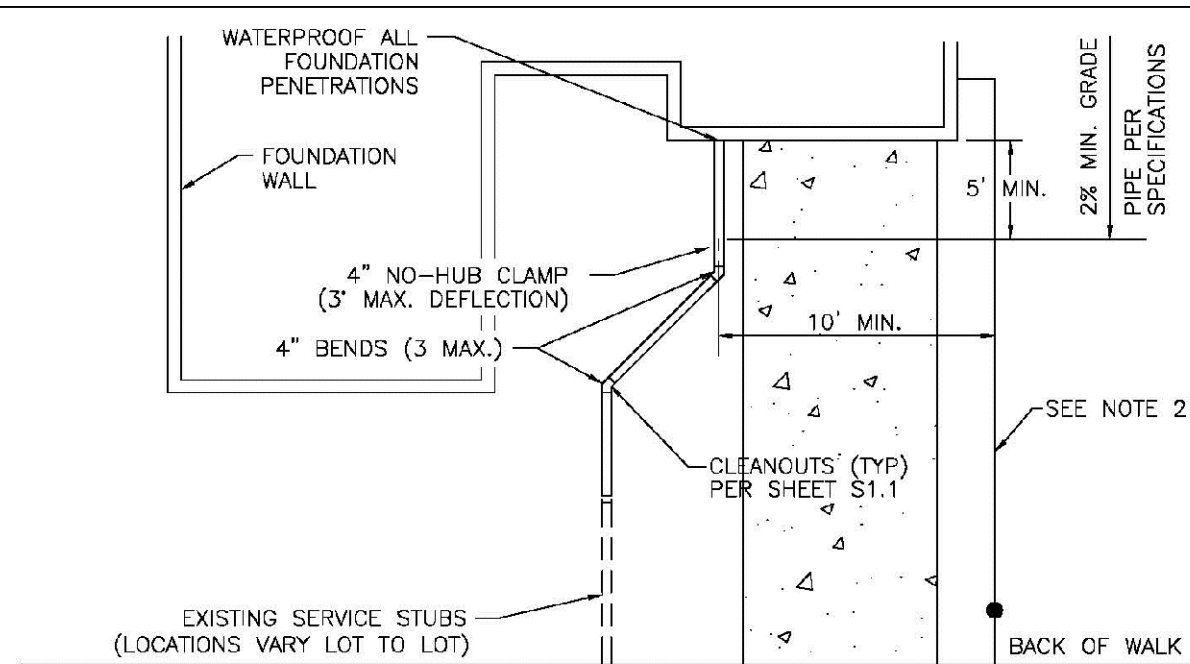
**PARKER WATER & SANITATION DISTRICT**  
**DISTRICT POLICIES & INSTALLATION NOTES FOR SEWER SERVICES**

SCALE: NONE DATE: 2/96

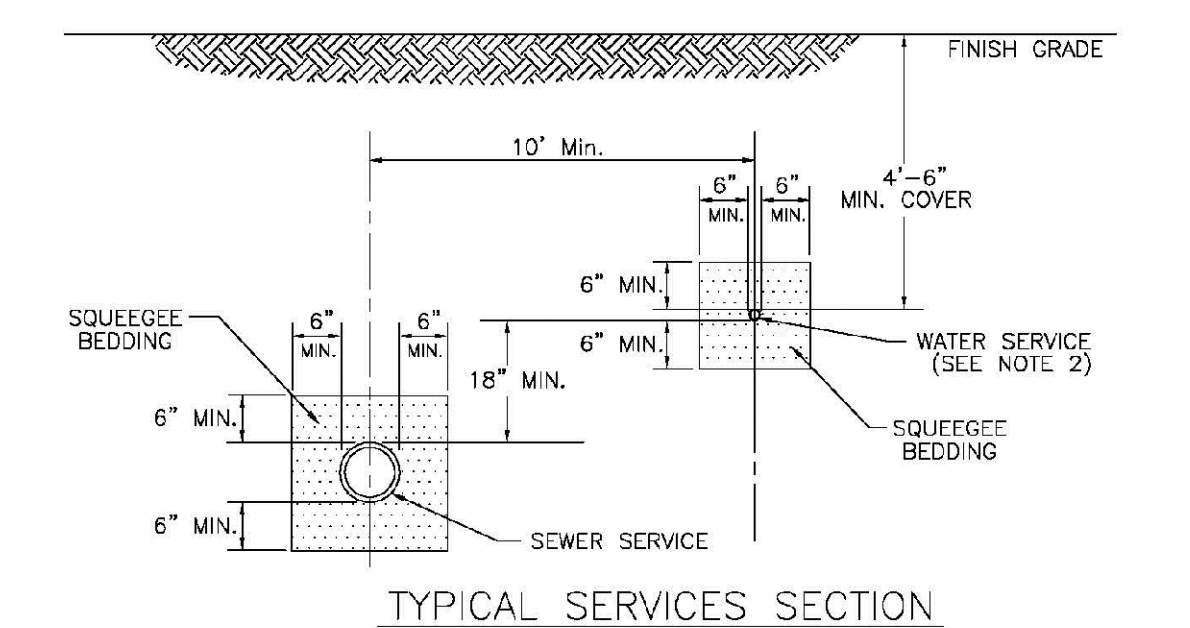
APPROVED: PVR 01/02 10/16  
1/08 10/16  
1/16

DIRECTOR OF ENGINEERING

SHEET 51.1



TYPICAL SERVICES PLAN VIEW



TYPICAL SERVICES SECTION

- NOTE:**
1. SEE SHEET 51.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
  2. TYPICAL WATER SERVICES SHOWN ON SHEET W1.2 IN WATER DETAILS.

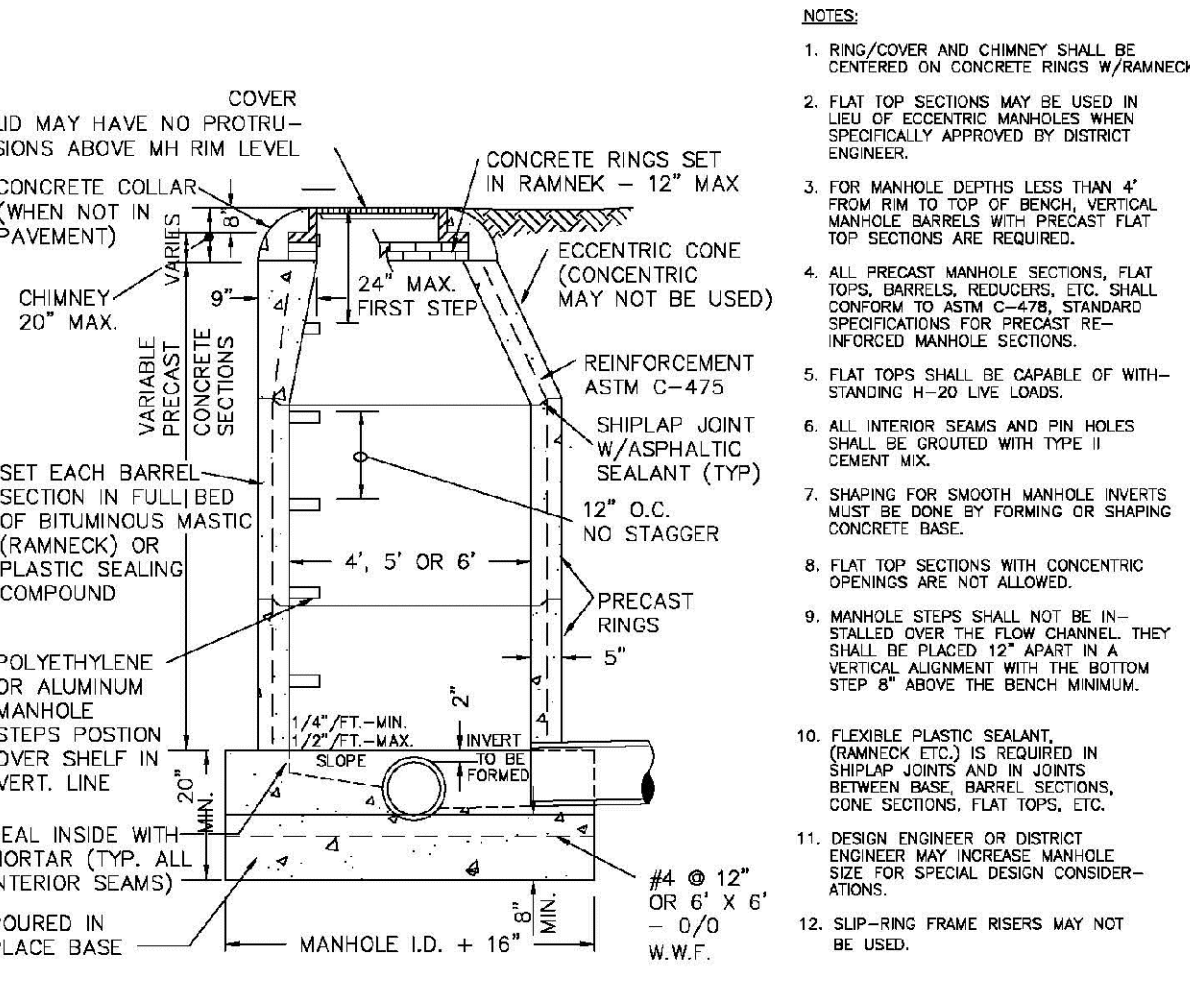
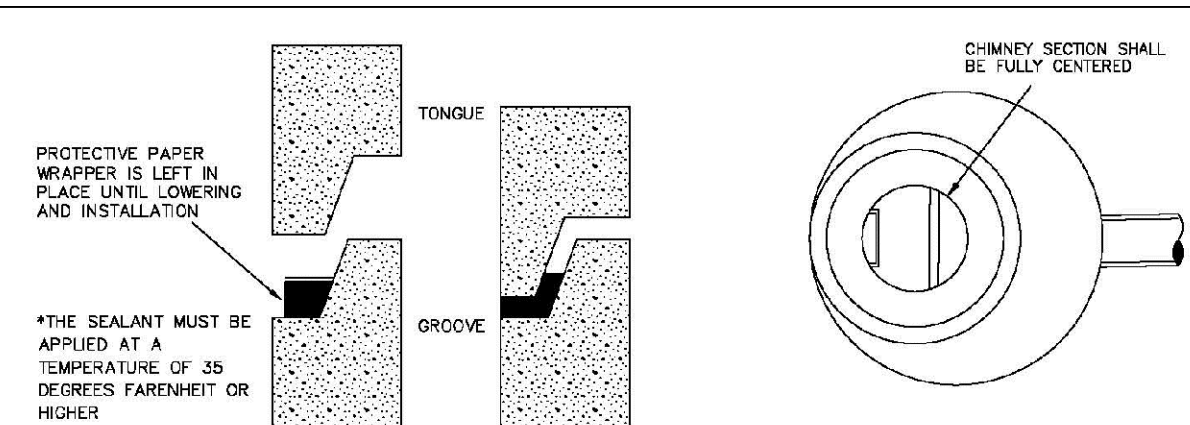
**PARKER WATER & SANITATION DISTRICT**  
**TYPICAL SEWER SERVICES**

SCALE: NONE DATE: 2/96

APPROVED: PVR 2/90 01/02 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET 51.2



PIPE I.D.	MANHOLE I.D.
18" & SMALLER	4'-0"
21" TO 48"	5'-0"
54"	5'-0"
60" & LARGER	SPECIAL DESIGN

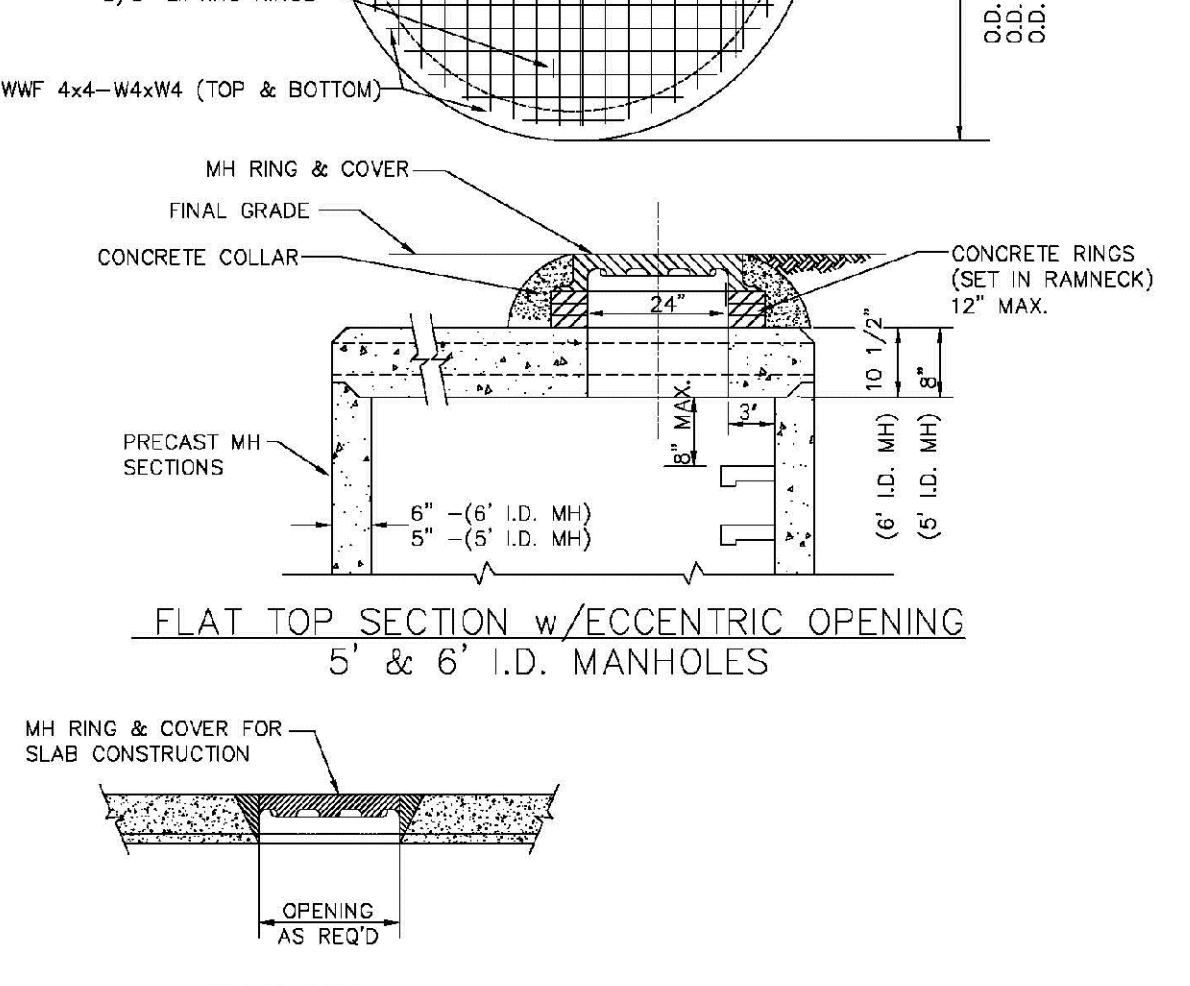
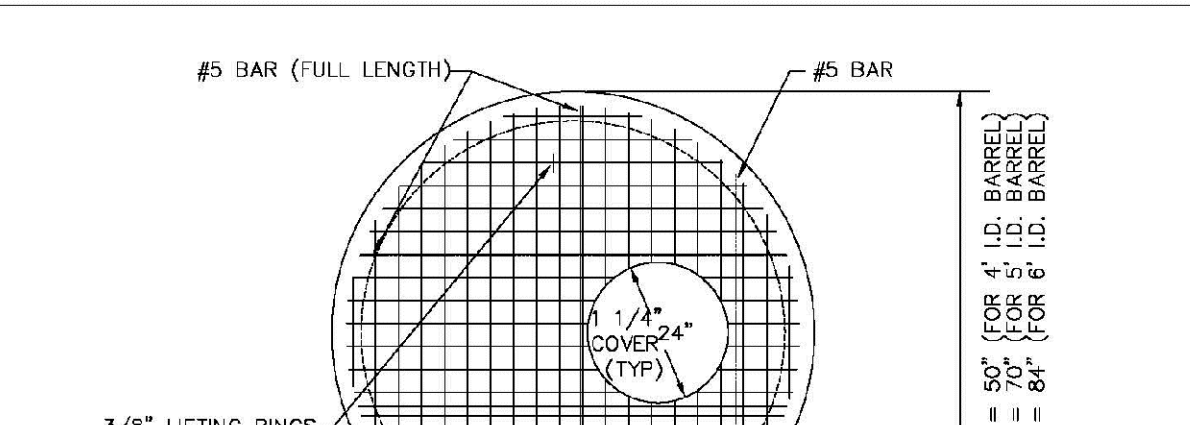
**PARKER WATER & SANITATION DISTRICT**  
**PARKER MANHOLE ECCENTRIC CONE**

SCALE: NONE DATE: 2/96

APPROVED: PVR 4/01 01/02 1/08

DIRECTOR OF ENGINEERING

SHEET 53.1



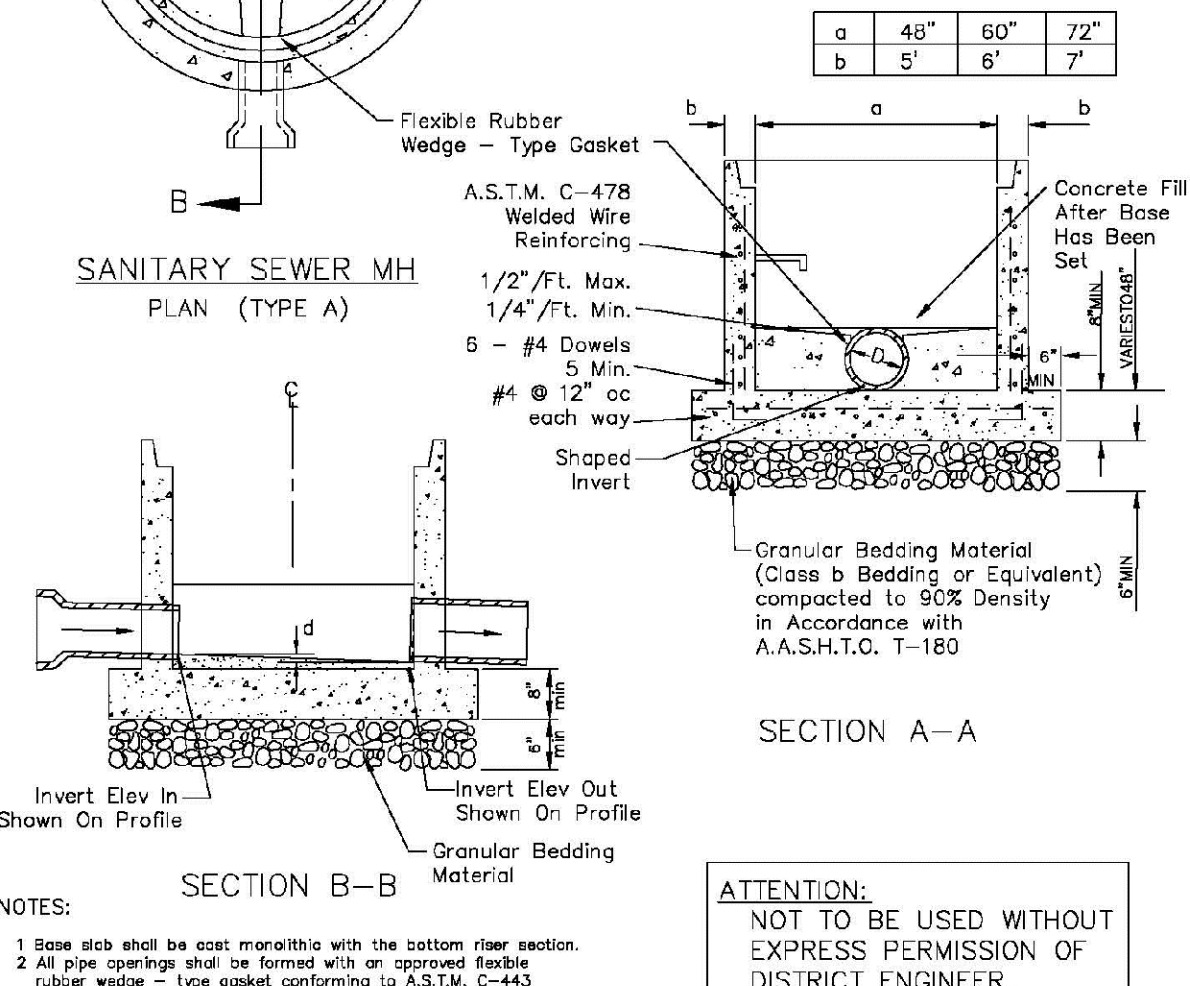
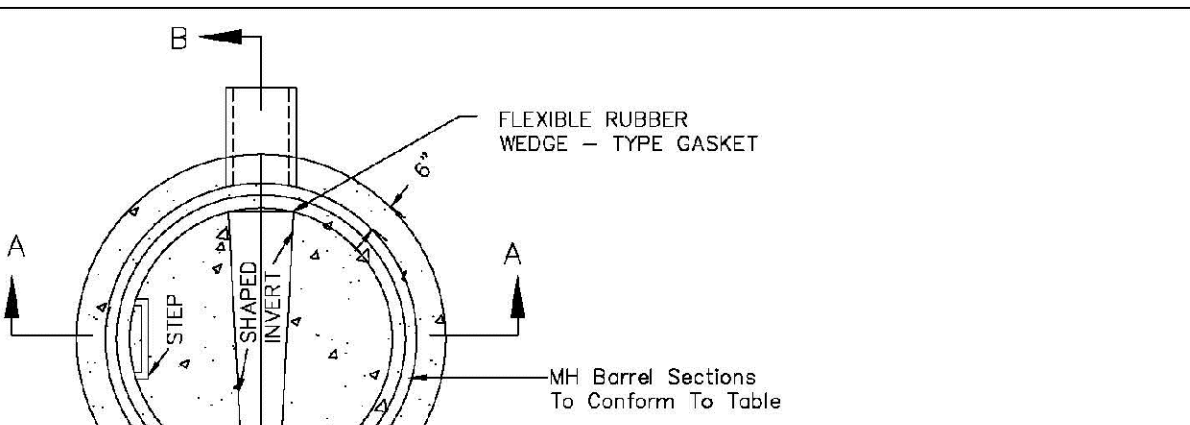
**PARKER WATER & SANITATION DISTRICT**  
**PRECAST MANHOLE - 5' & 6' I.D. WITH ECCENTRIC CONE**

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/02 10/16 10/16

DIRECTOR OF ENGINEERING

SHEET 53.3



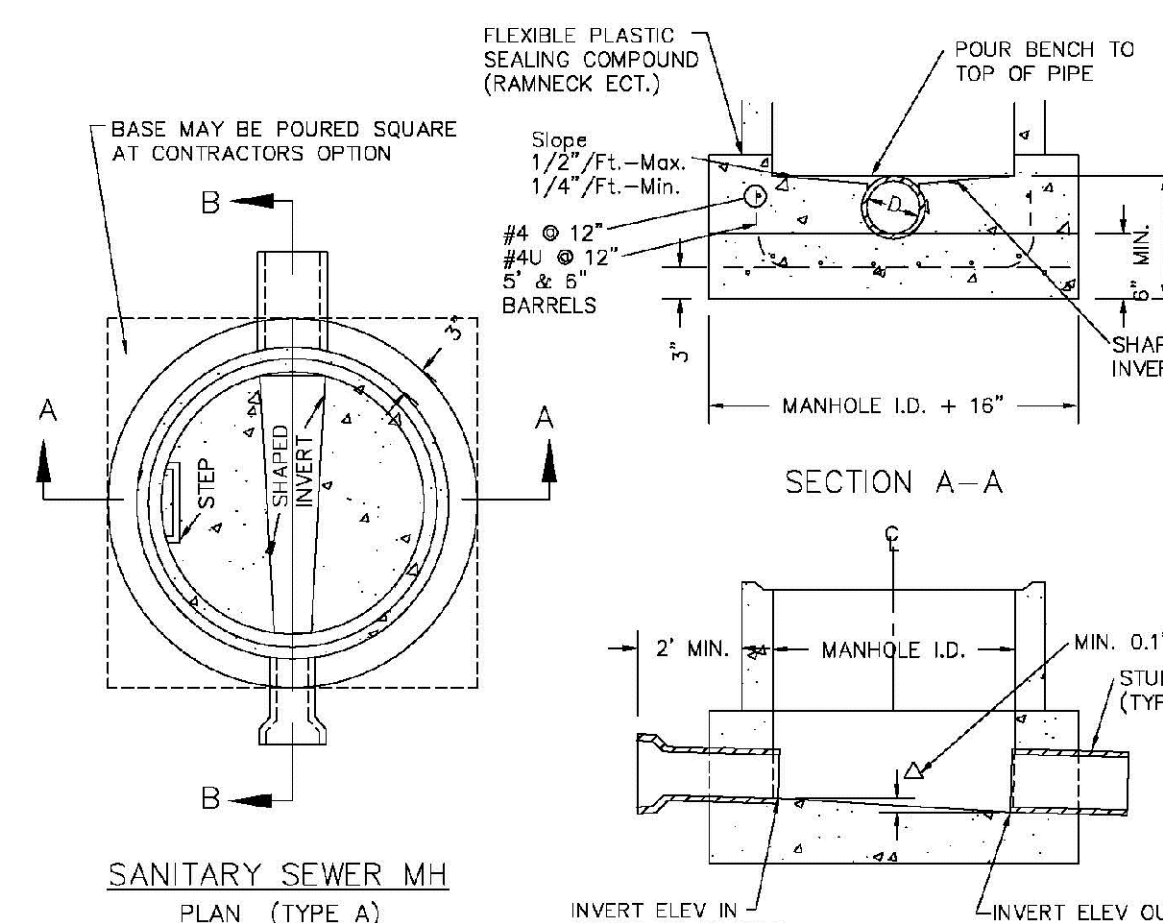
**PARKER WATER & SANITATION DISTRICT**  
**PRECAST MANHOLE BASE DETAIL**

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/02 10/16

DIRECTOR OF ENGINEERING

SHEET 53.4



- NOTES:**
1. Manhole barrel min. thickness to be 5".
  2. Shaping for smooth manhole inverts may be done by forming or shaping with cement mortar (San. Sewer).
  3. The manhole steps shall conform to District Standards and Specifications.
  4. Precast sections to conform to A.S.T.M. C-478.
  5. All dead-end manholes, that call out a stub out, shall be thru at 0.40% minimum slope.
  6. Stub outs shall extend 2'-3" minimum past manhole O.D. and be satisfactorily plugged.
  7. Reinforcing in base required for manhole.
  8. Slope of bench = 1/2" / FT. - Max. 1/4" / FT. - Min.
  9. Δ = Invert drop thru MH (If Δ > 18", outside drop MH required). Min. D.1 for all straight through MH and 0.2" for all angled MH.

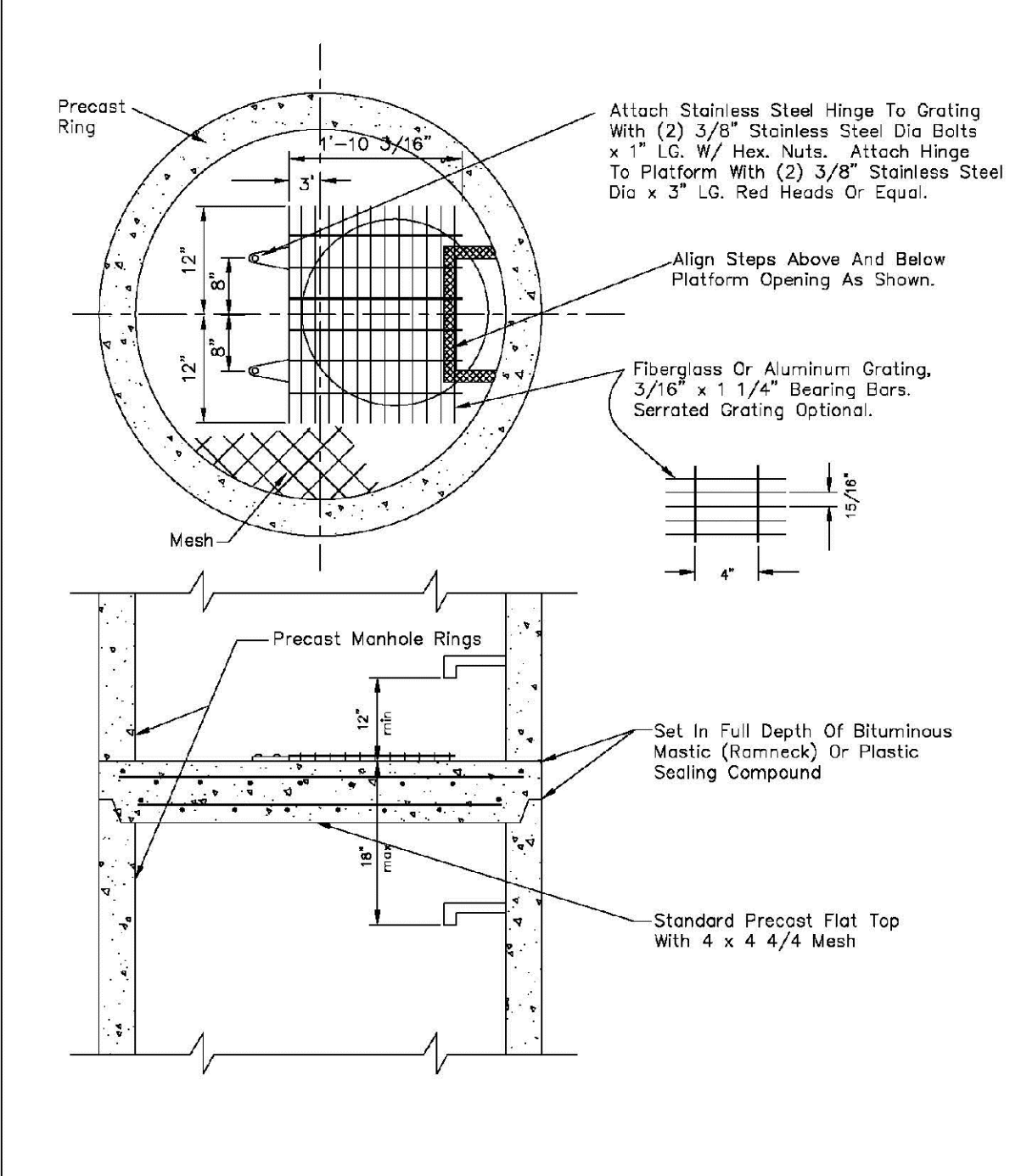
**PARKER WATER & SANITATION DISTRICT**  
**CAST-IN-PLACE MANHOLE BASE DETAIL**

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/02 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET 53.5



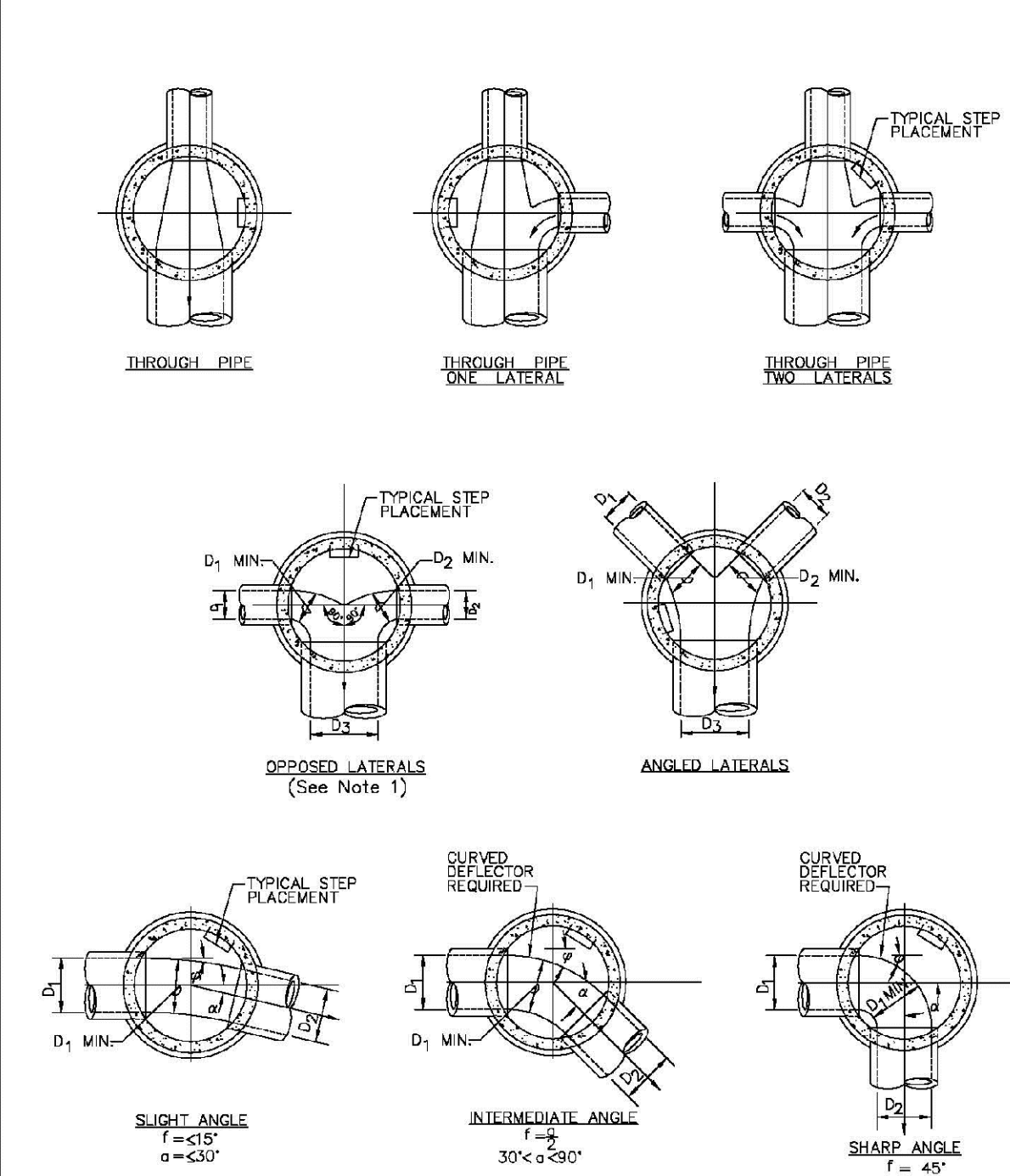
**PARKER WATER & SANITATION DISTRICT**  
**INTERMEDIATE PLATFORM FOR MANHOLES OVER 20' DEPTH**

SCALE: NONE DATE: 2/96

APPROVED: PVR 2/90 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET 53.6



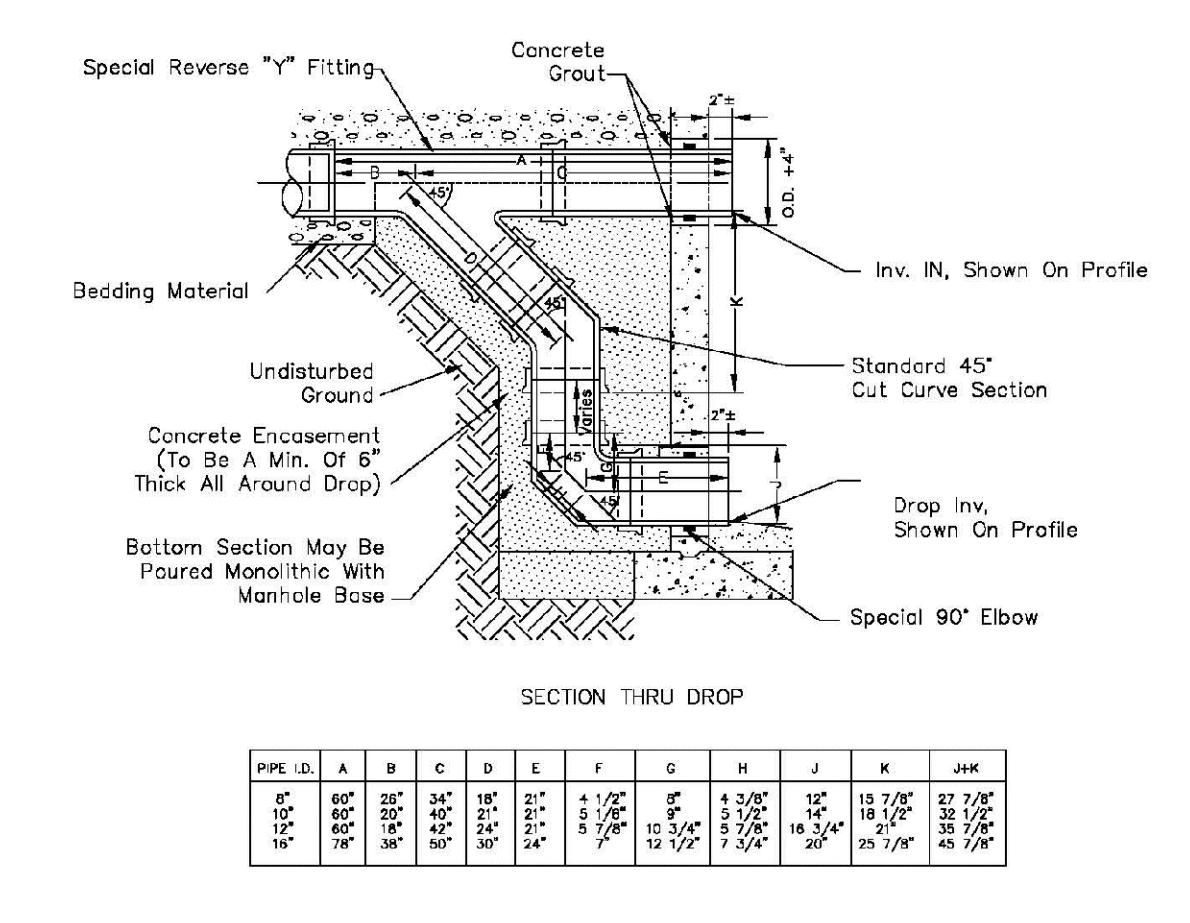
**PARKER WATER & SANITATION DISTRICT**  
**TYPICAL BASE CHANNELIZATION DETAILS**

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET 53.7



- NOTES:**
1. Vit Clay Pipe & fittings (A.S.T.M. C-700) shown, details similar for all other pipe.
  2. Diameter of drop shall not be less than the line pipe diameter.
  3. For 18" diameter and larger, outside drop detail shall be a special design.
  4. Manhole shall be coated using bituminous mastic (ramneck) or plastic sealing compound.

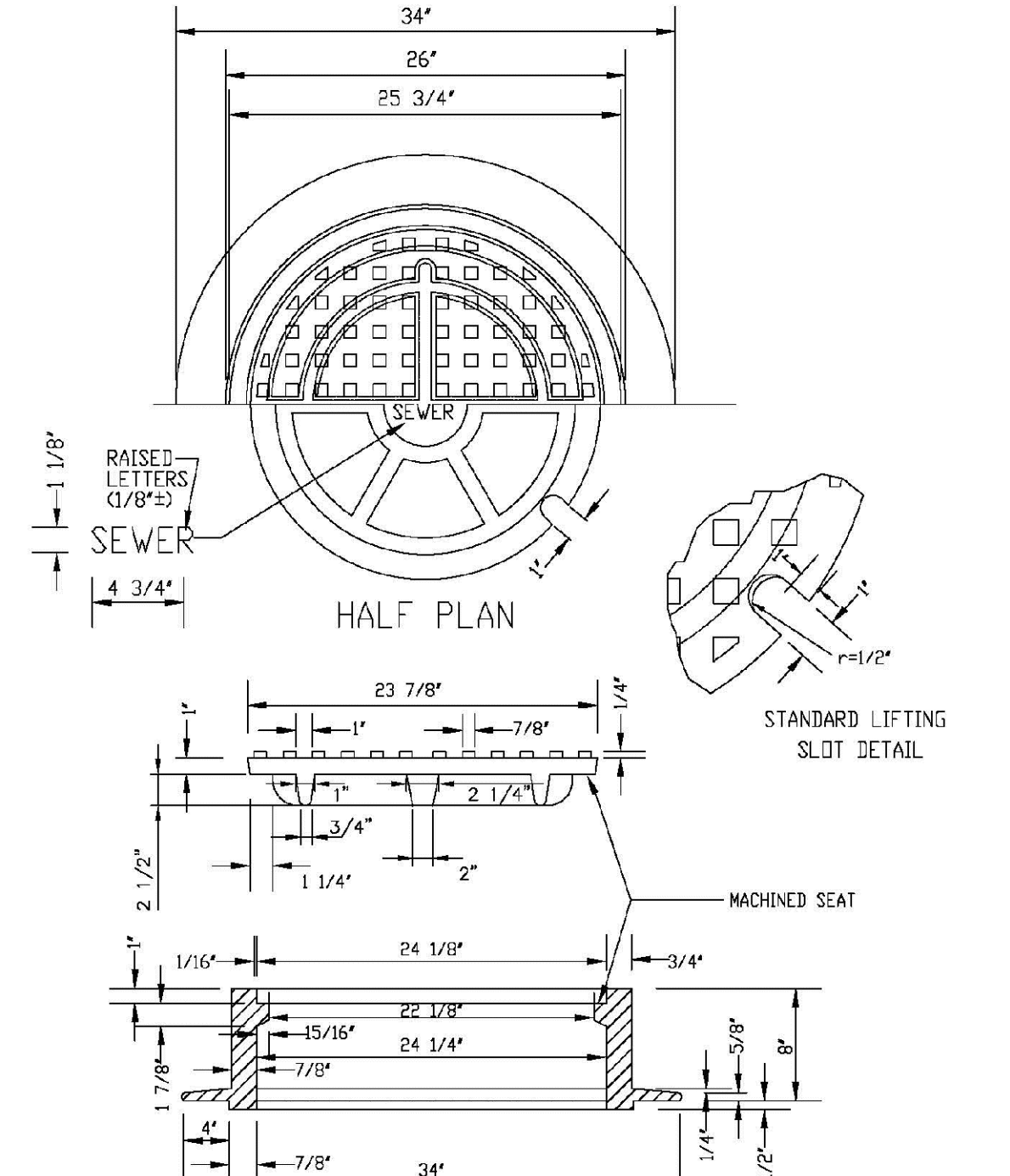
**PARKER WATER & SANITATION DISTRICT**  
**OUTSIDE DROP MANHOLE CONSTRUCTION**

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET 53.8



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

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET 53.9

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

10335 E. Dry Creek Rd.  
Suite 6110  
Englewood, CO 80152  
Tel: (720) 482-9526  
Fax: (720) 482-9548

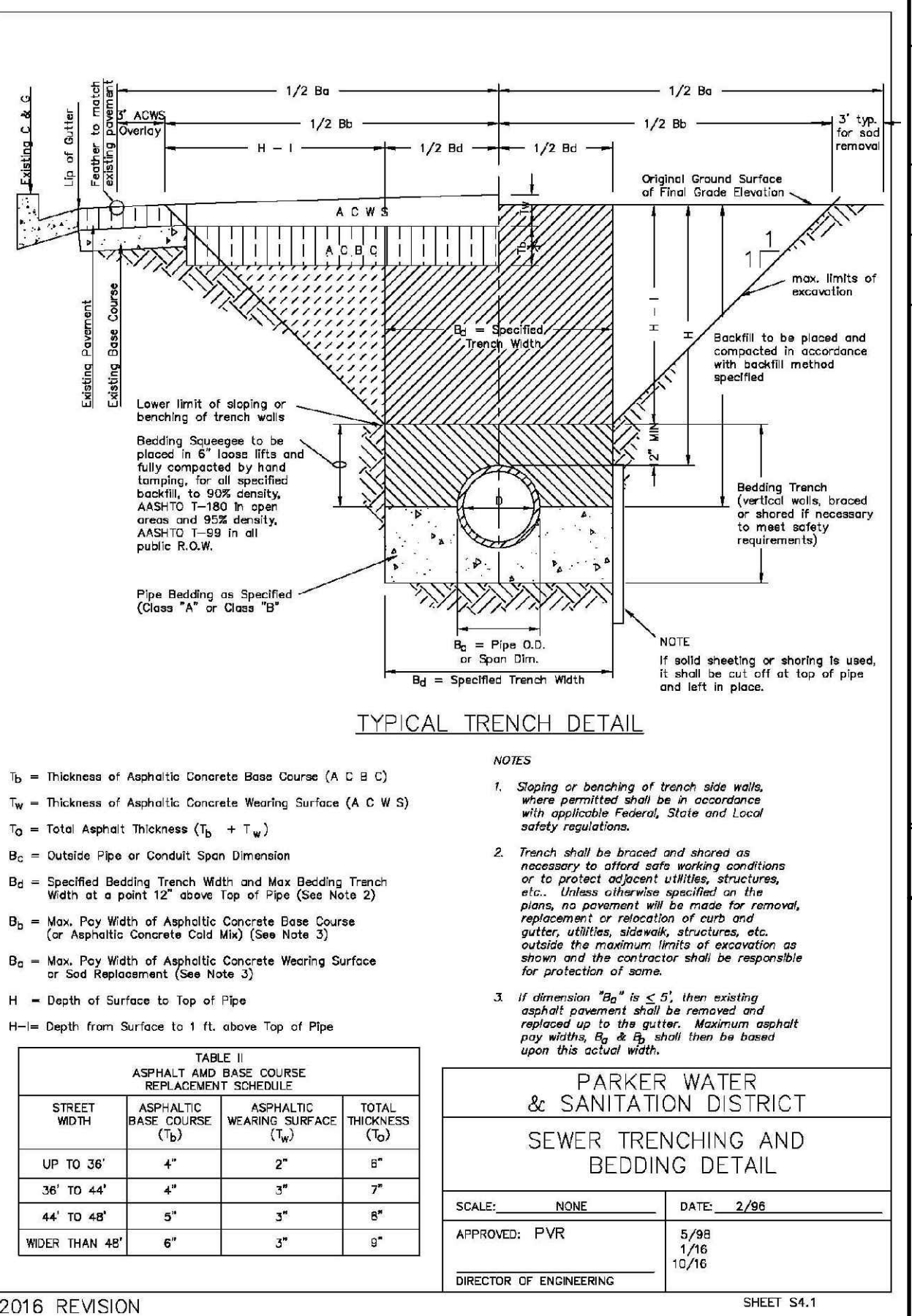
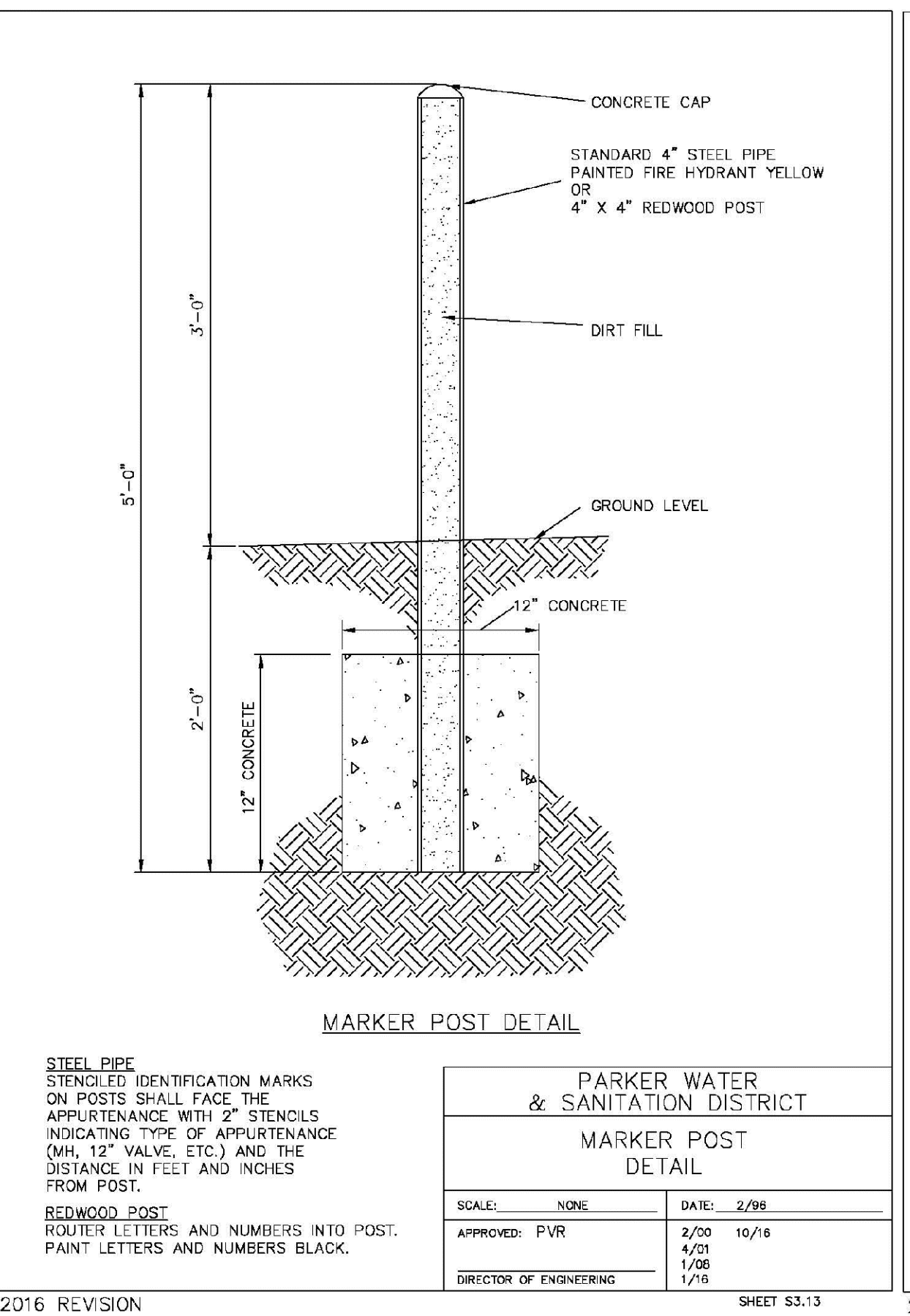
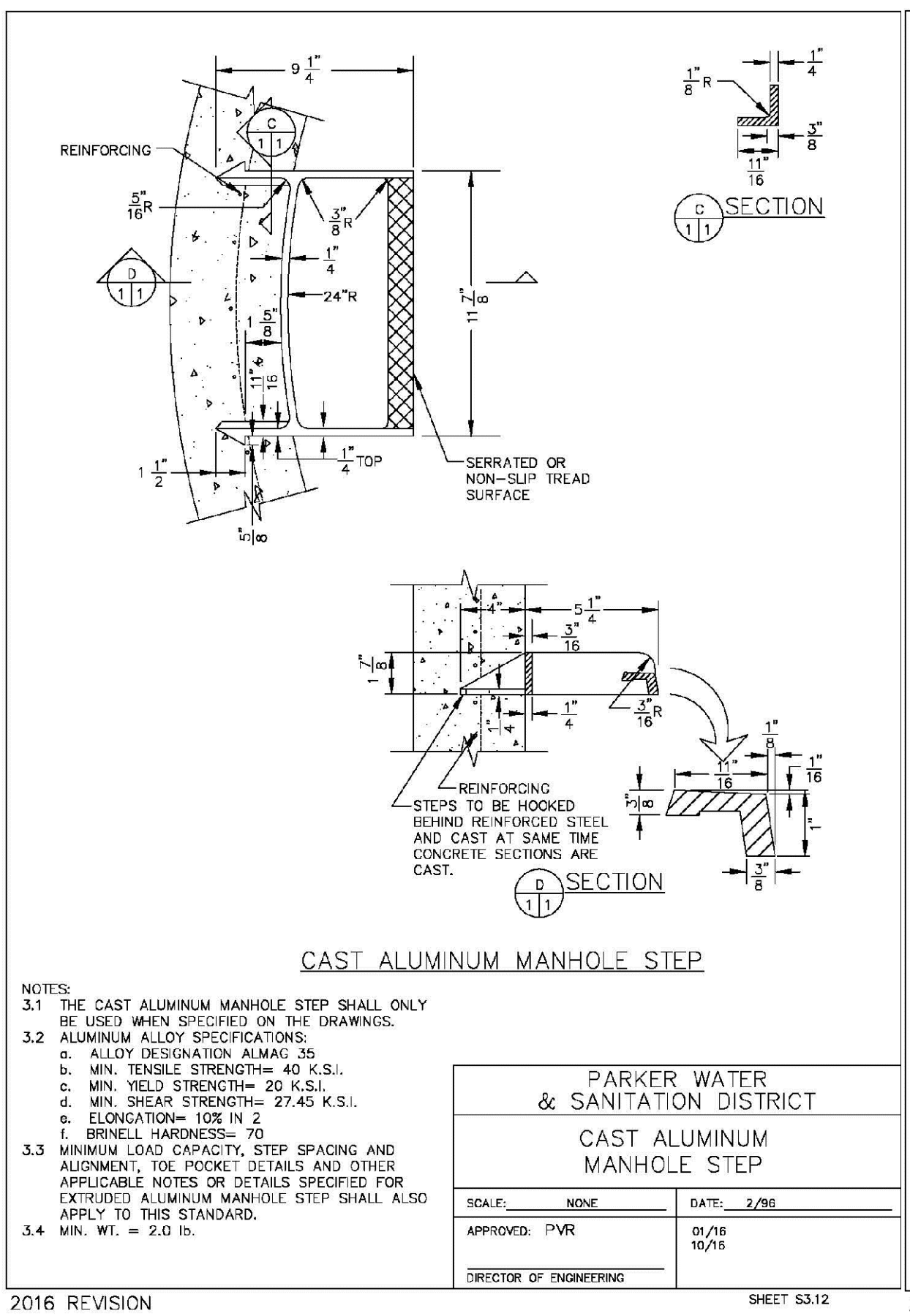
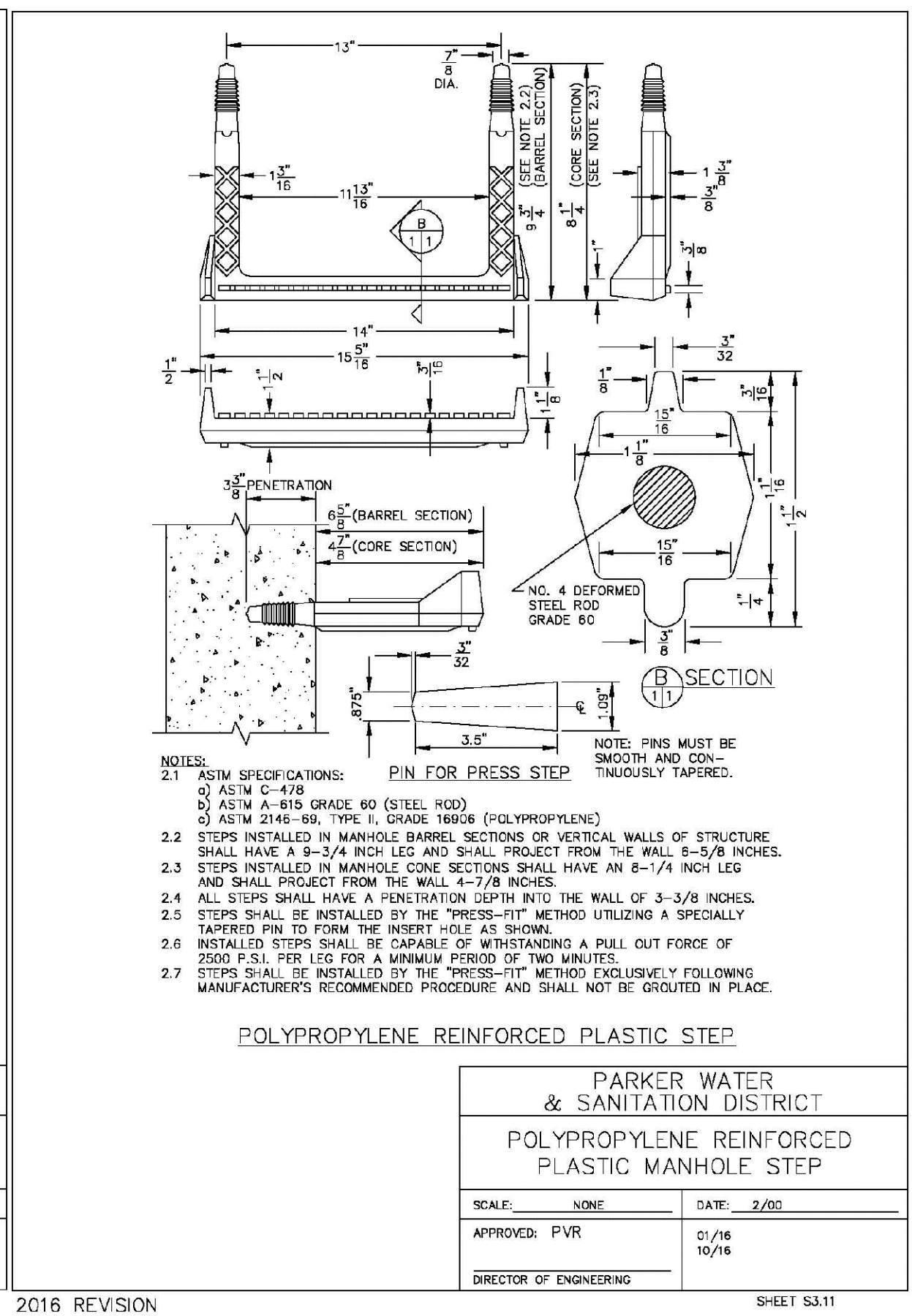
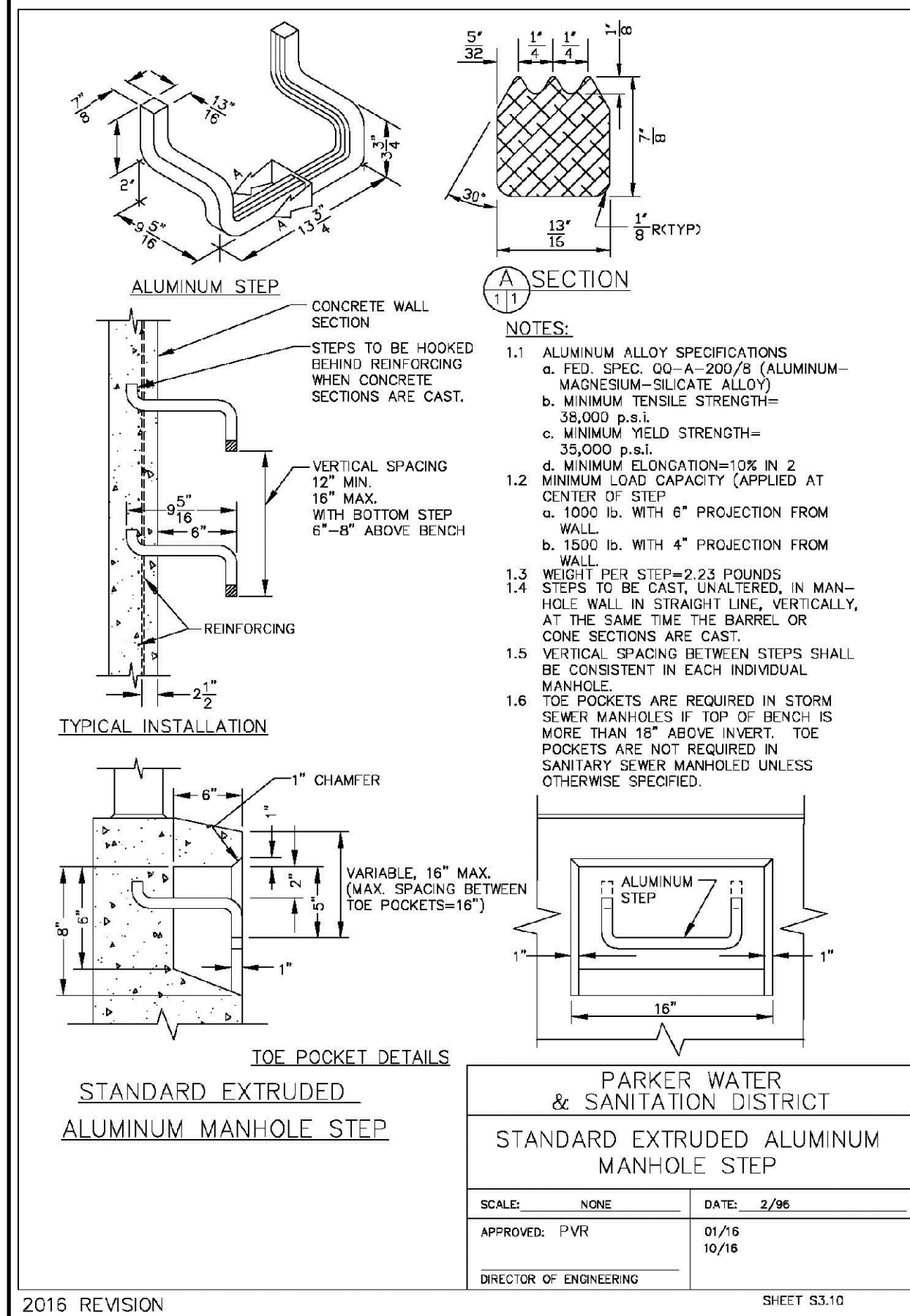
**CVL CONSULTANTS**

**EXM MANAGEMENT**  
7353 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
FILING 9 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701  
DRAWN BY: JF  
CHECKED BY: JU  
DATE: MAY 2017

SHEET NUMBER: 8



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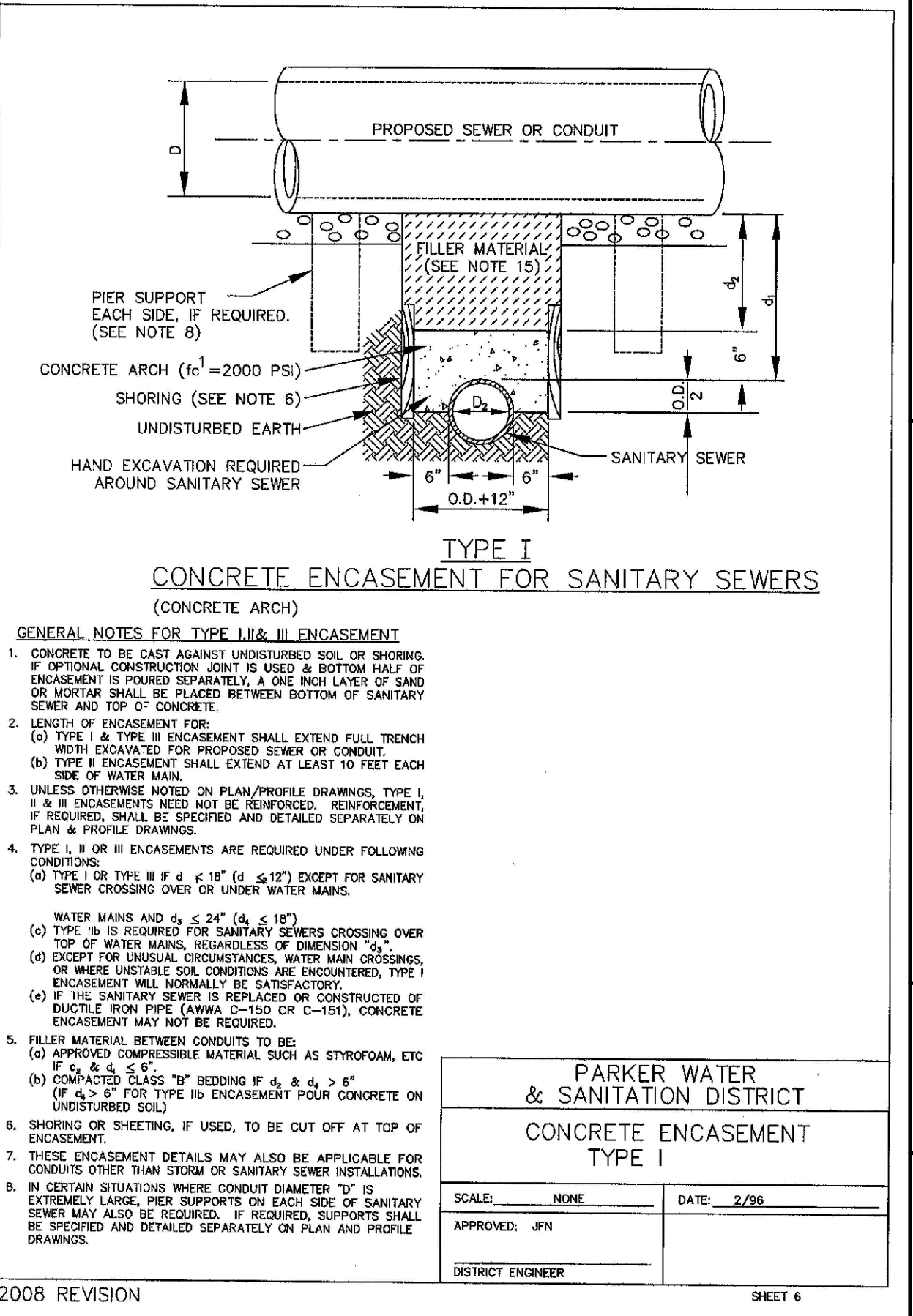
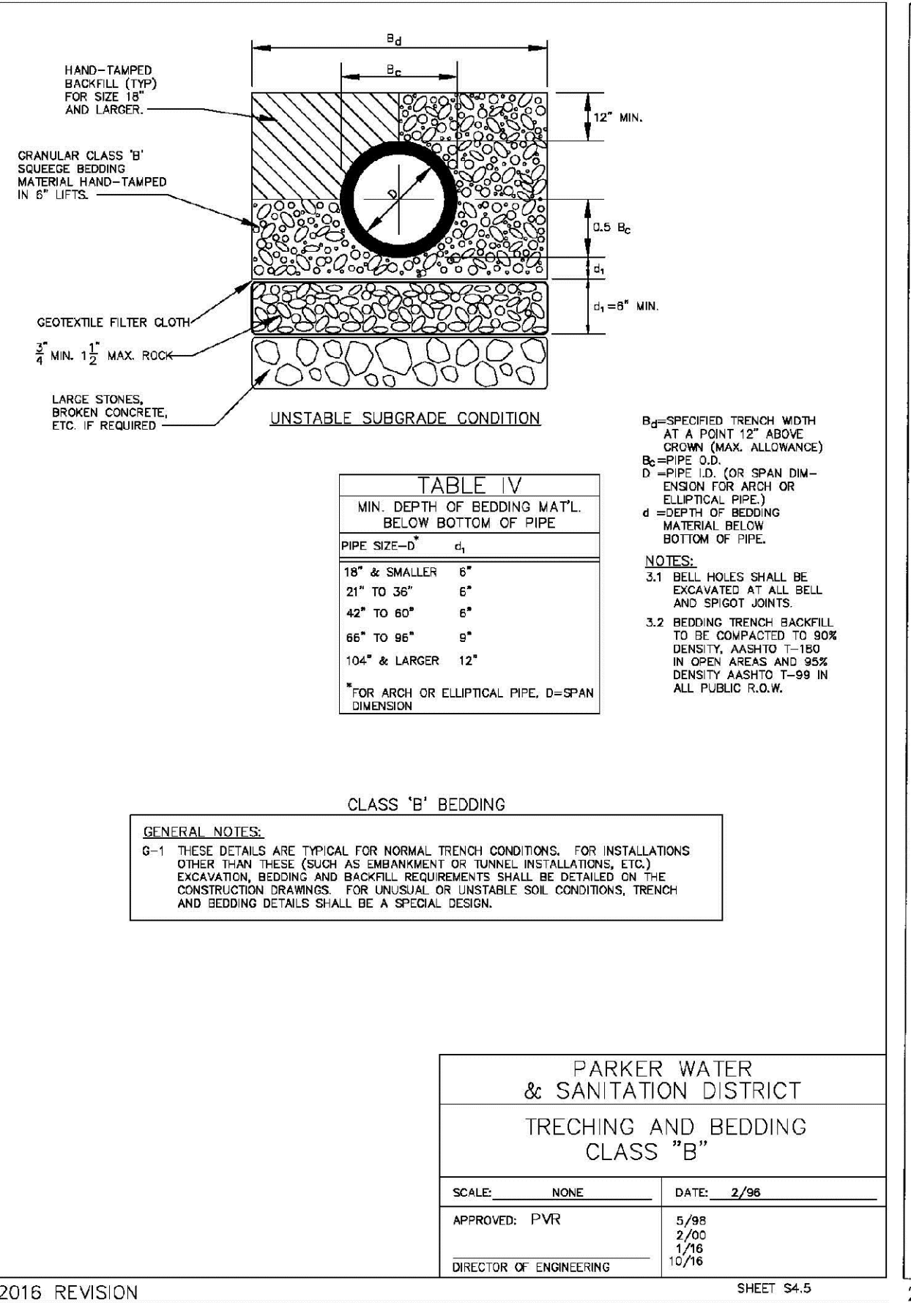
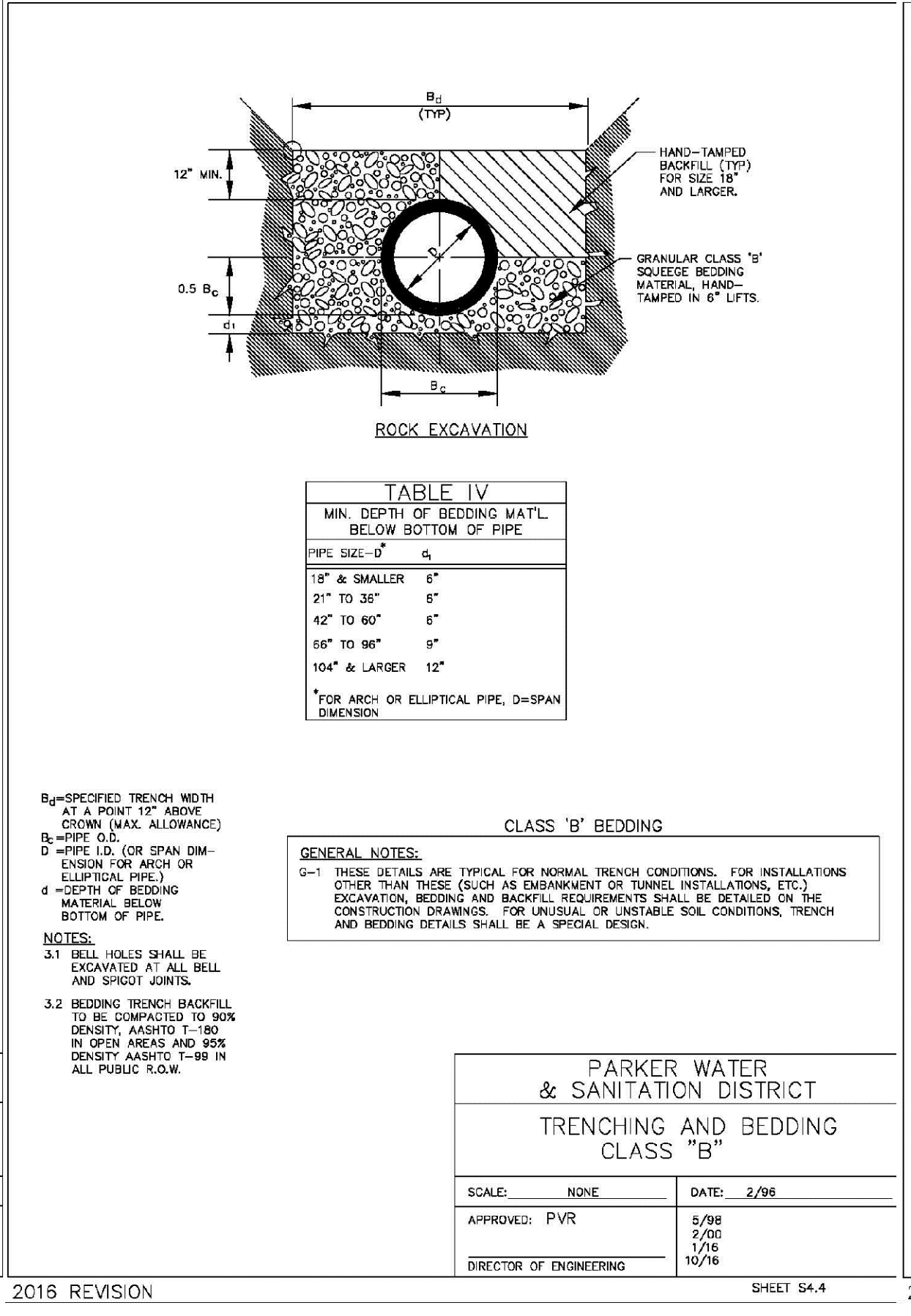
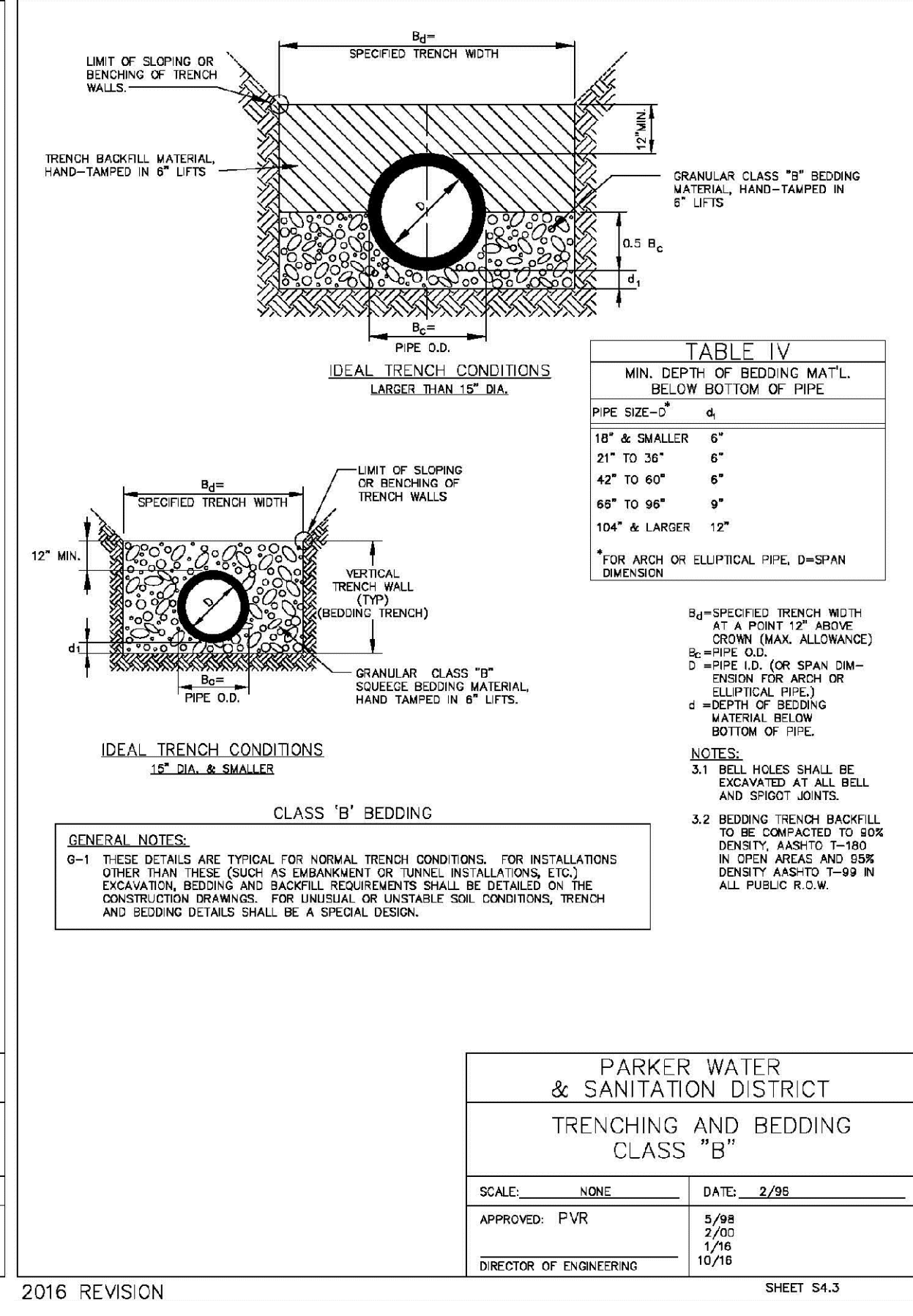
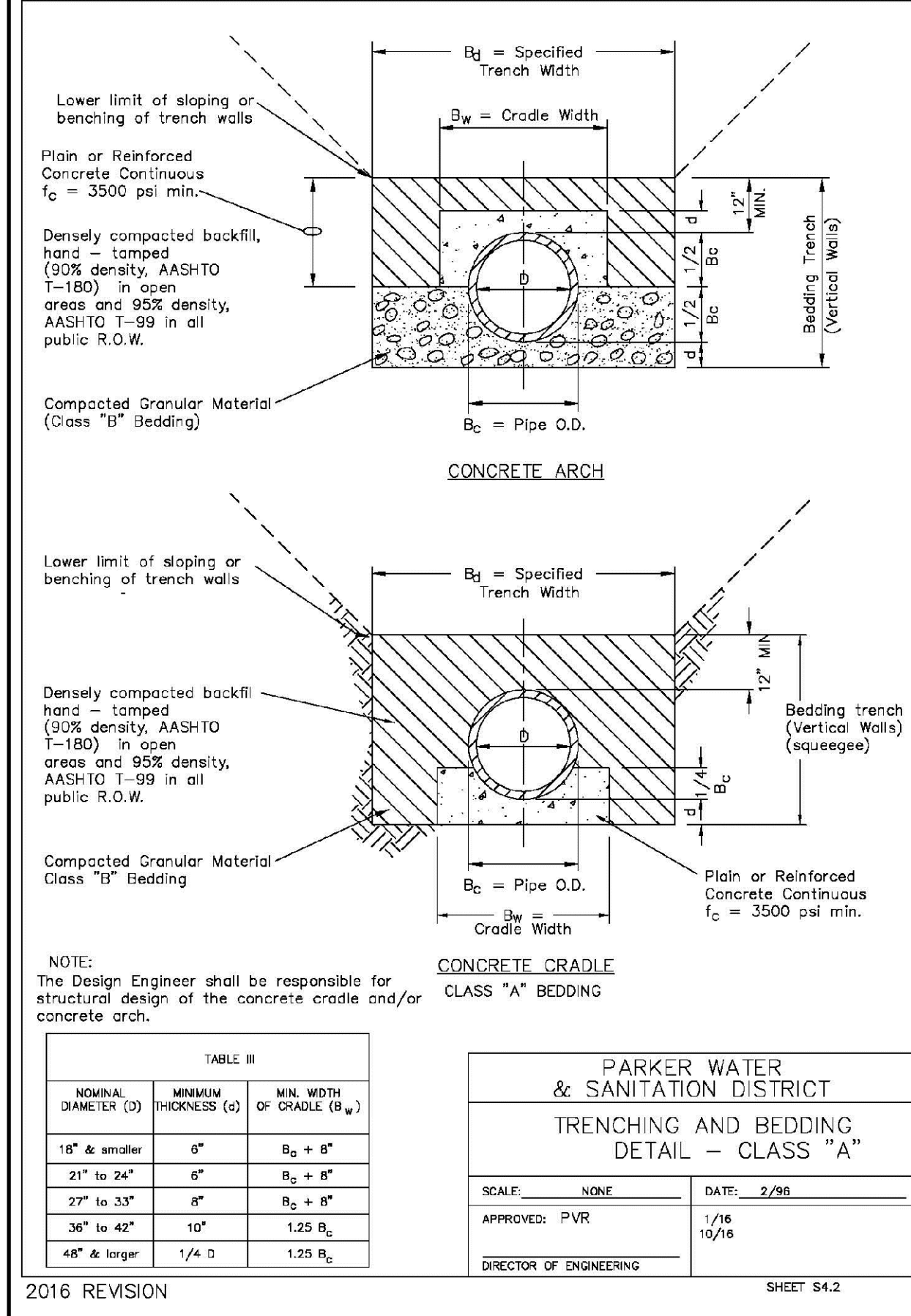
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Suite 110  
Englewood, CO 80110  
Tel: (720) 482-9296  
Fax: (720) 482-9548

**CVL CONSULTANTS**

EXX MANAGEMENT  
7353 South Alton Way  
CENTENNIAL, CO 80112

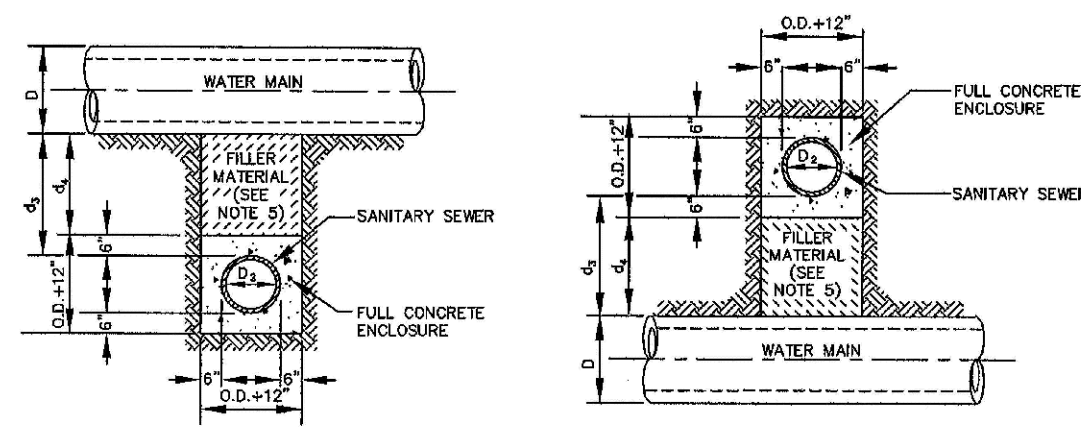
TRAILS AT CROWFOOT  
FILING 9 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN  
CHECKED BY: JJ  
DATE: MAY 2017

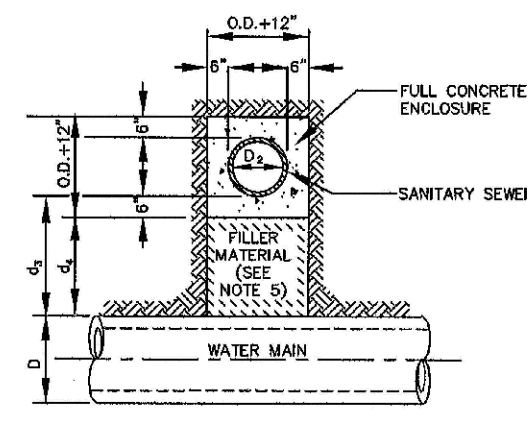
DRAWN BY: JF  
FILE NO: 8130283701

SHEET NUMBER: 9

No.	Revisions	Date	Init.	Appr.	Date



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



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

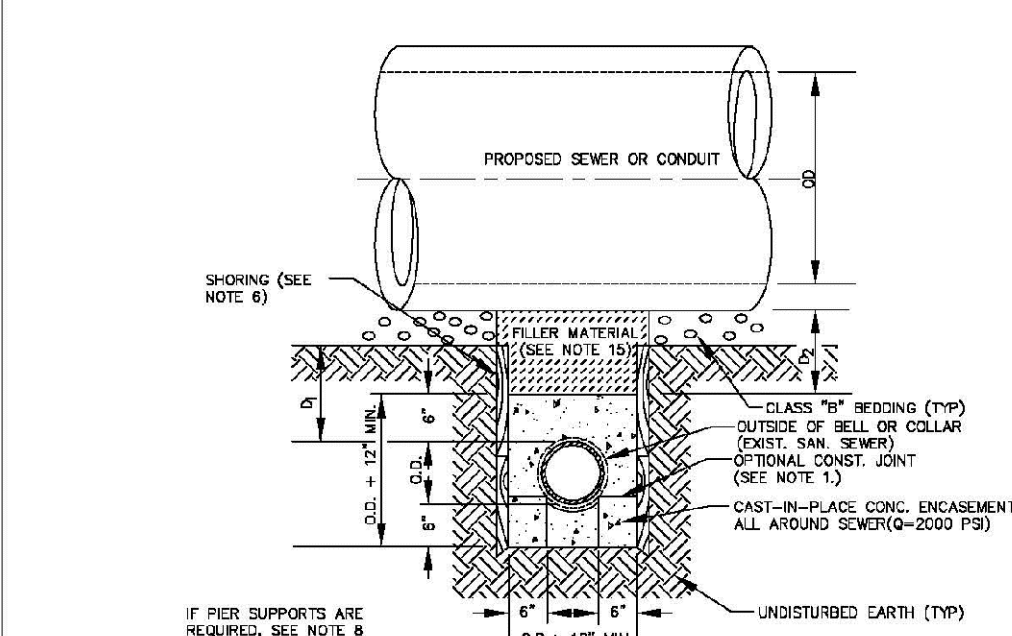
**TYPE II**  
CONCRETE ENCASEMENT FOR SANITARY SEWERS  
CROSSING OVER OR UNDER WATER MAIN

**GENERAL NOTES FOR TYPE IIa & IIb ENCASEMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT 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 ENCASEMENT FOR:
  - TYPE I & II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I OR II ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR II IF  $d_s \leq 18"$  ( $d_s \leq 12"$  EXCEPT FOR SANITARY SEWER 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 OF WELDED STEEL PIPE SHALL BE ENCASEMENT. TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC IF  $d_s \leq 4"$  &  $d_w \leq 7"$ .
  - COMPACTED CLASS "D" BEDDING IF  $d_s \leq 4"$  &  $d_w \leq 7"$  (IF  $d_s > 4"$  FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PER 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 ENCASEMENT	
TYPE II	
SCALE: NONE	DATE: 2/96
APPROVED: JFN	5/98
	4/01
DISTRICT ENGINEER	1/06

2008 REVISION SHEET 7



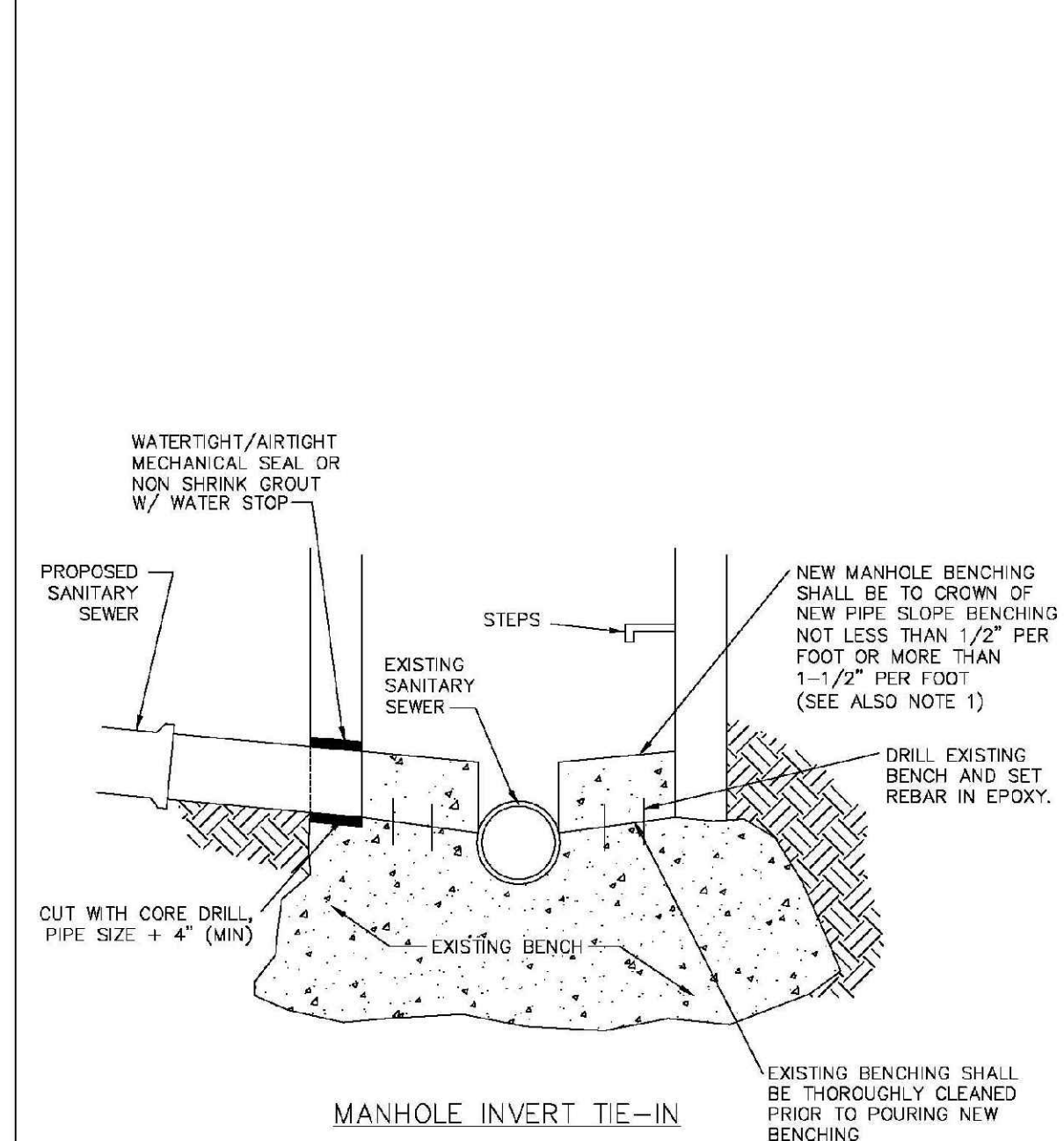
**TYPE III**  
CONCRETE ENCASEMENT FOR SANITARY SEWERS  
(FULL ENCASEMENT) NO SCALE

**GENERAL NOTES FOR TYPE III ENCASEMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT 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 ENCASEMENT FOR:
  - TYPE I & II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  ( $d_s \leq 12"$  EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS).
  - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS REGARDLESS OF DIMENSION  $d_s$ .
  - 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 OF WELDED STEEL PIPE SHALL BE ENCASEMENT. TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC IF  $d_s \leq 4"$  &  $d_w \leq 7"$ .
  - COMPACTED CLASS "D" BEDDING IF  $d_s \leq 4"$  &  $d_w \leq 7"$  (IF  $d_s > 4"$  FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PER 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 UNID WITH FILL LAYER.

PARKER WATER & SANITATION DISTRICT	
CONCRETE ENCASEMENT	
TYPE III	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	5/98
	1/15
DIRECTOR OF ENGINEERING	10/16

2016 REVISION SHEET S4.8

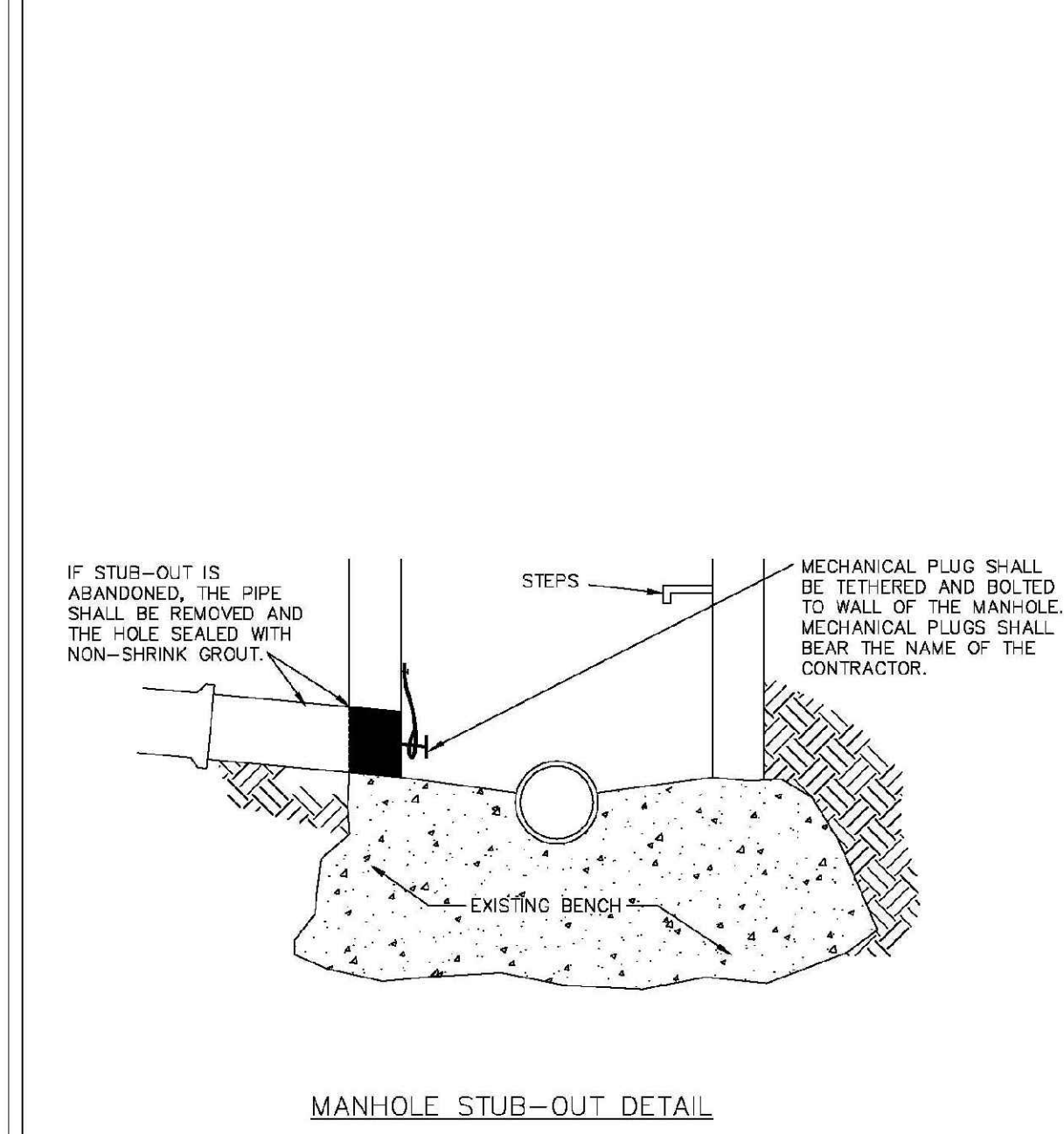


MANHOLE INVERT TIE-IN

- NOTES**
- NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

PARKER WATER & SANITATION DISTRICT	
MANHOLE INVERT	
TIE-IN DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/15
	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.9

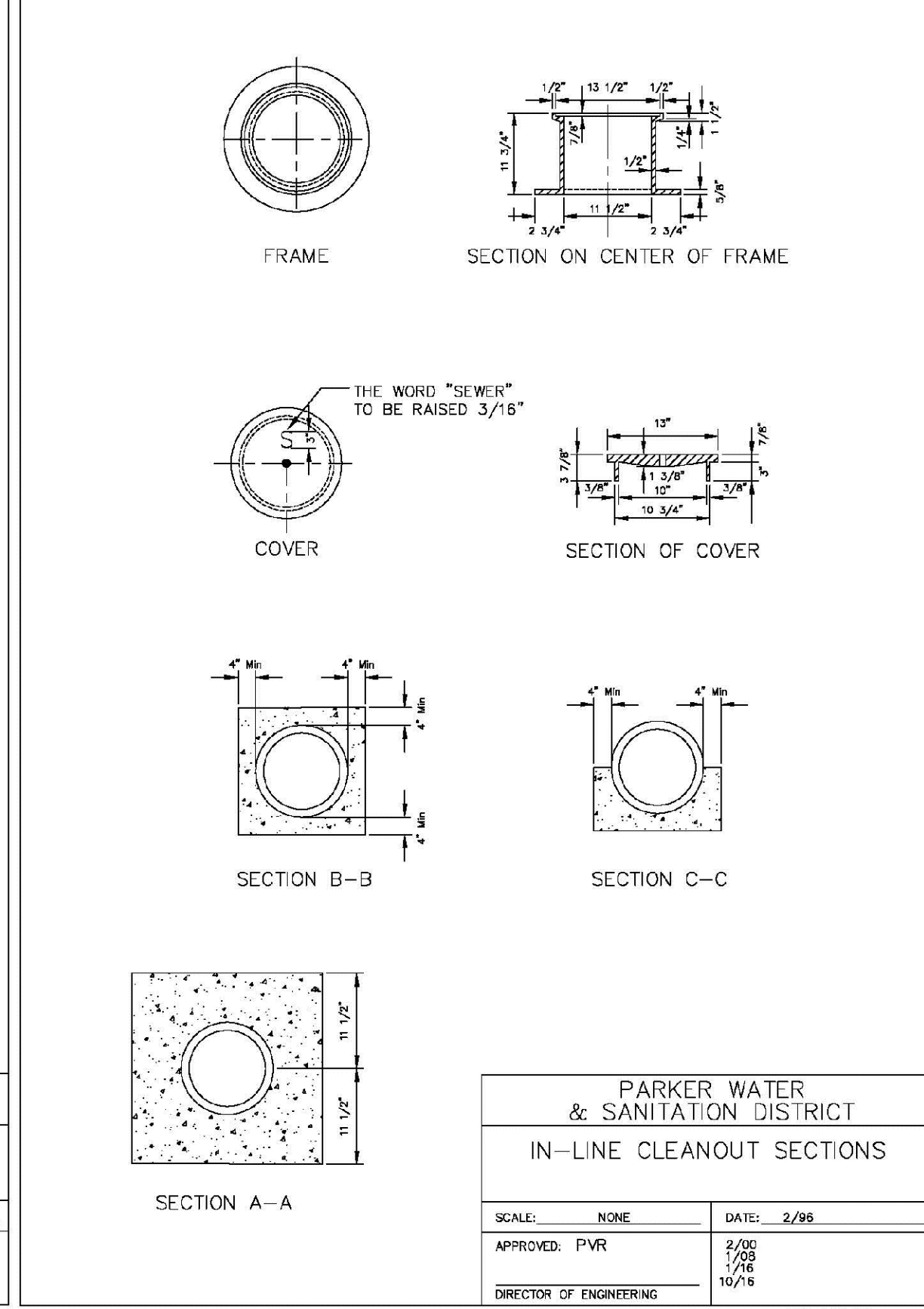


MANHOLE STUB-OUT DETAIL

- NOTES**
- IF STUB-OUT IS ABANDONED, THE PIPE SHALL BE REMOVED AND THE HOLE SEALED WITH NON-SHRINK GROUT.
  - MECHANICAL PLUG SHALL BE TETHERED AND BOLTED TO WALL OF THE MANHOLE. MECHANICAL PLUGS SHALL BEAR THE NAME OF THE CONTRACTOR.

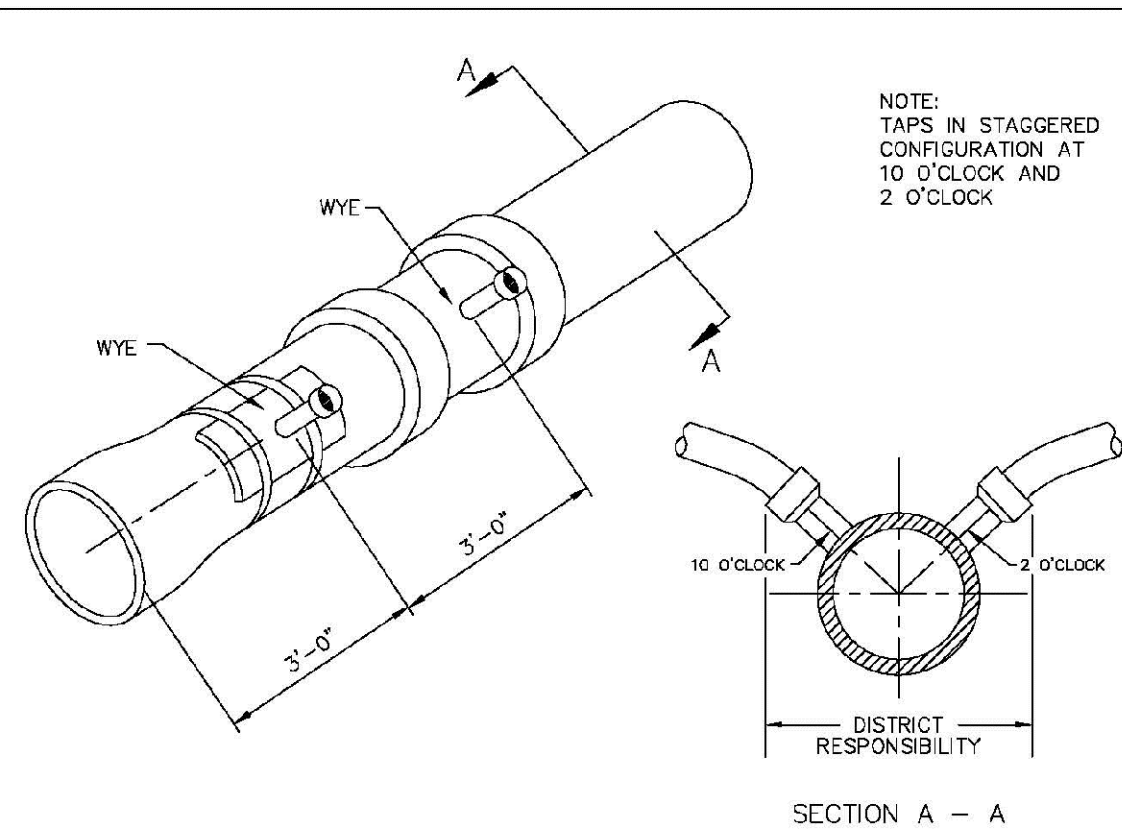
PARKER WATER & SANITATION DISTRICT	
MANHOLE STUB-OUT	
DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/15
	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.10



PARKER WATER & SANITATION DISTRICT	
IN-LINE CLEANOUT SECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00
	1/15
	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.12

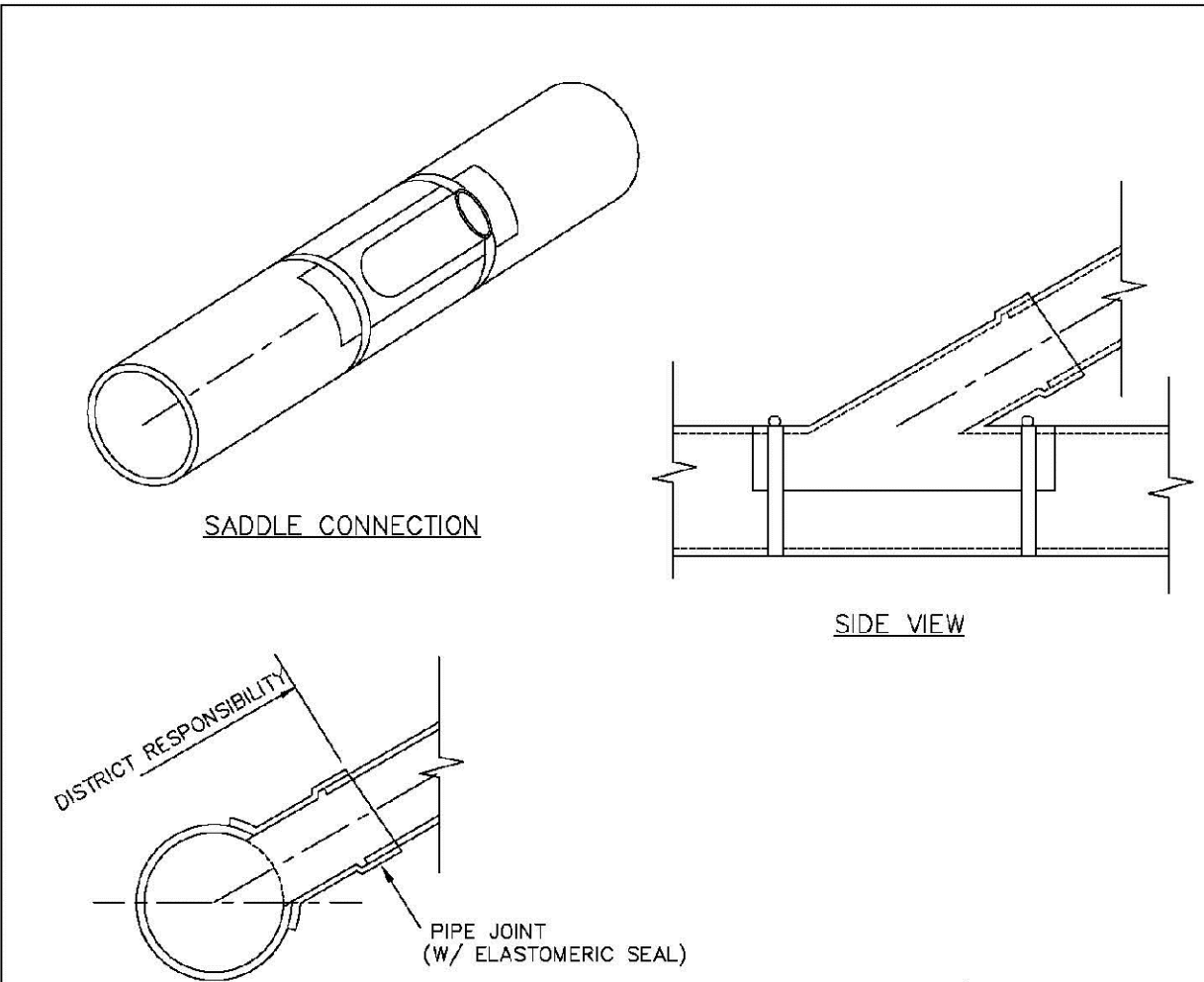


DOMESTIC SEWER TAPPING DETAIL

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: 2/96
APPROVED: PVR	4/01
	1/08
DIRECTOR OF ENGINEERING	10/16

2016 REVISION SHEET S4.13



PARKER WATER & SANITATION DISTRICT	
P.V.C. SADDLE	
CONNECTION DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/15
	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.14

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UTILITY NOTIFICATION  
CENTER OF COLORADO

10338 E. Dry Creek Rd.  
SHEETS 4.10  
Englewood, Colorado 80150  
Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL**  
CONSULTANTS

ESX MANAGEMENT  
7353 South Alton Way  
CENTENNIAL, CO 80112

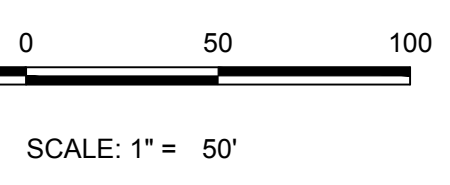
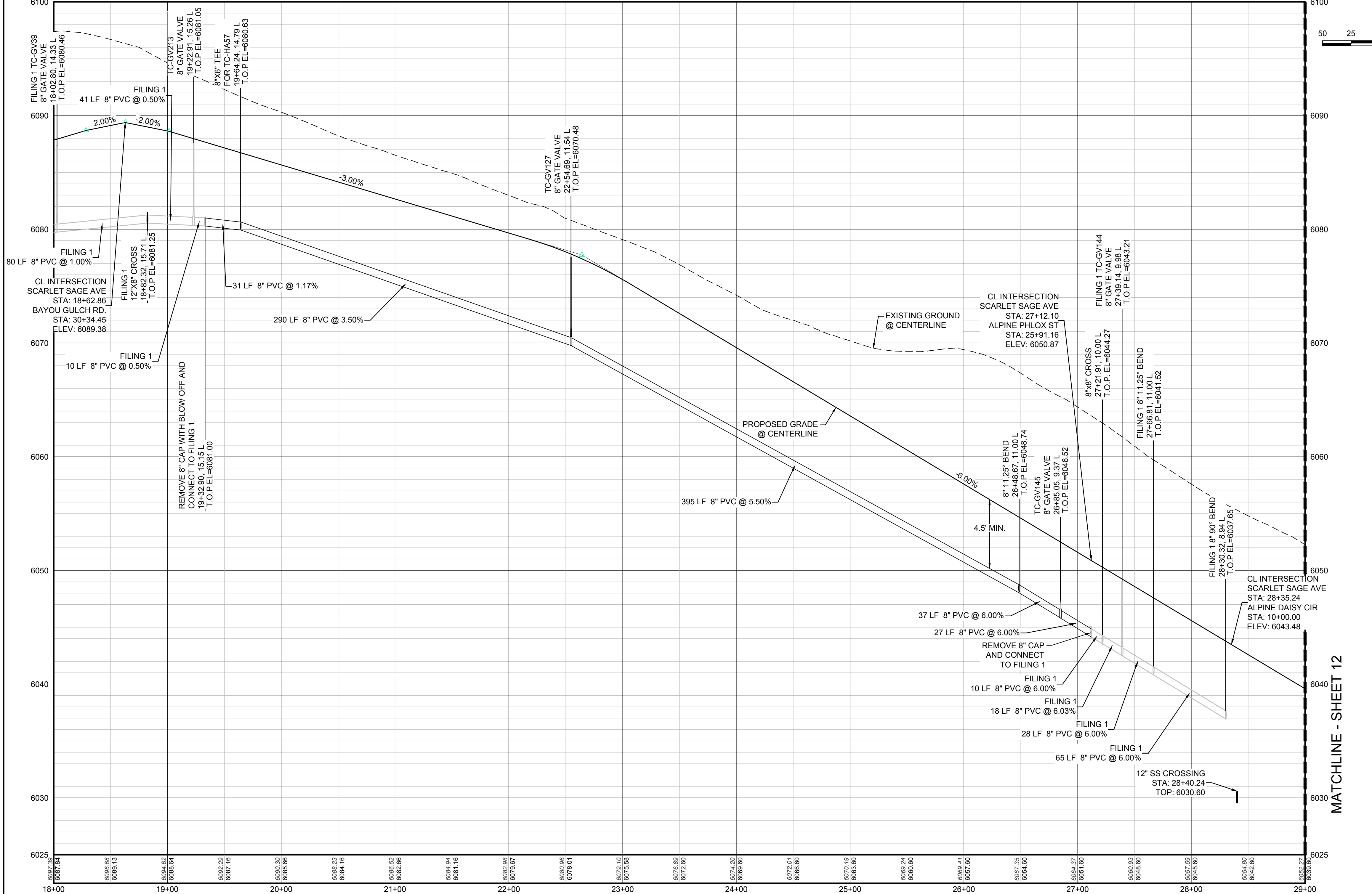
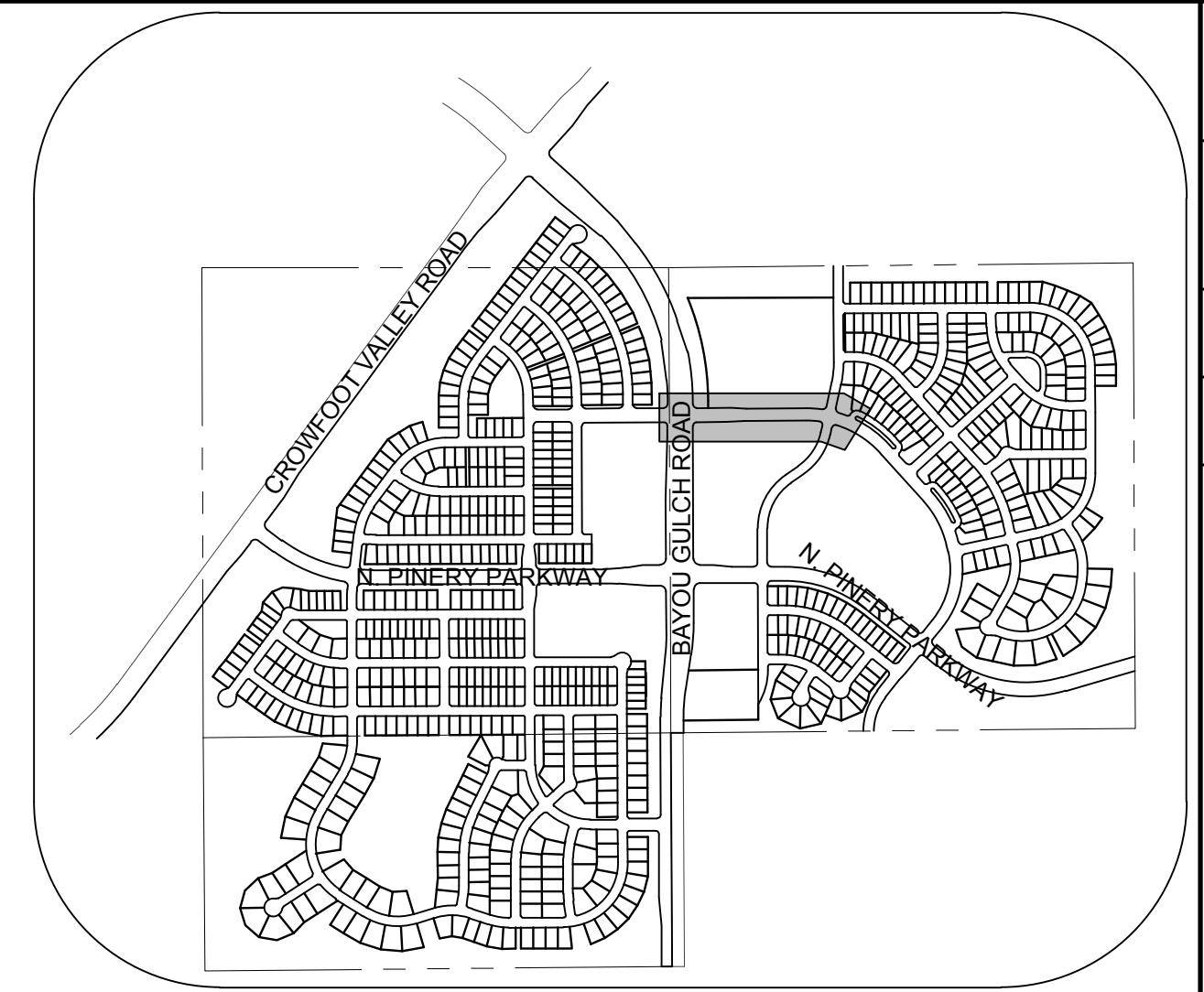
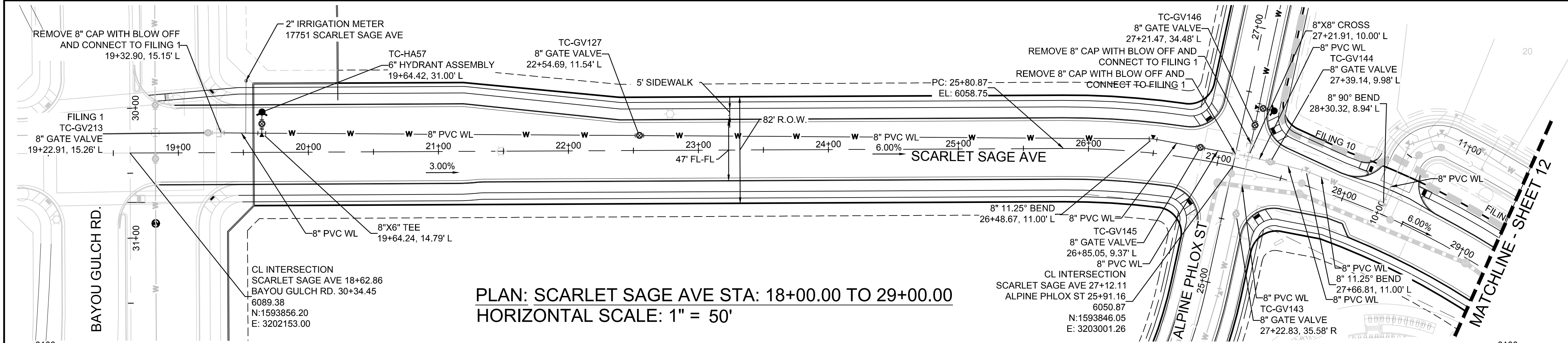
TRAILS AT CROWFOOT  
FILING 9 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701  
MAY 2017

DRAWN BY: JF  
CHECKED BY: JJ  
DATE: MAY 2017

SHEET NUMBER 10

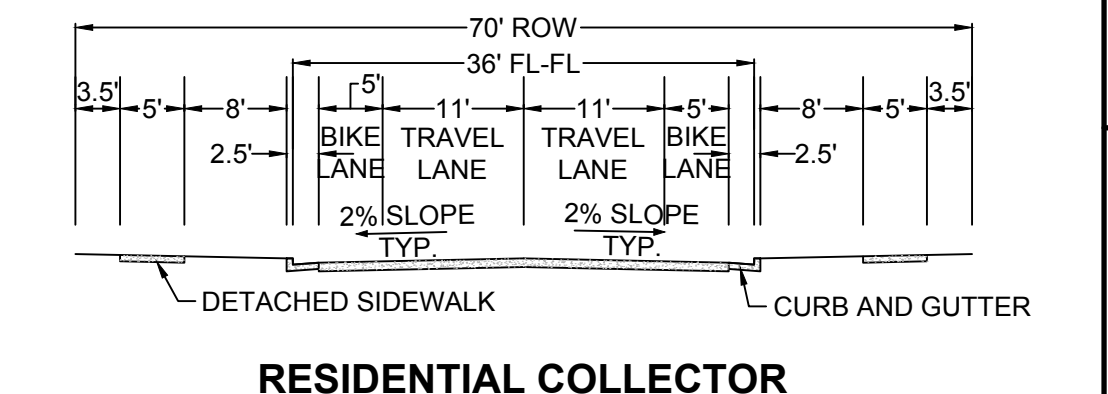
No.	Revisions	Date	Init.	Appr.	Date



BLOCK NUMBER		△	PROPOSED RANGE POINT
②		---	CENTERLINE
Ⓐ		---	RIGHT-OF-WAY
6		---	PROPERTY LINE
⊕		---	EDGE OF PAVEMENT
⊕		→	PROPOSED DIRECTION OF FLOW
⊕		1.0%	PROPOSED SLOPE & DIRECTION
⊕		5615	EXISTING 5' CONTOUR
⊕		5616	EXISTING 1' CONTOUR
⊕		5620	PROPOSED 5' CONTOUR
⊕		5607	PROPOSED 1' CONTOUR
⊕		---	PROPOSED STORM DRAIN
⊕		---	PROPOSED SEWER LINE WITH MANHOLE
⊕		---	PROPOSED SEWER LATERAL
⊕		---	PROPOSED WATER LINE
⊕		---	LATERAL W/ METER
10.00		---	SECTION LINE
10.00		---	FILING BOUNDARY
⊕		---	EXISTING FIBER OPTIC LINE
⊕		---	EXISTING OVERHEAD POWER
⊕		---	EXISTING TELEPHONE LINE

ABBREVIATIONS			
AD	ANGLE DIFFERENCE	MH	MANHOLE
AV	AIR VAC RELEASE VALVE	N.T.S.	NOT TO SCALE
BVC	BEGIN VERTICAL CURVE	PVC	POLYVINYL CHLORIDE
BVP	BEGIN VERTICAL PROFILE	PVI	PT. OF VERTICAL INTERSECTION
CBO	CAP WITH BLOW OFF	PVT	POINT OF VERTICAL TANGENT
CRR	CURB RETURN RADIUS	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
FL	FLOW LINE	SS	SANITARY SEWER
GV	GATE VALVE	STA	STATION
HA	HYDRANT ASSEMBLY	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

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

PROFILE: SCARLET SAGE AVE STA: 18+00.00 TO 29+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

BENCHMARK  
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.

No.	Revisions	Date	Init.	Appr.	Date

10338 E. Dry Creek Rd.  
Suite 410  
Englewood, CO 80150  
Tel: (720) 482-9526  
Fax: (720) 482-9548

**CVL CONSULTANTS**

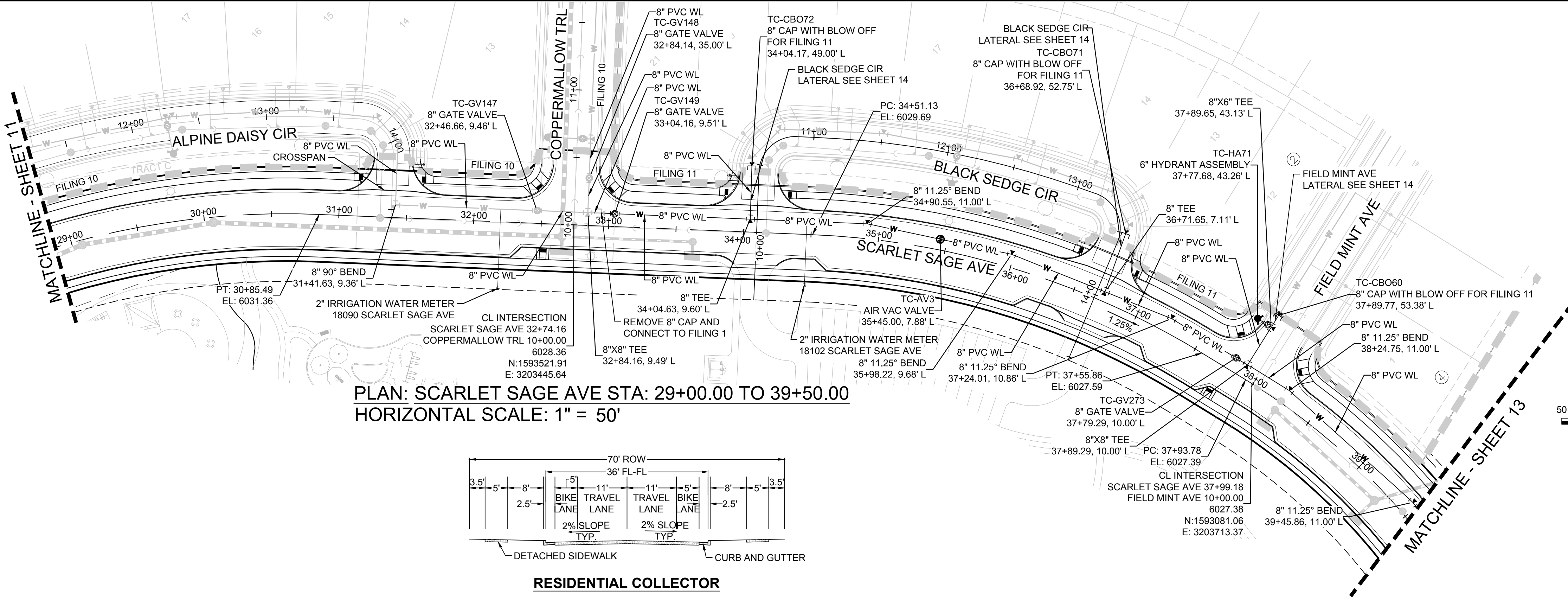
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7353 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
FILING 9 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
SCARLET SAGE AVENUE

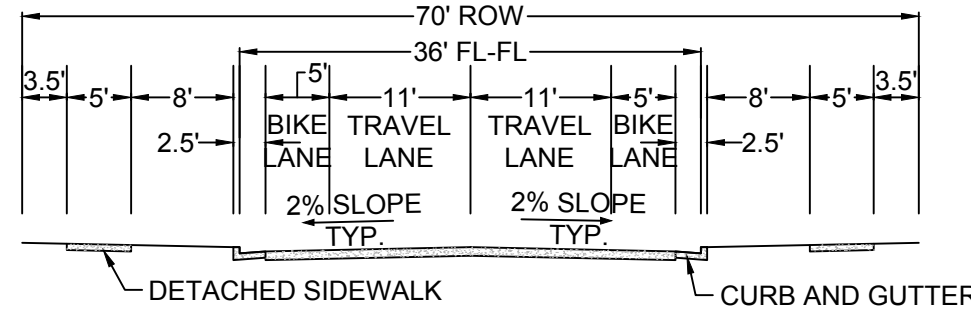
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DATE: MAY 2017

DRAWN BY: RHR  
CHECKED BY: JU  
DATE: MAY 2017

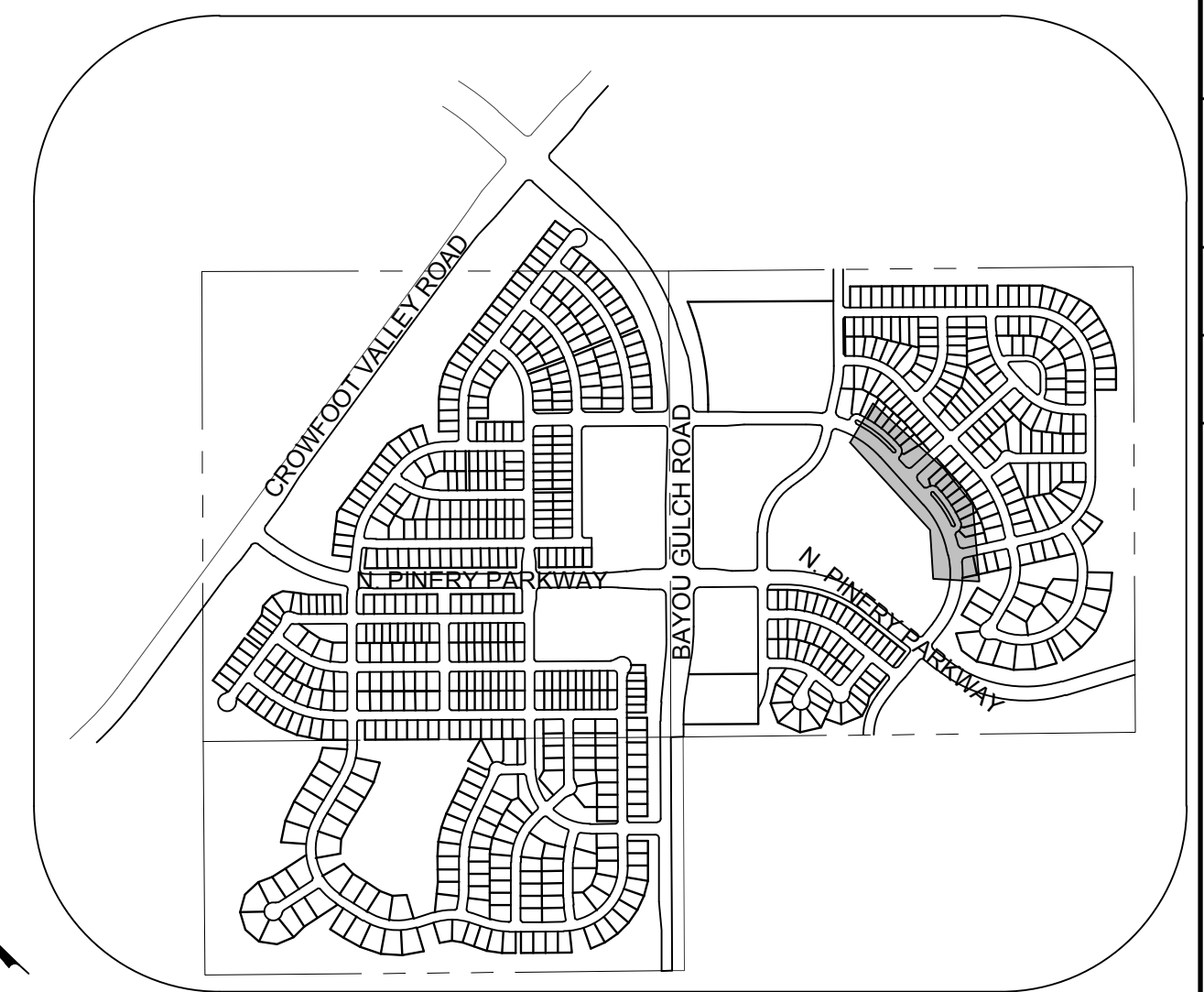
SHEET NUMBER **11**



PLAN: SCARLET SAGE AVE STA: 29+00.00 TO 39+50.00  
HORIZONTAL SCALE: 1" = 50'



RESIDENTIAL COLLECTOR



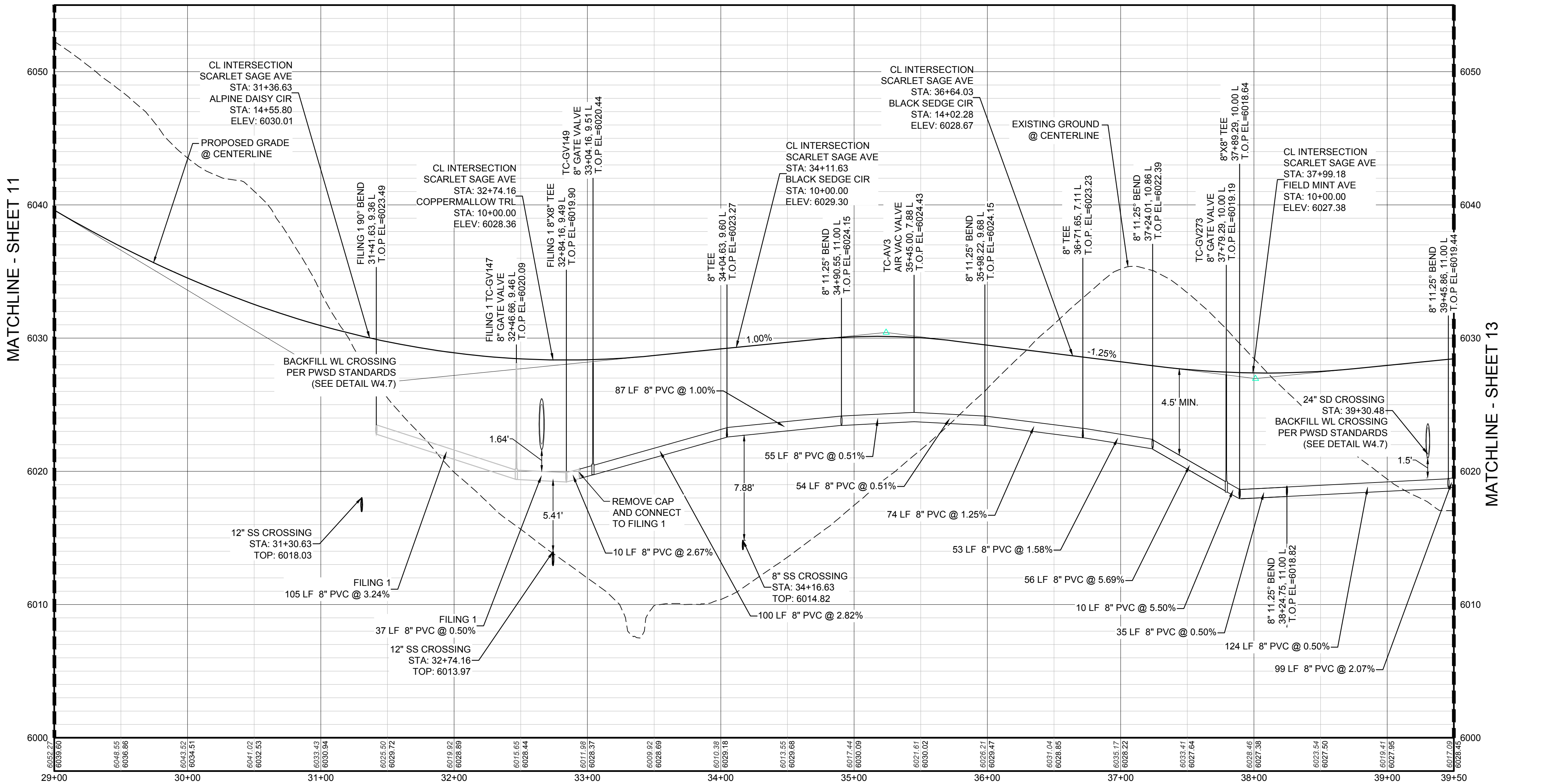
KEYMAP  
N.T.S.

**LEGEND**

⊙	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
⊕	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
⊕	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊕	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
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CBO	CAP WITH BLOW OFF	PVT	POINT OF VERTICAL TANGENT
CRR	CURB RETURN RADIUS	RCBC	REINFORCED CONCRETE BOX CULVERT
ELEVATION	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EVC	END VERTICAL CURVE	SC	SANITARY CAP
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FG	FINISHED GROUND	SL	SECTION LINE
FL	FLOW LINE	SS	SANITARY SEWER
GV	GATE VALVE	STA	STATION
HA	HYDRANT ASSEMBLY	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



PROFILE: SCARLET SAGE AVE STA: 29+00.00 TO 39+50.00

HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

**BENCHMARK**  
THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\SCARLET SAGE AVE\DWG\WATER\DWG\_BRIANW\_12172017\_9.39.PM

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UNCC 1-800-922-1987  
UTILITY NOTIFICATION CENTER OF COLORADO

NO.	REVISIONS	DATE	INIT.	APPR.	DATE

10338 E. Dry Creek Rd.  
Suite 6410  
Englewood, CO 80151  
Tel: (720) 482-9526  
Fax: (720) 482-9548

**CVL CONSULTANTS**

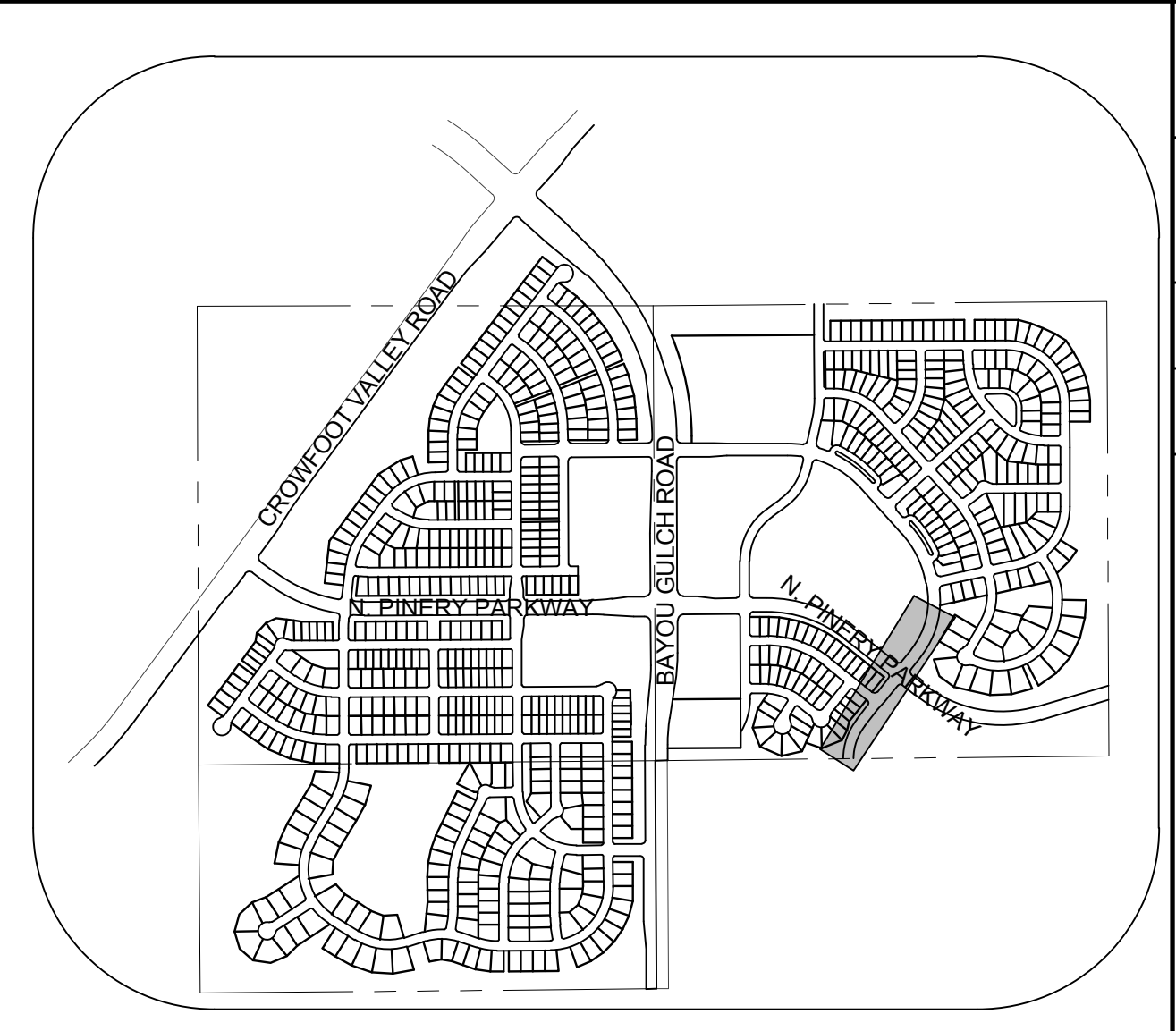
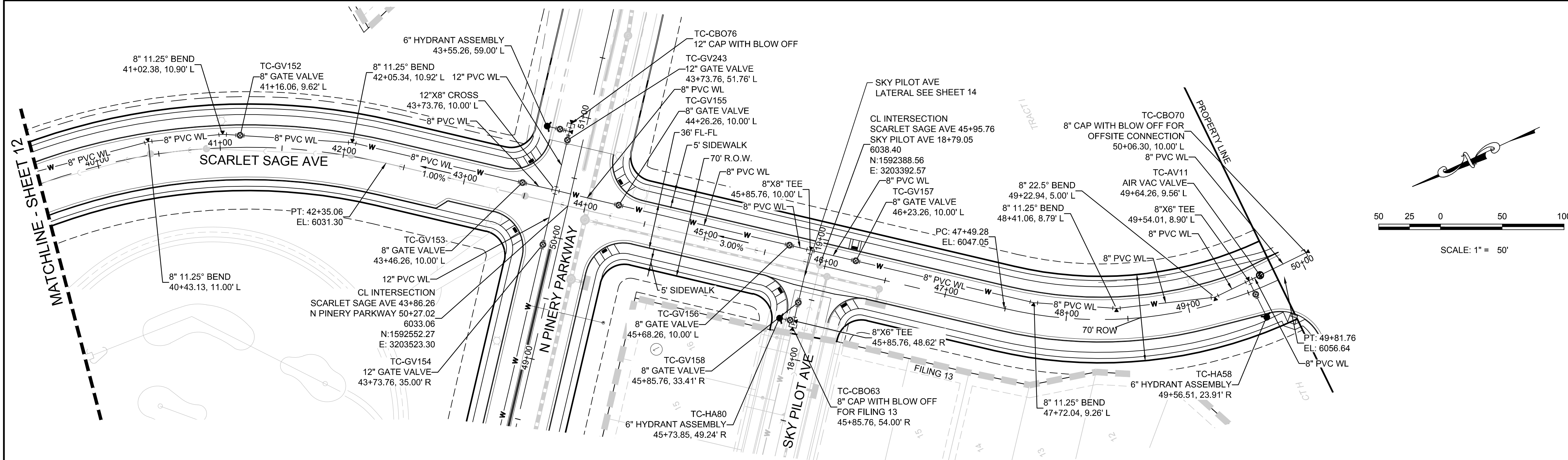
**ESX MANAGEMENT**  
7353 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
FILING 9 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
SCARLET SAGE AVENUE

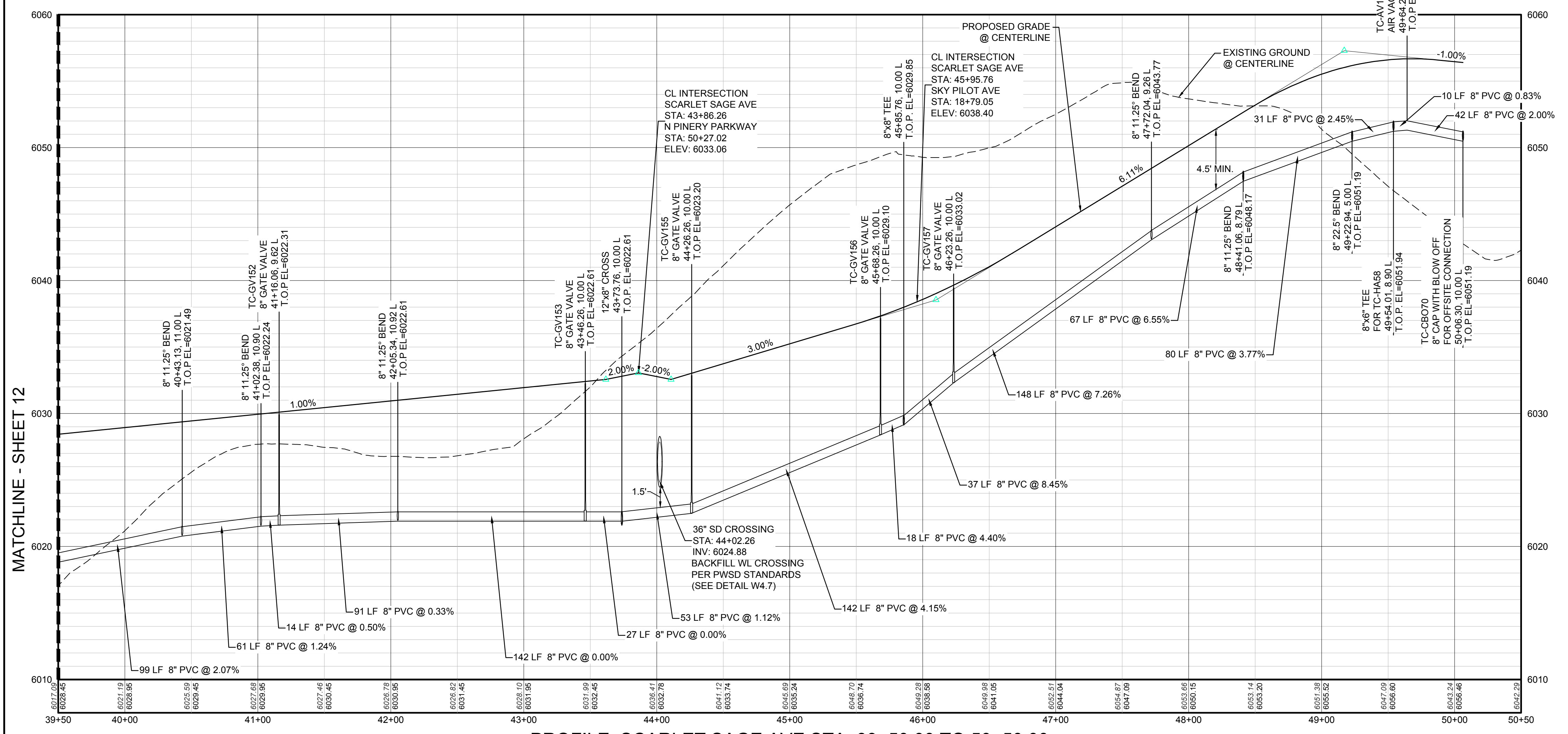
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DRAWN BY: RHR  
CHECKED BY: JU  
DATE: MAY 2017

SHEET NUMBER **12**



**PLAN: SCARLET SAGE AVE STA: 39+50.00 TO 50+50.00**  
 HORIZONTAL SCALE: 1" = 50'



**PROFILE: SCARLET SAGE AVE STA: 39+50.00 TO 50+50.00**  
 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
⊕	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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HA	HYDRANT ASSEMBLY	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

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

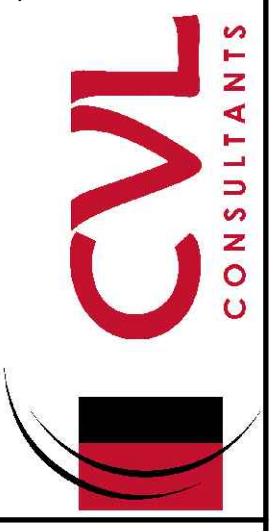
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 UNCC 1-800-922-1987

**BENCHMARK**  
 THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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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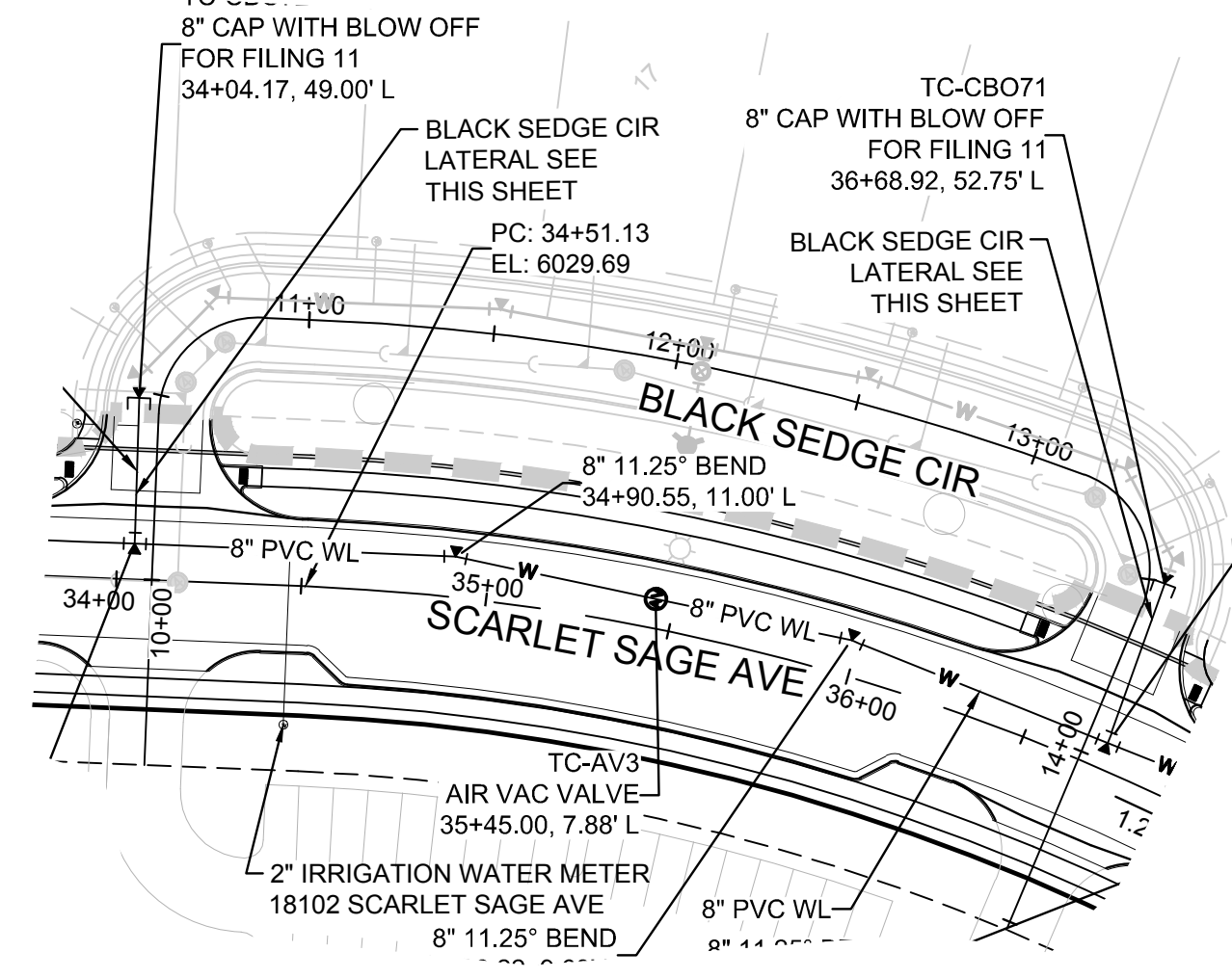
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DATE:	MAY 2017
FILE NO.:	8130283701
SHEET NUMBER:	13
<b>EX MANAGEMENT</b> 7353 South Alton Way CENTENNIAL, CO 80112	
<b>TRAILS AT CROWFOOT</b> FILING 9 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE SCARLET SAGE AVENUE	
No.	Revisions
Date	Init.
Date	Appr.
Date	Date

10338 E. Dry Creek Rd.  
 Suite 410  
 Englewood, CO 80150  
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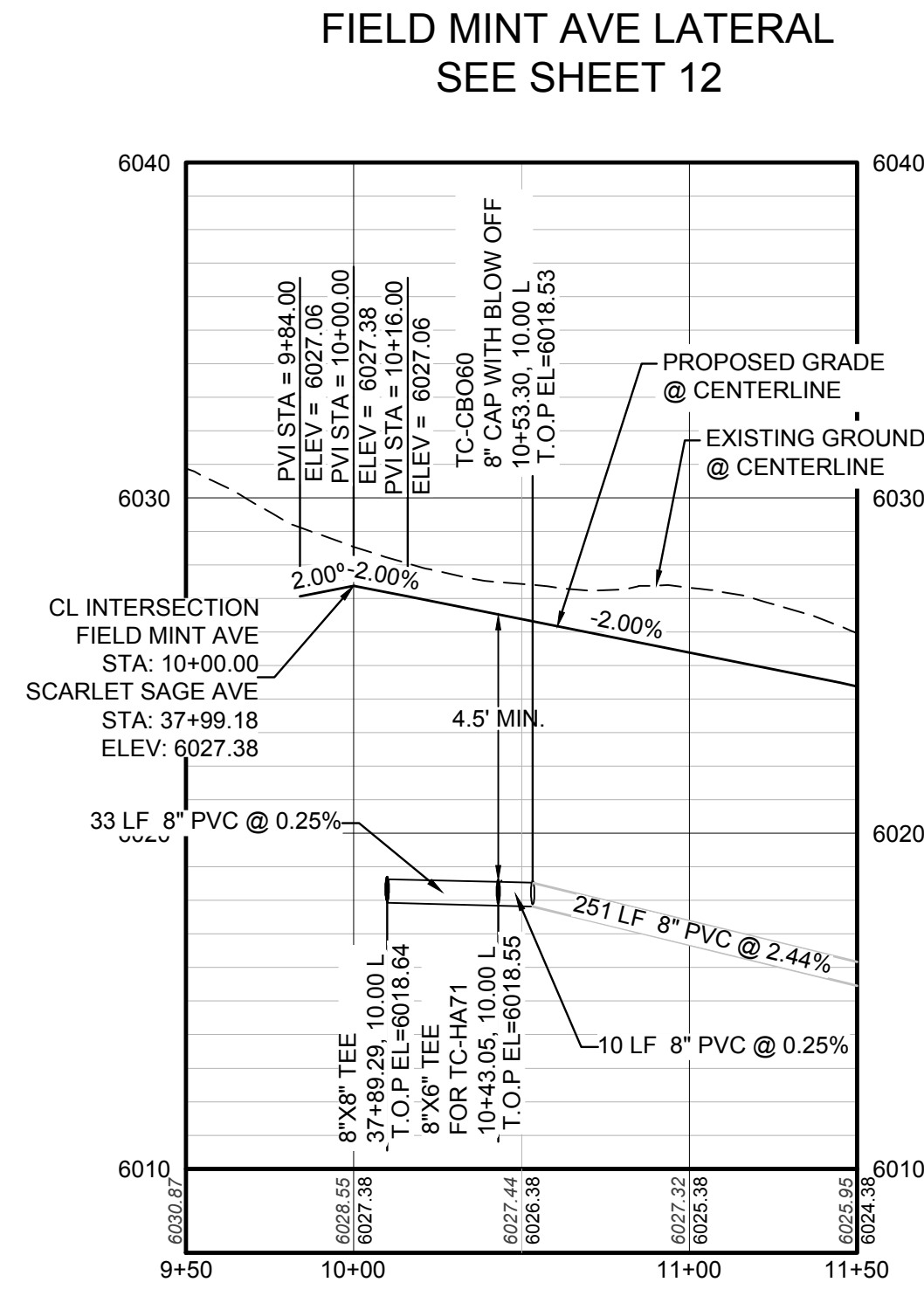


**EX MANAGEMENT**  
 7353 South Alton Way  
 CENTENNIAL, CO 80112

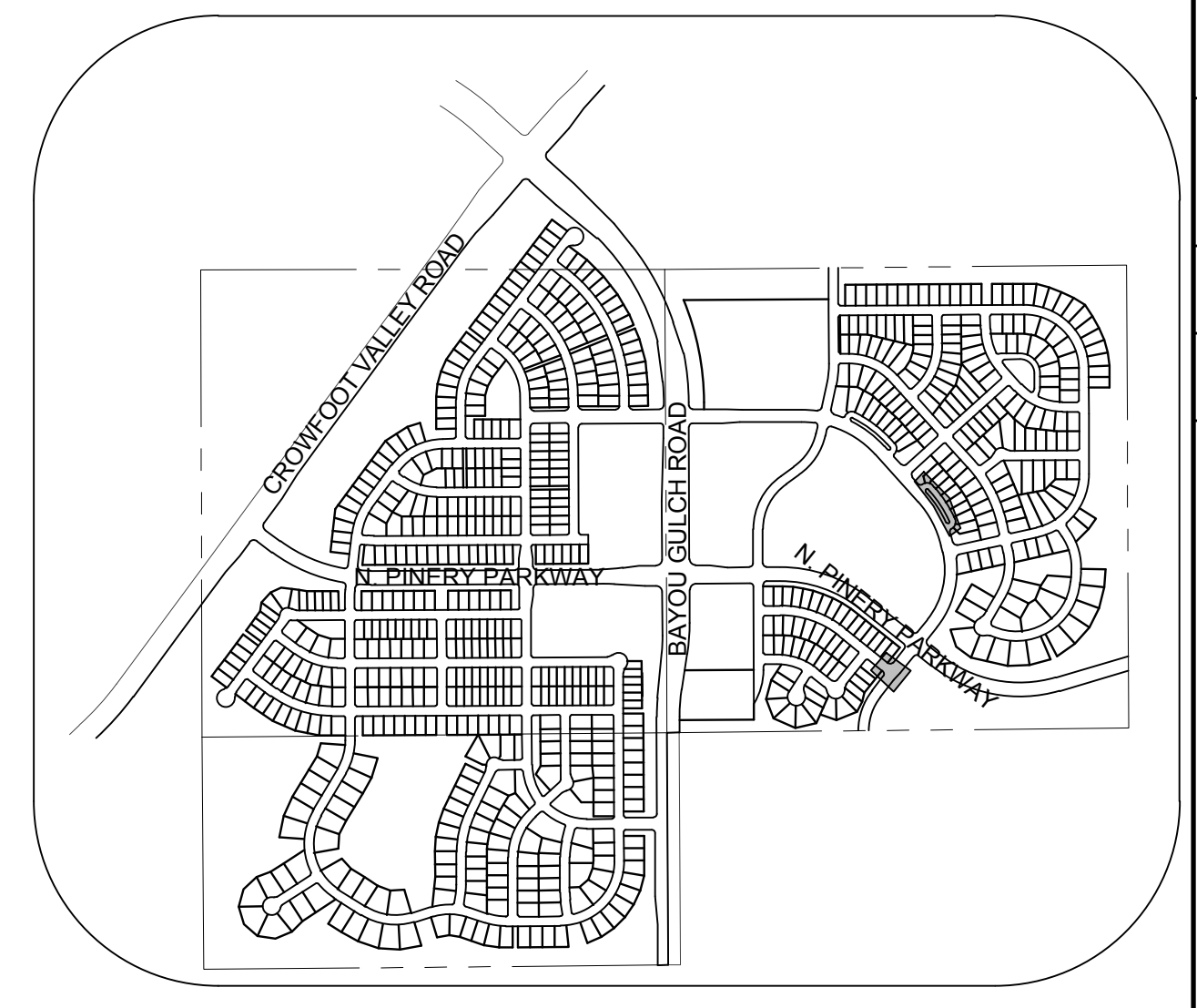
**TRAILS AT CROWFOOT**  
 FILING 9 CONSTRUCTION DRAWINGS  
 WATER PLAN & PROFILE  
 SCARLET SAGE AVENUE



PLAN: BLACK SEDGE CIR STA: 10+00.00 TO 14+00.00  
HORIZONTAL SCALE: 1" = 50'



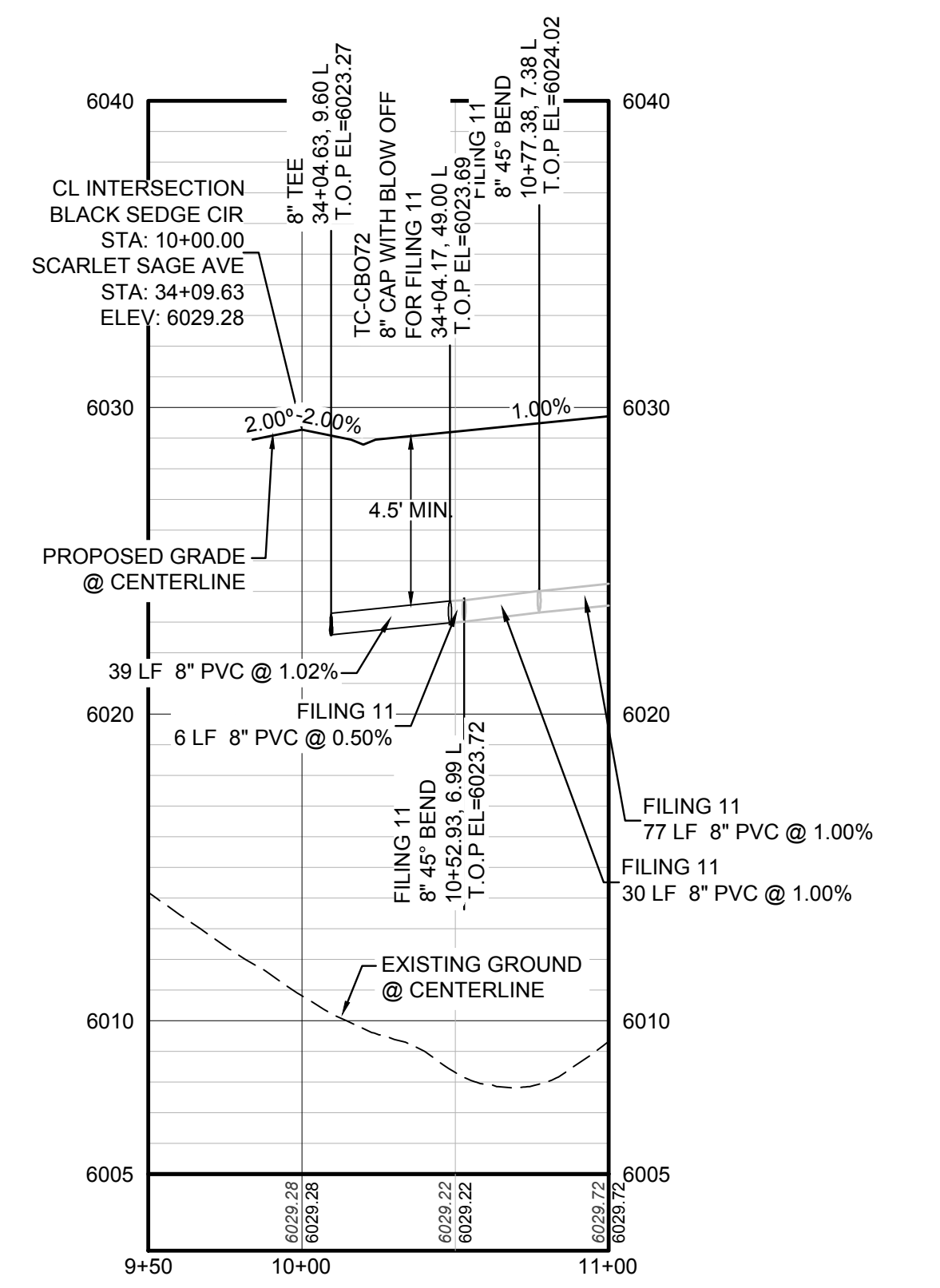
PROFILE: FIELD MINT AVE STA: 9+50.00 TO 11+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



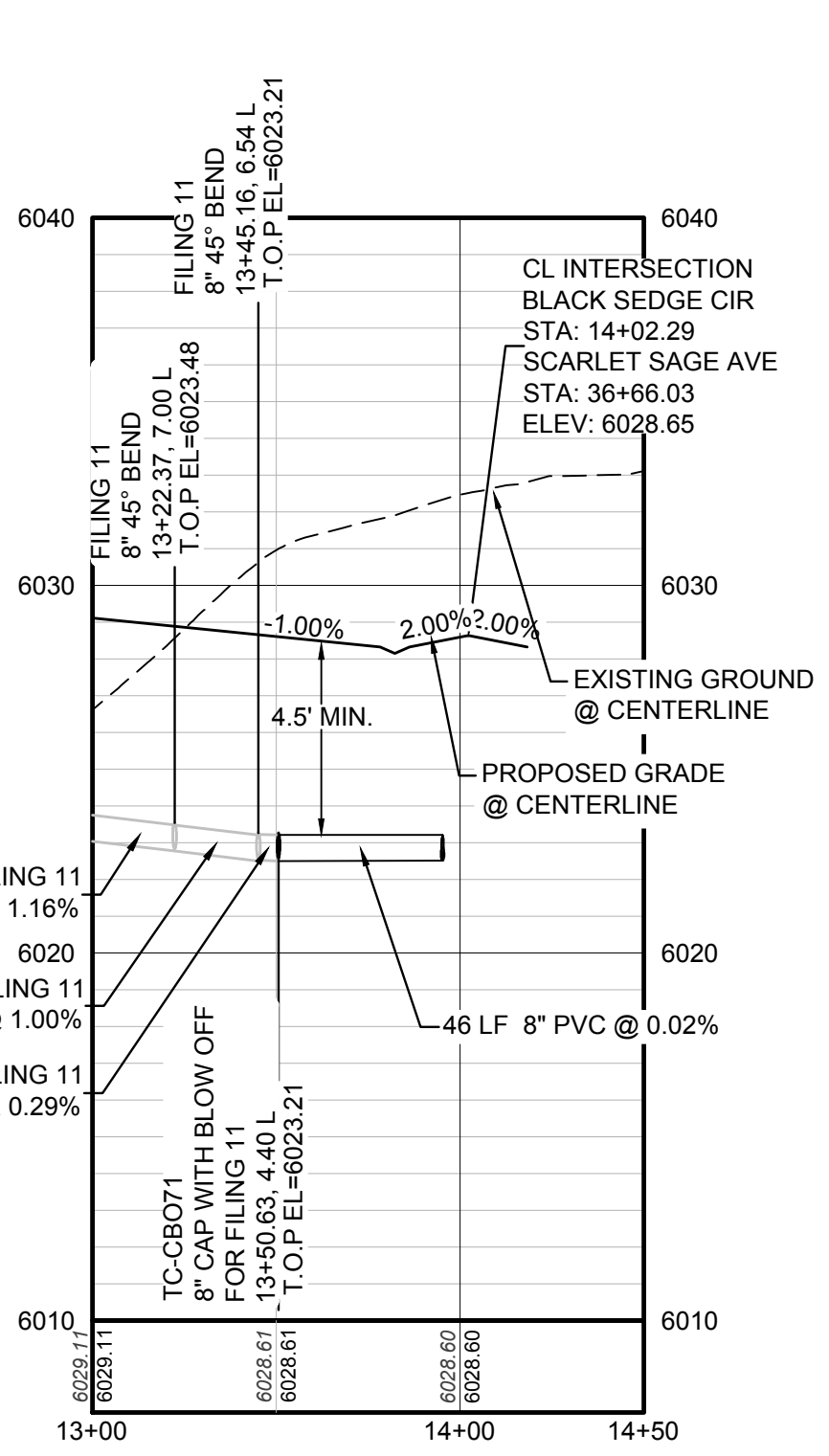
KEYMAP  
N.T.S.

### LEGEND

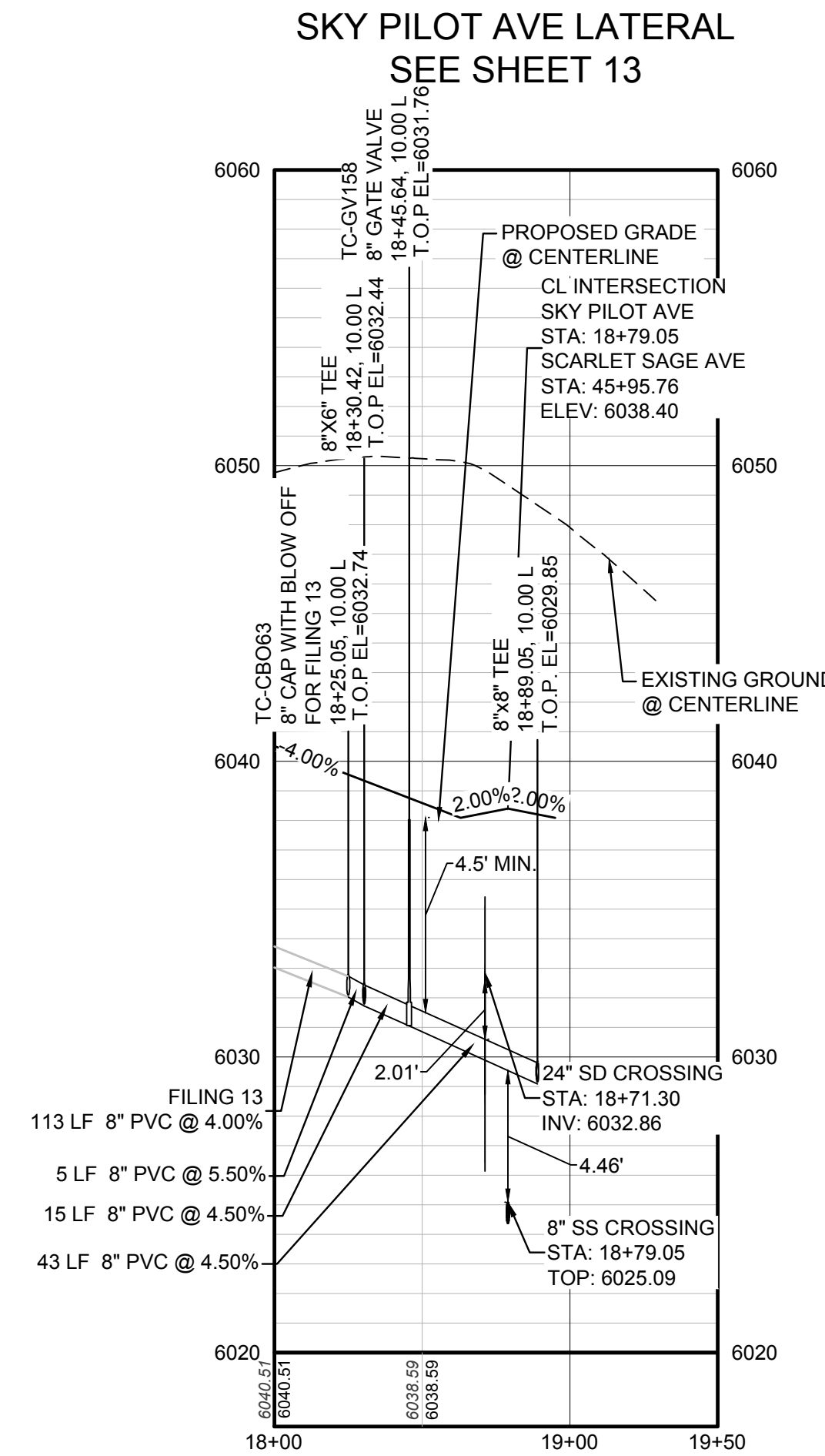
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⊕	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊕	PROPOSED FIRE HYDRANT	---	EXISTING 5' CONTOUR
⊕	PROPOSED WL FITTING WITH THRUST BLOCK	---	EXISTING 1' CONTOUR
⊕	PROPOSED FLARED END SECTION	---	PROPOSED 5' CONTOUR
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⊕	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
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⊕	PROPOSED SIDEWALK RAMP	---	SECTION LINE
10.00	EXISTING ELEVATION	---	FILING BOUNDARY
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⊕	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊕	PROPOSED STORM DRAIN MANHOLE	---	EXISTING TELEPHONE LINE



PROFILE: BLACK SEDGE CIR STA: 9+50.00 TO 11+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



PROFILE: BLACK SEDGE CIR STA: 13+00.00 TO 14+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



PROFILE: SKY PILOT AVE STA: 18+00.00 TO 19+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

### ABBREVIATIONS

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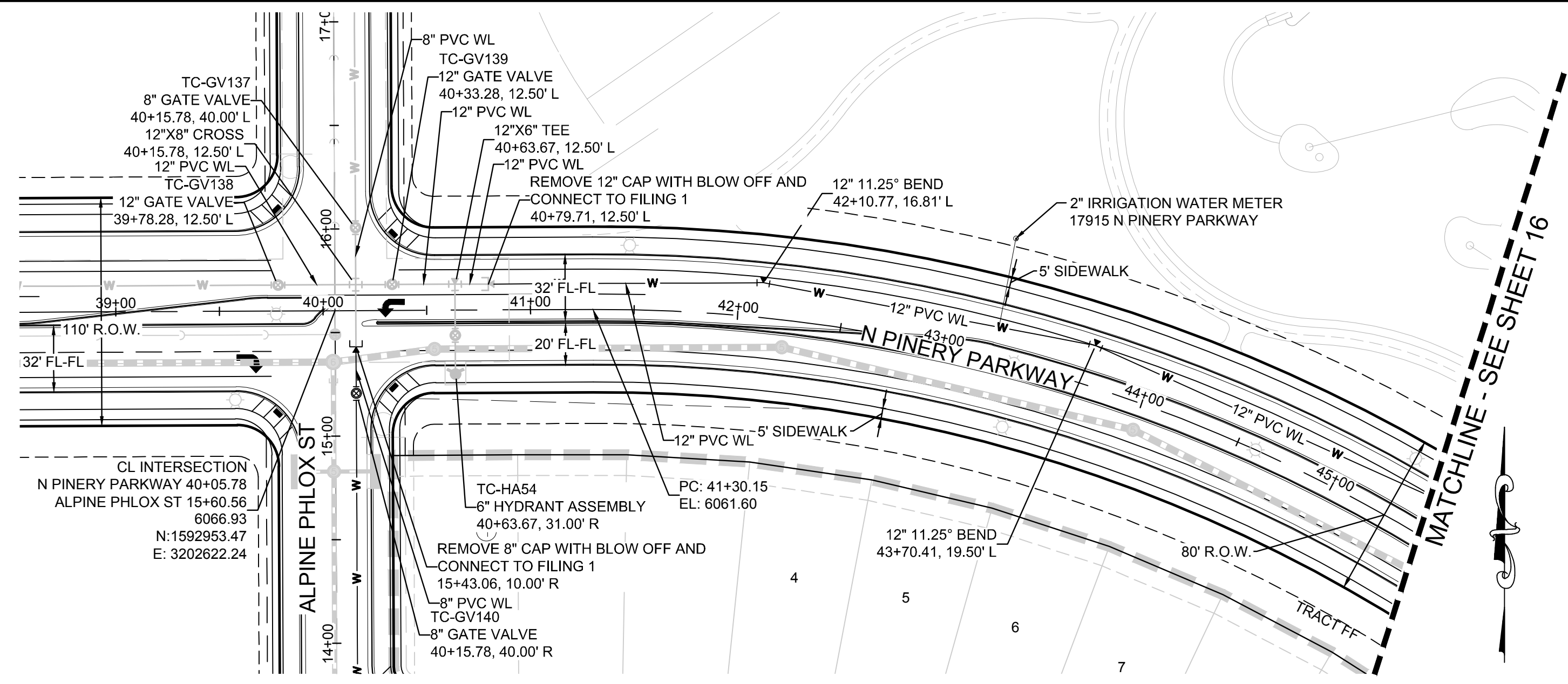
CALL 811  
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**BENCHMARK**  
THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 66 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

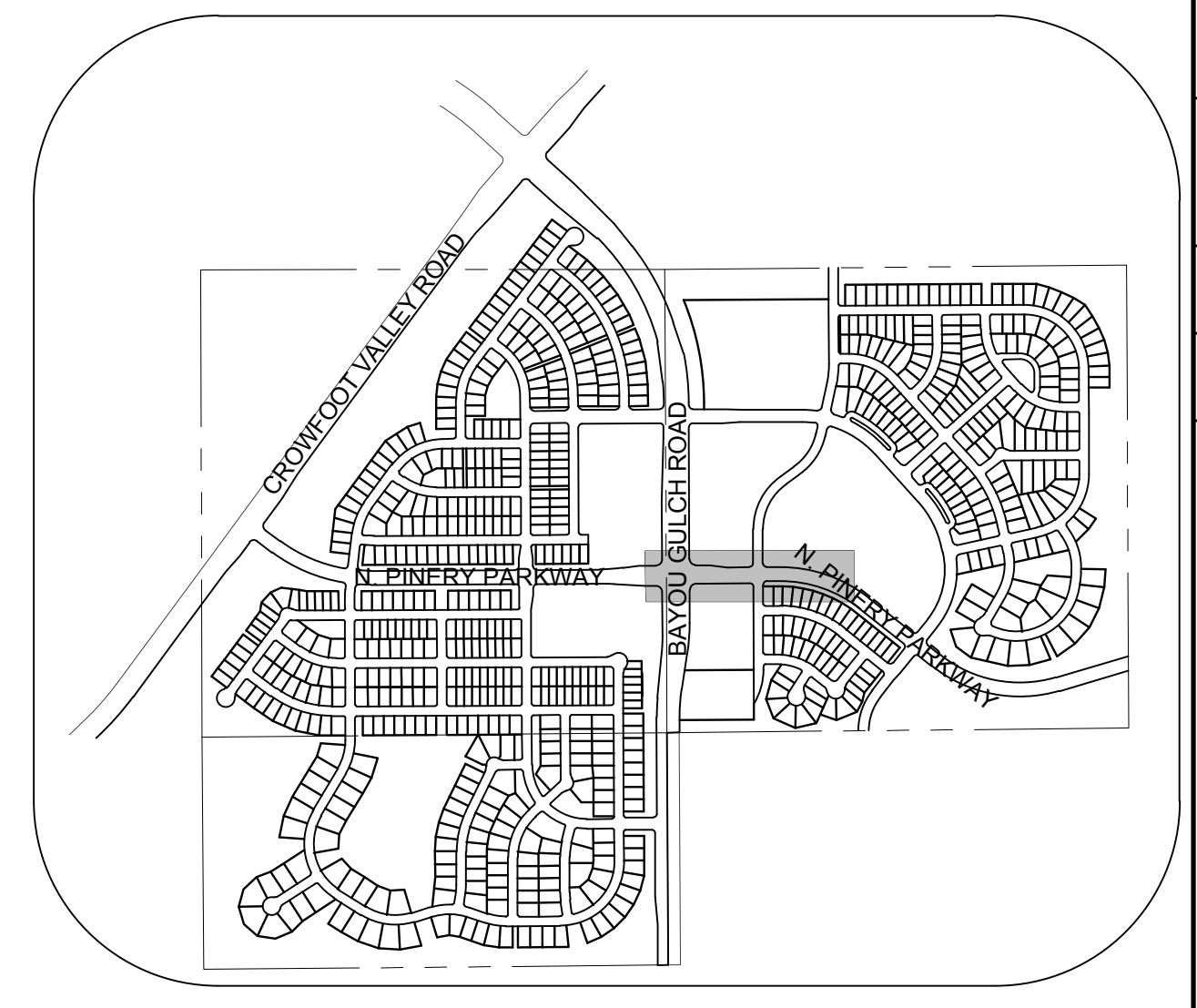
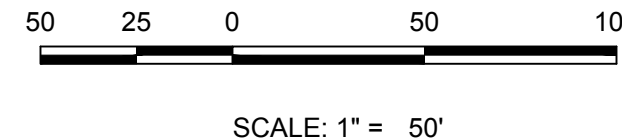
**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH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

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

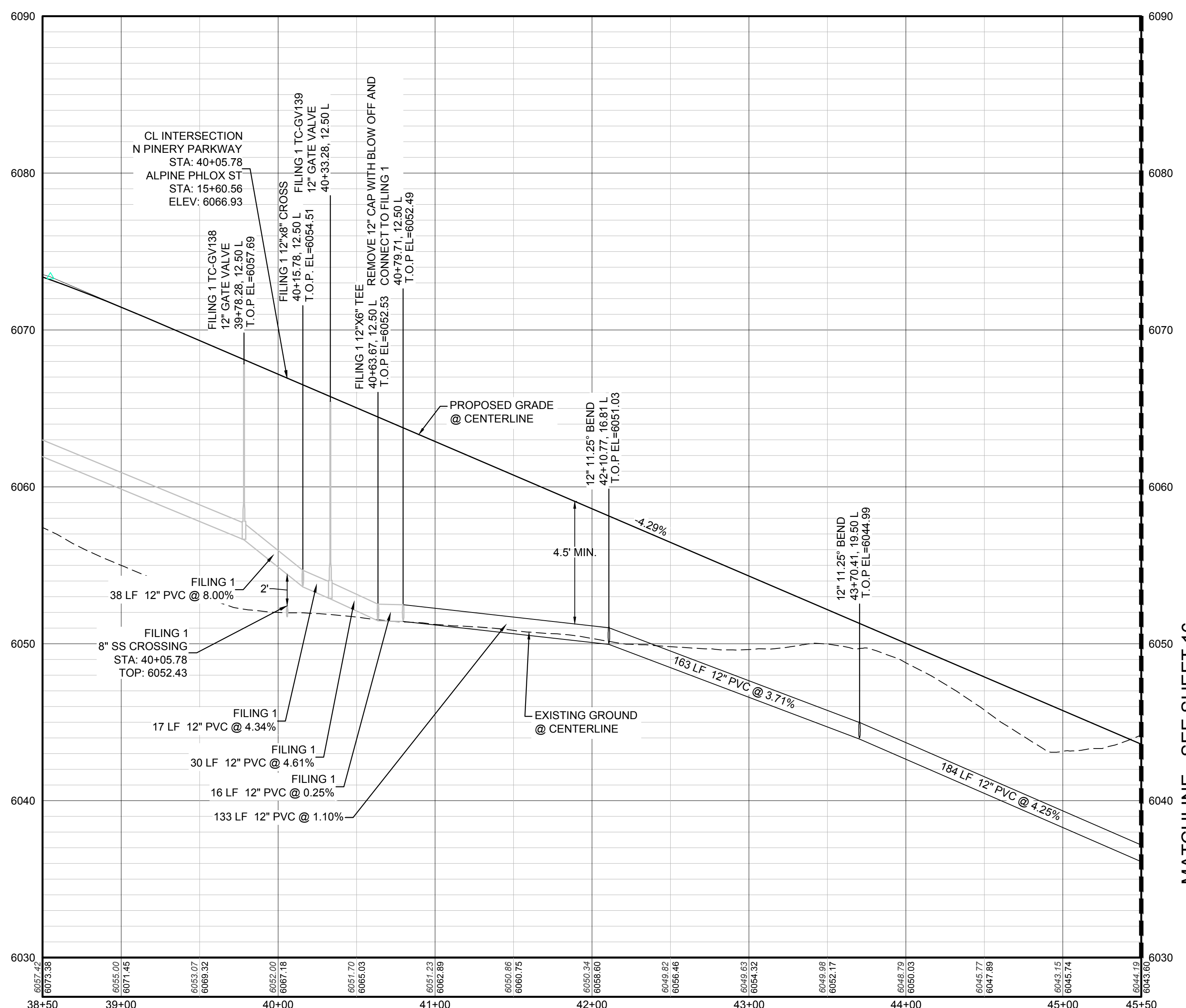
10338 E. Dry Creek Rd. Suite 410 Englewood, CO 80151 Tel: (720) 482-9526 Fax: (720) 482-9548	10338 E. Dry Creek Rd. Suite 410 Englewood, CO 80151 Tel: (720) 482-9526 Fax: (720) 482-9548
<b>CVL CONSULTANTS</b>	<b>CVL CONSULTANTS</b>
<b>ESX MANAGEMENT</b> 7353 South Alton Way CENTENNIAL, CO 80112	<b>ESX MANAGEMENT</b> 7353 South Alton Way CENTENNIAL, CO 80112
<b>TRAILS AT CROWFOOT</b> FILING 9 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE SCARLET SAGE AVENUE LATERALS	<b>TRAILS AT CROWFOOT</b> FILING 9 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE SCARLET SAGE AVENUE LATERALS
SCALE: AS SHOWN FILE NO: 8130283701	SCALE: AS SHOWN FILE NO: 8130283701
DRAWN BY: RHR CHECKED BY: JU DATE: MAY 2017	DRAWN BY: RHR CHECKED BY: JU DATE: MAY 2017
SHEET NUMBER 14	SHEET NUMBER 14



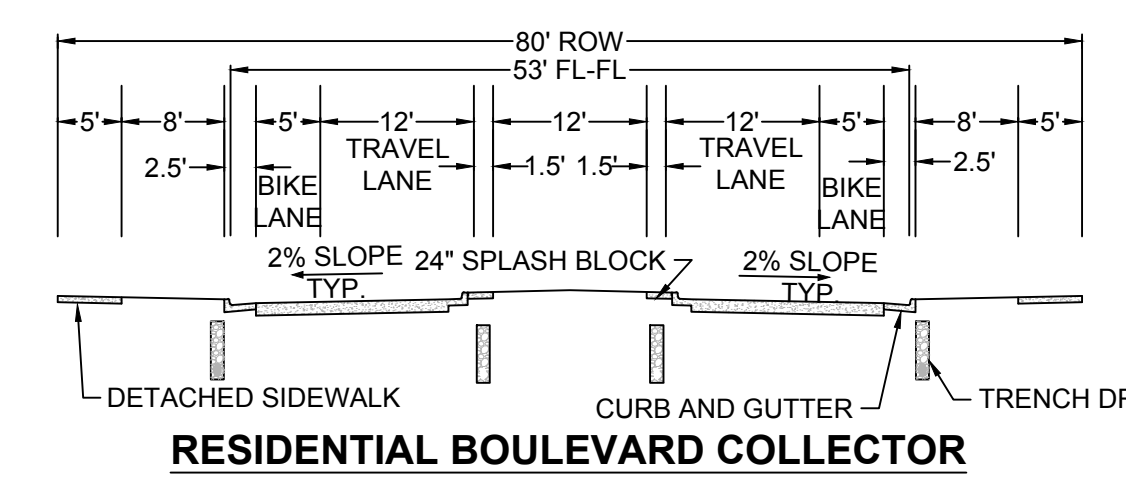
PLAN: N PINERY PARKWAY STA: 38+50.00 TO 45+50.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.



PROFILE: N PINERY PARKWAY STA: 38+50.00 TO 45+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



RESIDENTIAL BOULEVARD COLLECTOR

LEGEND			
②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊗	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⌋	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⊗	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊗	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊗	PROPOSED FIRE HYDRANT	5615	EXISTING 5' CONTOUR
⊗	PROPOSED WL FITTING WITH THRUST BLOCK	5616	EXISTING 1' CONTOUR
⊗	PROPOSED FLARED END SECTION	5620	PROPOSED 5' CONTOUR
⊗	PROPOSED LOW POINT BLOW-OFF	5607	PROPOSED 1' CONTOUR
⊗	PROPOSED AIR VALVE	---	PROPOSED STORM DRAIN
⊗	FUTURE PHASE VALVE	---	PROPOSED SEWER LINE WITH MANHOLE
⊗	FUTURE FIRE HYDRANT	---	PROPOSED SEWER LATERAL
⊗	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
⊗	PROPOSED SIDEWALK	---	PROPOSED WATER LATERAL W/ METER
⊗	PROPOSED SIDEWALK RAMP	---	SECTION LINE
10.00	EXISTING ELEVATION	---	FILING BOUNDARY
10.00	PROPOSED DESIGN ELEVATION	---	EXISTING FIBER OPTIC LINE
⊗	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊗	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
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ELEVATION	ELEVATION	RCP	REINFORCED CONCRETE PIPE
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EVP	END VERTICAL PROFILE	SD	STORM DRAIN
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GV	GATE VALVE	STA	STATION
HA	HYDRANT ASSEMBLY	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

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ESX MANAGEMENT  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 9 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
NORTH PINERY PARKWAY

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RHR  
CHECKED BY: JJ  
DATE: MAY 2017

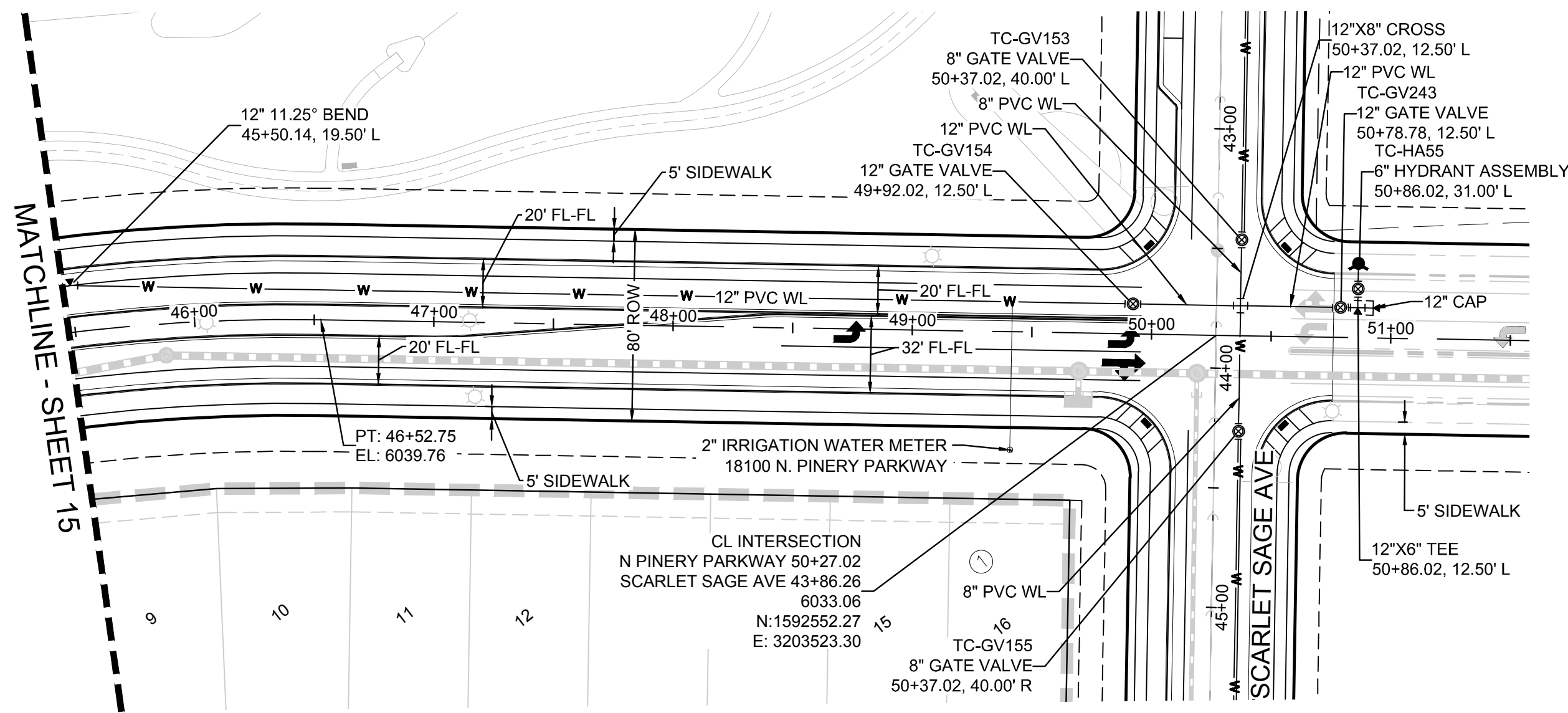
SHEET NUMBER  
**15**

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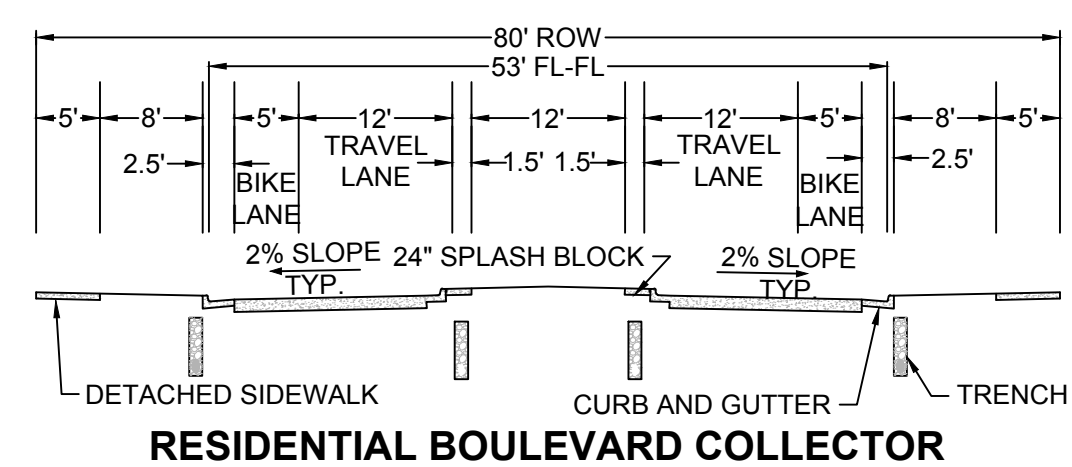
BENCHMARK  
THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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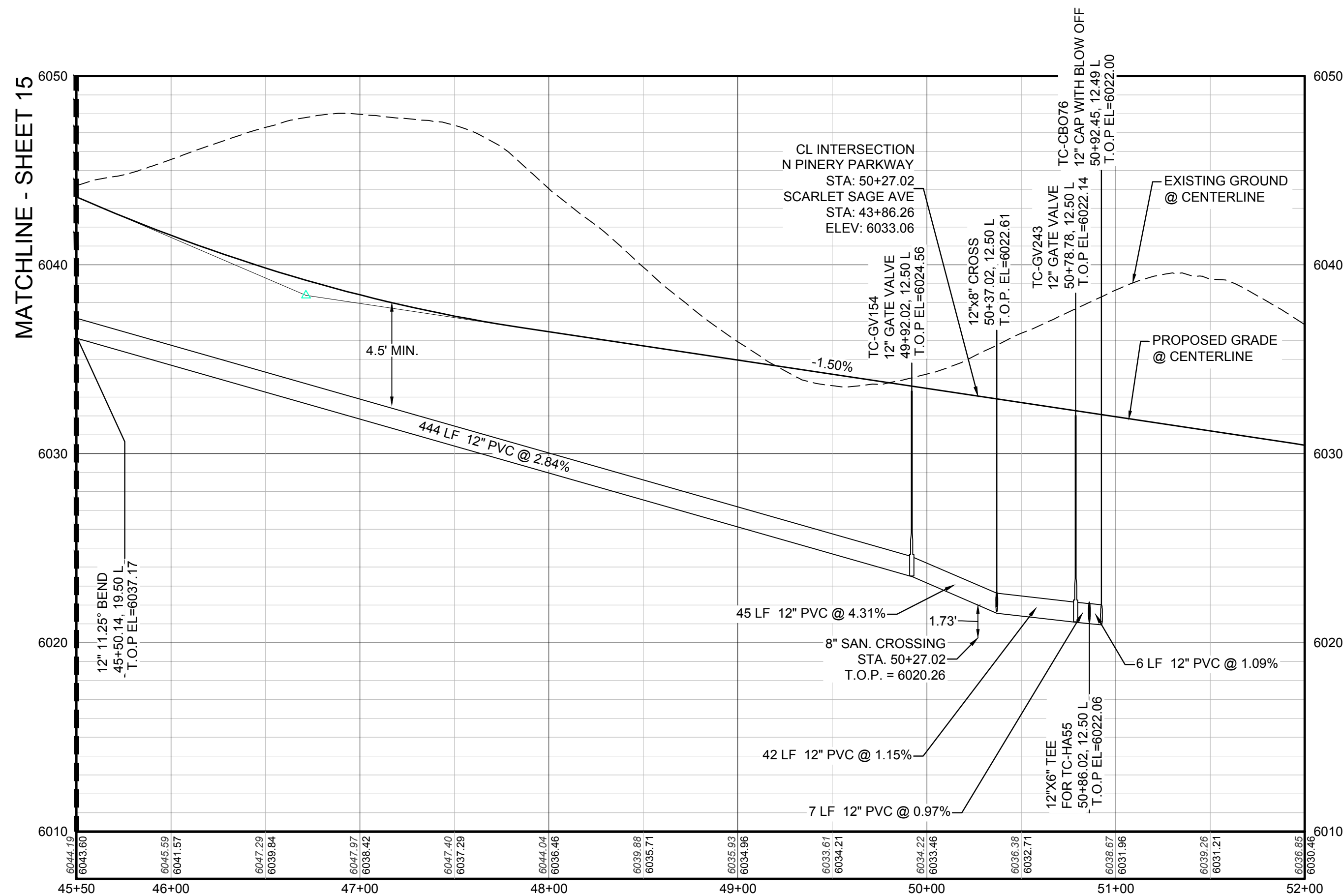
PREPARED UNDER THE SUPERVISION OF  
  
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COLORADO P.E. 0050067



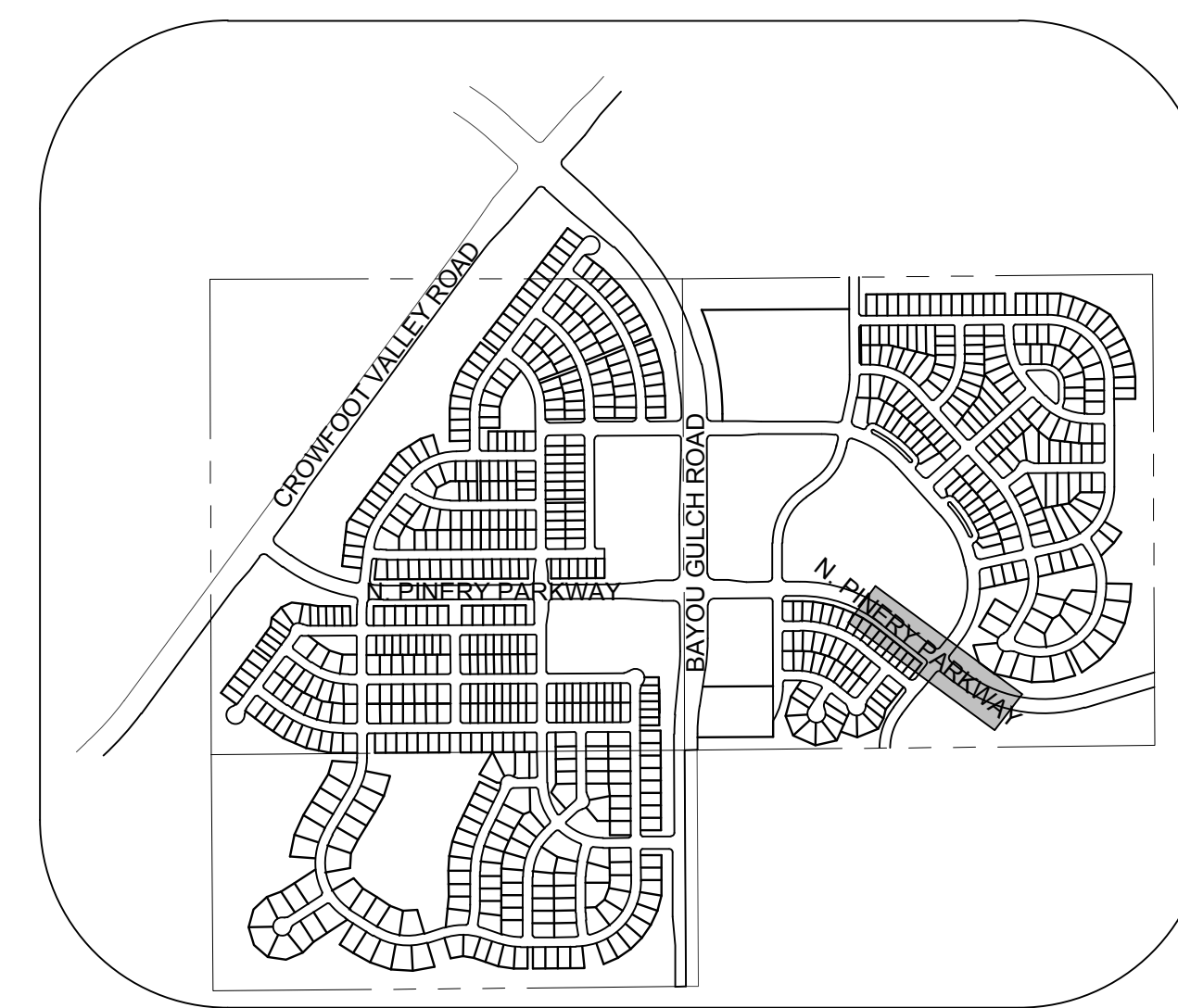
PLAN: N PINERY PARKWAY STA: 45+50.00 TO 51+50.00  
HORIZONTAL SCALE: 1" = 50'



RESIDENTIAL BOULEVARD COLLECTOR



PROFILE: N PINERY PARKWAY STA: 45+50.00 TO 52+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



KEYMAP

N.T.S.

LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
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⊗	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
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⊗	PROPOSED STORM DRAIN MANHOLE	---	EXISTING TELEPHONE LINE

ABBREVIATIONS

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**TRAILS AT CROWFOOT**  
FILING 9 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
NORTH PINERY PARKWAY

SCALE: AS SHOWN  
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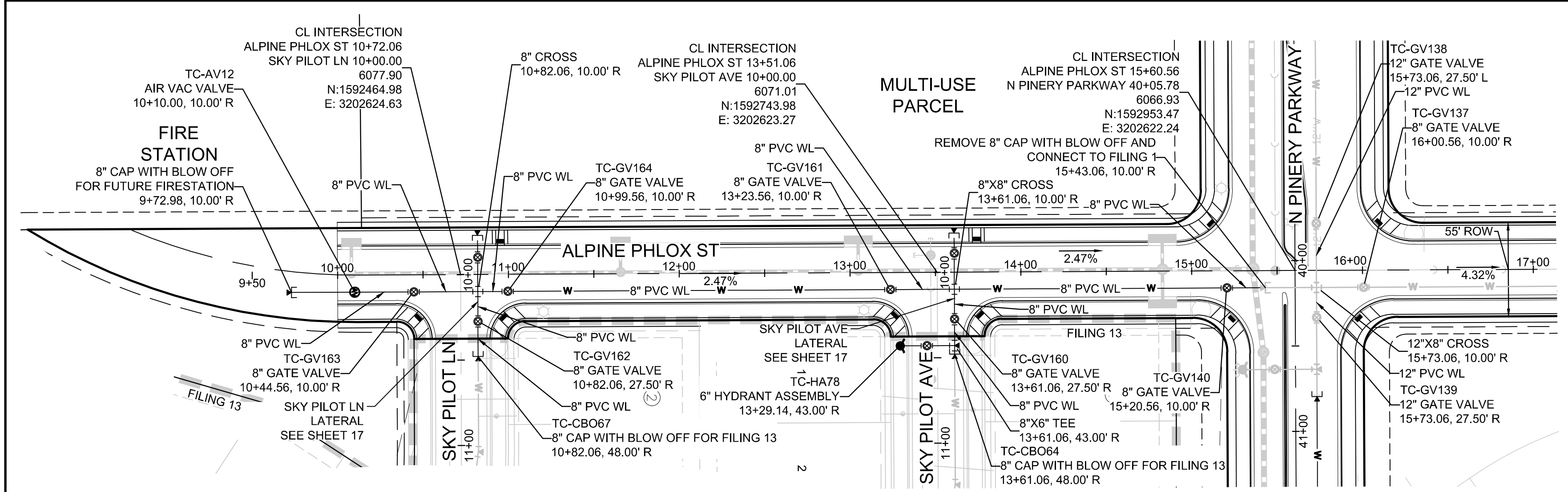
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**16**

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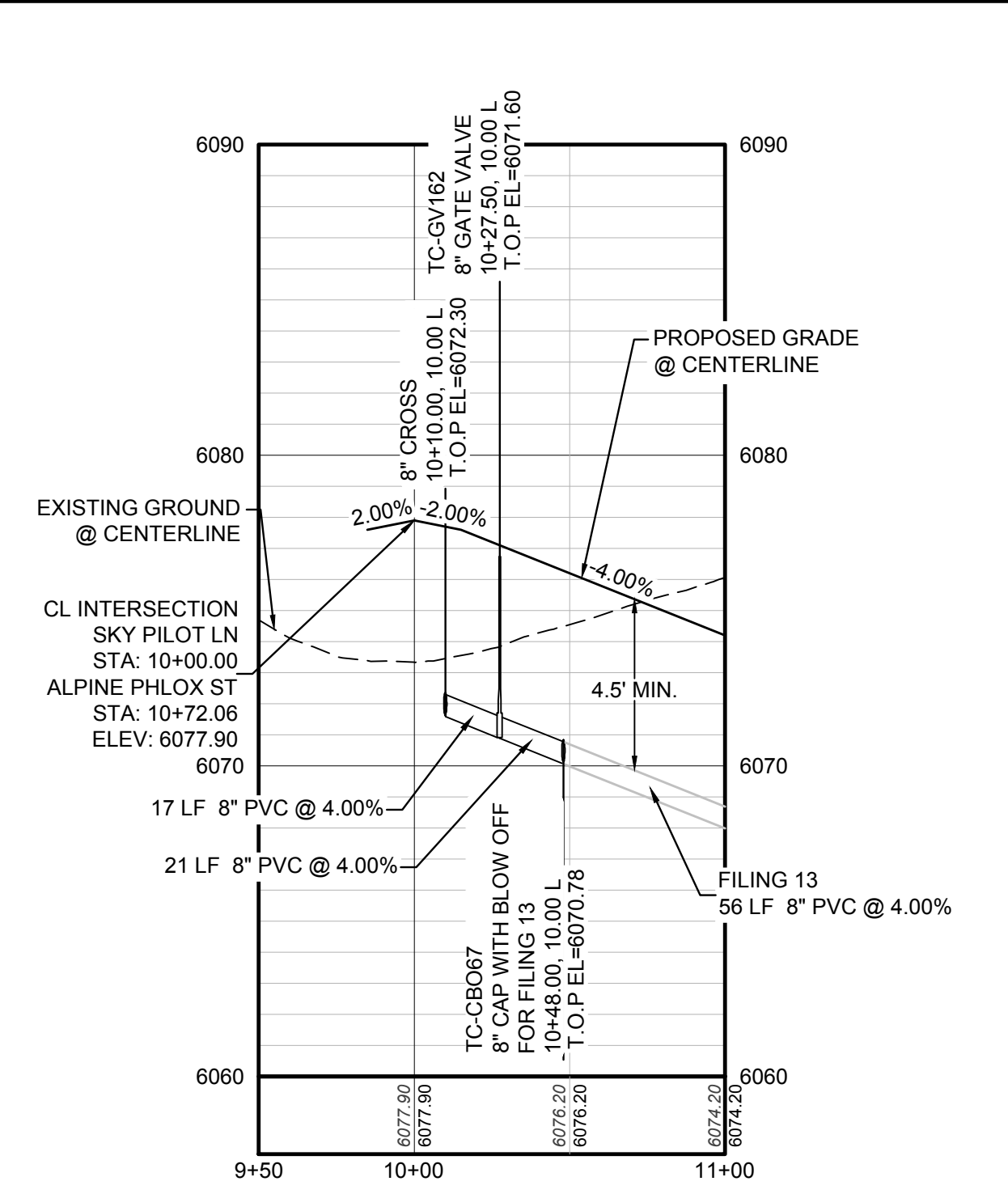
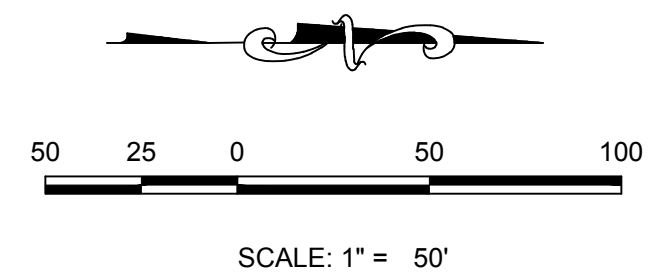
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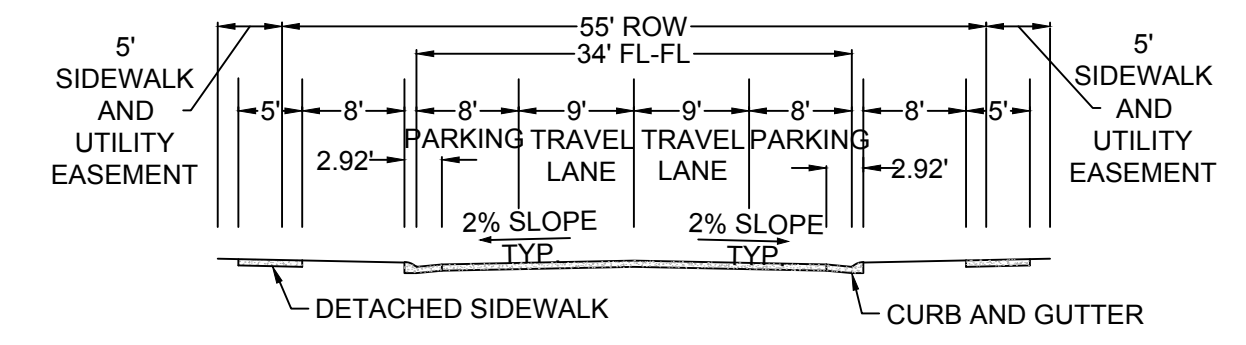
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COLORADO P.E. 0050067



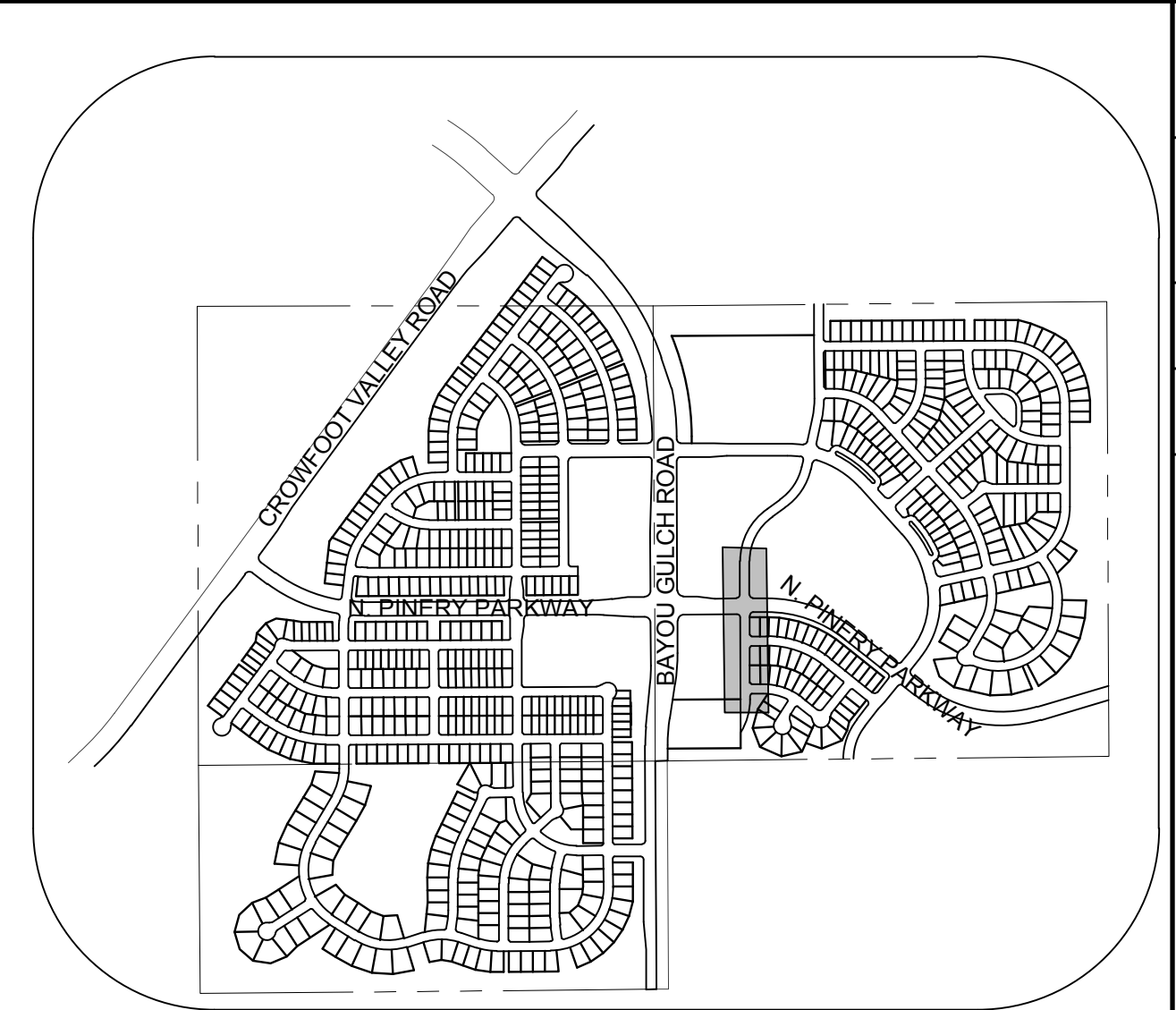
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HORIZONTAL SCALE: 1" = 50'



PROFILE: SKY PILOT LN STA: 9+50.00 TO 11+00.00  
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RESIDENTIAL LOCAL



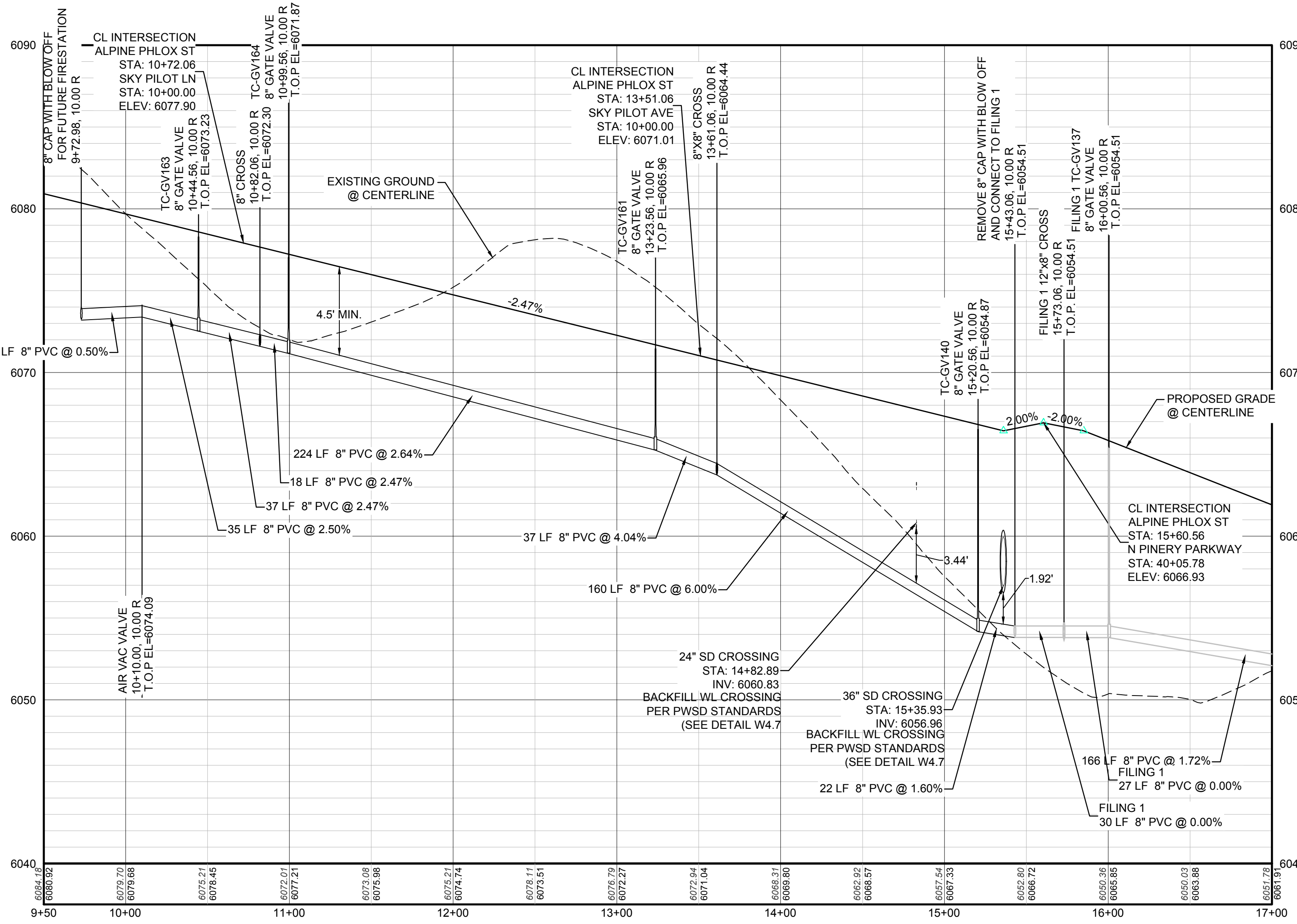
KEYMAP  
N.T.S.

**LEGEND**

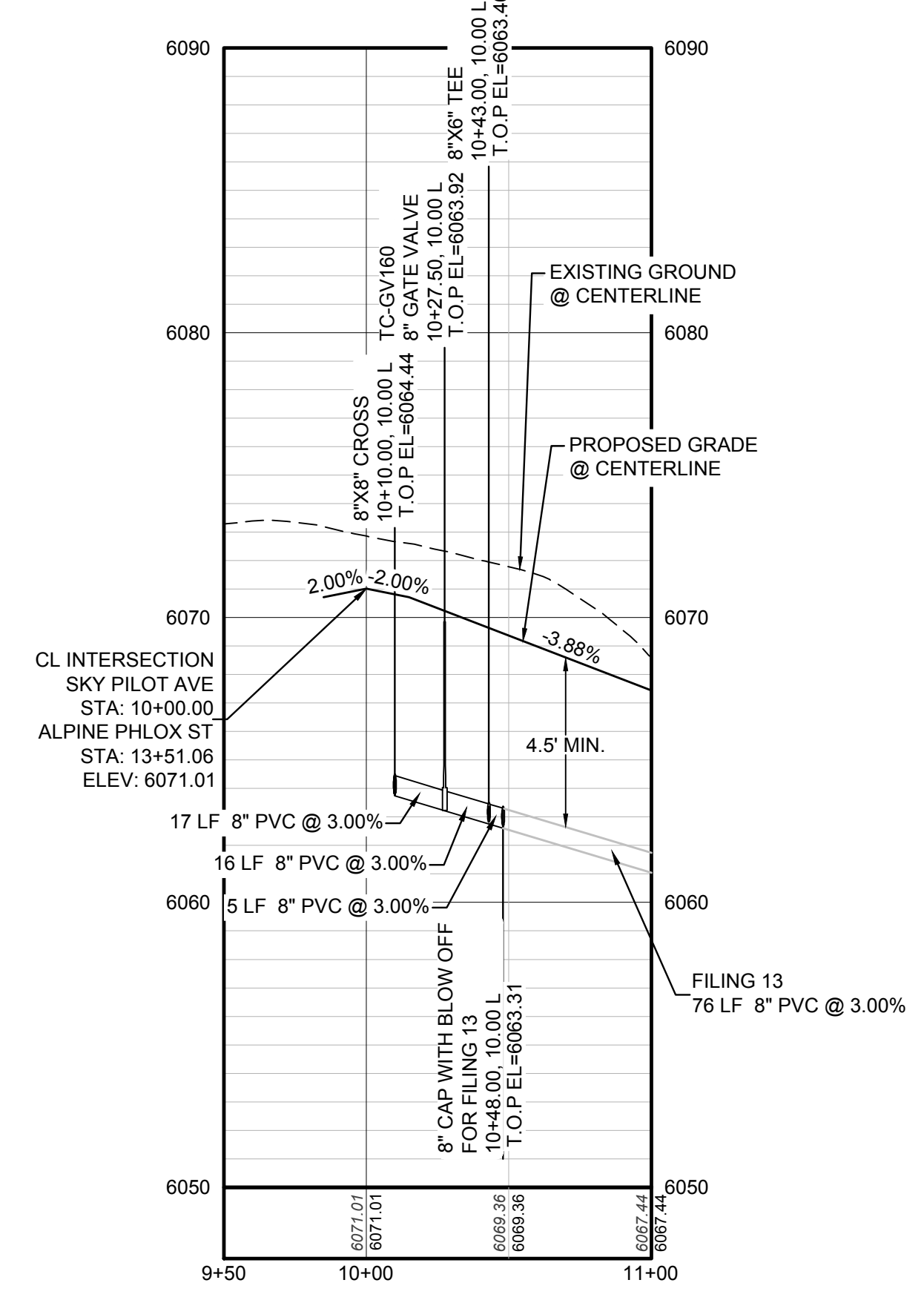
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⊛	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
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PROFILE: ALPINE PHLOX ST STA: 9+50.00 TO 17+00.00  
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PROFILE: SKY PILOT AVE STA: 9+50.00 TO 11+00.00  
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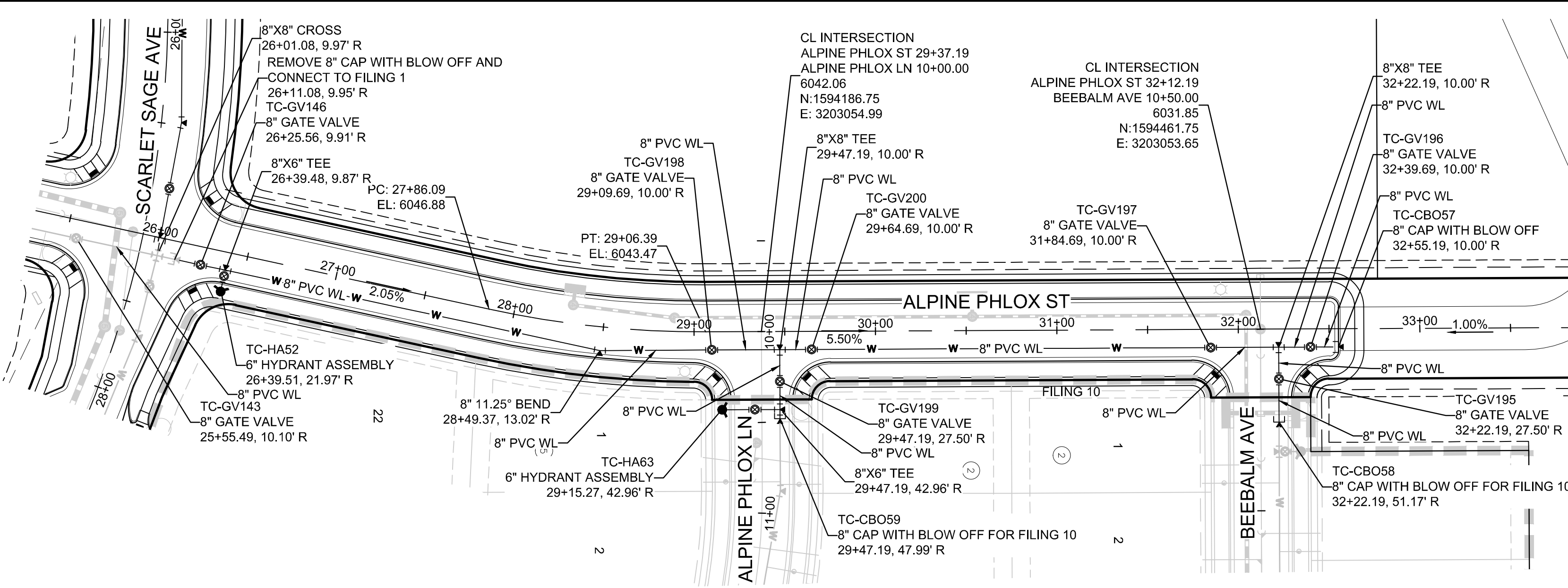
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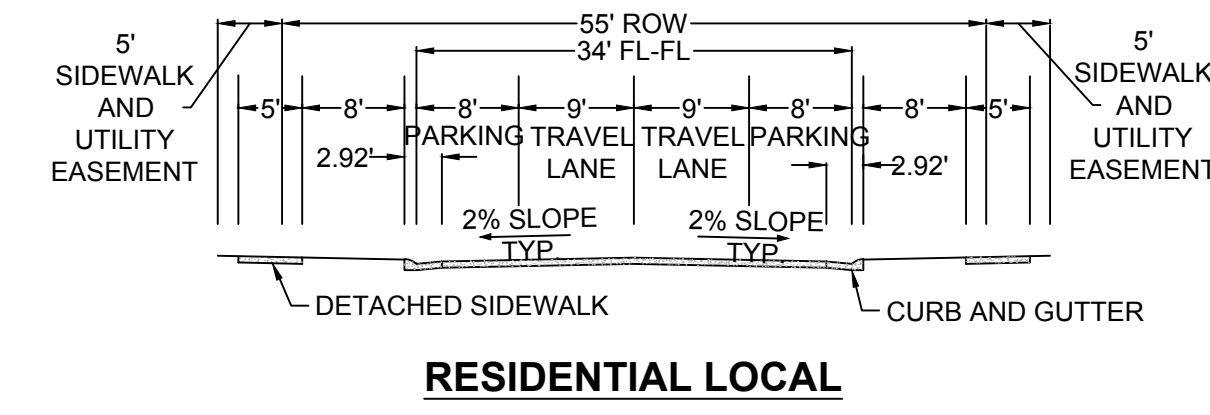
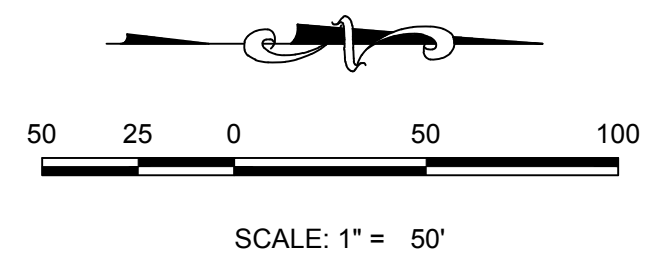
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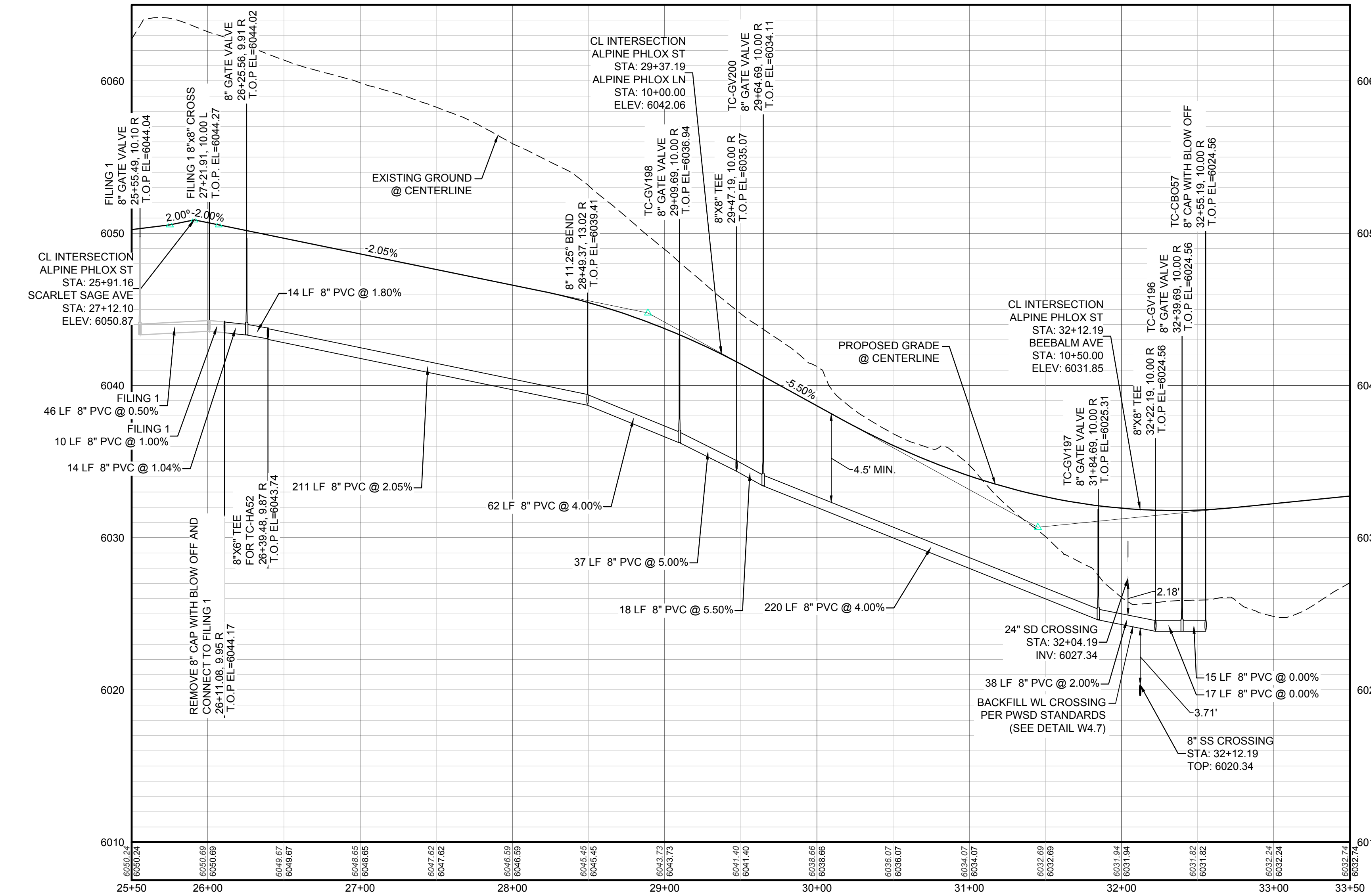
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	Revisions		No.		Date		Init.		Date		Appr.			



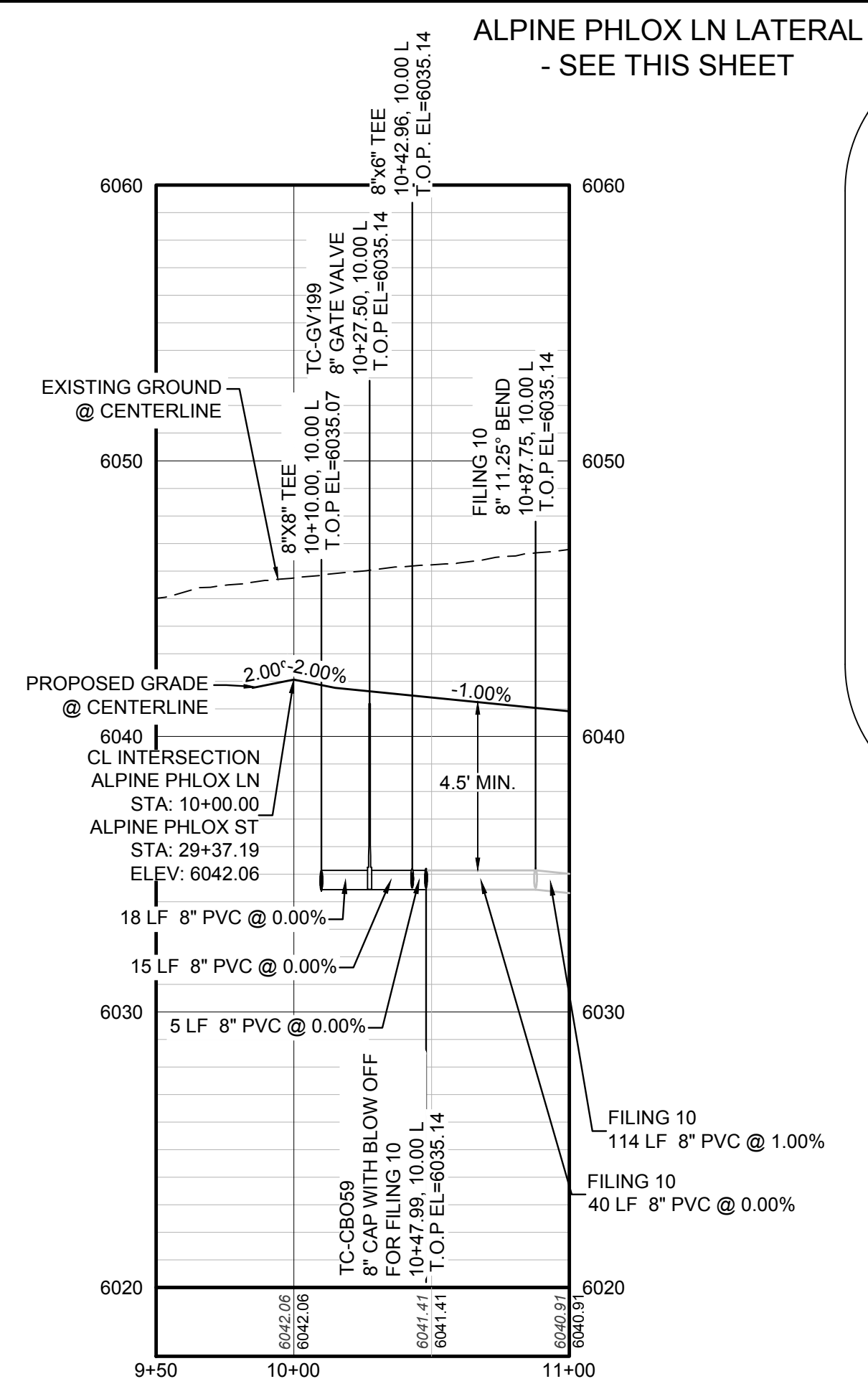
PLAN: ALPINE PHLOX ST STA: 25+50.00 TO 33+50.00  
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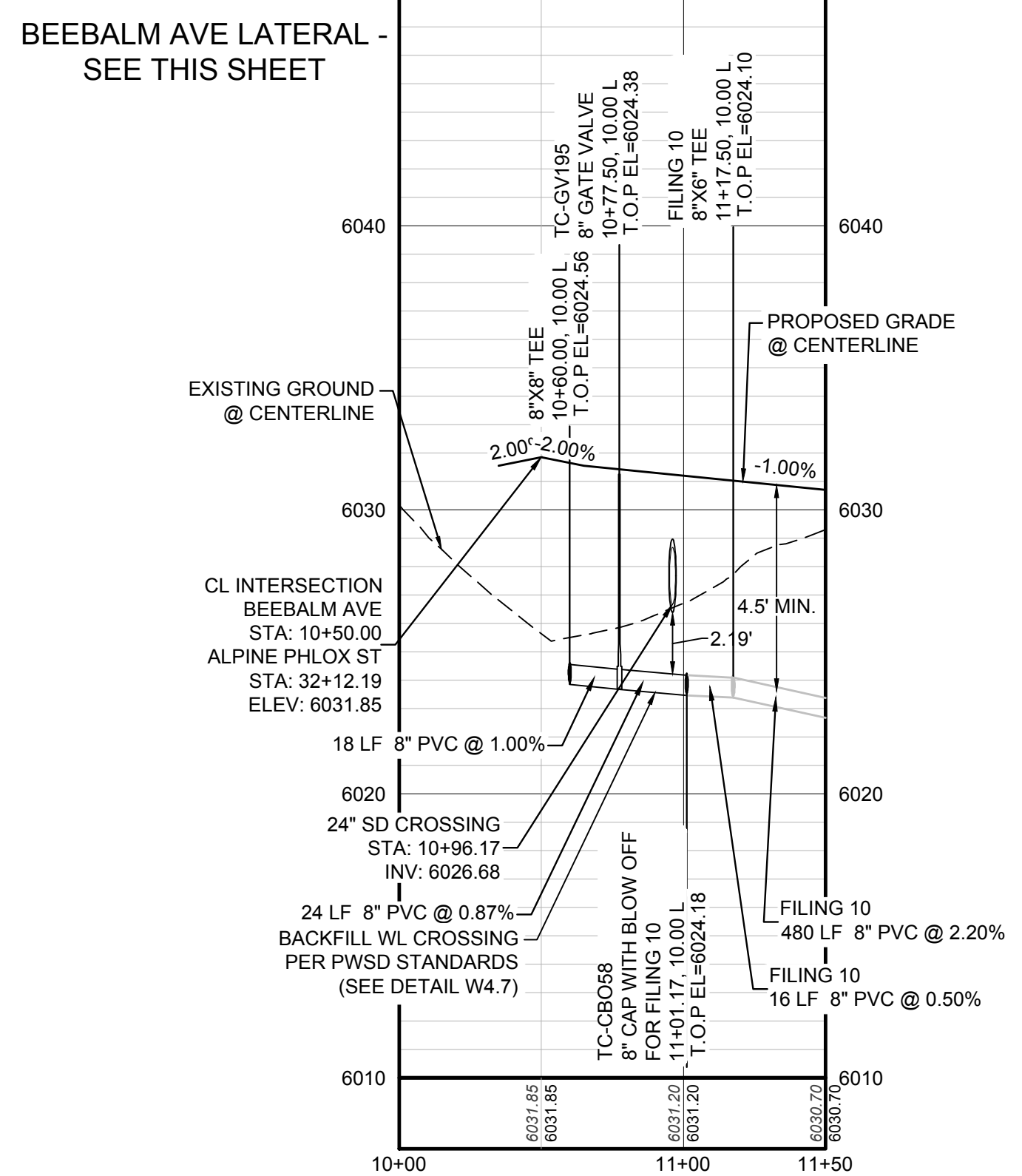
RESIDENTIAL LOCAL



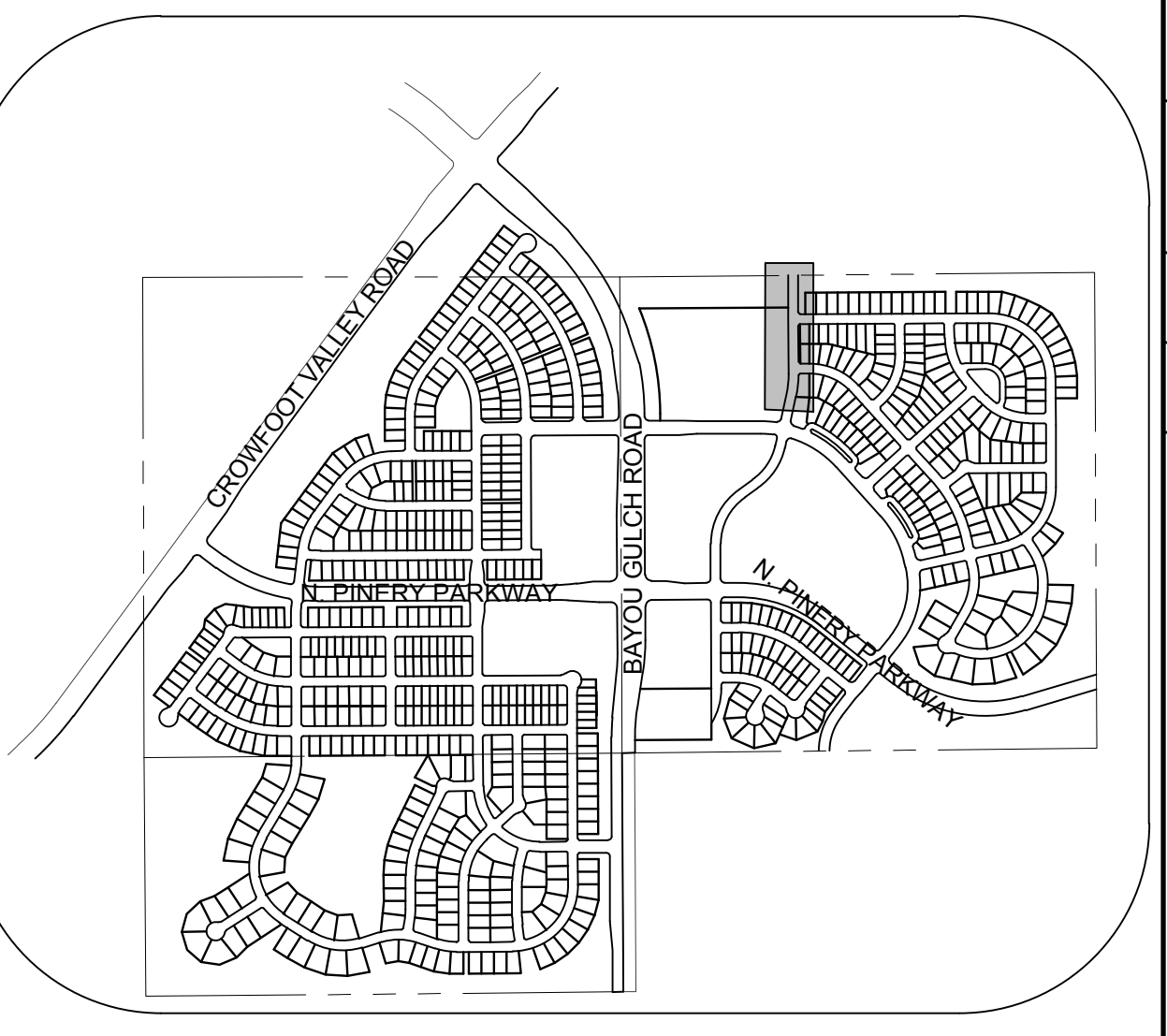
PROFILE: ALPINE PHLOX ST STA: 25+50.00 TO 33+50.00  
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PROFILE: ALPINE PHLOX LN STA: 9+50.00 TO 11+00.00  
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VERTICAL: 1" = 5'



PROFILE: BEEBALM AVE STA: 10+00.00 TO 11+50.00  
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KEYMAP  
N.T.S.

**LEGEND**

	BLOCK NUMBER		PROPOSED RANGE POINT
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	PROPOSED WL FITTING WITH THRUST BLOCK		EXISTING 5' CONTOUR
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INV	INVERT	WL	WATER LINE
K	CURVATURE COEFFICIENT	WLC	WATER LINE CONNECTION
LF	LINEAR FEET	WSE	WATER SURFACE ELEVATION

**TRAILS AT CROWFOOT**  
FILING 9 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
ALPINE PHLOX STREET

SCALE: AS SHOWN  
DRAWN BY: RHR  
CHECKED BY: JU  
DATE: MAY 2017

SHEET NUMBER  
18

No.	Revisions	Date	Init.	Appr.	Date

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**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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







### MECHANICAL JOINT RESTRAINT

WEDGE DETAIL      BOLT HOLE DETAIL

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

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

PARKER WATER & SANITATION DISTRICT  
MECHANICAL JOINT RESTRAINT DETAILS

SCALE: NONE      DATE: 2/96

APPROVED: 2/90  
PVR 12/07  
DIRECTOR OF ENGINEERING 1/16

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	11-1/4" BENDS	22-1/2" BENDS	45" BENDS	90" BENDS	TEE OR DEAD END
4"	1.00	1.20	1.00	1.80	1.50
6"	1.00	1.45	1.25	2.50	2.00
8"	1.00	1.90	1.50	3.20	2.50
10"	1.00	2.40	1.75	4.00	3.00
12"	1.00	2.90	2.00	4.75	3.50
14"	1.00	3.40	2.25	5.50	4.00
16"	1.00	3.90	2.50	6.25	4.50
18"	1.00	4.40	2.75	7.00	5.00
20"	1.00	4.90	3.00	7.75	5.50
24"	1.00	5.90	3.50	9.25	6.50

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

PARKER WATER & SANITATION DISTRICT  
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION

SCALE: NONE      DATE: 2/96

APPROVED: 4/01  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.18

HALF PLAN

TYPICAL CROSS SECTION

24" DIAMETER RING AND COVER

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

PARKER WATER & SANITATION DISTRICT  
24" DIAMETER RING AND COVER

SCALE: NONE      DATE: 6/96

APPROVED: 12/97  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.19

ACCESS MANHOLE

ACCESS MANHOLE AND AIR VALVE ASSEMBLY

NOTES:  
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPES.  
RESIDENTIAL ASSEMBLY MAY BE USED IN RESIDENTIAL AREAS ONLY (SEE DETAIL SHEET W6.3)  
2. SEE SHEET W3.6 FOR CONCRETE MANHOLE BASE BEAMS AND AIR/VACUUM VALVE DETAILS.

PARKER WATER & SANITATION DISTRICT  
ACCESS MANHOLE ASSEMBLY

SCALE: NONE      DATE: 2/96

APPROVED: 4/01  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.20

STANDARD TRENCH SECTION

STREET CUT PATCH

PARKER WATER & SANITATION DISTRICT  
TYPICAL TRENCH SECTION PIPE PROTECTION

SCALE: NONE      DATE: 2/96

APPROVED: 5/98  
PVR 2/00  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.1

### PIPE BEDDING

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

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

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

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

Spongy Sand for use with 20-inch or smaller

Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 200	0-5

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

PARKER WATER & SANITATION DISTRICT  
PIPE BEDDING

SCALE: NONE      DATE: 2/96

APPROVED: 5/98  
PVR 2/00  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.2

PLAN VIEW

PROFILE

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 ENCASING.

PARKER WATER & SANITATION DISTRICT  
WATERLINE ENCASEMENT

SCALE: NONE      DATE: 5/98

APPROVED: 1/16  
PVR 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:

$$L = \frac{C}{\sin \phi}$$

PARKER WATER & SANITATION DISTRICT  
BORED CROSSINGS BENEATH CONDUITS

SCALE: NONE      DATE: 2/96

APPROVED: 2/00  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.4

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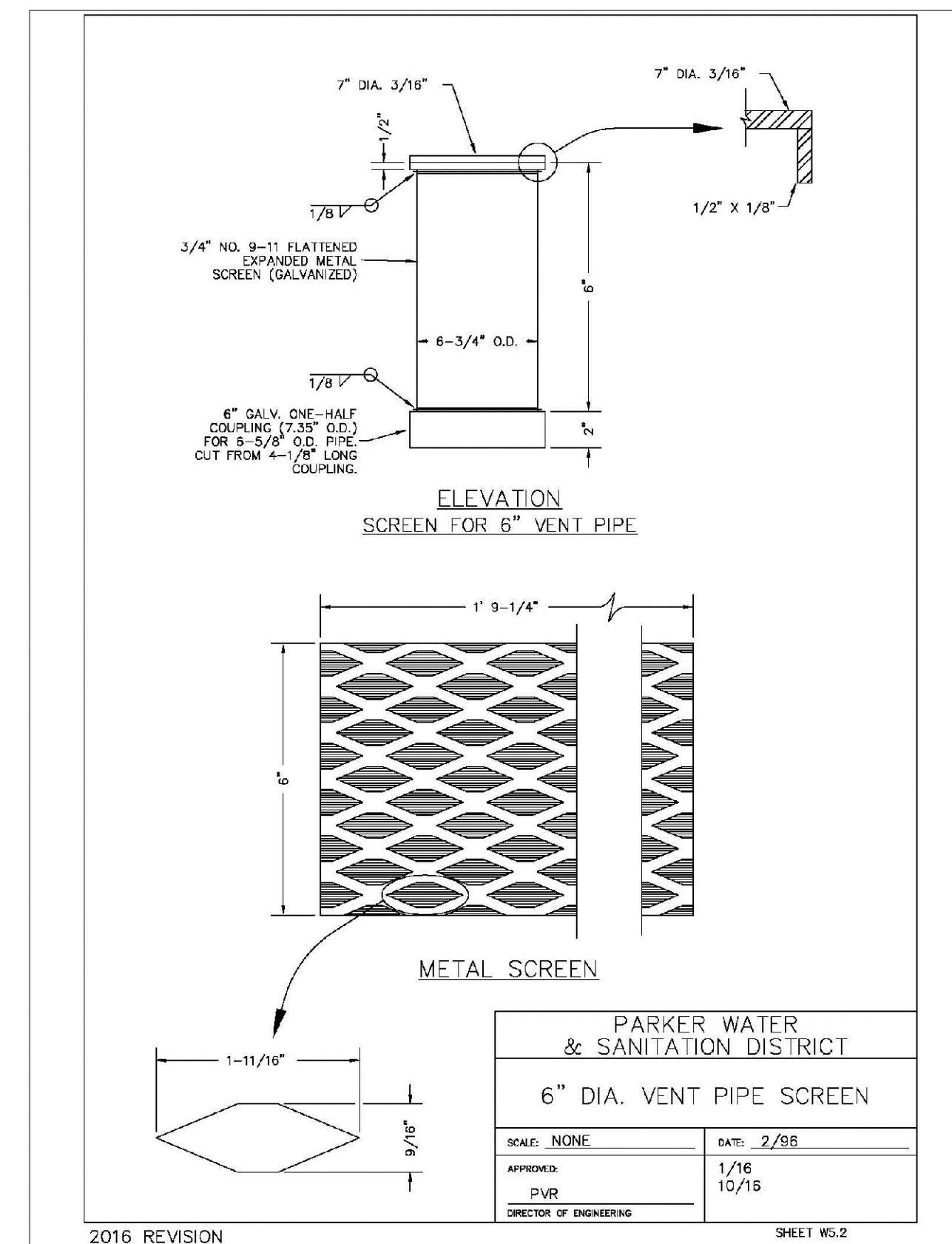
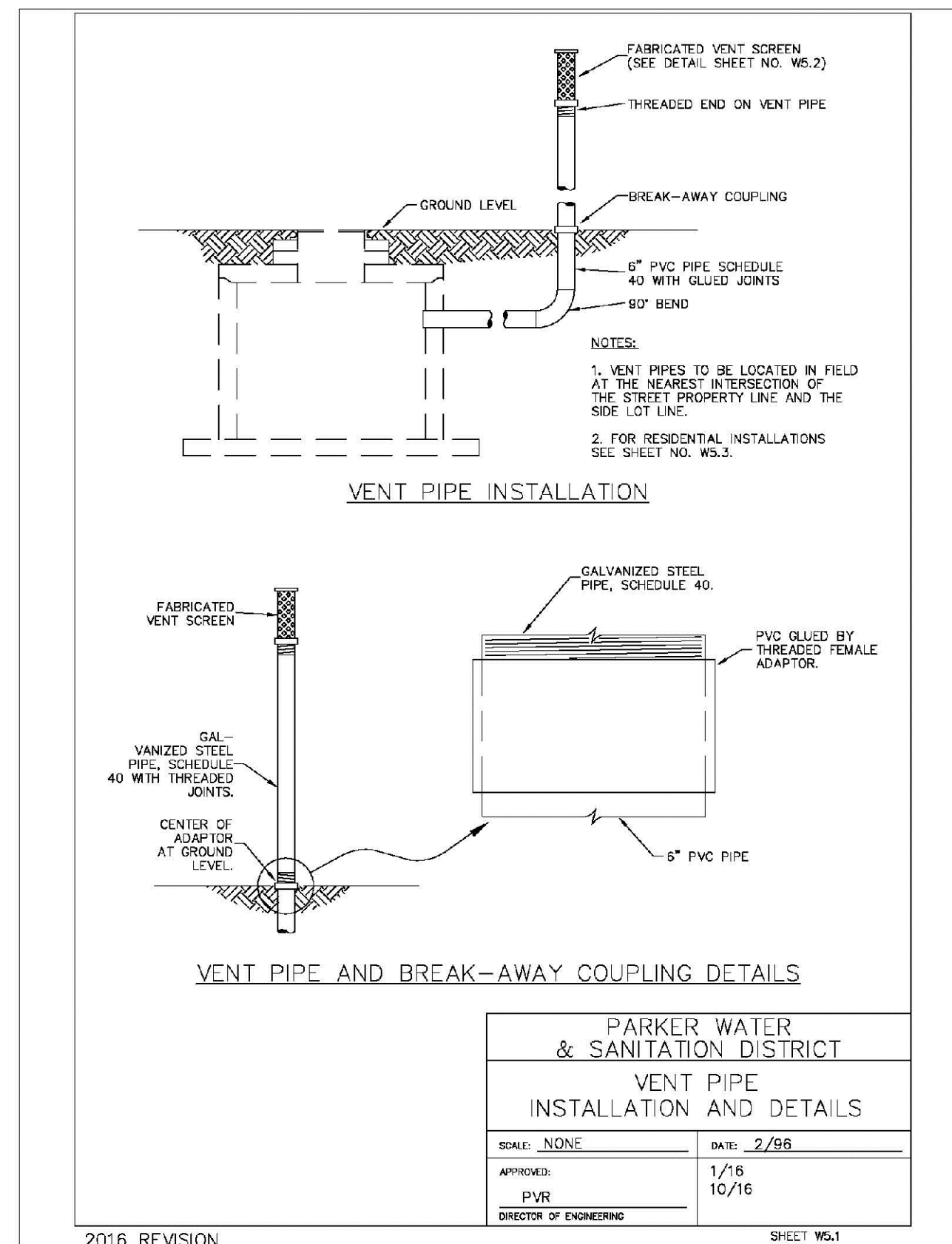
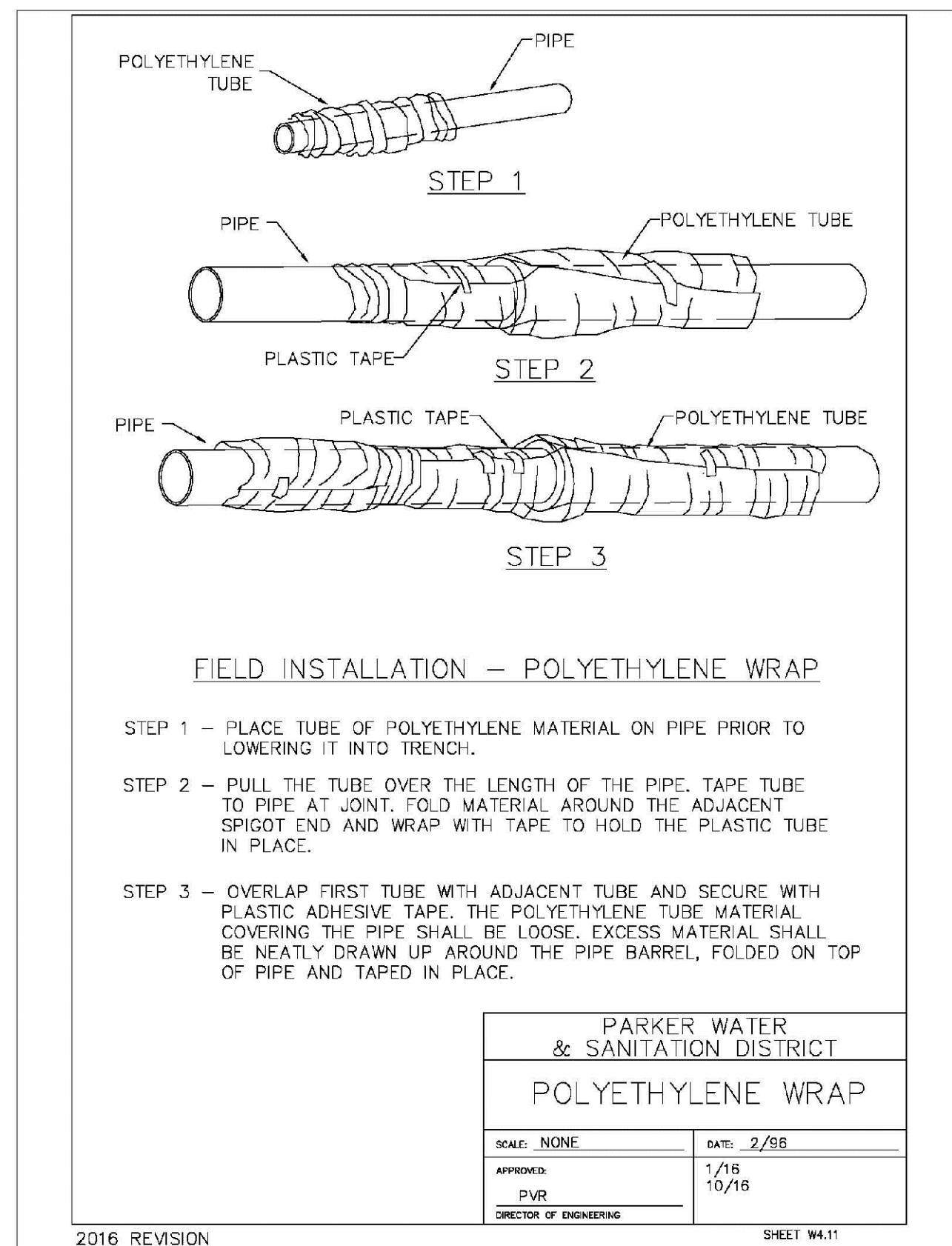
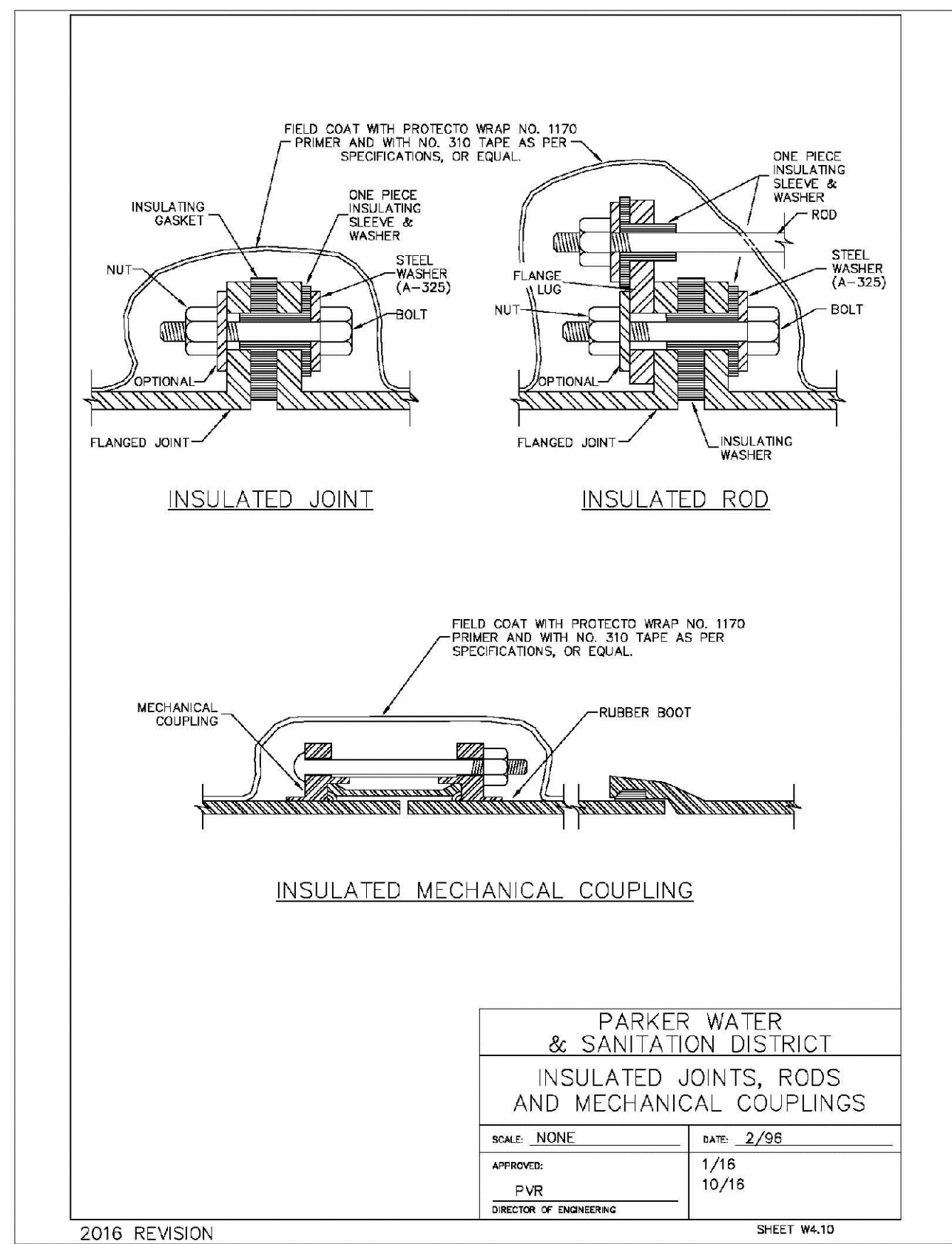
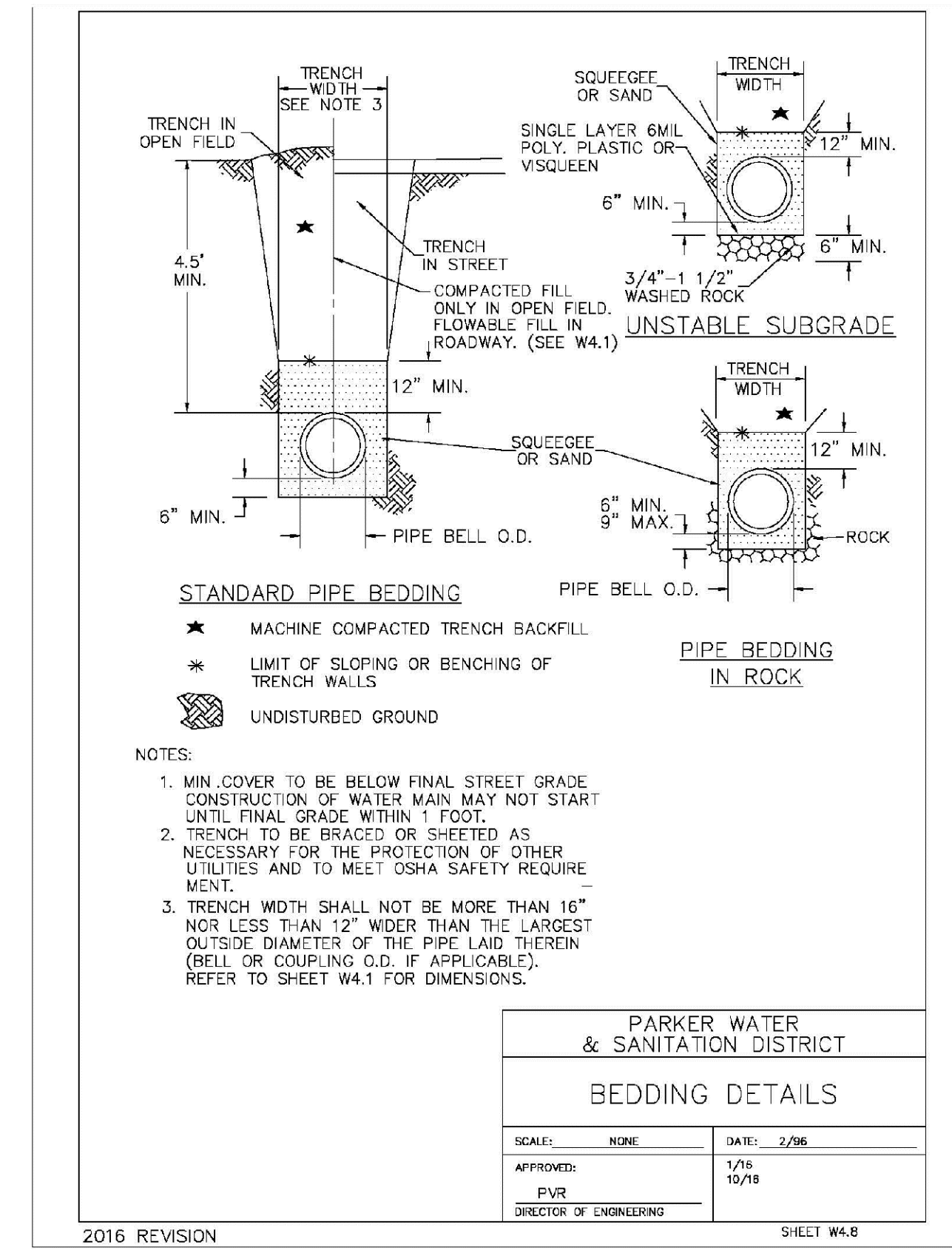
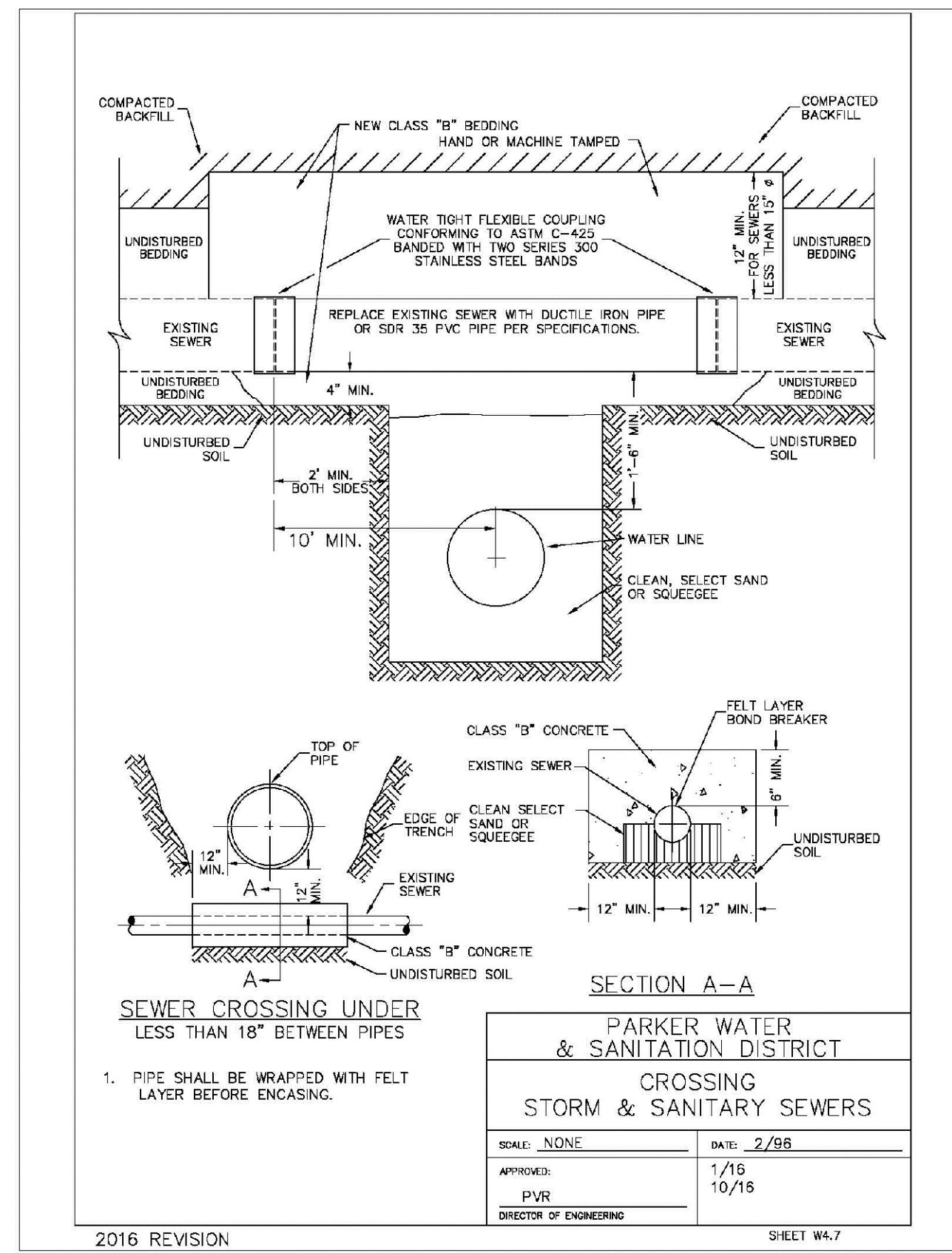
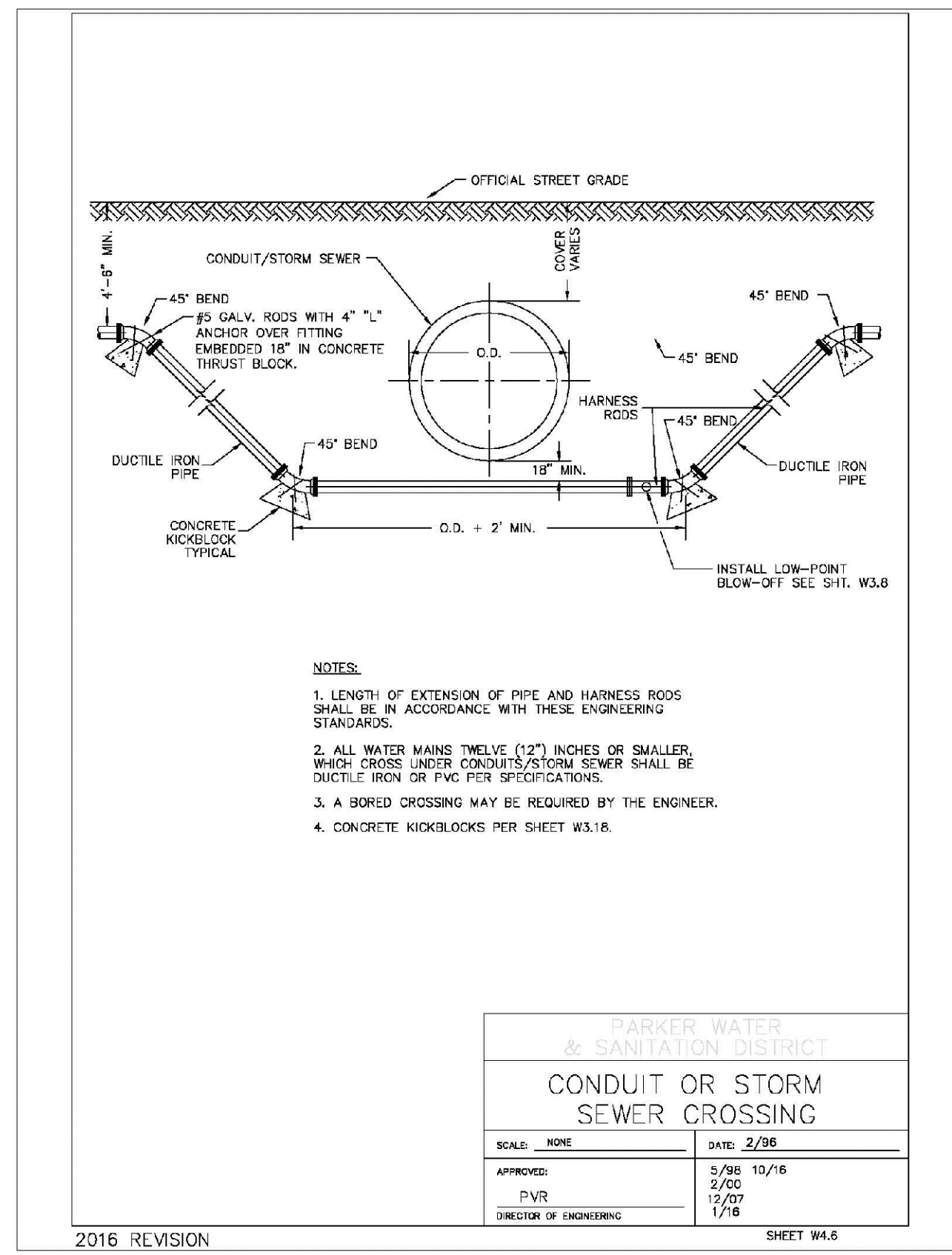
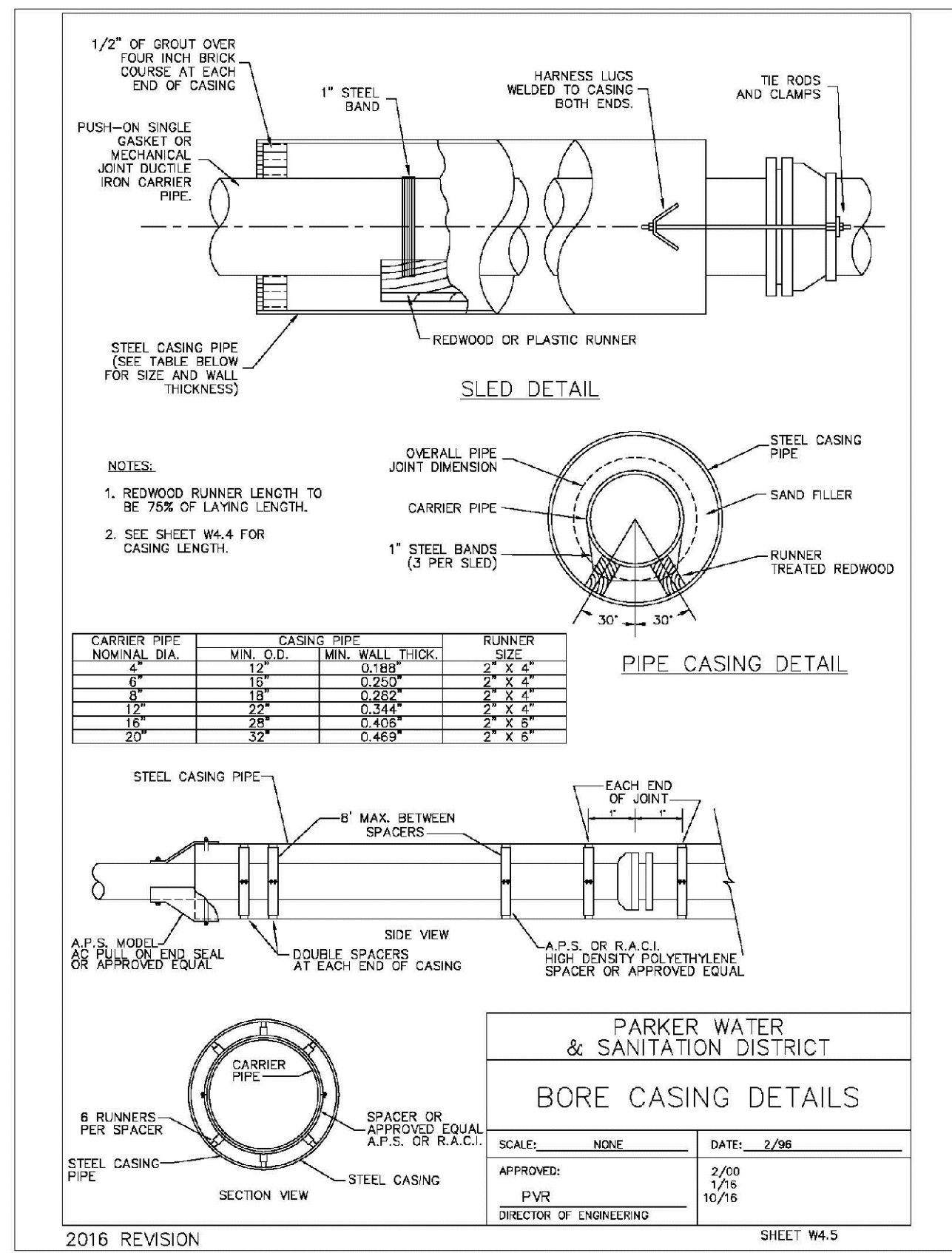
TRAILS AT CROWFOOT  
FILING 9 CONSTRUCTION DRAWINGS  
WATER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701

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

SHEET NUMBER: 22

No.	Revisions	Date	Init.	Appr.	Date



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DATE:	NO.	REVISIONS	DATE	INIT.	APPR.	DATE

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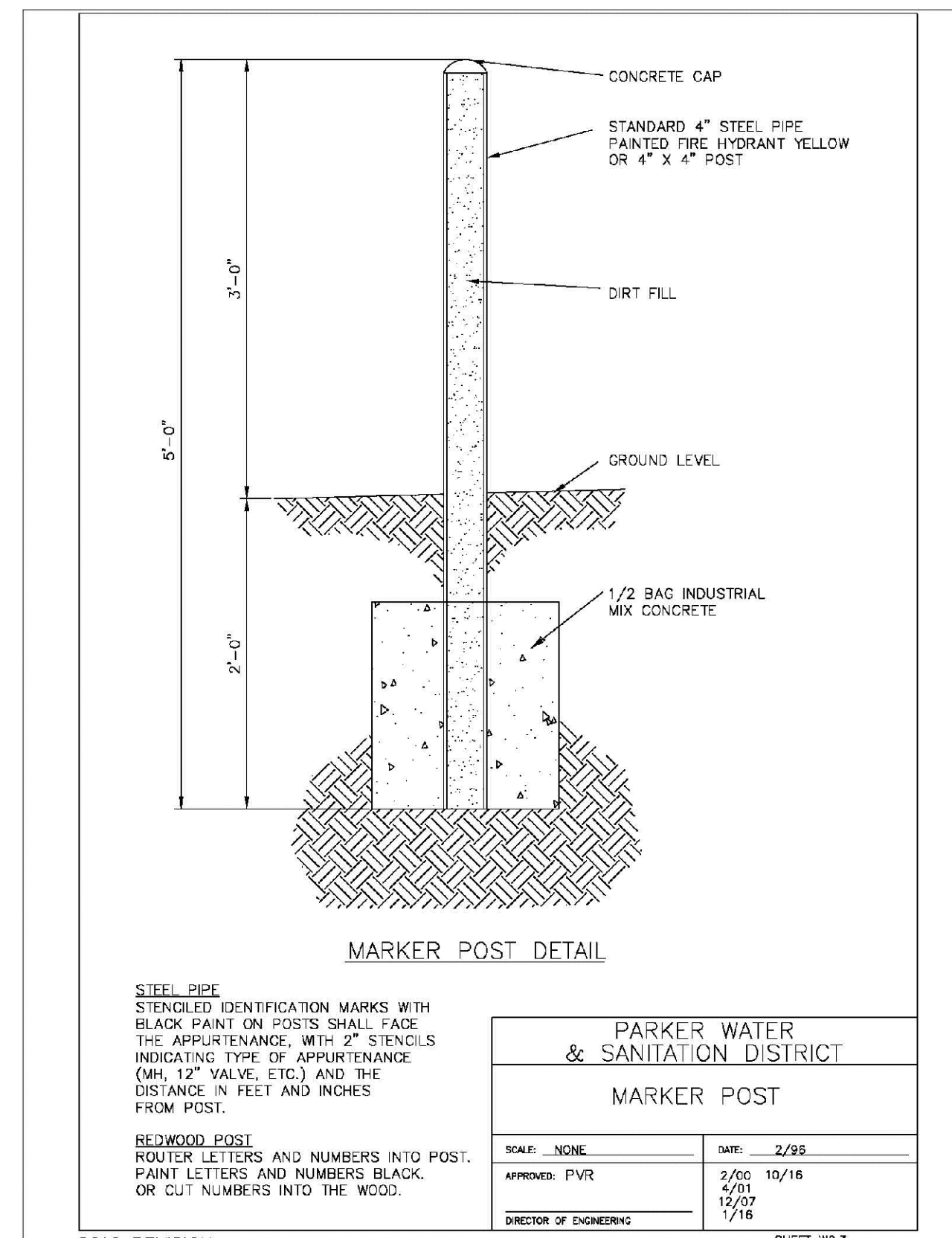
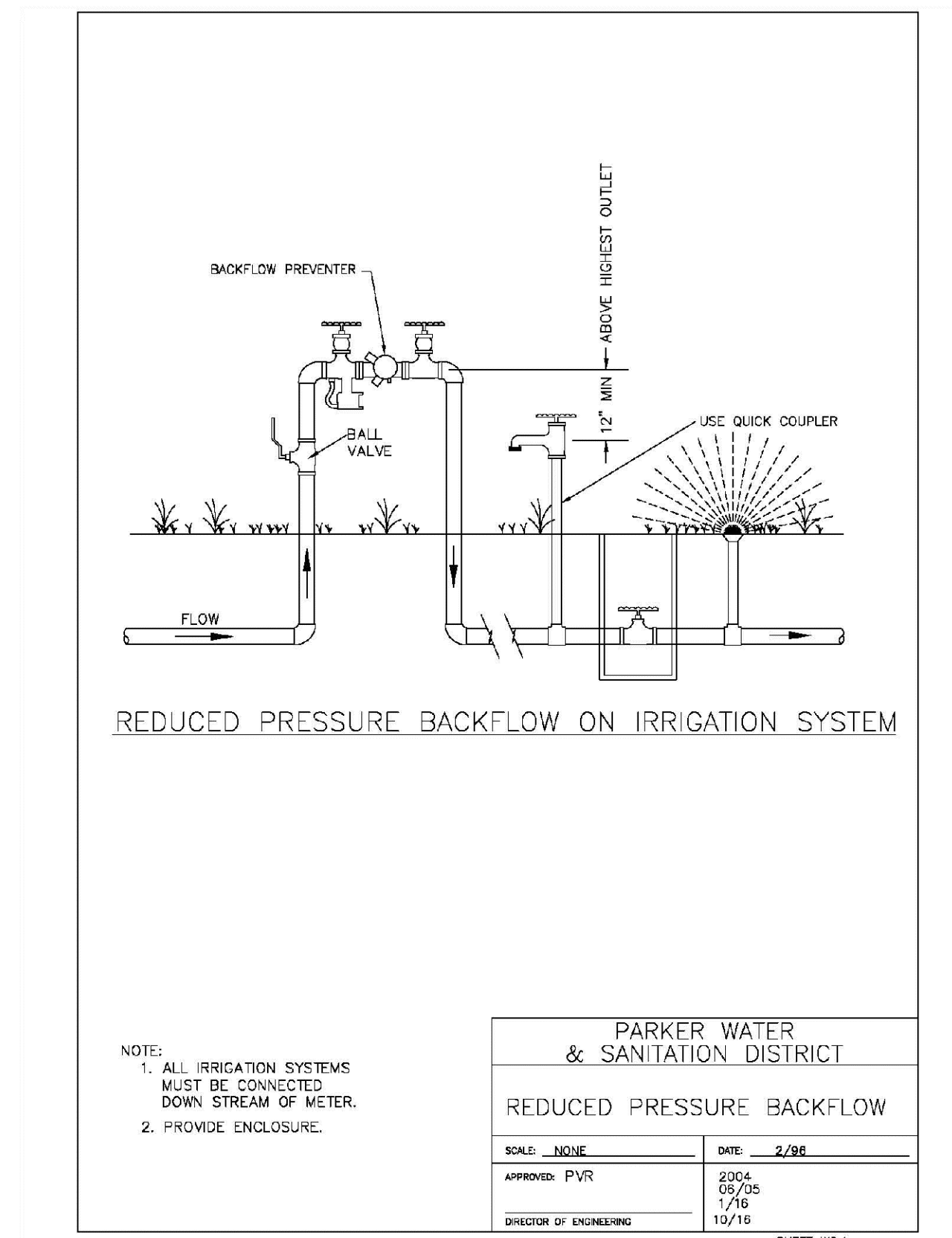
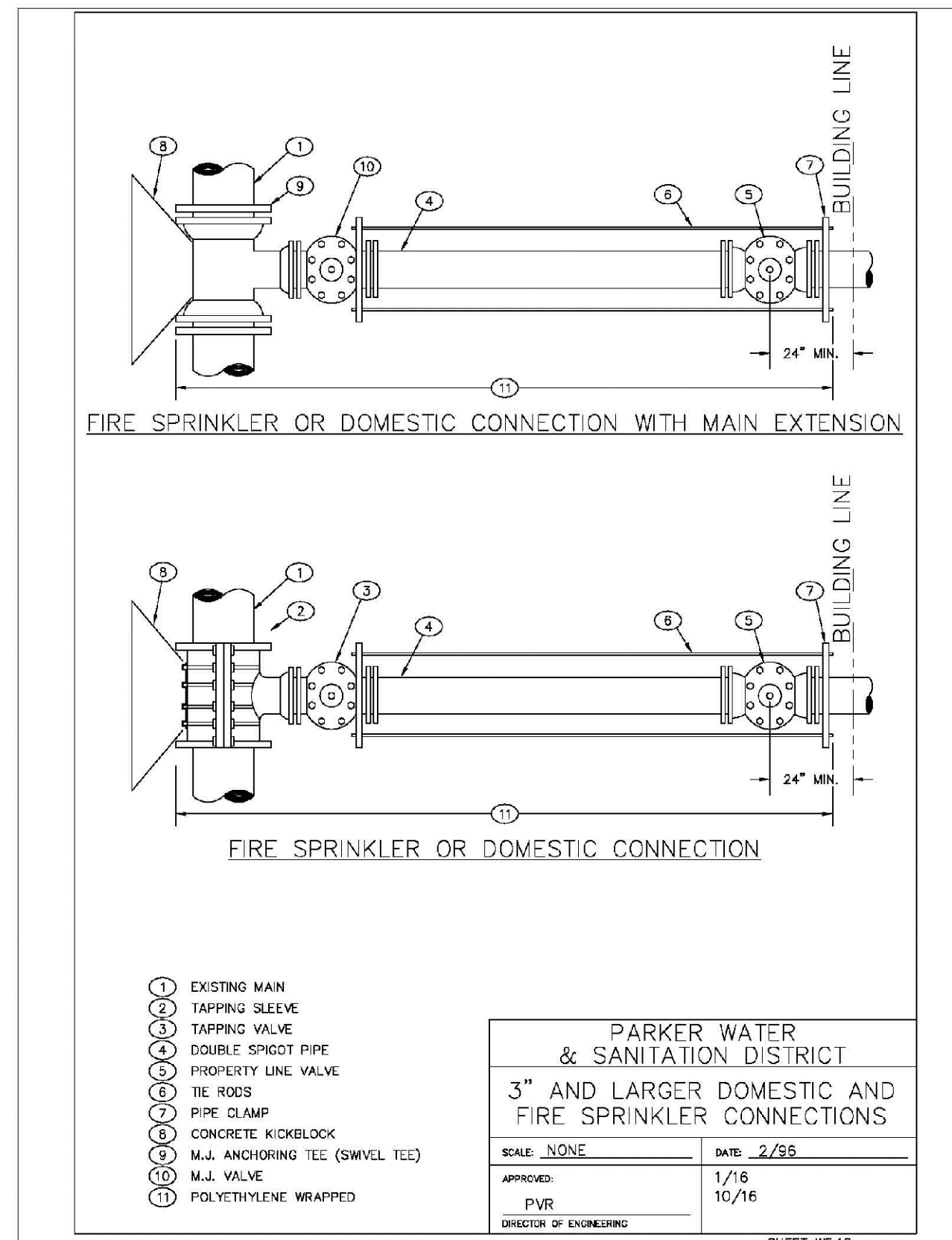
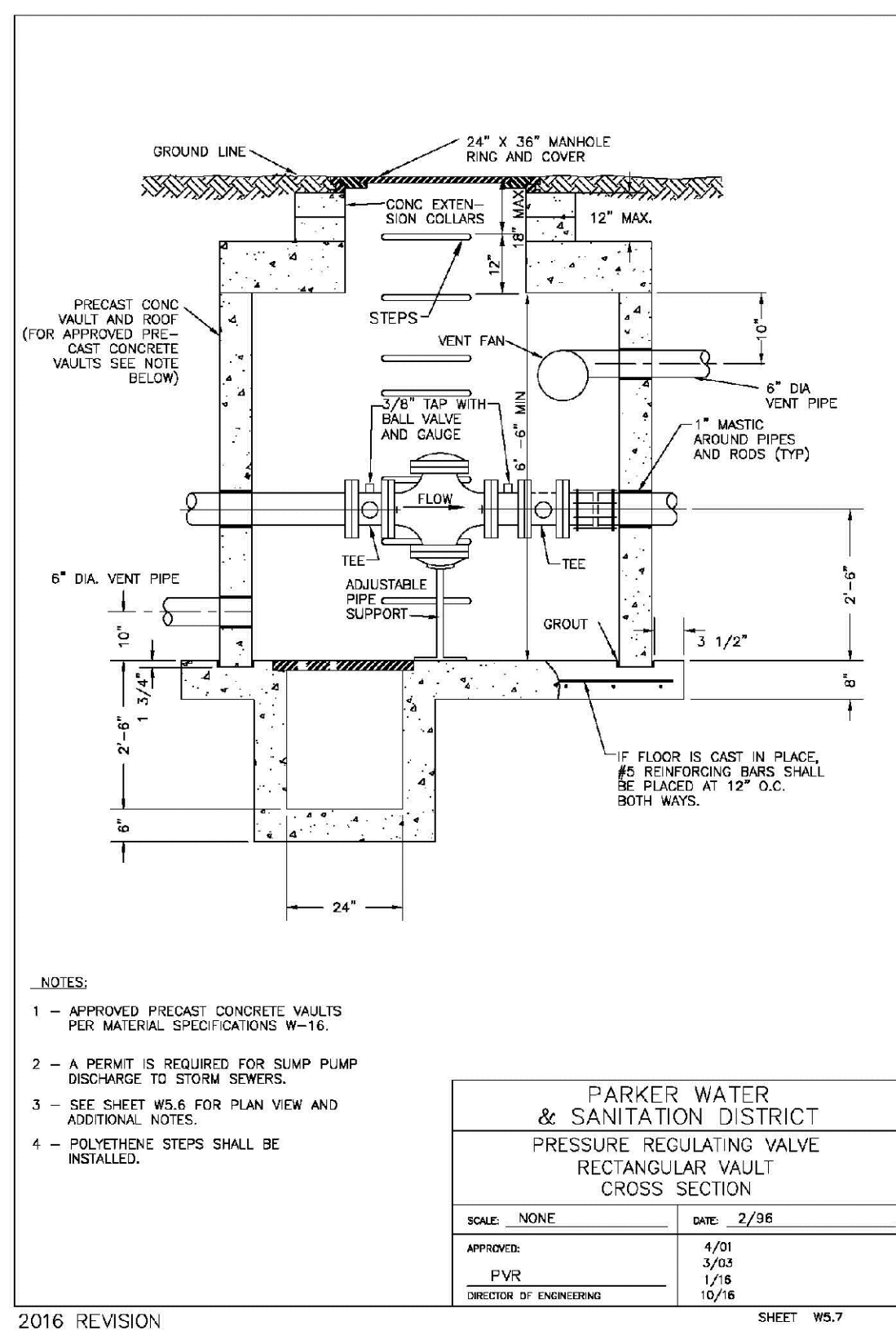
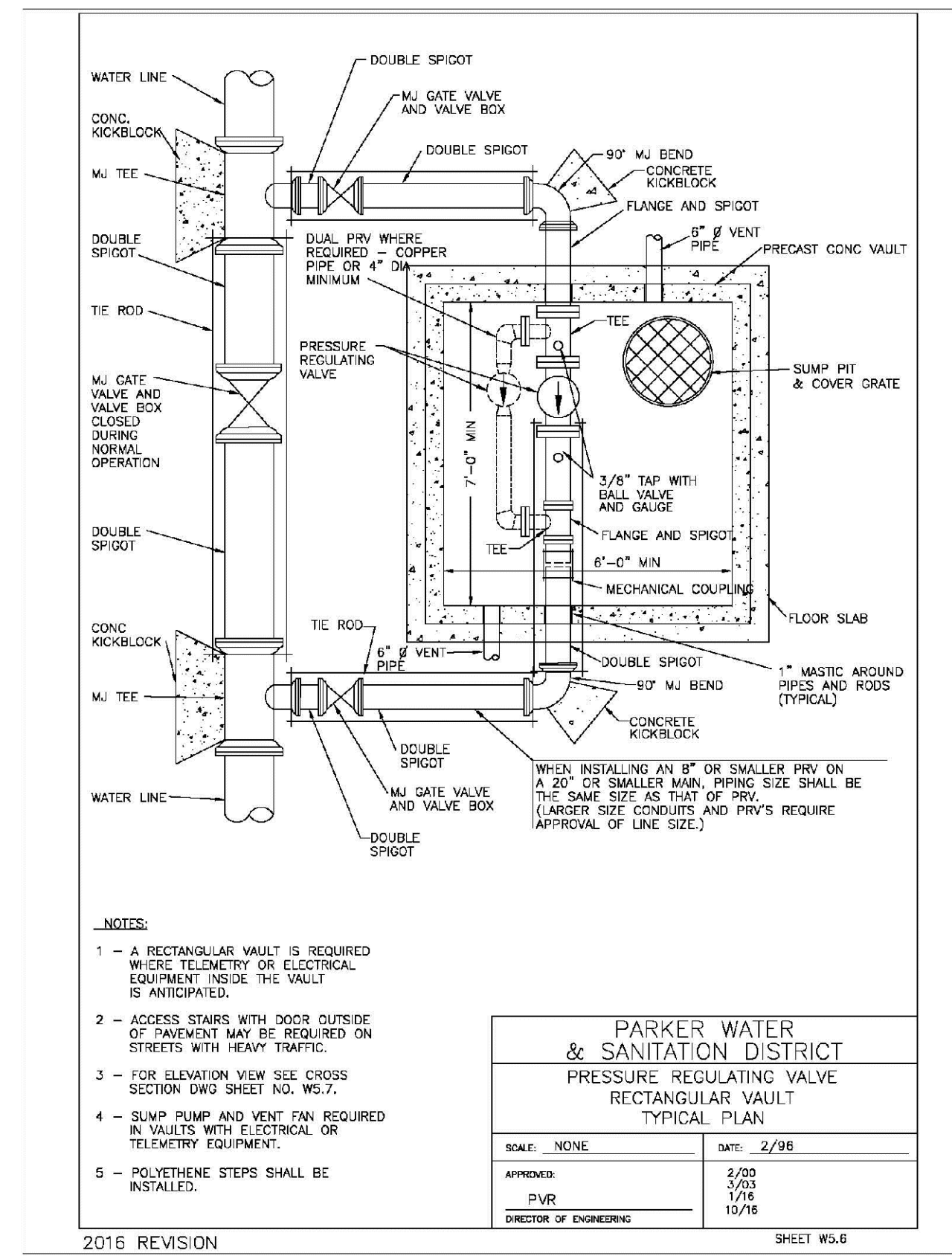
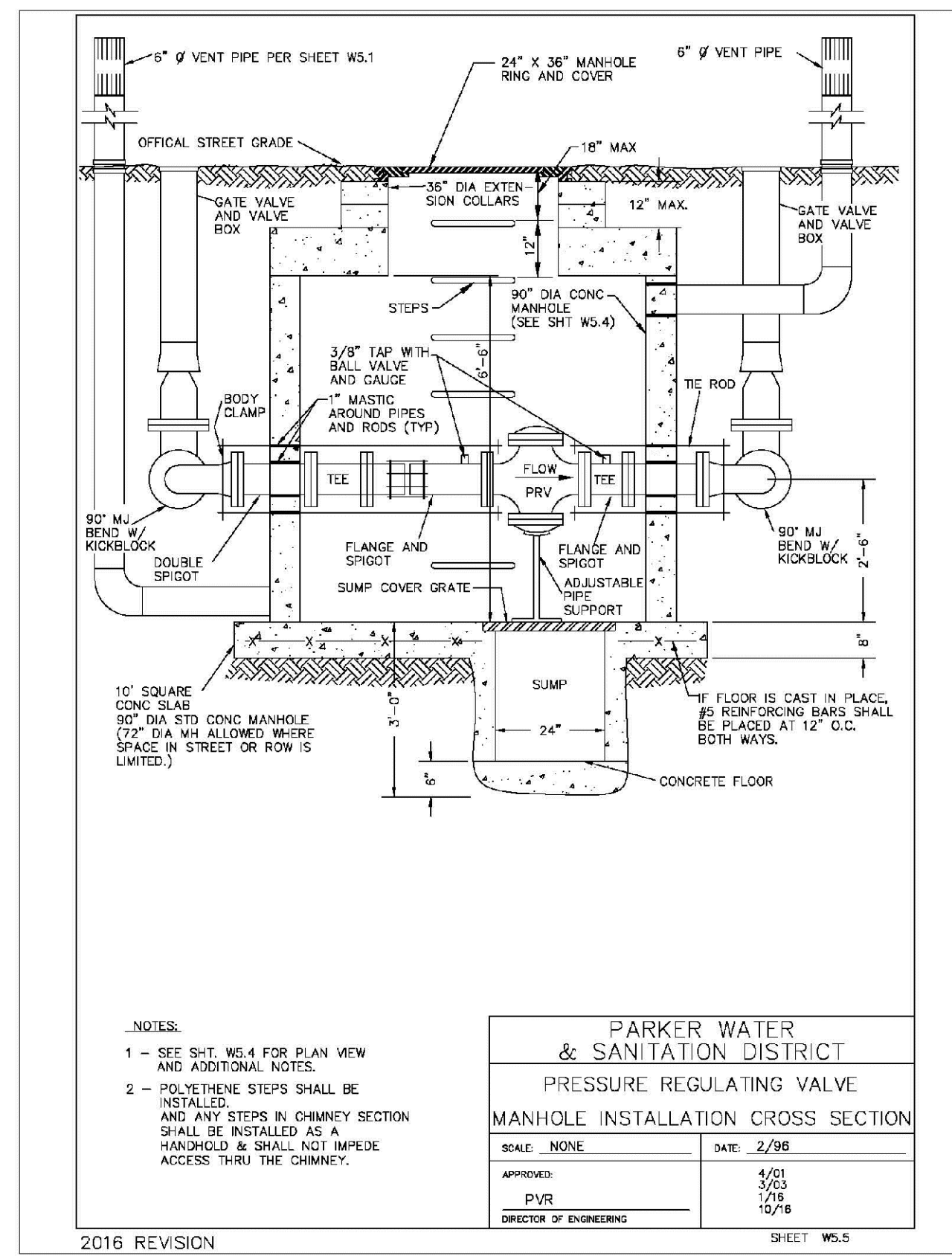
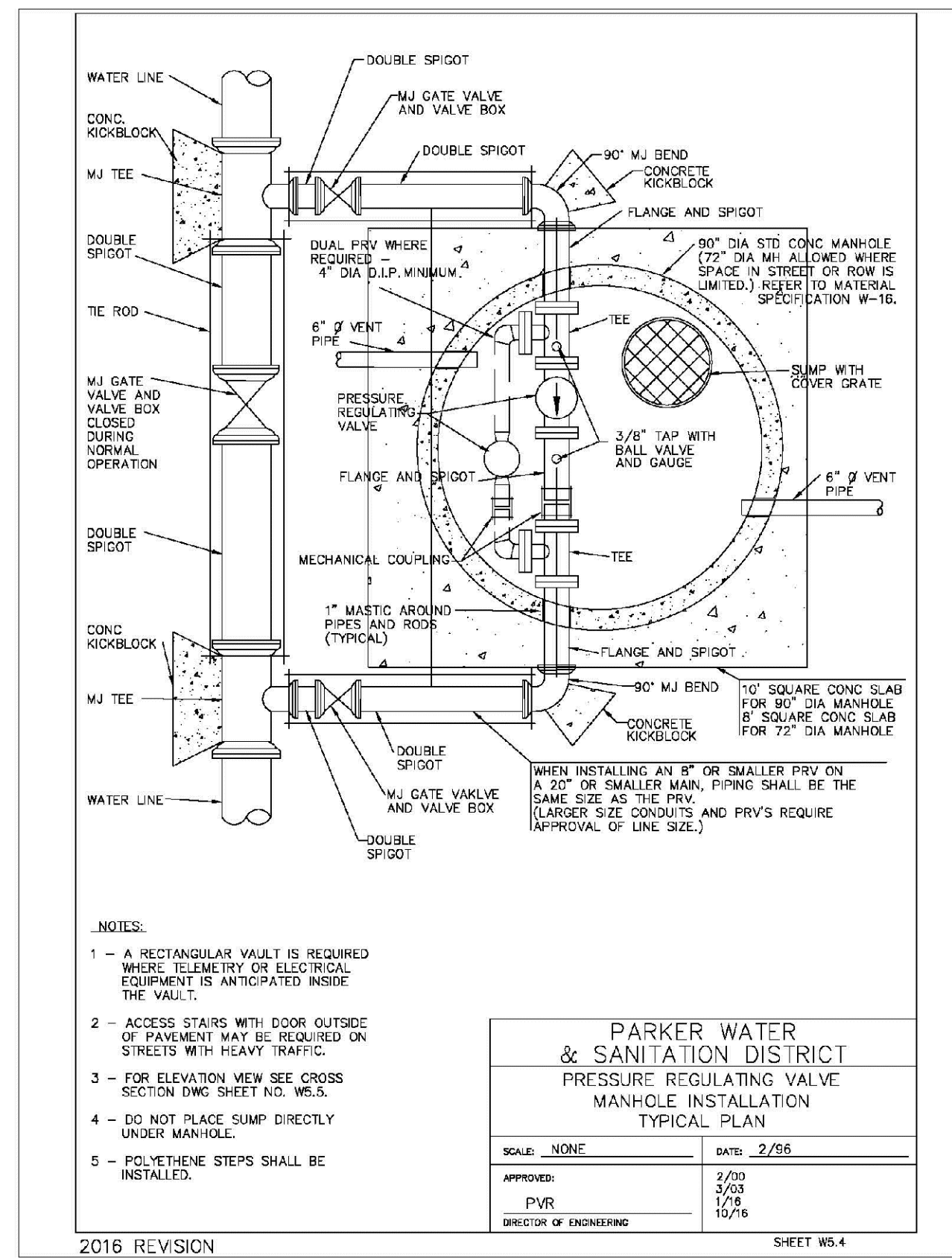
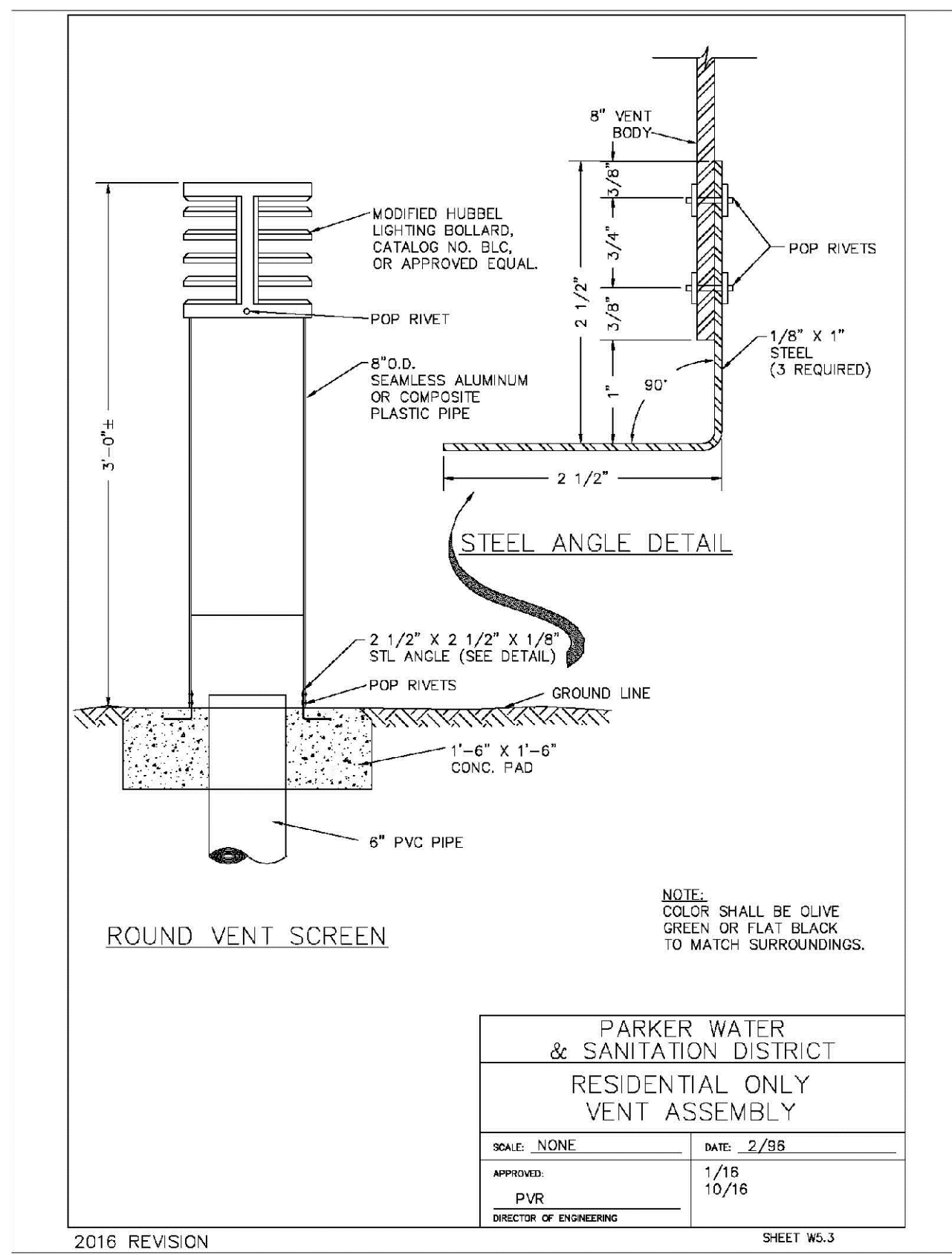
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**TRAILS AT CROWFOOT**  
**FILING 9 CONSTRUCTION DRAWINGS**  
 WATER DETAILS

SCALE: AS SHOWN  
 FILE NO: 8130283701  
 DRAWN BY: JF  
 CHECKED BY: JJ  
 DATE: MAY 2017

SHEET NUMBER **23**



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