

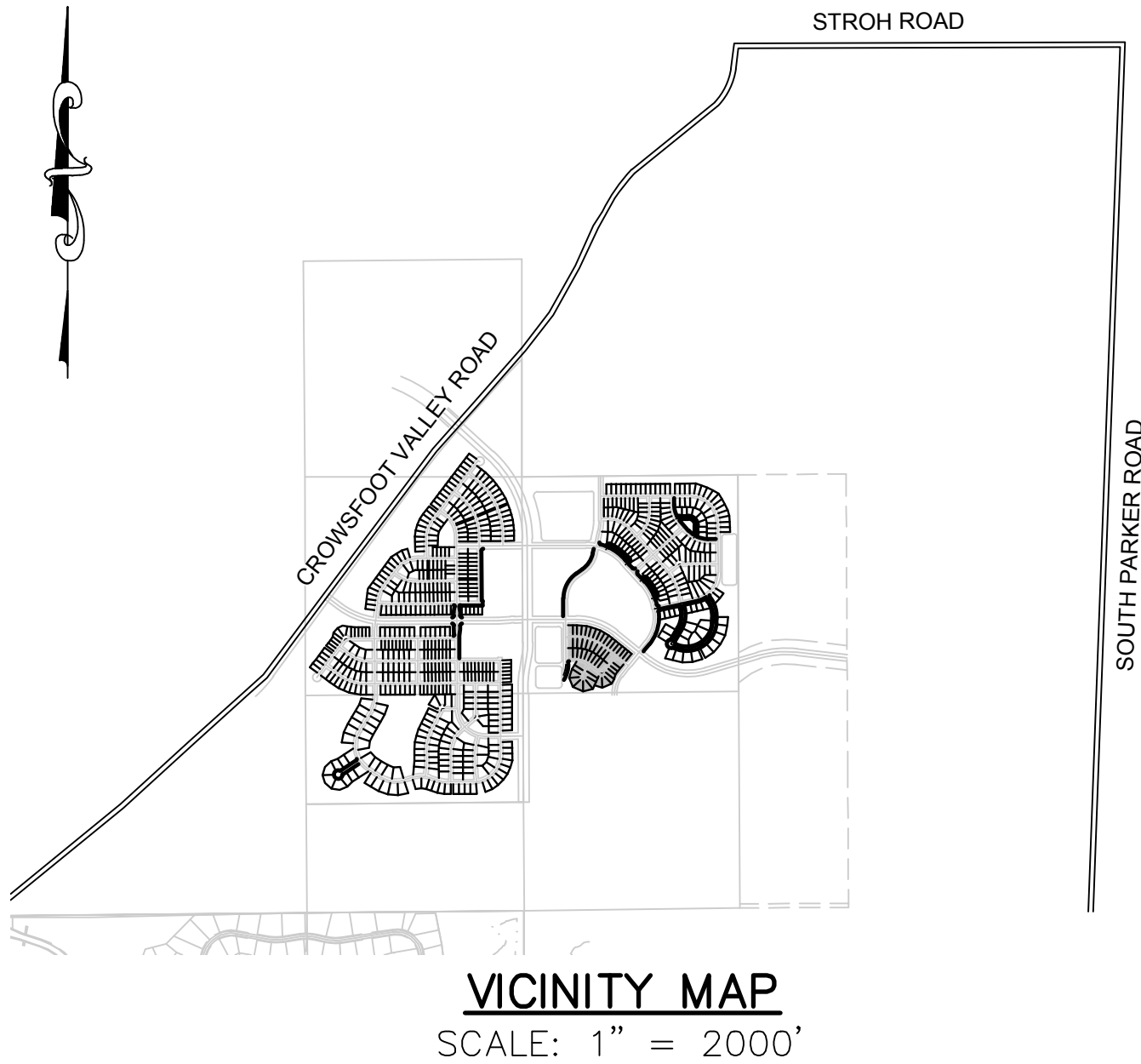
N:\PROJECTS\BESS RANCH\CD\ENGINEERING\BESS SETS\CD\SF\3\PARKER WATER AND SANITATION\F13 COVER.DWG, CHRISTOPHER.B, 14/2/2018 8:07 PM

TRAILS AT CROWFOOT FILING 13

PARKER WATER AND SANITATION CONSTRUCTION PLANS

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

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	PARKER WATER AND SANITATION NOTES
3	AREA UTILITY PLAN
4	SANITARY P&P SKY PILOT AVENUE
5	SANITARY P&P SKY PILOT LANE
6	SANITARY P&P PURPLE ASTER WAY
7	WATER P&P SKY PILOT AVENUE
8	WATER P&P SKY PILOT LANE
9	WATER P&P PURPLE ASTER WAY
10	SANITARY SEWER DETAILS
11	SANITARY SEWER DETAILS
12	SANITARY SEWER DETAILS
13	WATER DETAILS
14	WATER DETAILS
15	WATER DETAILS
16	WATER DETAILS
17	WATER DETAILS
18	WATER DETAILS



MATERIALS LIST		
DESCRIPTION	QUANTITY	UNIT
8" WATERPIPE (C900)	1,719	L.F.
6" WATERPIPE (DIP-FIRE HYDRANT LINE)	28	L.F.
8" GATE VALVE W/ BOX	6	EA.
6" GATE VALVE W/ BOX	2	EA.
FIRE HYDRANT ASSEMBLY	2	EA.
8" BLOWOFF (2" END OF PIPE)	1	EA.
8" BEND	10	EA.
8" TEE	4	EA.
WATER SERVICE LATERAL W/ WATER METER AND PIT	51	EA.
8" SEWER (SDR-35 PVC)	1,701	L.F.
4' DIA. MANHOLE	11	EA.
SEWER SERVICE LATERAL W/ WYE TAP	51	EA.

FIRE DEPARTMENT APPROVAL

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

(FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE) _____ DATE _____
(NOTE- UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA24 WHEN SUBMITTING FOR REVIEW.)

THE DISTRICT INSPECTOR MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CALL PARKER WATER AND SANITATION DISTRICT AT 303-841-4627. THE DISTRICT WILL PROVIDE PERIODIC INSPECTIONS OF THE WORK. 24 HOUR NOTICE TO THE INSPECTOR IS REQUIRED FOR SCHEDULING 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 1.060032, 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.



SHEET NUMBER	DRAWN BY: KJD	CHECKED BY: JJ	DATE: SEPTEMBER 2017	SCALE: AS SHOWN	FILE NO: 8130283701	TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS COVER SHEET	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112		10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546	No.	Revisions	Date	Init.	Appr.	Date

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. CONTRACTOR SHALL OBTAIN 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 REMEDIED 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.

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 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 END MAINS 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 WORKING 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 WORKING 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.

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 OF RIM ELEVATION.
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 PLUG 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.

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 REMEDIED 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.

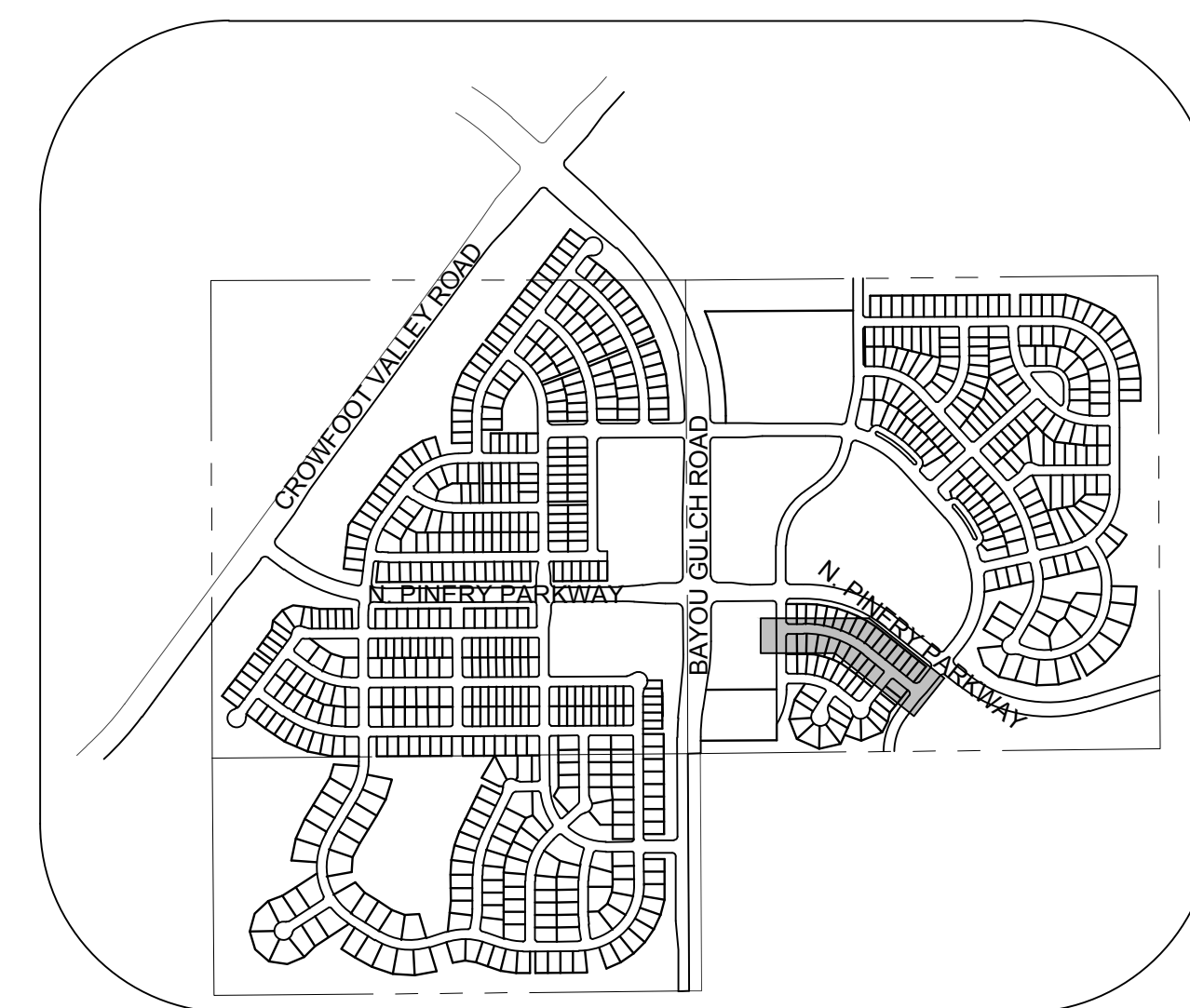
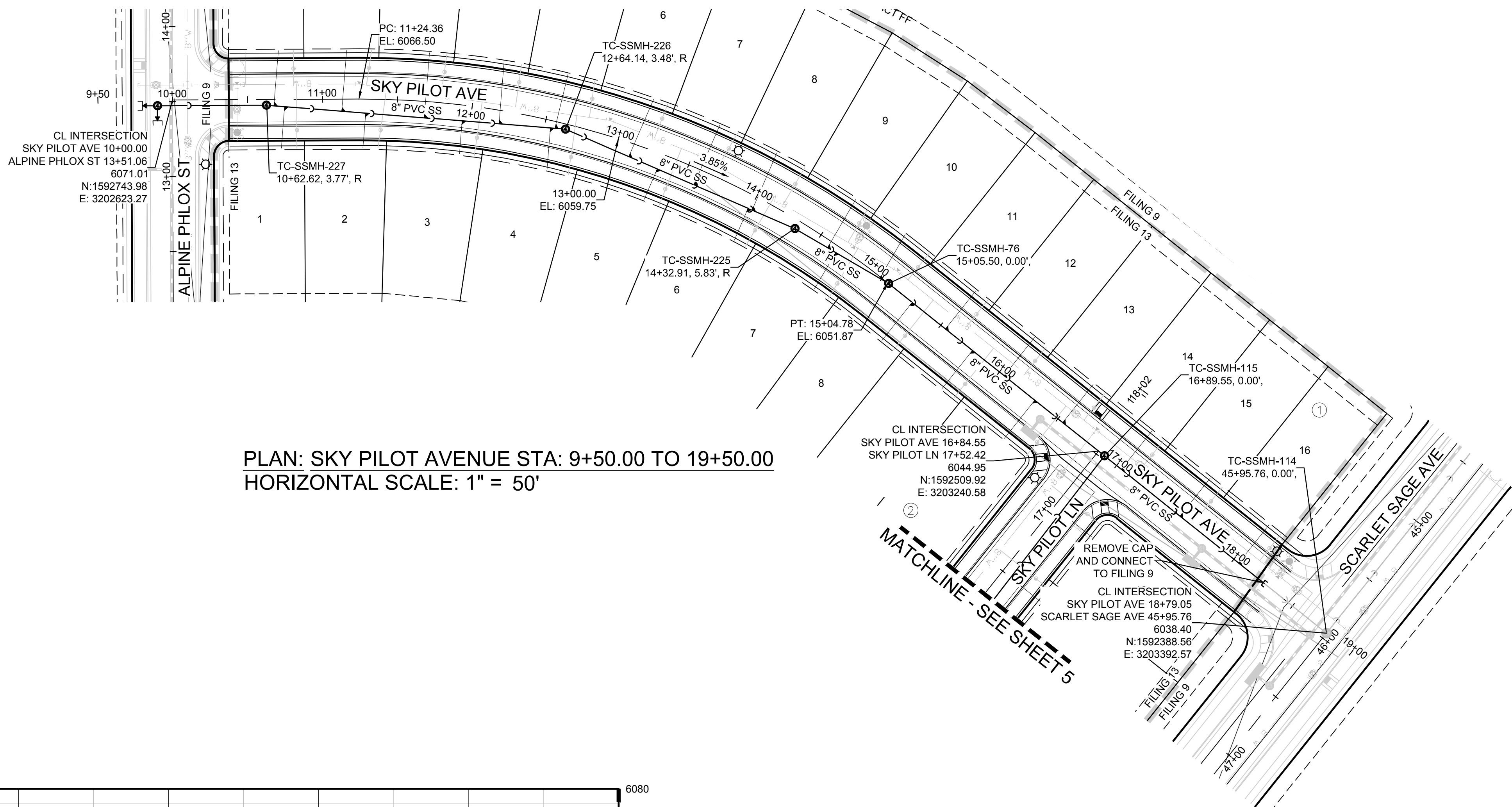
BENCHMARK
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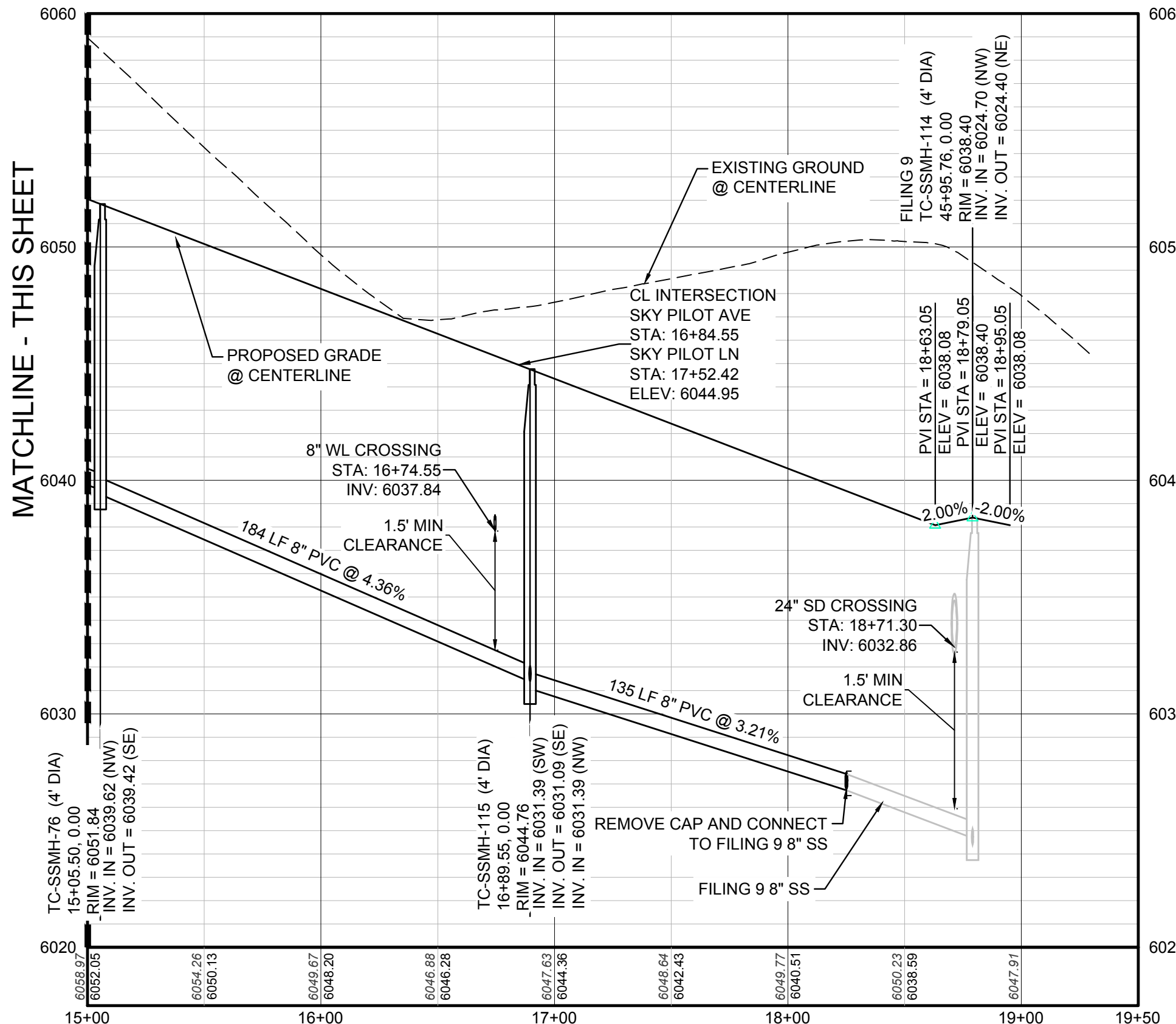
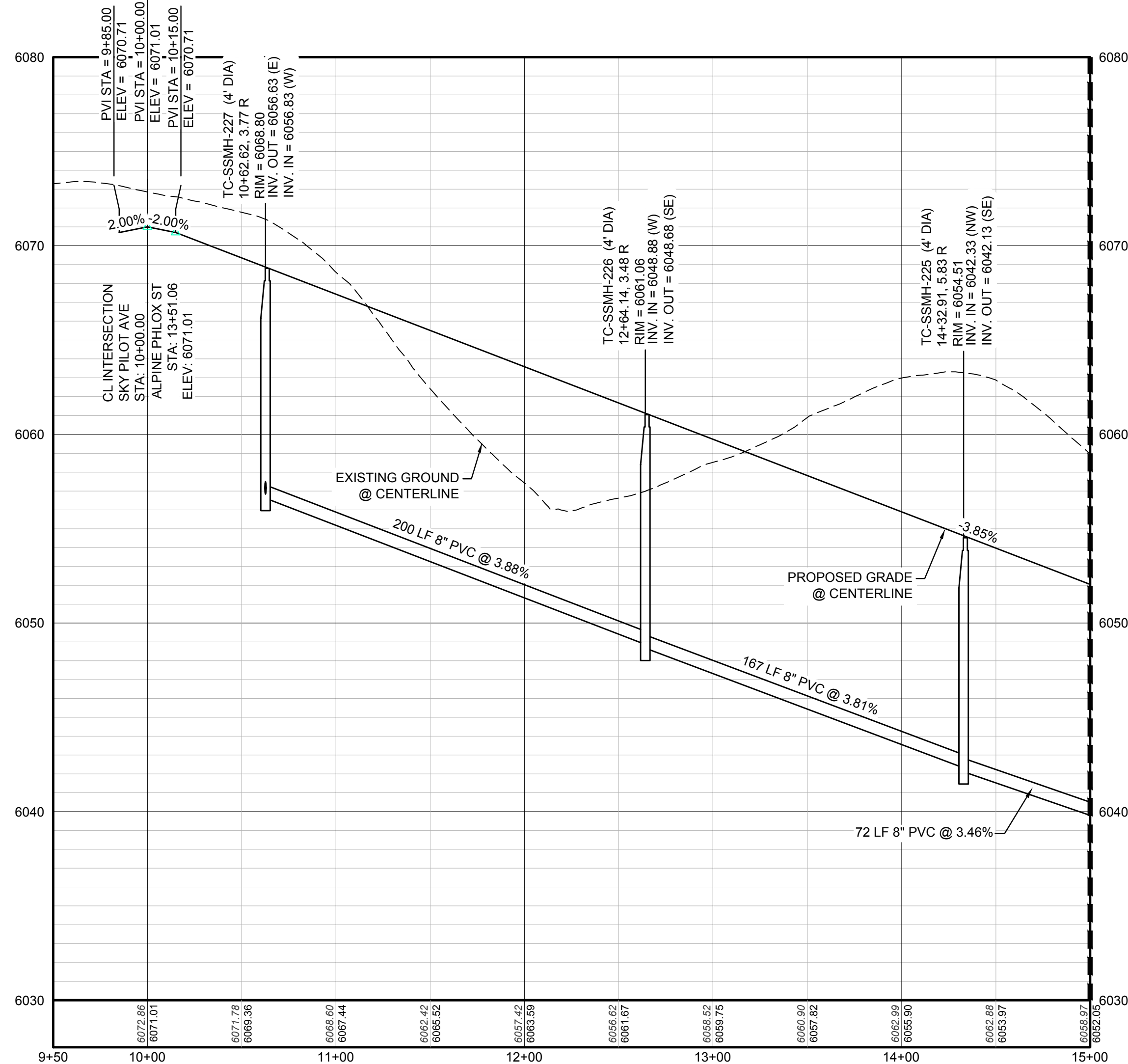
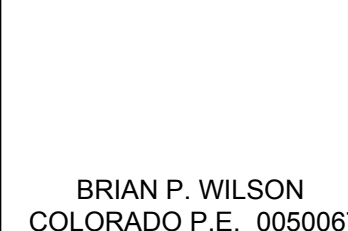
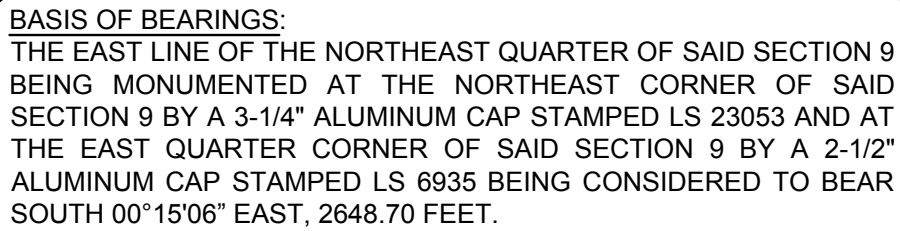
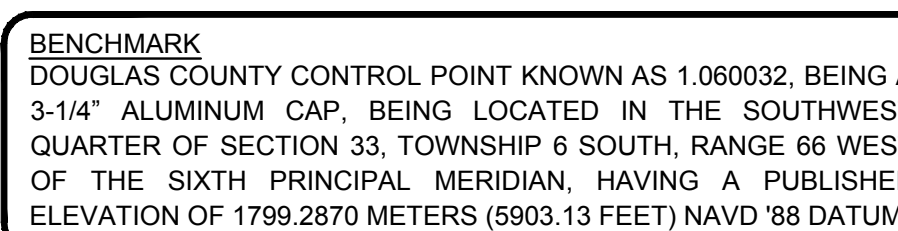
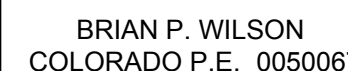
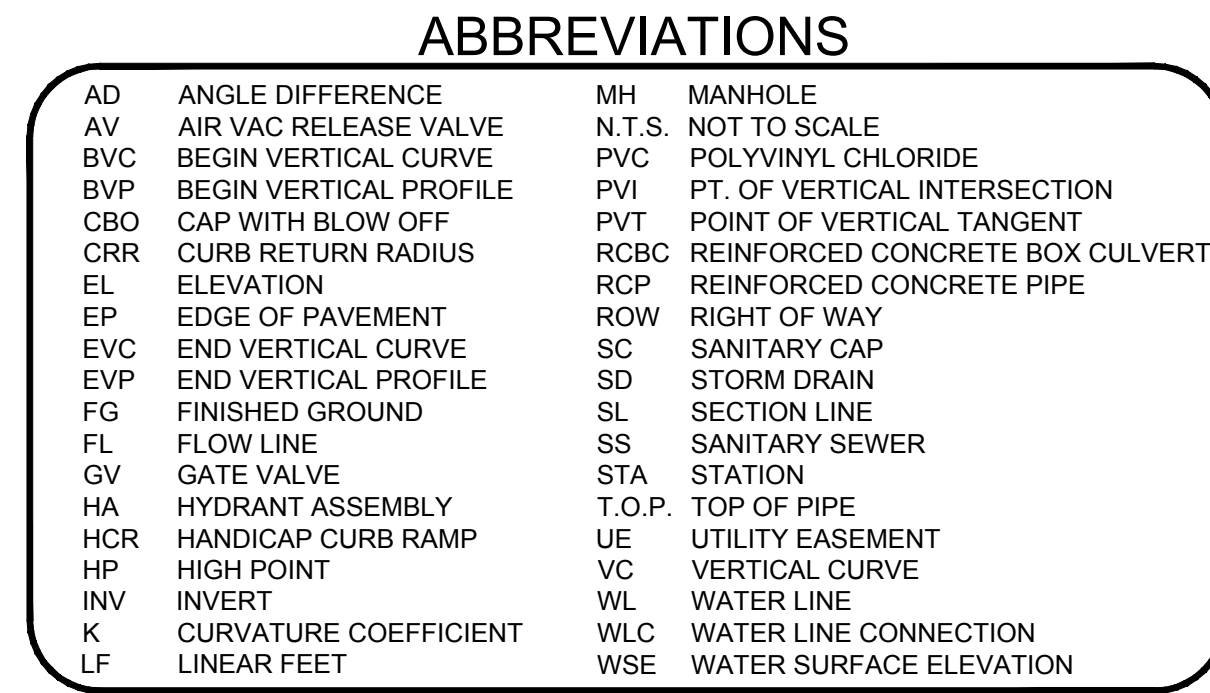
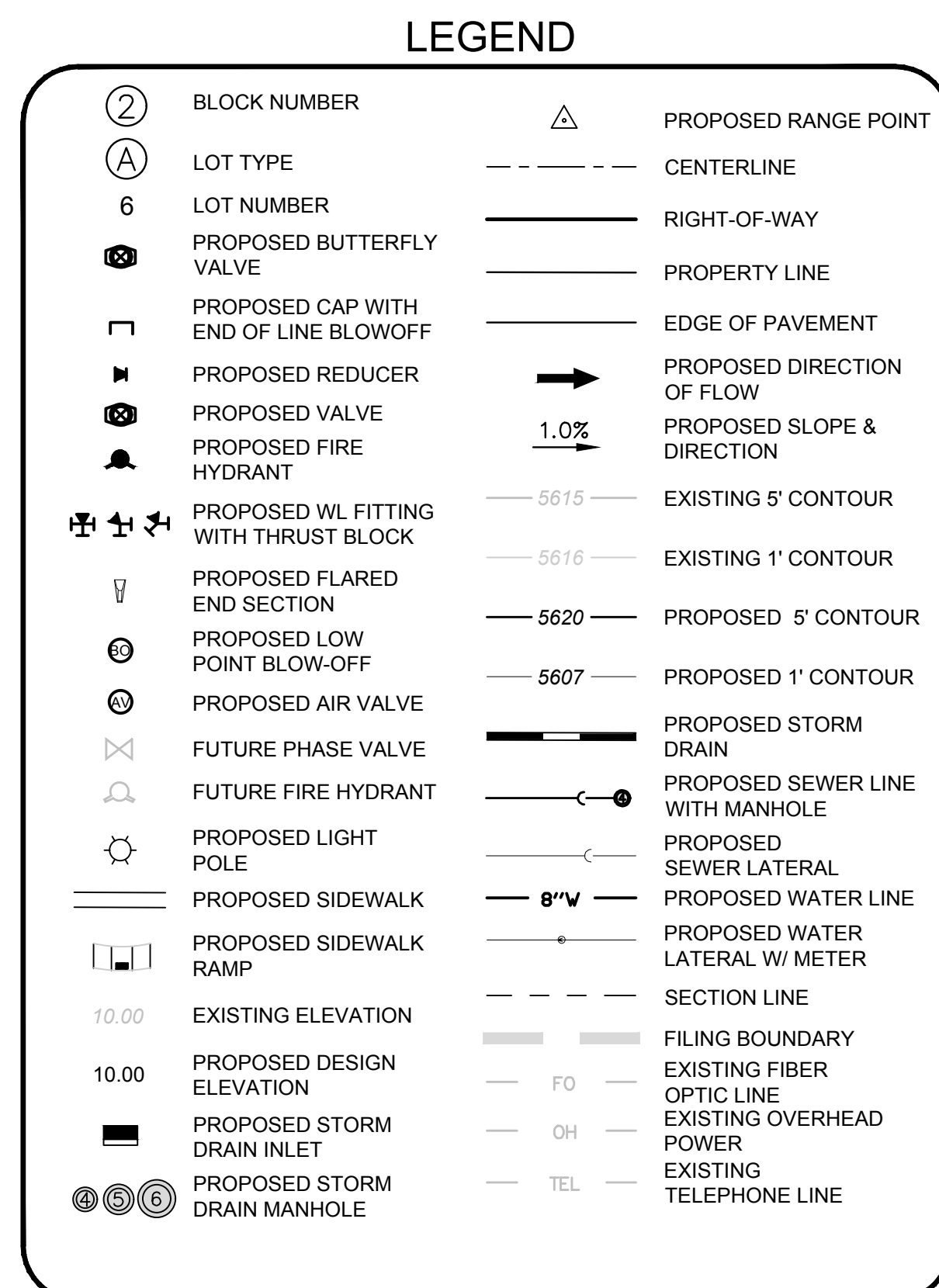
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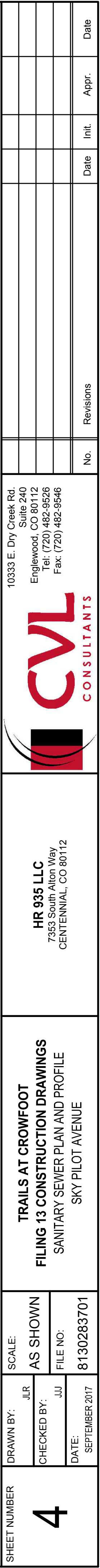
SHEET NUMBER 2	DRAWN BY: KJD	SCALE: AS SHOWN	TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS PARKER WATER AND SANITATION NOTES	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	 10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546													
						FILE NO:												
		DATE:				SEPTEMBER 2017	8130283701											
		CHECKED BY:				JJJ												



KEYMAP
N.T.S.



PROFILE: SKY PILOT AVE STA: 15+00.00 TO 19+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



N:\PROJECTS\BENCH MARK\ENGINEERING\DRAWINGS\SKY PILOT LANE SANITARY DWG. CHRISTOPHER.B. 1/4/2018 9:16 PM



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

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

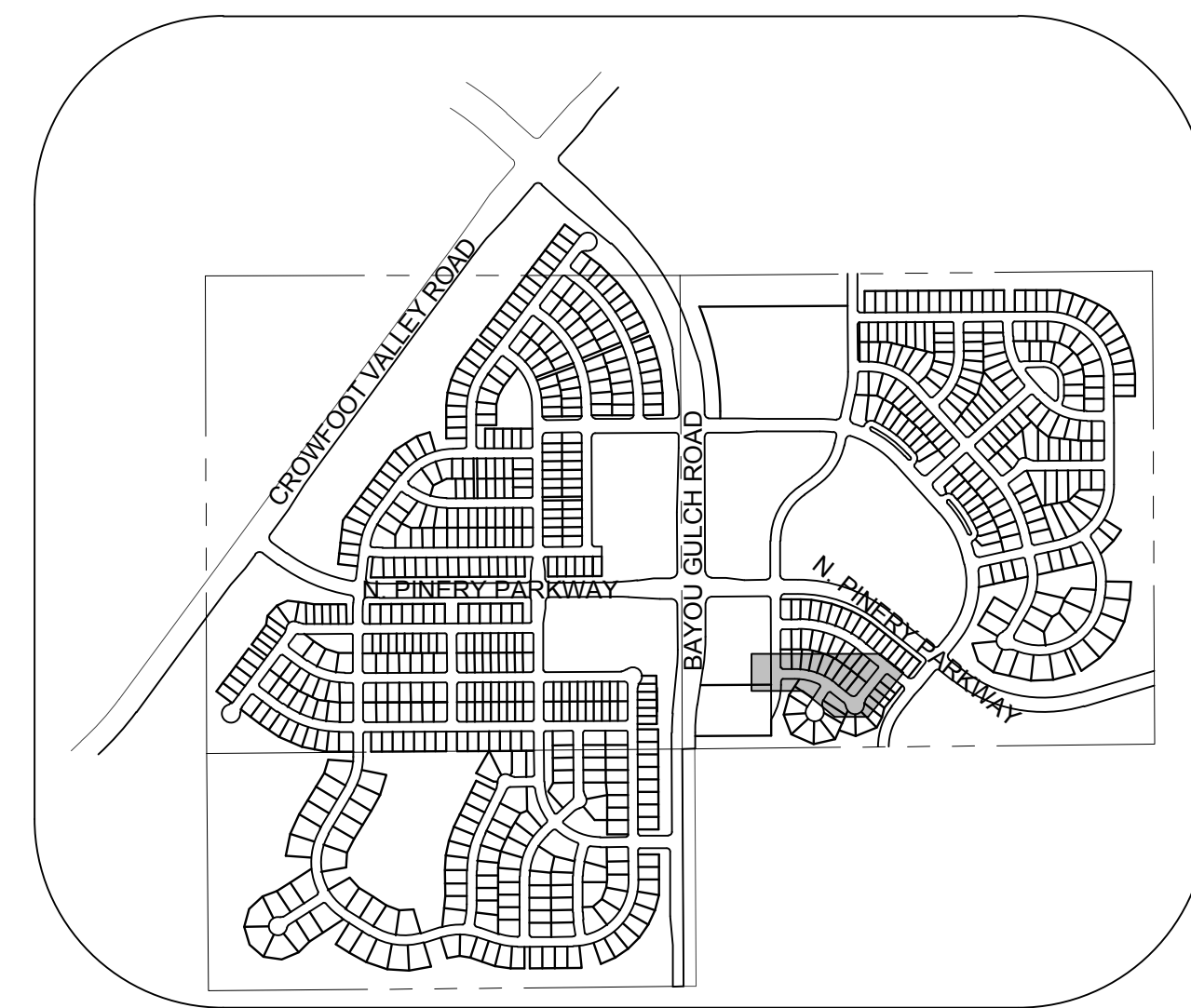
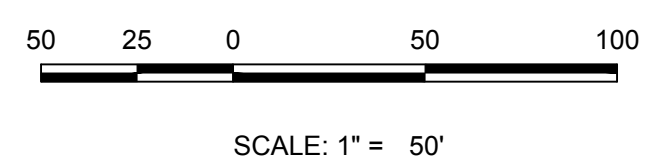
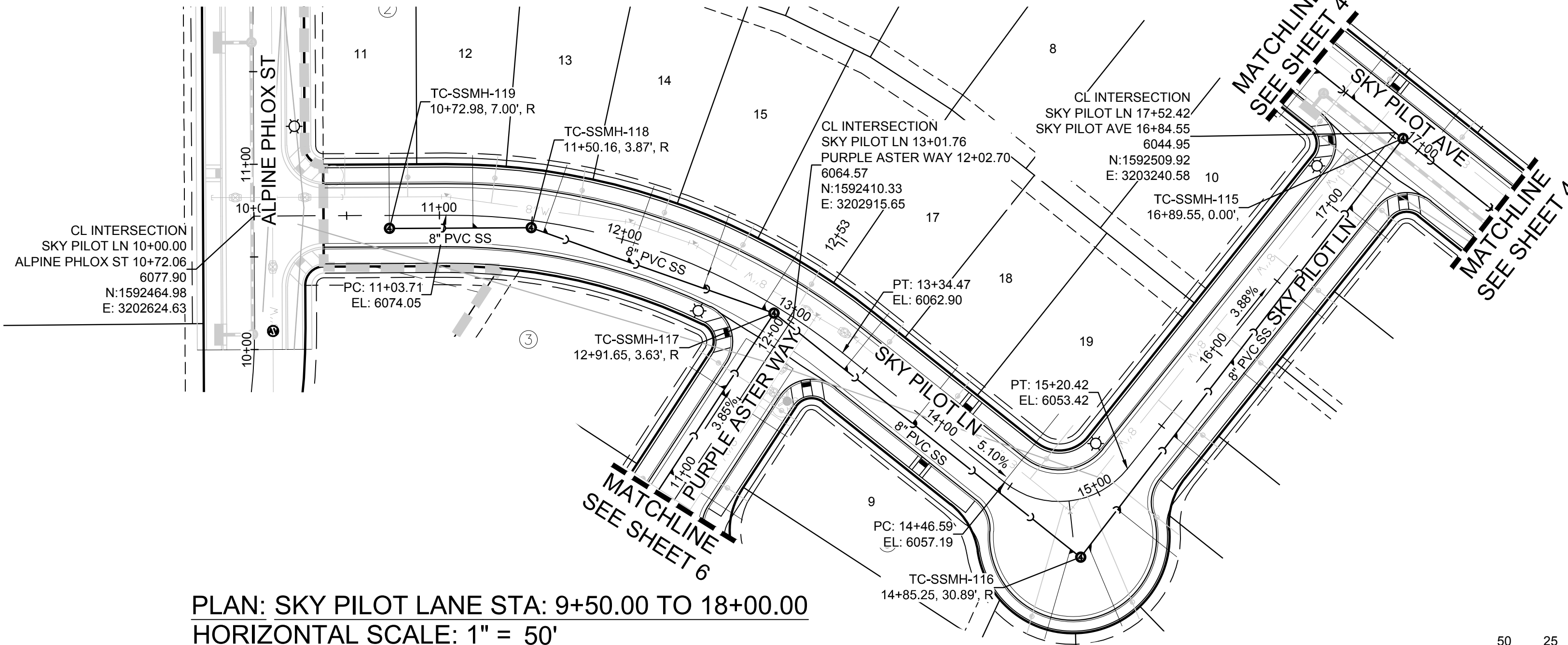
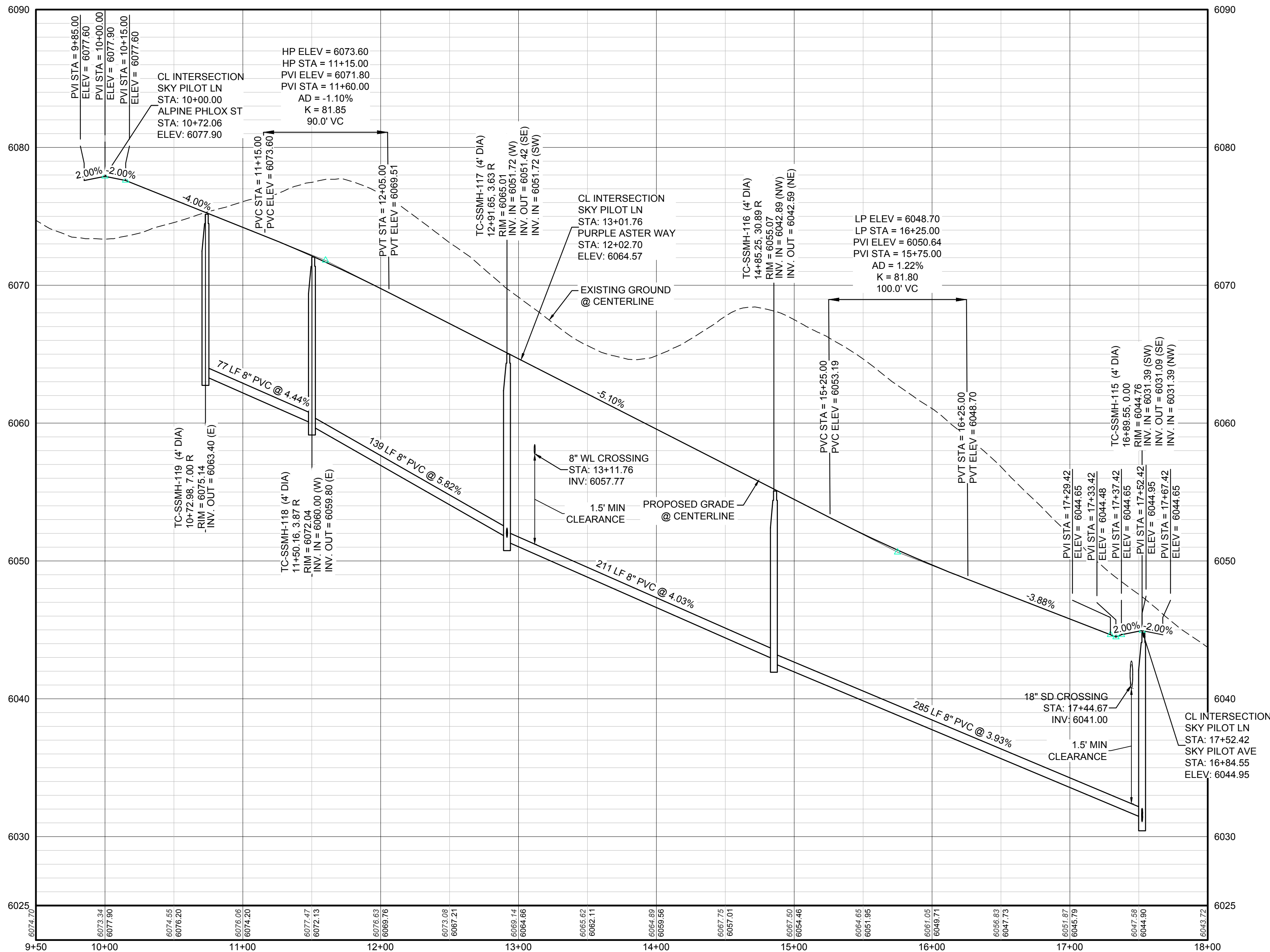
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PREPARED UNDER THE
SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067



KEYMAP
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LEGEND

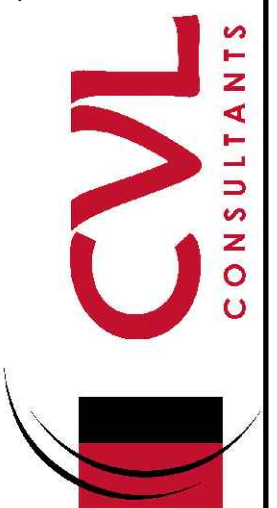
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|-------|---------------------------------------|------|----------------------------------|
| 2 | BLOCK NUMBER | △ | PROPOSED RANGE POINT |
| A | LOT TYPE | --- | CENTERLINE |
| 6 | LOT NUMBER | --- | RIGHT-OF-WAY |
| ⊗ | PROPOSED BUTTERFLY VALVE |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

ABBREVIATIONS

- | | | | |
|-----|------------------------|--------|---------------------------------|
| 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 | RBCB | 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 |
| LF | LINEAR FEET | WSE | WATER SURFACE ELEVATION |

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

10333 E. Dry Creek Rd.
Suite 110
Englewood, CO 80110
Tel: (720) 482-9526
Fax: (720) 482-9548



HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

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

SCALE: AS SHOWN
FILE NO: 8130283701
DATE: SEPTEMBER 2017

SHEET NUMBER
5

N:\PROJECTS\SSR\BANCROFT\ENGINEERING\SSR\BANCROFT\WATER AND SANITATION\SANITARY PLAN AND PROFILE\13 PURPLE ASTER WAY SANITARY DWS, CHRISTOPHER.B. 14/2018 8:19 PM



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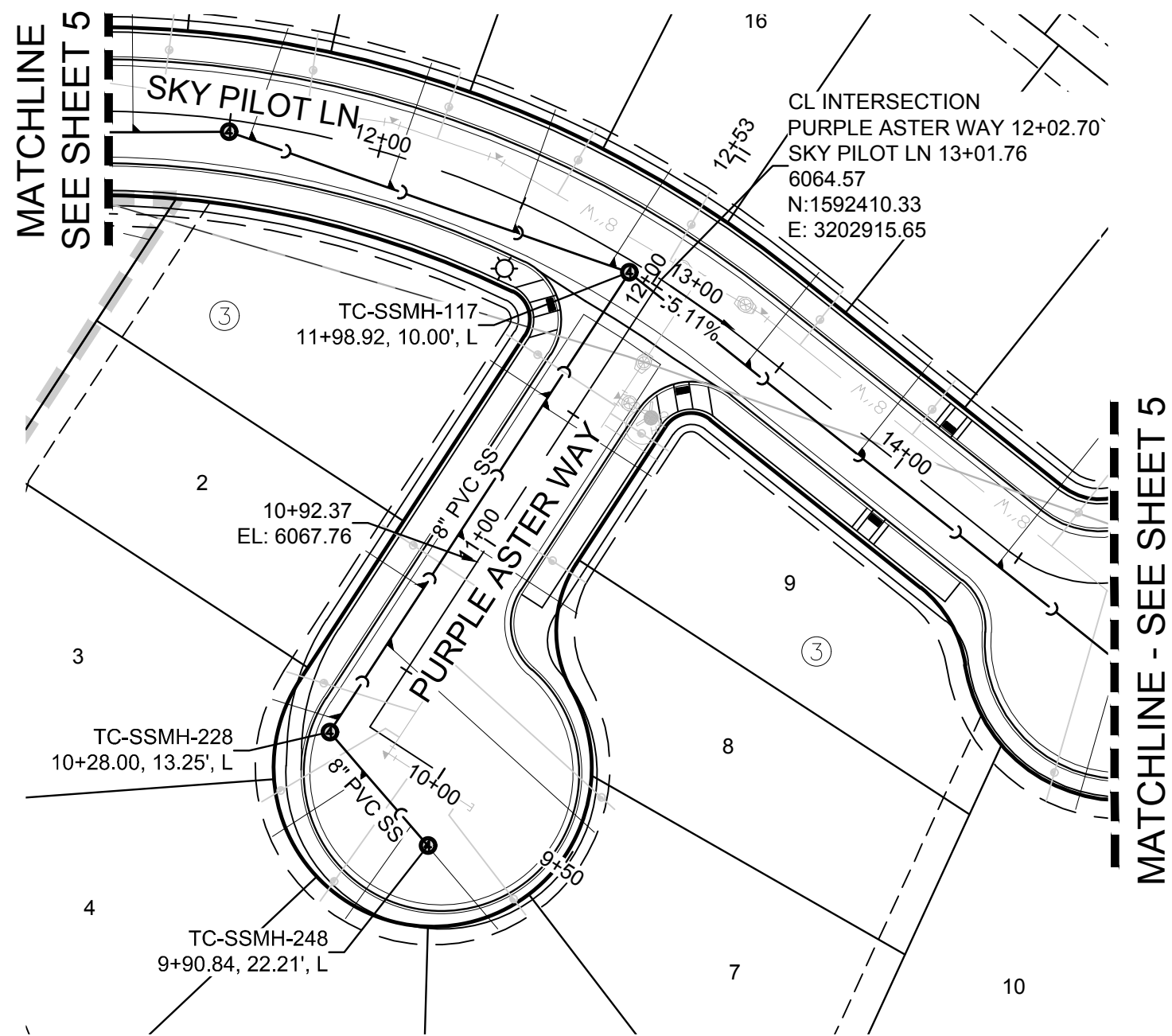
LITUTY NOTIFICATION CENTER OF COLORADO

CALL 811

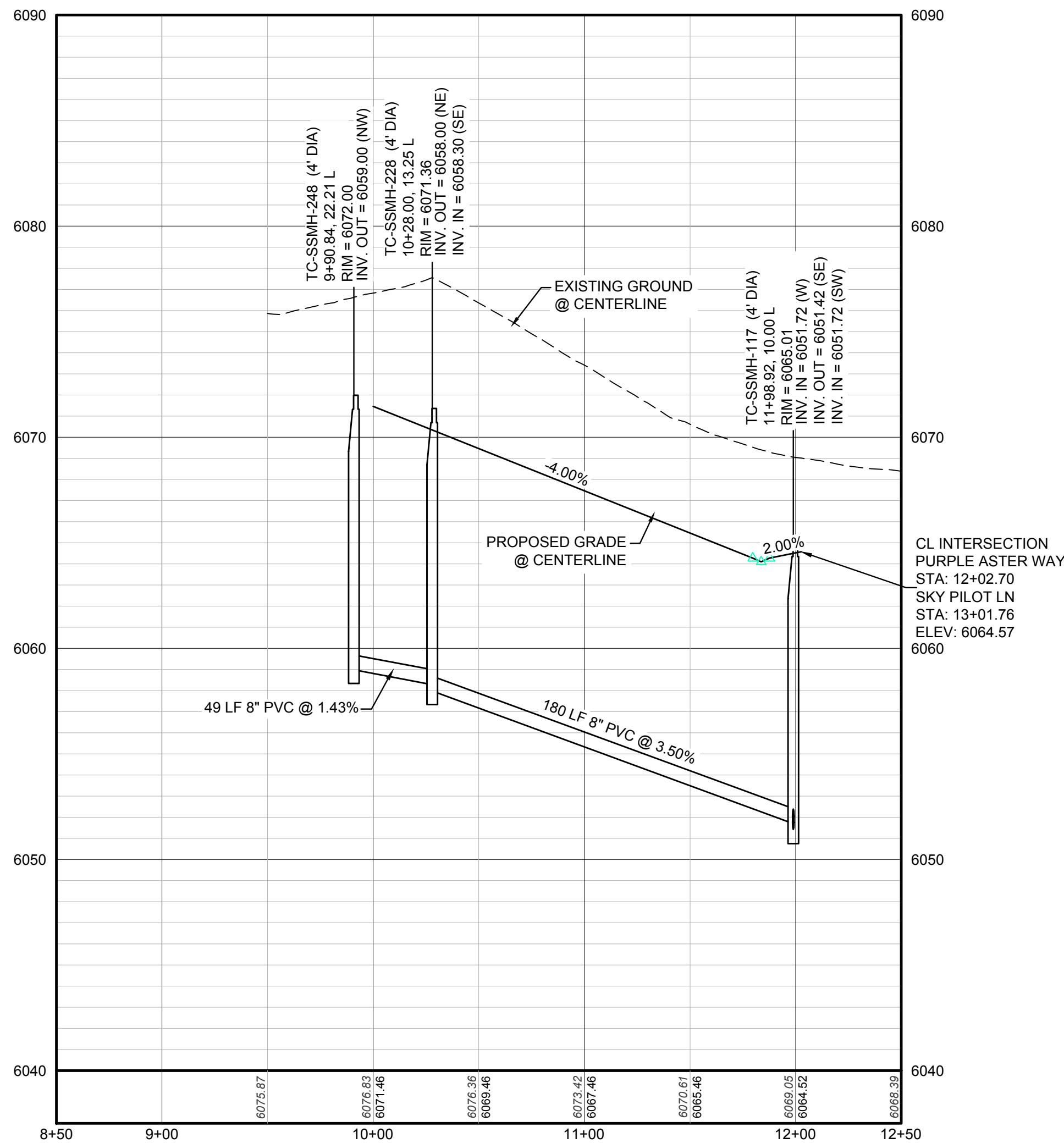
TWO WORKING DAYS

BEFORE YOU DIG

1-800-922-1987



PLAN: PURPLE ASTER WAY STA: 8+50.00 TO 12+50.00
HORIZONTAL SCALE: 1" = 50'



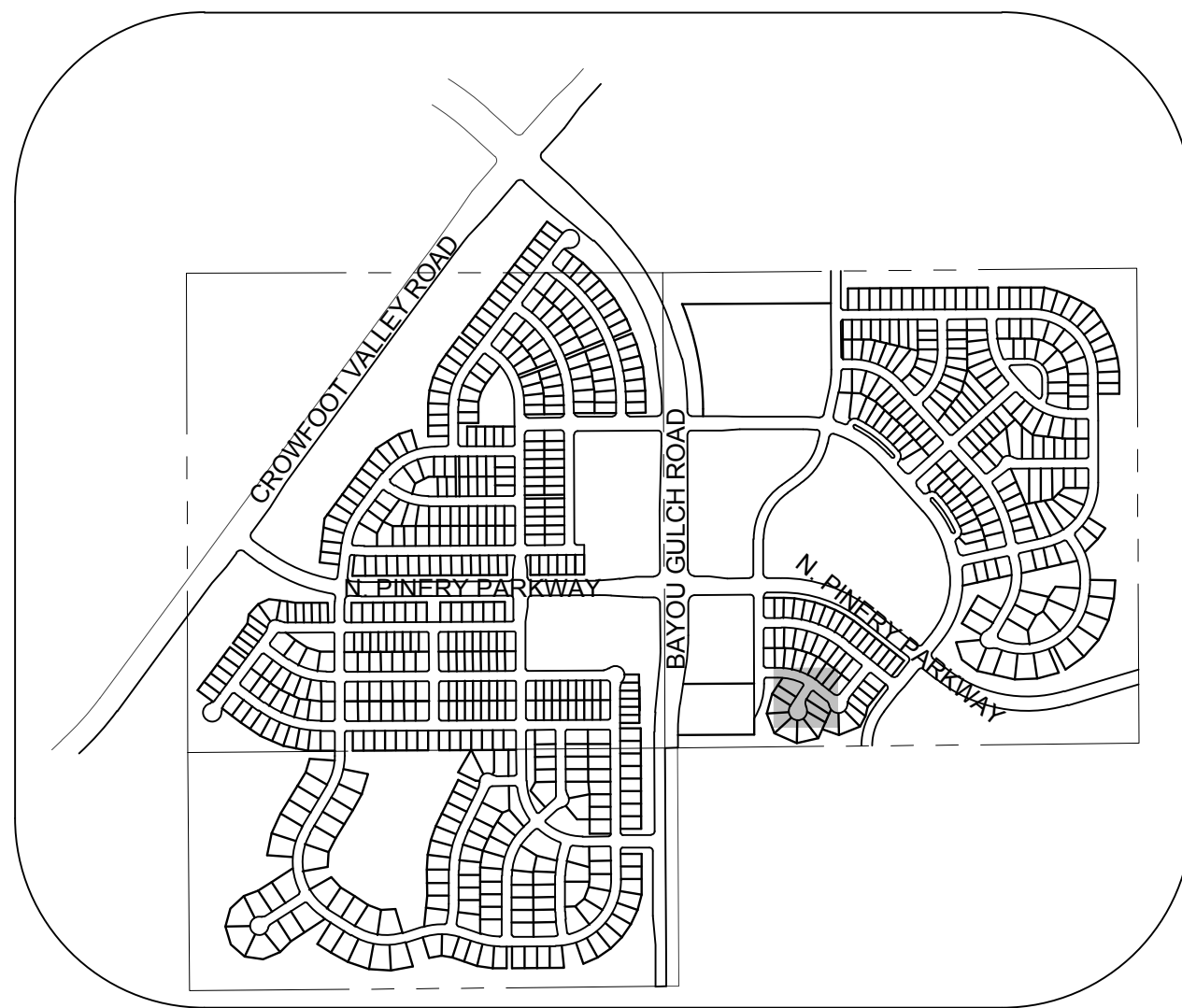
PROFILE: PURPLE ASTER WAY STA: 8+50.00 TO 12+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

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



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 |
| ⊗ | 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 |
| 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 |
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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 |

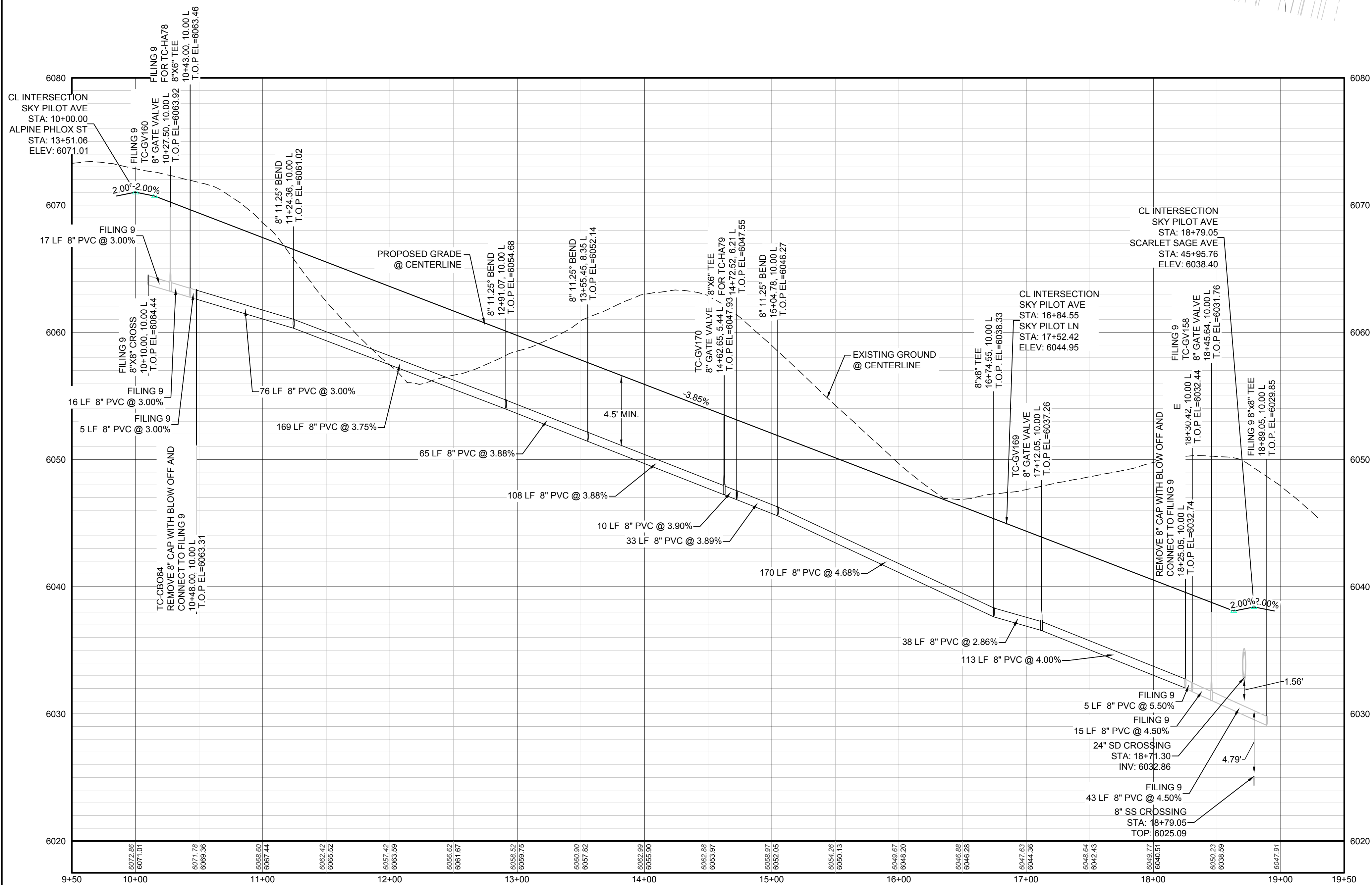
1. SEE SHEET 3 - AREA UTILITY PLAN FOR SANITARY SERVICE TABLES.

SHEET NUMBER	DRAWN BY: JLR	CHECKED BY: JLR	DATE: SEPTEMBER 2017	SCALE: AS SHOWN	FILE NO: 8130283701	TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE PURPLE ASTER WAY	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112		10333 E. Dry Creek Rd. Suite 110 Englewood, CO 80110 Tel: (720) 482-9526 Fax: (720) 482-9548	Revisions	No.	Date	Init.	Appr.	Date

N:\PROJECTS\SSR\BANCROFT\ENGINEERING\SSR\BANCROFT\WATER PLAN AND PROFILE\SSR\SKY PILOT AVENUE WATER PLAN AND PROFILE.DWG, 14/20/18 8:22 PM



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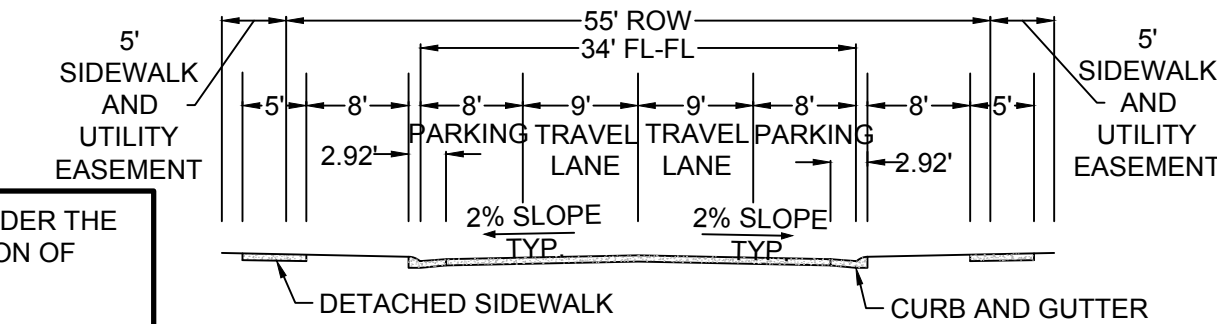
PROFILE: SKY PILOT AVE STA: 9+50.00 TO 19+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

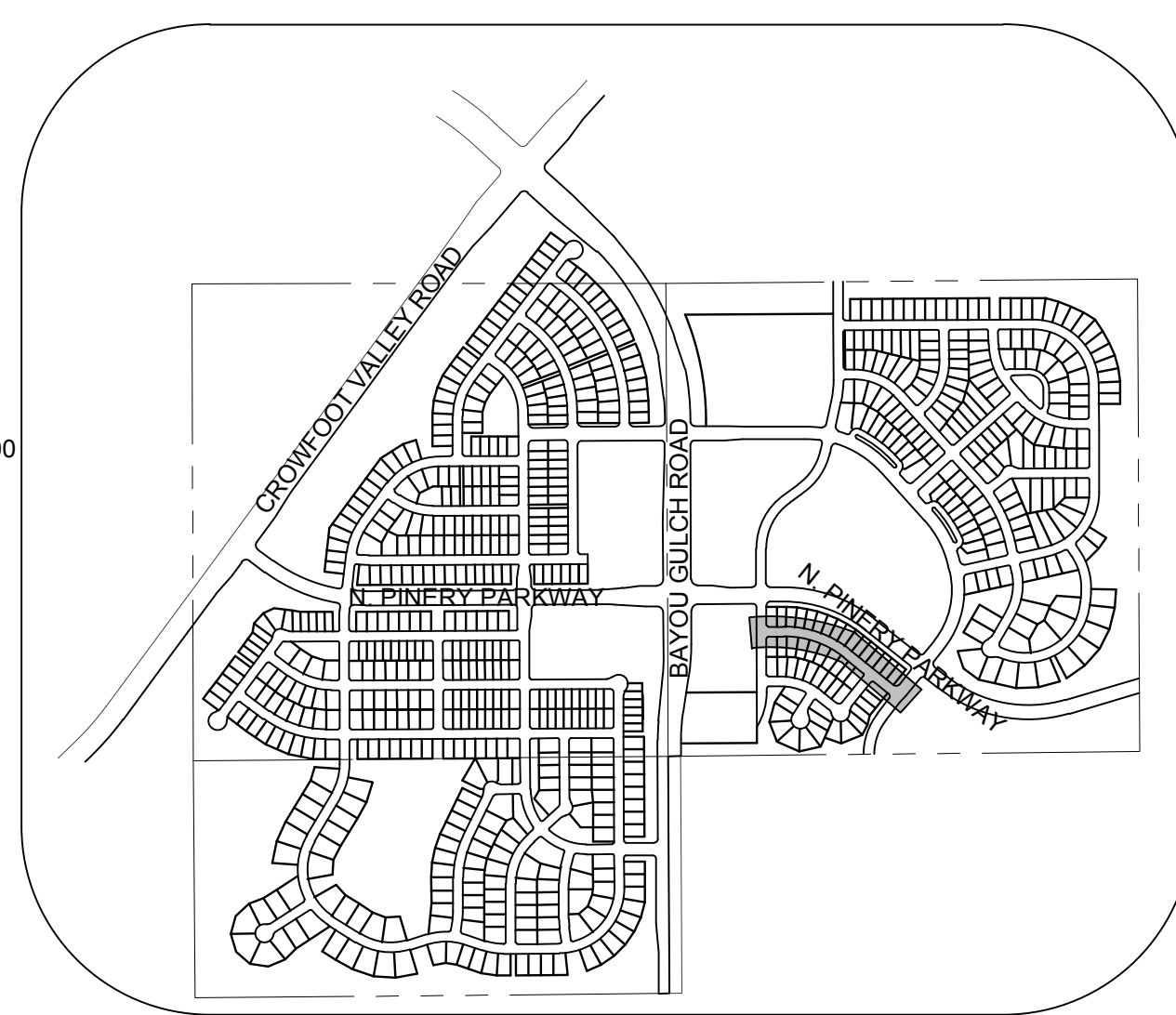
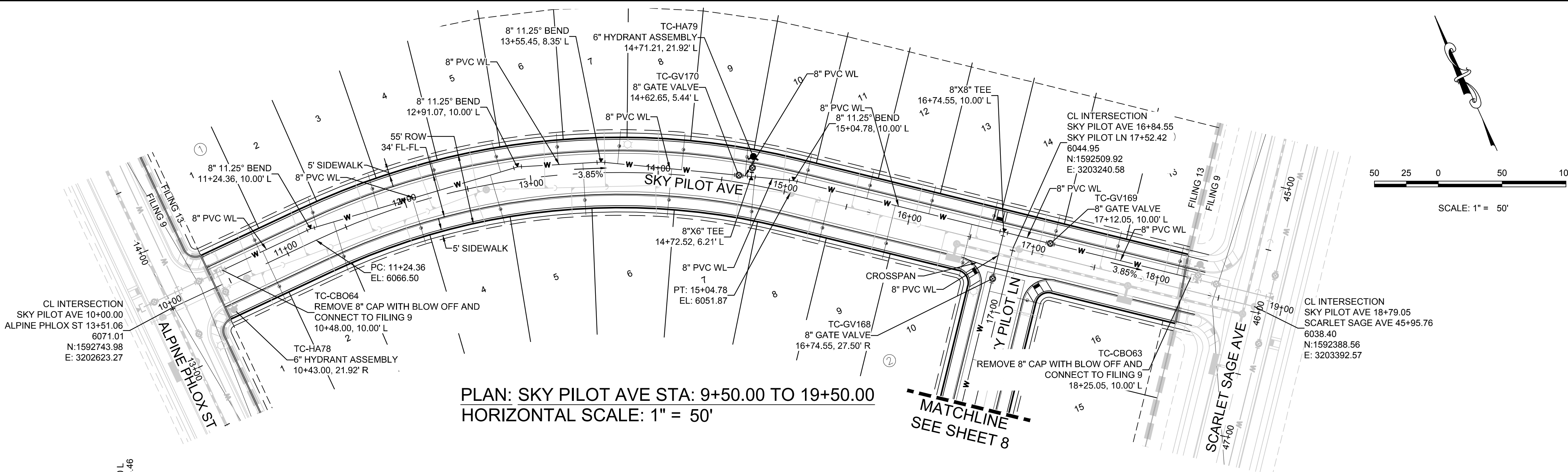
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PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067



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



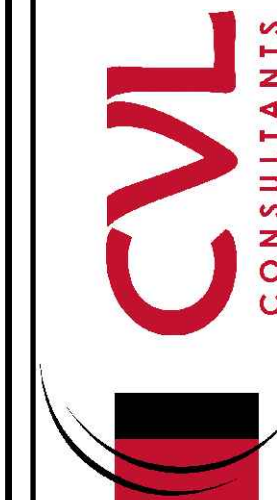
KEYMAP
N.T.S.
LEGEND

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

ABBREVIATIONS

- | | | | |
|-----|------------------------|--------|---------------------------------|
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| GV | GATE VALVE | STA | STATION |
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| HCR | HANDICAP CURB RAMP | UE | UTILITY EASEMENT |
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| INV | INVERT | WL | WATER LINE |
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10333 E. Dry Creek Rd.
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Tel: (720) 482-9526
Fax: (720) 482-9548



HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
SKY PILOT AVENUE

SCALE: AS SHOWN
DRAWN BY: RHR
CHECKED BY: JJ
DATE: SEPTEMBER 2017
FILE NO: 8130283701

SHEET NUMBER
7

N:\PROJECTS\SSR\BANCROFT\ENGINEERING\SSR\BANCROFT\WATER AND SANITATION\WATER PLAN AND PROFILE\13 PURPLE ASTER WAY WATER DWG. CHRISTOPHER.B, 14/2018 8:20 PM



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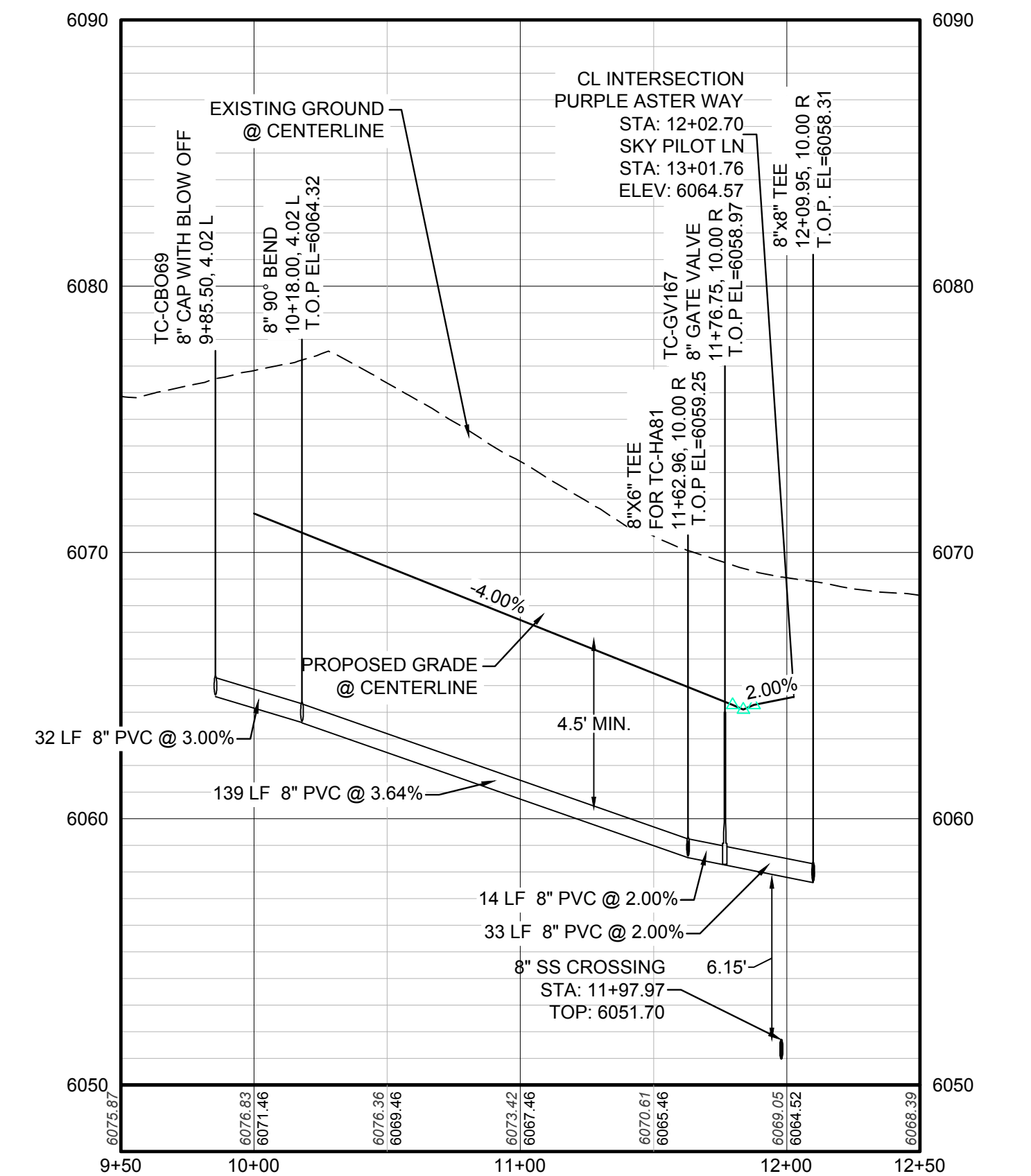
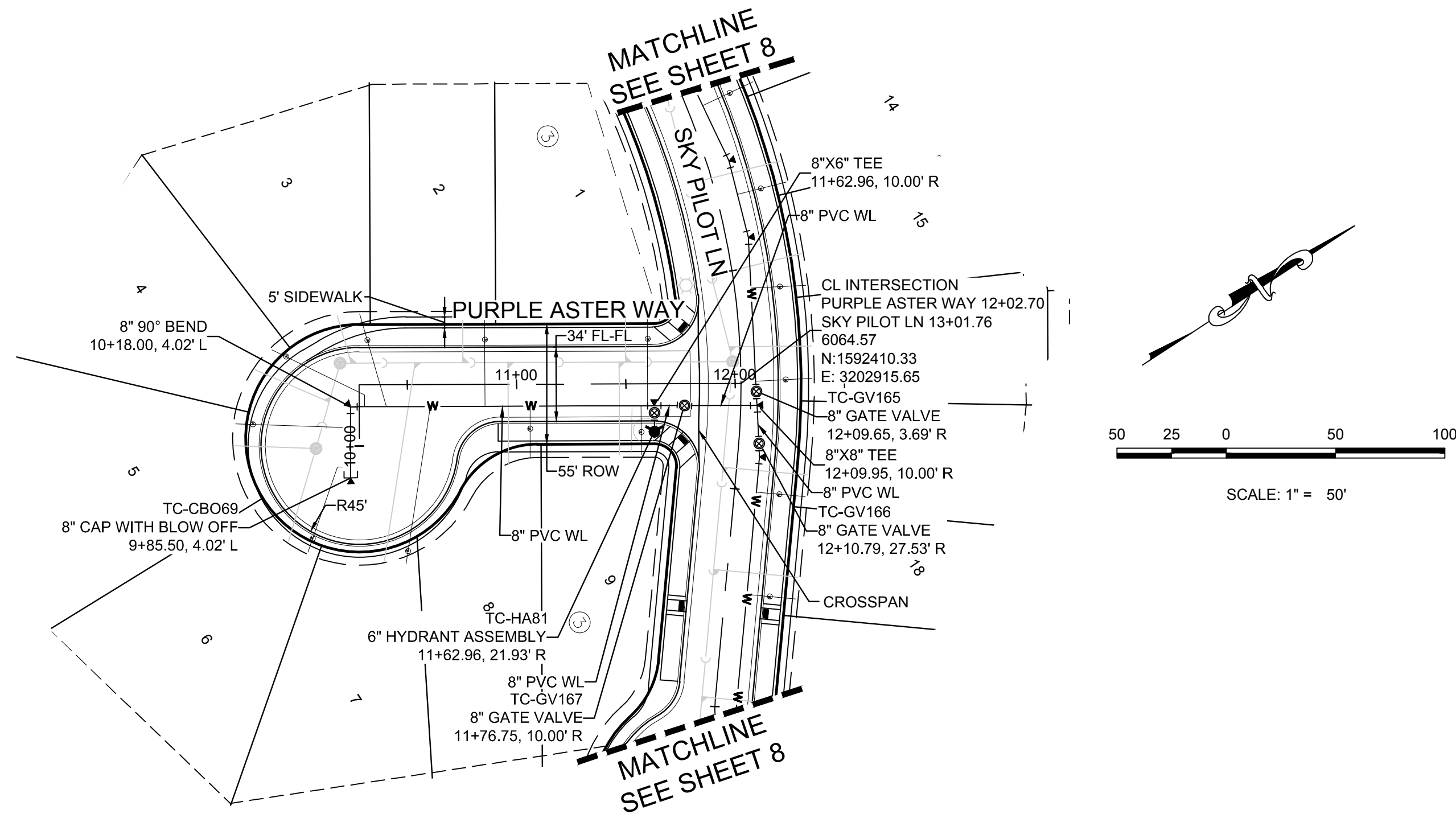
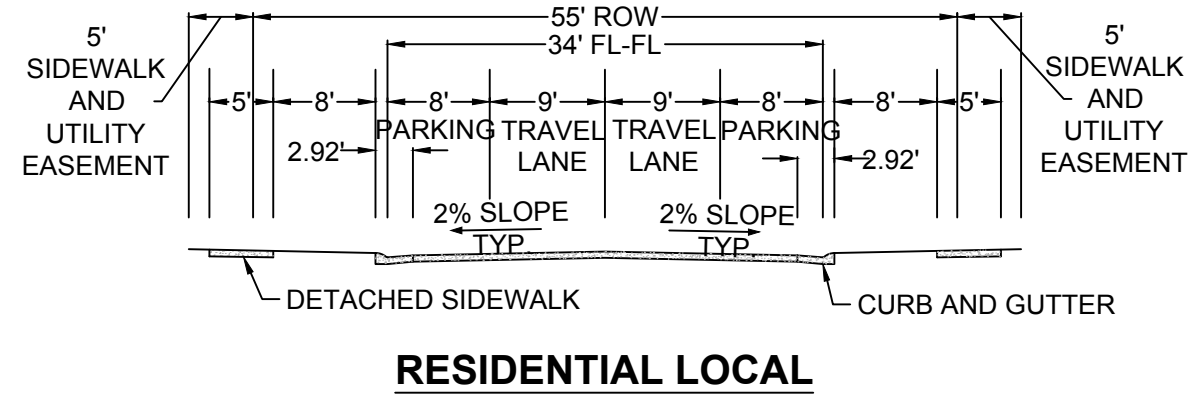
LITELTY NOTIFICATION CENTER OF COLORADO

CALL 811

TWO WORKING DAYS

BEFORE YOU DIG

1-800-922-1987

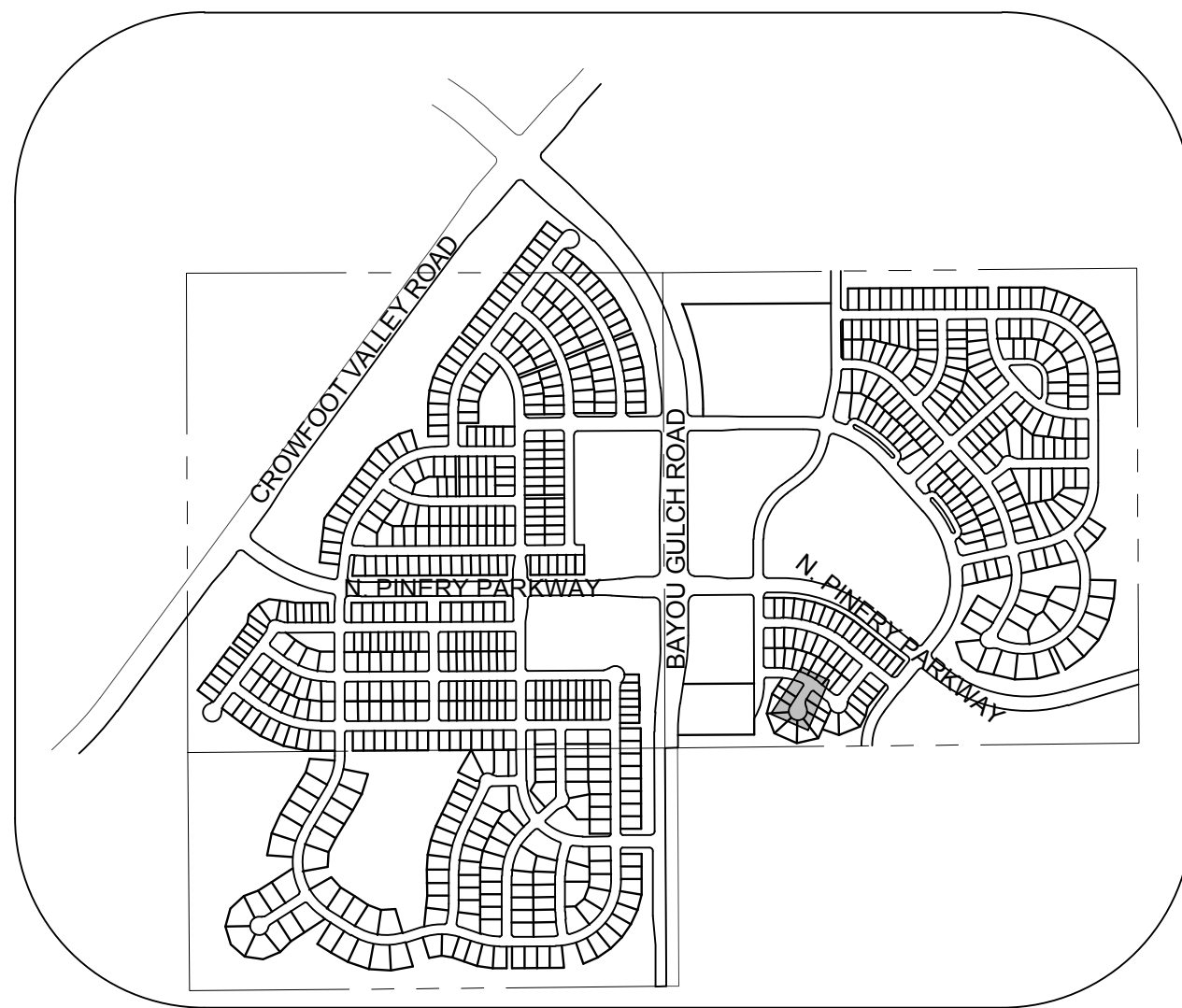


BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067



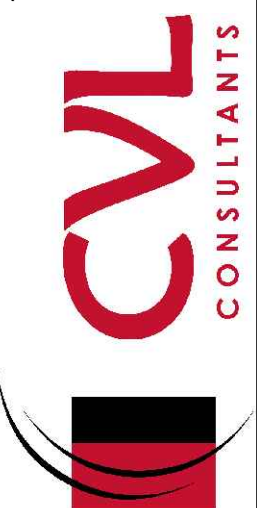
KEYMAP
N.T.S.
LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊗	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⌋	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⌋	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊗	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⌋	PROPOSED FIRE HYDRANT	5615	EXISTING 5' CONTOUR
⌋	PROPOSED WL FITTING WITH THRUST BLOCK	5616	EXISTING 1' CONTOUR
⌋	PROPOSED FLARED END SECTION	5620	PROPOSED 5' CONTOUR
⊗	PROPOSED LOW POINT BLOW-OFF	5607	PROPOSED 1' CONTOUR
⊗	PROPOSED AIR VALVE	---	PROPOSED STORM DRAIN
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⊗	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
⊗	PROPOSED SIDEWALK	---	PROPOSED WATER LATERAL W/ METER
⊗	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

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
LF	LINEAR FEET	WSE	WATER SURFACE ELEVATION

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

SHEET NUMBER	DRAWN BY: RHR	CHECKED BY: JLJ	DATE: SEPTEMBER 2017	SCALE: AS SHOWN	FILE NO: 8130283701	Revisions	No.	Date	Init.	Appr.	Date
10333 E. Dry Creek Rd. Englewood, CO 80110 Tel: (720) 482-9526 Fax: (720) 482-9548 CVL CONSULTANTS HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112 TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE PURPLE ASTER WAY											

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:

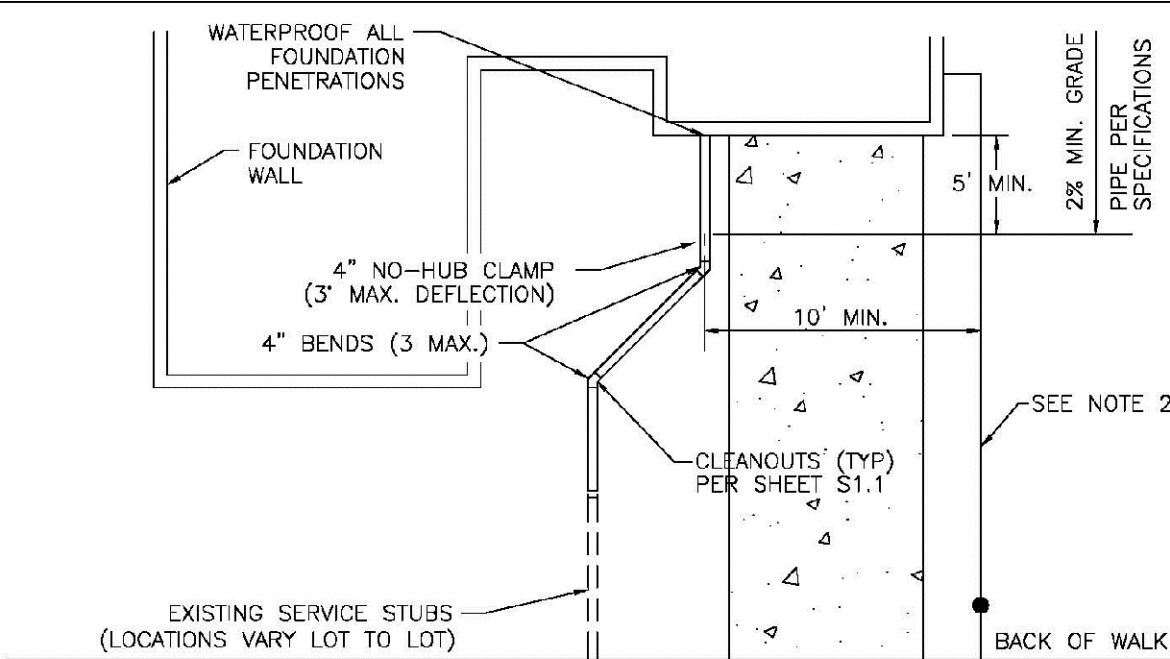
SEWER

1. ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SQUEEGEE.
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

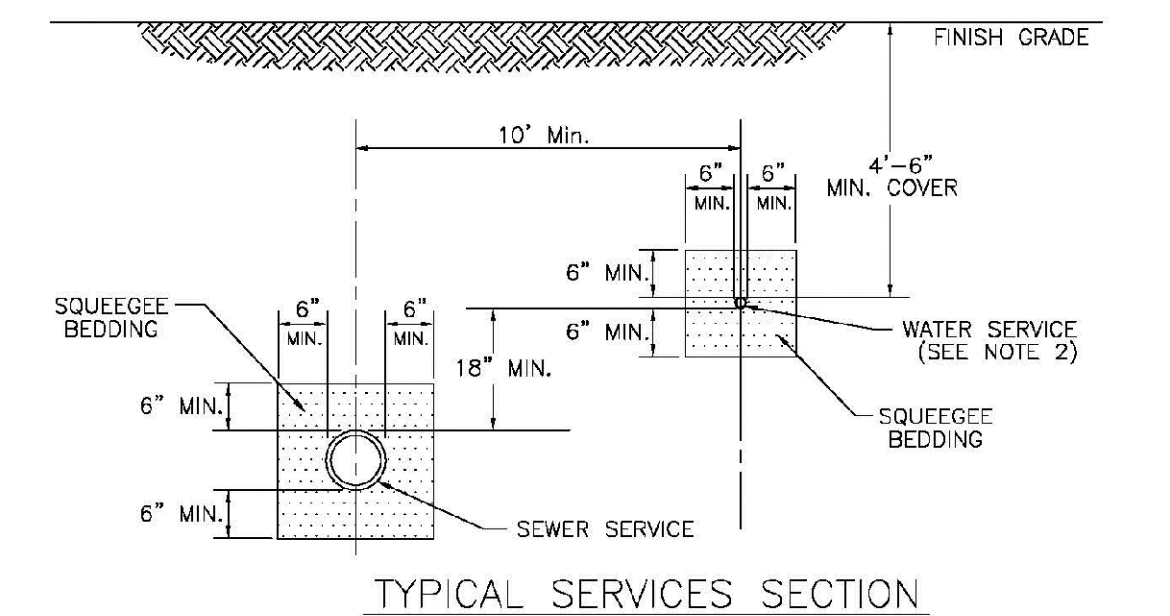
PARKER WATER & SANITATION DISTRICT	
DISTRICT POLICIES & INSTALLATION NOTES FOR SEWER SERVICES	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 10/16
DIRECTOR OF ENGINEERING	1/08 1/16

2016 REVISION

SHEET 51.1



TYPICAL SERVICES PLAN VIEW

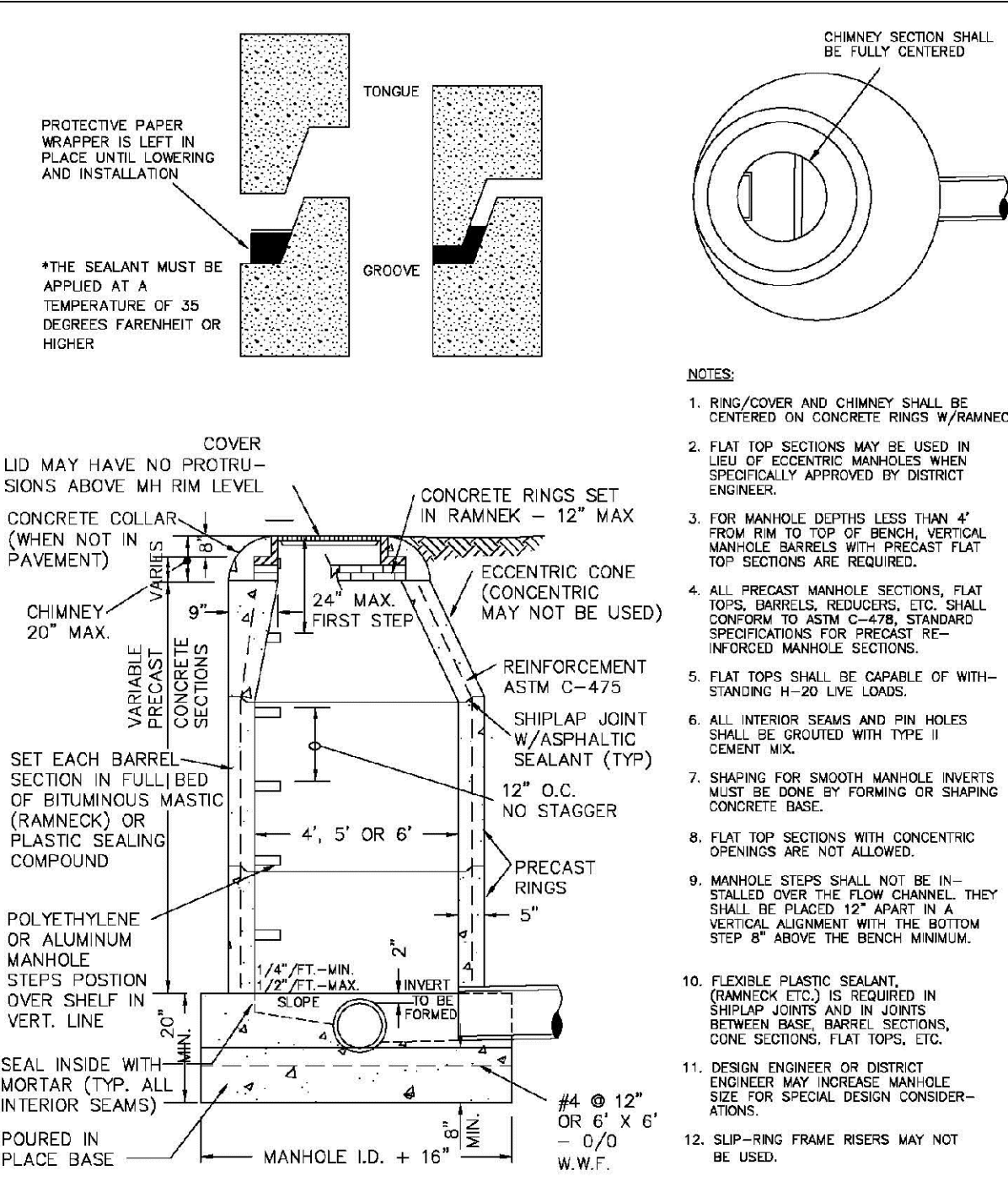


TYPICAL SERVICES SECTION

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

2016 REVISION

SHEET 51.2



PIPE I.D.	MANHOLE I.D.
18" & SMALLER	4'-0"
21" TO 48"	5'-0"
54"	6'-0"
60" & LARGER	SPECIAL DESIGN

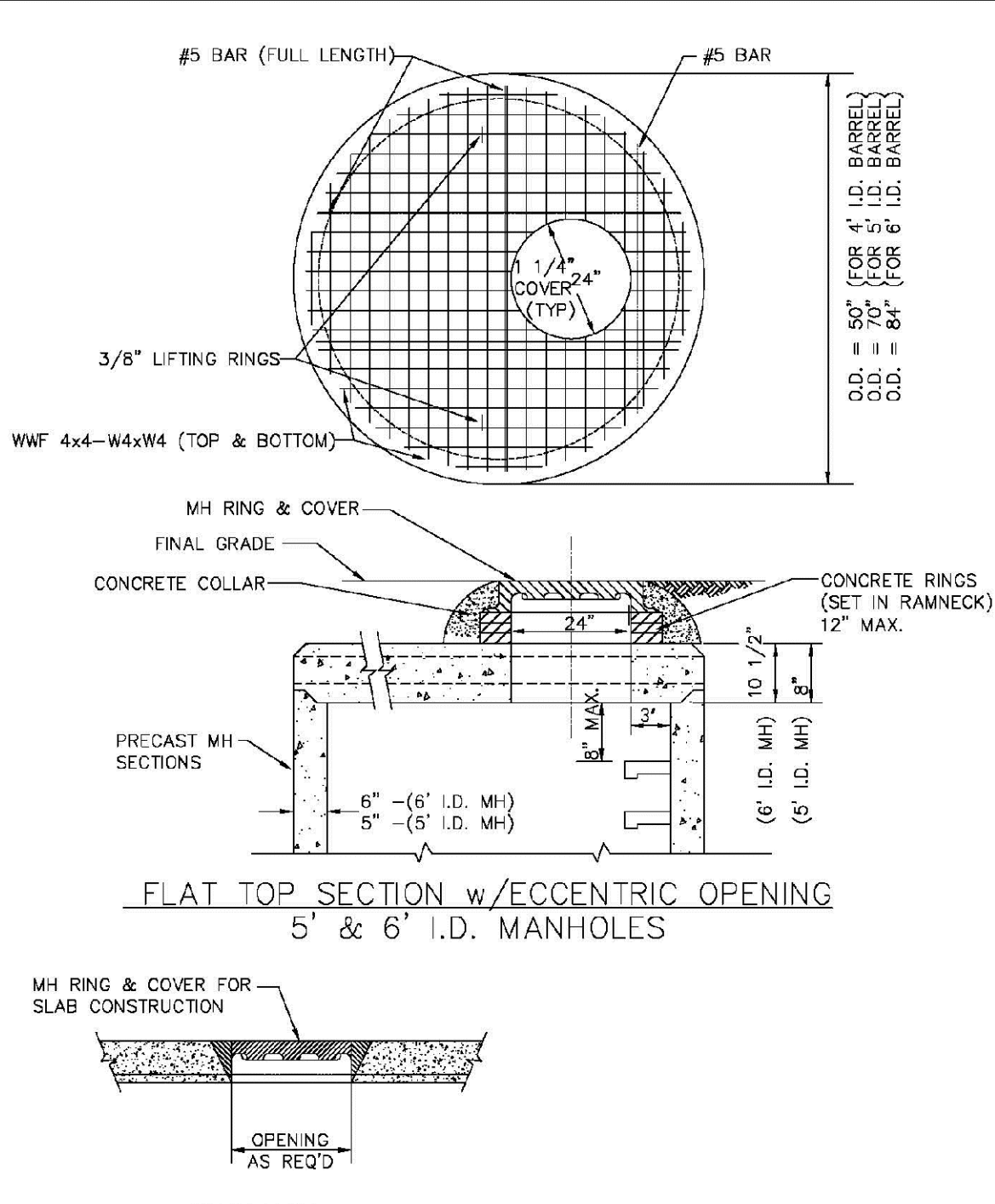
2016 REVISION

SHEET 51.2

PARKER WATER & SANITATION DISTRICT PARKER MANHOLE ECCENTRIC CONE

SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 01/02
DIRECTOR OF ENGINEERING	1/08 1/16

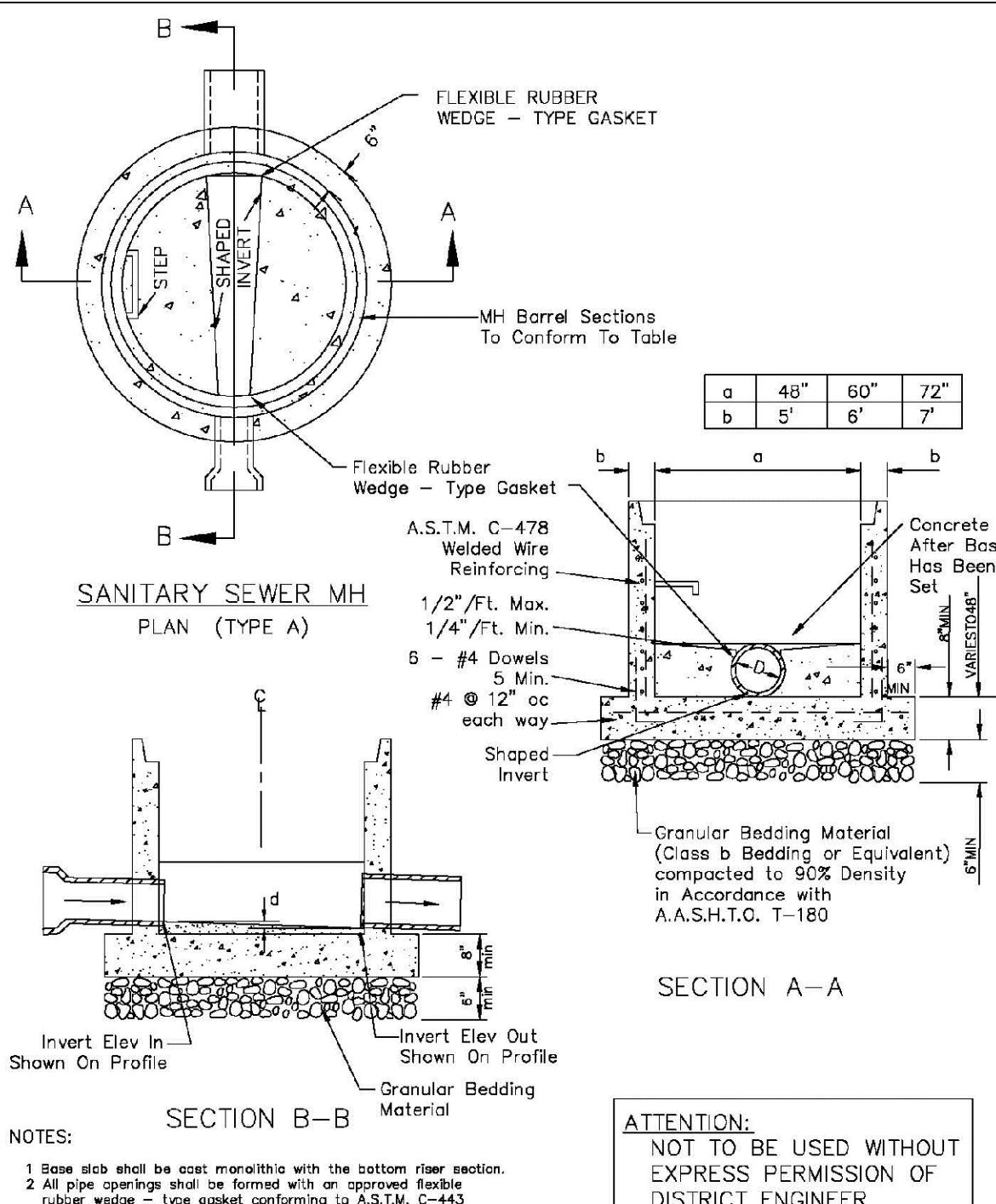
SHEET 53.1



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

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 01/16
DIRECTOR OF ENGINEERING	

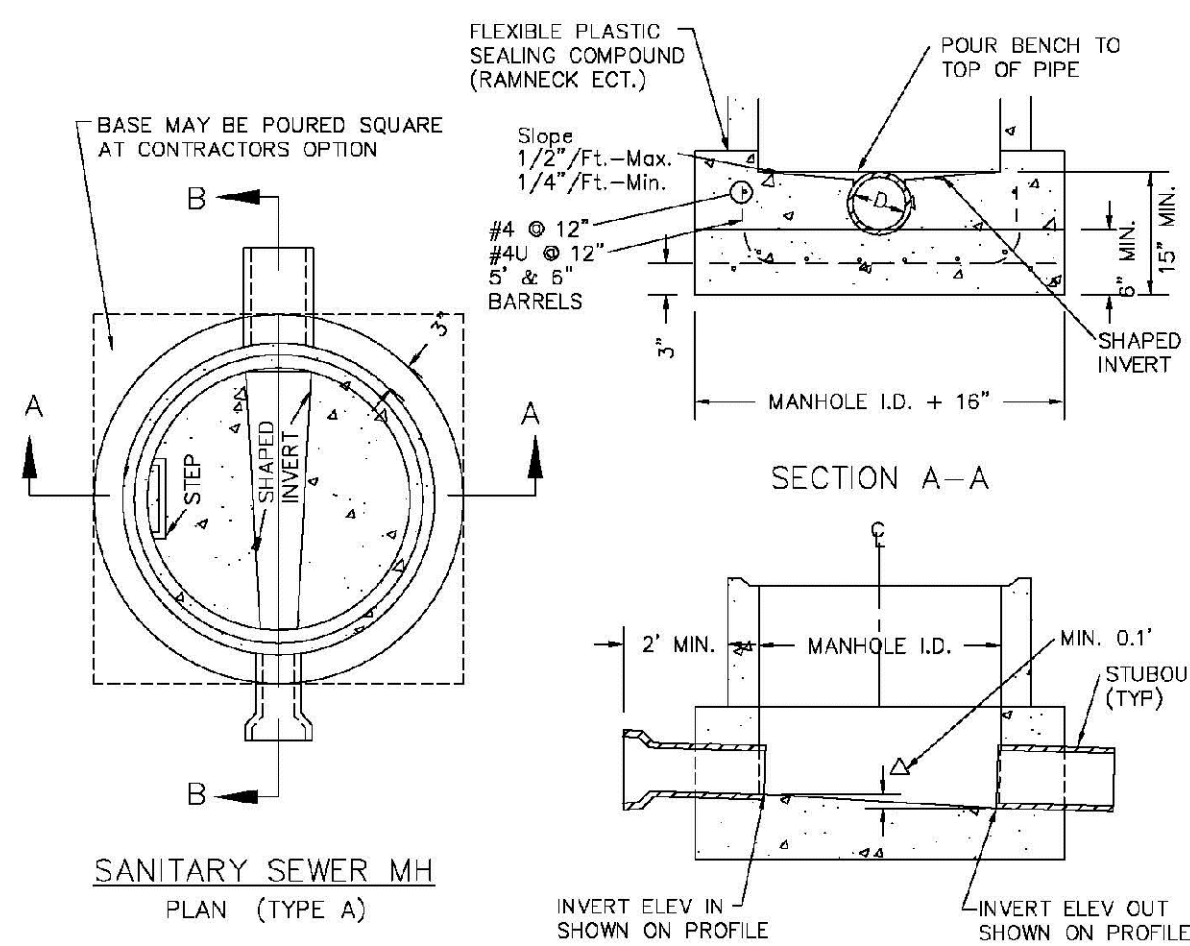
SHEET 53.3



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


SANITARY SEWER MH
PLAN (TYPE A)

SECTION A-A

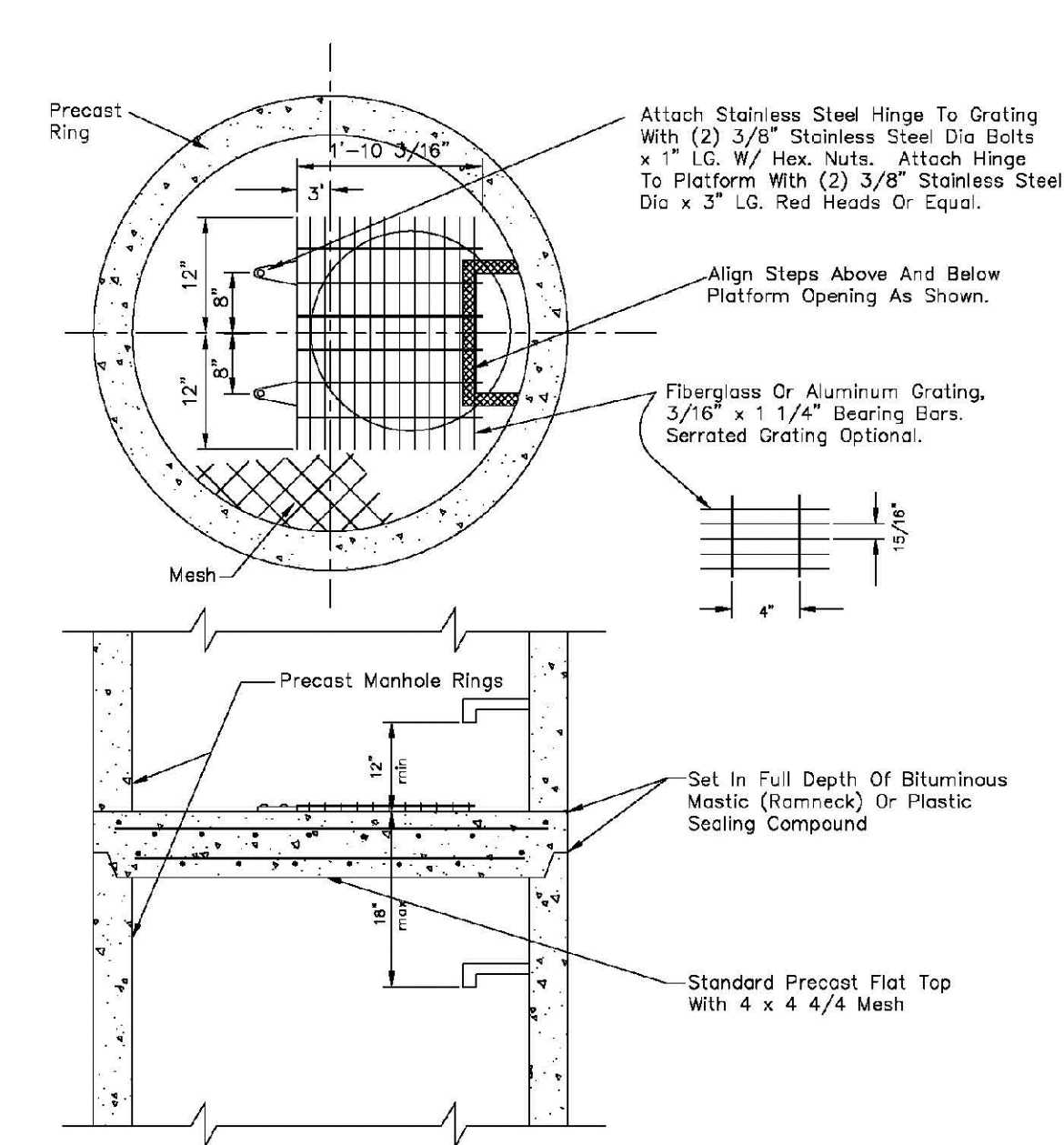
NOTES:

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'-0" 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. 0.1' 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
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET 53.5

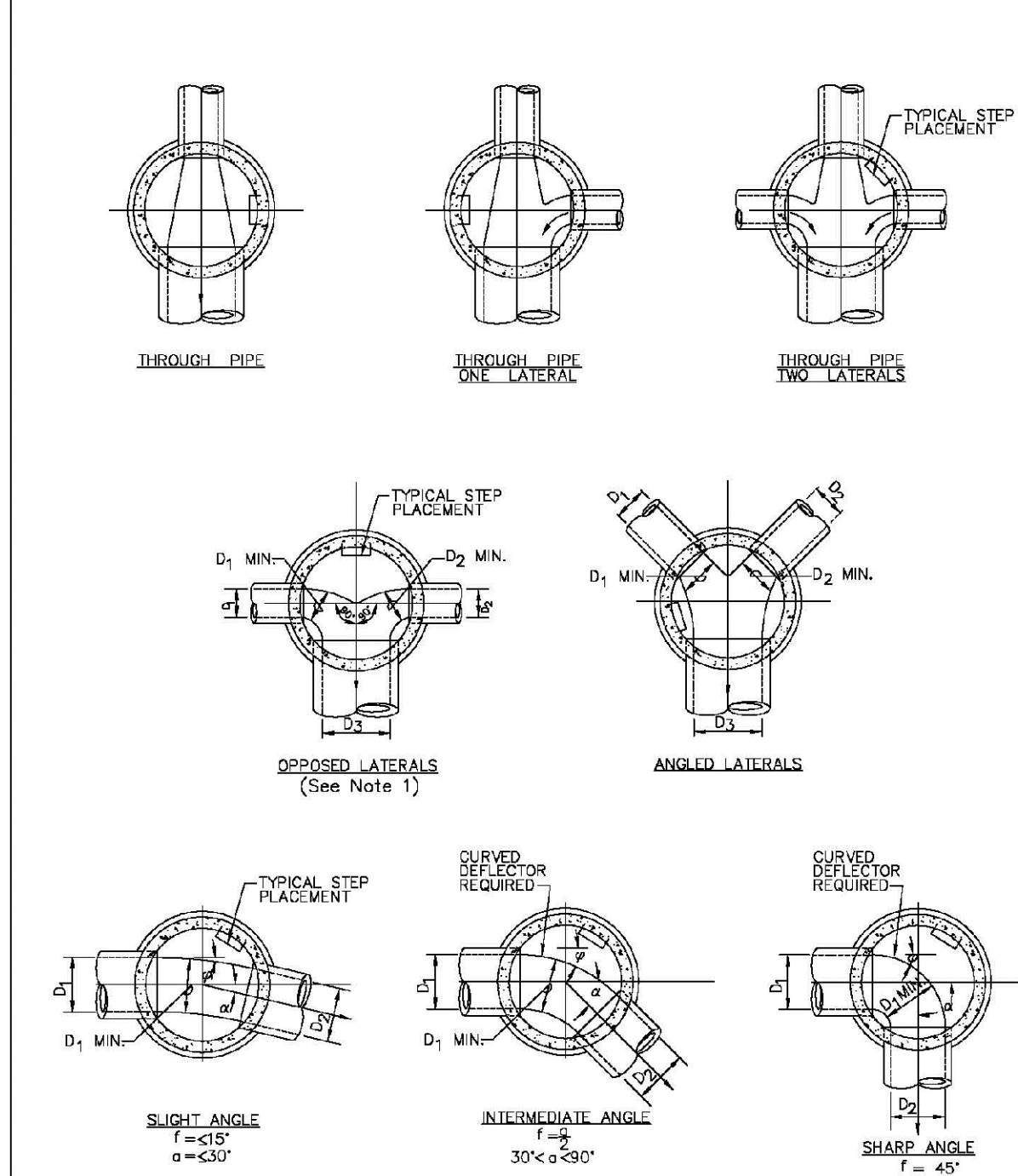


PARKER WATER & SANITATION DISTRICT INTERMEDIATE PLATFORM FOR MANHOLES OVER 20' DEPTH

SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 01/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

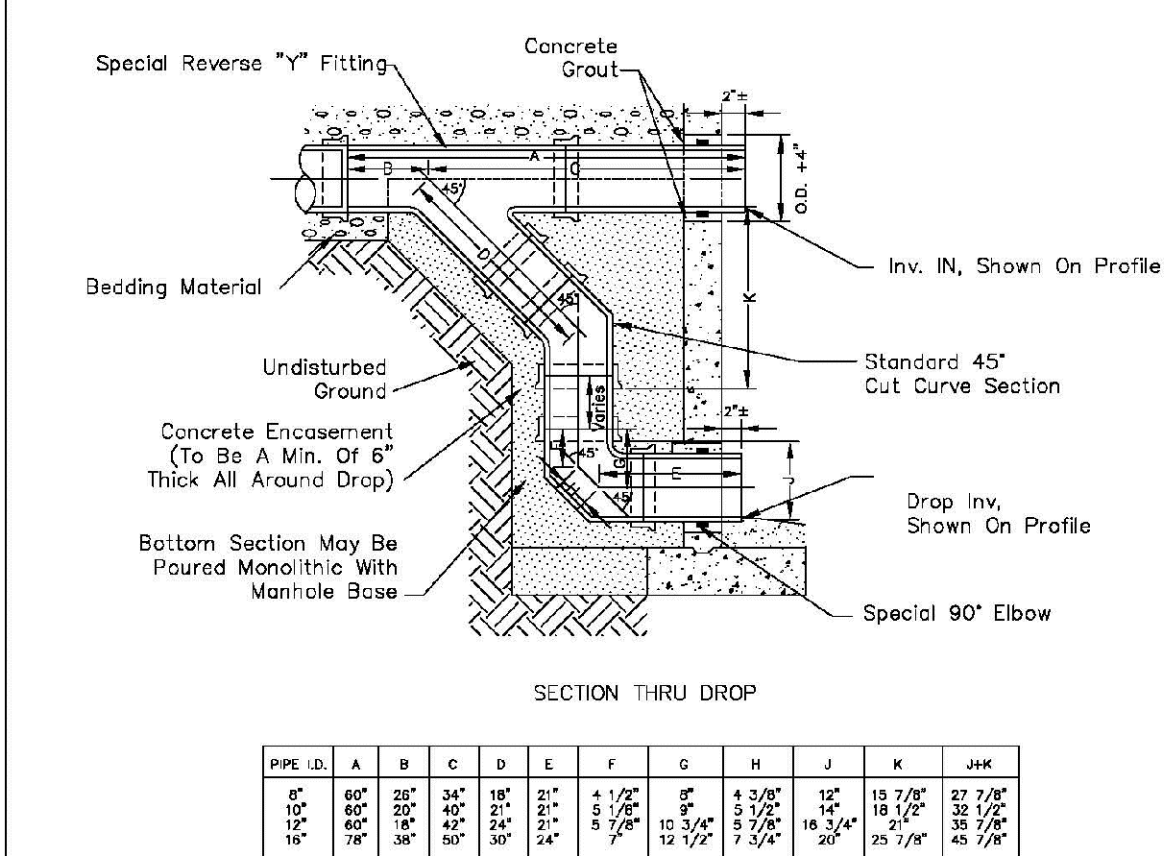
SHEET 53.6



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



PIPE I.D.	A	B	C	D	E	F	G	H	J	K	MIN.
18"	18"	18"	18"	18"	18"	18"	18"	18"	18"	18"	18"
21"	21"	21"	21"	21"	21"	21"	21"	21"	21"	21"	21"
24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"
30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"
36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"
42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"
48"	48"	48"	48"	48"	48"	48"	48"	48"	48"	48"	48"
54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"
60"	60"	60"	60"	60"	60"	60"	60"	60"	60"	60"	60"

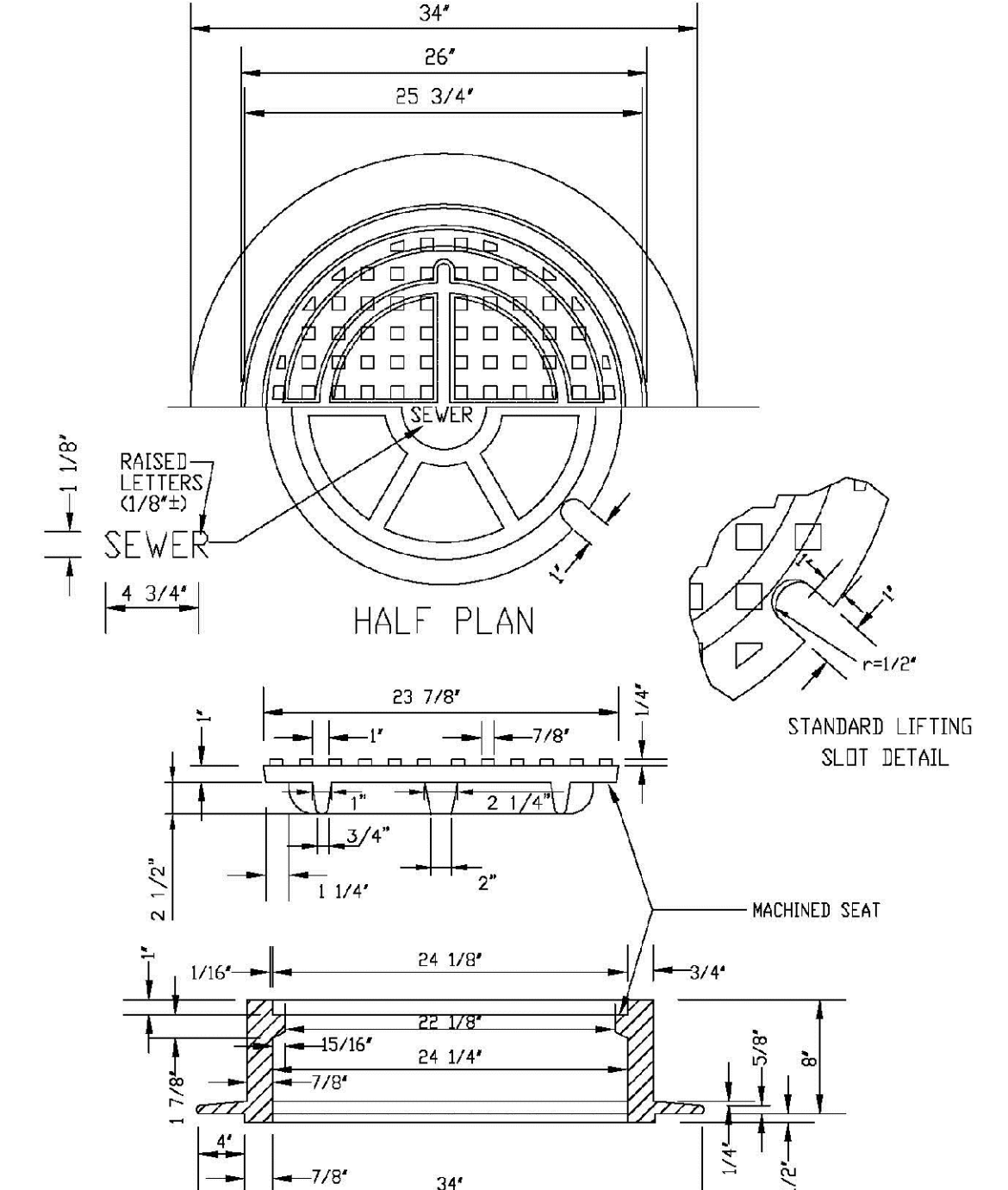
- NOTES:
1. Vlt Clay Pipe & fittings (A.S.T.M. C-700) shown, details similar for all other pipe.
 2. Diameter of drop shall not be less than the line pipe diameter.
 3. For 18" diameter and larger, outside drop detail shall be a special design.
 4. Manhole shall be coated using bituminous mastic (ramneck)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

OUTSIDE DROP MANHOLE CONSTRUCTION

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

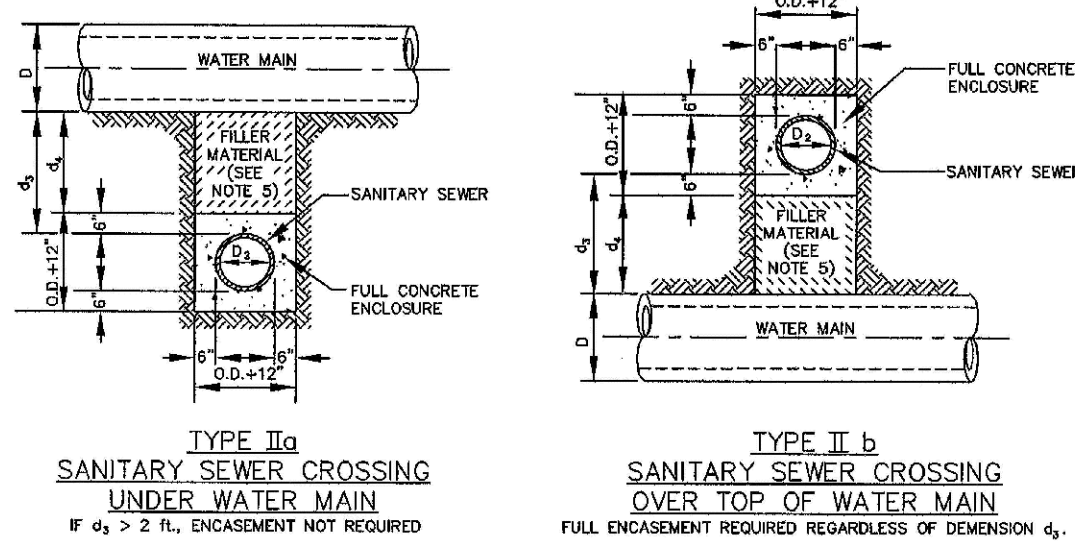


PARKER WATER & SANITATION DISTRICT 24\"/>

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

SHEET 53.9

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

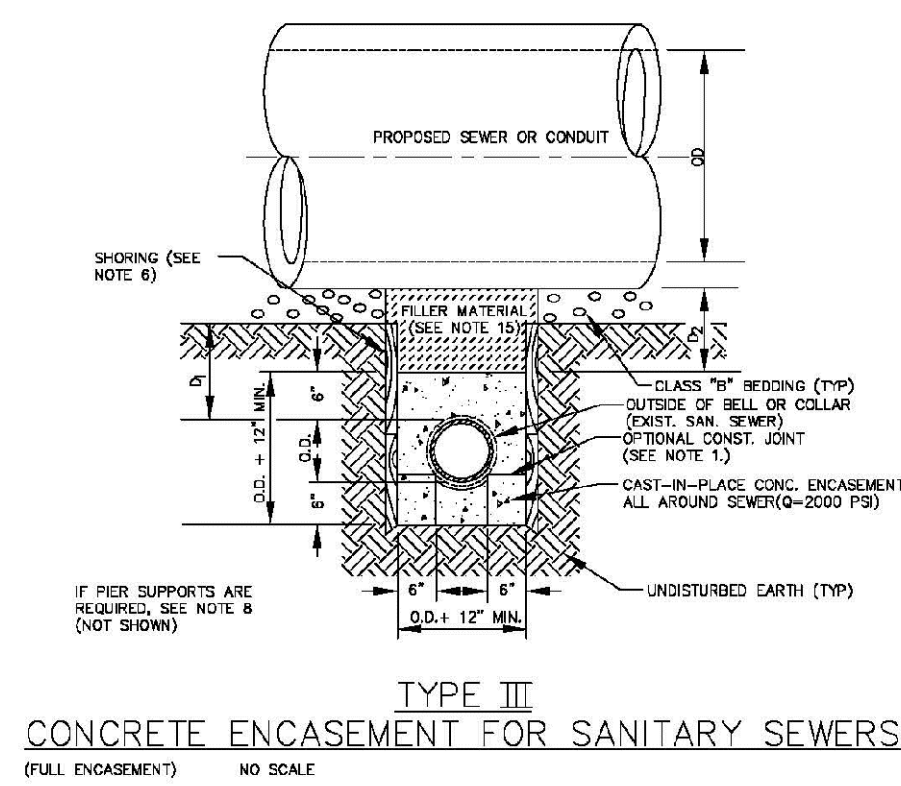
GENERAL NOTES FOR TYPE I, II & III ENCASEMENT

- 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:
(a) TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
(b) TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
(a) TYPE I OR TYPE II IF $d_s \leq 18"$ ($d_s \leq 12"$) EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS.
(b) TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS. REINFORCEMENT IS REQUIRED IF $d_s > 24"$ ($d_s \leq 18"$).
(c) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
(d) 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:
(a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_s \leq 4"$ & $d_s \leq 5"$.
(b) COMPACTED CLASS "B" BEDDING IF $d_s \leq 4"$ & $d_s > 5"$ (IF $d_s > 5"$ 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, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

PARKER WATER & SANITATION DISTRICT	
CONCRETE ENCASEMENT TYPE II	
SCALE: NONE	DATE: 2/98
APPROVED: JFN	5/98 4/01 1/06
DISTRICT ENGINEER	

2008 REVISION

SHEET 7



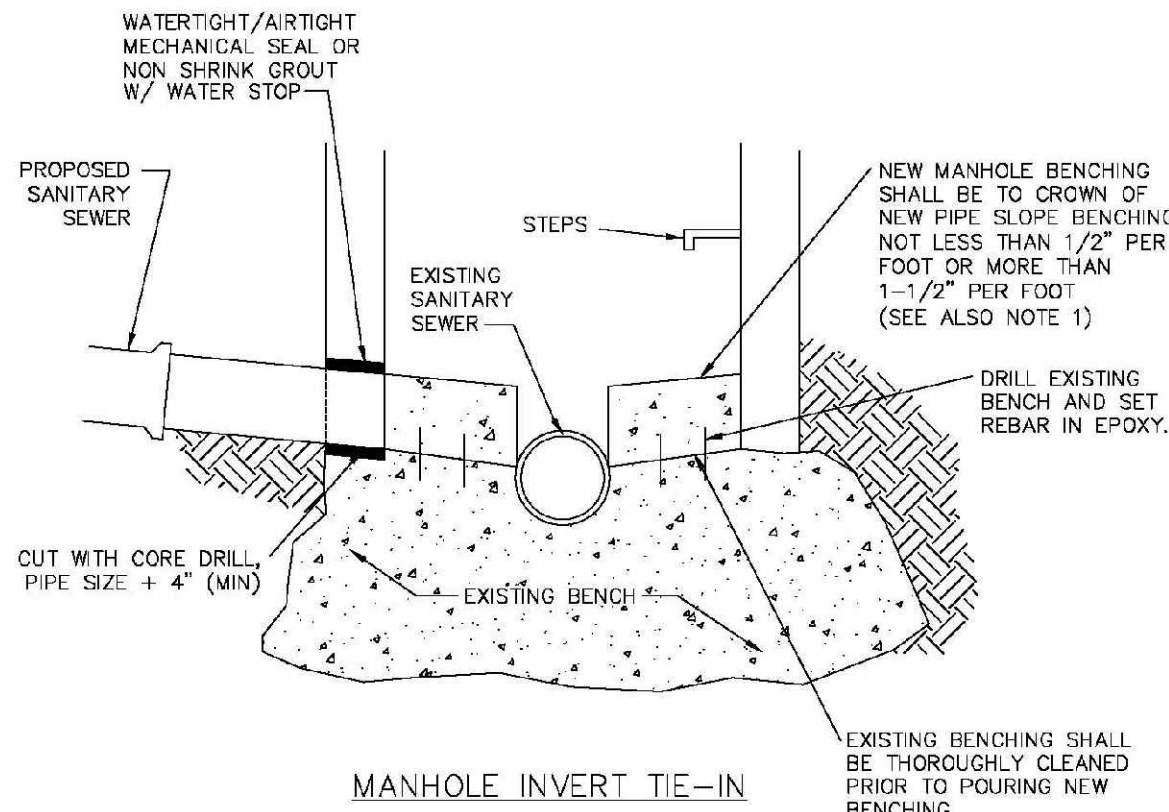
GENERAL NOTES FOR TYPE I, II & III ENCASEMENT

- 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:
(a) TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
(b) TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III 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:
(a) TYPE I OR TYPE II IF $d_s \leq 18"$ ($d_s \leq 12"$) EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS.
(b) TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS. REINFORCEMENT IS REQUIRED IF $d_s > 24"$ ($d_s \leq 18"$).
(c) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
(d) 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:
(a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_s \leq 4"$ & $d_s \leq 5"$.
(b) COMPACTED CLASS "B" BEDDING IF $d_s \leq 4"$ & $d_s > 5"$ (IF $d_s > 5"$ 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, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.
- CONCRETE ENCASED PIPING SHALL BE LINED WITH FELT LAYER.

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

2016 REVISION

SHEET S4.8



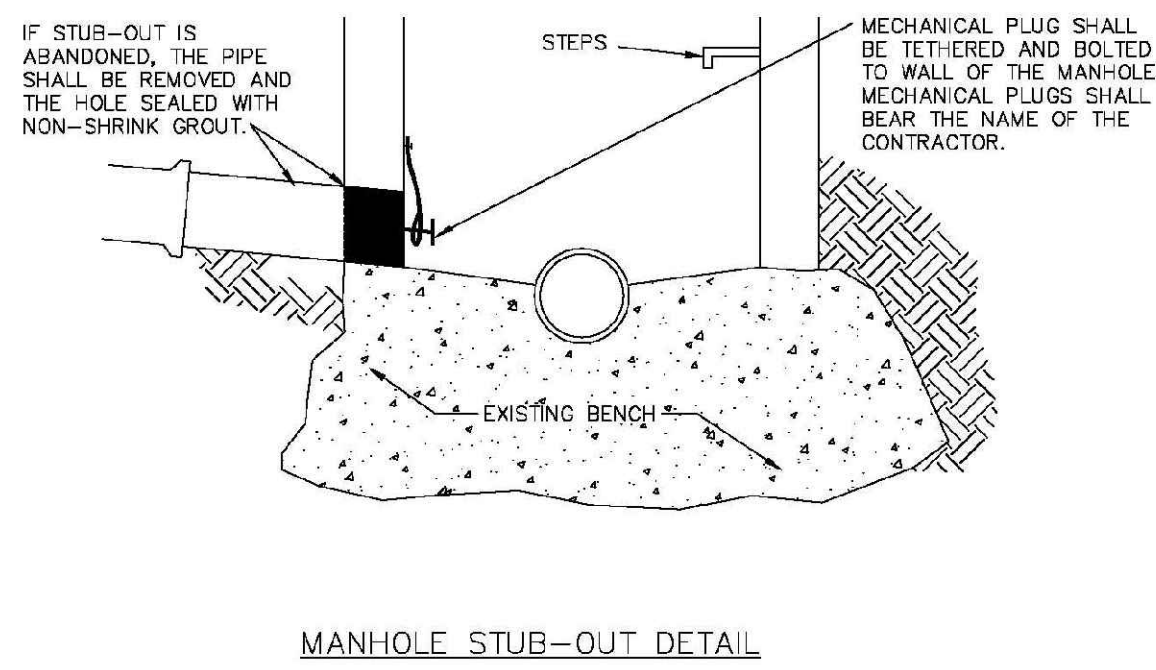
NOTES

- NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

PARKER WATER & SANITATION DISTRICT	
MANHOLE INVERT TIE-IN DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

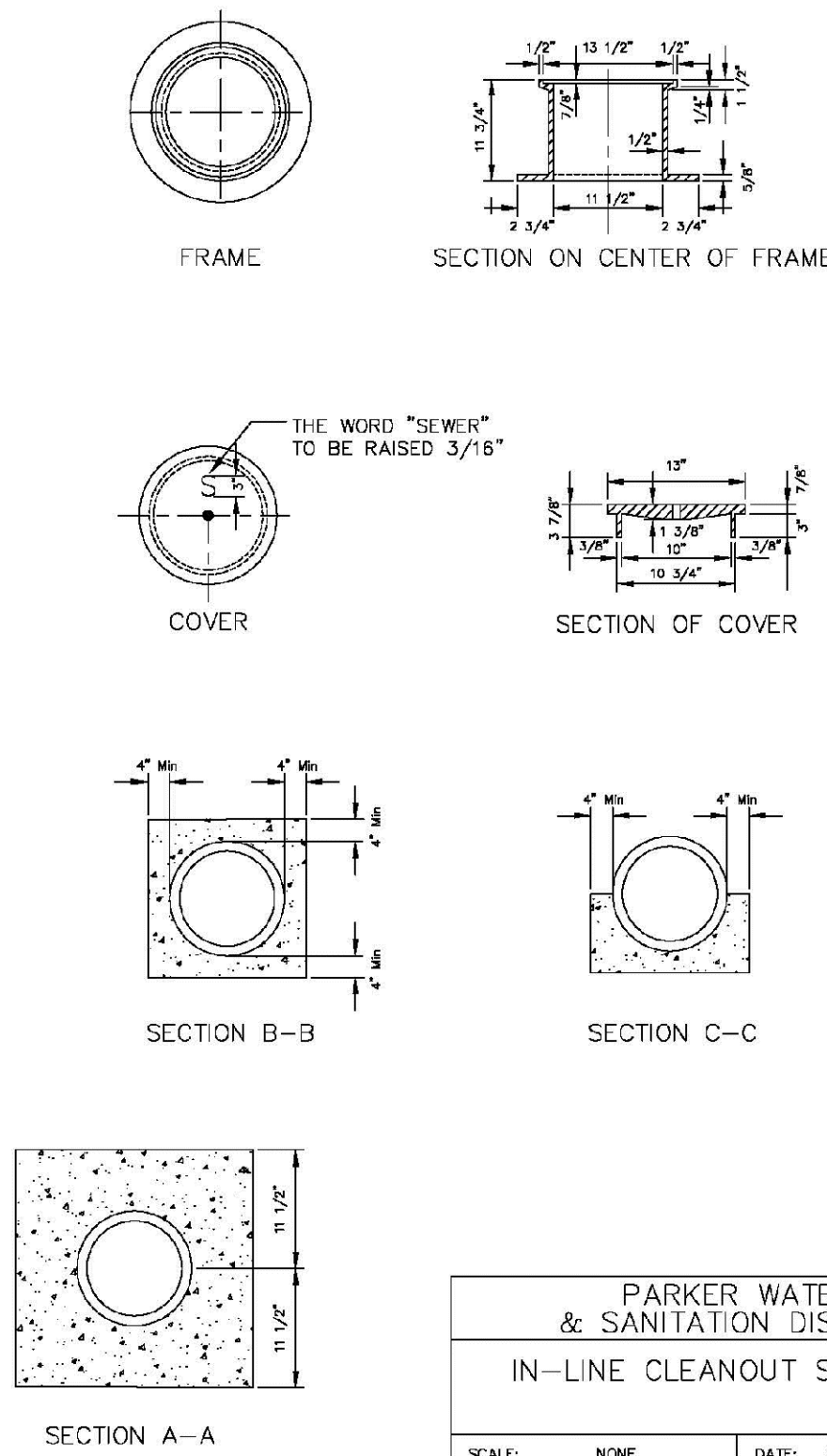
SHEET S4.9



PARKER WATER & SANITATION DISTRICT	
MANHOLE STUB-OUT DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

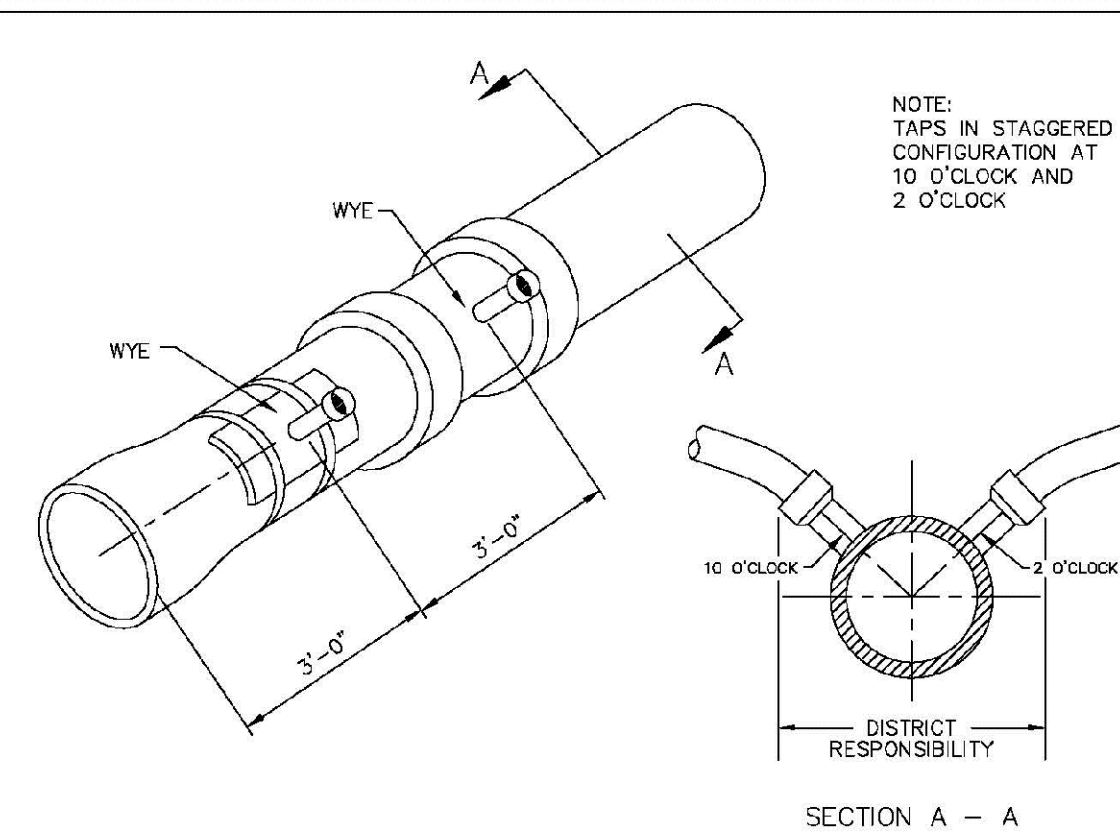
SHEET S4.10



PARKER WATER & SANITATION DISTRICT	
IN-LINE CLEANOUT SECTIONS	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/00 1/98 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET S4.12



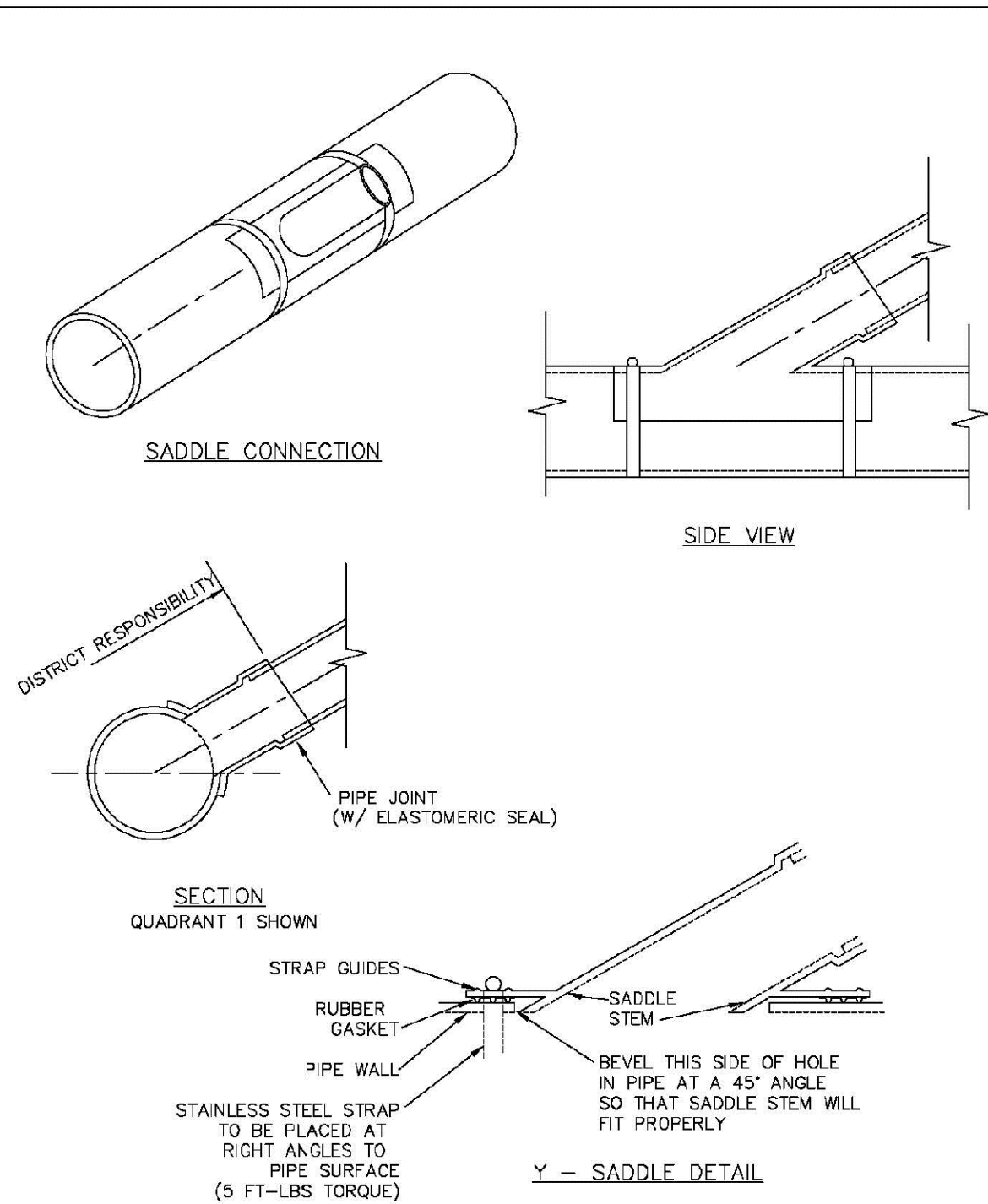
Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock position on the circumference of the sewer main. On new installations, tee or wye fittings shall be used. When tapping into existing sewer main, a saddle connection and approved coring method shall be used. The minimum 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 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.

DOMESTIC SEWER TAPPING DETAIL

PARKER WATER & SANITATION DISTRICT	
DOMESTIC SEWER TAPPING DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01 1/06 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET S4.13



NOTES:

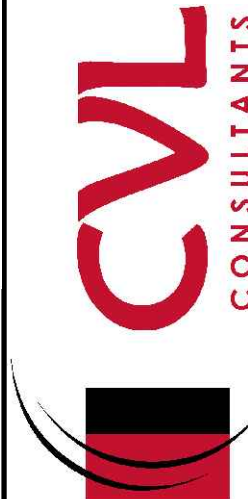
- SADDLE FITTINGS TO BE PER ASTM D3034.
- CONNECTION SHALL BE Y - SADDLE WITH TWO BONDS

PARKER WATER & SANITATION DISTRICT	
P.V.C. SADDLE CONNECTION DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET S4.14

10333 E. Dry Creek Rd.
Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9546



HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

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

SCALE: AS SHOWN
FILE NO: 8130283701

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