

I:\PDG-MAS\PUBLIC\PROJECTS\2015-015 PARKER AND STROH.DWG WATER AND SANITARY PLANS\2015-015 CDS - CVR & NOTES.DWG 8/31/2018 6:43 PM

**PARKER WATER AND SANITATION DISTRICT
GENERAL NOTES**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST VERSION.
- THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND THE TOWN OF PARKER, DOUGLAS COUNTY AND OTHER NEIGHBORING CITIES AND TOWNS 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.
- 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 THE CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS CONTACT THE PWSD IMMEDIATELY.
- PWSD ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS NECESSARY TO PERFORM THE PROPOSED WORK.
- ALL CONCRETE SHALL BE A MINIMUM OF CLASS A, 6 SACK, TYPE II, 3000-POUND COMPRESSION STRENGTH.
- THE DESIGN ENGINEER SHALL SUBMIT ONE (1) SET OF "AS-BUILT" DRAWINGS AND ELECTRONIC FILES TO THE DISTRICT ENGINEER FOR APPROVAL BY DISTRICT. AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT ENGINEER, FULL SIZE PRINTS SHALL BE TRANSMITTED TO THE PWSD OFFICE.
- 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. ALL BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. COMPACTION TESTS MUST BE SUBMITTED TO DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
- TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR.
- 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.
- 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.
- ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:
"X" FOR SANITARY SERVICE SEWERS
"V" FOR WATER SERVICES
- NO TREES ALLOWED IN EASEMENTS OR WITHIN 8' OF WATER OR SANITARY SEWER MAINS IN RIGHT OF WAY.
- THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PWSD AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSD SPECIFICATION MANUAL.

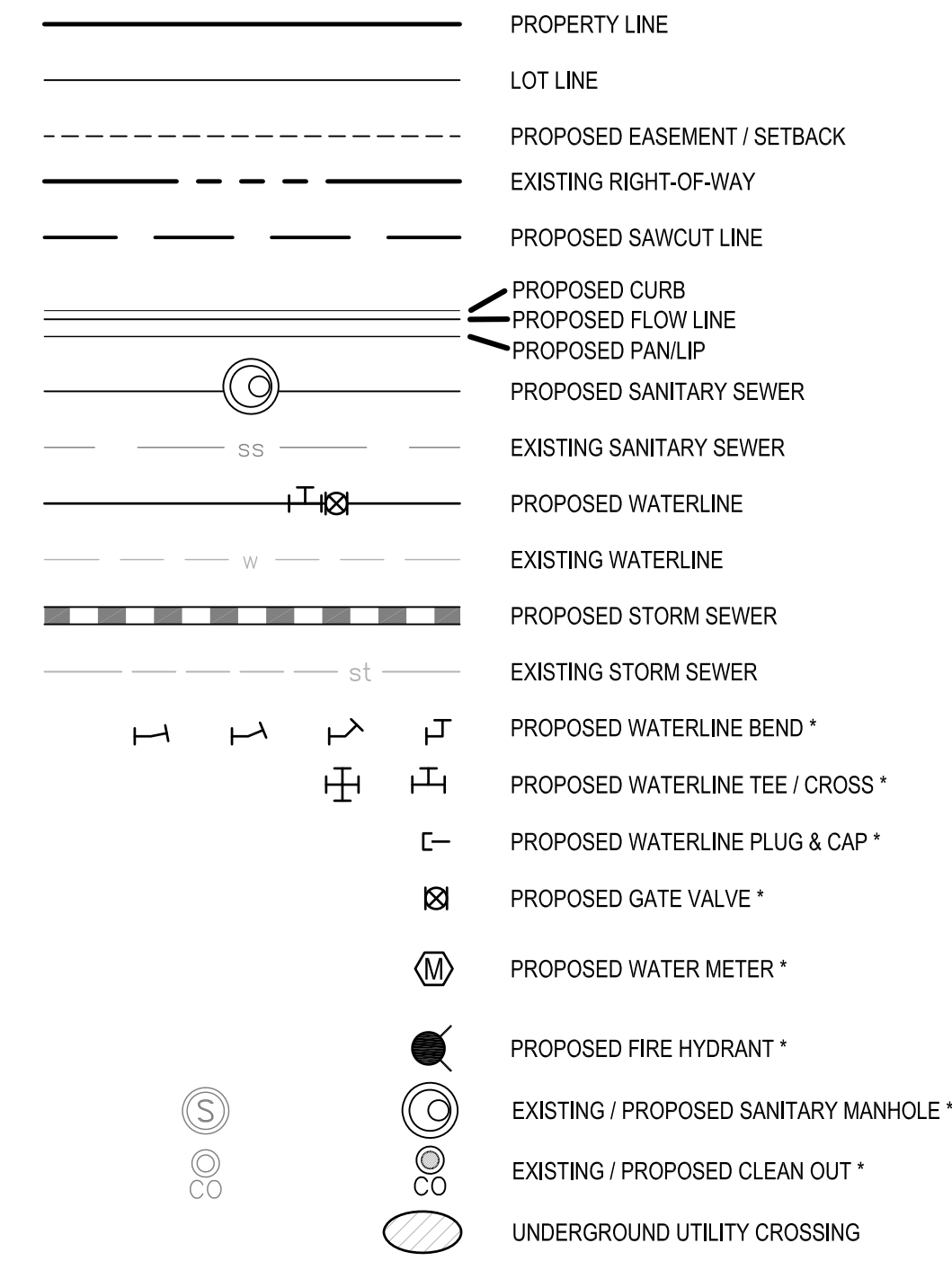
**PARKER WATER AND SANITATION DISTRICT
WATER SYSTEM NOTES**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- ALL WATER MAINS SHALL BE PER PWSD MATERIALS SPECIFICATIONS. ALL MATERIALS IN CONTACT WITH POTABLE WATER SHALL BE SUITABLE FOR CHLORINATED AND CHLORAMINATED WATER.
- ALL BENDS, PLUGS, REDUCERS, AND FIRE HYDRANTS TO BE RODDED OR MEGA-LUGGED. ALL FITTINGS SHALL BE WRAPPED PER PWSD MATERIALS SPECIFICATIONS.
- THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
- FIRE HYDRANTS SHALL CONFORM TO AWWA C-502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES PER PWSD SPECIFICATIONS.
- ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST WITH CONCRETE THRUST BLOCKS.
- 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.
- VALVES IN STREETS ARE TO BE LOCATED AT PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES; WHERE AN ADDITIONAL VALVE SHALL BE PLACED ON THE TAPPING TEE. OTHER LOCATIONS SHOWN ON THE PLANS.
- WHEN NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSING, A MINIMUM CLEARANCE OF 1.5 FEET SHALL BE MAINTAINED BETWEEN OUTSIDE OF PIPES.
- THE CONTRACTOR SHALL NOTIFY THE PWSD 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.
- PIPE BEDDING SHALL BE A CLEAN, WELL-GRADED SAND OR SQUEEGEE SAND IN ACCORDANCE WITH PWSD STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- 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.
- 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.
- 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, DESIGN ENGINEER, AND REPRESENTATIVE OF OTHER APPROVING AGENCIES.
- CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PWSD SPECIFICATIONS. CHLORINATION OF FINISHED PIPELINE COMPLETED BEFORE HYDROSTATIC TESTING.
- HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PWSD SPECIFICATIONS UP TO MINIMUM OF 150 PSI IN THE PRESENCE OF A PWSD INSPECTOR/ENGINEER.

**PARKER WATER AND SANITATION DISTRICT
SANITARY SEWER SYSTEM NOTES**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST VERSION.
- 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.
- 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 PWSD SPECIFICATIONS. USE RUBBER GASKETS FOR PVC ENCASEMENT.
- 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 RIM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
- 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.
- NO UNDERDRAIN SYSTEM WILL BE ALLOWED TO BE PLACED IN MAINLINE OR SEWER SERVICE TRENCHES.
- 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.
- ALL MANHOLES SHALL BE 48-INCHES IN DIAMETER WITH 24-INCH RING AND COVER, ECCENTRIC CONE UNLESS OTHERWISE SPECIFIED. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
- PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67.
- 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.
- THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PWSD AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSD SPECIFICATION MANUAL.
- ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE PWSD STANDARDS AND SPECIFICATIONS PRIOR TO ACCEPTANCE OR ANY CONNECTION TO AN EXISTING SEWER LINE.
- PRIOR TO STARTING WORK WHERE SEWER MAIN IS TO BE CONNECTED TO EXISTING PWSD 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 PROBATIONARY ACCEPTANCE BY PWSD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING AND CLEANING THESE MANHOLES AND REMOVING THE PLUG WHEN INSTRUCTED BY THE DISTRICT.
- PRIOR TO PROBATIONARY ACCEPTANCE WALK-THROUGH, THE CONTRACTOR SHALL JET CLEAN THE ENTIRE SANITARY SEWER SYSTEM AND PUMP OUT AT THE PLUGGED MANHOLE.

LEGEND



ABBREVIATIONS

ASSY	ASSEMBLY
BP	BOTTOM OF PIPE
ESMT	EASEMENT
ELEV	ELEVATION
EX	EXISTING
DIP	DUCTILE IRON PIPE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FU	FUTURE
GV	GATE VALVE
INV	INVERT
KB	KICK BLOCK / THRUST BLOCK
PR	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
TP	TOP OF PIPE
W/	WITH



PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

NO.	DATE	DESCRIPTION	REVISIONS
1	10/24/17	INITIAL SUBMITTAL	
2	02/28/18	SECOND SUBMITTAL	
3	03/19/18	PWSD SUBMITTAL	
4	05/25/18	THIRD SUBMITTAL	
5	08/31/18	FOURTH SUBMITTAL	

WATER AND SANITARY NOTES

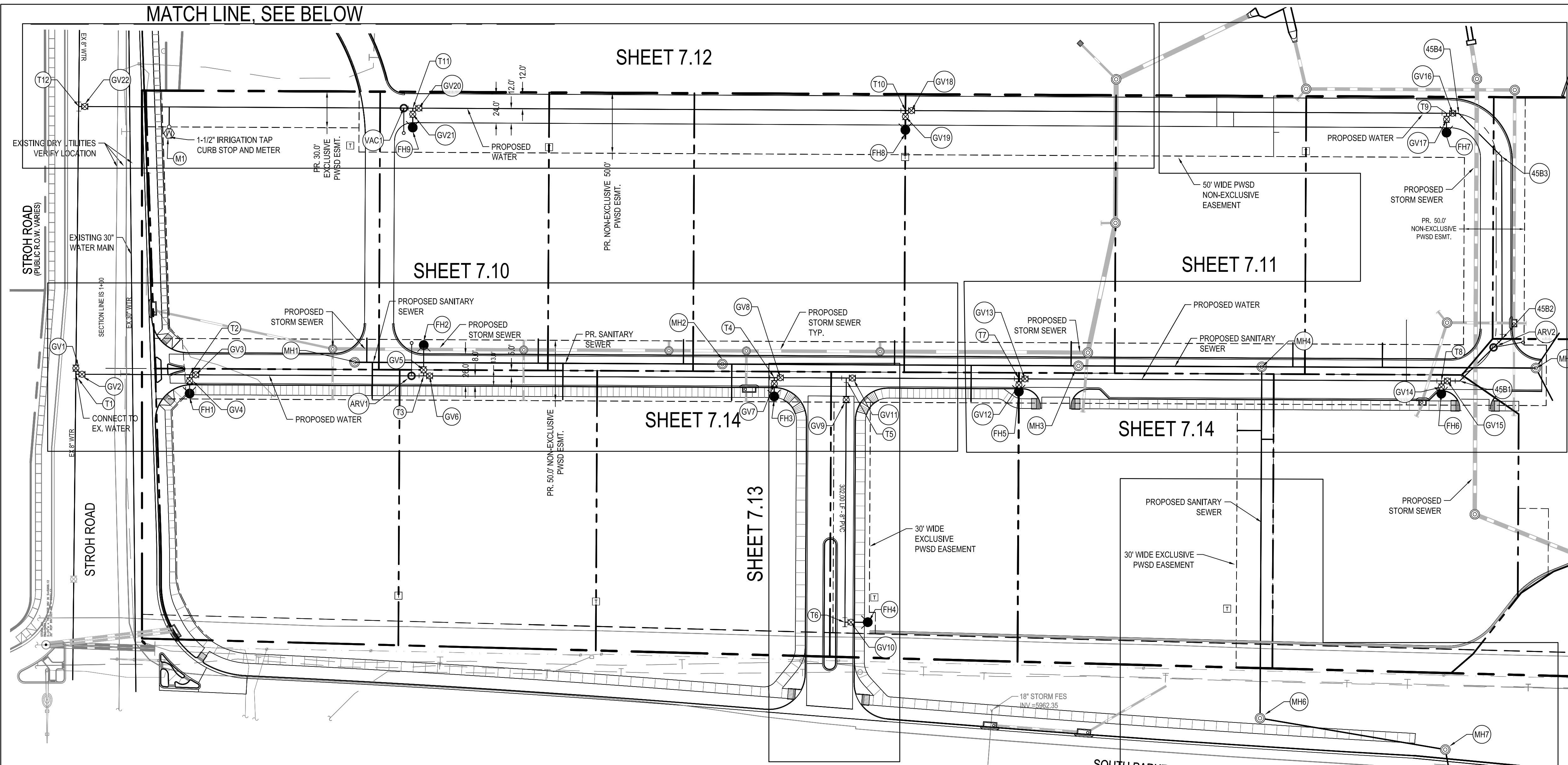
PARKER POINTE
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINTE FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET
C7.01

I:\PDG-MAS\PUBLIC\PROJECTS\2015-015 PARKER AND STROH.DWG WATER AND SANITARY PLANS\2015-015 CDS - OVERALL UTIL PLAN.DWG 10/11/2018 8:52 AM



LEGEND

- PROPERTY LINE
- LOT LINE
- PROPOSED EASEMENT / SETBACK
- EXISTING RIGHT-OF-WAY
- PROPOSED SAWCUT LINE
- PROPOSED CURB
- PROPOSED FLOW LINE
- PROPOSED PANLIP
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED WATERLINE
- EXISTING WATERLINE
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED WATERLINE BEND *
- PROPOSED WATERLINE TEE / CROSS *
- PROPOSED WATERLINE PLUG & CAP *
- PROPOSED GATE VALVE *
- PROPOSED WATER METER *
- PROPOSED FIRE HYDRANT *
- EXISTING / PROPOSED SANITARY MANHOLE *
- EXISTING / PROPOSED CLEAN OUT *
- UNDERGROUND UTILITY CROSSING

ABBREVIATIONS

ARV	AIR RELEASE VALVE
ASSY	ASSEMBLY
BP	BOTTOM OF PIPE
ESMT	EASEMENTS
ELEV	ELEVATION
EX	EXISTING
DIP	DUCTILE IRON PIPE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FU	FUTURE
GV	GATE VALVE
INV	INVERT
KB	KICK BLOCK / THRUST BLOCK
M	METER
MH	MANHOLE
PR	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
T	TEE
TP	TOP OF PIPE
VAC	AIRVAC VALVE
W	WITH
45B	45° BEND

- ### UTILITY NOTES
- ALL UTILITY CONSTRUCTION SHALL CONFORM TO PARKER WATER AND SANITATION DISTRICT AND CRITERIA REFERENCE. LOCAL AGENCY INFRASTRUCTURE DESIGN AND CONSTRUCTION STANDARDS.
 - NOMINAL DEPTH OF WATER MAIN SHALL BE 4.5' FROM FINISHED GRADE TO TOP OF PIPE.
 - ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE PARKER WATER AND SANITATION DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES. EXISTING UTILITIES SHOWN ON THIS PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND DO NOT REFLECT A COMPLETE SURVEY OF EXISTING UTILITIES. CONTACT THE ENGINEER WITH DISCREPANCIES.
 - SAWCUT OF EXISTING STREETS SHALL BE IN CONFORMANCE WITH TOWN STANDARDS. CUTS SHALL STRAIGHT WITH CLEAN EDGES. REMOVE EXISTING CURB AND GUTTER TO NEAREST JOINT RETURN ALONG EXISTING LINE AND GRADE.
 - THE OWNER AND OR THEIR REPRESENTATIVE SHALL BE RESPONSIBLE FOR COORDINATION WITH EXISTING FRANCHISE UTILITIES TO INCLUDE COMCAST, XCEL, CENTURY LINK OR OWNERS OF EXISTING DRY UTILITY LINES.
 - EXISTING UTILITY SURFACE APPURTENANCES SHALL BE RAISED TO FINISHED GRADE. THIS INCLUDES BUT IS NOT LIMITED TO MANHOLE LIDS, VALVE COVERS.

TOWN NOTE

THE PROPOSED UTILITY CONNECTION WILL REQUIRE A TOWN RIGHT-OF-WAY PERMIT PRIOR TO COMMENCING WORK. THE TOWN PREFERENCES CONNECTIONS TO BE BORED TO THE EXTENT POSSIBLE, AND ANY STREET CUT ALLOWED BY THE TOWN WILL BE REQUIRED TO BE PATCHED ACCORDING TO THE TOWN'S CONSTRUCTION STANDARDS AND DETAILS. THE LIMITS OF PATCHING WILL BE DETERMINED BY THE TOWN AT THE TIME OF CONSTRUCTION. THE TOWN OF PARKER DOES NOT ALLOW ROADWAY CLOSURES FOR UTILITY WORK.

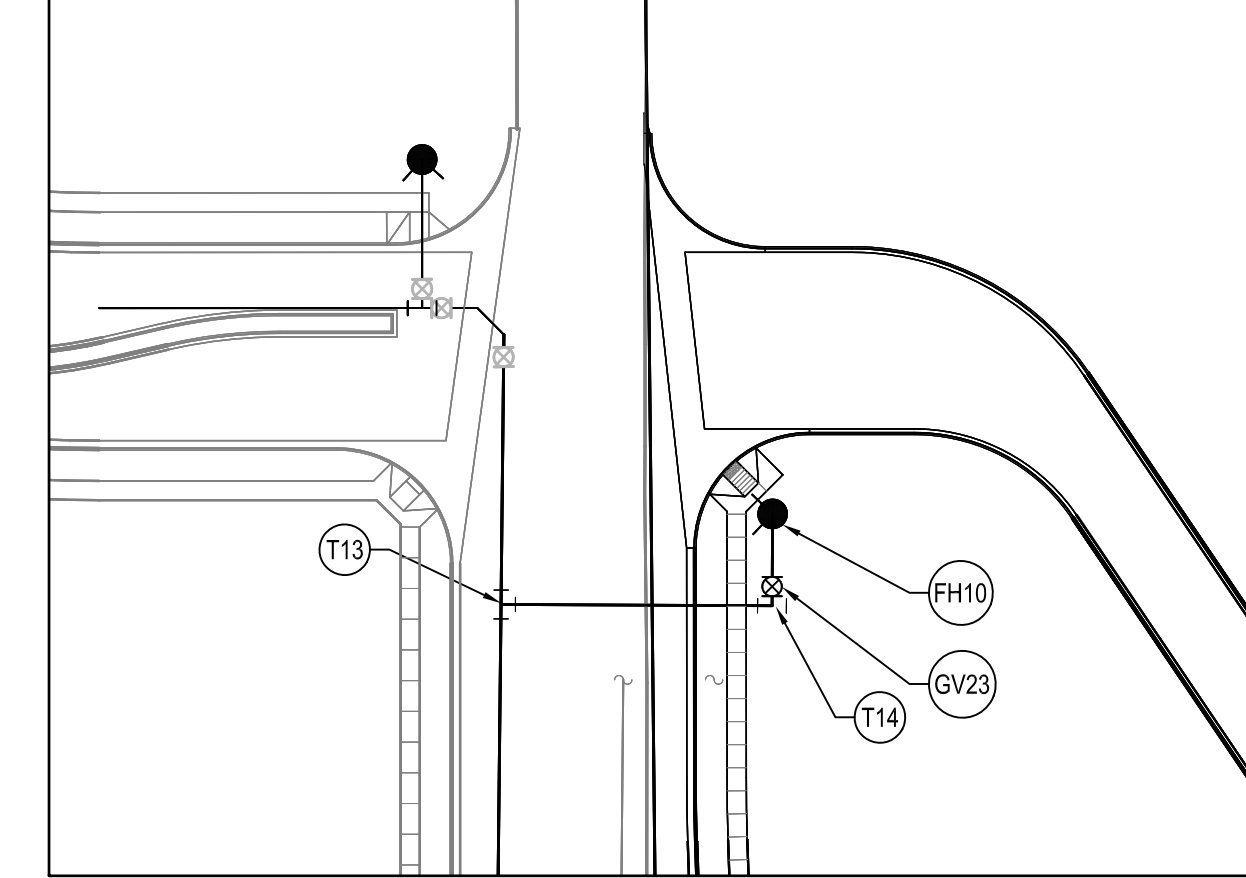
ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATION OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE _____ DATE _____
 (NOTE - UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA 24 WHEN SUBMITTING FOR REVIEW.)

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, 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.

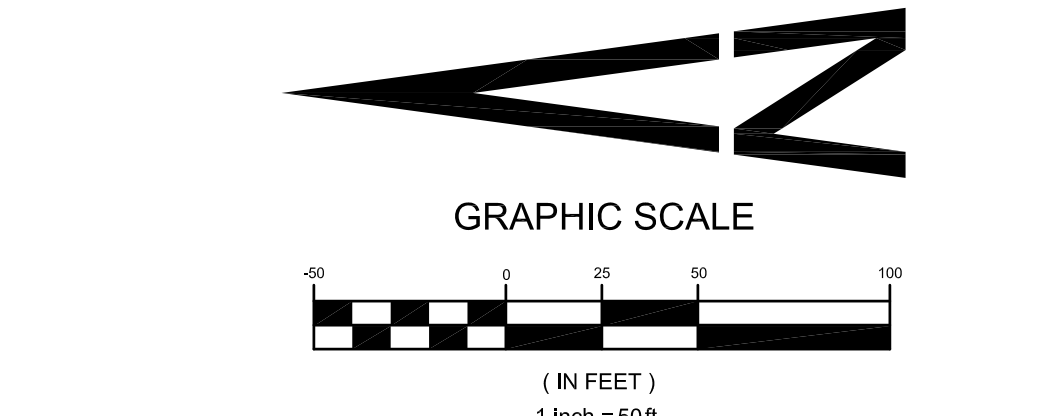
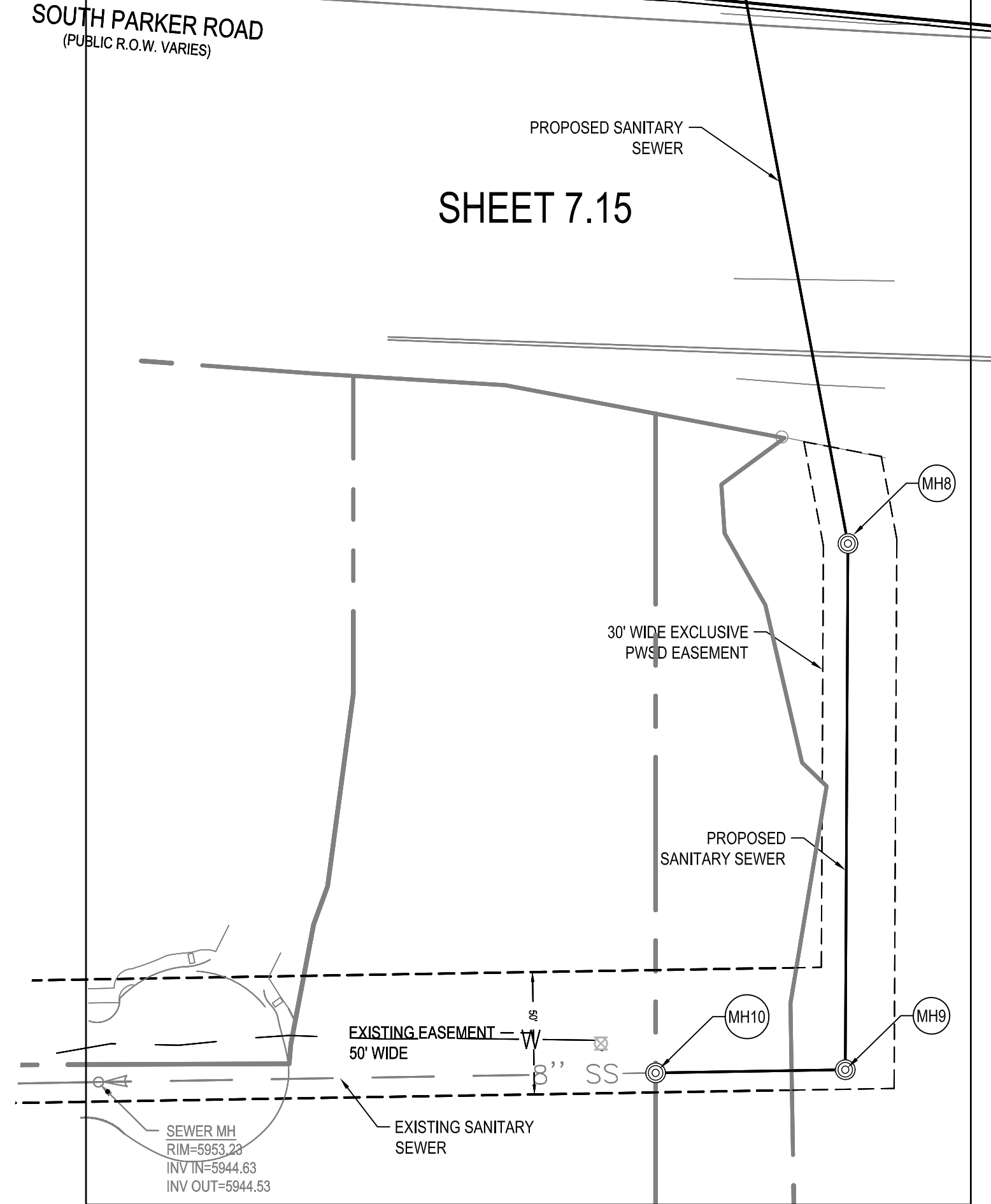
THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN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

TOWN OF PARKER, DIRECTOR OF ENGINEERING _____ DATE _____



CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

CAUTION: NOTICE TO CONTRACTOR THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



BENCHMARK
 BENCHMARK: DOUGLAS COUNTY SURVEY CONTROL MONUMENT TT15A - 3" DIAMETER DOUGLAS COUNTY GIS ALUMINUM CAP AT THE NE CORNER OF STROH ROAD AND SOUTH PARKER ROAD (US HIGHWAY 83) ELEVATION: 5970.79 FEET (NAVD 1988 DATUM)

NO.	DATE	DESCRIPTION
08/31/18	FOURTH SUBMITTAL	
05/25/18	THIRD SUBMITTAL	
03/19/18	PWSO SUBMITTAL	
02/28/18	SECOND SUBMITTAL	
10/24/17	INITIAL SUBMITTAL	

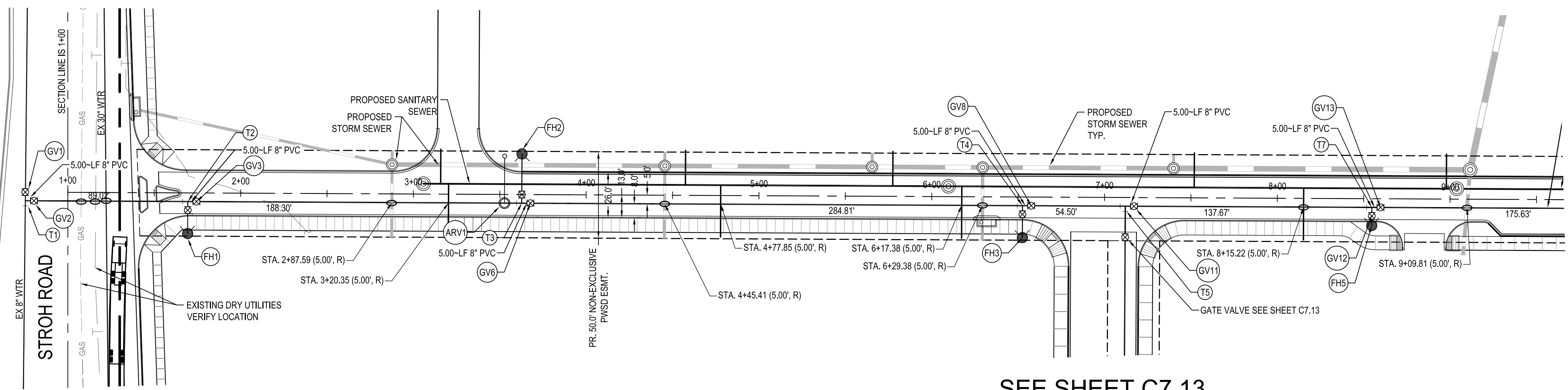
OVERALL UTILITY PLAN
 PARKER POINTE
 LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINTE FILING NO. 1
 SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
 PARKER, COLORADO

design by: JWD
 approved by: JWD
 project no.: 2015-015
 date: 10/01/17
 SHEET
C7.09

PERCEPTION
 DESIGN GROUP, INC.
 6901 SOUTH PIERCE STREET SUITE 315, LITTLETON, CO 80120 303.259.8688
 WWW.PERCEPTIONDESIGNGROUP.COM

PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

WATER MAINS MAY NOT BE TAPPED FOR A SERVICE LINE UNTIL TAP FEES ARE PAID



SEE SHEET C7.11

SEE SHEET C7.13

STATIONING IS BASED UPON CENTERLINE OF DRIVEWAY

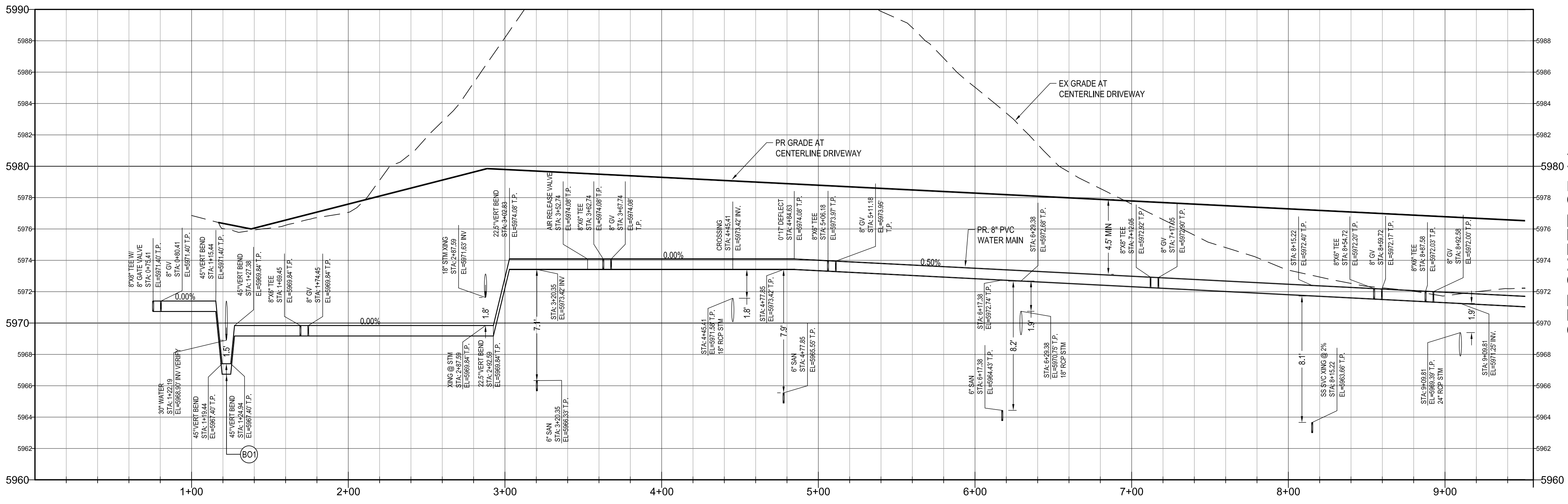
ITEMS ALONG ALIGNMENT			
#	ITEM	STA.	OS (FT.)
GV2	PR. 8" G.V.	0+75.41	5.00 R
T1	PR. 8"X8" TEE	0+75.41	5.00 R
FH1	PR. 6" G.V. / 23.5 LF 6" DIP / 6" HYDRANT ASSY.	1+69.45	23.50 R
GV3	PR. 8" G.V.	1+74.45	5.00 R
T2	PR. 8"X6" TEE W/ KB	1+69.45	5.00 R
T3	PR. 8"X6" TEE W/ KB	3+62.74	5.00 R
GV6	PR. 8" G.V.	3+67.74	5.00 R
FH2	PR. 6" G.V. / 28.5 LF 6" DIP / 6" HYDRANT ASSY.	3+62.74	23.50 L
GV1	PR. 8" G.V.	0+75.41	0.000
T5	PR. 8"X8" TEE	7+12.05	5.00 R
GV11	PR. 8" G.V.	7+17.05	5.00 R
FH3	PR. 6" G.V. / 18.5 LF 6" DIP / 6" HYDRANT ASSY.	6+52.55	23.50 R
T4	PR. 8"X6" TEE W/ KB	6+52.55	5.00 R
GV8	PR. 8" G.V.	6+57.55	5.00 R
FH5	PR. 10.5 LF 6" DIP / 6" HYDRANT ASSY.	8+54.72	15.50 R
GV12	PR. 6" G.V.	8+54.72	10.00 R
T7	PR. 8"X6" TEE W/ KB	8+54.72	5.00 R
GV13	PR. 8" G.V.	8+59.72	5.00 R
BO1	PR. L.P. BLOW-OFF VALVE	1+23.94	0.00
ARV1	PR. AIR RELEASE VALVE	3+52.74	0.00



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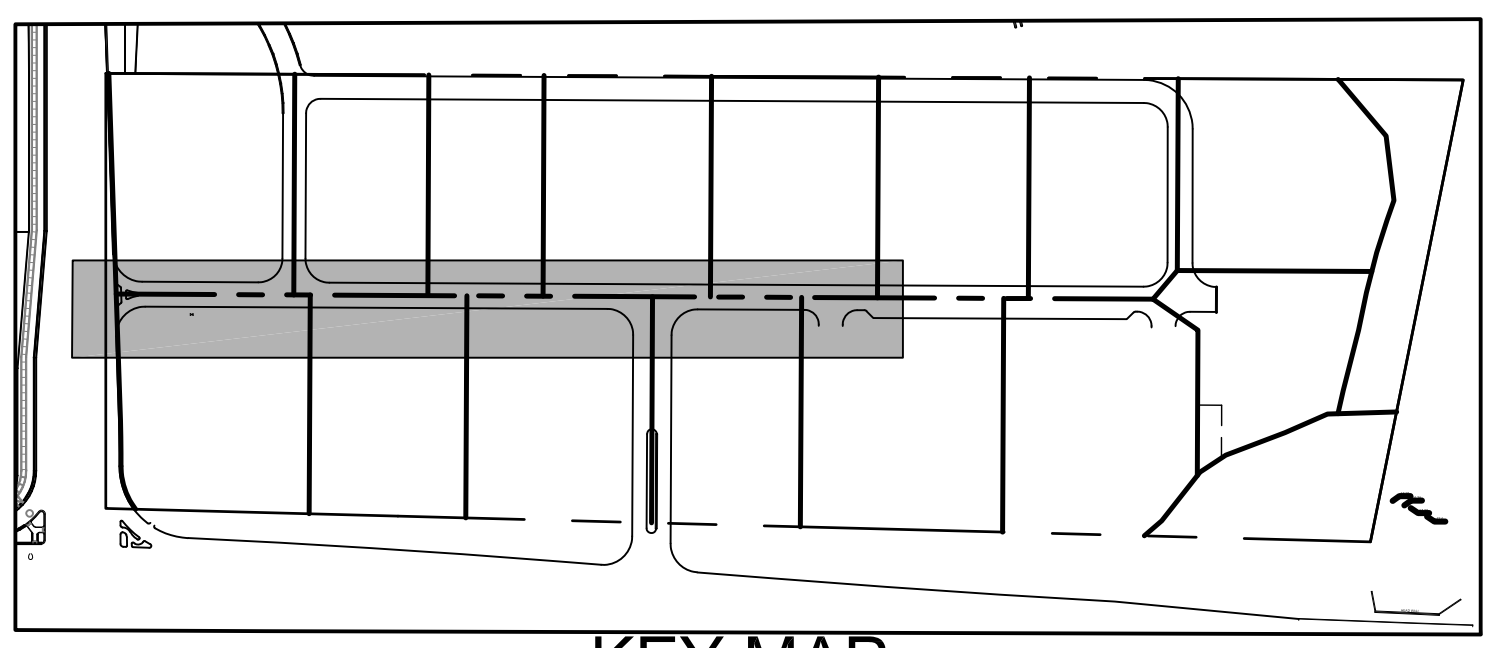
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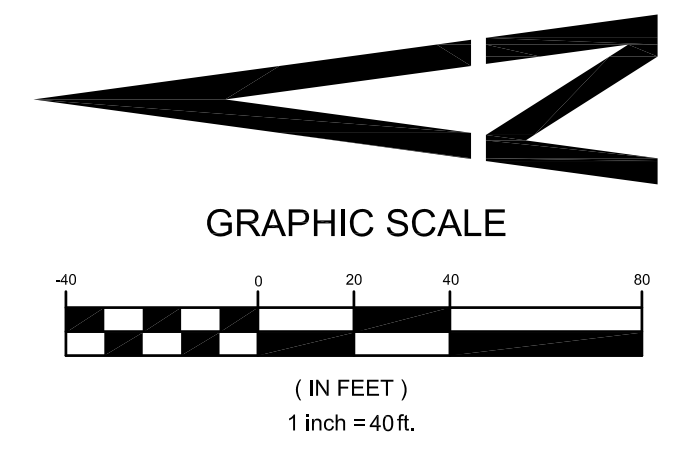
SEE SHEET C7.11

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1-800-922-1987
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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KEY MAP



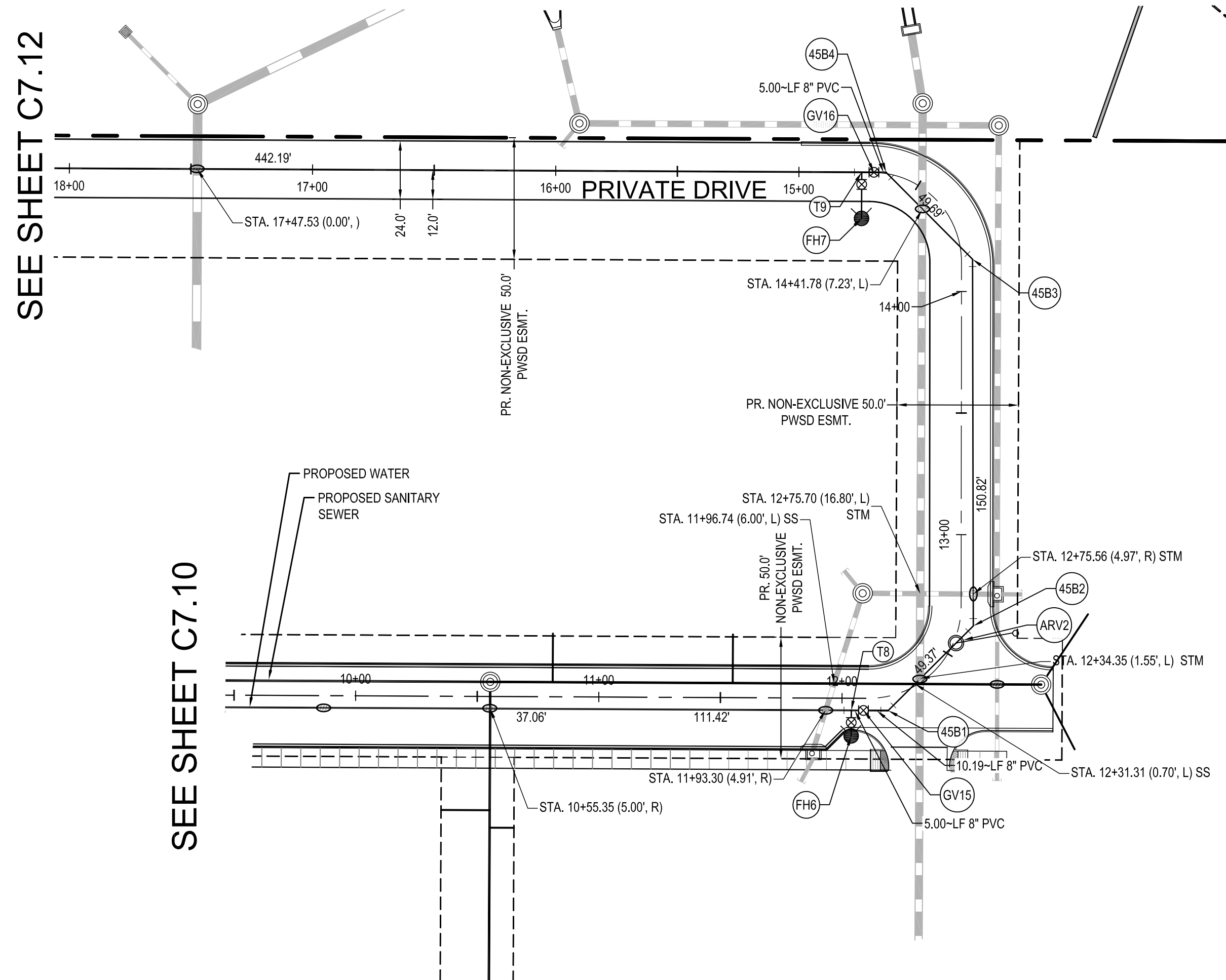
BENCHMARK
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WATER PLAN & PROFILE
 PARKER POINT
 LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINT FILING NO. 1
 SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
 PARKER, COLORADO

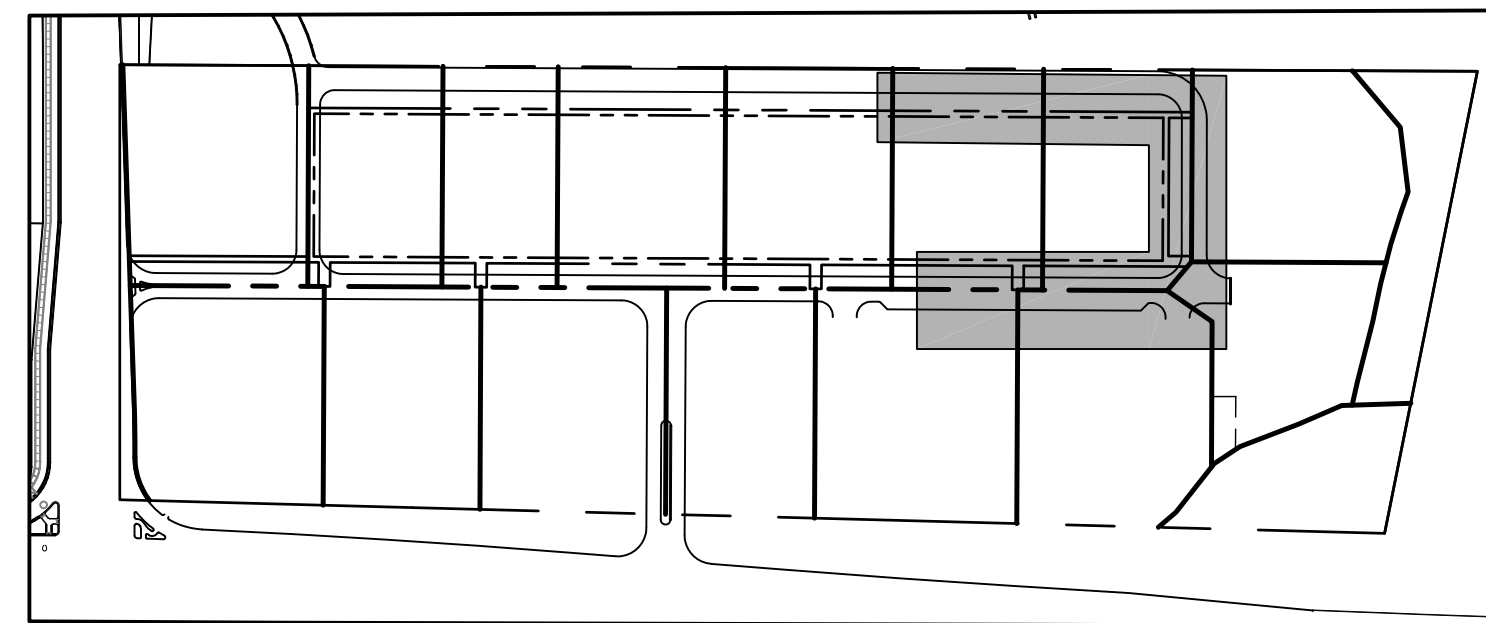
design by: JWD
 approved by: JWD
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SHEET
C7.10

WATER MAINS MAY NOT BE TAPPED FOR A SERVICE LINE UNTIL TAP FEES ARE PAID

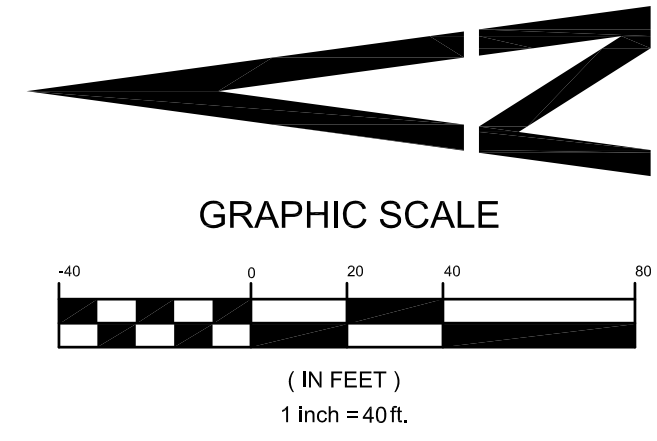
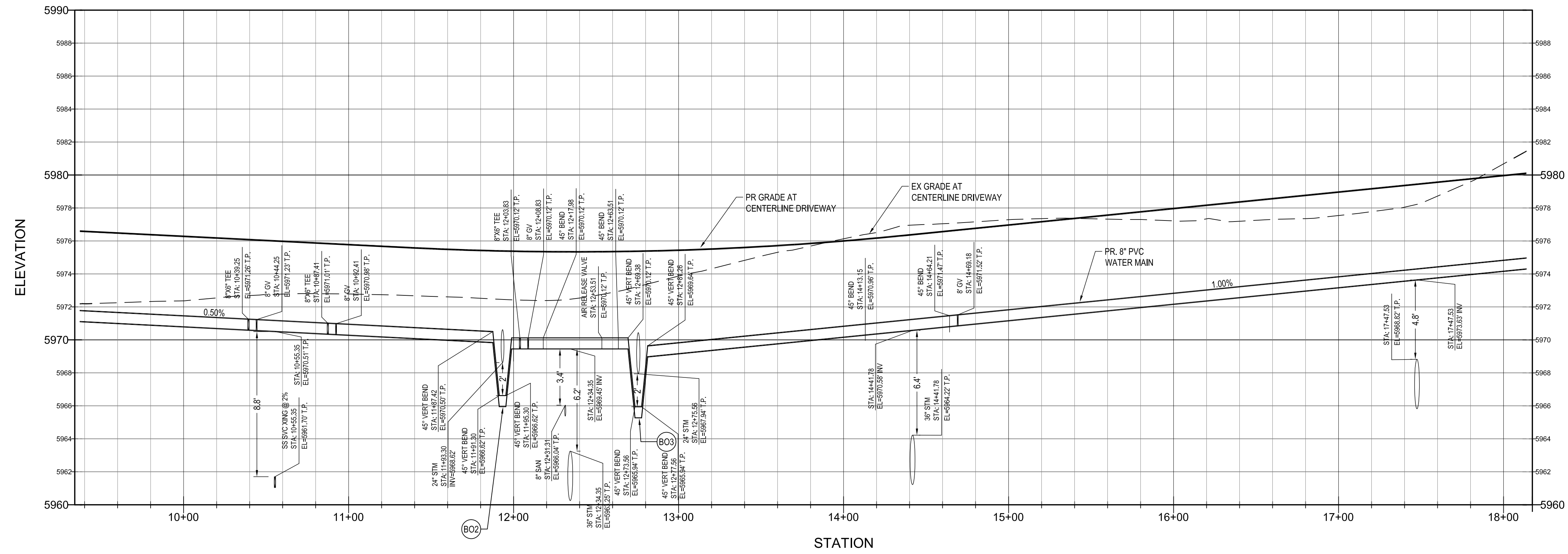


#	ITEM	STA.	OS (FT.)
BO2	PR. L.P. BLOW-OFF VALVE	11+94.30	0.000
BO3	PR. L.P. BLOW-OFF VALVE	12+76.56	0.000
T8	PR. 8"X6" TEE W/ KB	12+03.83	5.00 R
FH6	PR. 6" G.V. / 10.5 LF 6" DIP / 6" HYDRANT ASSY.	12+03.83	15.50 R
GV15	PR. 8" G.V.	12+08.83	5.00 R
45B1	PR. 8" 45° BEND W/ KB	12+17.98	5.78 R
45B2	PR. 8" 45° BEND W/ KB	12+63.51	5.78 R
45B3	PR. 8" 45° BEND W/ KB	14+13.15	4.57 R
45B4	PR. 8" 45° BEND W/ KB	14+64.21	0.45 R
GV16	PR. 8" G.V.	14+69.18	0.00
FH7	PR. 6" G.V. / 19.0 LF 6" DIP / 6" HYDRANT ASSY.	14+74.19	19.00 L
T9	PR. 8"X6" TEE W/ KB	14+74.19	0.00
ARV2	PR. AIR RELEASE VALVE	12+53.51	0.00



KEY MAP

STATIONING IS BASED UPON CENTERLINE OF DRIVEWAY



SEE SHEET C7.12

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES.

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PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

NO.	DATE	DESCRIPTION
08/31/18		FOURTH SUBMITTAL
05/25/18		THIRD SUBMITTAL
03/19/18		PWSD SUBMITTAL
02/28/18		SECOND SUBMITTAL
10/24/17		INITIAL SUBMITTAL

WATER PLAN & PROFILE

PARKER POINT
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINT FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

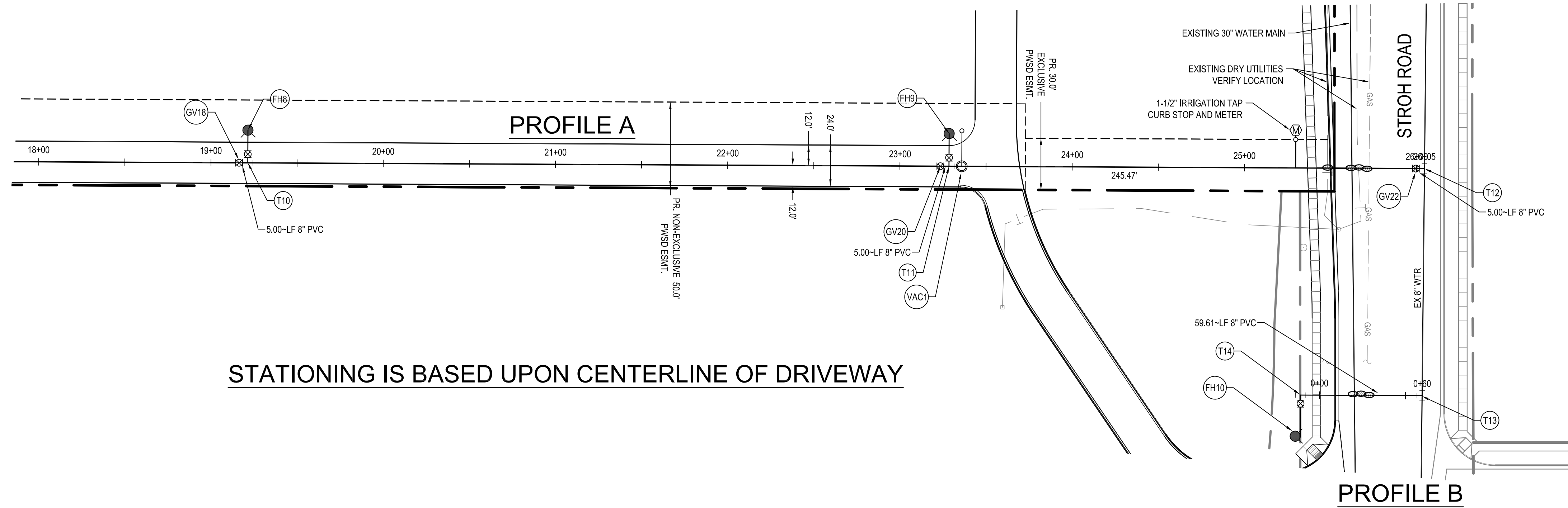
SHEET
C7.11

BENCHMARK
BENCHMARK: DOUGLAS COUNTY SURVEY CONTROL MONUMENT
TT15A - 3" DIAMETER DOUGLAS COUNTY GIS ALUMINUM CAP AT
THE NE CORNER OF STROH ROAD AND SOUTH PARKER ROAD (US
HIGHWAY 83) ELEVATION: 5970.79 FEET (NAVD 1988 DATUM)

\\PDG-MAS\PUBLIC\PROJECTS\2015-015 PARKER AND STROH.DWG\WATER AND SANITARY PLANS\2015-015 CDS -WATER PLAN.DWG 10/2/2018 4:11 PM

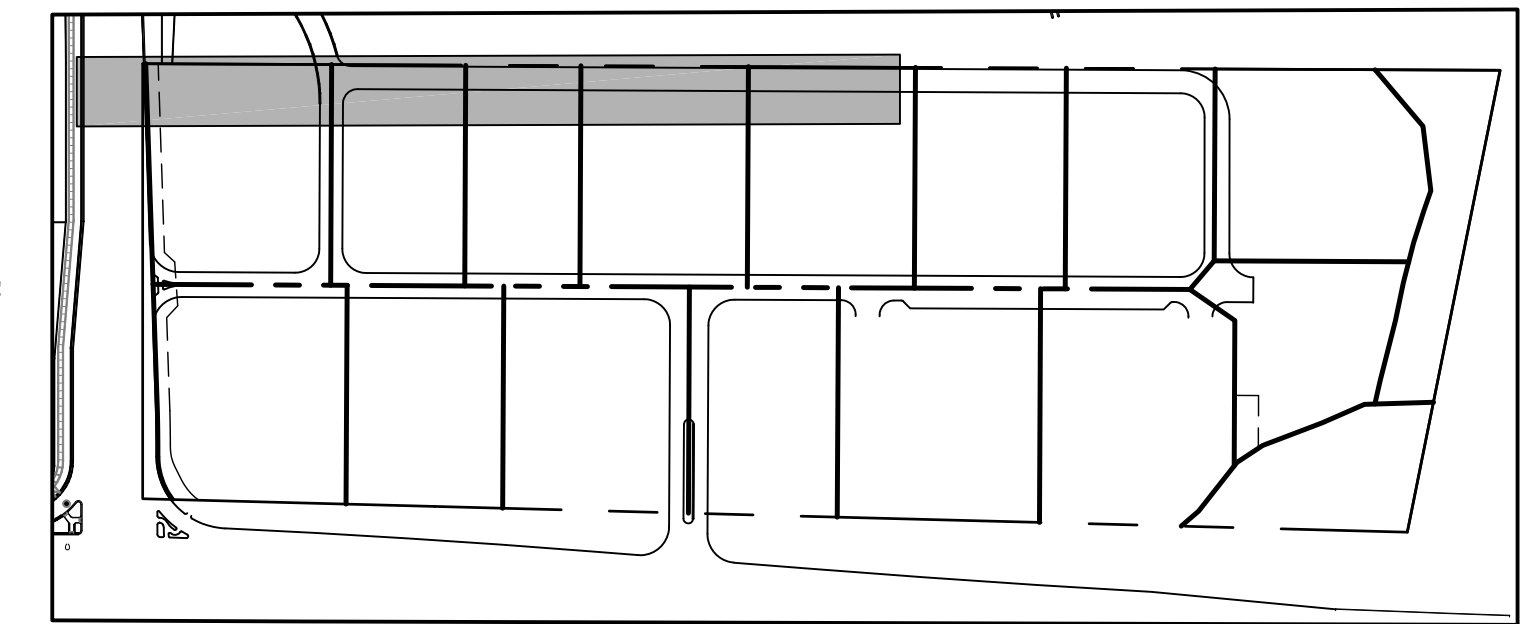
WATER MAINS MAY NOT BE TAPPED FOR A SERVICE LINE UNTIL TAP FEES ARE PAID

SEE SHEET C7.11



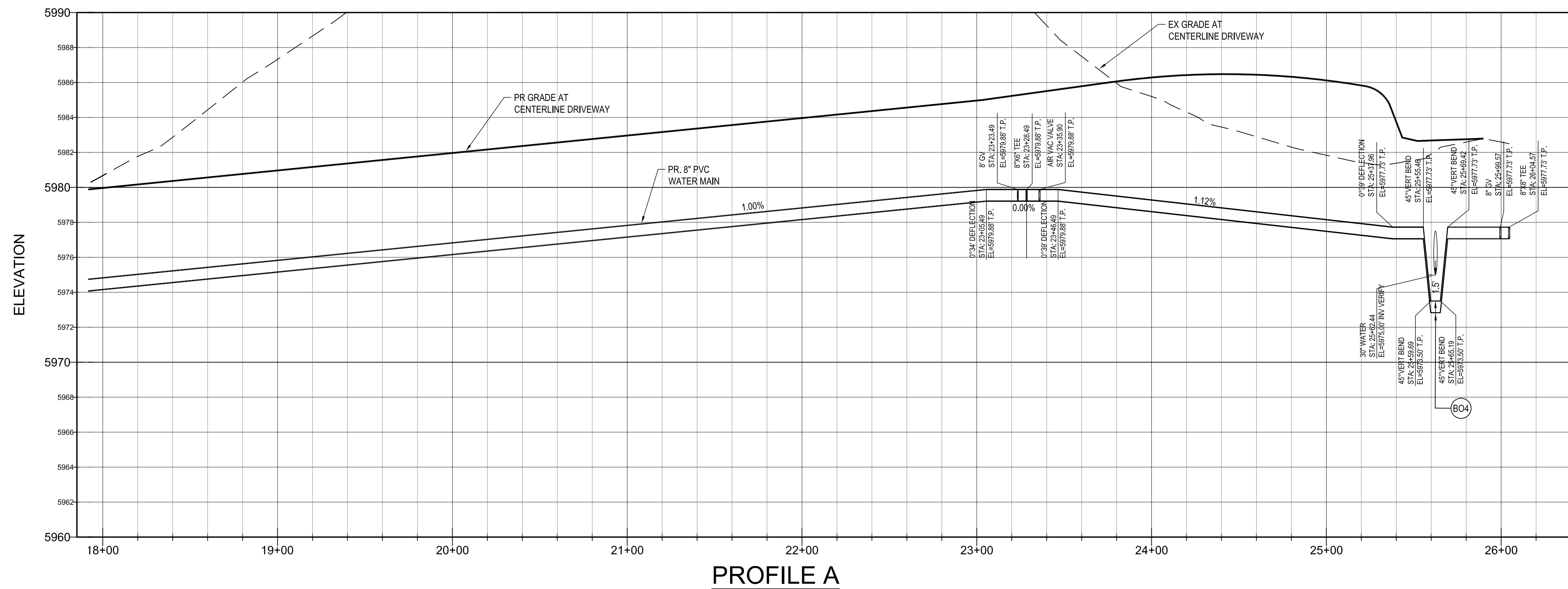
STATIONING IS BASED UPON CENTERLINE OF DRIVEWAY

#	ITEM	STA.	OS (FT.)
BO5	PR. L.P. BLOW OFF	0+22.02	0.00
T11	PR. 8"X6" TEE W/ KB	23+28.49	0.00
GV20	PR. 8" G.V.	23+23.49	0.00
FH9	PR. 6" G.V. / 19.0 LF 6" DIP / 6" HYDRANT ASSY	23+28.49	19.00 L
T12	PR. 8"X8" TEE W/ KB	26+04.57	0.00
T10	PR. 8"X6" TEE W/ KB	19+21.36	0.00
FH8	PR. 6" G.V. / 19.0 LF 6" DIP / 6" HYDRANT ASSY	19+21.36	19.00 L
BO4	PR. L.P. BLOW OFF	25+64.19	0.00
GV18	PR. 8" G.V.	19+16.36	0.00
VAC1	PR. 8" AIRVAC VALVE	23+35.90	0.00
GV22	PR. 8" G.V.	25+99.57	0.00
T13	PR. 8"X8" TEE W/ KB	0+59.61	0.00
T14	PR. 8"X6" TEE W/ KB	-0+10.56	0.00
FH10	PR. 6" G.V. / 23.94 LF 6" DIP / 6" HYDRANT ASSY.	-0+10.56	23.94 R

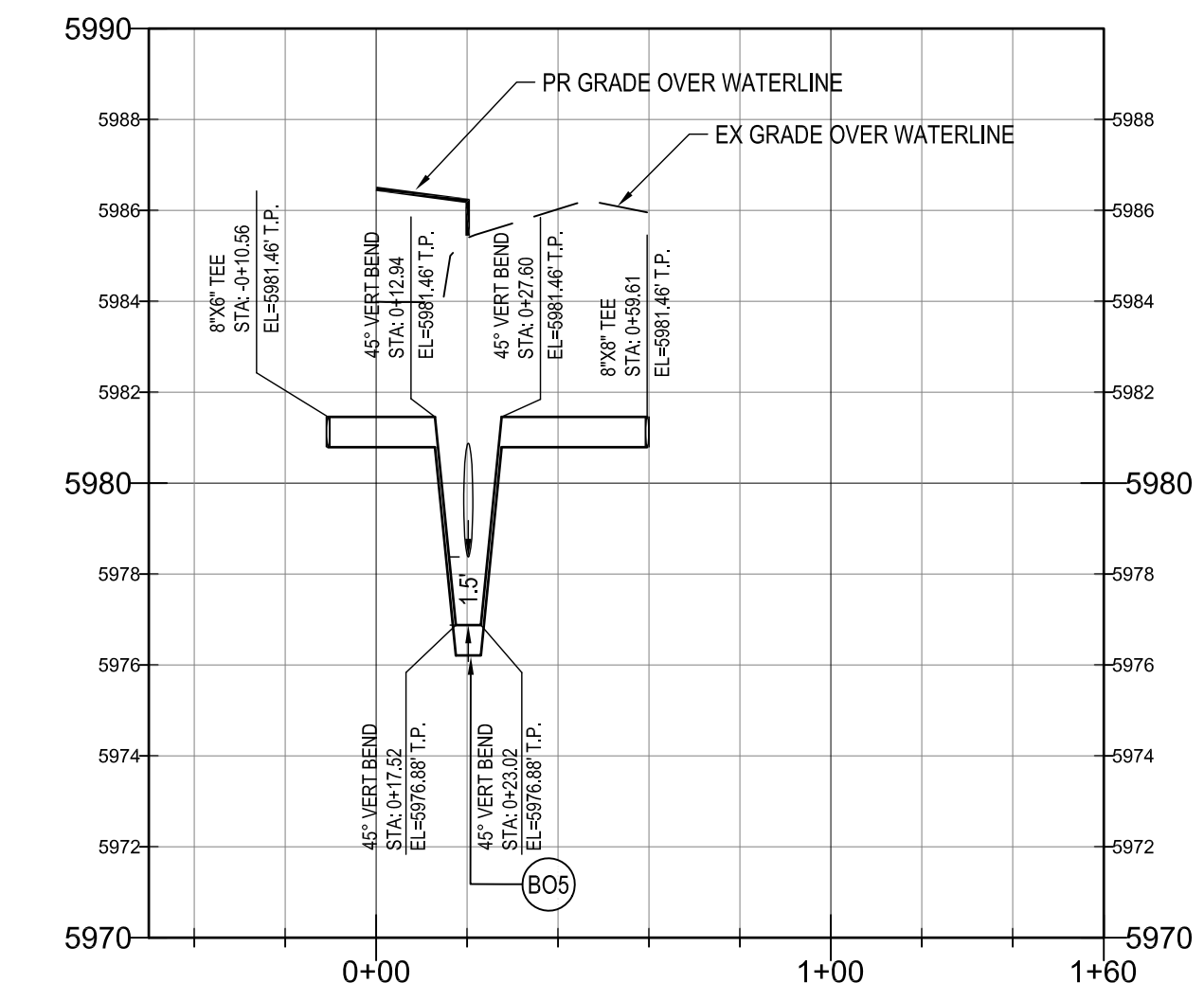


KEY MAP

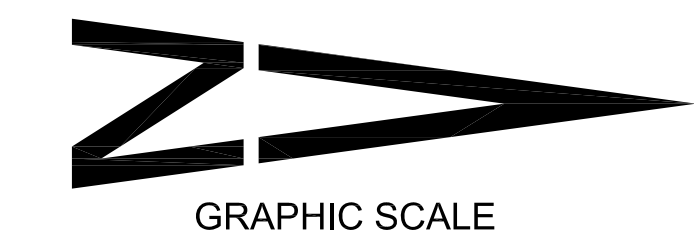
SEE SHEET C7.11



PROFILE A



PROFILE B



BENCHMARK
 BENCHMARK: DOUGLAS COUNTY SURVEY CONTROL MONUMENT TT15A - 3" DIAMETER DOUGLAS COUNTY GIS ALUMINUM CAP AT THE NE CORNER OF STROH ROAD AND SOUTH PARKER ROAD (US HIGHWAY 83) ELEVATION: 5970.79 FEET (NAVD 1988 DATUM)

CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987
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PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

NO.	DATE	DESCRIPTION
08/31/18		FOURTH SUBMITTAL
05/25/18		THIRD SUBMITTAL
03/19/18		PWSD SUBMITTAL
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10/24/17		INITIAL SUBMITTAL

WATER PLAN & PROFILE
 PARKER POINT
 LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINT FILING NO. 1
 SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
 PARKER, COLORADO

design by: JWD
 approved by: JWD
 project no.: 2015-015

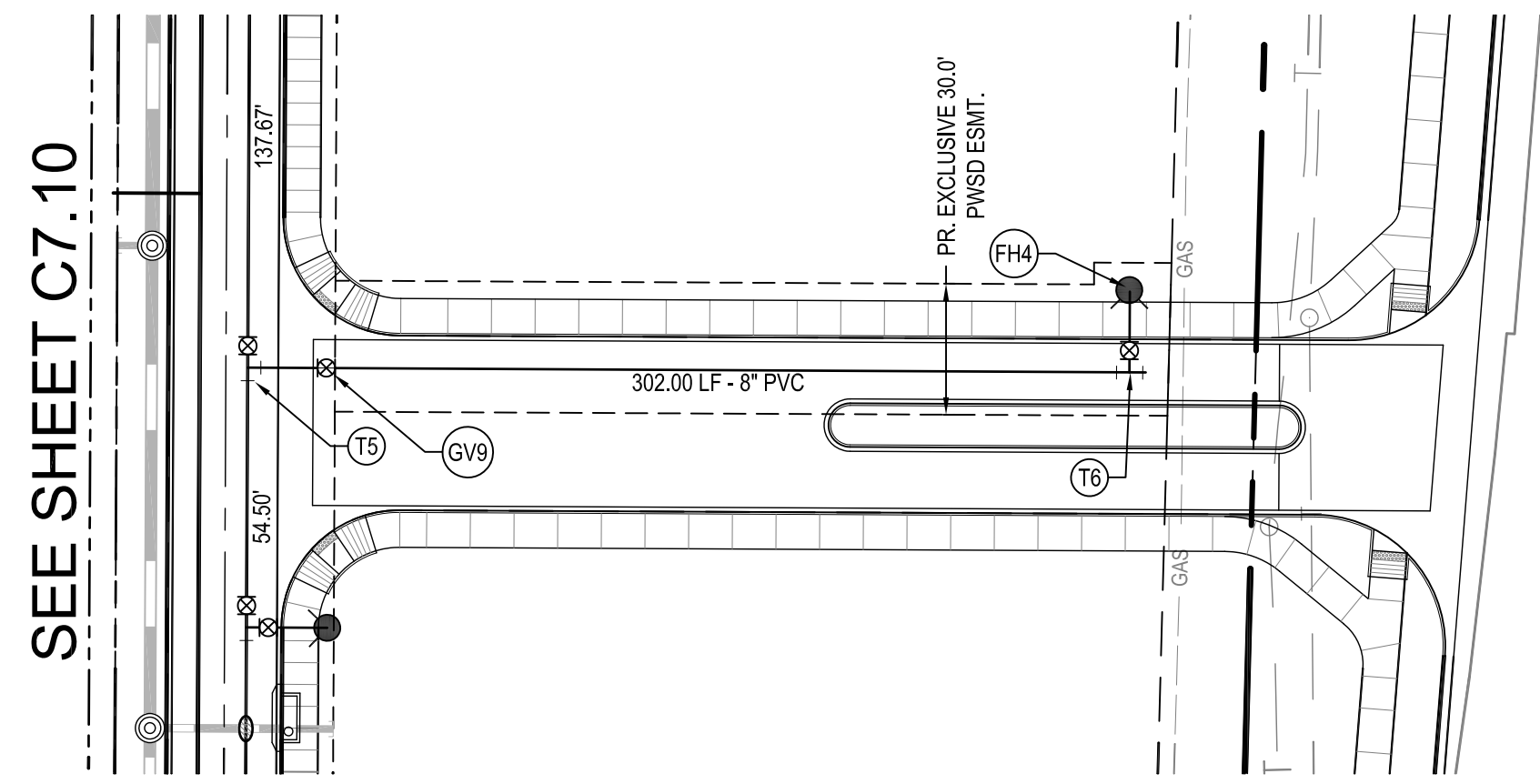
date: 10/01/17

SHEET
C7.12

\\PJDG-MAS\PROJECTS\2015-015 PARKER AND STROH\DWG\WATER AND SANITARY PLANS\2015-015 CDS -WATER PLAN.DWG 10/11/2018 12:56 PM

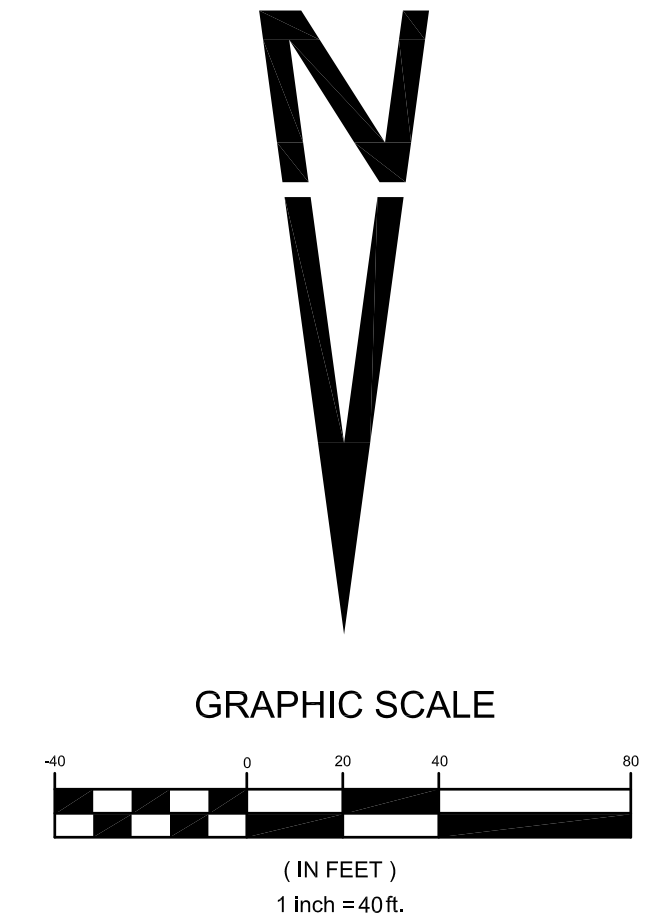
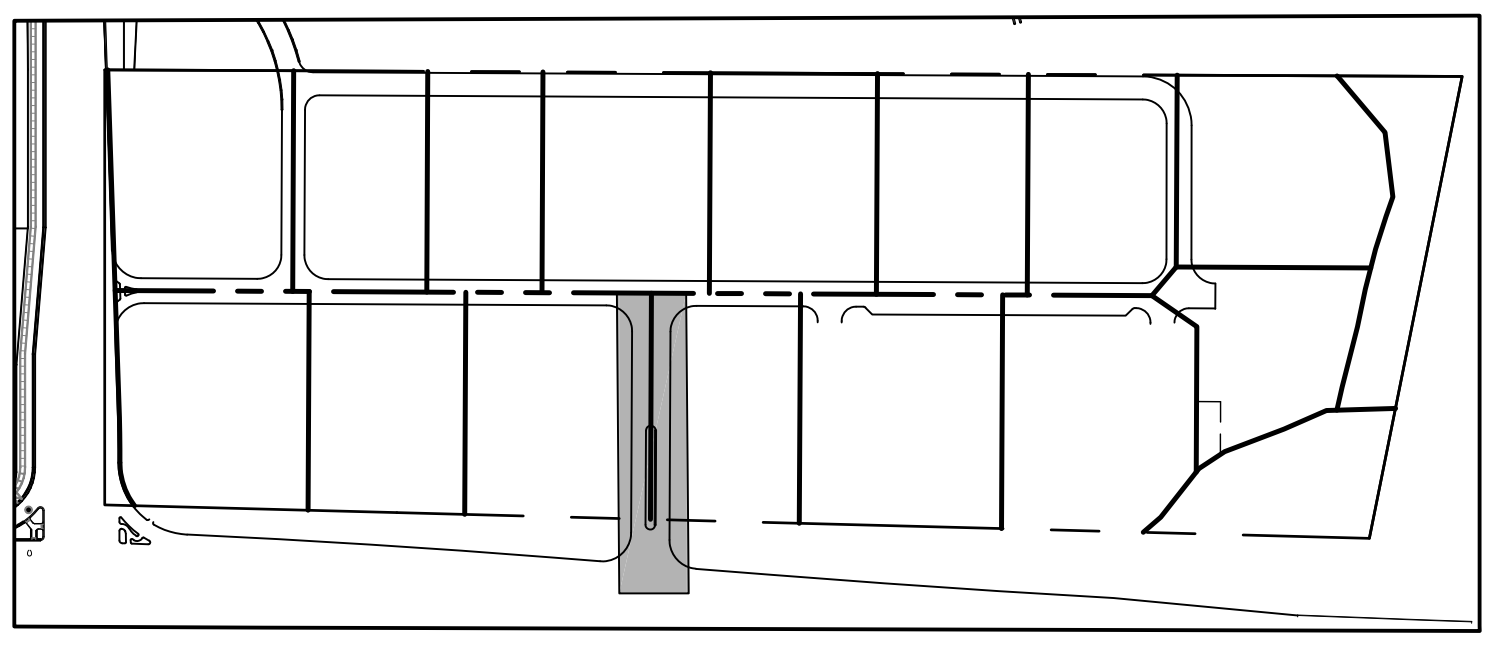
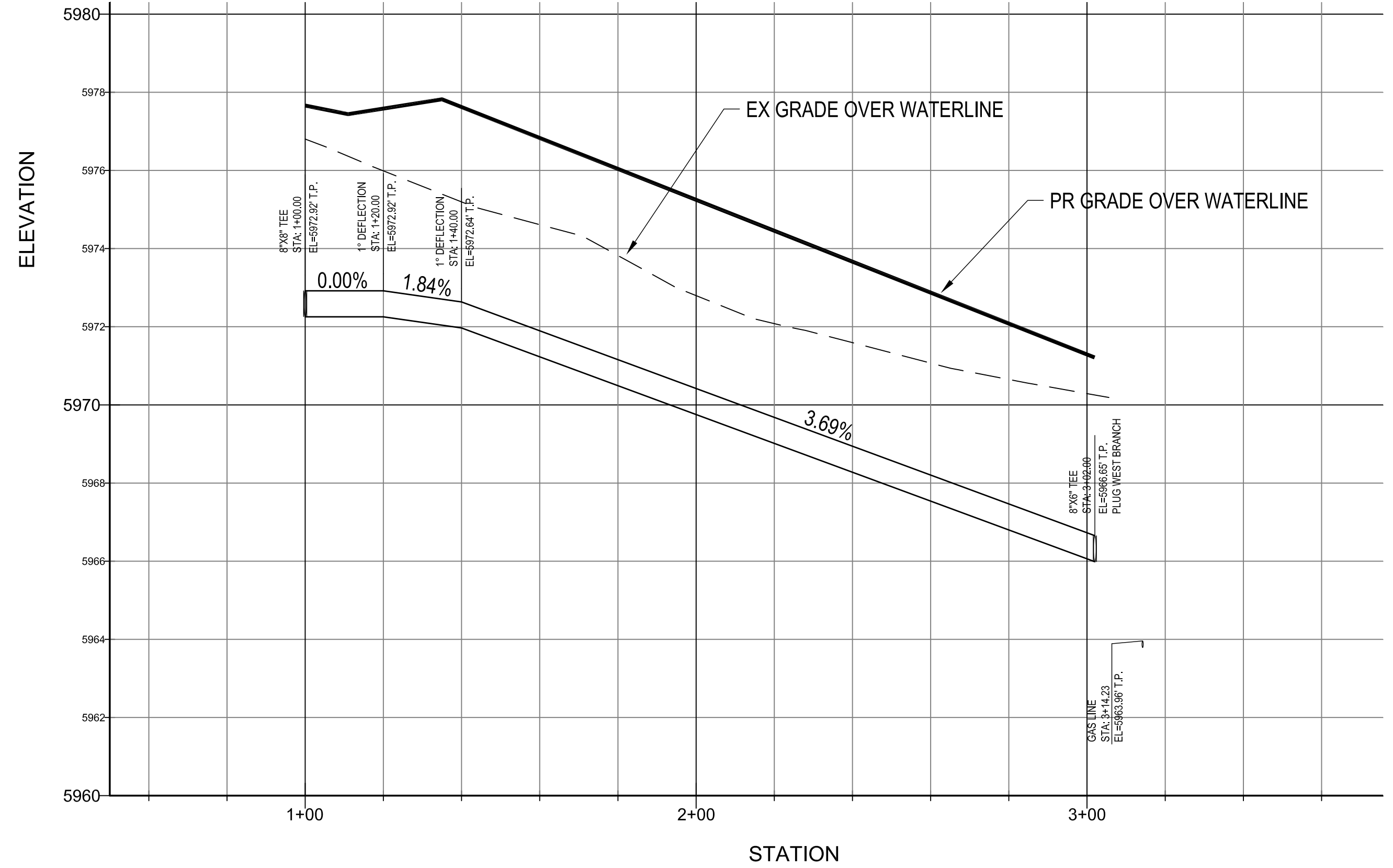
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WATER MAINS MAY NOT BE TAPPED FOR A SERVICE LINE UNTIL TAP FEES ARE PAID



#	ITEM	STA.	OS (FT.)
T5	8\"X8\" TEE W/ KB	1+00.00	0.00
T6	8\"X6\" TEE W/ KB	3+02.00	0.00
FH4	PR. 6\" HYDRANT ASSY. / 18.50LF 6\" DIP / 6\" G.V.	3+02.00	18.50 L
GV9	PR. 8\" G.V.	1+18.00	0.00

WARNING
HIGH-PRESSURE PIPELINE(S)
EXCAVATION AND / OR CONSTRUCTION PROHIBITED WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND WITHOUT WRITTEN PERMISSION FROM MAGELLAN PIPELINE COMPANY.



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10/24/17		INITIAL SUBMITTAL
Δ		REVISIONS

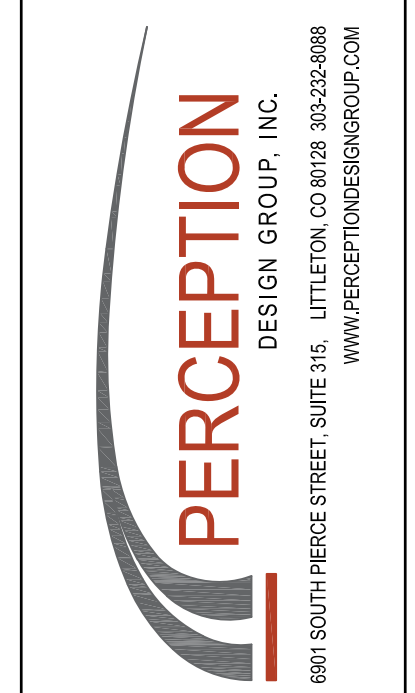
WATER PLAN & PROFILE
PARKER POINT
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINT FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

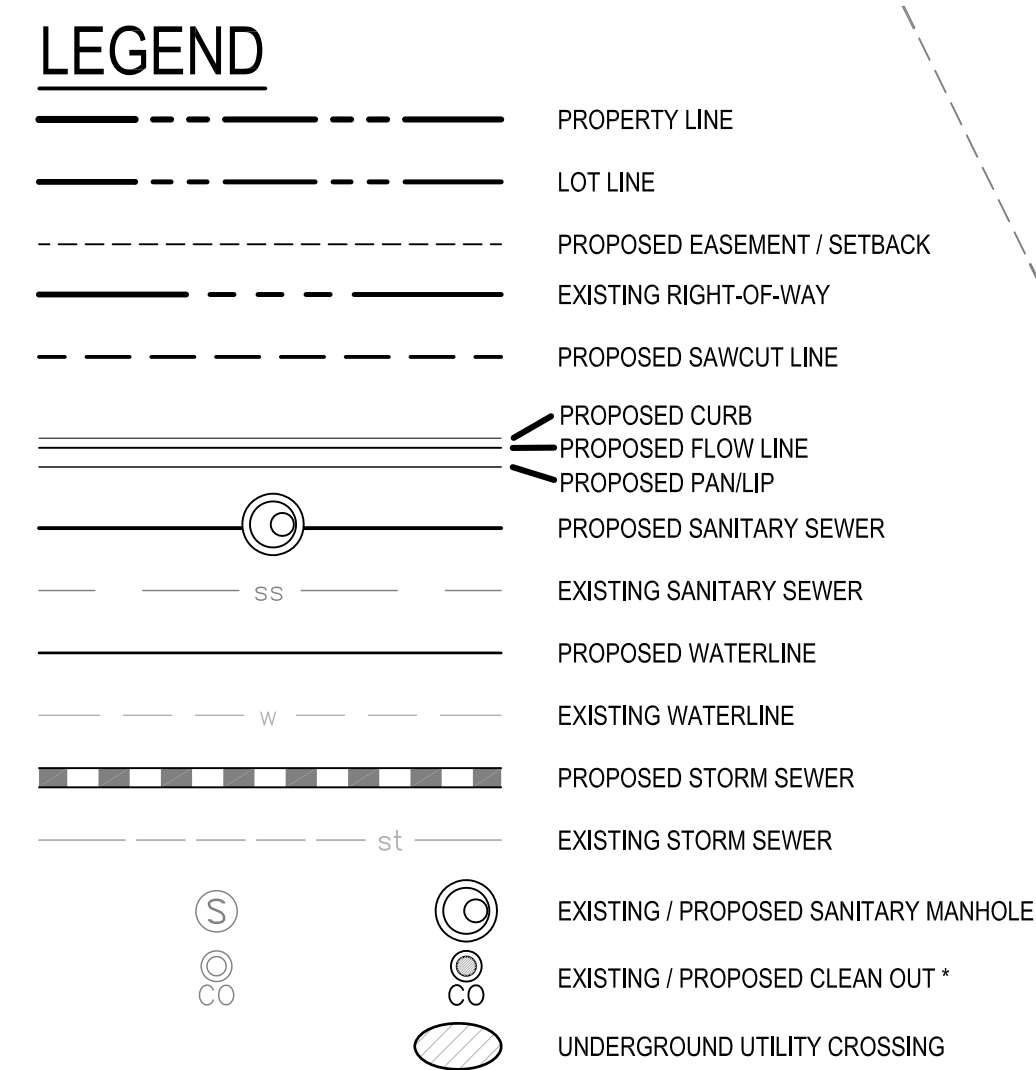
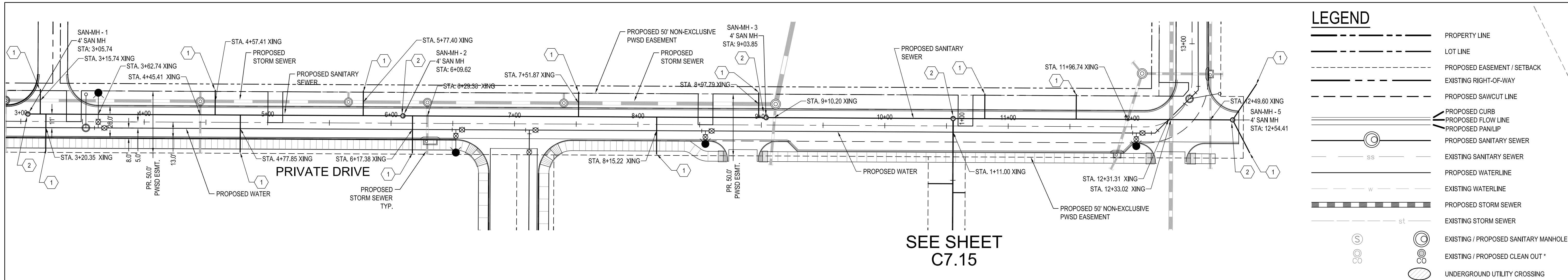
design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET
C7.13

PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

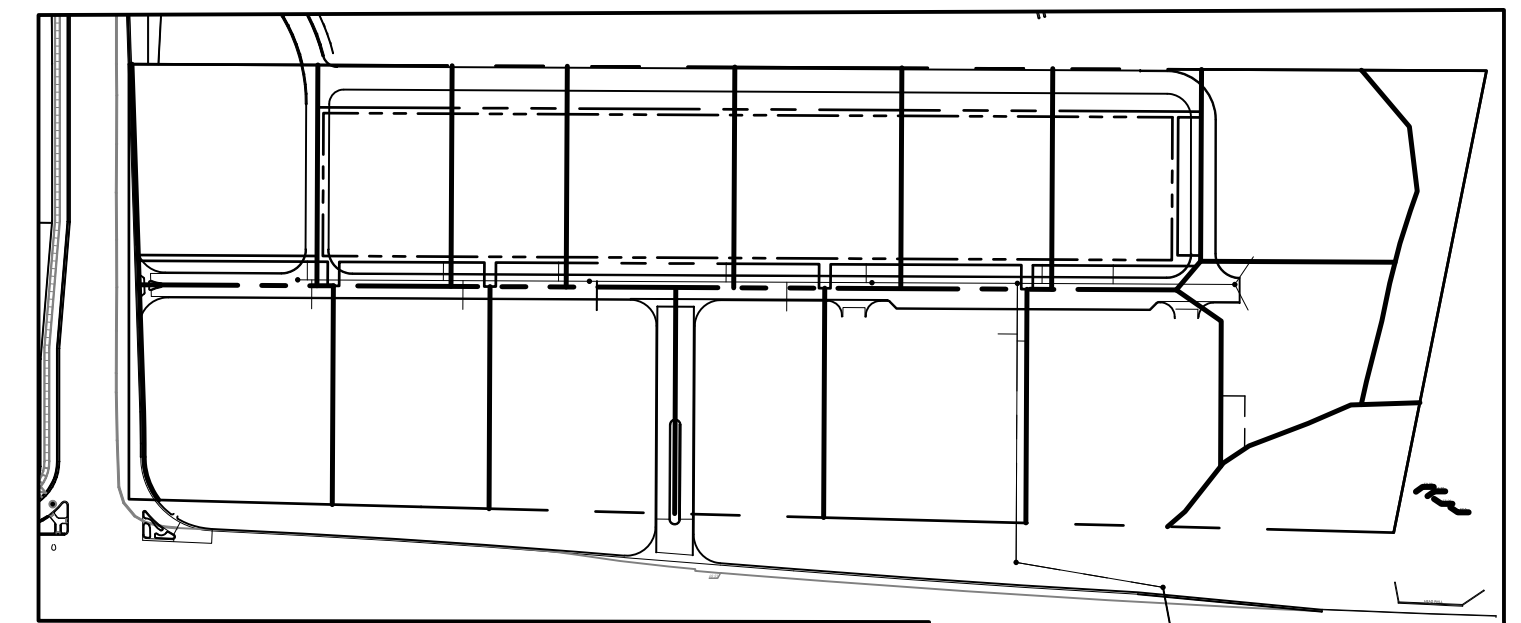




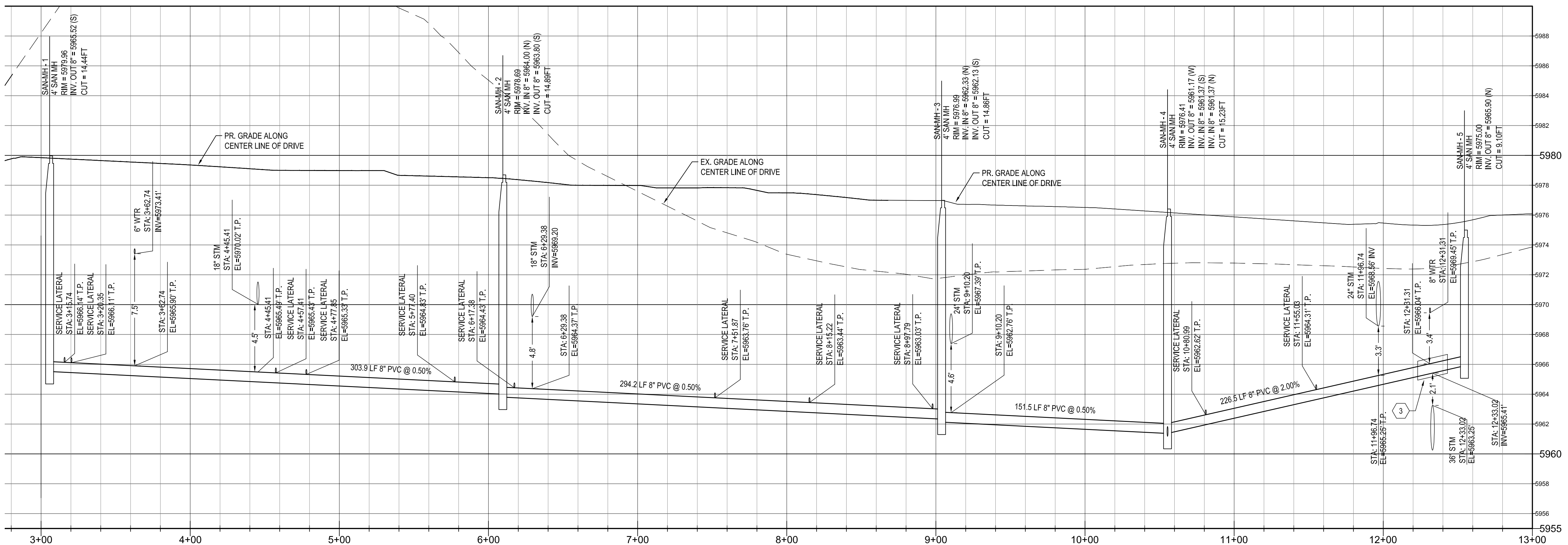
SEE SHEET
C7.15

CONSTRUCTION NOTES

- 1 INSTALL 6" SERVICE LATERAL AT 2.0%. EXTEND BEYOND PAVEMENT, CAP AND MARK FOR FUTURE CONNECTION.
- 2 CONSTRUCT 4' DIAMETER CONCRETE MANHOLE.
- 3 CONCRETE ENCASE SANITARY SEWER 10' EACH SIDE OF CROSSING. SEE DETAIL S4.8 ON SHEET C7.91.



KEY MAP



ABBREVIATIONS

ASSY	ASSEMBLY
BP	BOTTOM OF PIPE
ESMT	EASEMENT
ELEV	ELEVATION
EX	EXISTING
DIP	DUCTILE IRON PIPE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FU	FUTURE
GV	GATE VALVE
INV	INVERT
KB	KICK BLOCK / THRUST BLOCK
PR	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
TP	TOP OF PIPE
W	WITH

PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

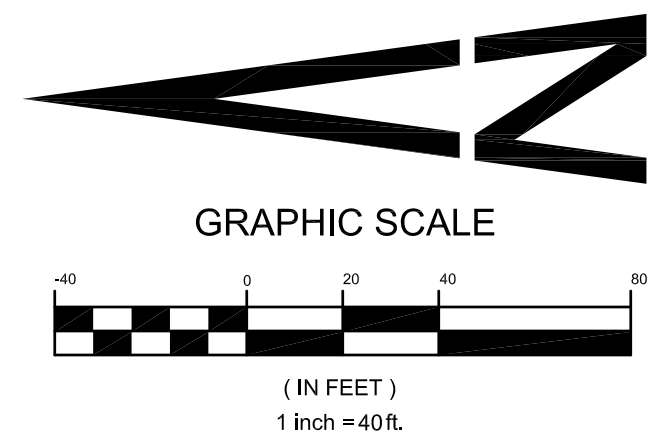
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SANITARY PLAN & PROFILE

PARKER POINTE
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINTE FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

CALL UTILITY NOTIFICATION
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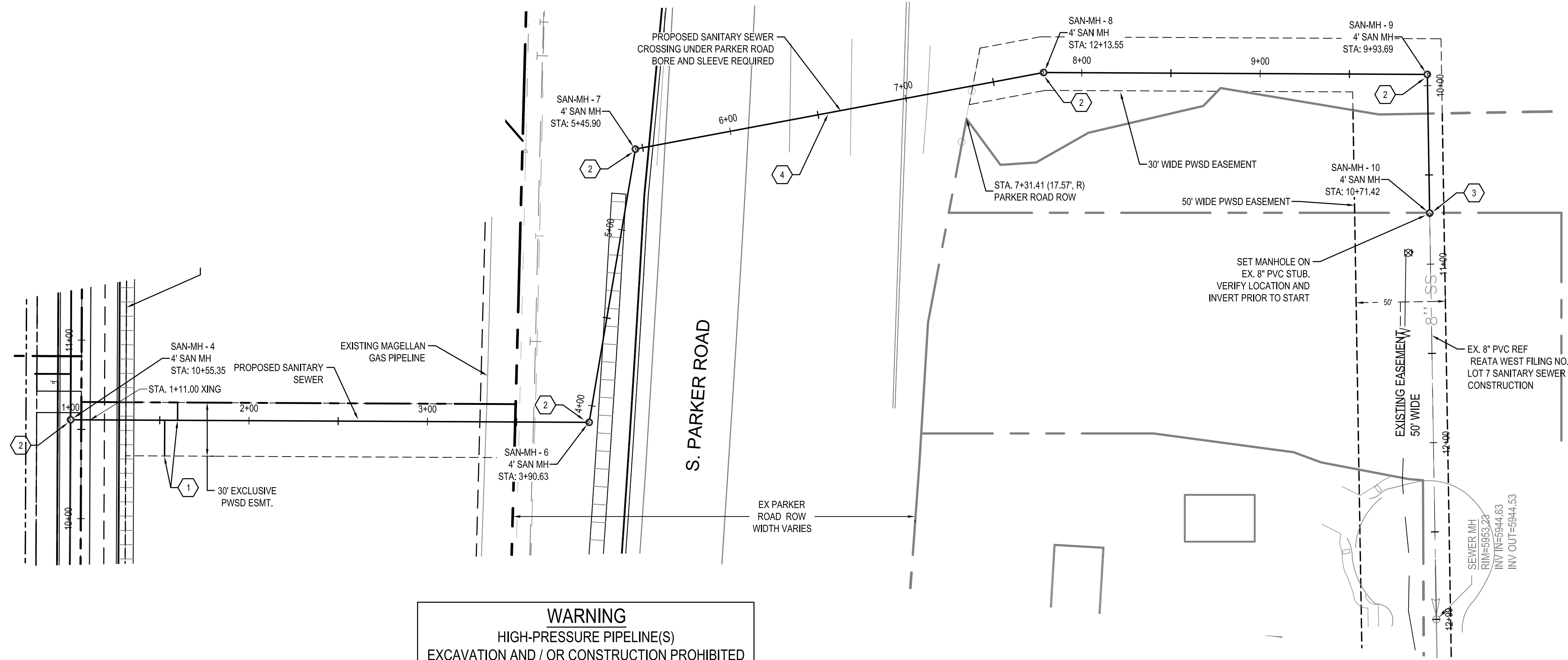
design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET
C7.14

I:\PDG-MA\PUBLIC\PROJECTS\2015-015 PARKER AND STROH.DWG WATER AND SANITARY PLANS\2015-015 CDS -SANITARY PLAN.DWG 10/1/2018 8:51 AM

SEE SHEET C7.14



WARNING
HIGH-PRESSURE PIPELINE(S)
EXCAVATION AND / OR CONSTRUCTION PROHIBITED
WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND
WITHOUT WRITTEN PERMISSION FROM
MAGELLAN PIPELINE COMPANY.

ABBREVIATIONS

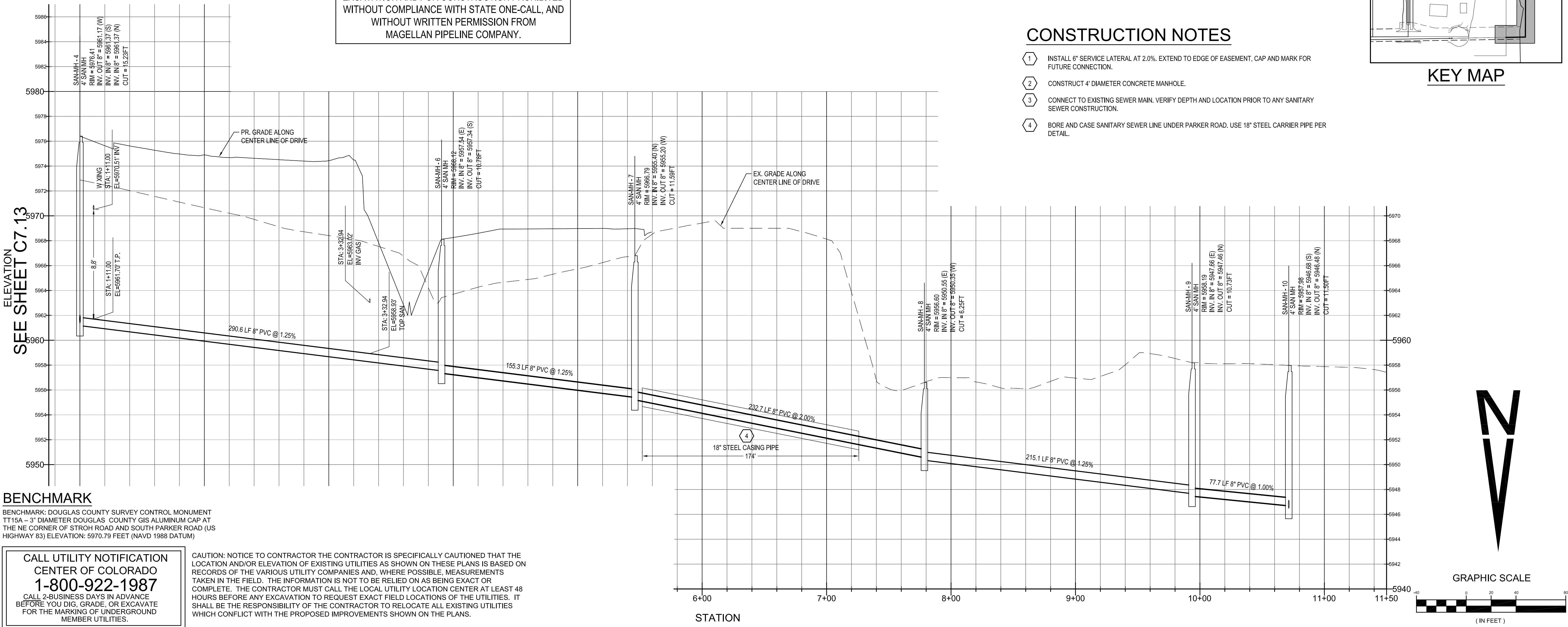
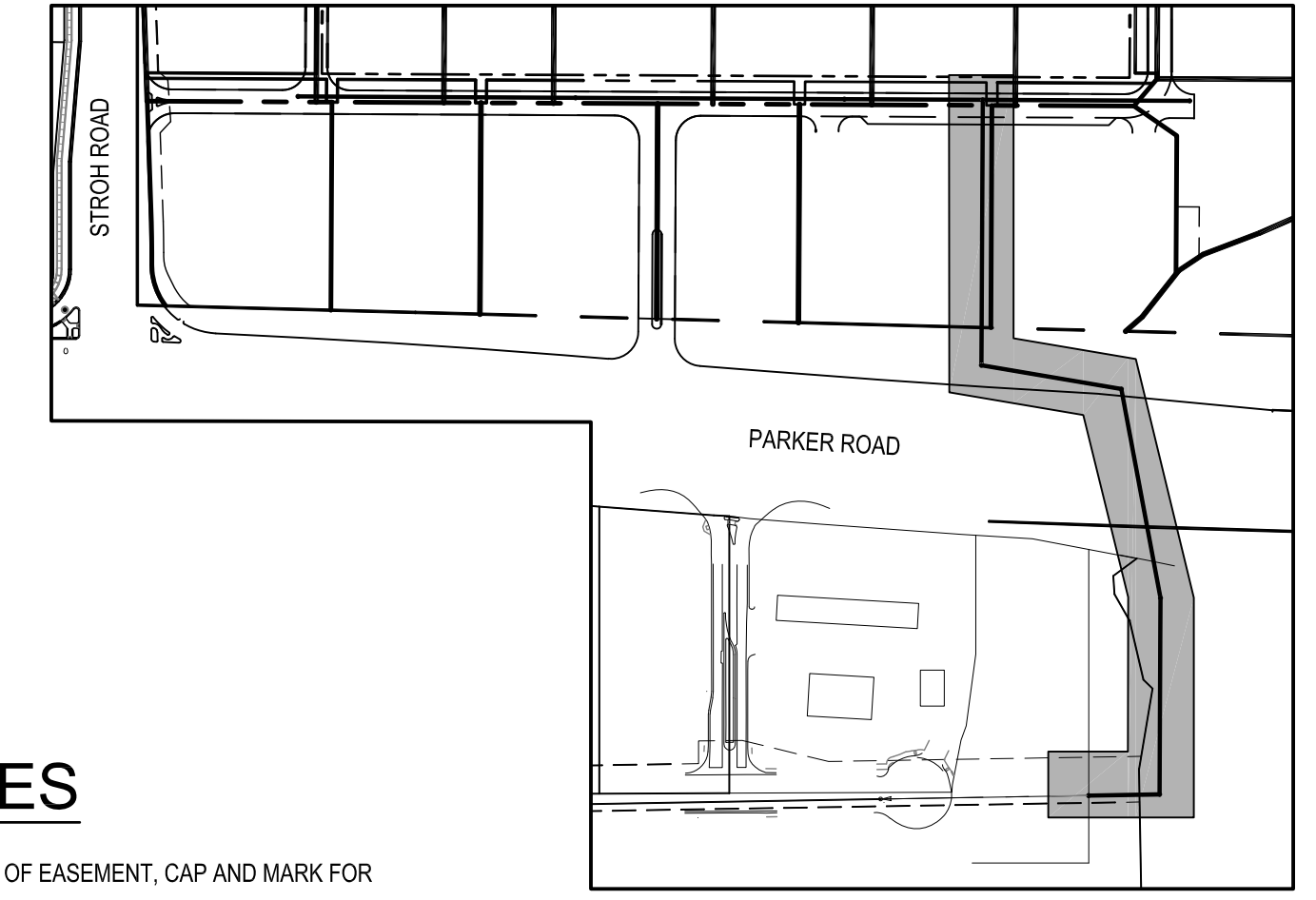
ASSY	ASSEMBLY
BP	BOTTOM OF PIPE
ESMT	EASEMENT
ELEV	ELEVATION
EX	EXISTING
DIP	DUCTILE IRON PIPE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FU	FUTURE
GV	GATE VALVE
INV	INVERT
KB	KICK BLOCK / THRUST BLOCK
PR	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
TP	TOP OF PIPE
W	WITH

LEGEND

	PROPERTY LINE
	LOT LINE
	PROPOSED EASEMENT / SETBACK
	EXISTING RIGHT-OF-WAY
	PROPOSED SAWCUT LINE
	PROPOSED CURB
	PROPOSED FLOW LINE
	PROPOSED PANLIP
	PROPOSED SANITARY SEWER
	EXISTING SANITARY SEWER
	PROPOSED WATERLINE
	EXISTING WATERLINE
	PROPOSED STORM SEWER
	EXISTING STORM SEWER
	EXISTING / PROPOSED SANITARY MANHOLE *
	EXISTING / PROPOSED CLEAN OUT *
	UNDERGROUND UTILITY CROSSING

CONSTRUCTION NOTES

- 1 INSTALL 6" SERVICE LATERAL AT 2.0%. EXTEND TO EDGE OF EASEMENT, CAP AND MARK FOR FUTURE CONNECTION.
- 2 CONSTRUCT 4' DIAMETER CONCRETE MANHOLE.
- 3 CONNECT TO EXISTING SEWER MAIN. VERIFY DEPTH AND LOCATION PRIOR TO ANY SANITARY SEWER CONSTRUCTION.
- 4 BORE AND CASE SANITARY SEWER LINE UNDER PARKER ROAD. USE 18" STEEL CARRIER PIPE PER DETAIL.



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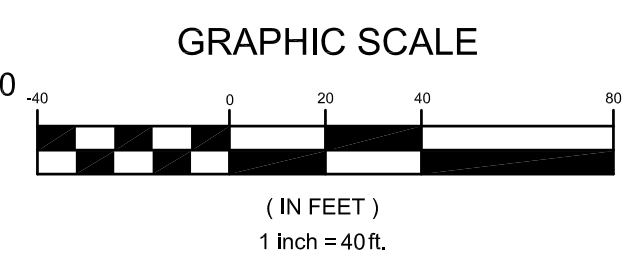
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SANITARY PLAN & PROFILE
PARKER POINTE
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINTE FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET
C7.15



I:\PDG-MAS\PUBLIC\PROJECTS\2015-015 PARKER AND SANITARY PLANS\2015-015 CDS - SAN & WAT DETLS.DWG 8/31/2018 2:13 PM

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: 2/98

APPROVED: PVR 01/02 10/18
 1/09 1/18

DIRECTOR OF ENGINEERING

2016 REVISION

SHEET S3.1

PARKER WATER & SANITATION DISTRICT
PARKER MANHOLE ECCENTRIC CONE

SCALE: NONE DATE: 2/98

APPROVED: PVR 4/01 10/18
 01/02 1/08 1/18

DIRECTOR OF ENGINEERING

2016 REVISION

SHEET S3.1

PARKER WATER & SANITATION DISTRICT
24\"/>

SCALE: NONE DATE: 2/98

APPROVED: PVR 3/18 10/18

DIRECTOR OF ENGINEERING

2016 REVISION

SHEET S3.9

PARKER WATER & SANITATION DISTRICT
POLYPROPYLENE REINFORCED PLASTIC MANHOLE STEP

SCALE: NONE DATE: 2/00

APPROVED: PVR 01/18 10/18

DIRECTOR OF ENGINEERING

2016 REVISION

SHEET S3.11

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

SCALE: NONE DATE: 2/98

APPROVED: PVR 01/02 01/18 10/18

DIRECTOR OF ENGINEERING

2016 REVISION

SHEET S3.5

PARKER WATER & SANITATION DISTRICT
BORE CASING DETAILS

SCALE: NONE DATE: 2/98

APPROVED: PVR 2/00 1/18 10/18

DIRECTOR OF ENGINEERING

2016 REVISION

SHEET W4.5

SANITARY SEWER DETAILS

NO.	DATE	DESCRIPTION
08/31/18	FOURTH SUBMITTAL	
05/25/18	THIRD SUBMITTAL	
03/19/18	PWSO SUBMITTAL	
02/28/18	SECOND SUBMITTAL	
10/24/17	INITIAL SUBMITTAL	

design by: JWD
 approved by: JWD
 project no.: 2015-015

date: 10/01/17

SHEET

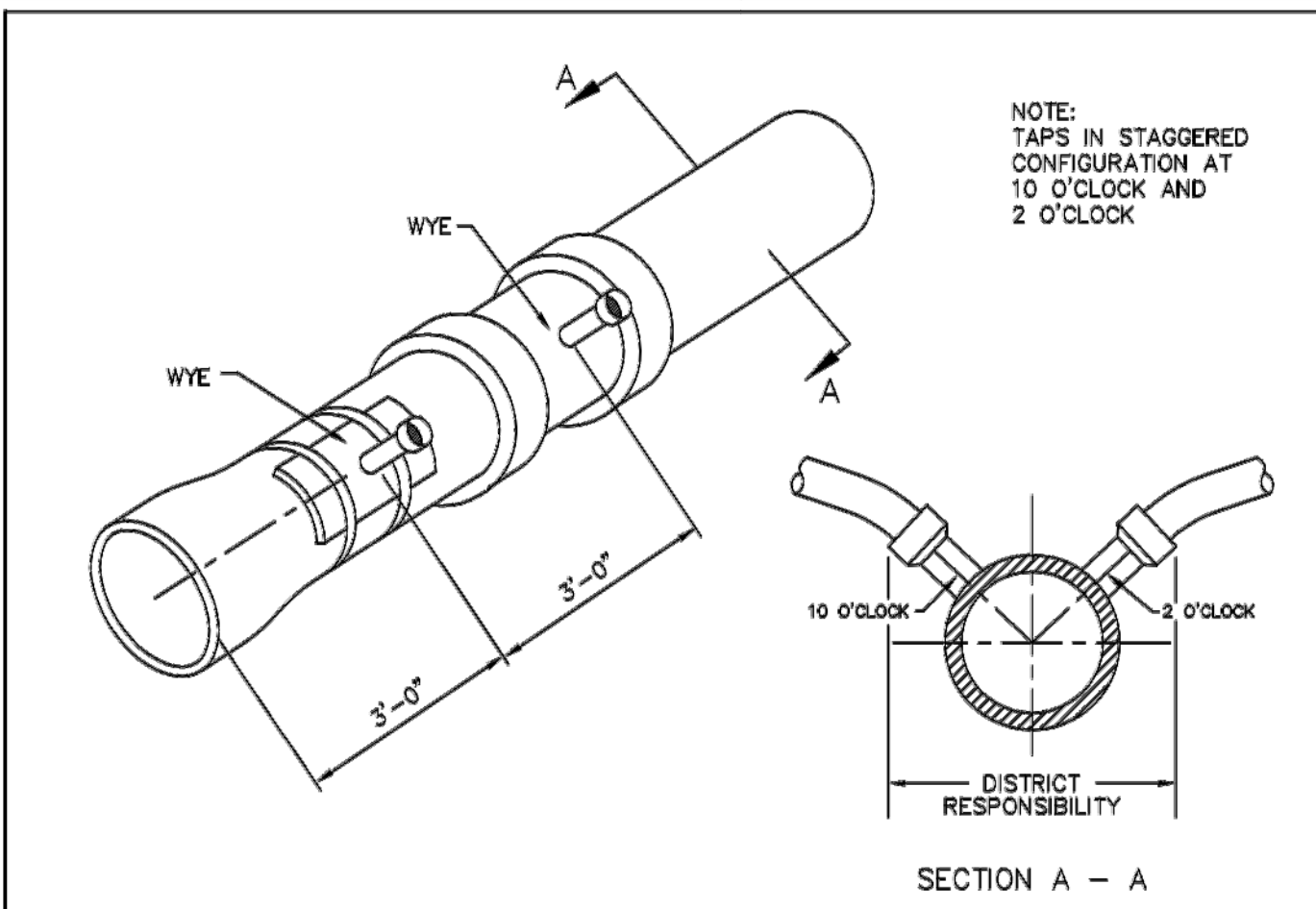
C7.90

PREPARED UNDER THE DIRECT SUPERVISION OF HENRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.



REVISIONS

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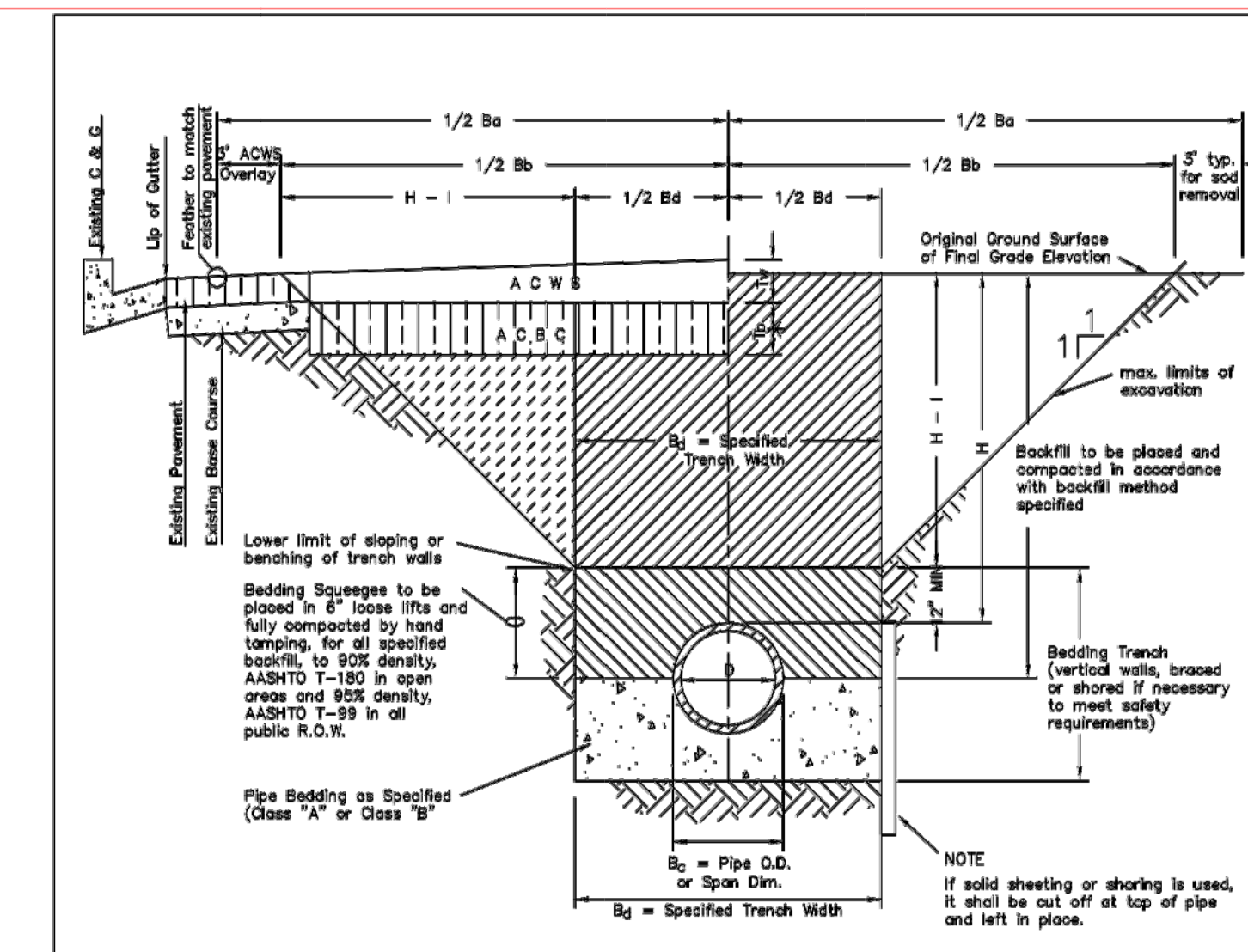
Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock position on the circumference of the sewer main. On new installations, tee or wye fittings shall be used. When tapping into existing sewer main, a saddle connection and approved coring method shall be used. The minimum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

DOMESTIC SEWER TAPPING DETAIL

PARKER WATER & SANITATION DISTRICT	
DOMESTIC SEWER TAPPING DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01 1/08 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET 34.13



T_b = Thickness of Asphaltic Concrete Base Course (A C B C)
 T_w = Thickness of Asphaltic Concrete Wearing Surface (A C W S)
 T_p = Total Asphalt Thickness ($T_b + T_w$)
 B_o = Outside Pipe or Conduit Span Dimension
 B_t = Specified Bedding Trench Width and Max Bedding Trench Width at a point 12" above Top of Pipe (See Note 2)
 B_p = Max. Pay Width of Asphaltic Concrete Base Course (or Asphaltic Concrete Cold Mix) (See Note 3)
 B_s = Max. Pay Width of Asphaltic Concrete Wearing Surface or Soil Replacement. (See Note 3)
 H = Depth of Surface to Top of Pipe
 $H-1$ = Depth from Surface to 1 ft. above Top of Pipe

TABLE II
ASPHALT AND BASE COURSE REPLACEMENT SCHEDULE

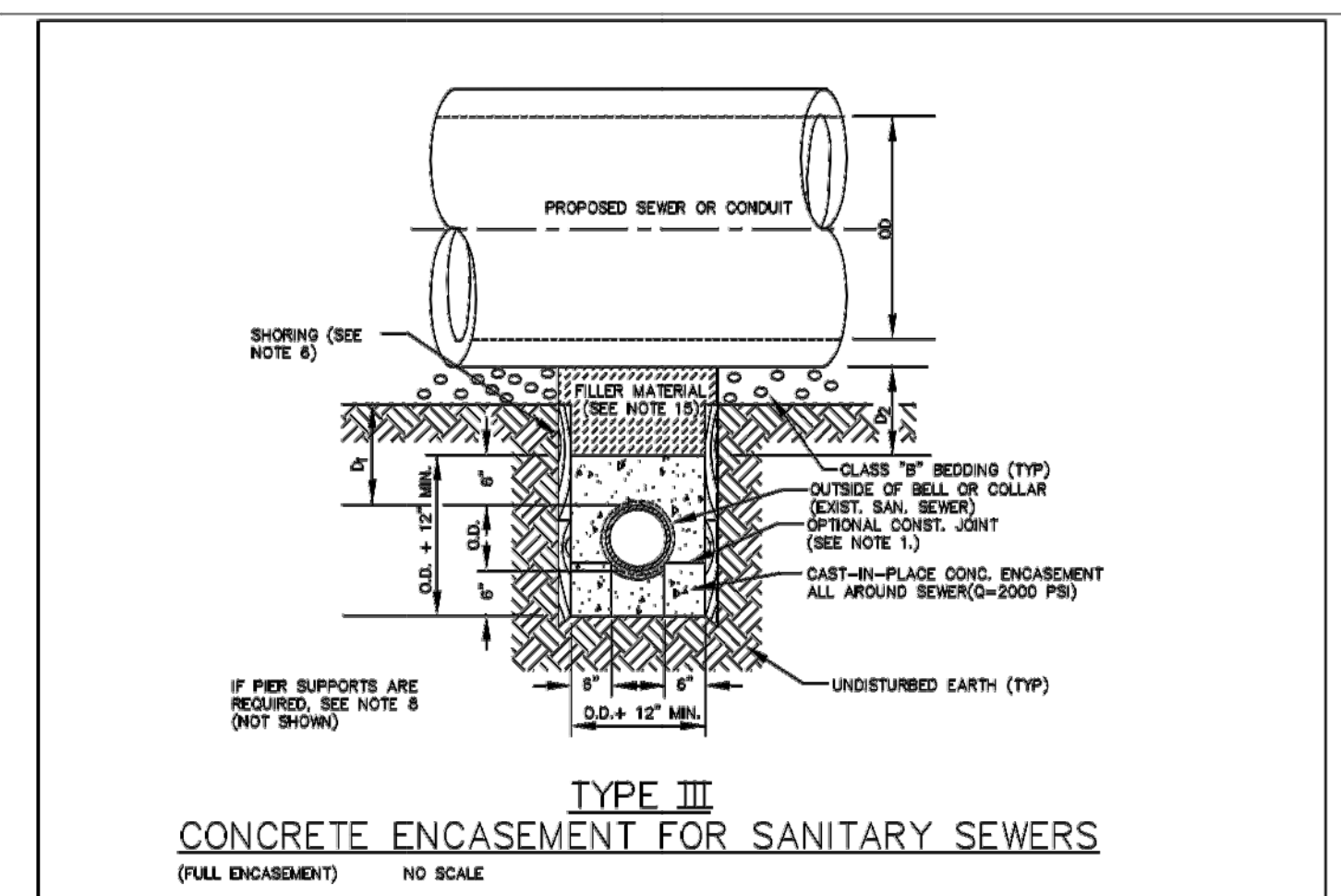
STREET WIDTH	ASPHALTIC BASE COURSE (IN)	ASPHALTIC WEARING SURFACE (IN)	TOTAL THICKNESS (IN)
UP TO 36'	4"	2"	6"
36' TO 44'	4"	3"	7"
44' TO 48'	5"	3"	8"
WIDER THAN 48'	6"	3"	9"

NOTES:
 1. Sloping or benching of trench side walls, where permitted shall be in accordance with applicable Federal, State and Local safety regulations.
 2. Trench shall be brooded and shored as necessary to afford safe working conditions or to protect adjacent utilities, structures, etc., unless otherwise specified on the plans. No pavement will be made for removal, replacement or relocation of curb and gutter, utilities, sidewalks, structures, etc. outside the maximum limits of excavation as shown and the contractor shall be responsible for protection of same.
 3. If dimension " B_o " is $\leq 5'$, then existing asphalt pavement shall be removed and replaced up to the gutter. Maximum asphalt pay width, B_p & B_s shall then be based upon this actual width.

PARKER WATER & SANITATION DISTRICT	
SEWER TRENCHING AND BEDDING DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	8/98 1/16 10/16
DIRECTOR OF ENGINEERING	

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SHEET 34.1



GENERAL NOTES FOR TYPE III & 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 & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 - TYPE III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE III & 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:
 - TYPE I OR TYPE II IF $D_o \leq 18"$ ($D_o \leq 12"$) EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS.
 - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS WATER MAINS AND $D_o \leq 24"$ ($D_o \leq 18"$)
 - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION D_o .
 - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, 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 $D_o \leq 4'$ & $L \leq 6'$
 - COMPACTED CLASS "B" BEDDING IF D_o & $L > 6'$
 - IF $D_o > 6'$ FOR TYPE III 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, PIER 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	8/98 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET 34.8



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NO.	DATE	DESCRIPTION
08/31/18		FOURTH SUBMITTAL
05/25/18		THIRD SUBMITTAL
03/19/18		PWSO SUBMITTAL
02/28/18		SECOND SUBMITTAL
10/24/17		INITIAL SUBMITTAL

SANITARY SEWER DETAILS

PARKER POINTE
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINTE FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET
C7.91

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INSPECTION POLICY:

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

INSTALLATION NOTES:

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

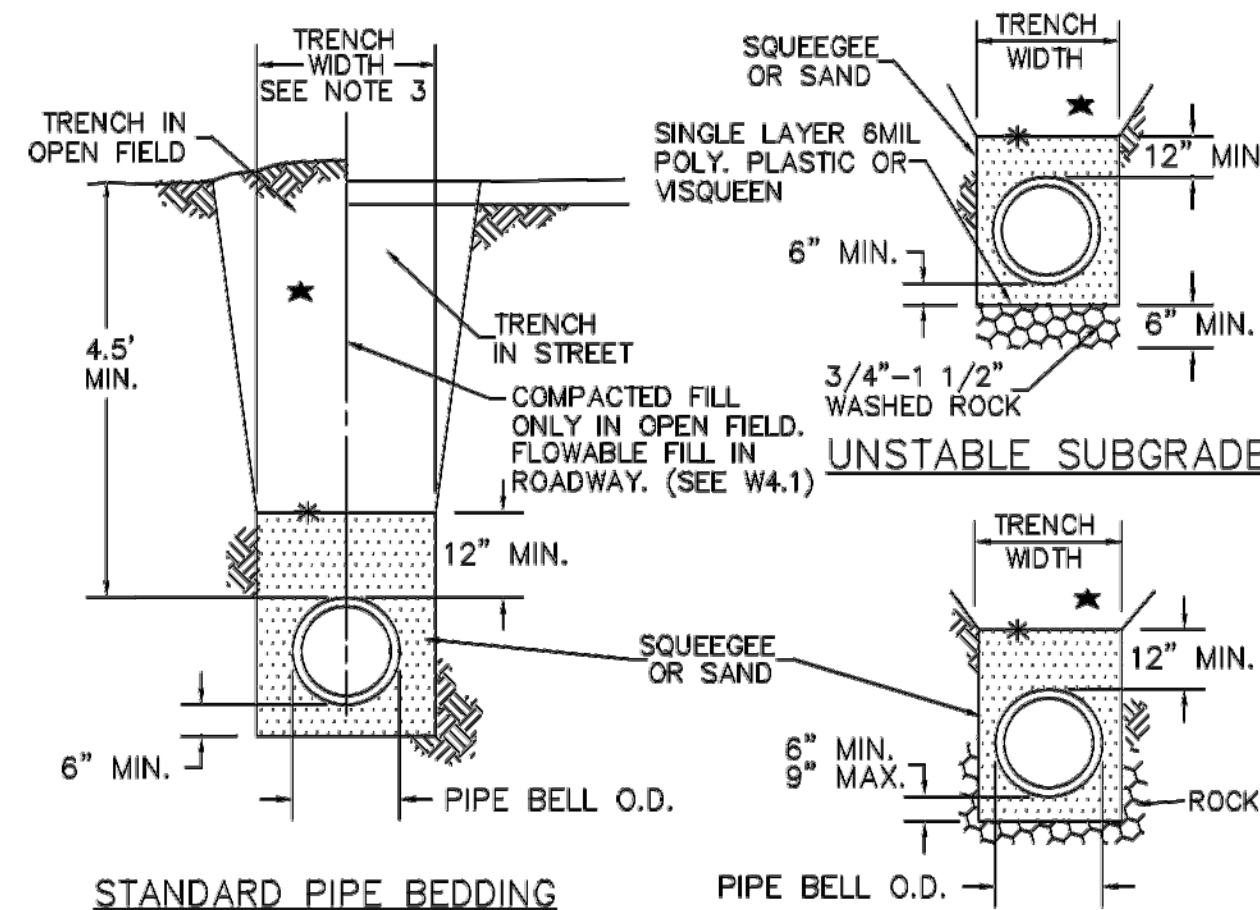
PARKER WATER & SANITATION DISTRICT
DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES

SCALE: NONE DATE: 2/98

APPROVED: 1/04
PVR 1/18
DIRECTOR OF ENGINEERING 10/16

SHEET W1.1

2016 REVISION



STANDARD PIPE BEDDING
 * MACHINE COMPACTED TRENCH BACKFILL
 * LIMIT OF SLOPING OR BENCHING OF TRENCH WALLS
 * UNDISTURBED GROUND
PIPE BEDDING IN ROCK

- NOTES:**
1. MIN COVER TO BE BELOW FINAL STREET GRADE. CONSTRUCTION OF WATER MAIN MAY NOT START UNTIL FINAL GRADE WITHIN 1 FOOT.
 2. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE PROTECTION OF OTHER UTILITIES AND TO MEET OSHA SAFETY REQUIREMENT.
 3. TRENCH WIDTH SHALL NOT BE MORE THAN 16" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE LAID THEREIN (BELL OR COUPLING O.D. IF APPLICABLE). REFER TO SHEET W4.1 FOR DIMENSIONS.

PARKER WATER & SANITATION DISTRICT
BEDDING DETAILS

SCALE: NONE DATE: 2/98

APPROVED: 1/18
PVR 10/16
DIRECTOR OF ENGINEERING

SHEET W4.8

2016 REVISION

PIPE BEDDING:

(a) **Installation of Bedding and Pipe:** 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. Bell holes shall be dug deep enough to provide a minimum of two inches (2") of clearance between the bell 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 haunches of the pipe and in the previously dug bell holes.

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

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

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

(b) **Bedding Material:** The bedding material shall be a clean well-graded sand or squeegee 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. 8	36-93
No. 20	20-80
No. 30	8-65
No. 50	2-30
No. 100	1-10
No. 200	0-3

Squeegee Sand
for use with 20-inch or smaller

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

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

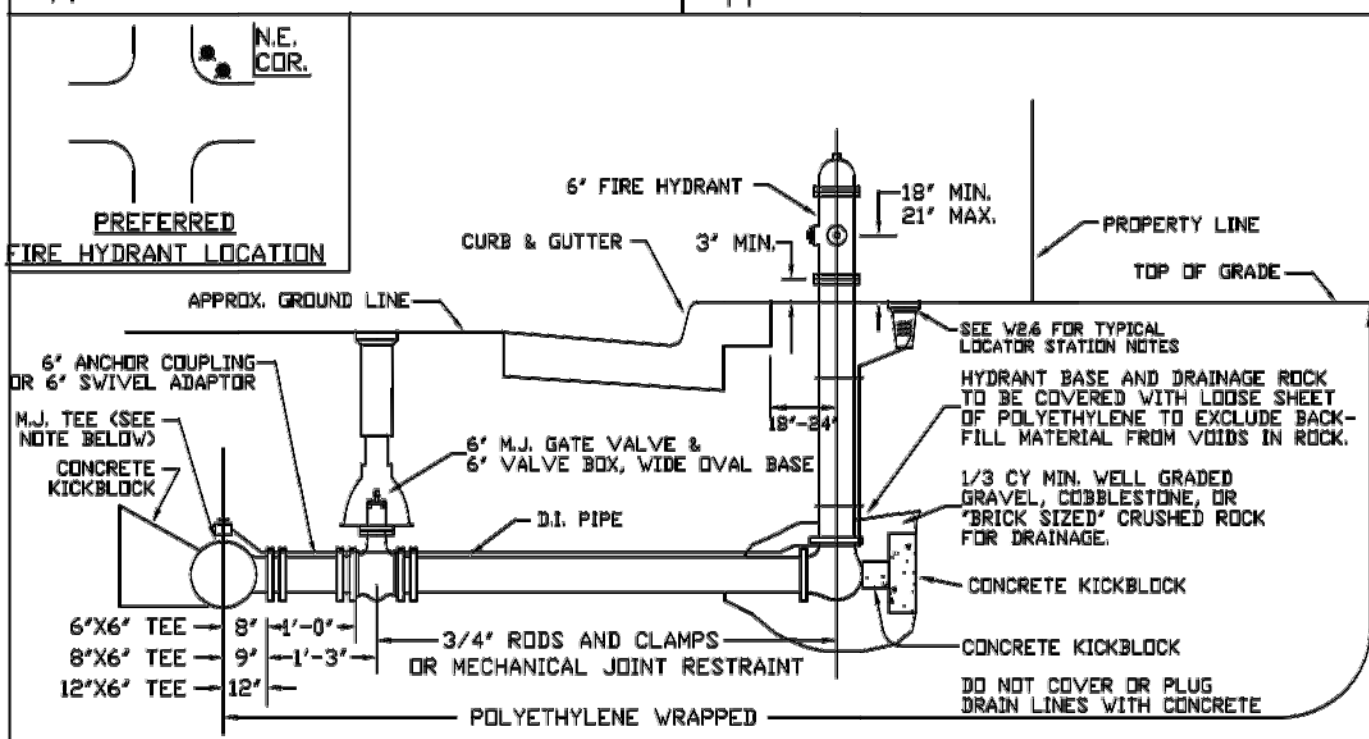
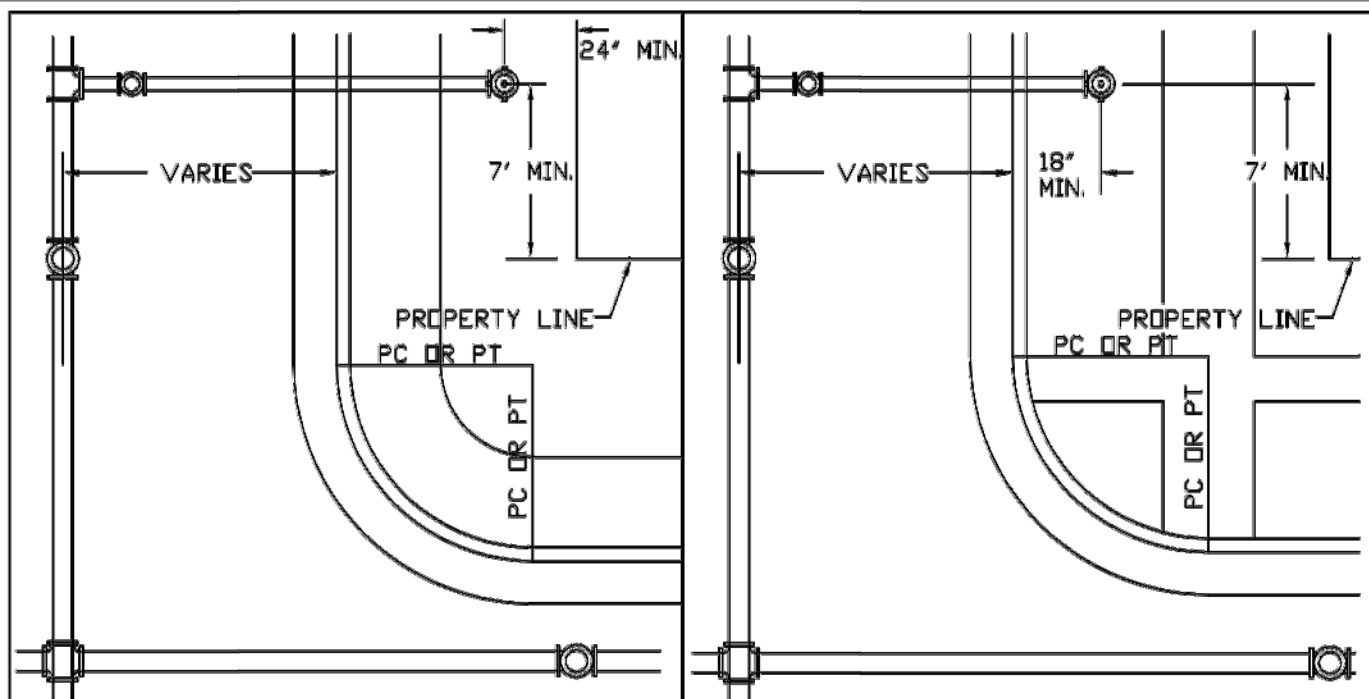
PARKER WATER & SANITATION DISTRICT
PIPE BEDDING

SCALE: NONE DATE: 2/98

APPROVED: 5/98
PVR 2/03
DIRECTOR OF ENGINEERING 10/16

SHEET W4.2

2016 REVISION



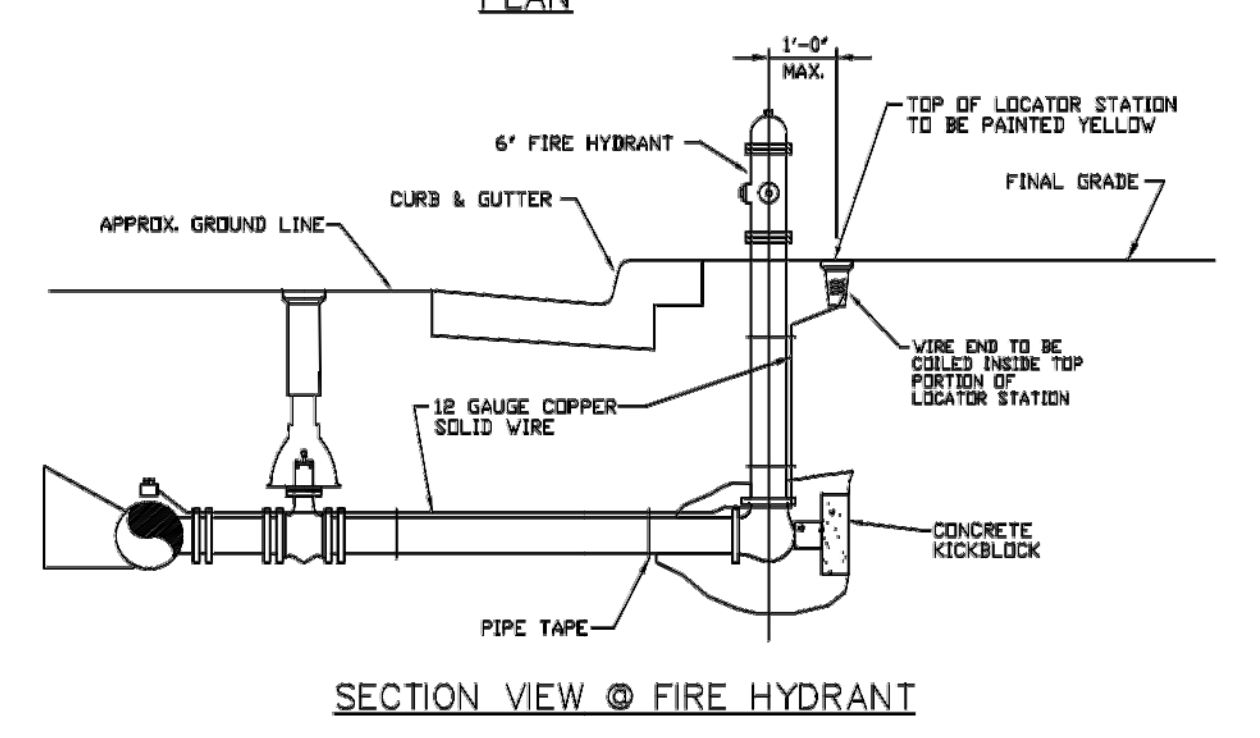
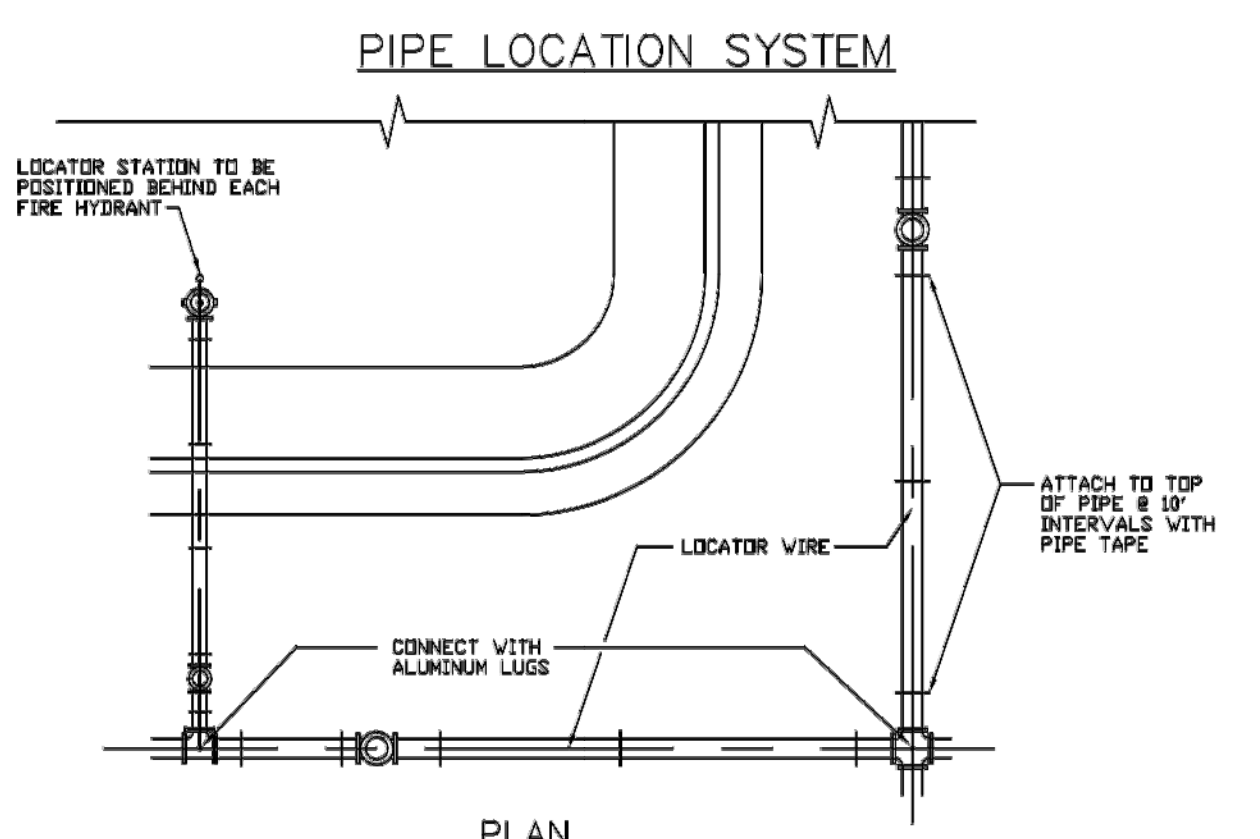
PARKER WATER & SANITATION DISTRICT
FIRE HYDRANTS LOCATION & INSTALLATION

SCALE: NONE DATE: 2/98

APPROVED: 4/21 10/18
PVR 01/02
DIRECTOR OF ENGINEERING 12/07 1/16

SHEET W2.5

2016 REVISION



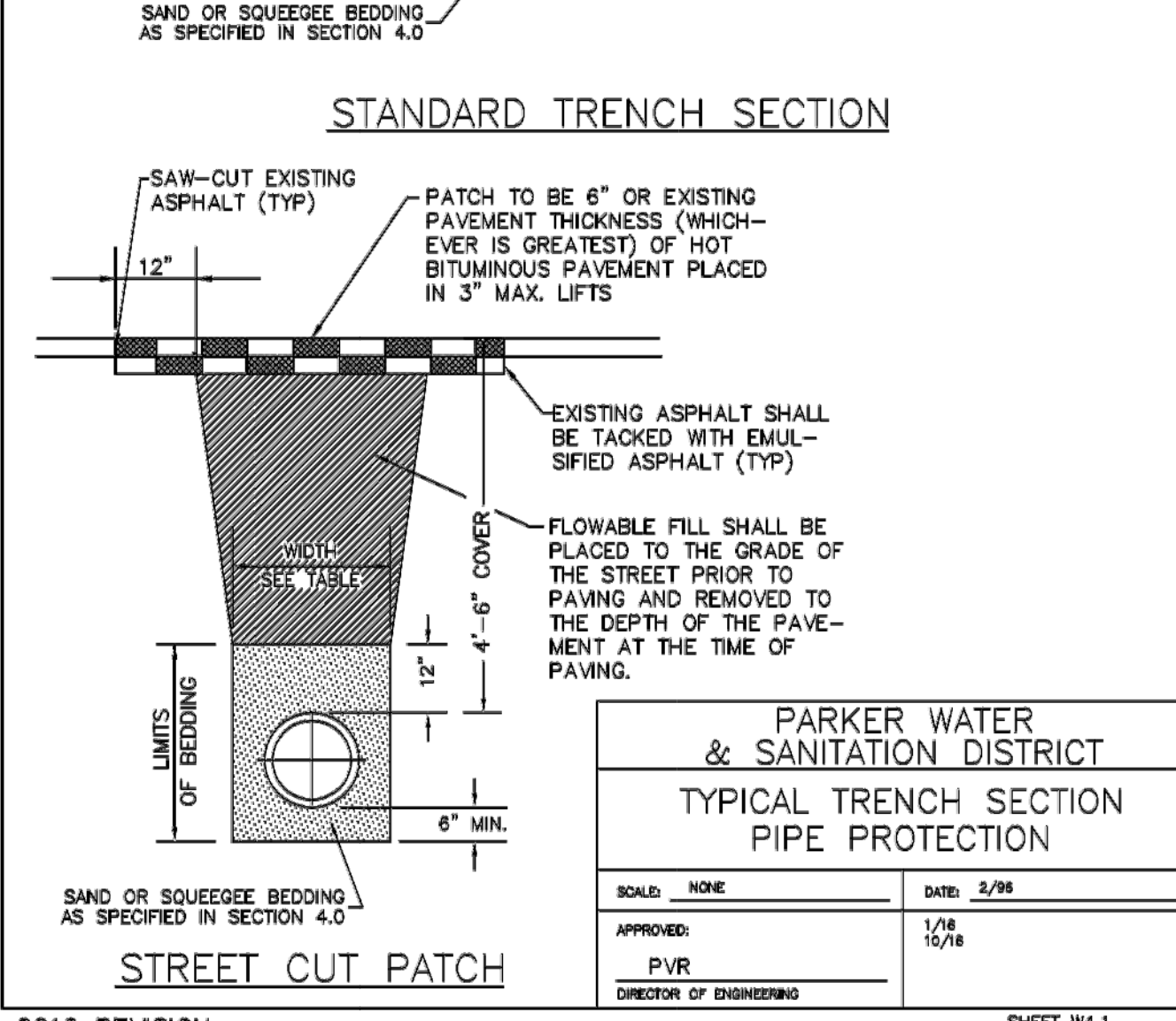
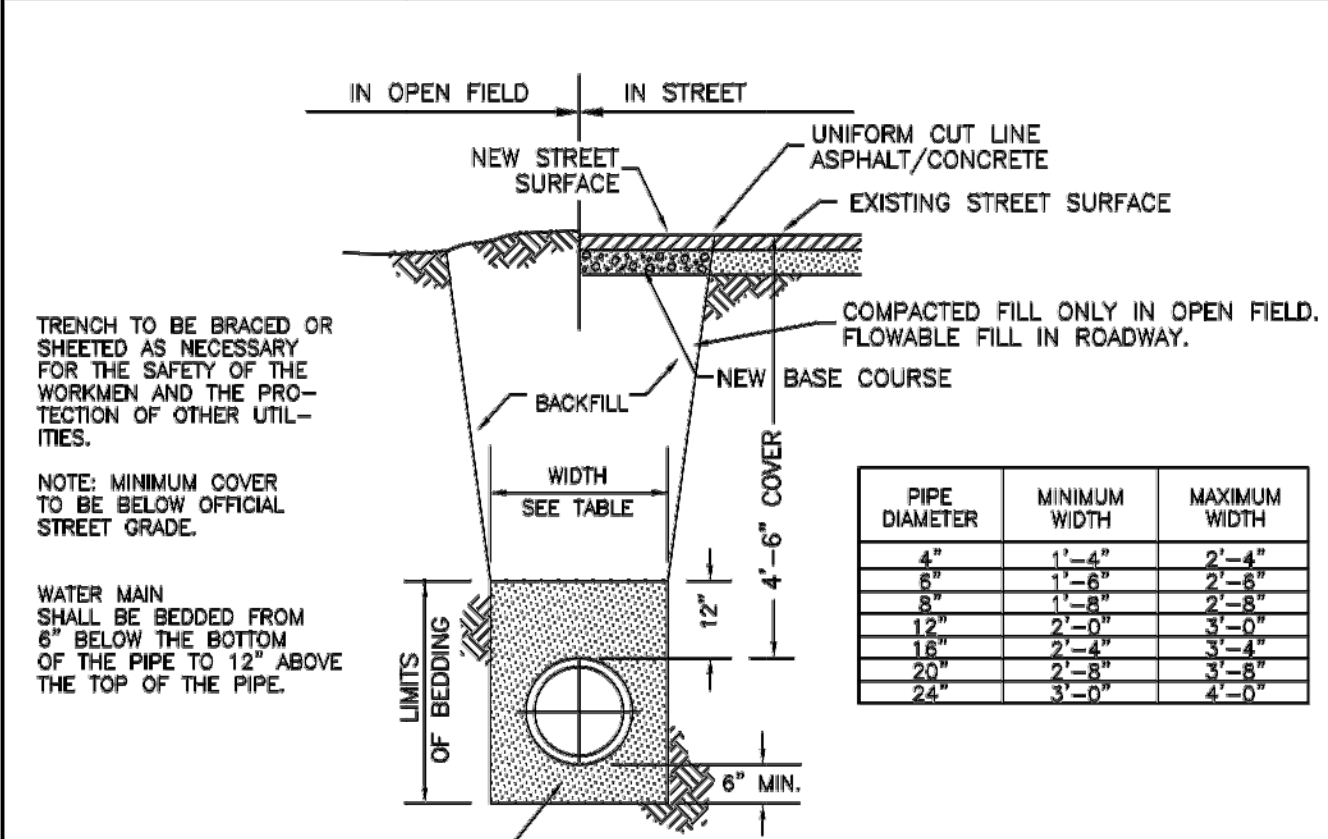
PARKER WATER & SANITATION DISTRICT
LOCATOR WIRE DETAILS

SCALE: NONE DATE: 2/98

APPROVED: 4/21 10/18
PVR 01/18
DIRECTOR OF ENGINEERING 10/18

SHEET W2.6

2016 REVISION



2016 REVISION



PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

NO.	DATE	DESCRIPTION
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03/19/18	PWSO SUBMITTAL	
02/28/18	SECOND SUBMITTAL	
10/24/17	INITIAL SUBMITTAL	

WATER DETAILS

PARKER POINT
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINT FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET
C7.92

11-1/4, 22-1/2, 45° & 90° BENDS

DEAD END

TEE

SIZE OF PIPE	11-1/4"	22-1/2"	45°	90°	TEE OR DEAD END
4"	1.00	1.00	1.00	1.50	1.50
6"	1.00	1.25	2.25	4.00	3.00
8"	2.00	4.25	8.25	15.25	11.00
10"	3.50	8.50	12.50	23.00	18.50
12"	5.00	13.00	18.50	33.00	26.00
24"	8.50	13.00	25.00	47.00	33.00

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

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

SCALE: NONE DATE: 2/96

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

2016 REVISION SHEET W3.16

MECHANICAL JOINT RESTRAINT

WEDGE DETAIL

BOLT HOLE DETAIL

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	2	2	11.12	9.5	7.00	0.88
6"	6	3	13.37	11.75	9.15	1.00
8"	8	4	15.62	14.00	11.20	1.00
10"	8	8	17.88	16.25	13.30	1.25
12"	8	8	17.88	16.25	13.30	1.25

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

SCALE: NONE DATE: 2/96

APPROVED: 2/00 12/07 1/16 10/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W3.17

FIELD INSTALLATION - POLYETHYLENE WRAP

STEP 1 - PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO TRENCH.

STEP 2 - PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP 3 - OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE AND TAPED IN PLACE.

**PARKER WATER & SANITATION DISTRICT
POLYETHYLENE WRAP**

SCALE: NONE DATE: 2/96

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

2016 REVISION SHEET W4.11

LENGTH OF TIED PIPE

PIPE SIZE	4"	6"	8"	12"	16"	20"	24"
TEE OR VALVE	3/4" 6.0'	3/4" 13.0'	3/4" 20.0'	3/4" 27.0'	3/4" 34.0'	3/4" 41.0'	3/4" 48.0'
45° BEND	3/4" 2.0'	3/4" 4.0'	3/4" 6.0'	3/4" 8.0'	3/4" 10.0'	3/4" 12.0'	3/4" 14.0'
22-1/2° BEND	3/4" 1.0'	3/4" 2.0'	3/4" 3.0'	3/4" 4.0'	3/4" 5.0'	3/4" 6.0'	3/4" 7.0'
11-1/4° BEND	3/4" 0.0'	3/4" 0.0'	3/4" 1.0'	3/4" 1.0'	3/4" 1.0'	3/4" 2.0'	3/4" 3.0'

**PARKER WATER & SANITATION DISTRICT
LENGTH OF TIED PIPE**

SCALE: NONE DATE: 2/96

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

2016 REVISION SHEET W3.11

6-INCH VALVE BOXES

VALVE BOX DETAIL

PARKER WATER & SANITATION DISTRICT

SCALE: NONE DATE: 2/96

APPROVED: 3/98 10/16 8/99 12/07 1/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W3.10

CONDUIT OR STORM SEWER CROSSING

PARKER WATER & SANITATION DISTRICT

SCALE: NONE DATE: 2/96

APPROVED: 5/98 10/16 2/00 12/07 1/16
PVR DIRECTOR OF ENGINEERING

2016 REVISION SHEET W4.6

PERCEPTION DESIGN GROUP, INC.
6971 SOUTH PEERCE STREET SUITE 315, LITTLETON, CO 80120 303.252.8688
WWW.PERCEPTIONDESIGNGROUP.COM

PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

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WATER DETAILS

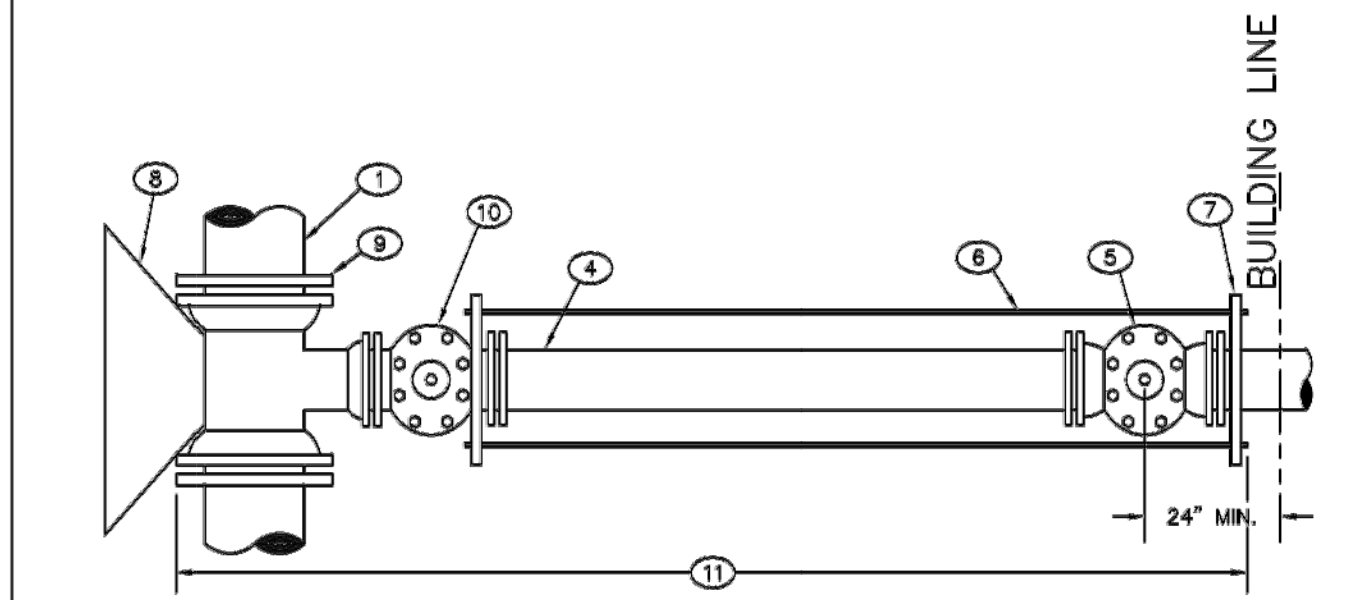
PARKER WATER & SANITATION DISTRICT
CONDUIT OR STORM SEWER CROSSING

design by: JWD
approved by: JWD
project no.: 2015-015

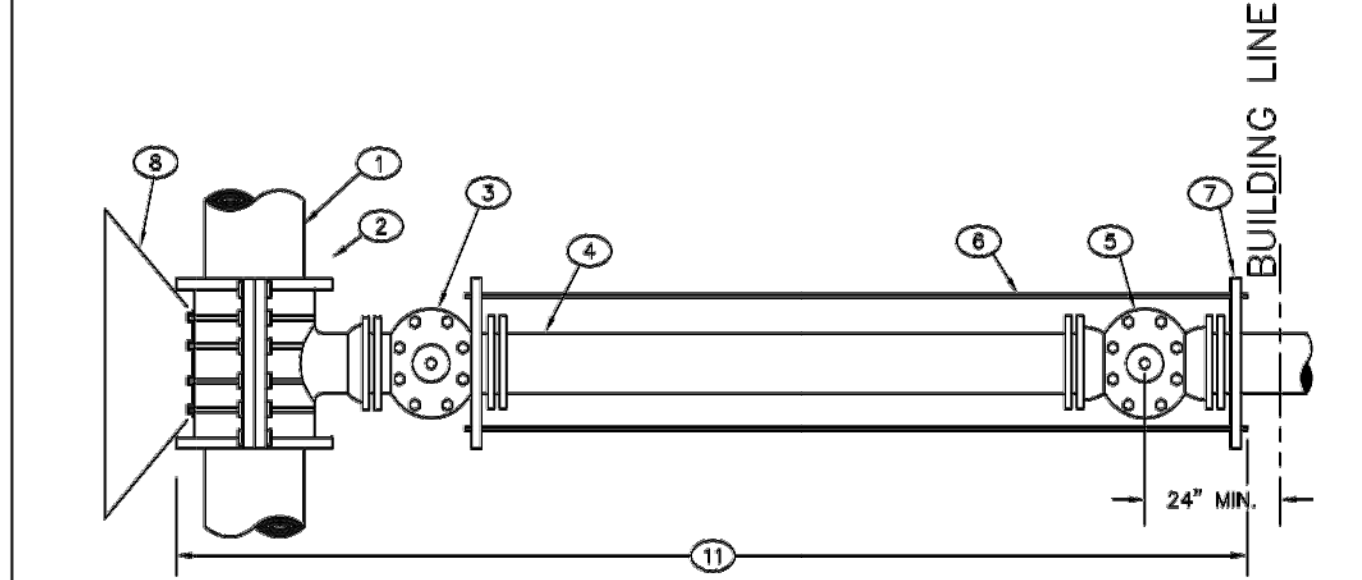
date: 10/01/17

SHEET **C7.93**

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FIRE SPRINKLER OR DOMESTIC CONNECTION WITH MAIN EXTENSION

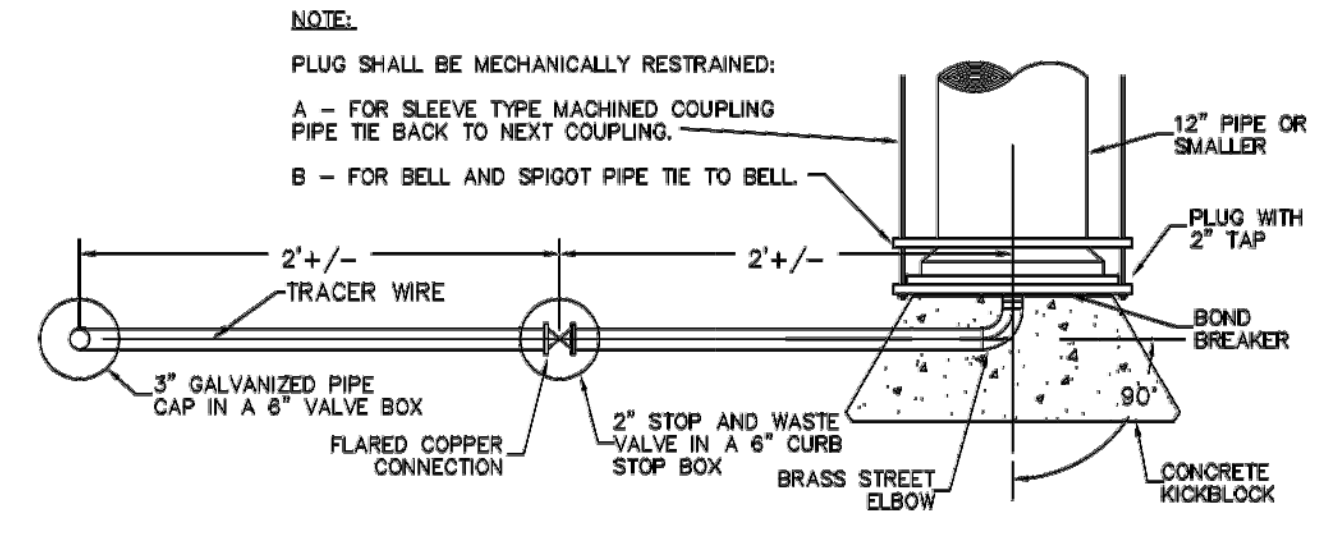


FIRE SPRINKLER OR DOMESTIC CONNECTION

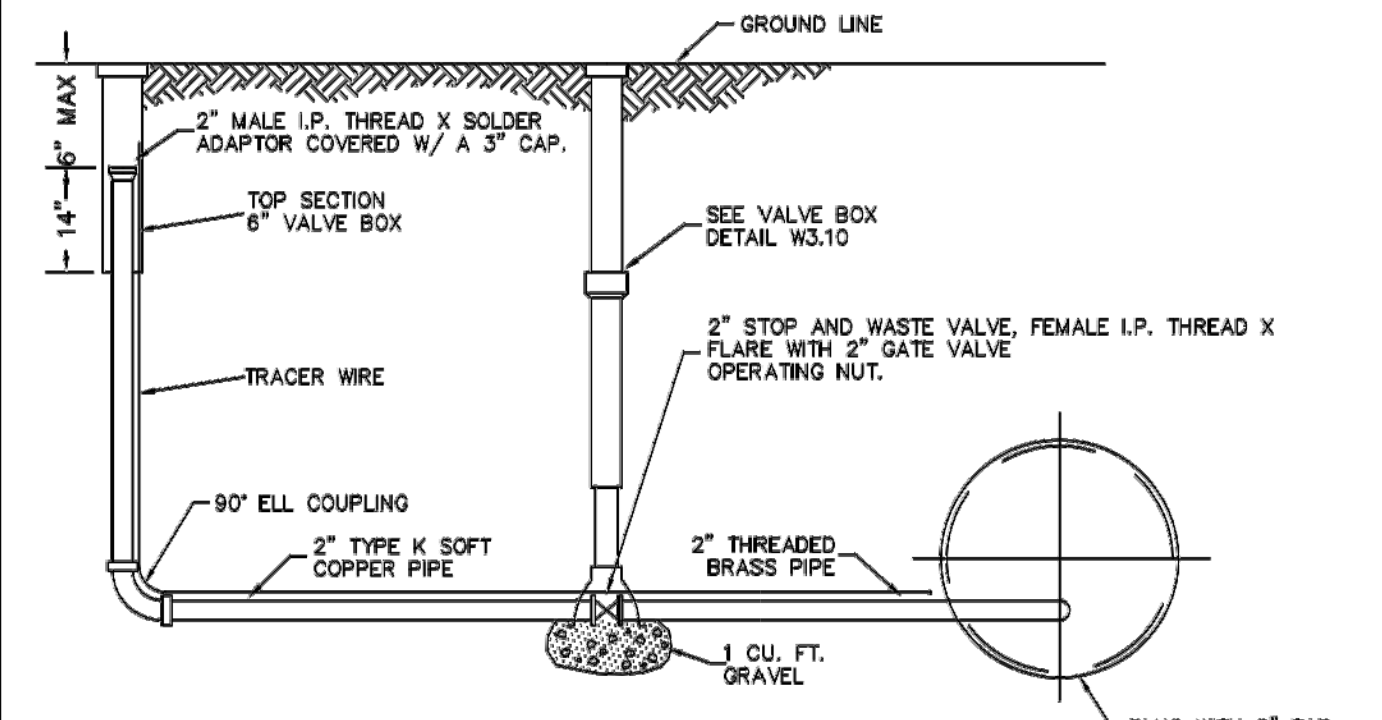
- 1 EXISTING MAIN
- 2 TAPPING SLEEVE
- 3 TAPPING VALVE
- 4 DOUBLE SPIGOT PIPE
- 5 PROPERTY LINE VALVE
- 6 TIE RODS
- 7 PIPE CLAMP
- 8 CONCRETE KICKBLOCK
- 9 M.J. ANCHORING TEE (SWIVEL TEE)
- 10 M.J. VALVE
- 11 POLYETHYLENE WRAPPED

PARKER WATER & SANITATION DISTRICT	
3" AND LARGER DOMESTIC AND FIRE SPRINKLER CONNECTIONS	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	1/18 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.18



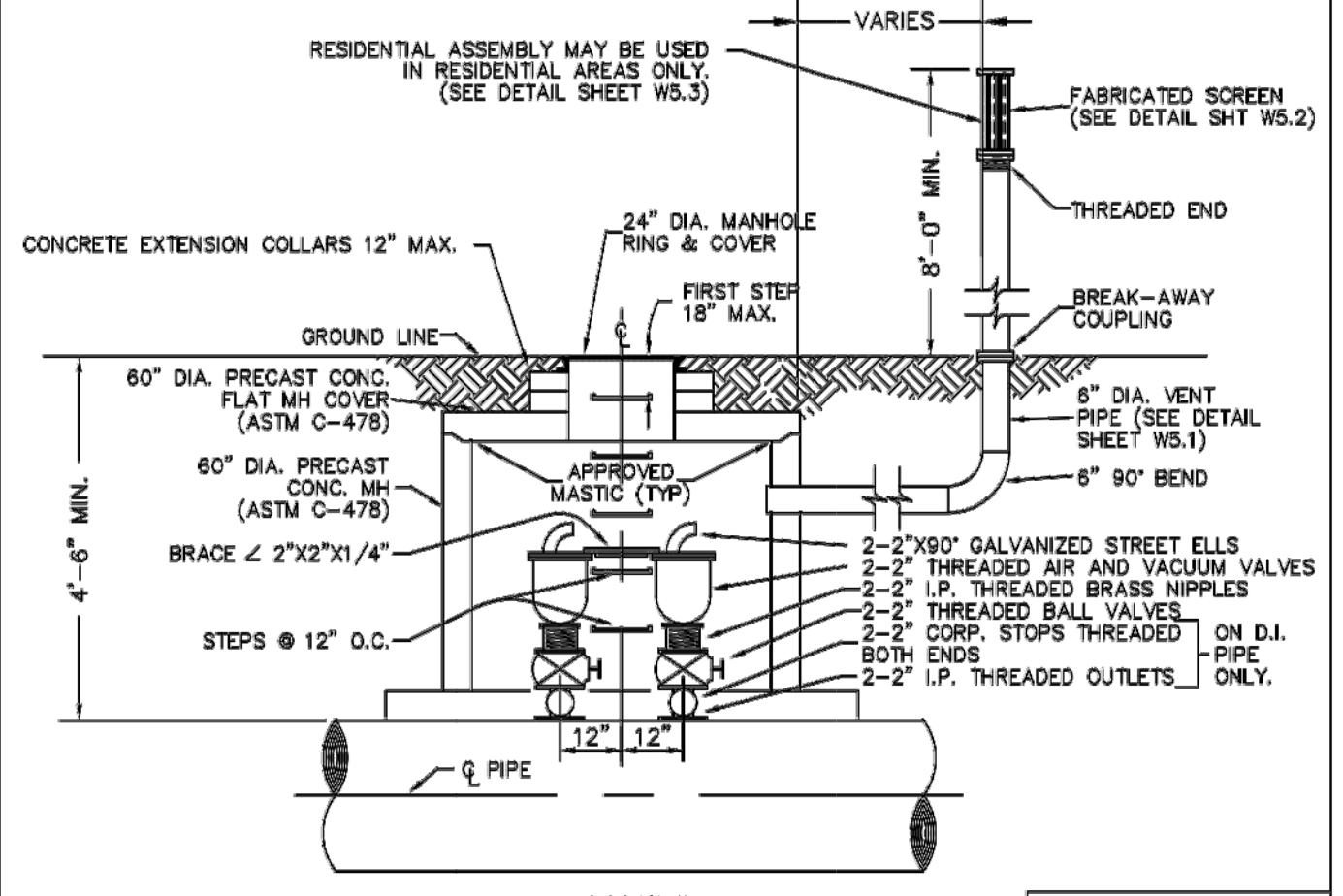
PLAN



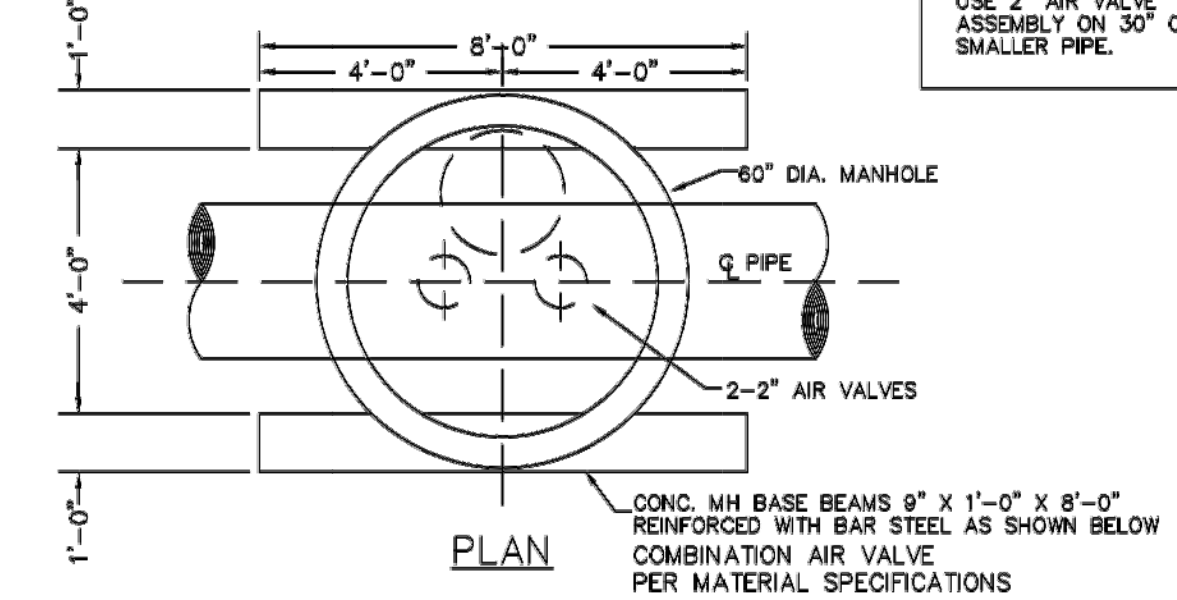
ELEVATION

PARKER WATER & SANITATION DISTRICT	
BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01 1/18 10/16
DIRECTOR OF ENGINEERING	

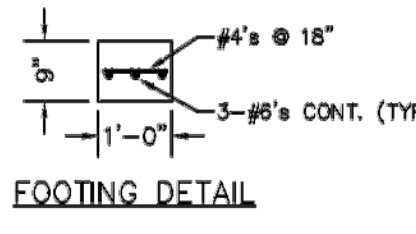
2016 REVISION SHEET W3.7



ELEVATION



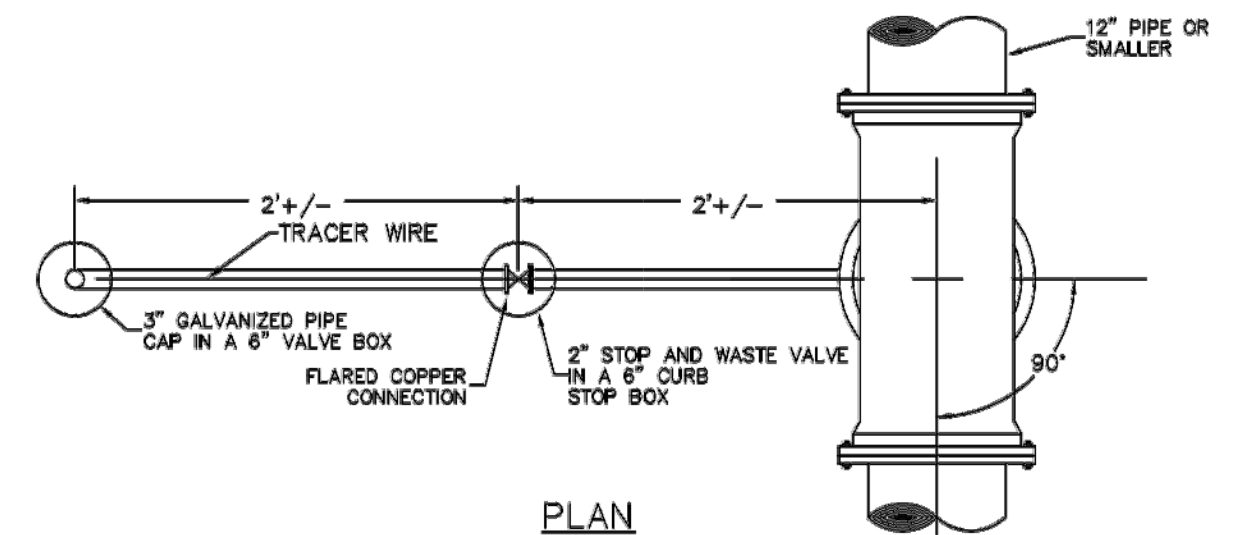
PLAN



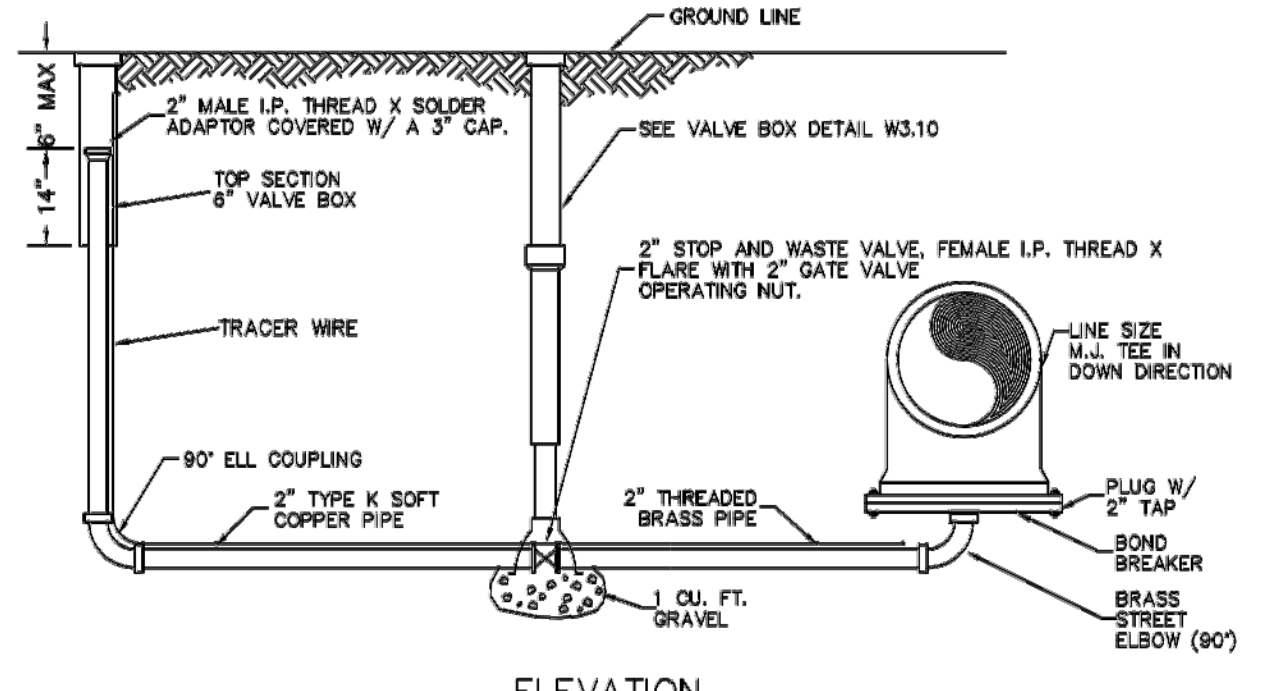
FOOTING DETAIL

PARKER WATER & SANITATION DISTRICT	
AIR AND VACUUM VALVE INSTALLATION	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01 1/18 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.6



PLAN



ELEVATION

NOTE: PLUG SHALL BE MECHANICALLY RESTRAINED.

PARKER WATER & SANITATION DISTRICT	
LOW POINT BLOW-OFF WITH SAND TRAP	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01 1/18 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.8



PREPARED UNDER THE DIRECT SUPERVISION OF JERRY W. DAVIDSON, P.E. COLORADO REG # 30226 FOR AND ON BEHALF OF PERCEPTION DESIGN GROUP, INC.

NO.	DATE	DESCRIPTION
08/31/18		FOURTH SUBMITTAL
05/25/18		THIRD SUBMITTAL
03/19/18		PWSO SUBMITTAL
02/28/18		SECOND SUBMITTAL
10/24/17		INITIAL SUBMITTAL

WATER DETAILS

PARKER POINTE
LOTS 1 THRU 15 AND TRACTS A AND B, PARKER POINTE FILING NO. 1
SOUTHEAST CORNER PARKER ROAD AND STROH ROAD
PARKER, COLORADO

design by: JWD
approved by: JWD
project no.: 2015-015

date: 10/01/17

SHEET

C7.94