

PARKER AND PINE PARKER WATER AND SANITATION DISTRICT UTILITY PLANS

PARKER AND PINE FILING 1
A PART OF THE SOUTHEAST QUARTER OF SECTION 9 AND A PART OF THE
NORTHEAST QUARTER OF SECTION 16 TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE
6TH P.M. TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO

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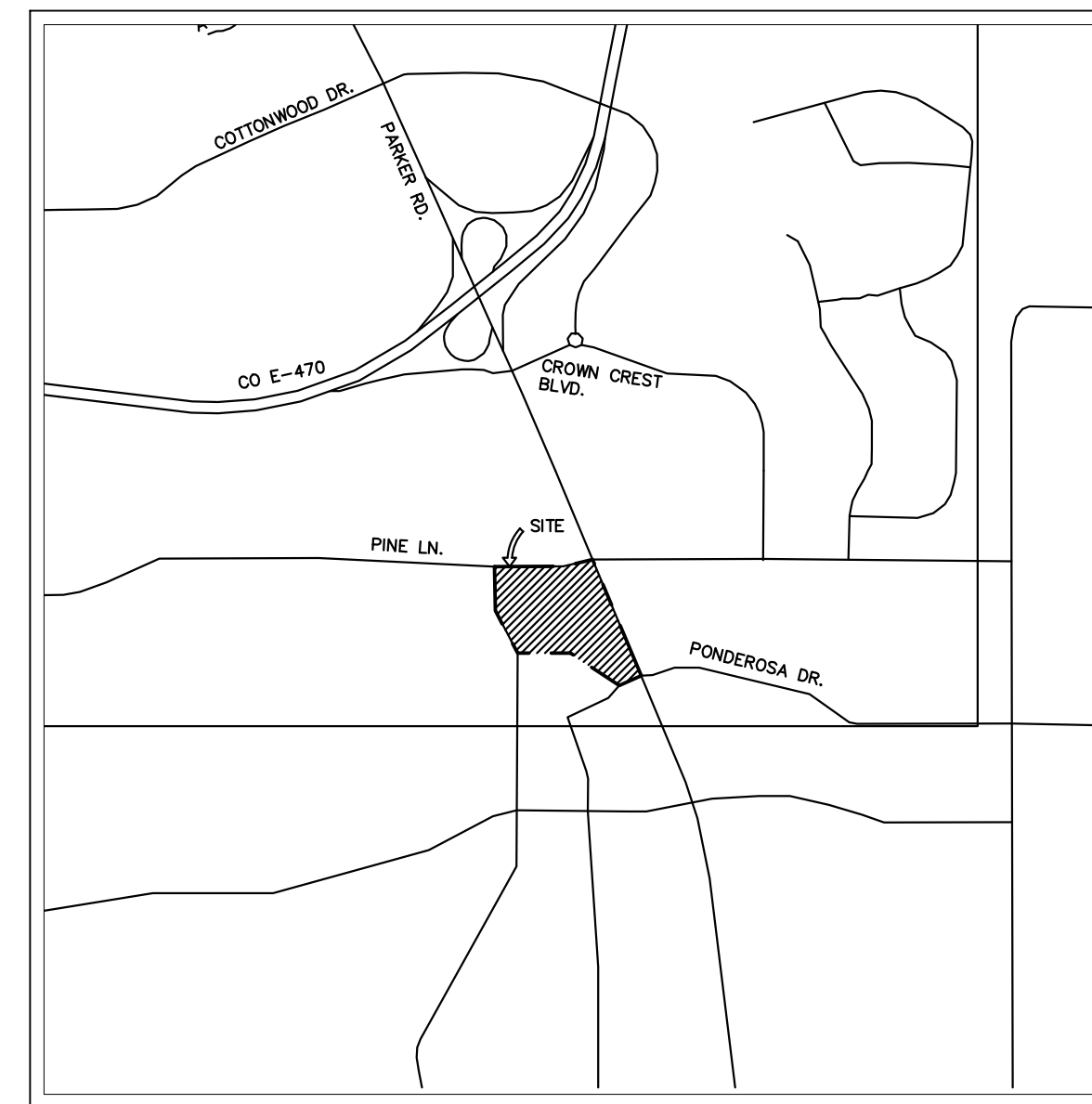
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FIRE DEPARTMENT:
SOUTH METRO FIRE RESCUE AUTHORITY
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TEL: (720) 989-2244
CONTACT: CHIP KERKHOVE

TOWN OF PARKER PLAN REVIEW:
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PARKER, CO 80138
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VICINITY MAP
1"=2,000'

PARKER WATER AND SANITATION DISTRICT CONSTRUCTION PLANS	
SHEET NUMBER	SHEET TITLE
C7.0	COVER SHEET
C7.1	WATER AND SANITARY SEWER NOTES
C7.2	OVERALL UTILITY PLAN
C7.3	SANITARY SEWER PLAN AND PROFILE
C7.4	SANITARY SEWER PLAN AND PROFILE
C7.5	WATER PLAN AND PROFILE - A
C7.6	WATER PLAN AND PROFILE - B
C7.7	WATER PLAN AND PROFILE - C
C7.8	WATER PLAN AND PROFILE - D
C7.9	UTILITY DETAILS
C7.10	UTILITY DETAILS
C7.11	UTILITY DETAILS
C7.12	UTILITY DETAILS
C7.13	UTILITY DETAILS

LEGAL DESCRIPTION

PARKER AND PINE FILING 1 COUNTY OF DOUGLAS, STATE OF COLORADO.

BENCHMARK

DOUGLAS CONTROL MONUMENT #1.095035, A 3 1/4" ALUMINUM CAP.

ELEVATION = 5906.34 FEET (NAVD 1988), AS PUBLISHED BY DOUGLAS COUNTY.

BASIS OF BEARINGS

BEARINGS SHOWN HEREON ARE BASED UPON THE WEST LINE OF THE SW 1/4 OF SECTION 10, TOWNSHIP 6 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING S00°17'51"W AS REFERENCED ON THE PLAT OF PARKER AUTO PLAZA FILING NO.1 AND BOUND BY THE MONUMENTS SHOWN HEREON.

FLOODPLAIN NOTE

BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 08035C0067G AND DATED MARCH 16, 2016 - SUBJECT PROPERTY IS NOT IN A SPECIAL FLOOD HAZARD AREA.

MATERIALS LIST:

DESCRIPTION	QTY.	UNIT
6" PVC WATER	335	LF
8" PVC WATER	3058	LF
6" GATE VALVE	12	EA
8" GATE VALVE	17	EA
8" LOW-POINT BLOW-OFF VALVE	18	EA
1.5" TAP	1	EA
1.5" METER	1	EA
1.5" TYPE K COPPER WATER	41	LF
20"x8" TAPPING SLEEVE	2	EA
8"x8"x6" TEE	13	EA
8"x8"x8" TEE	15	EA
11.25" BEND	2	EA
22.5" BEND	1	EA
45" BEND	2	EA
90" BEND	5	EA
8"x8" CROSS	1	EA
8"x6" REDUCER	3	EA
8" PVC SANITARY SEWER	1037	LF
6" PVC SANITARY LATERAL	270	LF
SANITARY SEWER MANHOLE	6	EA
SANITARY SEWER CLEANOUT	12	EA
FIRE HYDRANT	8	EA

*QUANTITIES ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO CONSTRUCTION

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.

Paul D. Lapa 08/25/2020
FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE DATE

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

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

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: _____ (DISTRICT ENGINEER)

DATE: _____

DISTRICT ACCEPTANCE NOTE

- UPON COMPLETION OF SANITARY AND WATER CONSTRUCTION AND TESTING, THE DEVELOPER OR CONTRACTOR SHALL CONTACT THE DISTRICT FOR PROBATIONARY ACCEPTANCE INSPECTION. A PUNCHLIST WILL BE PROVIDED FOR 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.
- 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.
- THE DATE OF FINAL ACCEPTANCE WILL BE INDICATED IN THE CONDITION OF THE PROBATIONARY ACCEPTANCE LETTER. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT FOR FINAL INSPECTION AND FINAL ACCEPTANCE.

NO.	REVISION	BY	DATE

Kimley»Horn
2020 KIMLEY-HORN AND ASSOCIATES, INC.
4582 South Ulster Street, Suite 1500
Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
DRAWN BY: JRK
CHECKED BY: DLS
DATE: 08/11/20

PARKER AND PINE FILING 1
PARKER, CO
CONSTRUCTION DOCUMENTS
COVER SHEET



PROJECT NO.
096502001

DRAWING NAME
096502001CV_UT

C7.0



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PARKER WATER AND SANITATION GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSO 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 PWSO IMMEDIATELY.
- PWSO 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 PWSO 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 DEPTHS) 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:
 * FOR SANITARY SERVICE SEWERS
 * 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 PWSO AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSO SPECIFICATION MANUAL.

ADDITIONAL NOTES

- ALL SANITARY SEWER AND STORM SEWER IMPROVEMENTS SHOWN HEREON SHALL BE PRIVATE. ALL WATER MAIN IMPROVEMENTS SHALL BE PUBLIC. REFER TO SPECIFIC PLAN SHEETS FOR MATERIALS AND ADDITIONAL DETAILS.
- TOWN OF PARKER REQUIRES 25' STORM SEWER EASEMENT.
- PARKER WATER AND SANITATION DISTRICT REQUIRES 30' EXCLUSIVE EASEMENT OR 50' NON-EXCLUSIVE EASEMENT.

SANITARY SEWER NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSO 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 PWSO SPECIFICATIONS. USE RUBBER GASKETS FOR PVC ENCASMENT.
- SEWER RIM ELEVATIONS SHOWN ARE APPROPRIATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. RING AND COVER SHALL BE SET IN CENTERED CONCRETE RINGS WITH RAM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
- 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 PWSO AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSO SPECIFICATION MANUAL.
- ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE PWSO 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 PWSO 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 PWSO. 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.

WATER MAIN NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSO ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- ALL WATER MAINS SHALL BE PER PWSO 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 PWSO 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 PWSO 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 DAYS 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 PWSO 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 PWSO 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 PWSO SPECIFICATIONS. CHLORINATION OF FINISHED PIPELINE COMPLETED BEFORE HYDROSTATIC TESTING.
- HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PWSO SPECIFICATIONS UP TO MINIMUM OF 150 PSI IN THE PRESENCE OF A PWSO INSPECTOR/ENGINEER.

NO.	REVISION	BY	DATE

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ute Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
 CHECKED BY: DLS
 DATE: 08/11/20

PARKER AND PINE FILING 1
 PARKER, CO
 CONSTRUCTION DOCUMENTS
 WATER AND SANITARY SEWER NOTES



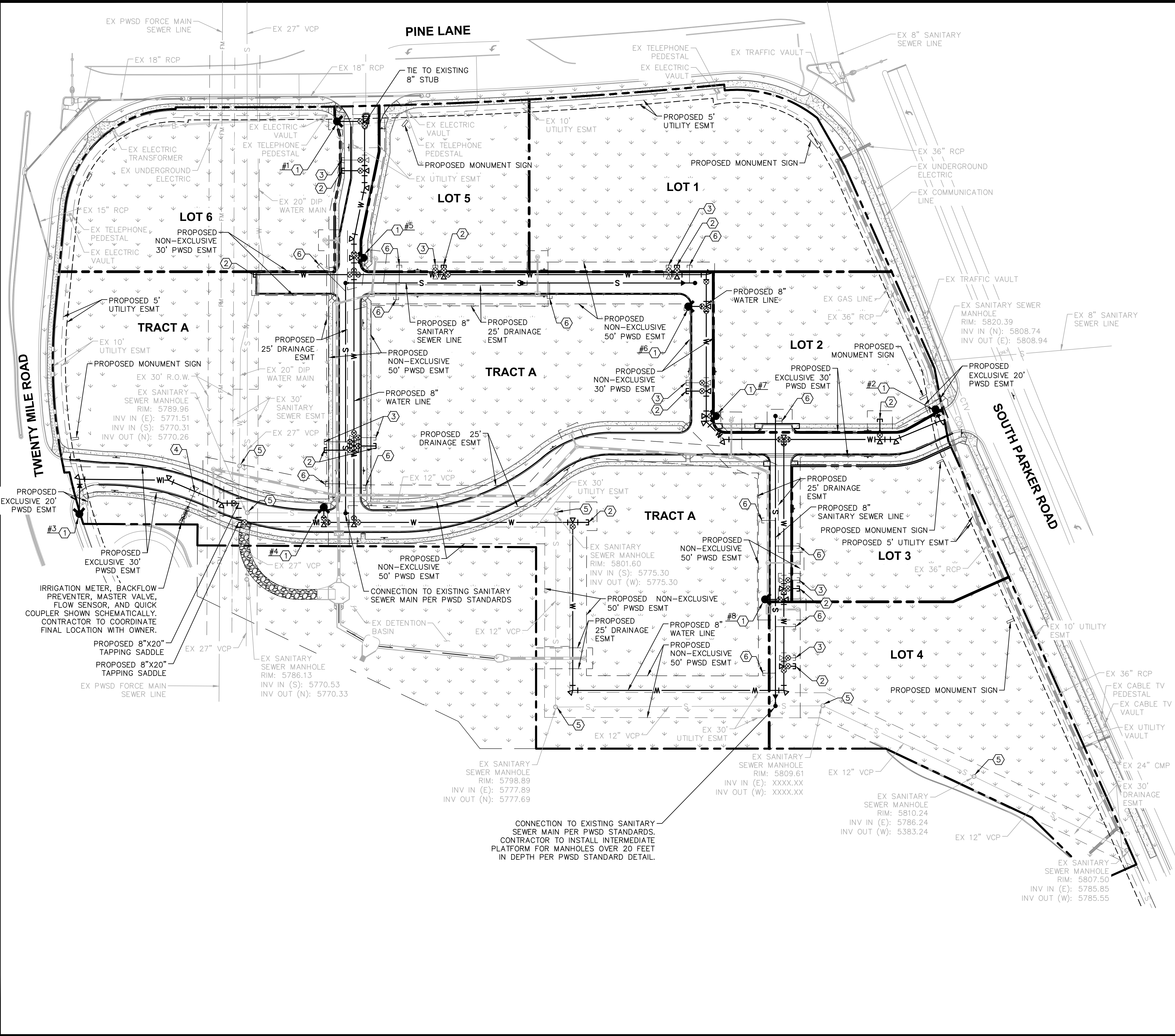
PROJECT NO.
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UTILITY LEGEND

- EXISTING PROPERTY LINE
- - - EXISTING EASEMENT
- - - PROPOSED EASEMENT
- S --- PROPOSED SANITARY SEWER LINE
- W --- PROPOSED WATER LINE
- PROPOSED STORM DRAINAGE LINE
- EXISTING STORM DRAINAGE LINE
- G --- EXISTING GAS LINE
- W --- EXISTING WATER LINE
- S --- EXISTING SANITARY SEWER LINE
- ⊕ PROPOSED FIRE HYDRANT W/ BOLLARDS
- ⊕ PROPOSED WATER VALVE
- ⊕ ⊕ PROPOSED TEE / BEND
- EXISTING SANITARY SEWER MANHOLE
- ⊕ PROPOSED SANITARY SEWER MANHOLE W/ FLOW ARROWS

SITE KEYNOTES

- ① PROPOSED FH W/ 6" GATE VALVE
- ② PROPOSED 8" WATER STUB W/ TEMP BLOW-OFF
- ③ PROPOSED 6" WATER STUB W/ TEMP BLOW-OFF
- ④ PROPOSED 1 1/2" IRRIGATION TAP
- ⑤ ADJUST EXISTING STRUCTURE TO PROPOSED GRADE
- ⑥ PROPOSED 6" SANITARY SEWER STUB W/ CLEANOUT

NOTES

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

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

Signature 08/25/2020
 FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE DATE

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

THE 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 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.

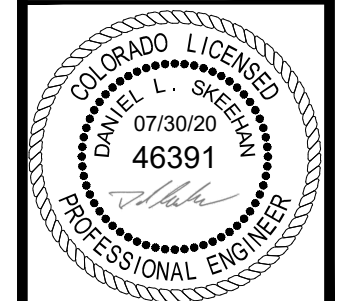
TOWN OF PARKER, DIRECTOR OF ENGINEERING DATE

NO.	REVISION	BY	DATE

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
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 DATE: 08/11/20

PARKER AND PINE FILING 1
 PARKER, CO
 CONSTRUCTION DOCUMENTS
 OVERALL UTILITY PLAN



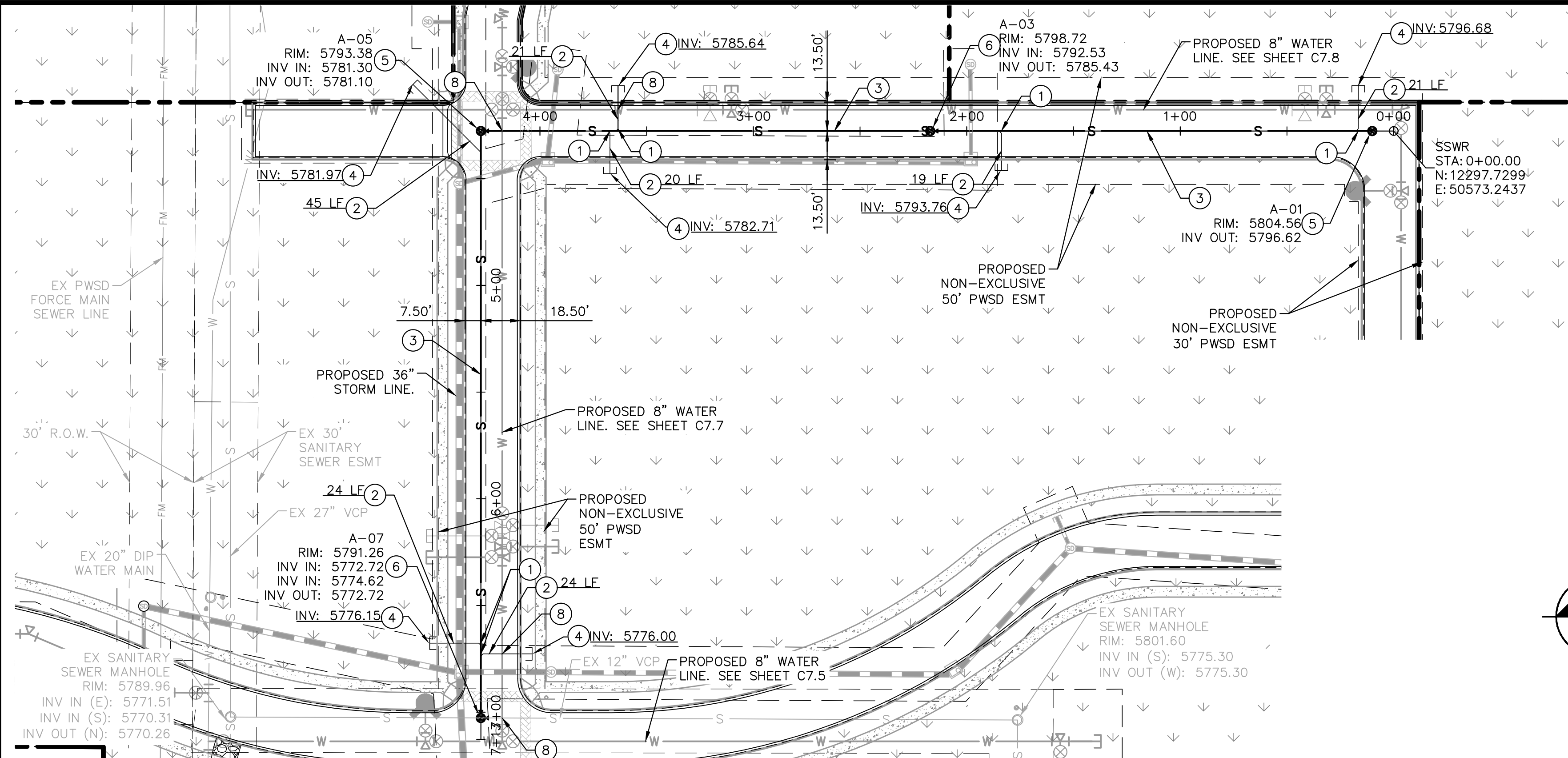
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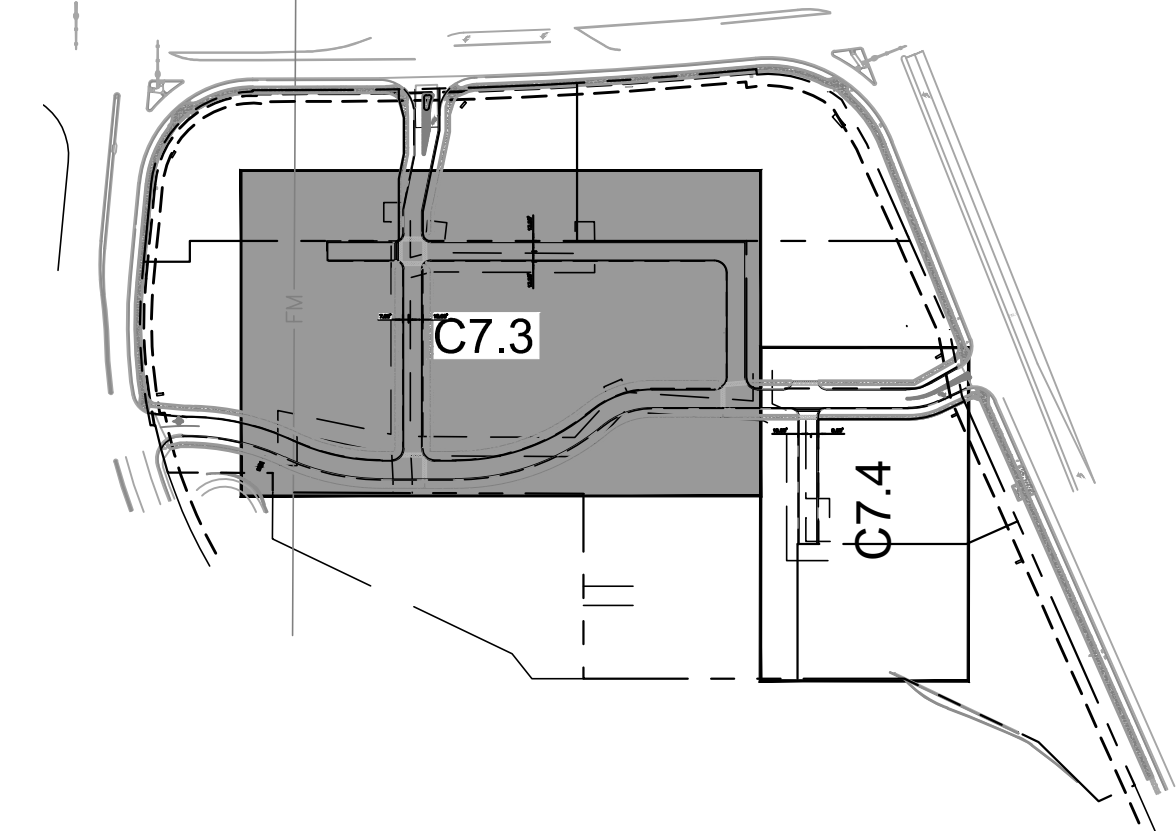


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KEY NOTES

- ① WYE CONNECTION INTO PROPOSED 8" PVC SANITARY SEWER MAIN
- ② 6" SDR 35 PVC SANITARY SEWER LINE LATERAL, LENGTH PER PLAN, SLOPE 1% MINIMUM
- ③ 8" SDR 35 PVC PUBLIC SANITARY SEWER LINE, LENGTH AND SLOPE PER PROFILE.
- ④ PROPOSED CLEANOUT. SEE DETAILS.
- ⑤ PROPOSED SANITARY SEWER MANHOLE. SEE DETAILS.
- ⑥ PROPOSED OUTSIDE DROP MANHOLE. SEE DETAILS.
- ⑦ MANHOLE INTERMEDIATE PLATFORM. SEE DETAILS.
- ⑧ PROPOSED WATER/SEWER CROSSING TO MAINTAIN 18" VERTICAL SEPARATION

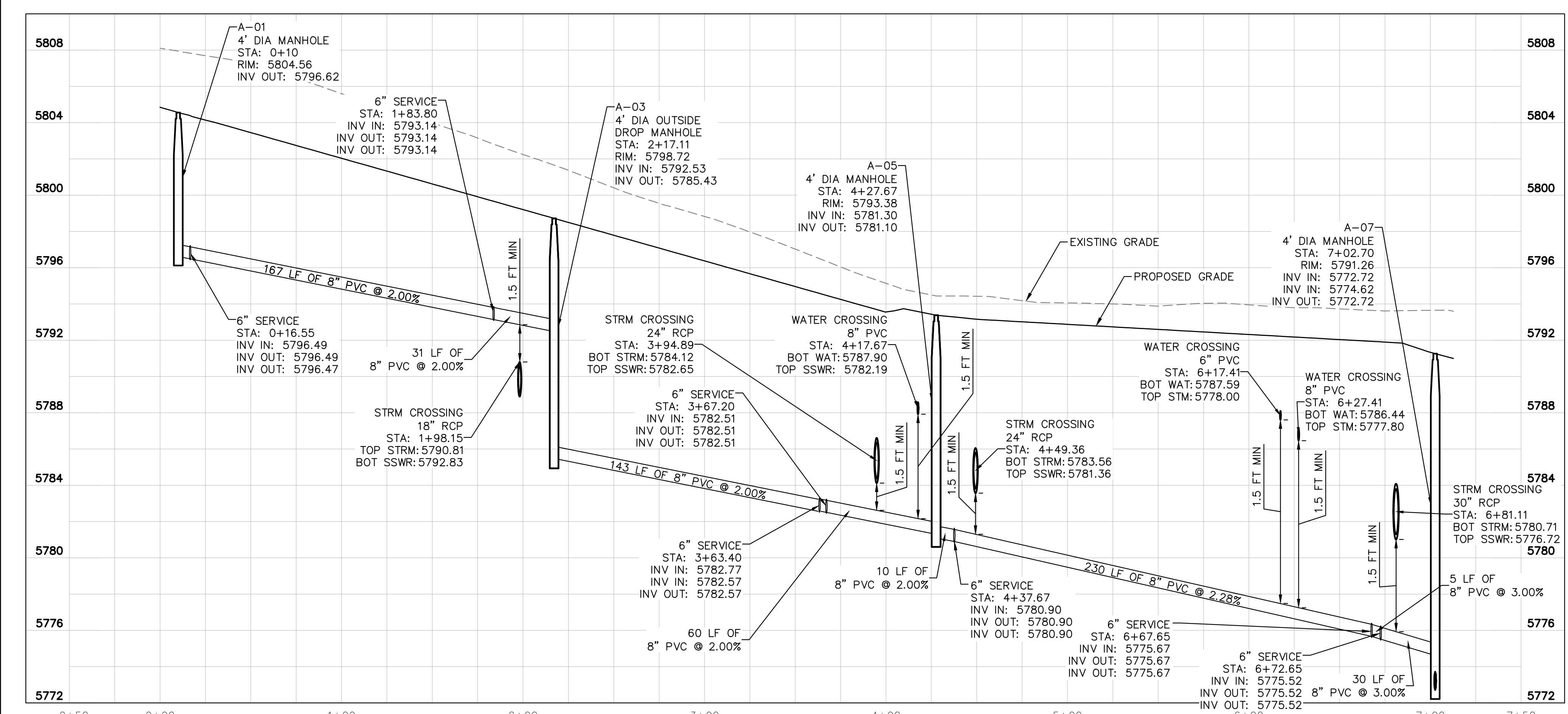


LEGEND

- W — PROPERTY LINE
- W — EXISTING WATER LINE
- S — EXISTING SANITARY SEWER
- W — PROPOSED WATER LINE
- S — PROPOSED SANITARY SEWER LINE
- S — PROPOSED STORM LINE

KEYMAP
NOT TO SCALE

GRAPHIC SCALE IN FEET
HORIZONTAL: 0, 20, 40, 60
VERTICAL: 0, 2, 4, 6, 8



SANITARY SEWER MAIN PROFILE A
 STRUCTURE SSWR-A-01 TO SSWR-A-07
 HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=8'

SANITARY SEWER NOTES

1. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE PARKER WATER AND SANITATION DISTRICT SPECIFICATION.
2. ALL SEWER MAINS SHALL BE PVC, ASTM D-3034, SDR 35 OR APPROVED EQUAL. ALL SEWER MAIN SIZE IS 8" IN DIAMETER UNLESS OTHERWISE NOTED.
3. SEWER RIM ELEVATIONS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. RING AND COVER SHALL BE SET IN CENTERED CONCRETE RINGS WITH RAM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
4. 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.
5. NO UNDERDRAIN SYSTEM WILL BE ALLOWED TO BE PLACED IN MAINLINE OR SEWER SERVICE TRENCHES.
6. 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.
7. ALL MANHOLES SHALL BE 48-INCHES IN DIAMETER WITH 24-INCH RING AND COVER, ECCENTRIC CONE UNLESS OTHERWISE SPECIFIED.
8. PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67.
9. 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.
10. ALL PIPE LENGTHS ARE APPROXIMATE.
11. 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.
12. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
13. 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.
14. PRIOR TO START WORK WHERE SEWER MAIN TO BE INSTALLED INTO EXISTING DISTRICT SEWER SYSTEMS, THE NEAREST MANHOLE TO THE POINT OF TIE-IN SHALL BE PLUGGED WITH A PLUMBER'S PLUG ON THE INLET SIDE BY THE CONTRACTOR. THIS PLUG SHALL REMAIN IN PLACE UNTIL FINAL ACCEPTANCE BY THE DISTRICT. ITS PURPOSE SHALL BE TO PREVENT ANY MUD, WATER OR OTHER MATERIALS FROM ENTERING THE LINE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING AND CLEANING THESE MANHOLES AND REMOVING THE PLUG WHEN SO INSTRUCTED BY THE DISTRICT.
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19. AT ALL STORM SEWER AND SANITARY SEWER CROSSINGS WHERE THE PROPOSED SANITARY SEWER LINE LIES ABOVE THE PROPOSED STORM SEWER OR WITHIN 18" BELOW THE STORM SEWER, A CONCRETE ENCASUREMENT IS TO BE PROVIDED ALONG THE SANITARY SEWER PIPE FOR 10 FT ON EITHER SIDE OF THE CROSSING. CONCRETE ENCASUREMENT TO BE PROVIDED PER THE PWSW SECTION 9.3.2.
20. PROVIDE WATER LOWERING PER PWSW WATER DETAIL #27 WHERE CONFLICTS WITH STORM SEWER AND WATER SERVICES MAY EXIST.

CAUTION
 CONTRACTOR IS TO VERIFY PRESENCE AND EXACT UTILITIES PRIOR TO CONSTRUCTION.



NO.	REVISION	BY	DATE

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

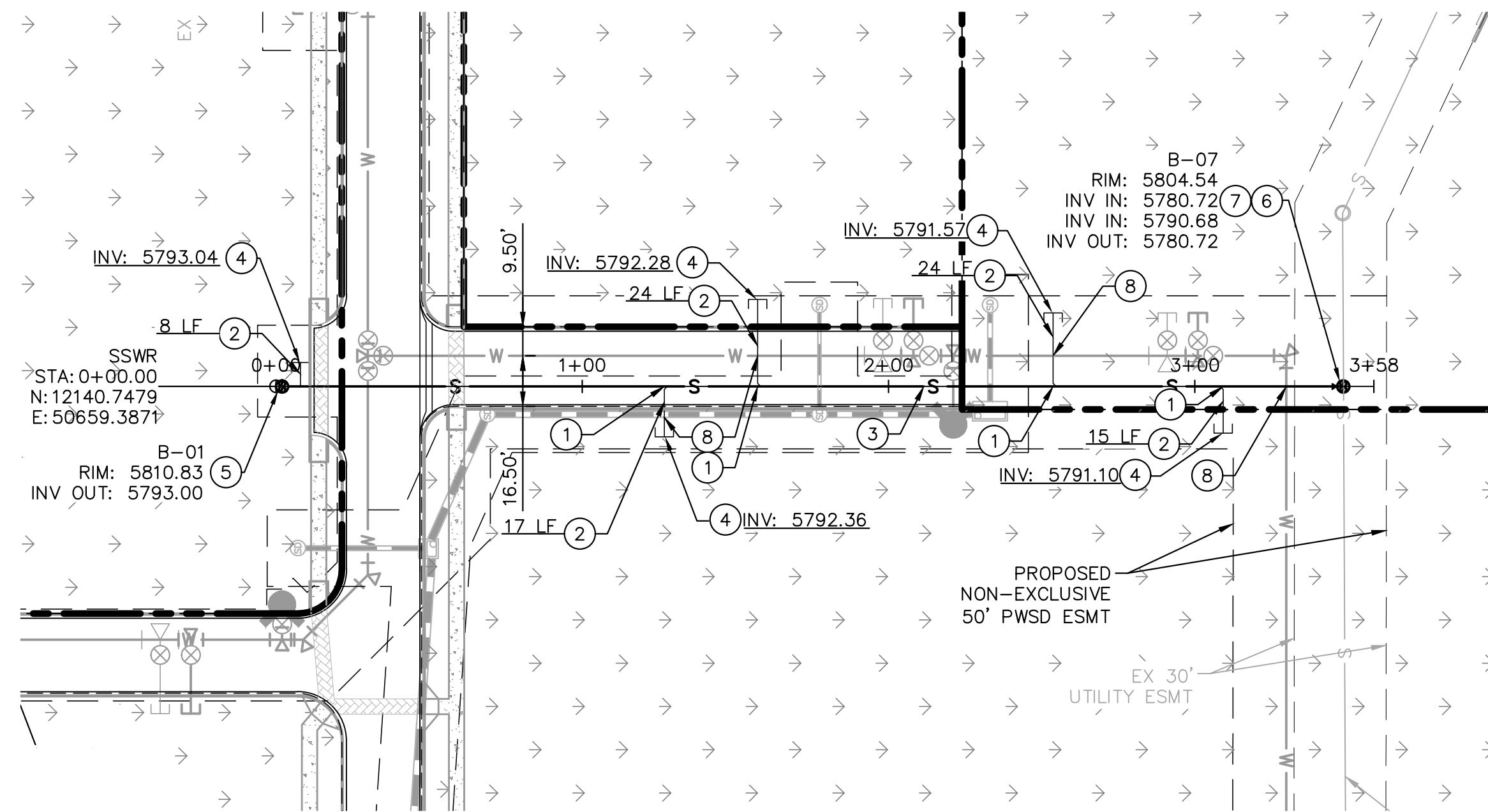
DESIGNED BY: DLS
 DRAWN BY: JRK
 CHECKED BY: DLS
 DATE: 08/11/20

PARKER AND PINE FILING 1
 PARKER, CO
 CONSTRUCTION DOCUMENTS
SANITARY SEWER PLAN AND PROFILE



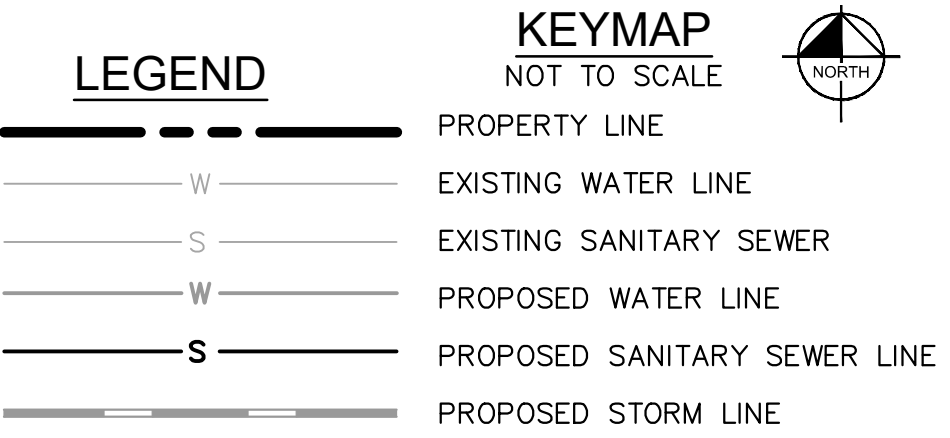
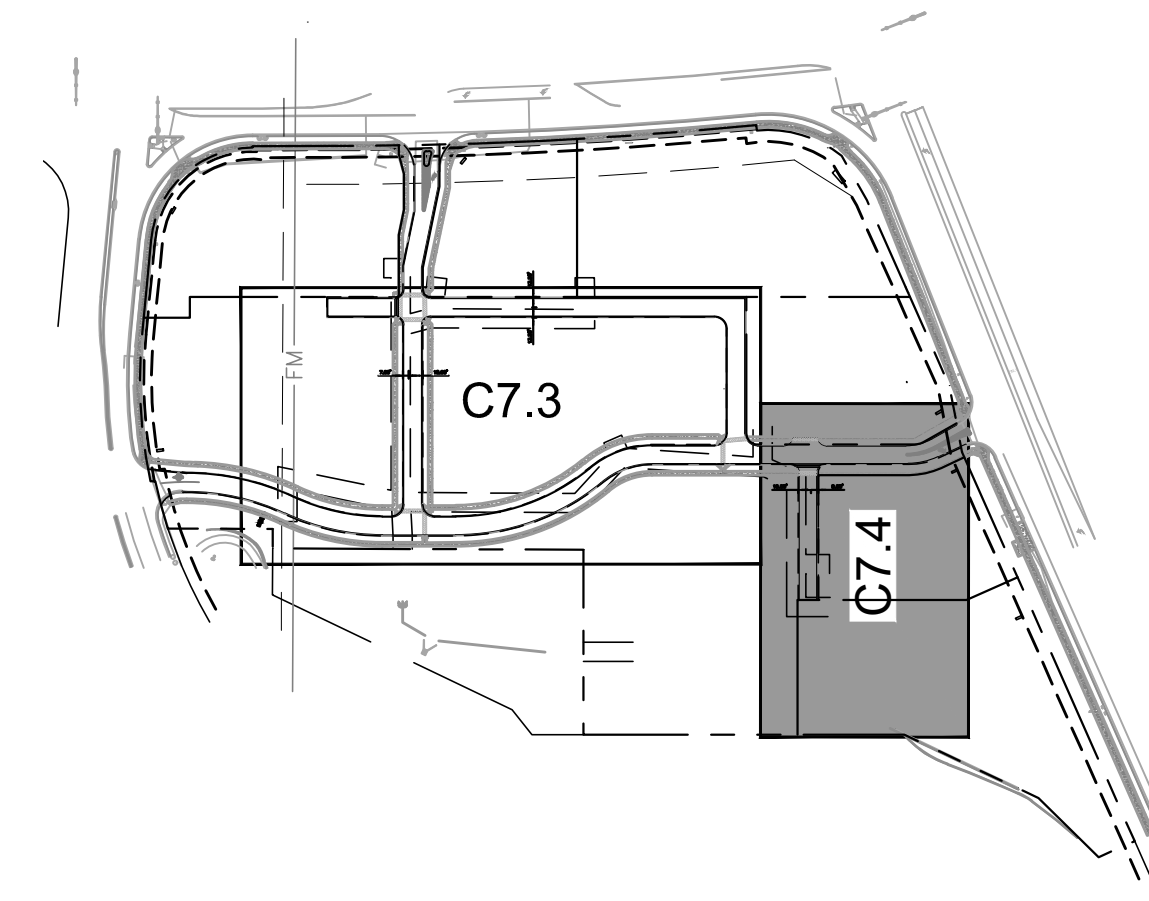
PROJECT NO.
096502001
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096502001SS
C7.3

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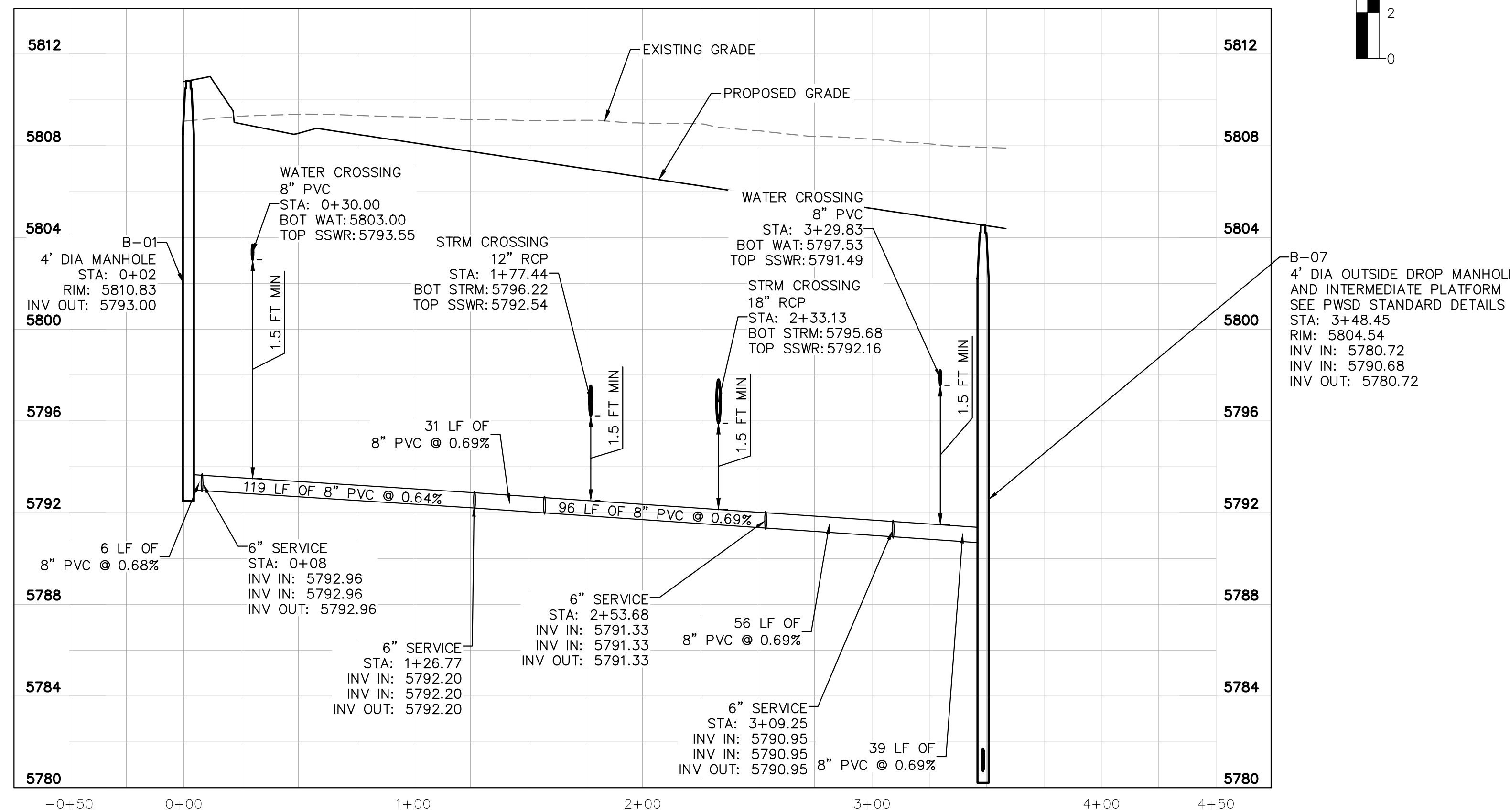
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20. PROVIDE WATER LOWERING PER PWS D WATER DETAIL #27 WHERE CONFLICTS WITH STORM SEWER AND WATER SERVICES MAY EXIST.



SANITARY SEWER MAIN PROFILE
STRUCTURE SSW-B-01 TO SSW-B-07

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=8'

CAUTION
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT UTILITIES PRIOR TO CONSTRUCTION.



NO.	REVISION	BY	DATE

Kimley»Horn
2020 KIMLEY-HORN AND ASSOCIATES, INC.
4582 South Ulster Street, Suite 1500
Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
DRAWN BY: JRK
CHECKED BY: DLS
DATE: 08/11/20

PARKER AND PINE FILING 1
PARKER, CO
CONSTRUCTION DOCUMENTS
SANITARY SEWER PLAN AND PROFILE

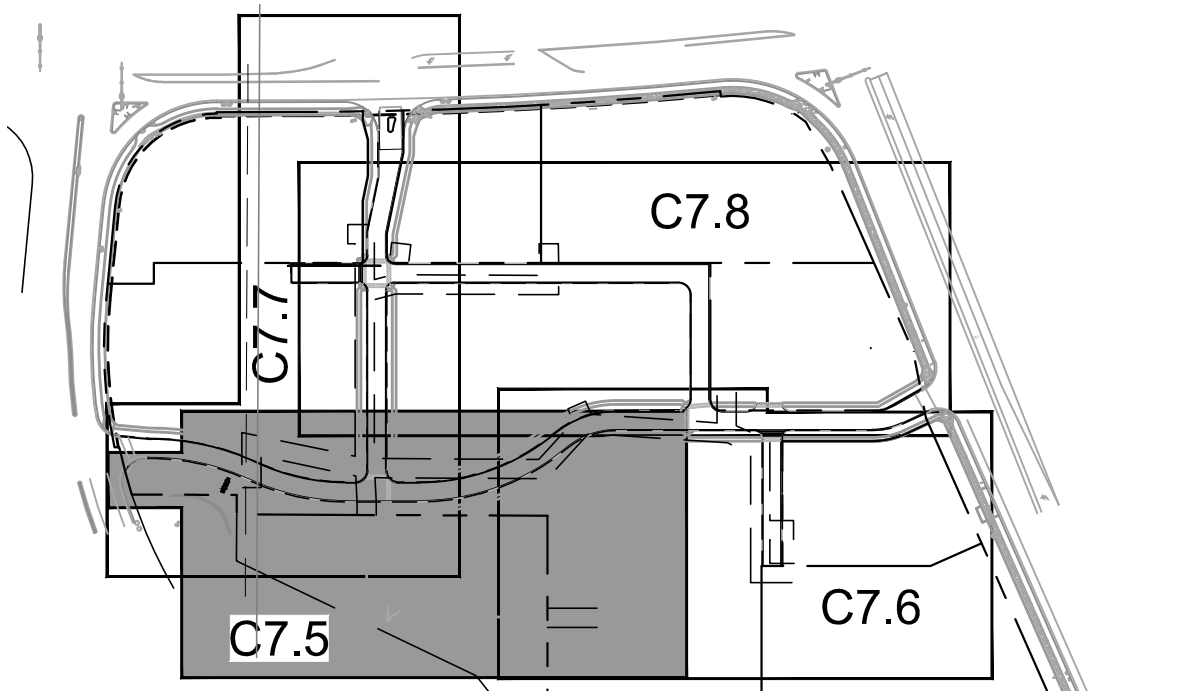
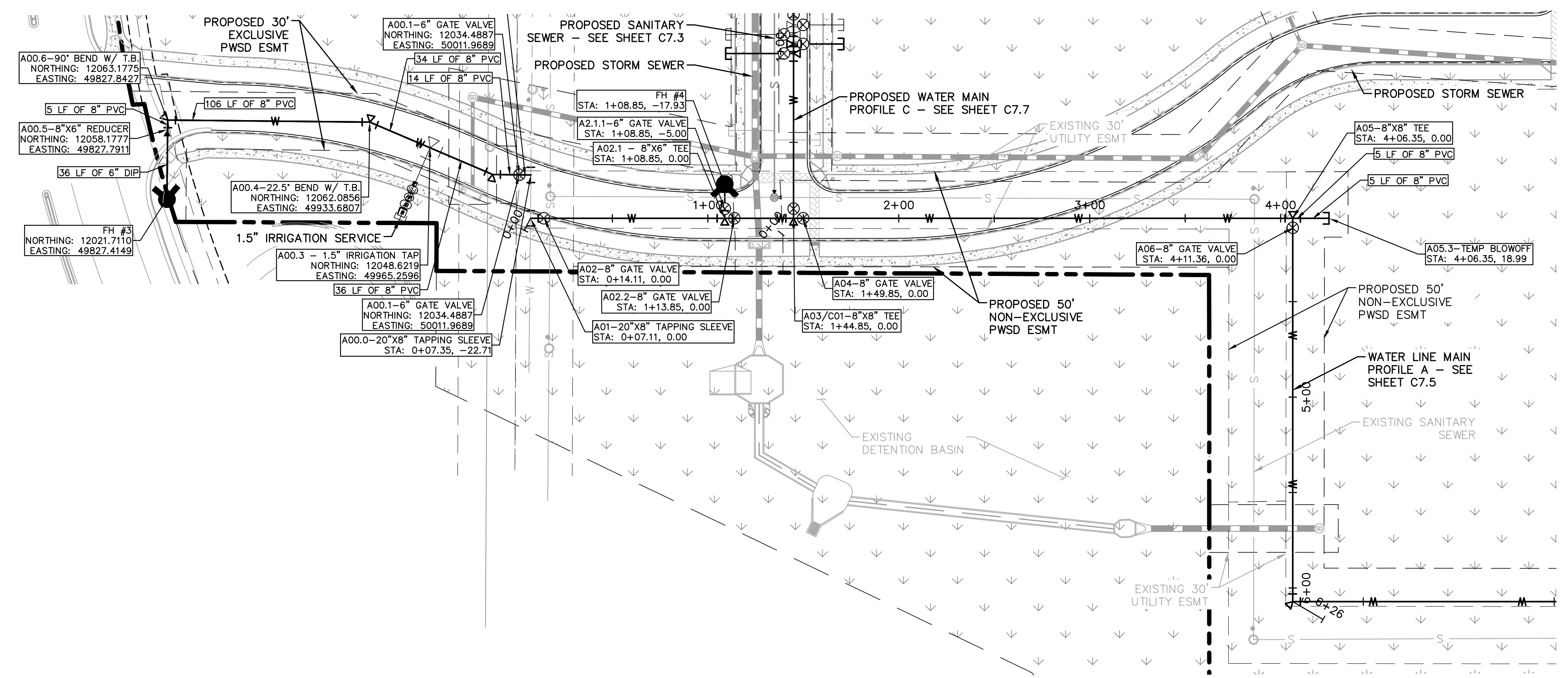


PROJECT NO.
096502001

DRAWING NAME
096502001SS

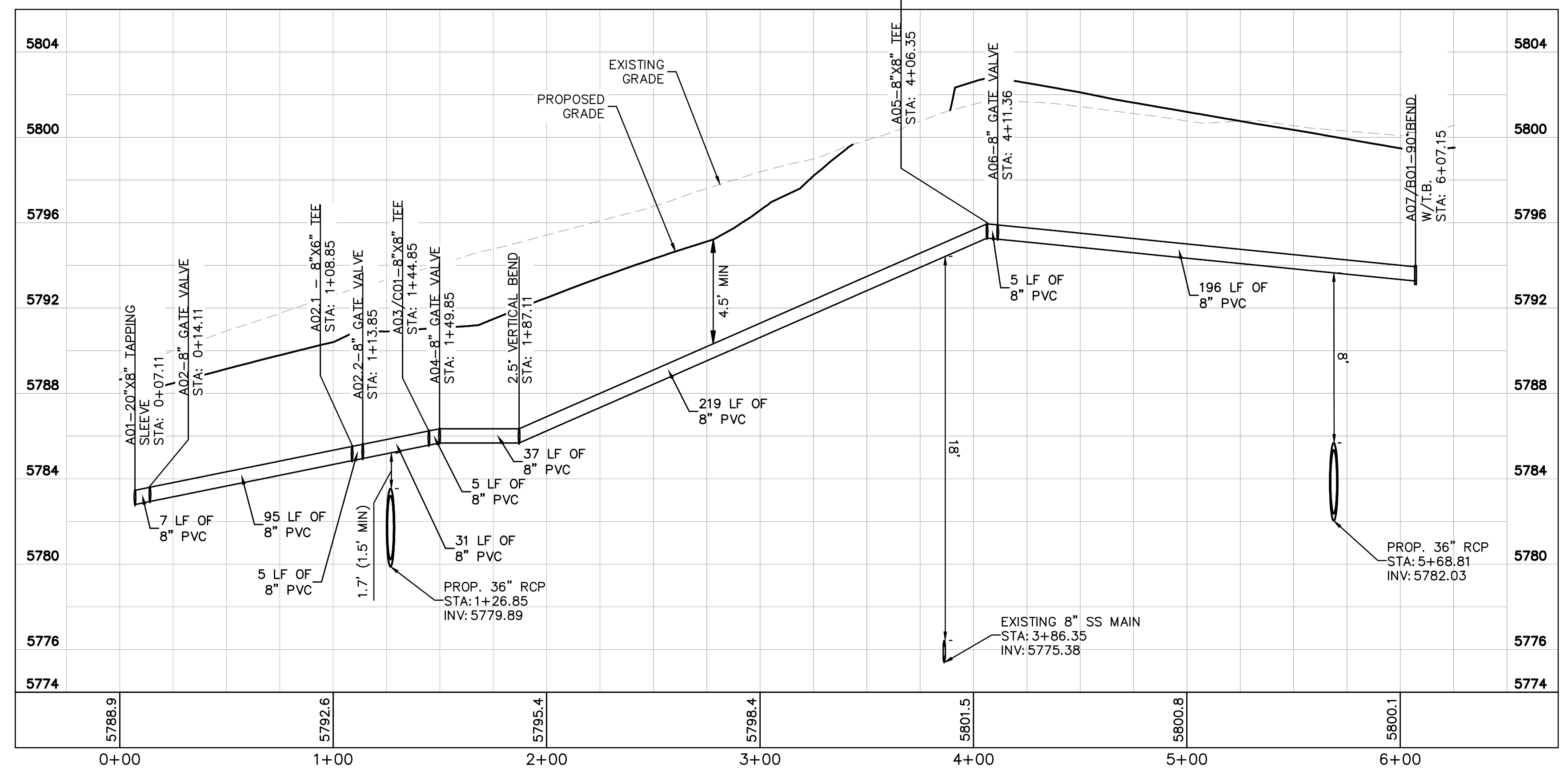
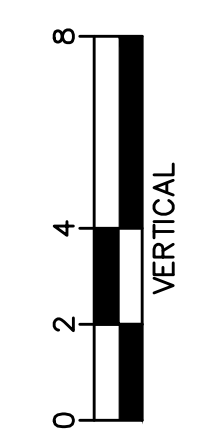
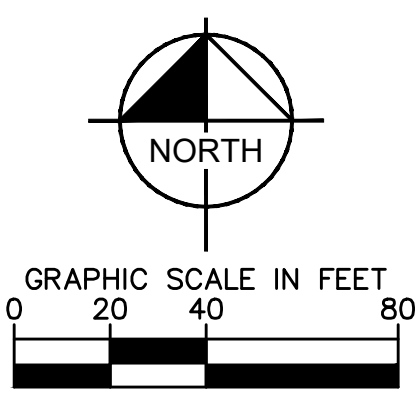
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LEGEND

---	PROPERTY LINE
---	EXISTING WATER LINE
---	EXISTING SANITARY SEWER
---	PROPOSED WATER LINE
---	PROPOSED SANITARY SEWER LINE
---	PROPOSED STORM LINE



WATER MAIN PROFILE A
 STRUCTURE A01 TO A07

HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=4'

WATER NOTES

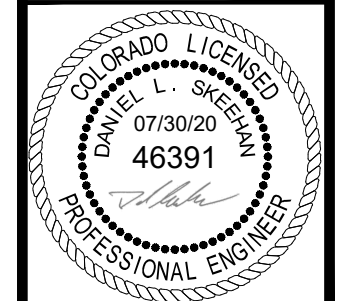
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- WATER LINE CONNECTION ELEVATION TO EXISTING WATER MAINS IS APPROXIMATE. CONTRACTOR TO POTHOLE AND VERIFY TIE IN ELEVATION PRIOR TO CONSTRUCTION OF WATER MAIN.
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- 24 UNIT BUILDINGS (BUILDINGS 1-7) SHALL PROVIDE INTERNAL BACKFLOW PREVENTER AND EXTERNAL 2" DOMESTIC METER.
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- ALL WATER LINES SHALL BE INSTALLED AT LEAST 4.5 FEET BELOW THE OFFICIAL STREET GRADE AND IN ALL OTHER PLACES AT LEAST 4.5 FEET BELOW THE SURFACE OF THE GROUND.

NO.	REVISION	BY	DATE	APPR

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
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 DATE: 08/11/20

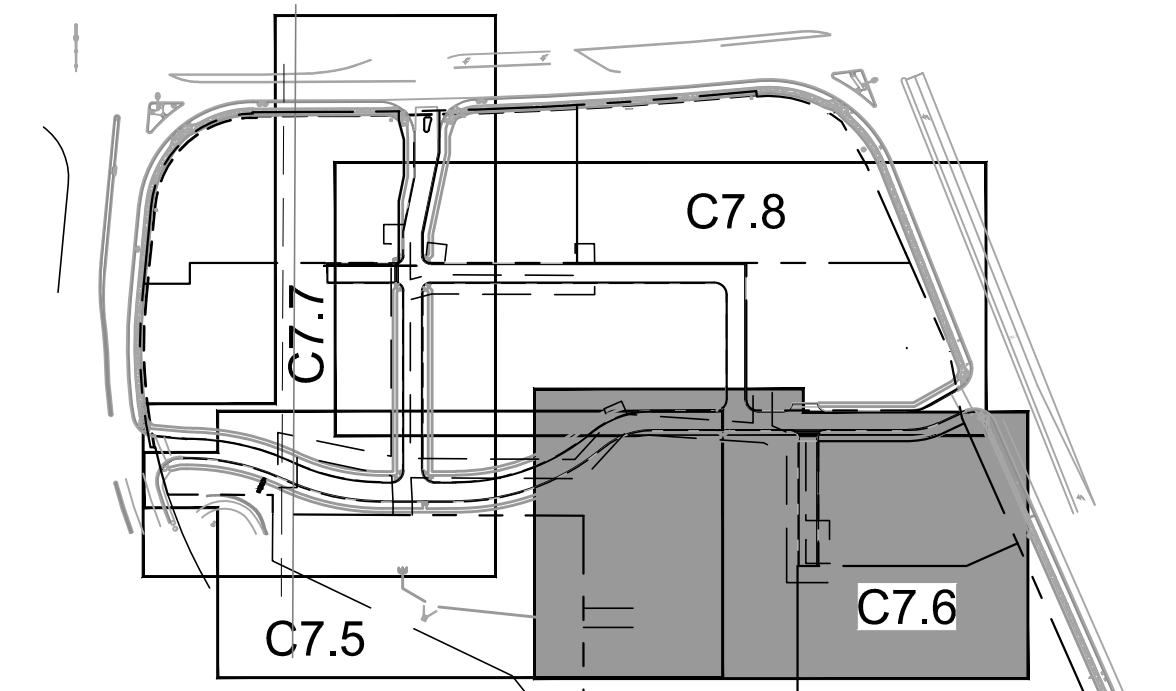
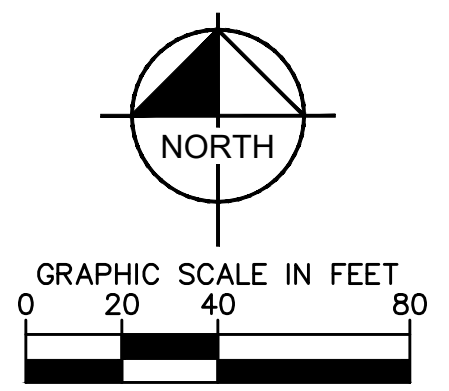
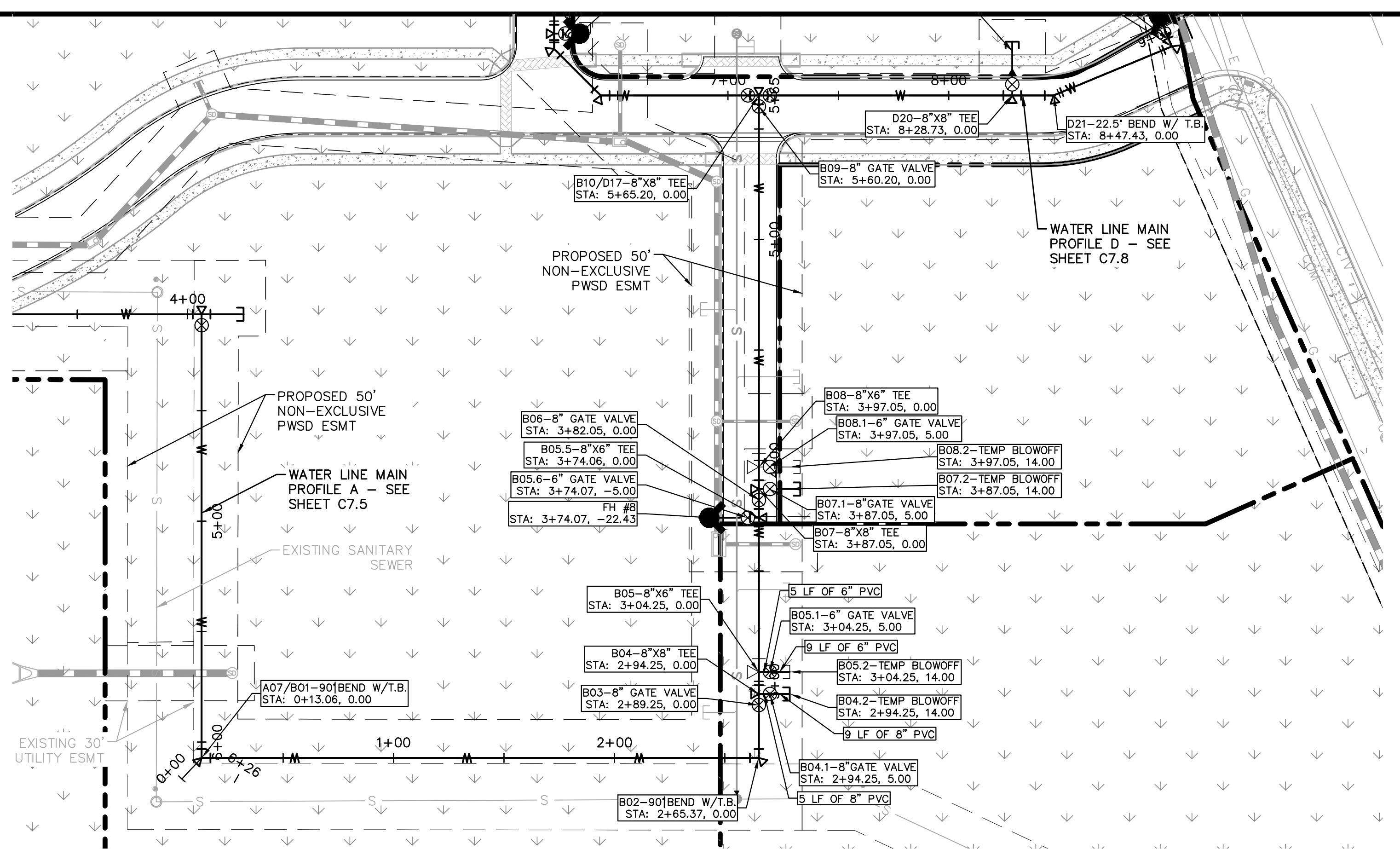
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 PARKER, CO
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WATER PLAN AND PROFILE - A



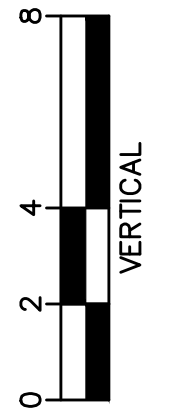
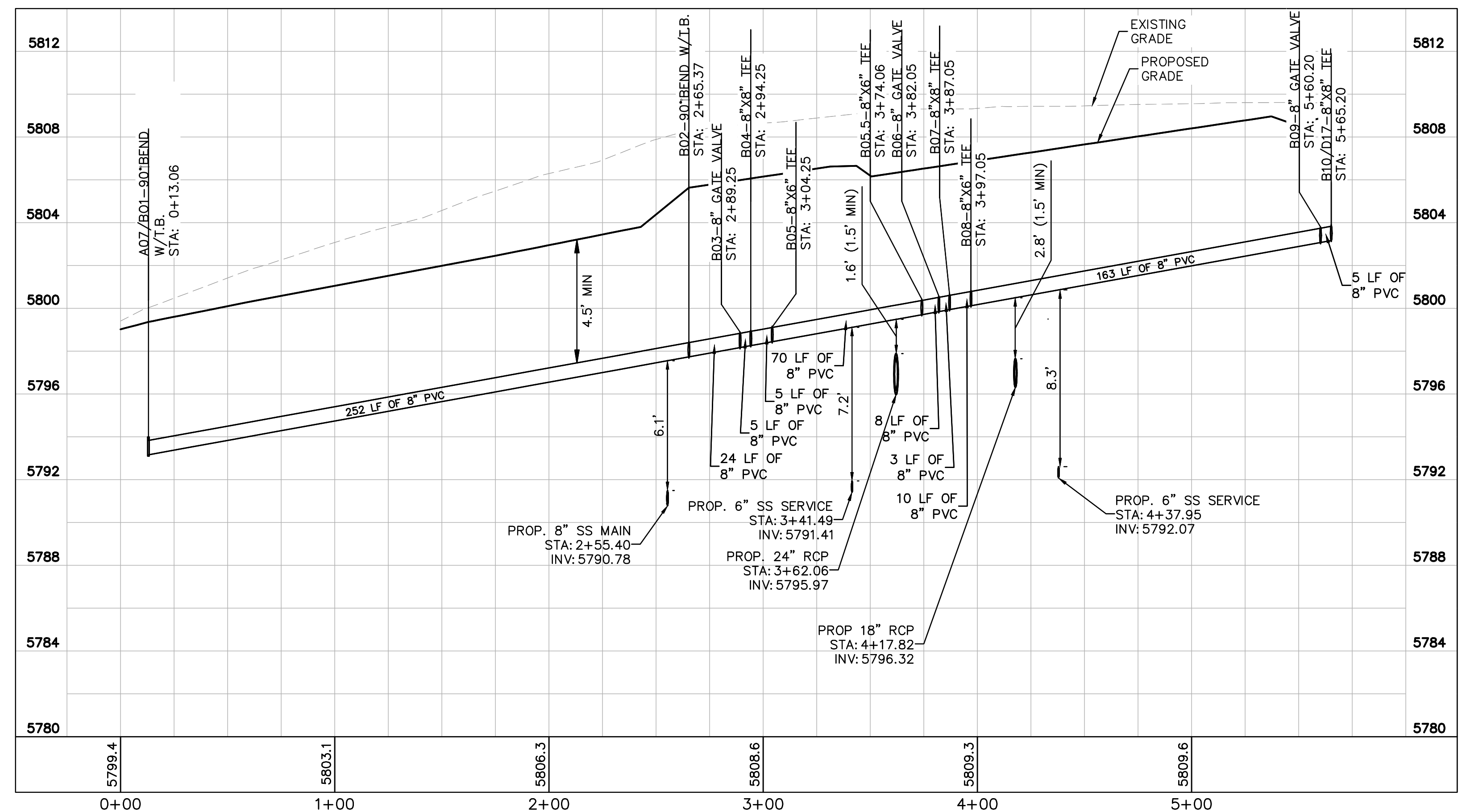
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LEGEND	
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---	PROPOSED SANITARY SEWER LINE
---	PROPOSED STORM LINE



WATER MAIN PROFILE B
STRUCTURE B01 TO B10

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

WATER NOTES

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- AT ALL STORM SEWER AND SANITARY SEWER CROSSINGS WHERE THE PROPOSED SANITARY SEWER LINE LIES ABOVE THE PROPOSED STORM SEWER OR WITHIN 18" BELOW THE STORM SEWER, A CONCRETE ENCASEMENT IS TO BE PROVIDED ALONG THE SANITARY SEWER PIPE FOR 10 FT ON EITHER SIDE OF THE CROSSING. CONCRETE ENCASEMENT TO BE PROVIDED PER THE PWSD SECTION 9.3.2.
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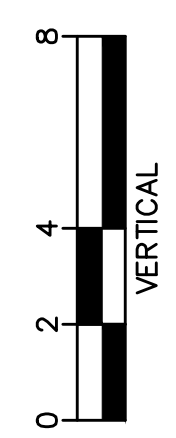
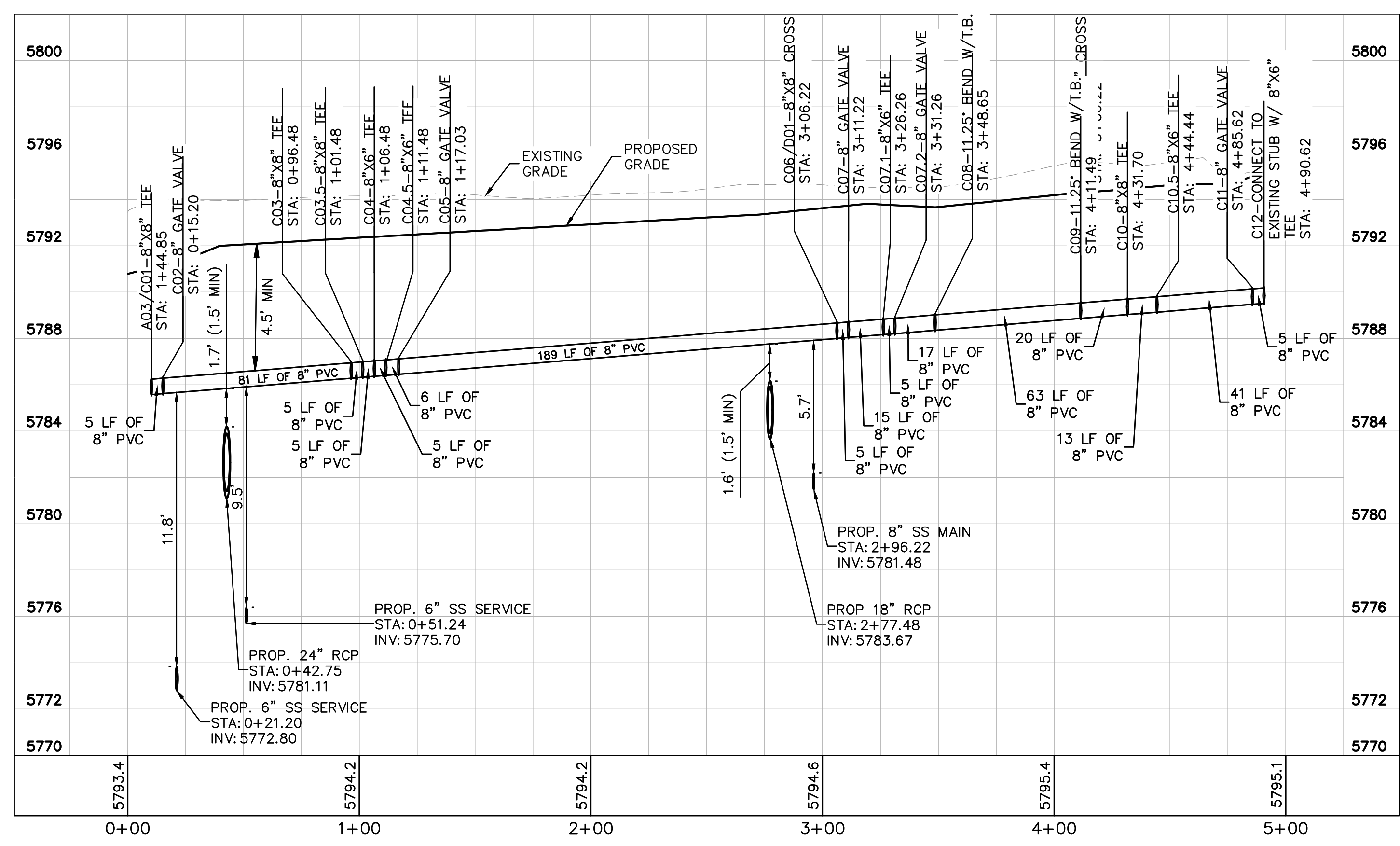
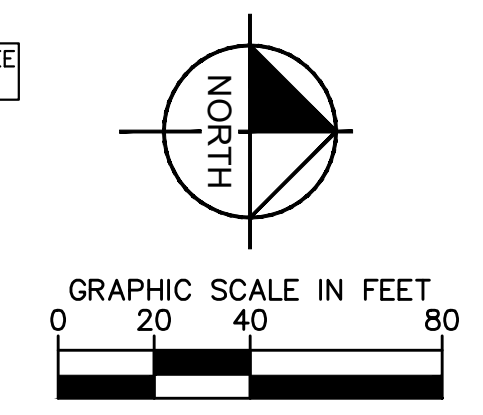
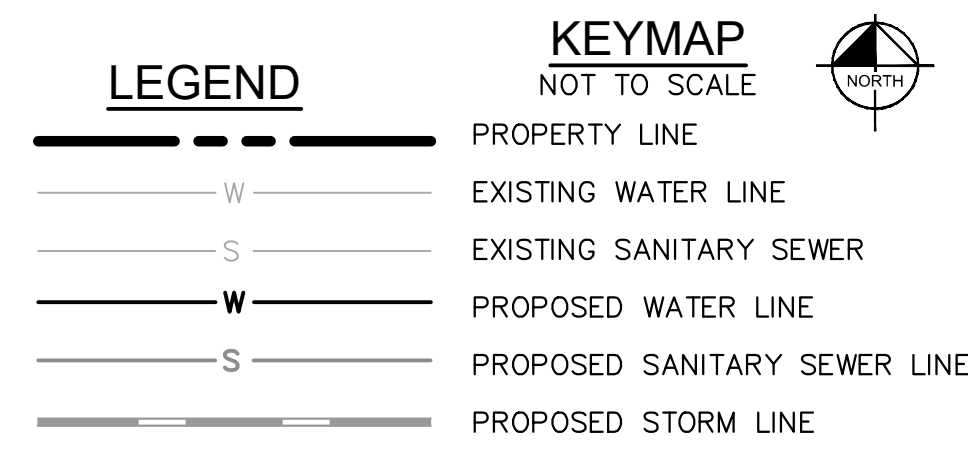
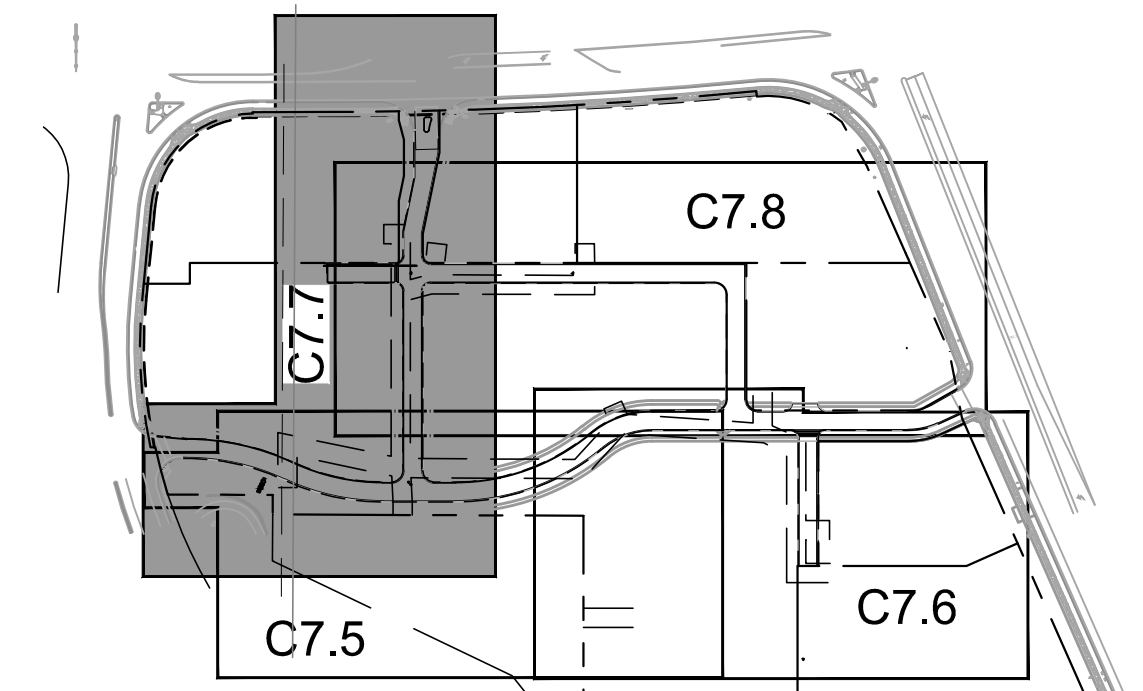
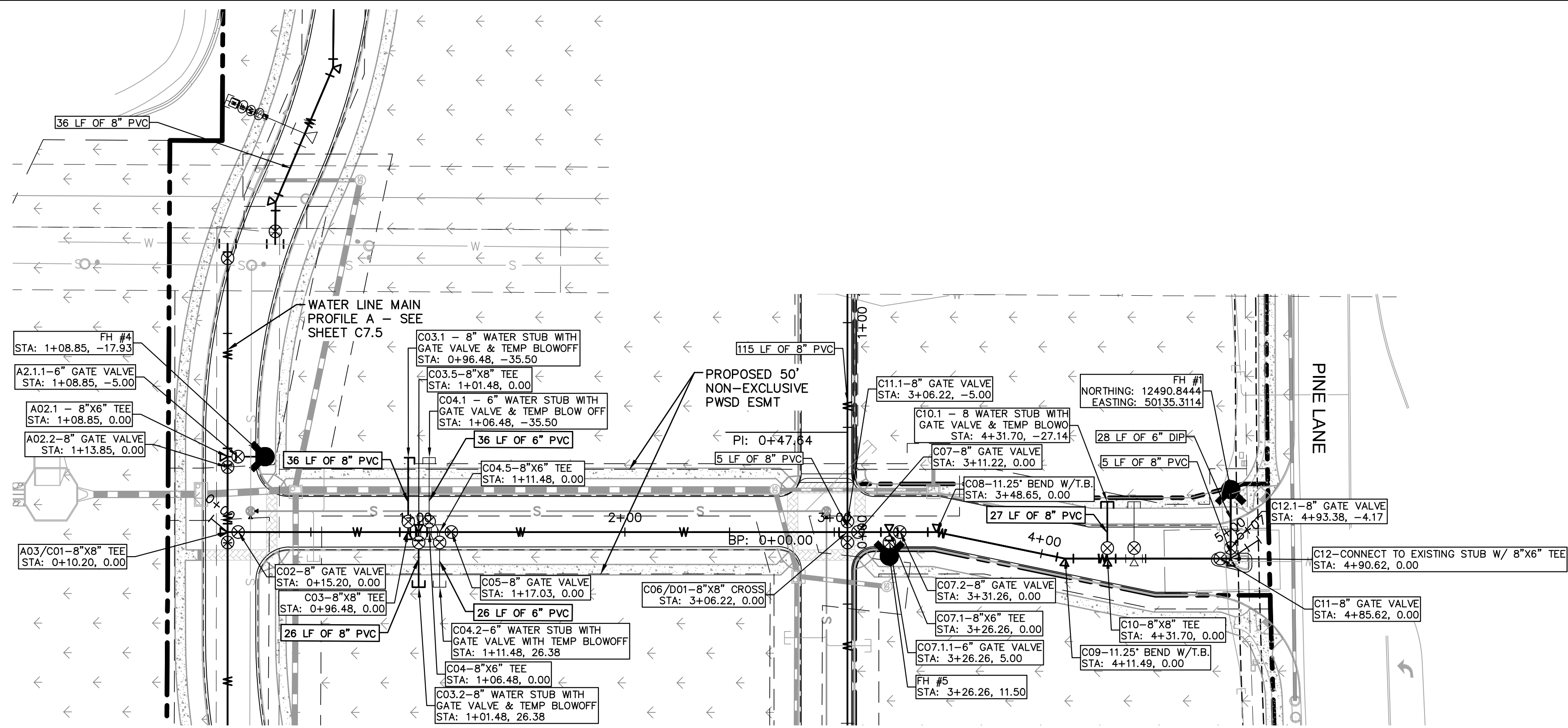
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096502001WT-PP
C7.6



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WATER MAIN PROFILE C
 STRUCTURE C01 TO C12

HORIZONTAL SCALE: 1"=4'
 VERTICAL SCALE: 1"=4'

WATER NOTES

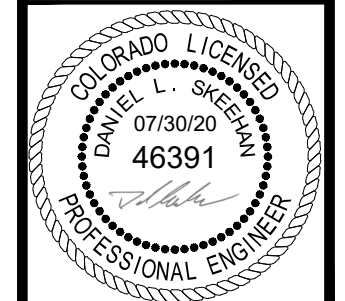
- CONTRACTOR TO POTHOLE EXISTING UTILITY LINES AT WATER LINE CROSSING AREAS PRIOR TO CONSTRUCTION.
- WATER LINE CONNECTION ELEVATION TO EXISTING WATER MAINS IS APPROXIMATE. CONTRACTOR TO POTHOLE AND VERIFY TIE IN ELEVATION PRIOR TO CONSTRUCTION OF WATER MAIN.
- CONTRACTOR TO MEET THE INSTALLATION REQUIREMENTS BY THE PARKER WATER AND SANITATION DISTRICT DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.
- 24 UNIT BUILDINGS (BUILDINGS 1-7) SHALL PROVIDE INTERNAL BACKFLOW PREVENTER AND EXTERNAL 2" DOMESTIC METER.
- 36 UNIT (BUILDING 8) SHALL PROVIDE INTERNAL BACK FLOW PREVENTERS AND 1-1/2" DOMESTIC METER.
- VERTICAL BENDS AND DEFLECTIONS MAYBE UTILIZED TO PROVIDE VERTICAL CHANGES IN ACCORDANCE WITH PWSD STANDARDS AS NEEDED.
- AT ALL POTABLE WATER MAIN AND SANITARY SEWER CROSSINGS WHERE THE PROPOSED SANITARY SEWER LINE LIES ABOVE THE PROPOSED WATER MAIN OR WITHIN 18" BELOW THE WATER MAIN, A CONCRETE ENCASEMENT IS TO BE PROVIDED ALONG THE SANITARY SEWER PIPE FOR 10 FT ON EITHER SIDE OF THE CROSSING. CONCRETE ENCASEMENT TO BE PROVIDED PER THE PWSD SECTION 9.3.2.
- AT ALL STORM SEWER AND SANITARY SEWER CROSSINGS WHERE THE PROPOSED SANITARY SEWER LINE LIES ABOVE THE PROPOSED STORM SEWER OR WITHIN 18" BELOW THE STORM SEWER, A CONCRETE ENCASEMENT IS TO BE PROVIDED ALONG THE SANITARY SEWER PIPE FOR 10 FT ON EITHER SIDE OF THE CROSSING. CONCRETE ENCASEMENT TO BE PROVIDED PER THE PWSD SECTION 9.3.2.
- ALL WATER LINES SHALL BE INSTALLED AT LEAST 4.5 FEET BELOW THE OFFICIAL STREET GRADE AND IN ALL OTHER PLACES AT LEAST 4.5 FEET BELOW THE SURFACE OF THE GROUND.

NO.	REVISION	BY	DATE	APPR

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
 CHECKED BY: DLS
 DATE: 08/11/20

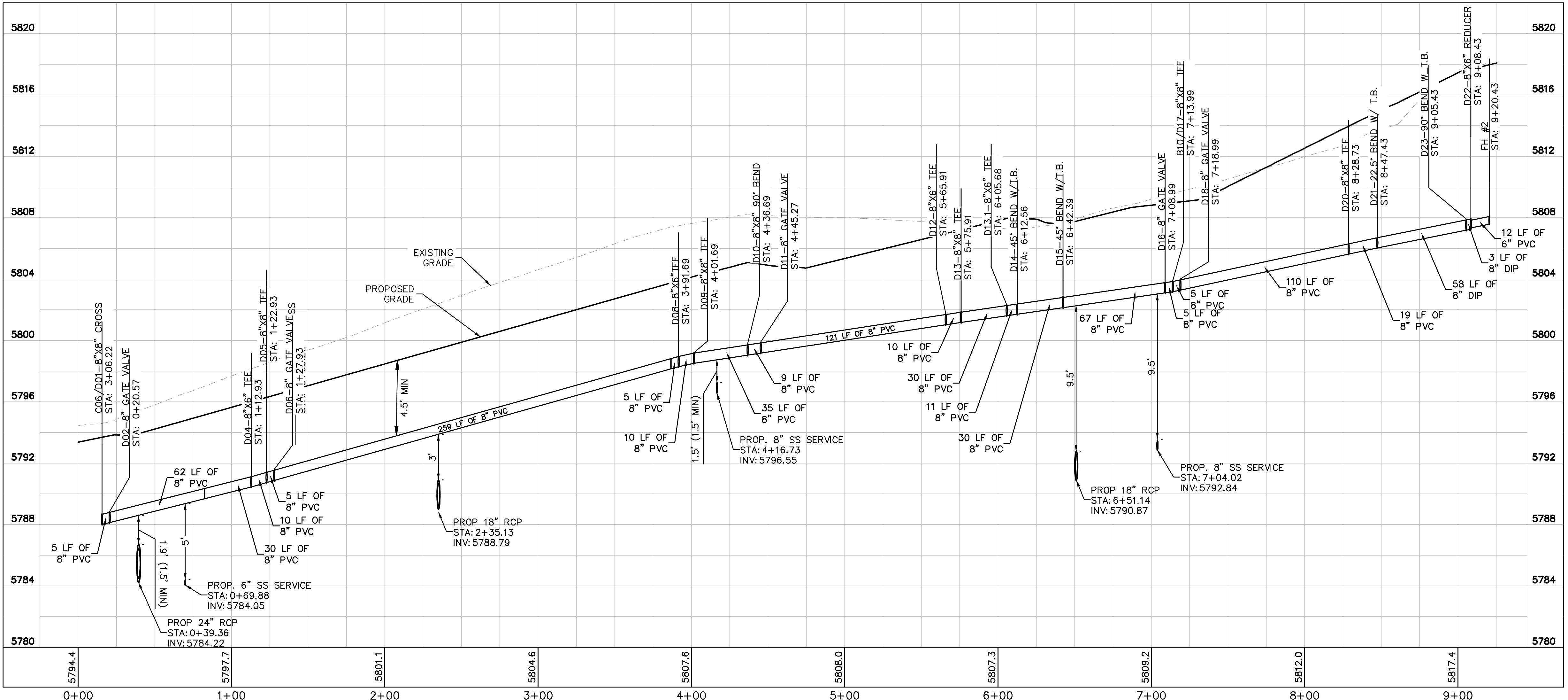
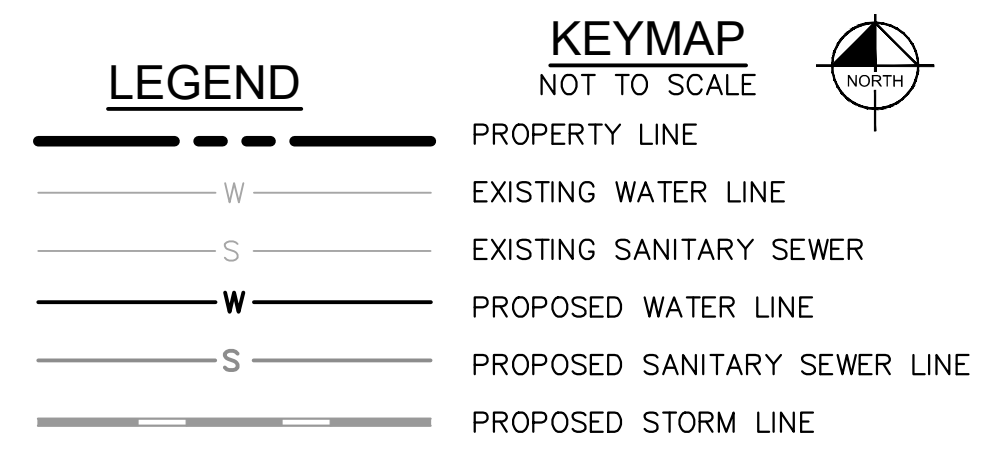
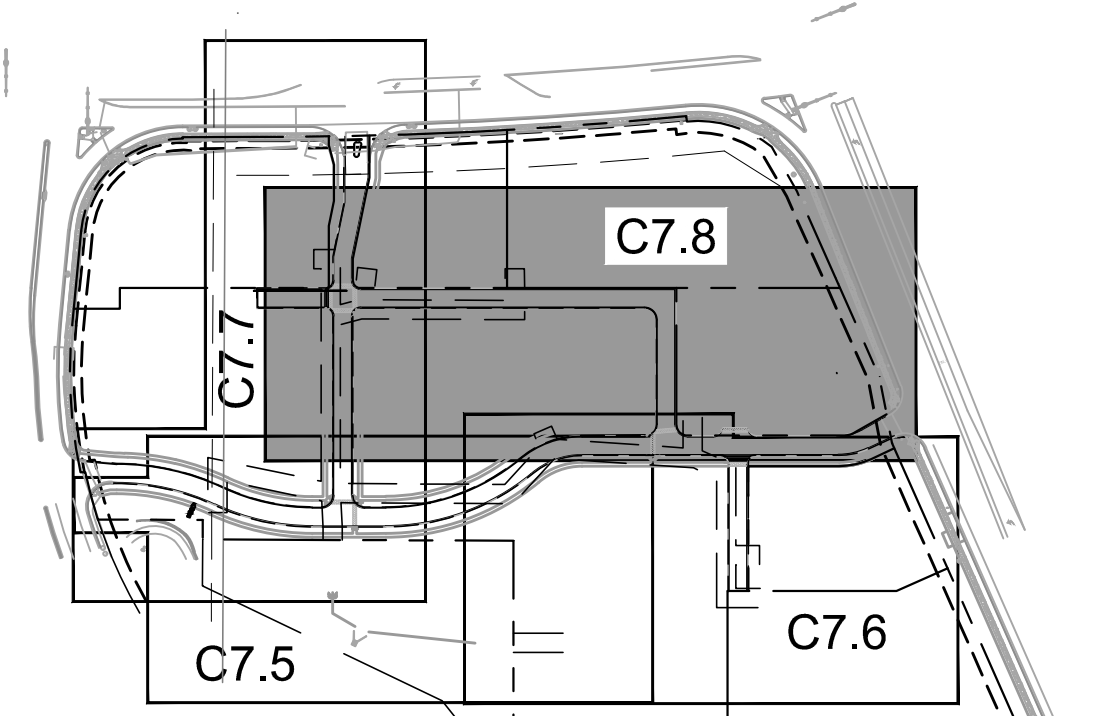
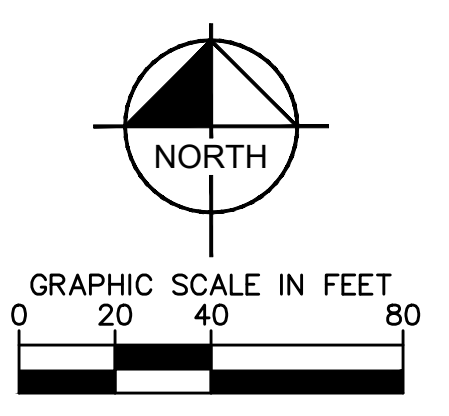
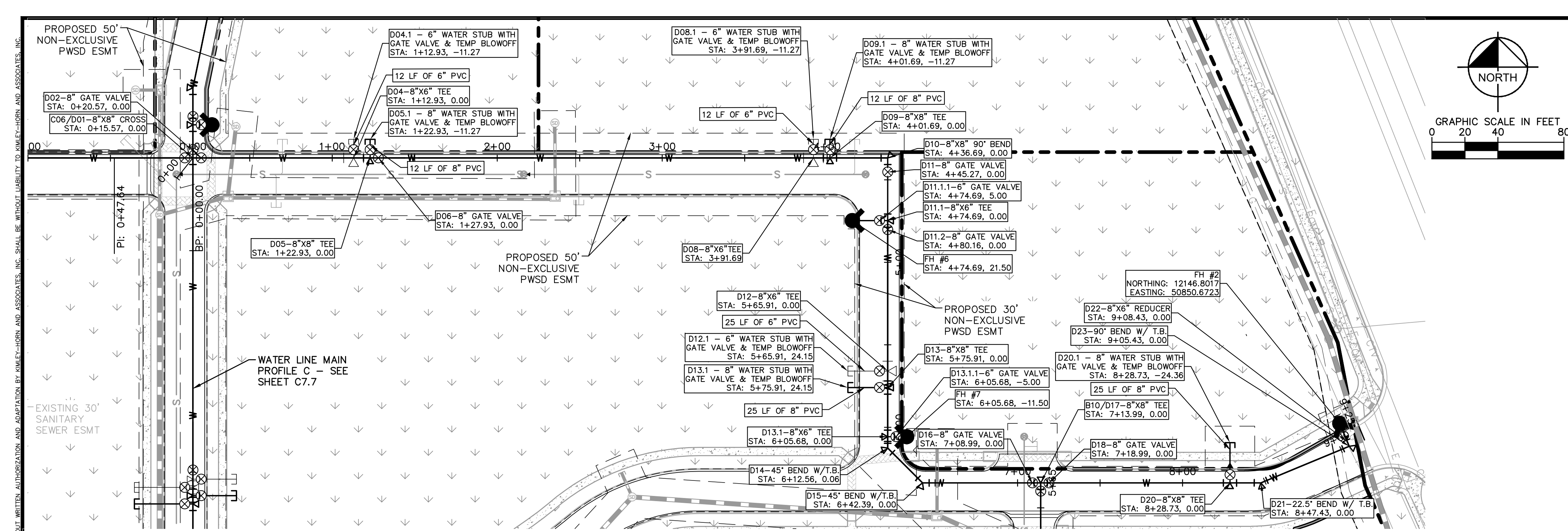
PARKER AND PINE FILING 1
 PARKER, CO
 CONSTRUCTION DOCUMENTS
WATER PLAN AND PROFILE - C



PROJECT NO.
 096502001
 DRAWING NAME
 096502001WT-PP

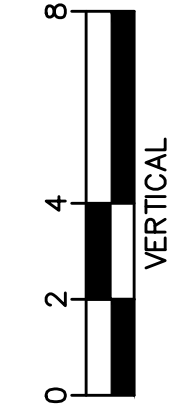
C7.7





WATER NOTES

- CONTRACTOR TO POTHOLE EXISTING UTILITY LINES AT WATER LINE CROSSING AREAS PRIOR TO CONSTRUCTION.
- WATER LINE CONNECTION ELEVATION TO EXISTING WATER MAINS IS APPROXIMATE. CONTRACTOR TO POTHOLE AND VERIFY TIE IN ELEVATION PRIOR TO CONSTRUCTION OF WATER MAIN.
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WATER MAIN PROFILE D
STRUCTURE D01 TO FH #2
 HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=4'

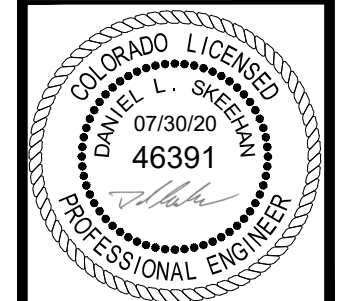
K:\DENV_CADD\096502001\096502001.dwg, 10/19/2010, 10:57 AM, K:\DENV_CADD\096502001\096502001.dwg, 10/19/2010, 10:57 AM, THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, IS AN INSTRUMENT OF SERVICE PROVIDED ONLY FOR THE PROJECT AND CLIENT FOR WHICH IT WAS PREPARED. NO OTHER REUSE OR REPRODUCTION IS PERMITTED WITHOUT THE WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

NO.	REVISION	BY	DATE

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
 CHECKED BY: DLS
 DATE: 08/11/20

PARKER AND PINE FILING 1
 PARKER, CO
 CONSTRUCTION DOCUMENTS
WATER PLAN AND PROFILE - D



PROJECT NO.
096502001
 DRAWING NAME
096502001WT-PP
C7.8



K:\DEN_CADD\096502001 - Mid. Use. Parker & Sanitation District\096502001.dwg - KOSBY.ZAK - Issd: 10/8/2019 10:57 AM
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INSPECTION POLICY:

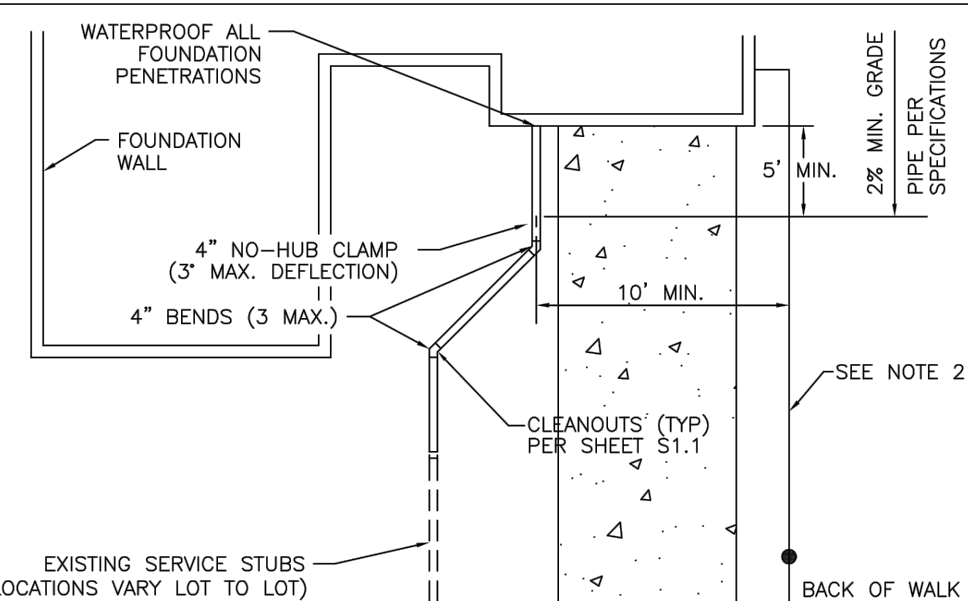
1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED WITH THE DISTRICT OFFICE AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
2. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTE 1 ABOVE AND A RE-INSPECTION 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:

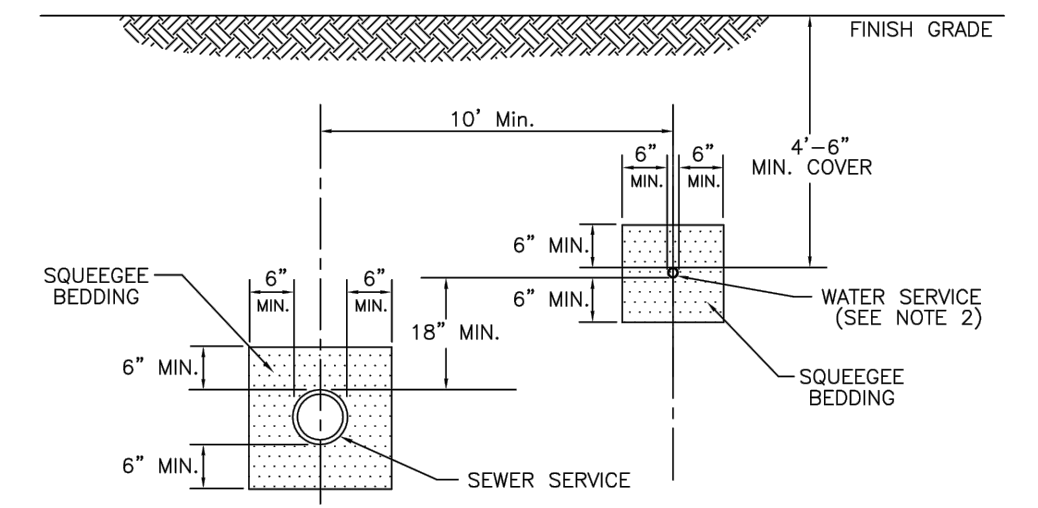
SEWER

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 2X.
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
 "W" FOR WATER SERVICES

PARKER WATER & SANITATION DISTRICT	
DISTRICT POLICIES & INSTALLATION NOTES FOR SEWER SERVICES	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/02 10/16
	1/08 1/16
DIRECTOR OF ENGINEERING	SHEET S1.1

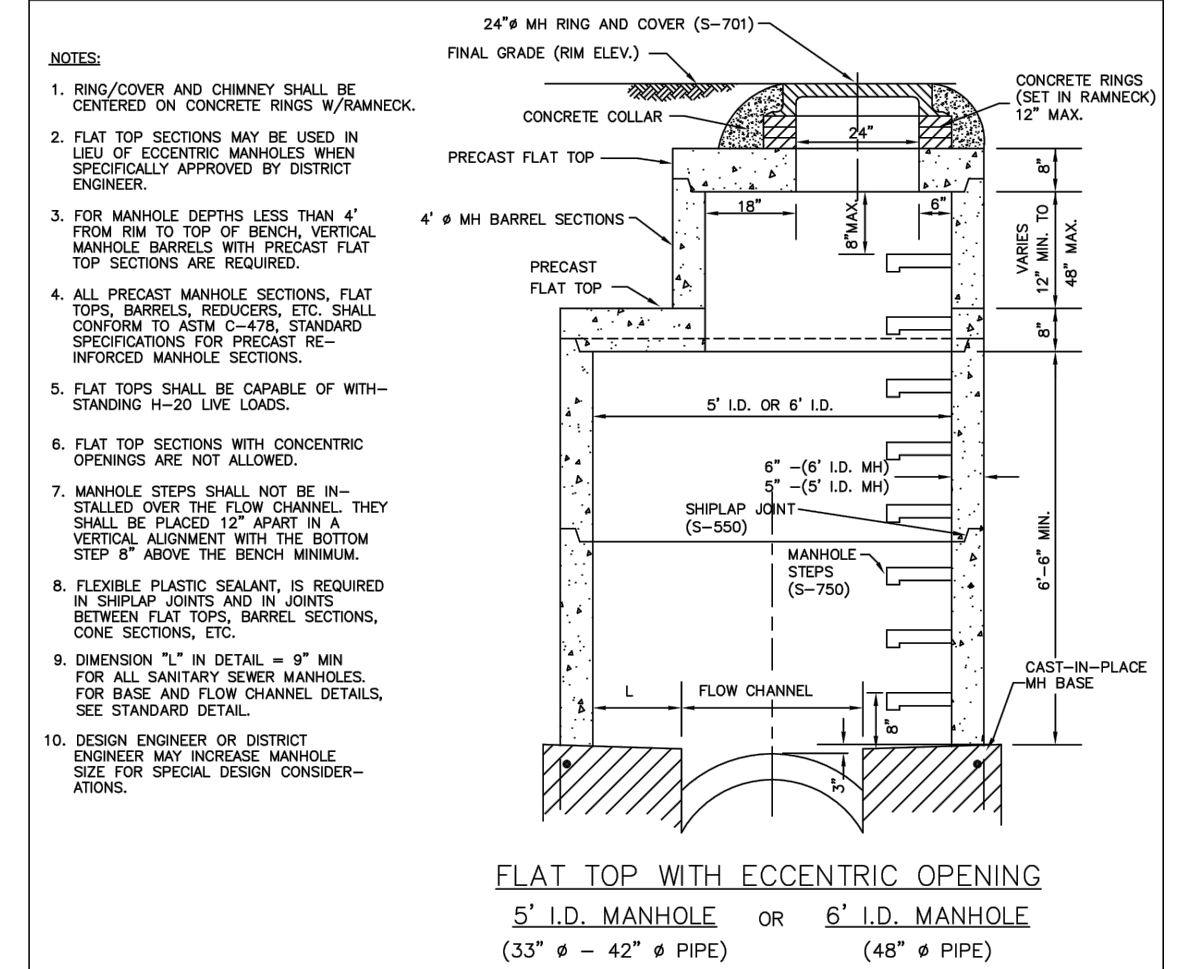


TYPICAL SERVICES PLAN VIEW
NTS



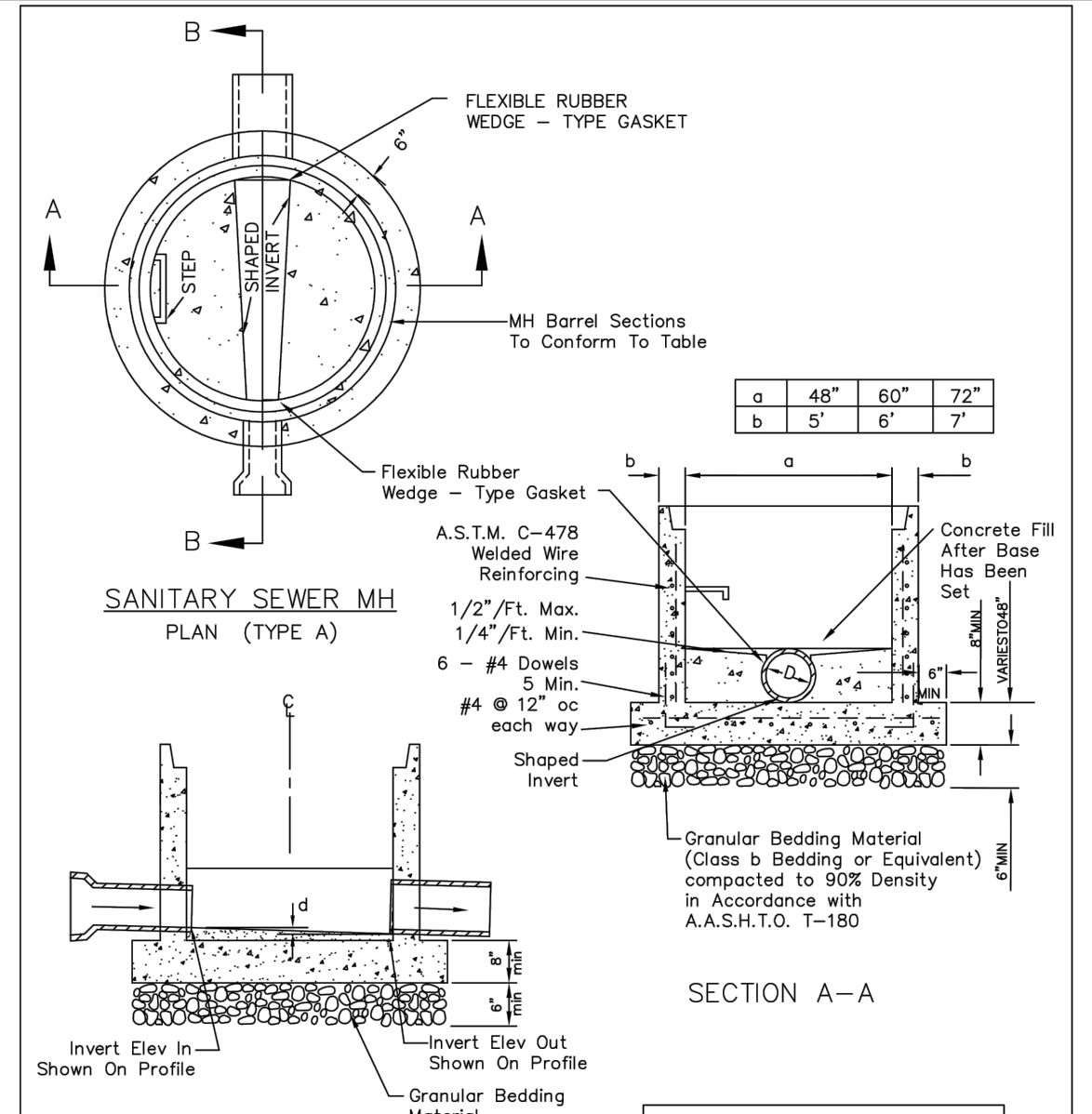
TYPICAL SERVICES SECTION
NTS

PARKER WATER & SANITATION DISTRICT	
TYPICAL SEWER SERVICES	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/00 01/02 01/16 10/16
DIRECTOR OF ENGINEERING	SHEET S1.2



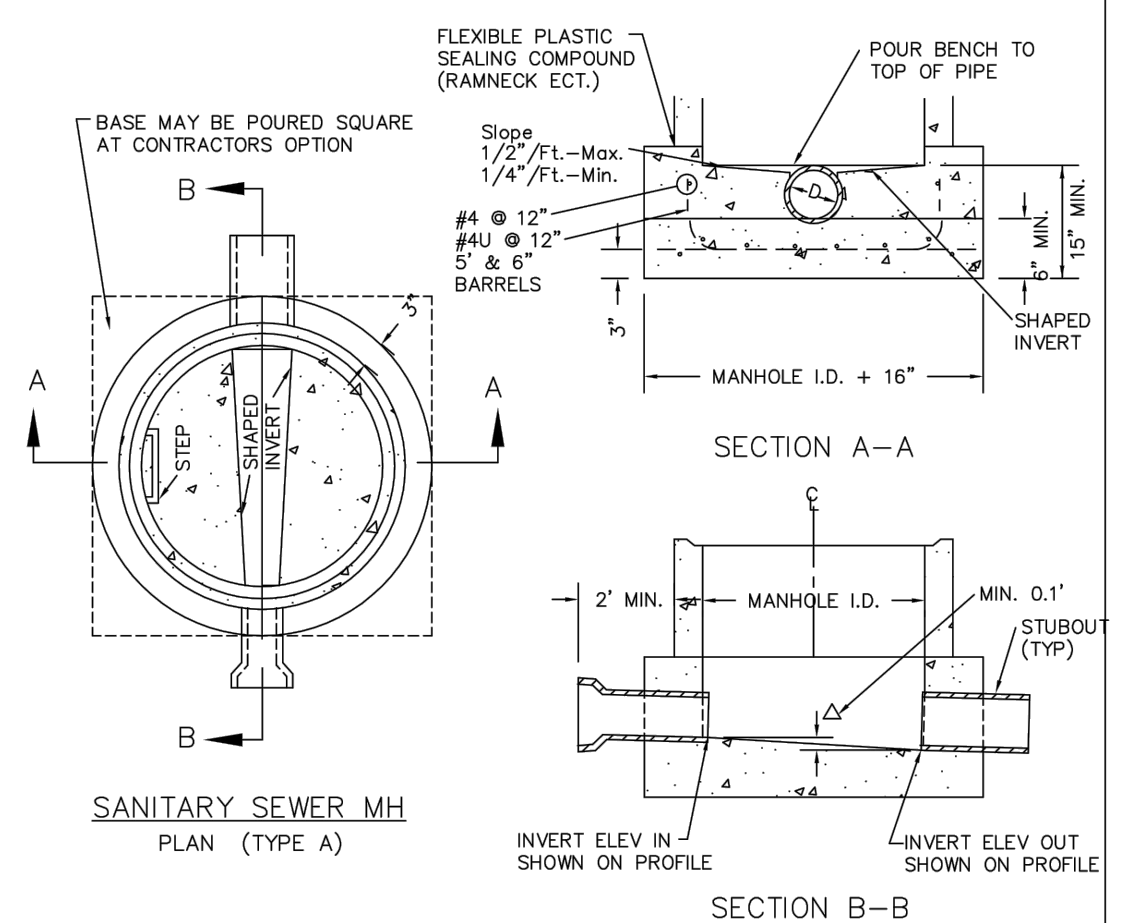
FLAT TOP WITH ECCENTRIC OPENING
5' I.D. MANHOLE OR 6' I.D. MANHOLE
(33" ø = 42" ø PIPE) (48" ø PIPE)

PARKER WATER & SANITATION DISTRICT	
PRECAST MANHOLE FLAT TOP W/ ECCENTRIC OPENING	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	4/01 01/16 10/16
DIRECTOR OF ENGINEERING	SHEET S3.2



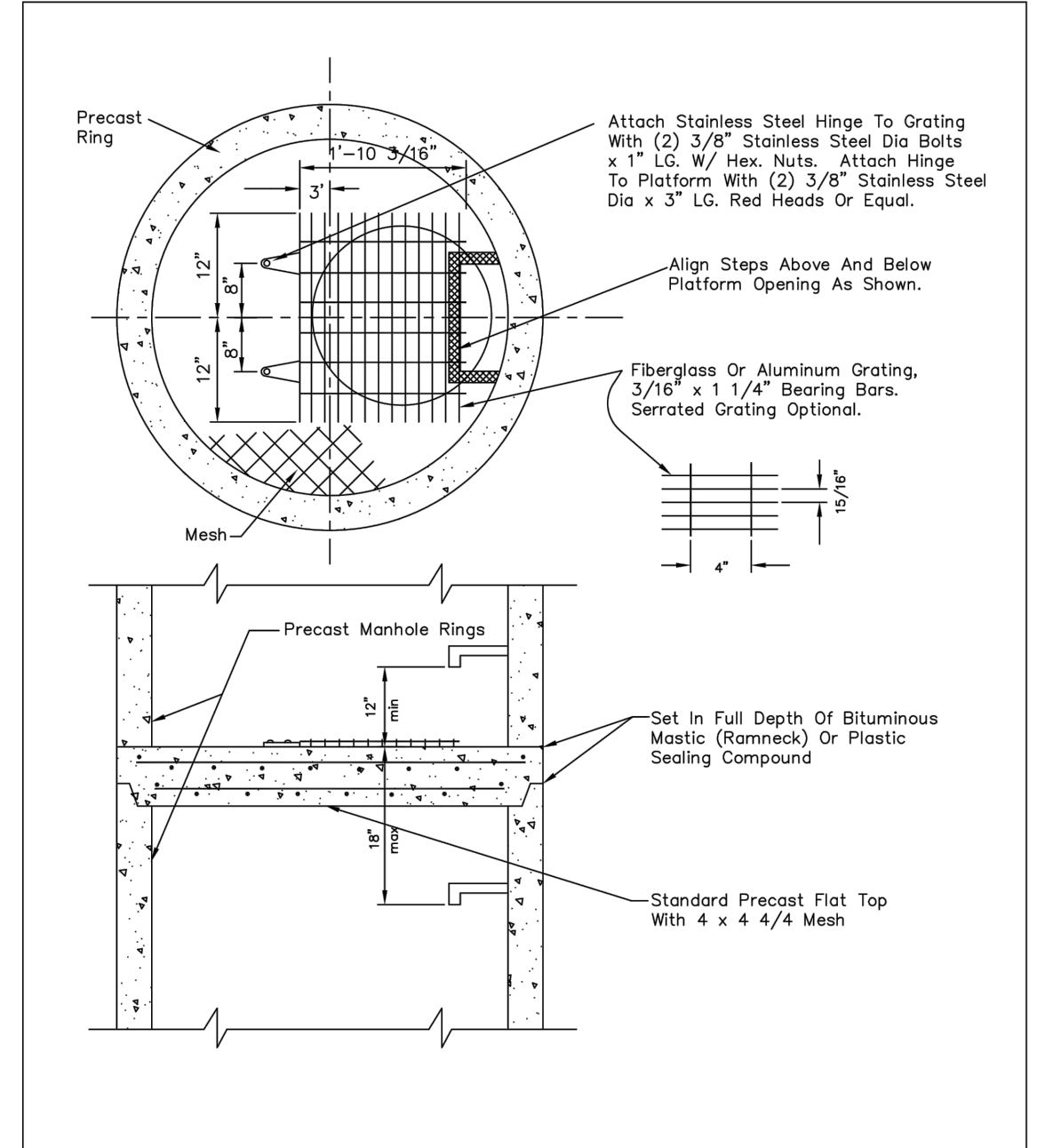
SECTION A-A

PARKER WATER & SANITATION DISTRICT	
PRECAST MANHOLE BASE DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/02 10/16
DIRECTOR OF ENGINEERING	SHEET S3.4

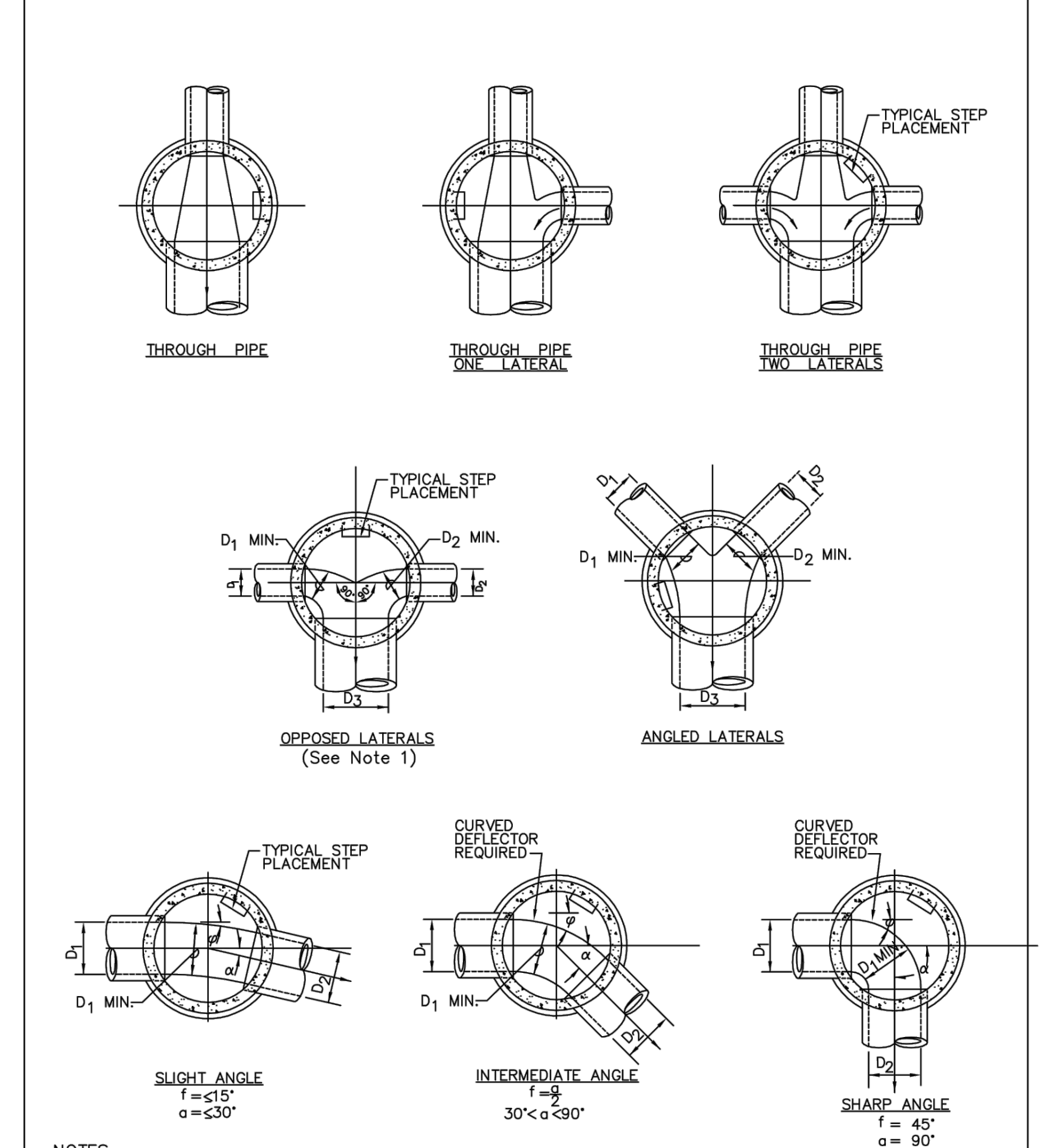


- NOTES:**
1. Manhole barrel min. thickness to be 5".
 2. Shaping for smooth manhole inverts may be done by forming or slapping with cement mortar (San. Sewer).
 3. The manhole steps shall conform to District Standards and Specifications.
 4. Precast sections to conform to A.S.T.M. C-478.
 5. All dead-end 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.

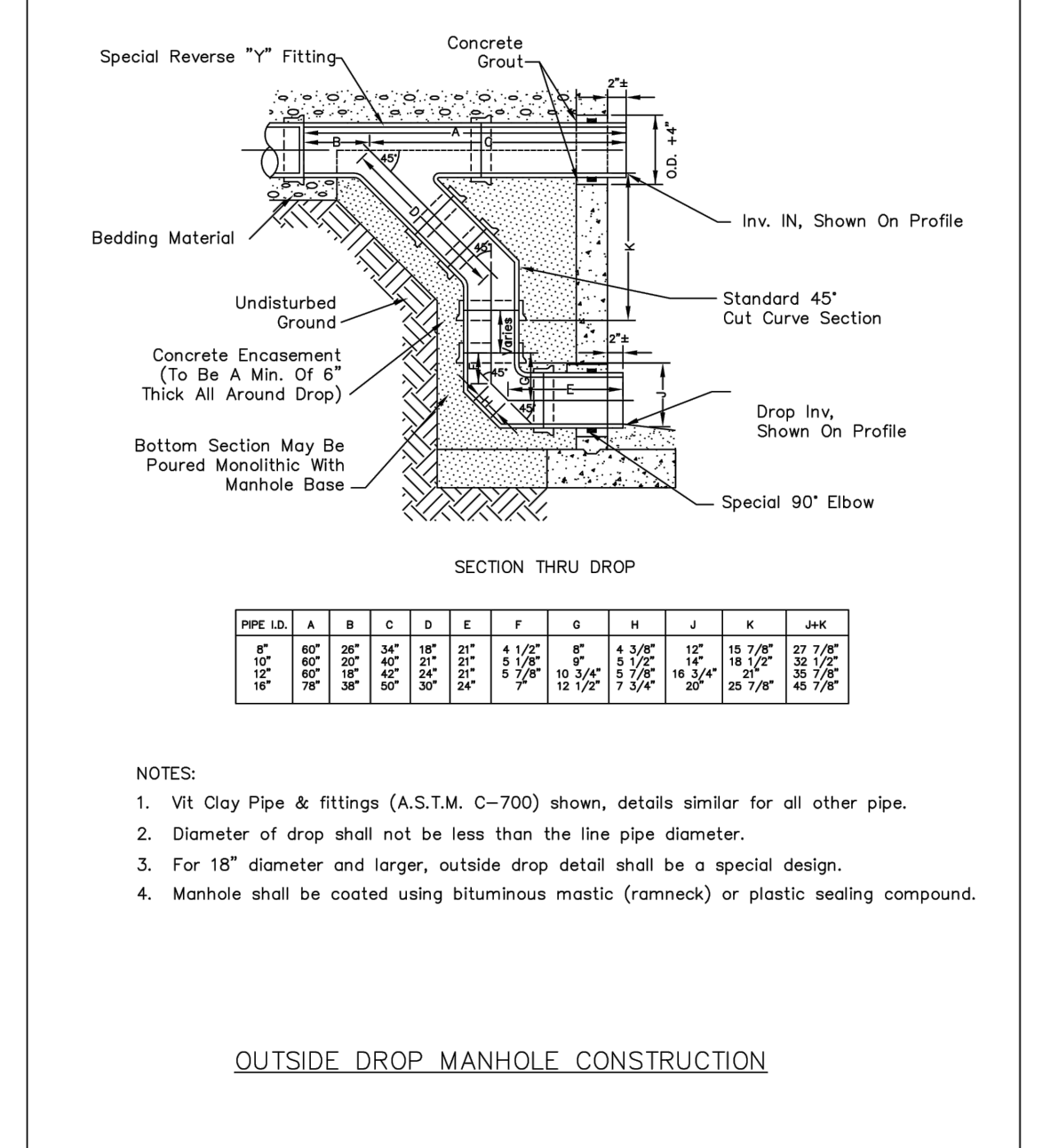
PARKER WATER & SANITATION DISTRICT	
CAST-IN-PLACE MANHOLE BASE DETAIL	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/02 01/16 10/16
DIRECTOR OF ENGINEERING	SHEET S3.5



PARKER WATER & SANITATION DISTRICT	
INTERMEDIATE PLATFORM FOR MANHOLES OVER 20' DEPTH	
SCALE: NONE	DATE: 2/98
APPROVED: RWT	2/00 4/19 1/16 10/16
DIRECTOR OF ENGINEERING	SHEET S3.6



PARKER WATER & SANITATION DISTRICT	
TYPICAL BASE CHANNELIZATION DETAILS	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	SHEET S3.7



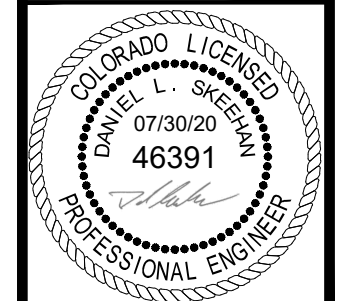
PARKER WATER & SANITATION DISTRICT	
OUTSIDE DROP MANHOLE CONSTRUCTION	
SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	SHEET S3.8

NO.	REVISION	BY	DATE

Kimley Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
 CHECKED BY: DLS
 DATE: 08/11/20

PARKER AND PINE FILING 1
 PARKER, CO
 CONSTRUCTION DOCUMENTS
 UTILITY DETAILS



PROJECT NO.
096502001

DRAWING NAME
096502001UT-DT

C7.9

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CONCRETE ARCH
 Lower limit of sloping or benching of trench walls
 Plain or Reinforced Concrete Continuous $f_c = 3500$ psi min.
 Densely compacted backfill hand-tamped (90% density, AASHTO T-180) in open areas and 95% density, AASHTO T-99 in all public R.O.W.
 Compacted Granular Material (Class "B" Bedding)
 $B_c =$ Pipe O.D.
 $B_w =$ Specified Trench Width
 $B_g =$ Cradle Width
 Bedding Trench (Vertical Walls)
 Lower limit of sloping or benching of trench walls
 Densely compacted backfill hand-tamped (90% density, AASHTO T-180) in open areas and 95% density, AASHTO T-99 in all public R.O.W.
 Compacted Granular Material Class "B" Bedding
 Bedding trench (Vertical Walls) (eaveless)
 Plain or Reinforced Concrete Continuous $f_c = 3500$ psi min.
 $B_c =$ Pipe O.D.
 $B_w =$ Specified Trench Width
 $B_g =$ Cradle Width
CONCRETE CRADLE
 CLASS "A" BEDDING

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

NOMINAL DIAMETER (D)	MINIMUM THICKNESS (t)	MIN. WIDTH OF CRADLE (B _w)
18" & smaller	6"	B _c + 8"
21" to 24"	6"	B _c + 8"
27" to 33"	8"	B _c + 8"
36" to 42"	10"	1.25 B _c
48" & larger	1/4 D	1.25 B _c

PARKER WATER & SANITATION DISTRICT
 TRENCHING AND BEDDING DETAIL - CLASS "A"
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 54.2

WATERTIGHT/AIRTIGHT MECHANICAL SEAL OR NON SHRINK GROUT W/ WATER STOP
 PROPOSED SANITARY SEWER
 EXISTING SANITARY SEWER
 STEPS
 NEW MANHOLE BENCHING SHALL BE TO CROWN OF NEW PIPE SLOPE BENCHING NOT LESS THAN 1/2" PER FOOT OR MORE THAN 1-1/2" PER FOOT (SEE ALSO NOTE 1)
 DRILL EXISTING BENCH AND SET REBAR IN EPOXY.
 CUT WITH CORE DRILL PIPE SIZE + 4" (MIN)
 EXISTING BENCH
 EXISTING BENCHING SHALL BE THOROUGHLY CLEANED PRIOR TO POURING NEW BENCHING
MANHOLE INVERT TIE-IN

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

PARKER WATER & SANITATION DISTRICT
 MANHOLE INVERT TIE-IN DETAIL
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 54.9

FRAME
 SECTION ON CENTER OF FRAME
 COVER
 SECTION OF COVER
 SECTION B-B
 SECTION C-C
 SECTION A-A

THE WORD "SEWER" TO BE RAISED 3/16"

PARKER WATER & SANITATION DISTRICT
 IN-LINE CLEANOUT SECTIONS
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 54.12

WYE
 SECTION A - A
 NOTE: TAPS IN STAGGERED CONFIGURATION AT 10 O'CLOCK AND 2 O'CLOCK
 DISTRICT RESPONSIBILITY

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: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 54.13

RAISED LETTERS (1/8")
 SEWER
 4 3/4"
 26"
 25 3/4"
 HALF PLAN
 STANDARD LIFTING SLOT DETAIL
 MACHINED SEAT
 23 7/8"
 1"
 1/16"
 24 1/8"
 3/4"
 22 1/8"
 15/16"
 24 1/4"
 7/8"
 1/4"
 1/2"
 34"

NOTE:
 1. Casting Specifications: ASTM A-48 With A Minimum Tensile Strength of 25 KSI (Class 25)
 2. All Casting To Be Dipped In Asphalt Base Coat (Or Approved Equal).
 3. No other manhole lids will be accepted without prior approval from the District Engineer.

PARKER WATER & SANITATION DISTRICT
 24" DIAMETER RING AND COVER
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 53.9

ALUMINUM STEP
 CONCRETE WALL SECTION
 STEPS TO BE HOOKED BEHIND REINFORCING WHEN CONCRETE SECTIONS ARE CAST.
 VERTICAL SPACING 12" MIN. 16" MAX. WITH BOTTOM STEP 6"-8" ABOVE BENCH
 REINFORCING
 TYPICAL INSTALLATION
 TOE POCKET DETAILS
 STANDARD EXTRUDED ALUMINUM MANHOLE STEP
 ALUMINUM STEP
 VARIABLE, 16" MAX. (MAX. SPACING BETWEEN TOE POCKETS=16")
 1" CHAMFER

NOTES:
 1.1 ALUMINUM ALLOY SPECIFICATIONS
 a. FED. SPEC. QQ-A-200/8 (ALUMINUM-MAGNESIUM-SILICATE ALLOY)
 b. MINIMUM TENSILE STRENGTH=38,000 p.s.i.
 c. MINIMUM YIELD STRENGTH=35,000 p.s.i.
 d. MINIMUM ELONGATION=10% IN 2"
 1.2 MINIMUM LOAD CAPACITY (APPLIED AT CENTER OF STEP)
 a. 1000 LB. WITH 4" PROJECTION FROM WALL
 b. 1500 LB. WITH 4" PROJECTION FROM WALL
 1.3 WEIGHT PER STEP=2.23 POUNDS
 1.4 STEPS TO BE CAST UNALTERED IN MANHOLE WALL IN STRAIGHT LINE, VERTICALLY, AT THE SAME TIME THE BARREL OR CONE SECTIONS ARE CAST.
 1.5 VERTICAL SPACING BETWEEN STEPS SHALL BE CONSISTENT IN EACH INDIVIDUAL MANHOLE.
 1.6 TOE POCKETS ARE REQUIRED IN STORM SEWER MANHOLES IF TOP OF BENCH IS MORE THAN 18" ABOVE INVERT. TOE POCKETS ARE NOT REQUIRED IN SANITARY SEWER MANHOLES UNLESS OTHERWISE SPECIFIED.

PARKER WATER & SANITATION DISTRICT
 STANDARD EXTRUDED ALUMINUM MANHOLE STEP
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 53.10

ALUMINUM & S.L.
 1/2 B_a
 1/2 B_b
 1/2 B_d
 1/2 B_d
 1/2 B_d
 1/2 B_d
 3" Top for removal
 A C W S
 Original Ground Surface of Final Grade Elevation
 max. limits of excavation
 Bedding Trench (Vertical walls brood or shored if necessary to meet safety requirements)
 Lower limit of sloping or benching of trench walls
 Bedding Spigots to be placed in 6" holes (6" and fully compacted by hand tampers, or as specified backfill, to 90% density, AASHTO T-99 in open areas and 95% density, AASHTO T-99 in all public R.O.W.
 Pipe Bedding as Specified (Class "A" or Class "B")
 NOTE: If solid sheeting or shoring is used, it shall be cut off at top of pipe and left in place.
 $B_c =$ Specified Trench Width
TYPICAL TRENCH DETAIL

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 brood and shored as necessary to afford safe working conditions or to protect adjacent utilities, structures, etc. Unless otherwise specified on the plans, no payment will be made for removal, replacement or relocation of curb and gutters, utilities, structures, etc. outside the maximum limits of excavation or shoring and the contractor shall be responsible for protection of same.
 3. If dimension "H" is less than 1', then existing asphalt pavement shall be removed and replaced up to the surface. Minimum support pay width, B_a & B_b shall then be based upon this actual width.

ASPHALT AND BASE COURSE REPLACEMENT SCHEDULE			
STREET WIDTH	ASPHALT BASE COURSE (A)	ASPHALT WEARING SURFACE (A)	TOTAL THICKNESS (A)
UP TO 36'	4"	2"	6"
36' TO 44'	4"	3"	7"
44' TO 48'	5"	3"	8"
WIDER THAN 48'	6"	3"	9"

PARKER WATER & SANITATION DISTRICT
 SEWER TRENCHING AND BEDDING DETAIL
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 54.1

SADDLE CONNECTION
 SIDE VIEW
 DISTRICT RESPONSIBILITY
 PIPE JOINT (W/ ELASTOMERIC SEAL)
 SECTION QUADRANT 1 SHOWN
 STRAP GUIDES
 RUBBER GASKET
 PIPE WALL
 STAINLESS STEEL STRAP TO BE PLACED AT RIGHT ANGLES TO PIPE SURFACE (5 FT-LBS TORQUE)
 SADDLE STEM
 BEVEL THIS SIDE OF HOLE IN PIPE AT 45° ANGLE SO THAT SADDLE STEM WILL FIT PROPERLY
Y - SADDLE DETAIL

NOTES:
 1. SADDLE FITTINGS TO BE PER ASTM D3034.
 2. CONNECTION SHALL BE Y - SADDLE WITH TWO BONDS

PARKER WATER & SANITATION DISTRICT
 P.V.C. SADDLE CONNECTION DETAIL
 SCALE: NONE DATE: 2/96
 APPROVED: PVR 10/16
 DIRECTOR OF ENGINEERING
 SHEET 54.14

NO.	REVISION	BY	DATE	APPR.

Kimley»Horn
 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 4582 South Ulster Street, Suite 1500,
 Denver, Colorado 80237 (303) 228-2300

DESIGNED BY: DLS
 DRAWN BY: JRK
 CHECKED BY: DLS
 DATE: 08/11/20

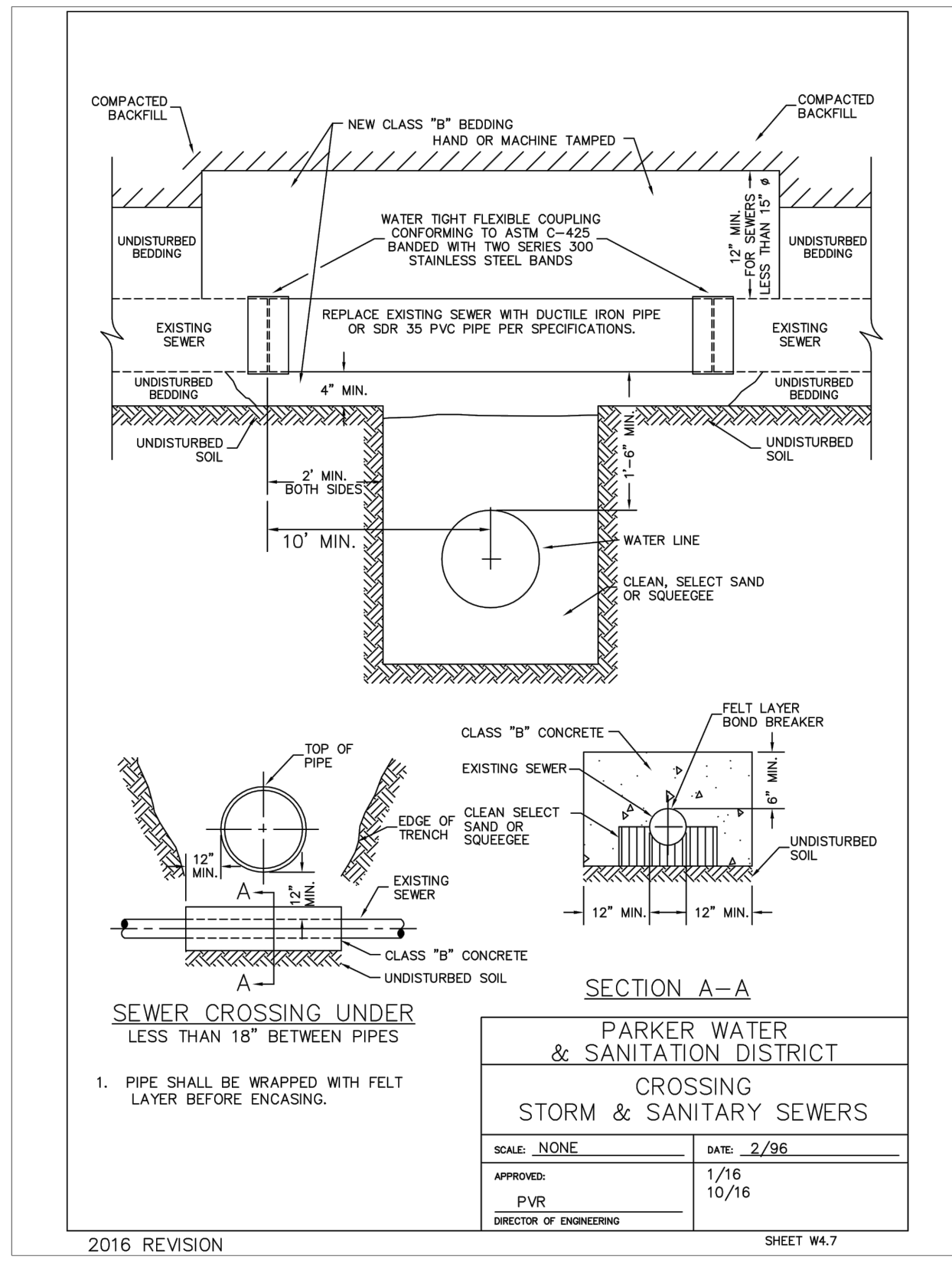
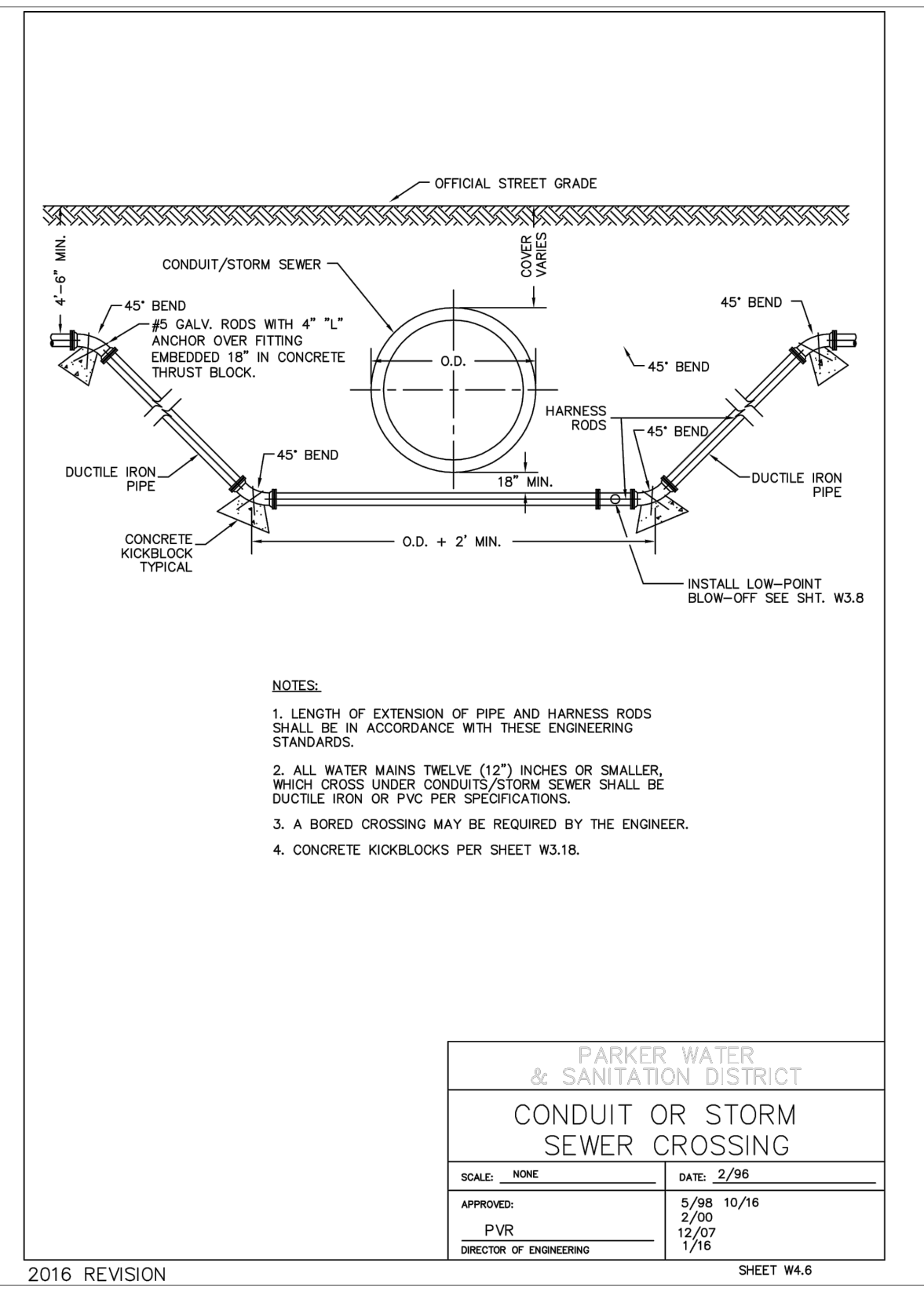
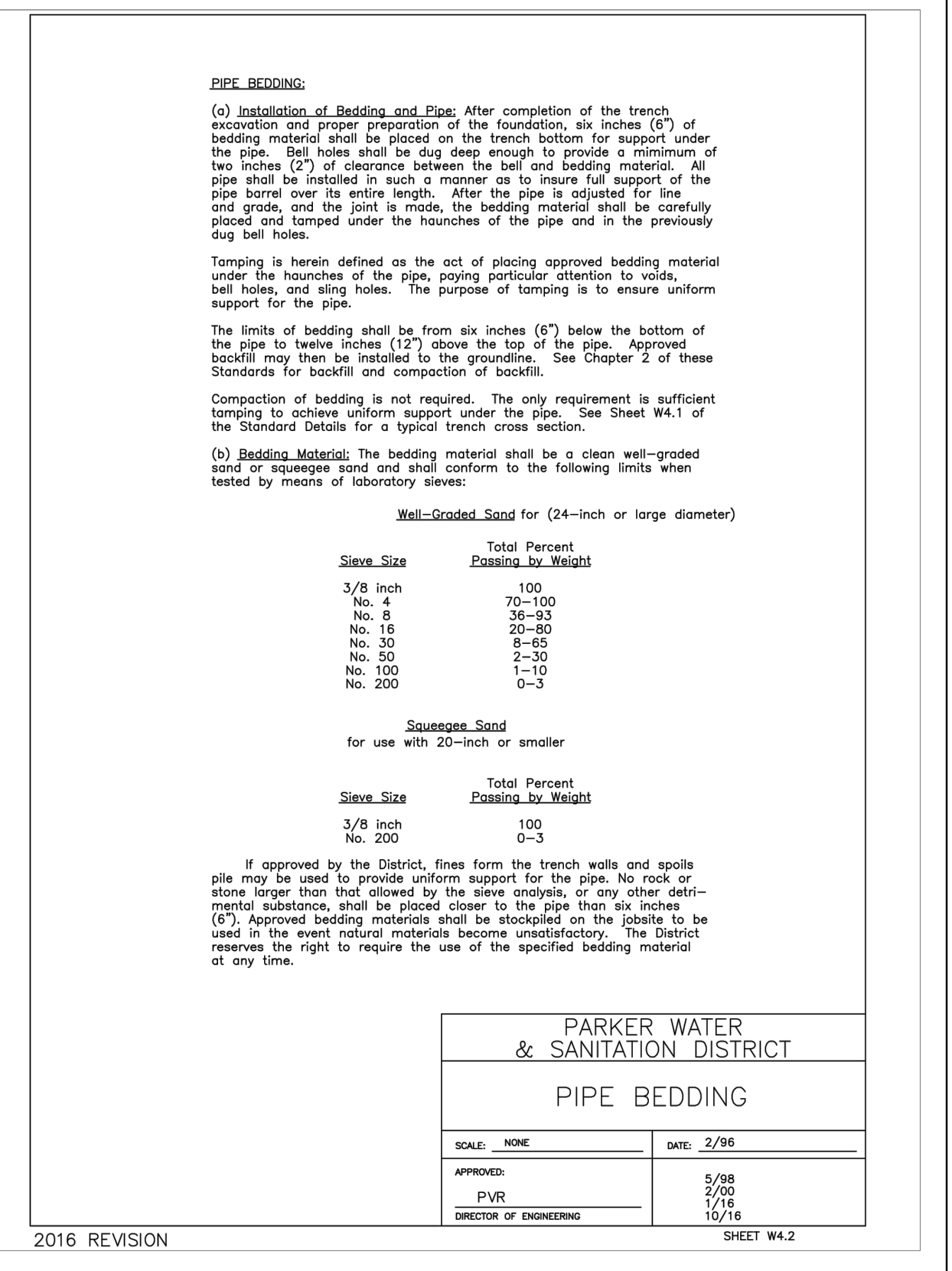
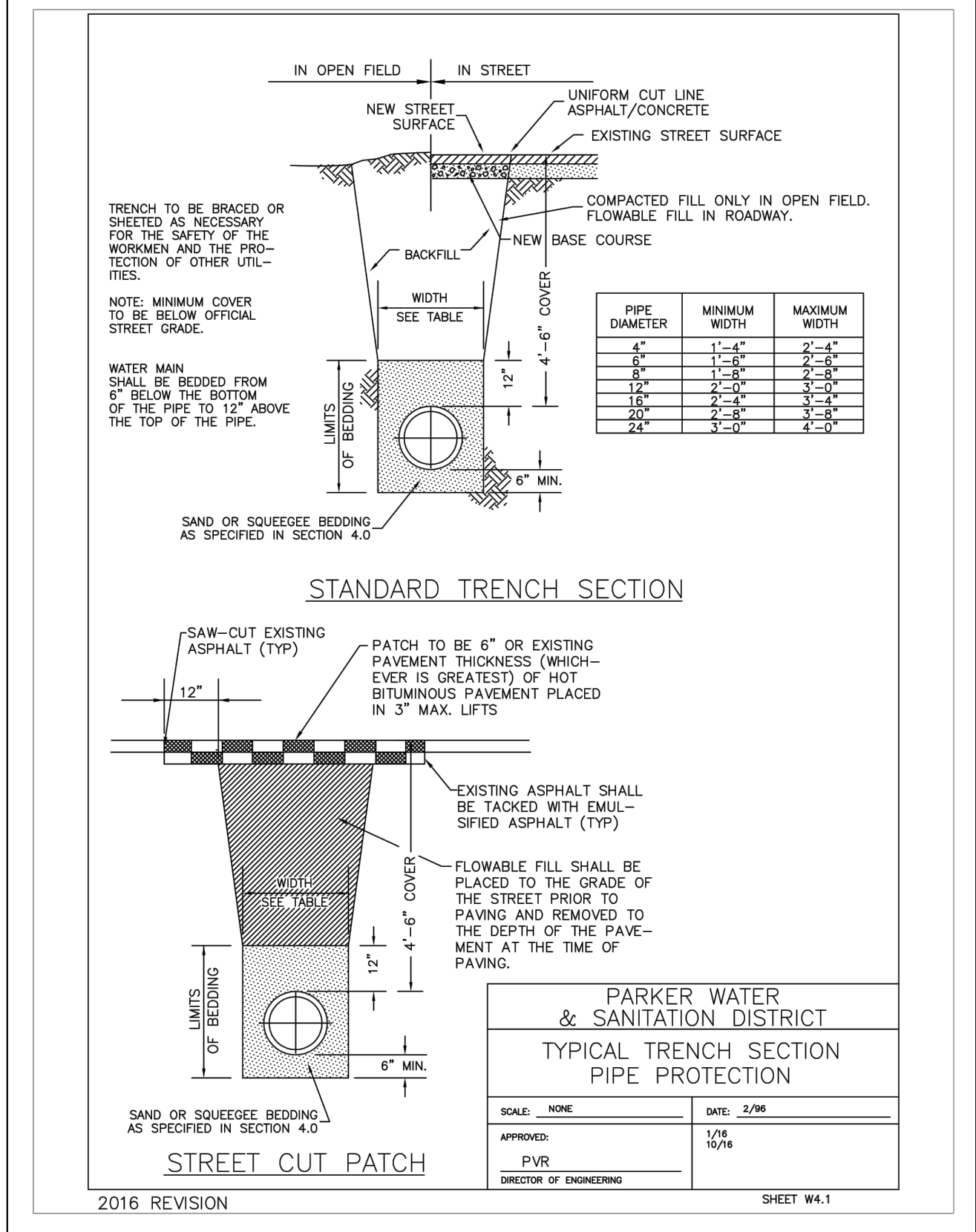
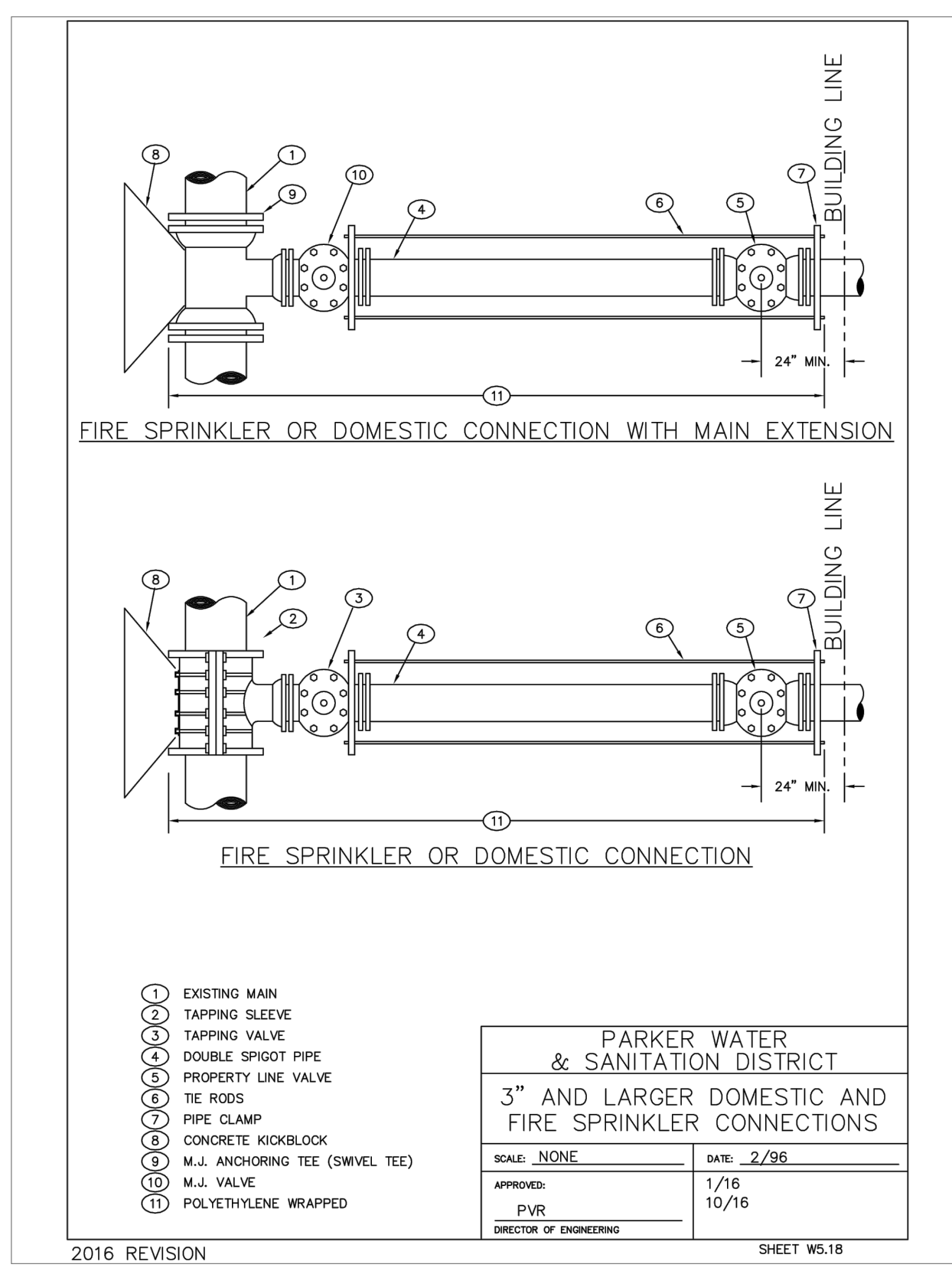
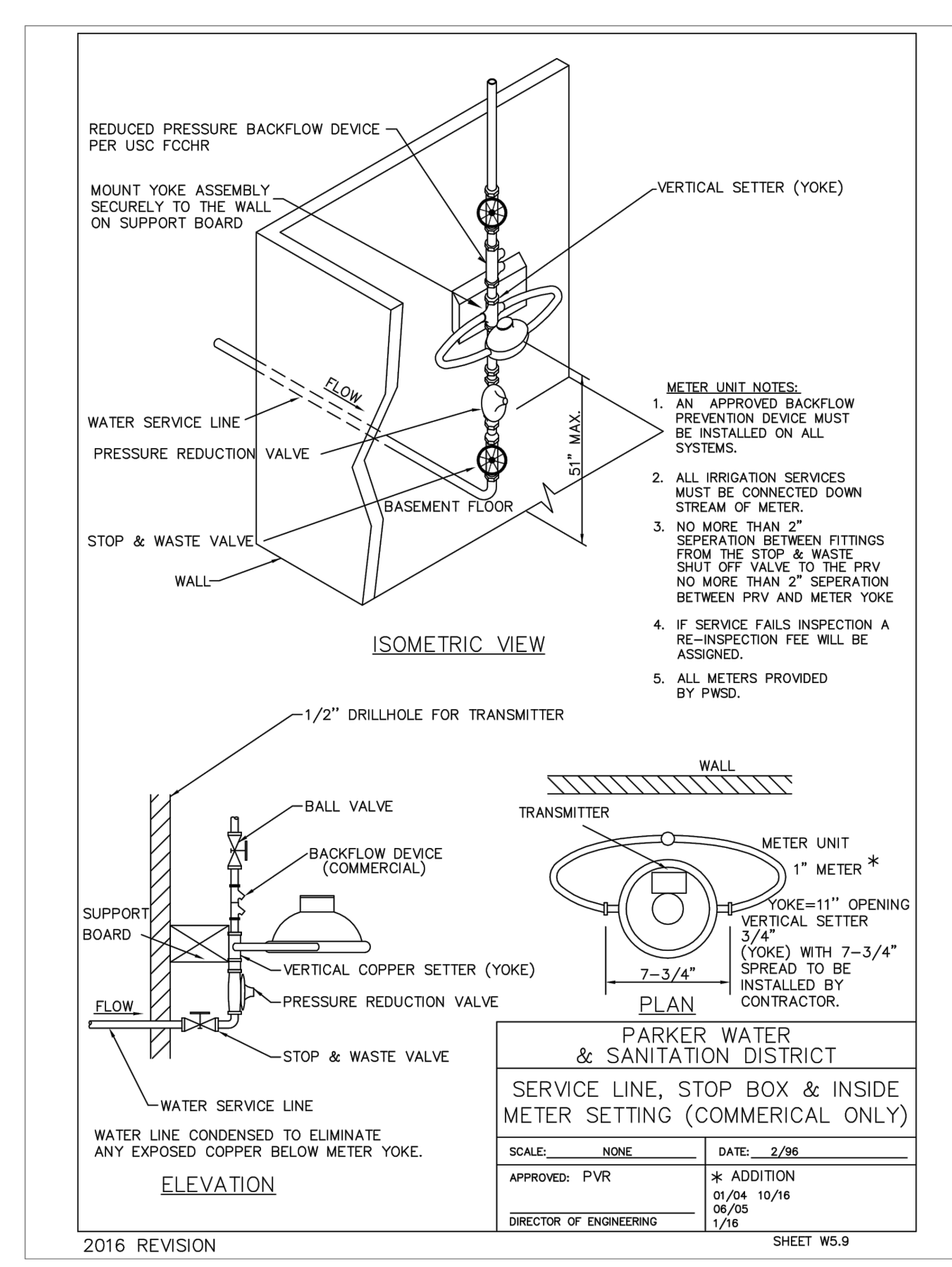
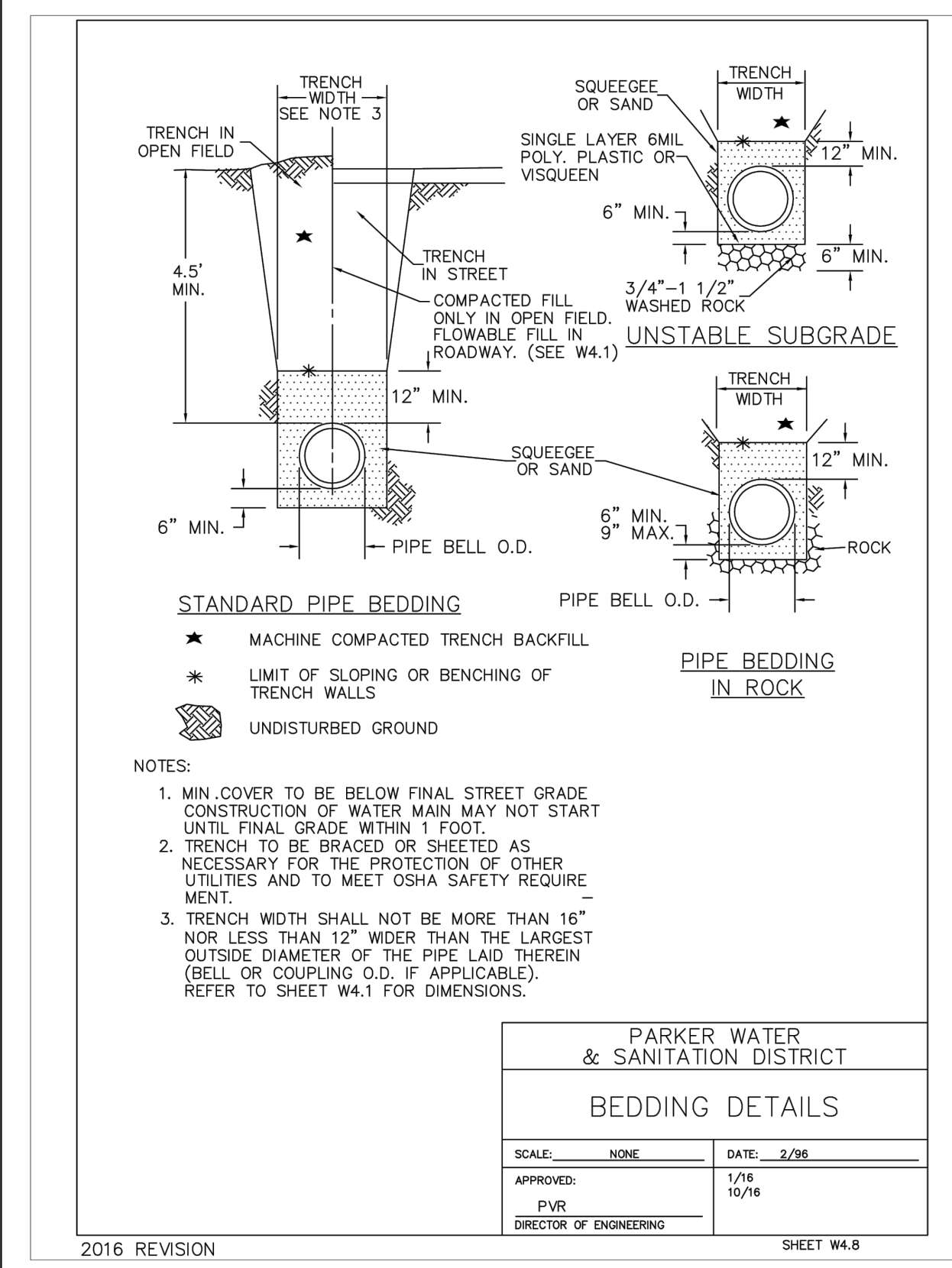
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 UTILITY DETAILS



PROJECT NO.
 096502001
 DRAWING NAME
 096502001UT-DT

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