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

CONTACTS:

DEVELOPER:
EVT PARKER COLORADO, LLC.
2710 E. CAMELBACK ROAD, SUITE 210
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CONTACT: RYAN AMATO

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TOWN OF PARKER
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TELEVISION
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WATER/SANITARY SEWER
PARKER WATER AND SANITATION DISTRICT
18100 E. WOODMAN ROAD
PARKER, CO 80134
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CONTACT: DRAYTON SANDERSON

FIRE DEPARTMENT
SOUTH METRO FIRE RESCUE AUTHORITY
9195 E. MINERAL AVE.
CENTENNIAL, CO 80112
TEL: (720) 989-2244
CONTACT: CHIP KERKHOVE

TOWN OF PARKER PLAN REVIEW
20120 E. MAINSTREET
PARKER, CO 80138
TEL: (303) 805-3169
CONTACT: RANDY CAPRA

LEGAL DESCRIPTION

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

BENCHMARK

DOUGLAS CONTROL MONUMENT #1.095035, A 3 ¼" 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 ¼ 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.

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

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.

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 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

1. 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.
2. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE LINES FOR UP TO TWO (2) YEARS FROM THE DATE OF PROBATIONARY ACCEPTANCE OF THE LINES BY THE DISTRICT. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT ENGINEER AT NO EXPENSE TO THE DISTRICT.
3. THE DATE OF FINAL ACCEPTANCE WILL BE INDICATED IN THE CONDITION OF THE PROBATIONARY ACCEPTANCE LETTER. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT FOR FINAL INSPECTION AND FINAL ACCEPTANCE.

811 Know what's below. Call before you dig.

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
COVER SHEET

COLORADO LICENSED DANIEL L. SKEEHAN 07/30/20 46391 PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001CV_UT

C7.0

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PARKER WATER AND SANITATION GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST VERSION.
2. 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.
3. ALL ITEMS SHOWN ON THE PLANS AS EXISTING ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE ACTUAL LOCATIONS MAY VARY FROM THE PLANS, ESPECIALLY IN THE CASE OF UNDERGROUND UTILITIES. WHENEVER THE CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS CONTACT THE PWSD IMMEDIATELY.
4. PWSD ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS NECESSARY TO PERFORM THE PROPOSED WORK.
6. ALL CONCRETE SHALL BE A MINIMUM OF CLASS A, 6 SACK, TYPE II, 3000-POUND COMPRESSION STRENGTH.
7. THE DESIGN ENGINEER SHALL SUBMIT ONE (1) SET OF "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.
8. 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.
9. TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR.
10. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF LINES (WATER AND 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.
11. SURFACE GRADES ARE TO BE WITHIN PLUS OR MINUS ONE FOOT OF FINISHED GRADE AND VERIFICATION OF COMPACTION RESULTS OBTAINED PRIOR TO THE INSTALLATION OF WATER AND SEWER LINES. RESULTS MUST BE SUBMITTED TO THE DISTRICT ENGINEER.
12. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:
    "X" FOR SANITARY SERVICE SEWERS
    "V" FOR WATER SERVICES
13. NO TREES ALLOWED IN EASEMENTS OR WITHIN 8' OF WATER OR SANITARY SEWER MAINS IN RIGHT OF WAY.
14. 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.

ADDITIONAL NOTES

1. 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.
2. TOWN OF PARKER REQUIRES 25' STORM SEWER EASEMENT.
3. PARKER WATER AND SANITATION DISTRICT REQUIRES 30' EXCLUSIVE EASEMENT OR 50' NON-EXCLUSIVE EASEMENT.

SANITARY SEWER NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST VERSION.
2. ALL SEWER MAINS SHALL BE PVC, ASTM D-3034, SDR 35 OR APPROVED EQUAL. ALL SEWER MAIN SIZE IS 8" IN DIAMETER UNLESS OTHERWISE NOTED.
3. SEWER LINES SHALL BE INSTALLED 5.0 FEET SOUTH OR WEST OF STREET CENTERLINE, UNLESS OTHERWISE SHOWN ON PLANS. SEWER LINES SHALL BE 10.00 FEET FROM WATER LINES EXCEPT WHEN CROSSING EACH OTHER. SEWER LINES WHICH CROSS LESS THAN 1.50 FEET VERTICALLY FROM THE WATER MAIN SHALL BE ENCASED IN CONCRETE AS PER PWSD SPECIFICATIONS. USE RUBBER GASKETS FOR PVC ENCASEMENT.
4. SEWER RIM ELEVATIONS SHOWN ARE APPROPRIATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. RING AND COVER SHALL BE SET IN CENTERED CONCRETE RINGS WITH RAM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
5. THE CONTRACTOR AND SURVEY CREW SHALL VERIFY ELEVATIONS OF EXISTING SEWER LINES AND MANHOLES TO BE TIED TO PRIOR TO CONSTRUCTION OR STAKING OF SANITARY SEWER.
6. NO UNDERDRAIN SYSTEM WILL BE ALLOWED TO BE PLACED IN MAINLINE OR SEWER SERVICE TRENCHES.
7. SEWER SERVICE TEES FOR EACH UNIT SHALL BE STAKED BY A SURVEY CREW AND FURNISHED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER "AS CONSTRUCTED" LOCATION OF TEES. SEWER WYES SHALL BE USED RATHER THAN TEES.
8. ALL MANHOLES SHALL BE 48-INCHES IN DIAMETER WITH 24-INCH RING AND COVER, ECCENTRIC CONE UNLESS OTHERWISE SPECIFIED. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
9. PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67.
10. AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVES OF THE OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER TO SCHEDULE THIS MEETING.
11. 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.
12. 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.
13. 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.
14. 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

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISION.
2. ALL WATER MAINS SHALL BE PER PWSD MATERIALS SPECIFICATIONS. ALL MATERIALS IN CONTACT WITH POTABLE WATER SHALL BE SUITABLE FOR CHLORINATED AND CHLORAMINATED WATER.
3. ALL BENDS, PLUGS, REDUCERS, AND FIRE HYDRANTS TO BE RODDED OR MEGA-LUGGED. ALL FITTINGS SHALL BE WRAPPED PER PWSD MATERIALS SPECIFICATIONS.
4. THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
5. FIRE HYDRANTS SHALL CONFORM TO AWWA C-502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES PER PWSD SPECIFICATIONS.
6. ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST WITH CONCRETE THRUST BLOCKS.
7. PRECAUTIONS SHALL BE TAKEN TO PROTECT THE INTERIOR OF PIPES, FITTINGS, AND VALVES AGAINST CONTAMINATION. ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH WATERTIGHT PLUGS WHEN PIPE LAYING IS STOPPED AT THE CLOSE OF THE DAYS WORK OR FOR OTHER REASONS, SUCH AS REST BREAKS OR MEAL PERIODS.
8. 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.
9. 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.
10. 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.
11. PIPE BEDDING SHALL BE A CLEAN, WELL-GRADED SAND OR SQUEEGEE SAND IN ACCORDANCE WITH PWSD STANDARDS AND SPECIFICATIONS, LATEST REVISION.
12. 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.
13. 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.
14. 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.
15. CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PWSD SPECIFICATIONS. CHLORINATION OF FINISHED PIPELINE COMPLETED BEFORE HYDROSTATIC TESTING.
16. 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.

Know what's **below.** **Call** before you dig.

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 AND SANITARY SEWER NOTES

COLORADO LICENSED
DANIEL L. SIMPSON
07/30/20
46391
PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001CV_UT

C7.1

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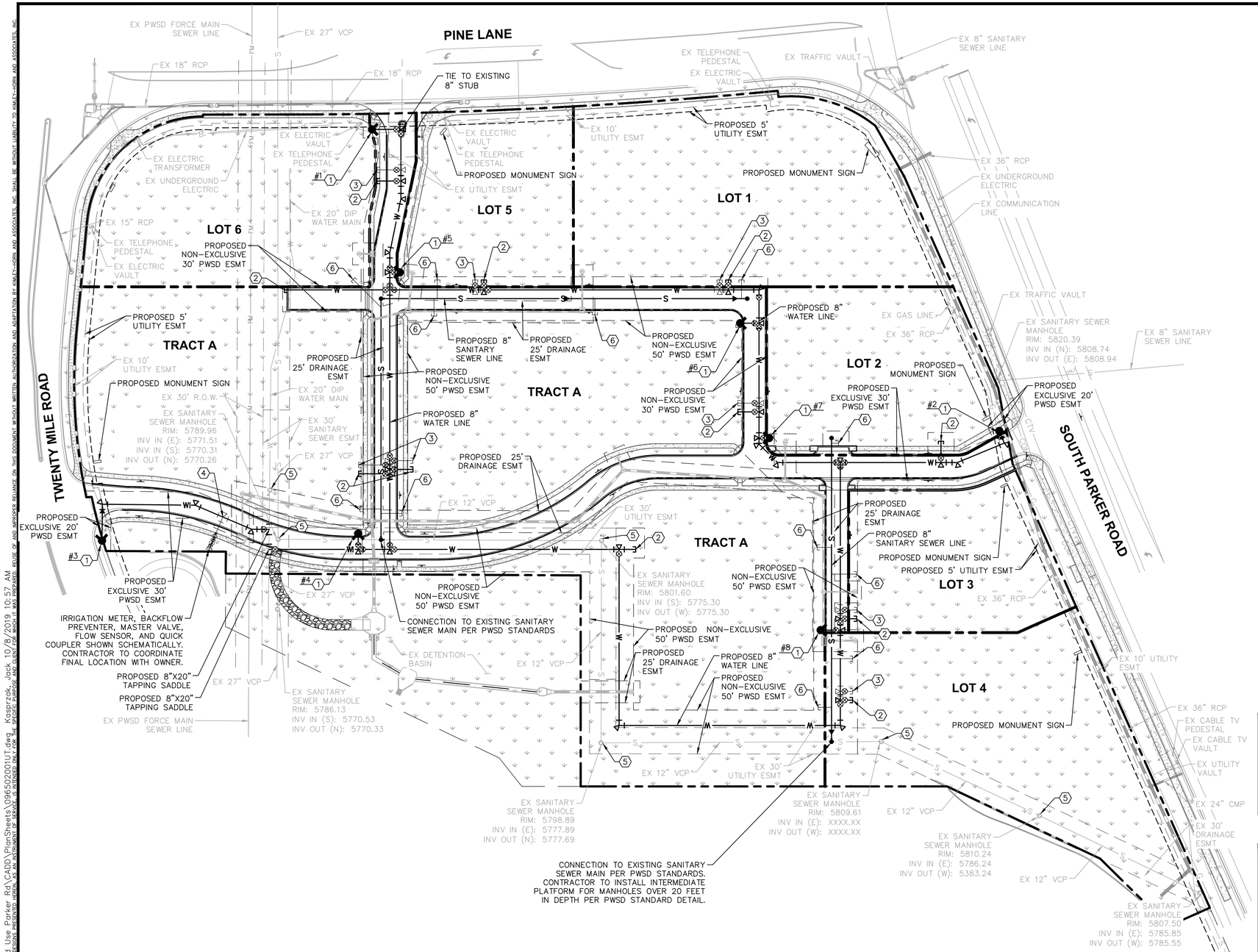

GRAPHIC SCALE IN FEET
60 0 30 60 120
1" = 60' @ 24X36

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.

FIRE CODE OFFICIAL OR DESIGNATED RESPRESENTATIVE 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 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

Know what's below. Call before you dig.

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

OVERALL UTILITY PLAN

COLORADO LICENSED DANIEL L. SEIBERT 07/30/20 46391 PROFESSIONAL ENGINEER

PROJECT NO. 096502001

DRAWING NAME 096502001UT

C7.2

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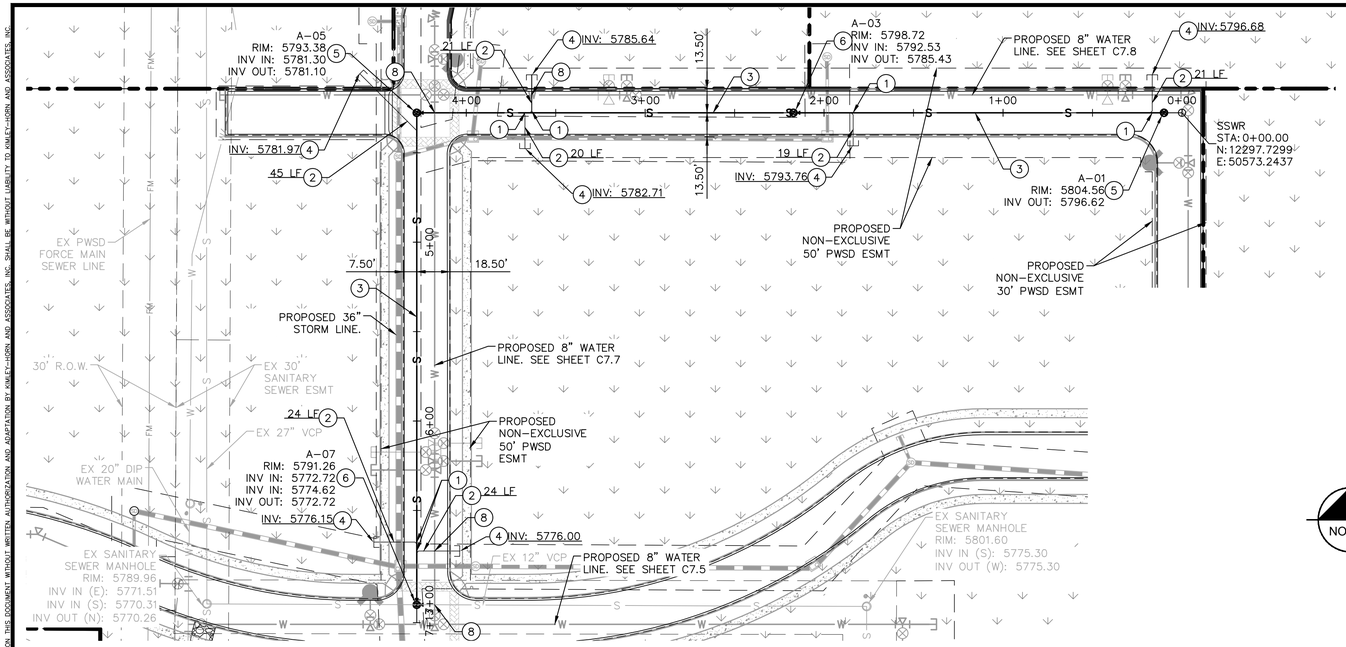
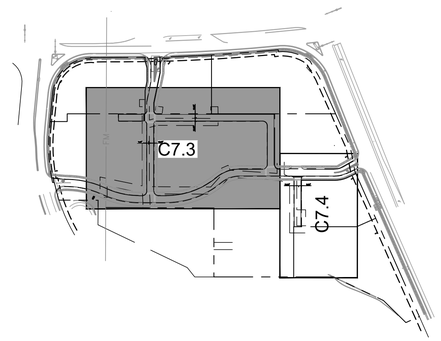


KEY NOTES

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



GRAPHIC SCALE IN FEET
0 20 40 80
HORIZONTAL
8 4 2 0
VERTICAL
NORTH

KEYMAP
NOT TO SCALE

LEGEND

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

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.
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17. ALL SANITARY SERVICES TO CONNECT TO MAIN VIA WYE CONNECTION.
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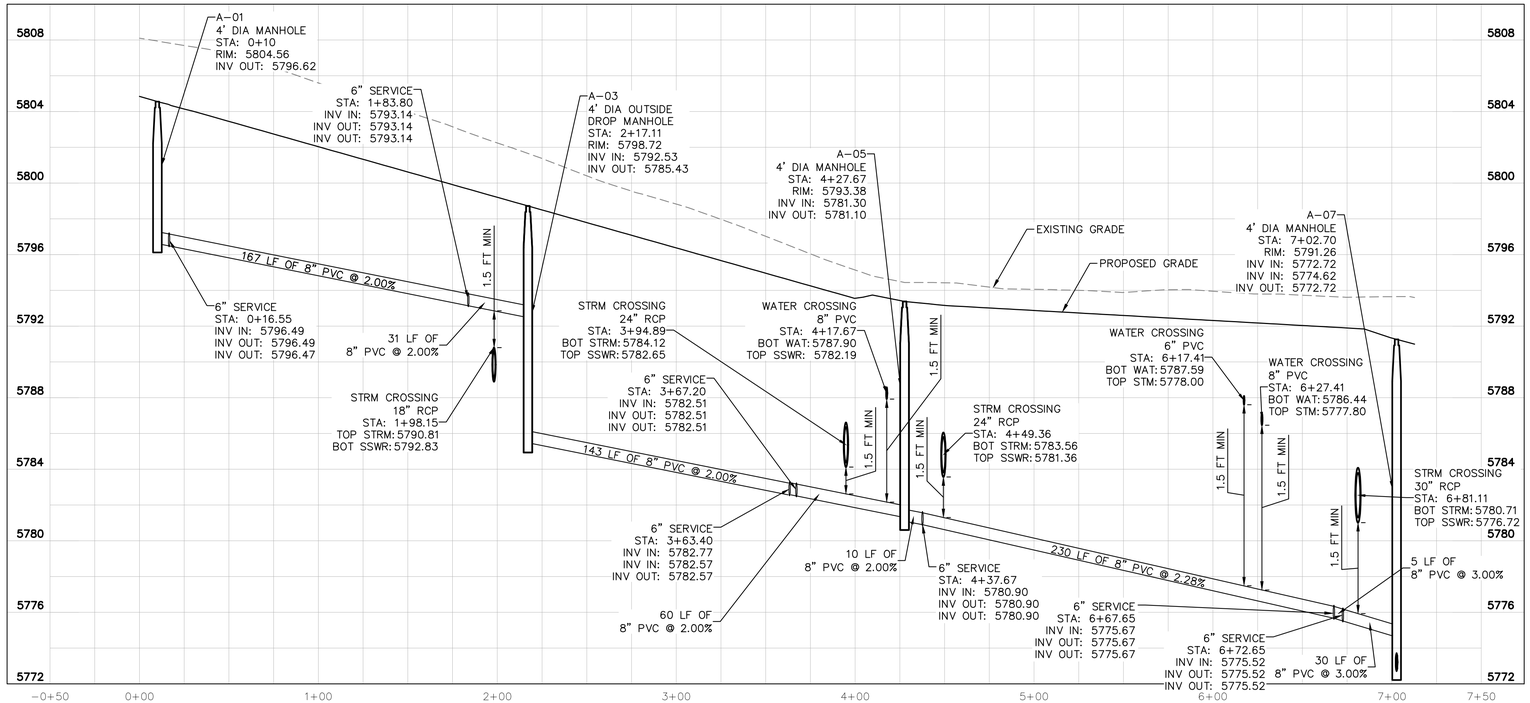

SANITARY SEWER MAIN PROFILE A

STRUCTURE SSWR-A-01 TO SSWR-A-07

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

CAUTION
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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

SANITARY SEWER PLAN AND PROFILE

COLORADO LICENSED
DANIEL L. SWEENEY
07/30/20
46391
PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001SS

C7.3

K:\DEN_Civil\096502001 - Mixed Use Parker Rd\CADD\PlanSheets\096502001SS.dwg Kasprzak, Jack 10/8/2019 10:57 AM
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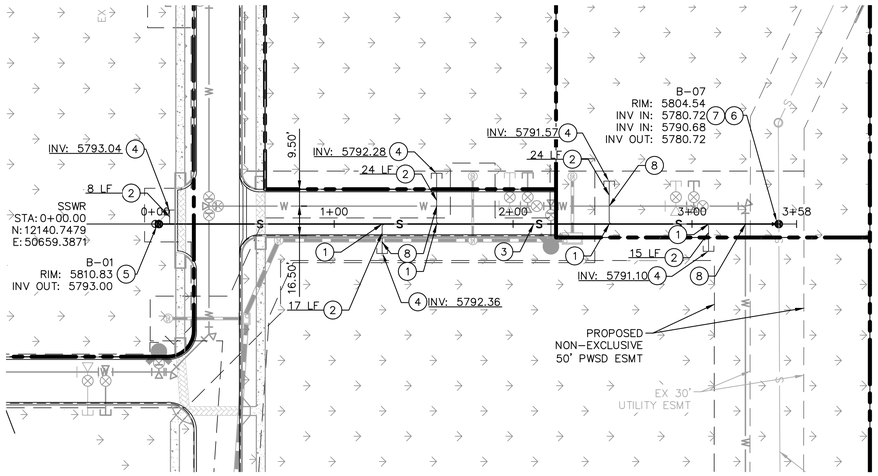

KEY NOTES

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.
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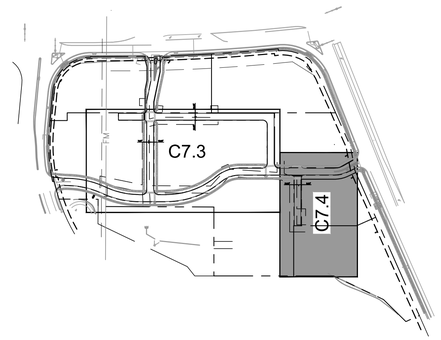

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HORIZONTAL

VERTICAL
8
4
2
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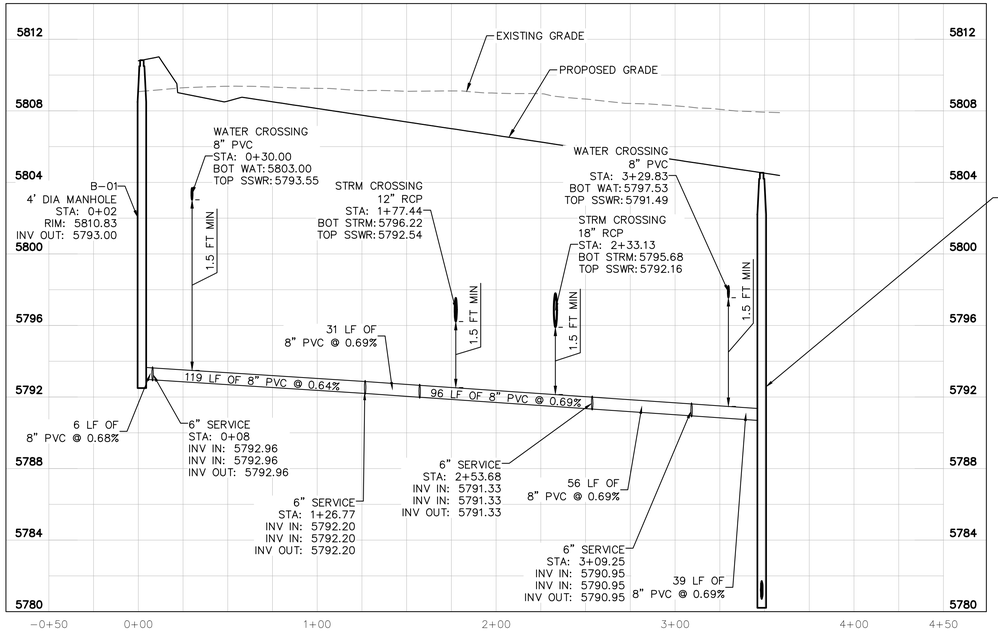

SANITARY SEWER MAIN PROFILE
STRUCTURE SSWR-B-01 TO SSWR-B-07

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

CAUTION
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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

COLORADO LICENSED
DANIEL L. SWEENEY
07/30/20
46391
PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001SS

C7.4

K:\DEN_Civil\096502001 - Mixed Use Parker Rd\CADD\PlanSheets\096502001SS.dwg, Kasprzak, Jack 10/8/2019 10:57 AM
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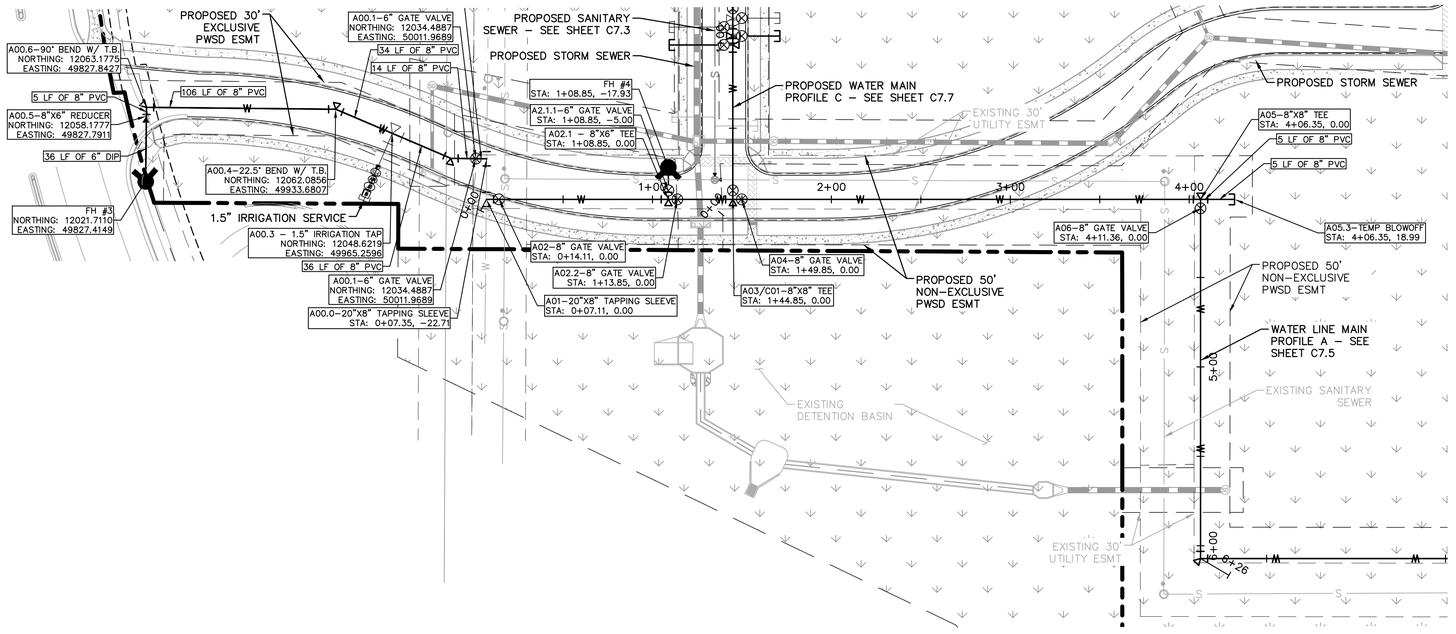

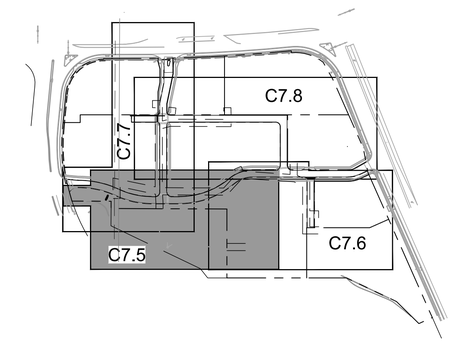

KEYMAP
NOT TO SCALE

LEGEND

- PROPERTY LINE
- W — EXISTING WATER LINE
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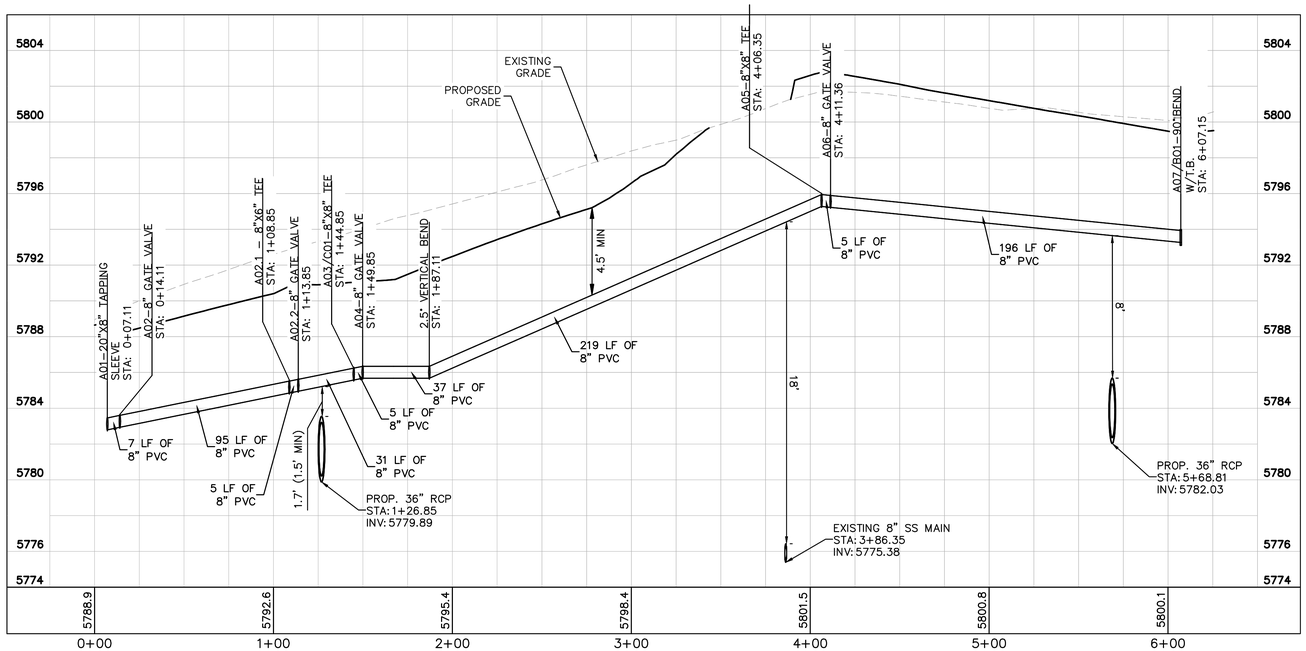
- PROPOSED STORM LINE

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80



WATER MAIN PROFILE A
STRUCTURE A01 TO A07

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

VERTICAL
0 2 4 8

WATER NOTES

1. CONTRACTOR TO POTHOLE EXISTING UTILITY LINES AT WATER LINE CROSSING AREAS PRIOR TO CONSTRUCTION.
2. WATER LINE CONNECTION ELEVATION TO EXISTING WATER MAINS IS APPROXIMATE. CONTRACTOR TO POTHOLE AND VERIFY TIE IN ELEVATION PRIOR TO CONSTRUCTION OF WATER MAIN.
3. CONTRACTOR TO MEET THE INSTALLATION REQUIREMENTS BY THE PARKER WATER AND SANITATION DISTRICT DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.
4. 24 UNIT BUILDINGS (BUILDINGS 1-7) SHALL PROVIDE INTERNAL BACKFLOW PREVENTER AND EXTERNAL 2" DOMESTIC METER.
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6. VERTICAL BENDS AND DEFLECTIONS MAYBE UTILIZED TO PROVIDE VERTICAL CHANGES IN ACCORDANCE WITH PWSD STANDARDS AS NEEDED.
7. 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.
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811 Know what's below. Call before you dig.

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 - A

COLORADO LICENSED
DANIEL L. SIEVERS
07/30/20
46391
PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001WT-PP

C7.5

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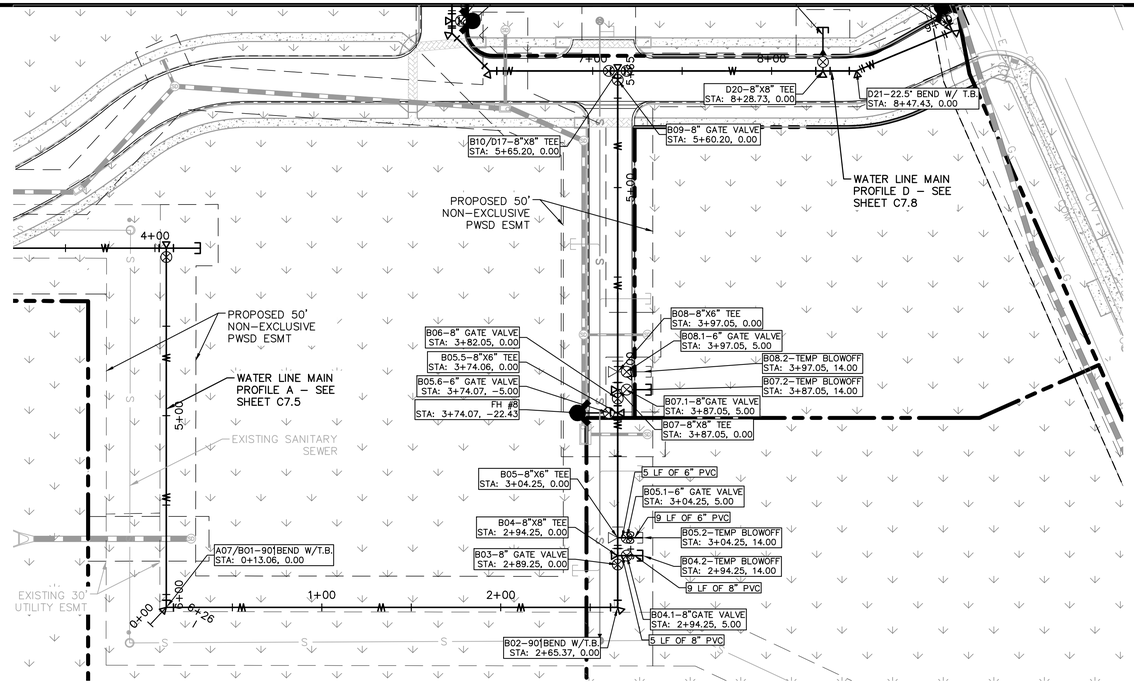

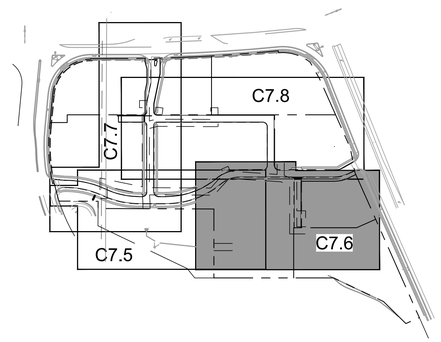

LEGEND

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NORTH

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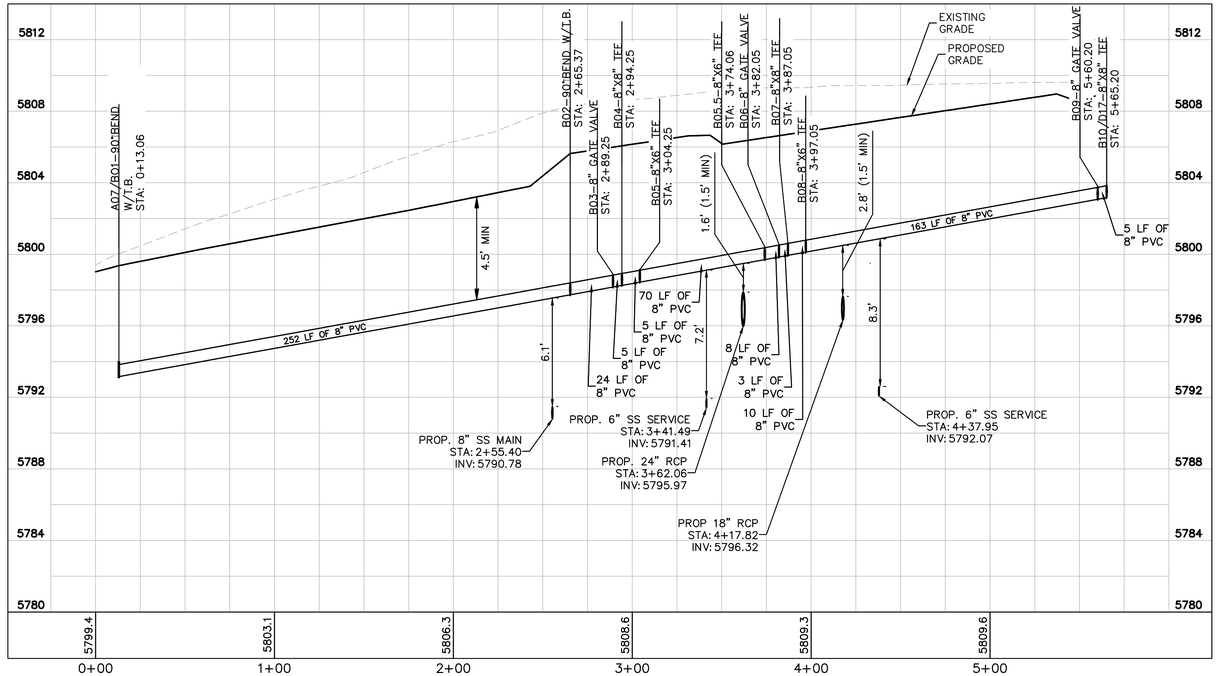
0 20 40 80



VERTICAL
0 2 4 8

WATER MAIN PROFILE B
STRUCTURE B01 TO B10

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07/30/20
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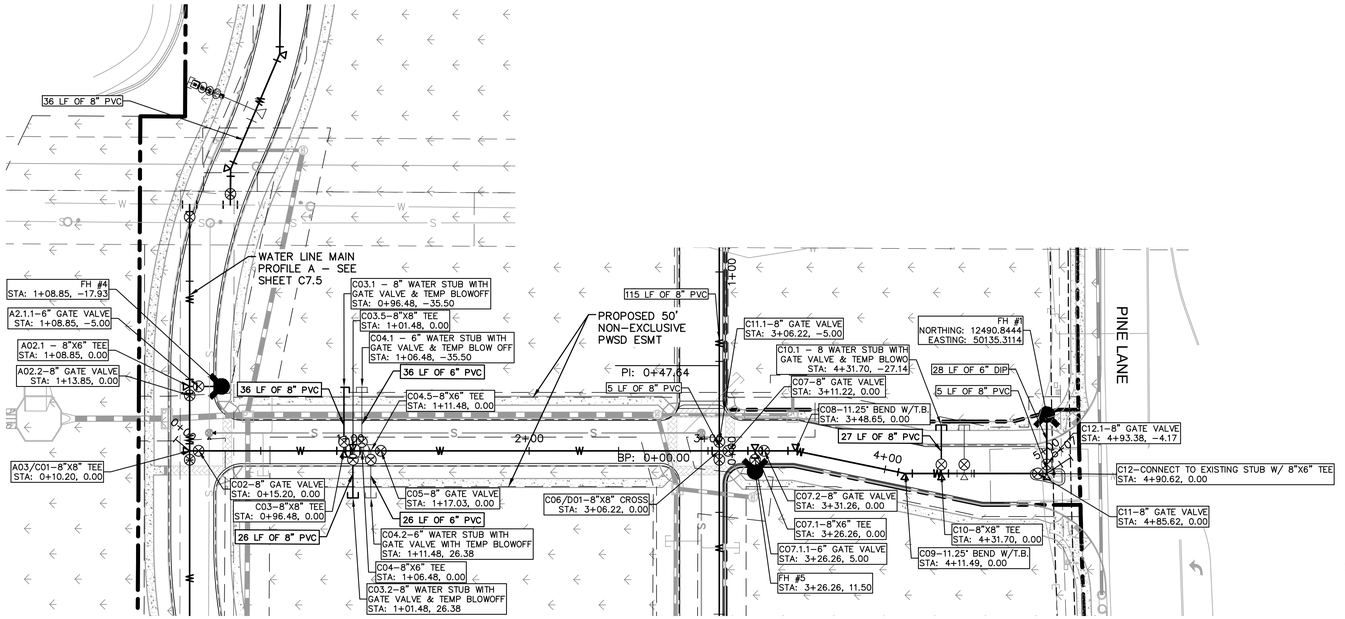

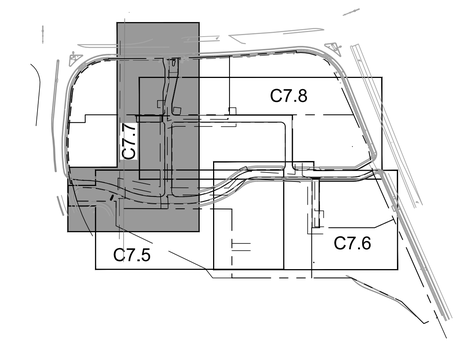

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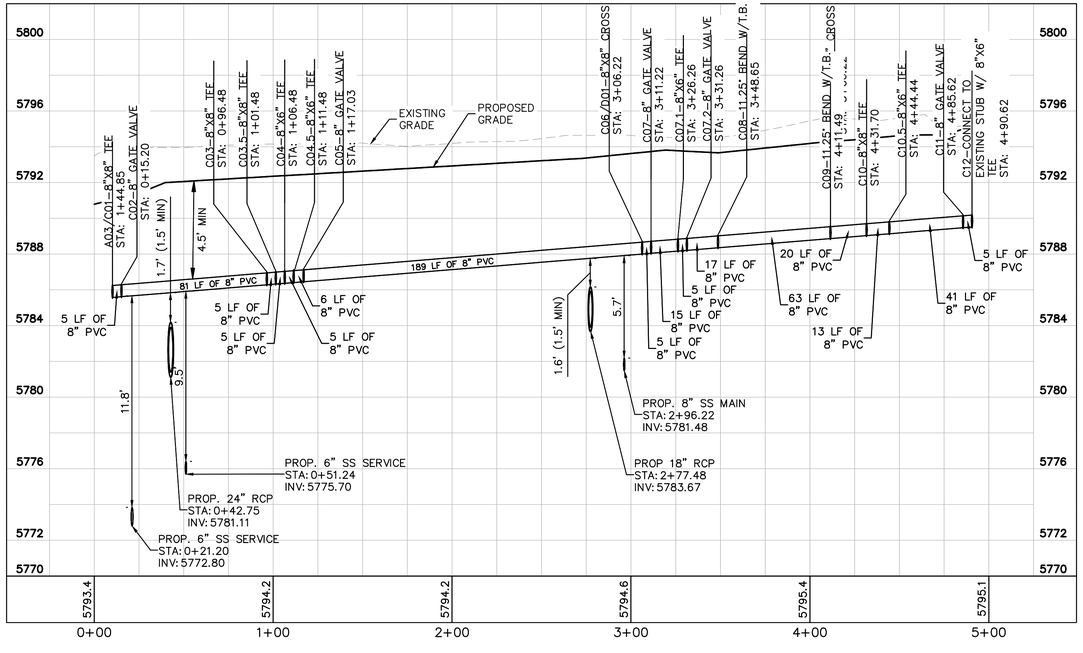
GRAPHIC SCALE IN FEET
0 20 40 80



VERTICAL
0 2 4 8

WATER MAIN PROFILE C

STRUCTURE C01 TO C12

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

WATER NOTES

1. CONTRACTOR TO POTHOLE EXISTING UTILITY LINES AT WATER LINE CROSSING AREAS PRIOR TO CONSTRUCTION.
2. WATER LINE CONNECTION ELEVATION TO EXISTING WATER MAINS IS APPROXIMATE. CONTRACTOR TO POTHOLE AND VERIFY TIE IN ELEVATION PRIOR TO CONSTRUCTION OF WATER MAIN.
3. CONTRACTOR TO MEET THE INSTALLATION REQUIREMENTS BY THE PARKER WATER AND SANITATION DISTRICT DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.
4. 24 UNIT BUILDINGS (BUILDINGS 1–7) SHALL PROVIDE INTERNAL BACKFLOW PREVENTER AND EXTERNAL 2" DOMESTIC METER.
5. 36 UNIT (BUILDING 8) SHALL PROVIDE INTERNAL BACK FLOW PREVENTERS AND 1–1/2" DOMESTIC METER.
6. VERTICAL BENDS AND DEFLECTIONS MAYBE UTILIZED TO PROVIDE VERTICAL CHANGES IN ACCORDANCE WITH PWSD STANDARDS AS NEEDED.
7. 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.
8. 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.
9. 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.

Know what's below. Call before you dig.

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

COLORADO LICENSED
DANIEL L. SIEVERS
07/30/20
46391
PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001WT–PP

C7.7

K:\DEN_Civil\096502001 – Mixed Use Parker Rd\CADD\PlanSheets\096502001WT–PP.dwg, Kasprzak, Jack 10/8/2019 10:57 AM
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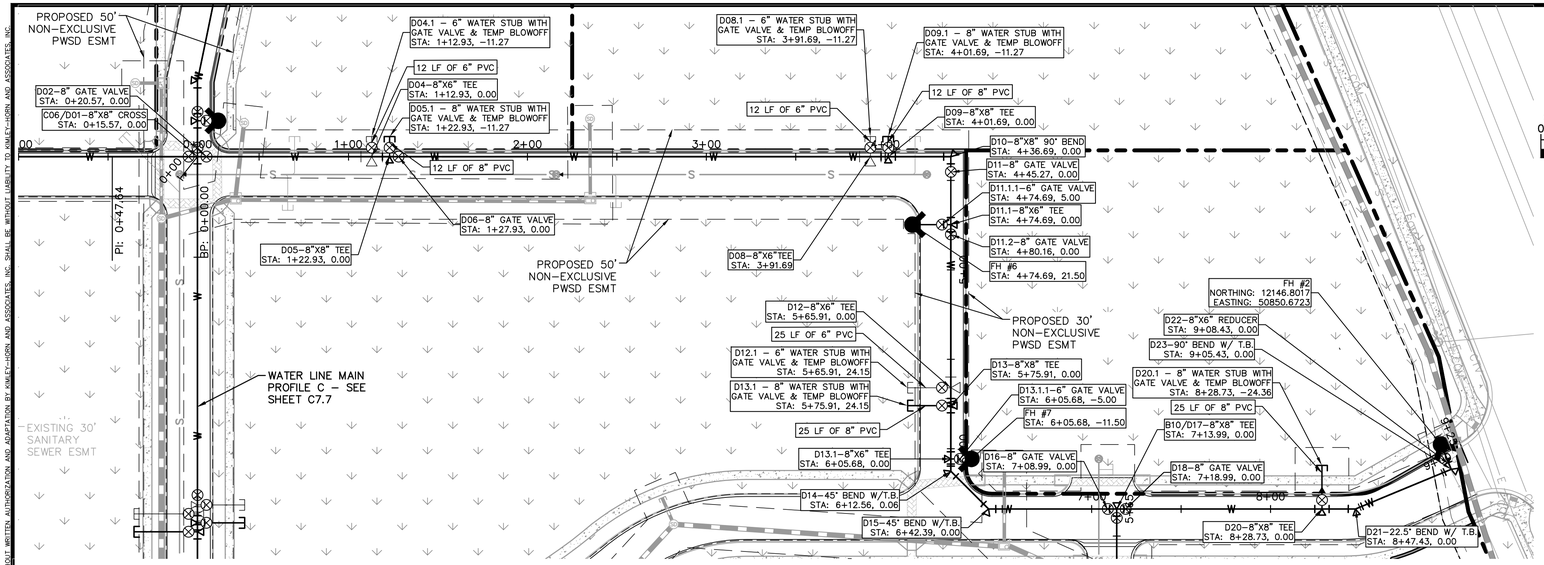
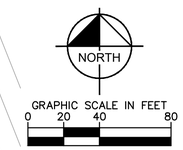
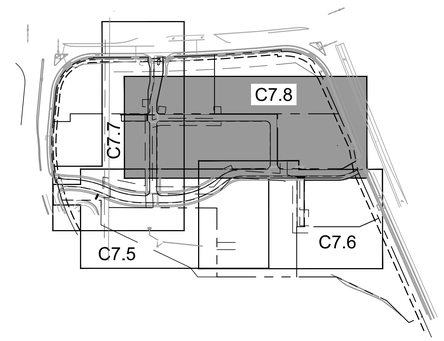


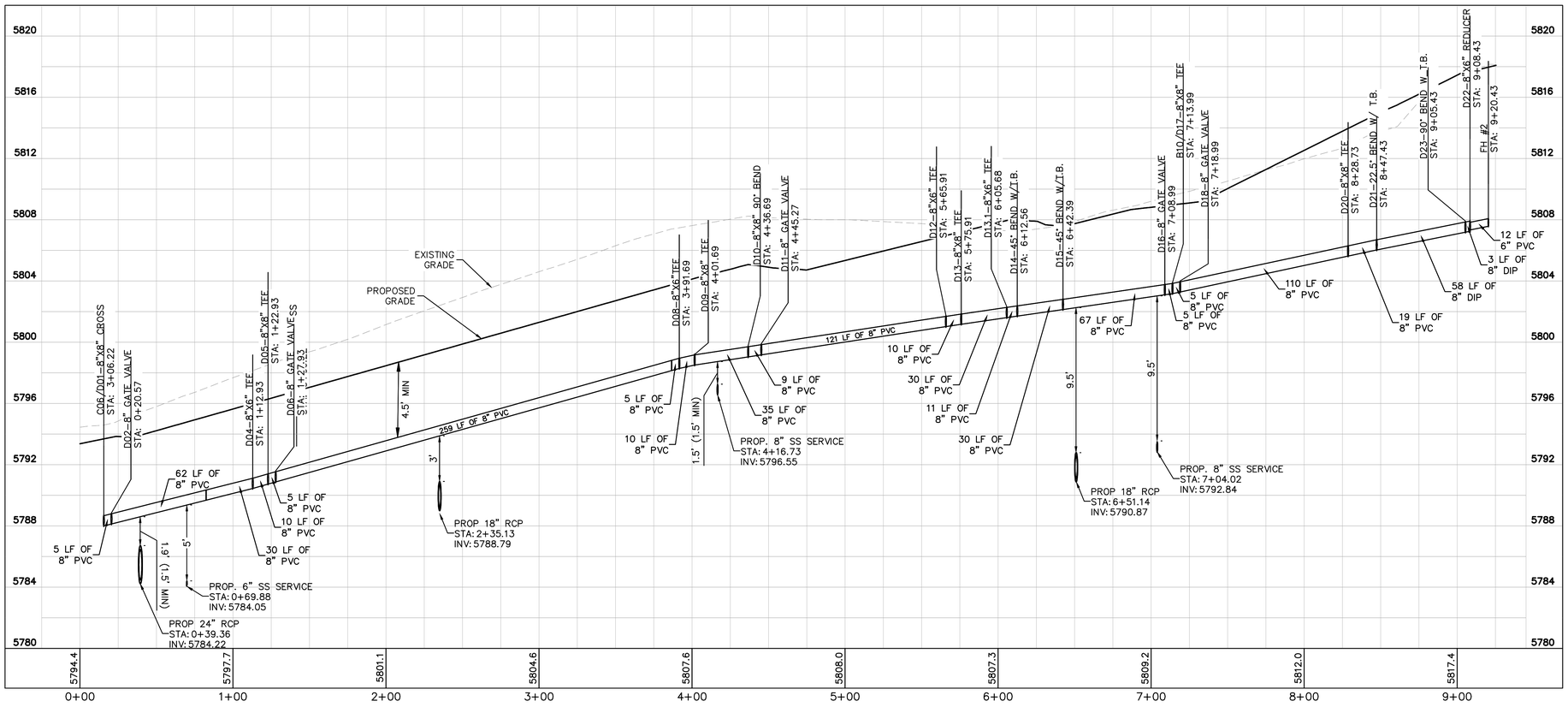




KEYMAP
NOT TO SCALE

LEGEND

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



WATER MAIN PROFILE D

STRUCTURE D01 TO FH #2

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

WATER NOTES

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811 Know what's below. Call before you dig.

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 - D

COLORADO LICENSED DANIEL L. SLAUGHTER 07/30/20 46391 PROFESSIONAL ENGINEER

PROJECT NO. 096502001

DRAWING NAME 096502001WT–PP

C7.8

K:\DEN_Civil\096502001 – Mixed Use Parker Rd\CADD\PlanSheets\096502001WT–PP.dwg Kasprzak, Jack 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 PRESSENT AT TIME OF INSPECTION UNLESS COORDINATED WITH DISTRICT INSPECTOR.

INSTALLATION NOTES:

SEWER

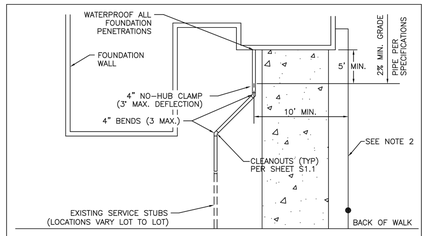
1. ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SQUEEGEE.
2. NO-HUB CLAMPS SHALL BE USED TO JOIN 2 MALE PIPE ENDS WITH A MAXIMUM DEFLECTION OF 3°.
3. MINIMUM GRADE SHALL BE 2%.
4. INSTALLATION SHALL INCLUDE NO MORE THAN 3 BENDS. 90° BENDS 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 PERMANANTELY MARKED ON CURB FACE AS FOLLOWS:
   "X" FOR SANITARY SEWER SERVICE
   "V" FOR WATER SERVICES

PARKER WATER & SANITATION DISTRICT

DISTRICT POLICIES & INSTALLATION NOTES FOR SEWER SERVICES

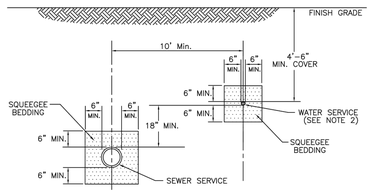
SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 10/16 1/08 1/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S1.1



TYPICAL SERVICES PLAN VIEW

NTS



TYPICAL SERVICES SECTION

NTS

NOTE

1. SEE SHEET S1.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
2. TYPICAL WATER SERVICES SHOWN ON SHEET W1.2 IN WATER DETAILS.

PARKER WATER & SANITATION DISTRICT

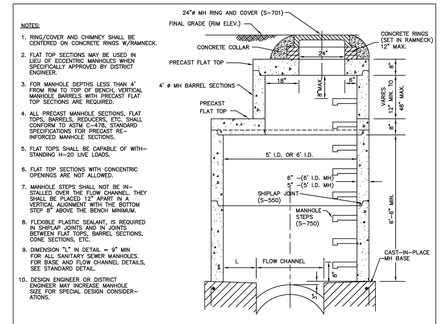
TYPICAL SEWER SERVICES

SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 01/02 01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S1.2

NOTES:

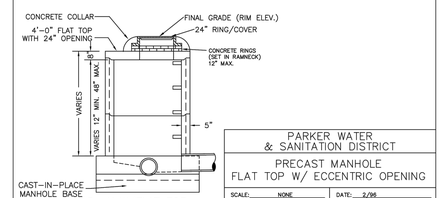
1. RING/COVER AND CHIMNEY SHALL BE CENTERED ON CONCRETE RINGS W/RAMNECK.
2. FLAT TOP SECTIONS MAY BE USED IN LIEU OF ECCENTRIC MANHOLES WHEN SPECIFICALLY APPROVED BY DISTRICT ENGINEER.
3. FOR MANHOLE DEPTHS LESS THAN 4' FROM RIM TO TOP OF BENCH, VERTICAL MANHOLE BARRELS WITH PRECAST FLAT TOP SECTIONS ARE REQUIRED.
4. ALL PRECAST MANHOLE SECTIONS, FLAT TOPS, CONES, BASES AND RINGS SHALL CONFORM TO ASTM C-478, STANDARD SPECIFICATIONS FOR PRECAST RE-INFORCED MANHOLE SECTIONS.
5. FLAT TOPS SHALL BE CAPABLE OF WITH-STANDING H-20 LIVE LOADS.
6. FLAT TOP SECTIONS WITH CONCENTRIC OPENINGS ARE NOT ALLOWED.
7. MANHOLE STEPS SHALL NOT BE IN-STALLED OVER THE FLOW CHANNEL. THEY SHALL BE PLACED 12" APART IN A VERTICAL ALIGNMENT WITH THE BOTTOM STEP 8" ABOVE THE BENCH MINIMUM.
8. FLEXIBLE PLASTIC SEALANT, IS REQUIRED IN SHIPLAP JOINTS AND IN JOINTS BETWEEN FLAT TOPS, BARREL SECTIONS, CONE SECTIONS, ETC.
9. DIMENSION "L" IN DETAIL = 9" MIN. FOR ALL SANITARY SEWER MANHOLES. FOR BASE AND FLOW CHANNEL DETAILS, SEE STANDARD DETAIL.
10. DESIGN ENGINEER OR DISTRICT ENGINEER MAY INCREASE MANHOLE SIZE FOR SPECIAL DESIGN CONSIDER-ATIONS.



FLAT TOP WITH ECCENTRIC OPENING

5' I.D. MANHOLE OR 6' I.D. MANHOLE

(33" ø – 42" ø PIPE) (48" ø PIPE)



4' I.D. H W/FLAT TOP

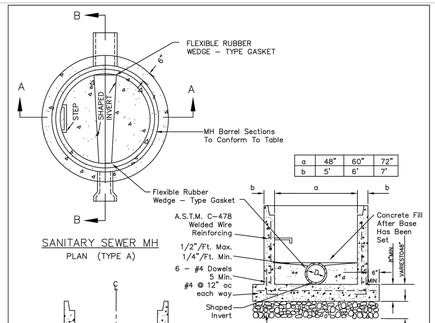
(FOR SHALLOW COVER; LESS THAN 4' TO BENCH)

PARKER WATER & SANITATION DISTRICT

PRECAST MANHOLE FLAT TOP W/ ECCENTRIC OPENING

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

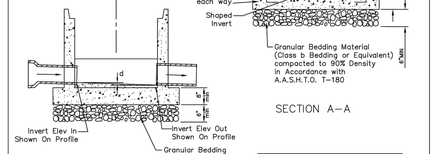
2016 REVISION — SHEET S3.2



SANITARY SEWER MH

PLAN (TYPE A)

SECTION A–A



SECTION B–B

NOTES:

1 Base slab shall be cast monolithic with the bottom riser section.
2 All pipe openings shall be formed with an approved flexible rubber wedge – type gasket conforming to A.S.T.M. C-443 which shall be capable of providing a water – tight joint with zero leakage around the installed pipe(s).
3 Manhole steps installed in bottom riser section shall conform to PWSD Standards and Specifications.
4 Shiplap joint on manhole barrel riser shall conform to PWSD Standards and Specifications. However, as an alternate a special edgier section may be provided at the first joint in the bottom riser section which will adopt the precast base section to PWSD standard manhole riser sections.
5 Grouted flow channels and inverts shall conform to PWSD Standards and Specifications. Manhole barrel min. diameter shall conform to table. Precast barrel sections to conform to A.S.T.M. C-478. All dead-end manholes shall be stubbed thru at 0.40% minimum slope.
8 Stub outs shall extend 2'-0" min past manhole O.D. and be satisfactorily plugged.
9 Slope of bench = 1/2"/Ft.–Max 1/4"/Ft.–Min.
10 Slope of bench = 1/2"/Ft.–Max 1/4"/Ft.–Min.
11 Δ= Invert drop thru Manhole (If > 18", outside drop MH req'd)

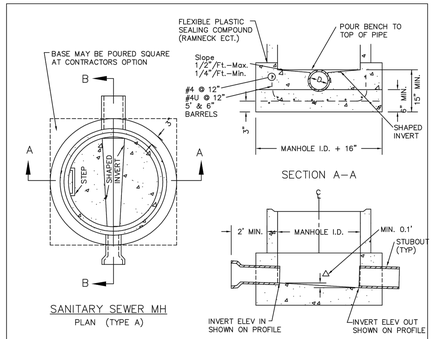
ATTENTION: NOT TO BE USED WITHOUT EXPRESS PERMISSION OF DISTRICT ENGINEER.

PARKER WATER & SANITATION DISTRICT

PRECAST MANHOLE BASE DETAIL

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.4



SANITARY SEWER MH

PLAN (TYPE A)

NOTES:

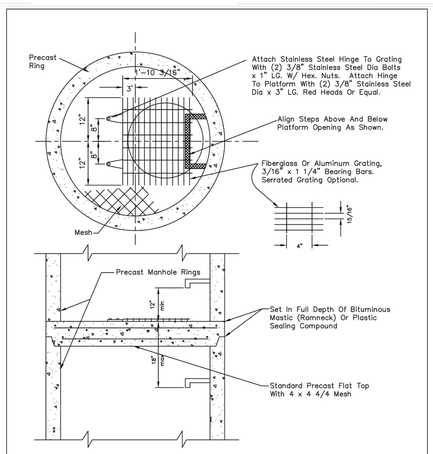
1. Manhole barrel min. thickness to be 5".
2. Shaping for smooth manhole inverts may be done by forming or shaping with cement mortar (San. Sewer).
3. The manhole steps shall conform to District Standards and Specifications.
4. Precast sections to conform to A.S.T.M C-478.
5. All dead-end manholes, that call out a stub out, shall be thru at 0.40% minimum slope.
6. Stub outs shall extend 2'-0" minimum past manhole O.D. and be satisfactorily plugged.
7. Reinforcing in base required for manhole.
8. Slope of bench = 1/2"/Ft.–Max. 1/4"/Ft.–Min.
9. Δ = invert drop thru MH (If Δ > 18", outside drop MH required). Min. 0.1' for all straight through MH and 0.2' for all angled MH.

PARKER WATER & SANITATION DISTRICT

CAST-IN-PLACE MANHOLE BASE DETAIL

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.5



NOTES:

1.1 Maximum distance between platforms shall be 15" vertically.

1.2 All hardware used inside a manhole shall be stainless steel.

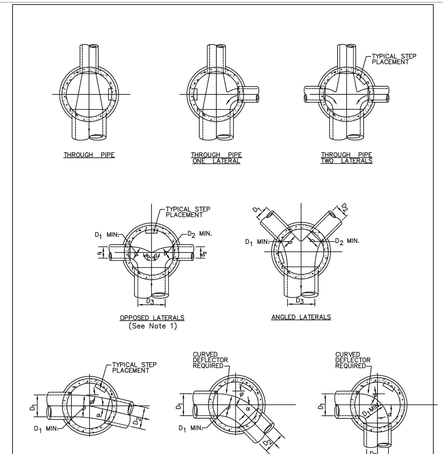
1.3 Manholes over 20' deep shall submit structural calculations on base and wall sizing.

PARKER WATER & SANITATION DISTRICT

INTERMEDIATE PLATFORM FOR MANHOLES OVER 20' DEPTH

SCALE: NONE	DATE: 2/96
APPROVED: RWT	2/00 4/19 1/16 10/16
DIRECTOR OF ENGINEERING	

2020 REVISION — SHEET S3.6



NOTES:

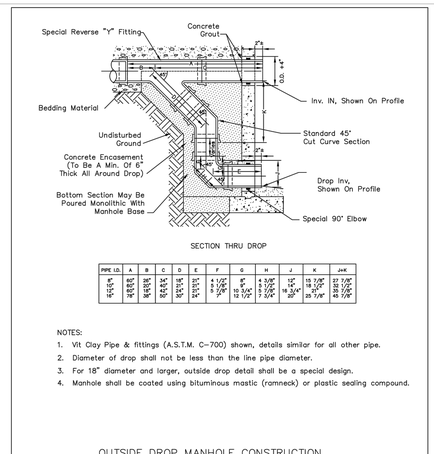
1. Manhole shall be coated using bituminous mastic (ramneck) or plastic sealing compound.

PARKER WATER & SANITATION DISTRICT

TYPICAL BASE CHANNELIZATION DETAILS

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

2016 REVISION — SHEET S3.7



SECTION THRU DROP

PIPE I.D.	A	B	C	D	E	F	G	H	J	K	J=K
8"-15" ø	36"	36"	45°	24"	31½"	9"	4 3/8"	11"	15 7/8"	22 7/8"	
18" ø	36"	36"	45°	24"	31½"	9"	5 1/2"	12"	16 1/2"	23 1/2"	
21"-24" ø	48"	48"	45°	30"	39"	12"	6 7/8"	13 3/4"	18 3/4"	30 1/2"	30 7/8"
27"-30" ø	48"	48"	45°	30"	39"	12"	7 3/4"	15"	20"	35 7/8"	45 7/8"

NOTES:

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

OUTSIDE DROP MANHOLE CONSTRUCTION

PARKER WATER & SANITATION DISTRICT

OUTSIDE DROP MANHOLE CONSTRUCTION

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.8

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

UTILITY DETAILS

COLORADO LICENSED DANIEL L. SLAUGHTER 07/30/20 46391 PROFESSIONAL ENGINEER

PROJECT NO. 096502001

DRAWING NAME 096502001UT-DT

C7.9

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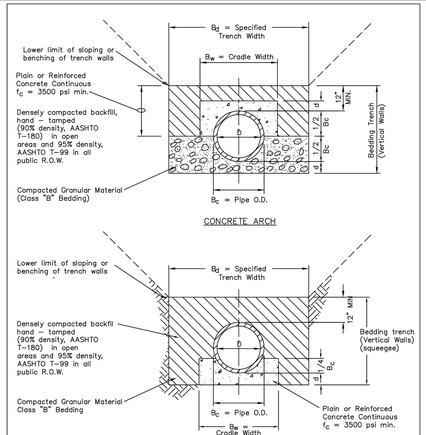


NOTE:
The Design Engineer shall be responsible for structural design of the concrete cradle and/or concrete arch.

TABLE III

NOMINAL DIAMETER (D)	MINIMUM THICKNESS (d)	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

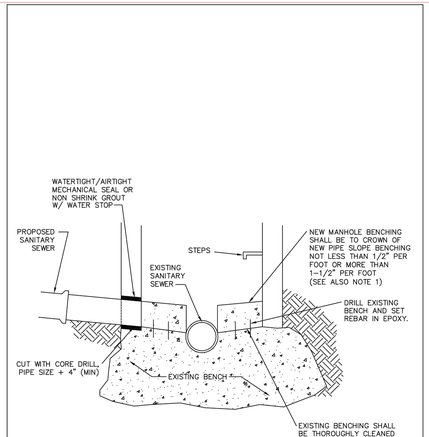
TRENCHING AND BEDDING DETAIL – CLASS "A"

SCALE: NONE DATE: 2/96

APPROVED: PVR 1/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.2



NOTES

1 – NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

PARKER WATER & SANITATION DISTRICT

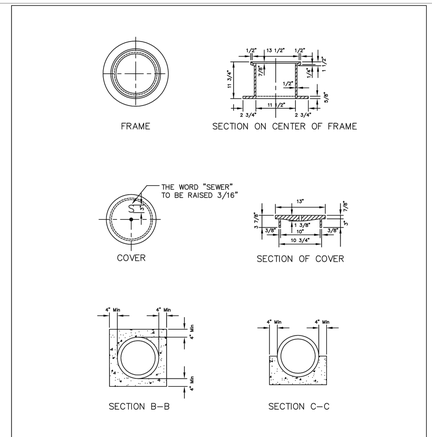
MANHOLE INVERT TIE–IN DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 1/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.9



PARKER WATER & SANITATION DISTRICT

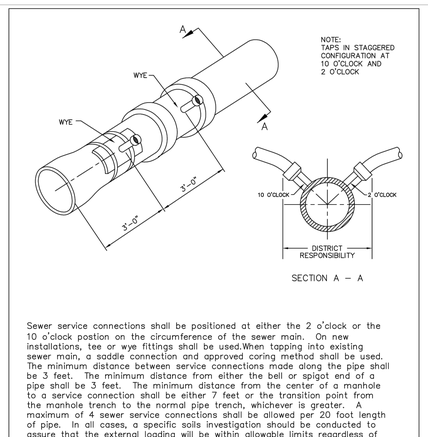
IN–LINE CLEANOUT SECTIONS

SCALE: NONE DATE: 2/96

APPROVED: PVR 2/00, 1/02, 1/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.12



Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock postion 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

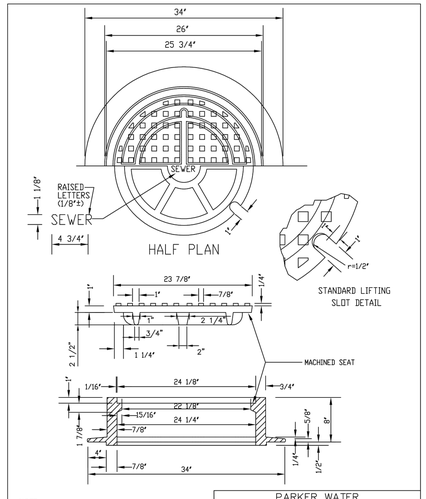
DOMESTIC SEWER TAPPING DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 4/01, 1/08, 1/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.13



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 Paint (Or Approved Equal).
3. No other manhole lids will be accepted without prior approval from the District Engineer.

PARKER WATER & SANITATION DISTRICT

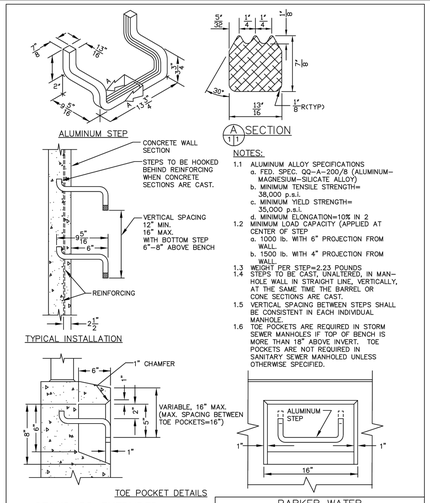
24" DIAMETER RING AND COVER

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S3.9



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 6" 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 MAN–HOLE 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 MANHOLED UNLESS OTHERWISE SPECIFIED.

PARKER WATER & SANITATION DISTRICT

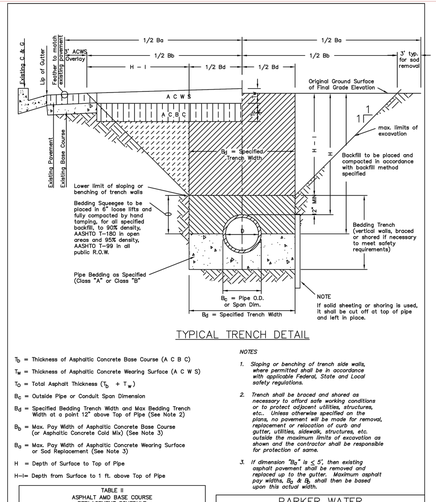
STANDARD EXTRUDED ALUMINUM MANHOLE STEP

SCALE: NONE DATE: 2/96

APPROVED: PVR 01/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S3.10



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_O = Total Asphalt Thickness (T_B + T_W)

B_C = Outside Pipe or Conduit Span Dimension

B_d = Specified Bedding Trench Width and Max Bedding Trench Width at a point 12" above Top of Pipe (See Note 2)

B_B = 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 Sod Replacement (See Note 3)

H = Depth of Surface to Top of Pipe

H–I= Depth from Surface to 1 ft. above Top of Pipe

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 braced 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, unless necessary to remove curb, gutter, utilities, sidewalk, structures, etc. outside the maximum limits of excavation as shown and the contractor shall be responsible for protection of same.*
3. *If dimension "B_B" is ≤ 5', then existing asphalt shall not be removed and shall be saw cut to the full width. Maximum asphalt pay widths, B_S & B_B, shall then be based upon this actual width.*

TABLE I
ASPHALT AND BASE COURSE REPLACEMENT SCHEDULE

STREET WIDTH	ASPHALTIC BASE COURSE (T_B)	ASPHALTIC WEARING SURFACE (T_W)	TOTAL THICKNESS (T_O)
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

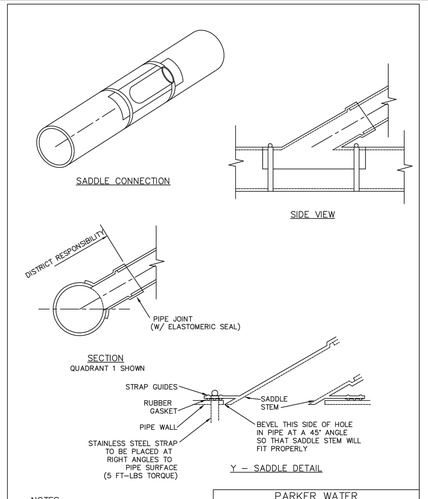
SEWER TRENCHING AND BEDDING DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 5/98, 1/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.1



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 1/16, 10/16

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.14

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

PARKER AND PINE FILING 1
PARKER, CO
CONSTRUCTION DOCUMENTS

UTILITY DETAILS

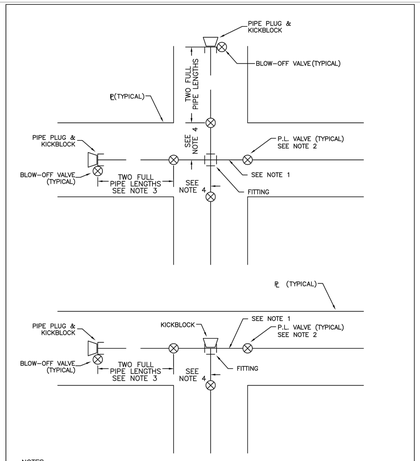
COLORADO LICENSED DANIEL L. SLAUGHTER 07/30/20 46391 PROFESSIONAL ENGINEER

PROJECT NO. 096502001

DRAWING NAME 096502001UT–DT

C7.10

K:\DEN_Civil\096502001 – Mixed Use Parker Rd\CADD\PlanSheets\096502001UT–DT.dwg, Kasprzak, Jack 10/8/2019 10:57 AM
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY–HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY–HORN AND ASSOCIATES, INC.



NOTES:

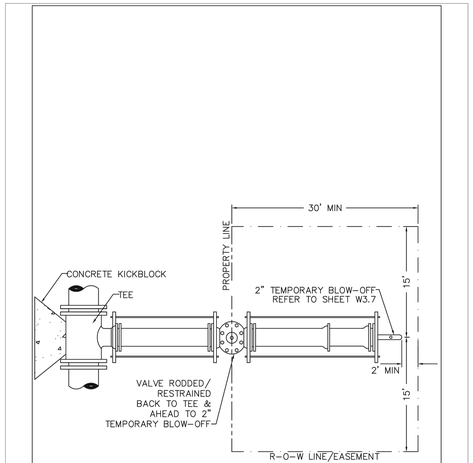
1. LAY PIPE FROM FITTING TO P_L
2. INSTALL VALVE AT P_L
3. STUB OUT TWO FULL PIPE LENGTHS FROM VALVE AND BLOW-OFF VALVE. PLUG END OF PIPE AND INSTALL KICKBLOCK.
4. ALTERNATIVE TO NOTE 3: ROD OR MECHANICAL JOINT RESTRAINT FROM VALVE TO FITTING AND ELIMINATE THE TWO FULL LENGTHS OF PIPE OUT OF VALVE AND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

PARKER WATER & SANITATION DISTRICT

PIPING AT STREET INTERSECTIONS
FUTURE CONNECTIONS

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	01/02 01/16 10/16

2016 REVISION — SHEET W2.7

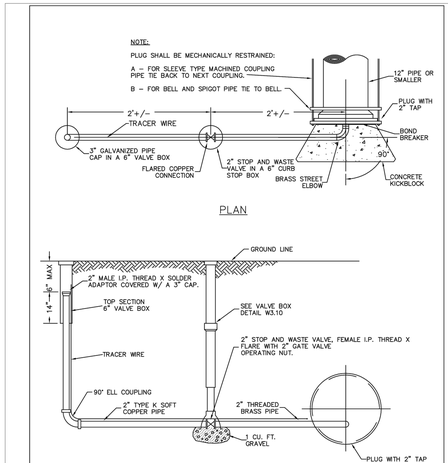


PARKER WATER & SANITATION DISTRICT

STUB-OUT CONFIGURATIONS

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

2016 REVISION — SHEET W3.5

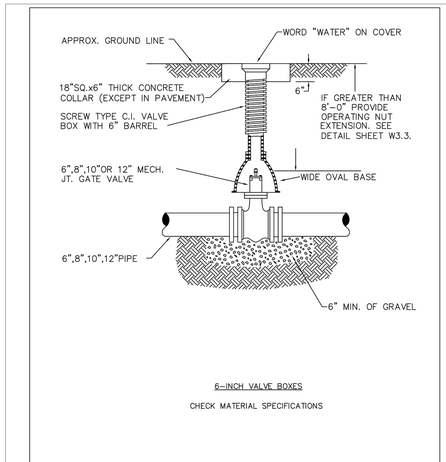


PARKER WATER & SANITATION DISTRICT

BLOW-OFF INSTALLATION
FOR 12" & SMALLER PIPE

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

2016 REVISION — SHEET W3.7



6-INCH VALVE BOXES

CHECK MATERIAL SPECIFICATIONS

NOTES:

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

PARKER WATER & SANITATION DISTRICT

VALVE BOX DETAIL

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	5/98 10/16 6/99 12/07 1/16

2016 REVISION — SHEET W3.10

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

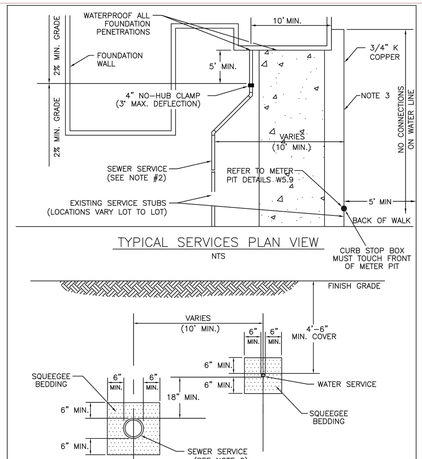
1. ACCEPTABLE PIPE MATERIALS SHALL BE K-COPPER TUBING. (3/4" MIN.)
2. APPROVED BEDDING TO BE SQUEEGEE.
3. ONLY ONE COUPLING WILL BE ALLOWED BETWEEN THE STUB-IN AND BUILDING. COMPRESSION COUPLINGS WILL NOT BE ALLOWED ON NEW CONSTRUCTION. SILVER SOLDERED JOINTS MUST BE USED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWSD 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 CONTINOUS 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 PWSD 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
    "V" 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 PWSD 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: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/04 1/16 10/16

2016 REVISION — SHEET W1.1



TYPICAL SERVICES PLAN VIEW

NTS

TYPICAL SERVICES SECTION

NTS

NOTE

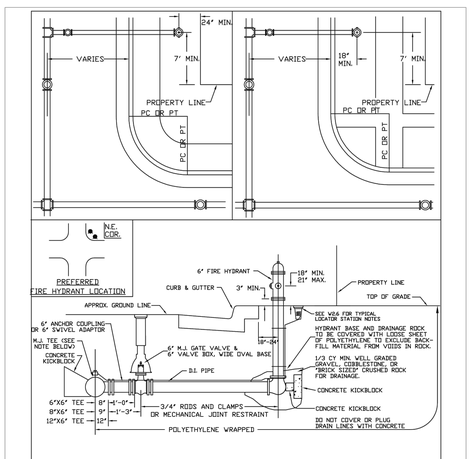
1. SEE SHEET W1.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
2. REFER TO SEWER SERVICES DETAIL SHEET S1.2.
3. 4" PVC SLEEVES REQUIRED FOR SERVICE LINES UNDER CONCRETE SURFACE.

PARKER WATER & SANITATION DISTRICT

TYPICAL WATER SERVICES

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/04 10/16 06/05 12/07 1/16

2016 REVISION — SHEET W1.2



NOTES:

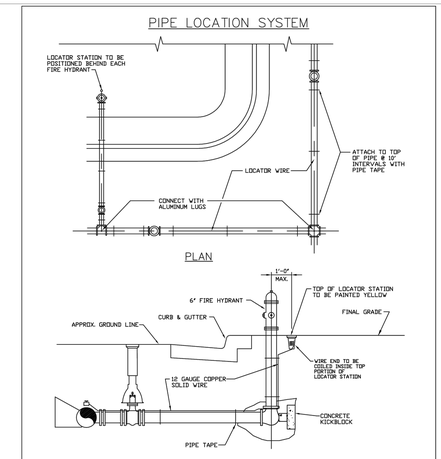
1. ALTERNATE TO THE ABOVE: FASTEN M.J. VALVE DIRECTLY TO A M.J. ANCHOR TEE (ALSO CALLED SWIVEL TEE).
2. NO HORIZONTAL OR VERTICAL BENDS ARE ALLOWED IN FIRE HYDRANT BRANCH
4. NO PORTION OF FIRE HYDRANT MAY [illegible] WALK AREA.
5. FIRE HYDRANT EXTENSIONS MAY NOT BE USED.

PARKER WATER & SANITATION DISTRICT

FIRE HYDRANTS
LOCATION & INSTALLATION

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01 10/16 01/02 12/07 1/16

2016 REVISION — SHEET W2.5



NOTES:

1. FOR USE ON ALL DUCTILE IRON AND PVC WATER MAINS.
2. LOCATOR STATION POSITION MAY BE MODIFIED AT THE DIRECTION OF THE DISTRICT ENGINEER.
3. A CONTINUITY TEST WILL BE REQUIRED PRIOR TO PRELIMINARY ACCEPTANCE.

PARKER WATER & SANITATION DISTRICT

LOCATOR WIRE DETAILS

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01 01/02 01/16 10/16

2016 REVISION — SHEET W2.6

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
UTILITY DETAILS

COLORADO LICENSED
DANIEL L. SLAUGHTER
07/30/20
46391
PROFESSIONAL ENGINEER

PROJECT NO.
096502001

DRAWING NAME
096502001UT-DT

C7.11

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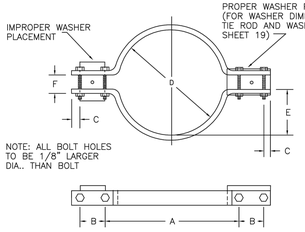


CLAMP DETAILS

DIMENSIONS

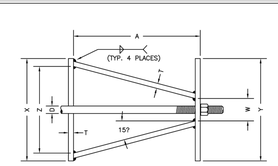
TABLE OF DIMENSIONS FOR CLAMPS

PIPE DIA.	BAR SIZE	A		B		C		D		E		F		BOLT SIZES		PIPE DIA.
		BELL CLAMP	BODY CLAMP	BELL CLAMP	BODY CLAMP	BELL CLAMP	BODY CLAMP	BELL CLAMP	BODY CLAMP	BELL CLAMP	BODY CLAMP	BELL CLAMP	BODY CLAMP	BELL CLAMP	BODY CLAMP	
4	1-1/2X1/2	9-3/4	7-1/2	3-1/2	3-1/2	1	1	6-3/4	4-7/8	2-3/4	1-13/16	1-1/4	1-1/4	3X1/2	2-1/2X3/8	4
6	2X1/2	13	9-1/2	4	4-1/2	2	2	10-1/4	7-1/8	4-1/8	2-15/16	2	1-1/4	3-1/2X1/2	3-1/2X1/2	6
8	2-1/2X1/2	15	12-3/4	4-3/4	4-1/2	1-1/4	1-1/2	12-1/4	9-1/4	5-1/8	4	2	1-1/4	4-1/2X1/2	4X1/2	8
12	2-1/2X5/8	17-1/2	16-5/8	4-5/8	4-3/4	1	1-1/4	14-1/2	13-1/2	6	5-1/2	2-1/2	2-1/2	4-1/2X5/8	4-1/2X5/8	12
16	3X3/4	24-1/2	21-7/8	4-1/2	4-3/4	1-1/2	1-1/2	19-3/4	17-1/2	8-3/8	7-1/2	3	2-1/2	5-1/2X5/8	5-1/2X5/8	16
20	3X3/4	30-1/2	25-5/8	4-1/2	4-3/4	1-1/2	1-1/2	24-3/4	21-3/4	10-7/8	9-1/2	3	2-3/4	5-1/2X5/8	5-1/2X5/8	20
24	RODS AND CLAMPS NOT ALLOWED															24

NOTE: ALL DIMENSIONS IN INCHES
CLAMPS MAY NOT BE USED ON PVC PIPE.

PARKER WATER & SANITATION DISTRICT	
CLAMP DETAILS AND DIMENSIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	12/07 1/16 10/16

2016 REVISION — SHEET W3.15



HARNESS LUG DIMENSIONS

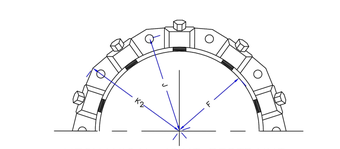
CARRIER PIPE NOMINAL DIA.	STUD DIA. D	A	W	Z	T	H	E	H1	Y	X
4" TO 16"	3/4"	5"	1-1/2"	3-3/4"	3/8"	4-1/8"	3-1/8"	2"	4-1/2"	5"
20"	1"	5-3/4"	1-3/4"	4-7/16"	3/8"	4-1/2"	3-1/4"	2"	5-1/4"	5-11/16"

NOTES:

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

PARKER WATER & SANITATION DISTRICT	
HARNESS LUG DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W3.16



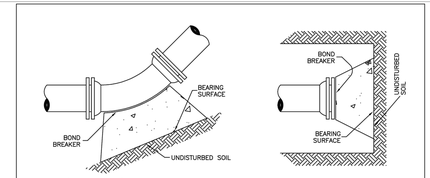
NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	2	2				
6"	6	3	11.12	9.5	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25
4"	4	2				
6"	6	3	11.12	9.5	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20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

NOTES:

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

PARKER WATER & SANITATION DISTRICT	
MECHANICAL JOINT RESTRAINT DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 12/07 1/16 10/16

2016 REVISION — SHEET W3.17



NOTES:

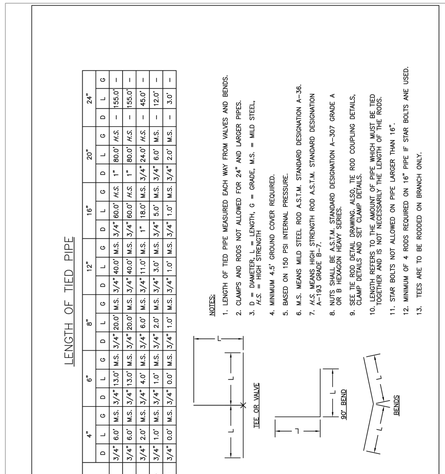
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.
2. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
3. BASED ON 150 PSI PIPE PRESSURE PLUS WATER HAMMER:
   4", 6" AND 8" WATER HAMMER = 120 PSI.
   12" WATER HAMMER = 110 PSI.
   16", 20" AND 24" WATER HAMMER = 70 PSI.
4. SOIL BEARING CAPACITY = 3,000 LBS./SQ. FT.

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11-1/4°	22-1/2°	45°	90°	
4"	1.00	1.00	1.00	1.80	1.00
6"	1.00	1.00	2.25	4.00	5.00
8"	1.00	2.00	4.00	7.10	11.00
12"	2.00	4.00	8.00	14.30	22.00
16"	3.00	8.50	12.50	23.00	38.00
20"	5.00	10.00	19.50	35.50	55.00
24"	8.50	13.00	28.00	47.00	83.00

PARKER WATER & SANITATION DISTRICT	
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.18

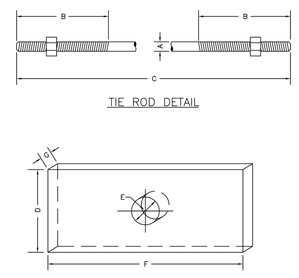


NOTES:

1. LENGTH OF TIED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
2. CLAMPS AND RODS NOT ALLOWED FOR 24" AND LARGER PIPES.
3. D = DIAMETER, L = LENGTH, G = GRADE, M.S. = MILD STEEL, H.S. = HIGH STRENGTH
4. MINIMUM 4.5' GROUND COVER REQUIRED.
5. BASED ON 150 PSI INTERNAL PRESSURE.
6. M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36.
7. H.S. MEANS HIGH STRENGTH ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE B7.
8. NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES.
9. CLAMPS SHALL BE USED WITH MSA TIE ROD COUPLING DETAILS. CLAMP DETAILS AND SET CLAMP DETAILS.
10. LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE TIED TOGETHER AND IS NOT NECESSARILY THE LENGTH OF THE RODS.
11. STEM BOLTS NOT ALLOWED ON PIPE LARGER THAN 16".
12. MINIMUM OF 4 RODS REQUIRED ON 16" PIPE IF STAR BOLTS ARE USED.
13. TEES ARE TO BE RODDED ON BRANCH ONLY.

PARKER WATER & SANITATION DISTRICT	
LENGTH OF TIED PIPE	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.11



TIE RODS

A	B	C
ROD DIAMETER	THREAD LENGTH	ROD LENGTH
3/4"	6"	1' TO 11' & 20'
1"	6"	1' TO 11' & 20'
1-1/4"	ALL THREAD	1' TO 11' & 20'

WASHERS

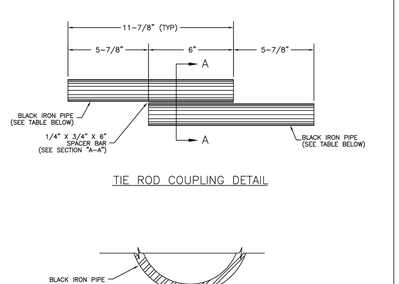
D	E	F	G
WIDTH	HOLE DIAMETER	LENGTH	THICKNESS
3"	7/8"	6"	3/8"
3"	1-1/8"	7"	1/2"
4"	1-3/8"	7"	5/8"

NOTES:

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

PARKER WATER & SANITATION DISTRICT	
TIE ROD AND WASHER DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W3.12

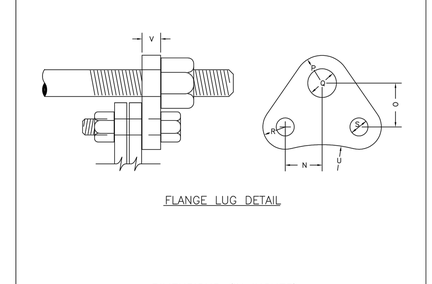


NOTE:
BLACK IRON PIPE = SCHEDULE 40.

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

PARKER WATER & SANITATION DISTRICT	
TIE ROD COUPLING	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W3.13



FLANGE LUG DETAIL

DIMENSIONS (IN INCHES)

PIPE DIA.	N	O	H.S. ROD		W.S. ROD		R	S	U	V	PIPE DIA.
			P	Q	P	Q					
4	1-7/16	2	7/8	3/4	1	7/8	1/4	3/4	2-7/8	3/4	4
6	1-13/16	2-1/4	1	7/8	1	7/8	1/4	7/8	3-5/8	3/4	6
8	2-1/4	2-3/4	1	7/8	1	7/8	1/4	1	4-7/8	3/4	8
12	3-1/16	3-3/4	1-1/8	7/8	1	7/8	1/4	1-1/8	6-7/8	7/8	12
16	3-7/8	4-3/4	1-1/8	7/8	1	7/8	1-1/4	1-1/8	8-7/8	7/8	16
20	4-7/16	5-3/4	1-1/8	7/8	1	7/8	1-1/4	1-1/8	11-7/16	1-1/4	20
24	5-1/16	6-3/4	1-1/8	7/8	1	7/8	1-1/4	1-1/8	11-7/16	1-1/4	24
30	RODS AND CLAMPS NOT ALLOWED										30
42											42

NOTES:

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

PARKER WATER & SANITATION DISTRICT	
FLANGE LUG DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W3.14

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

PARKER AND PINE FILING 1
PARKER, CO
CONSTRUCTION DOCUMENTS

UTILITY DETAILS

COLORADO LICENSED DANIEL L. SLAUGHTER 07/30/20 46391 PROFESSIONAL ENGINEER

PROJECT NO. 096502001

DRAWING NAME 096502001UT-DT

C7.12

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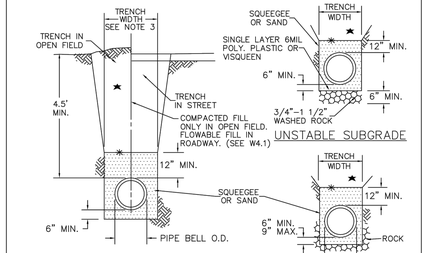
THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

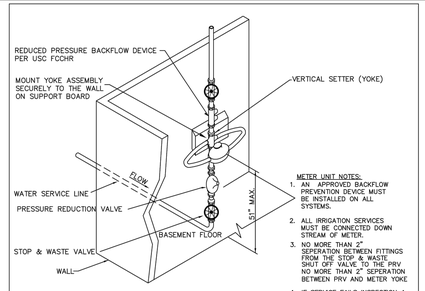


NOTES:

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: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16, 10/16

2016 REVISION — SHEET W4.8

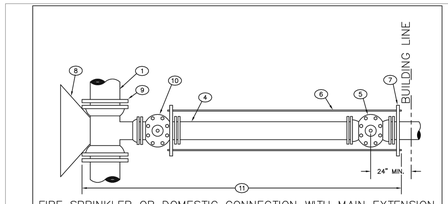


METER UNIT NOTES:

1. AN APPROVED BACKFLOW PREVENTION DEVICE MUST BE INSTALLED ON ALL SYSTEMS.
2. ALL IRRIGATION SERVICES MUST BE CONNECTED DOWN STREAM OF METER.
3. NO MORE THAN 2" SEPERATION BETWEEN FITTINGS FROM THE STOP & WASTE SHUT OFF VALVE TO THE PRV NO MORE THAN 2" SEPERATION BETWEEN PRV AND METER YOKE
4. IF SERVICE FAILS INSPECTION A RE-INSPECTION FEE WILL BE ASSIGNED.
5. ALL METERS PROVIDED BY PWSD.

PARKER WATER & SANITATION DISTRICT	
SERVICE LINE, STOP BOX & INSIDE METER SETTING (COMMERICAL ONLY)	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	* ADDITION 01/04, 10/16, 06/05, 1/16

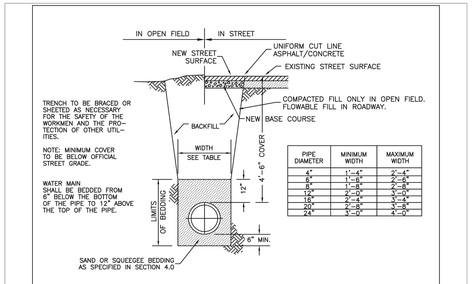
2016 REVISION — SHEET W5.9



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

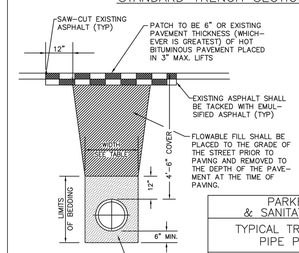
PARKER WATER & SANITATION DISTRICT	
3" AND LARGER DOMESTIC AND FIRE SPRINKLER CONNECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16, 10/16

2016 REVISION — SHEET W5.18



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

STANDARD TRENCH SECTION



STREET CUT PATCH

PARKER WATER & SANITATION DISTRICT	
TYPICAL TRENCH SECTION PIPE PROTECTION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16, 10/16

2016 REVISION — SHEET W4.1

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 compaction 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	35–93
No. 16	20–80
No. 30	8–65
No. 50	2–30
No. 100	1–10
No. 200	0–3

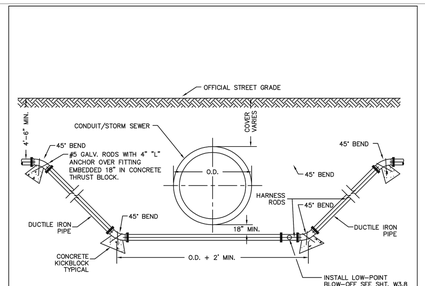
Squeegee Sand
for use with 20-inch or smaller

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

If approved by the District, fines form 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: 2/95
APPROVED: PVR, DIRECTOR OF ENGINEERING	5/98, 2/00, 1/16, 10/16

2016 REVISION — SHEET W4.2

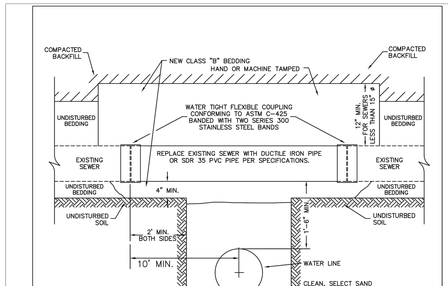


NOTES:

1. LENGTH OF EXTENSION OF PIPE AND HARNESS RODS SHALL BE IN ACCORDANCE WITH THESE ENGINEERING STANDARDS.
2. ALL WATER MAINS TWELVE (12") INCHES OR SMALLER, WHICH CROSS UNDER CONDUITS/STORM SEWER SHALL BE DUCTILE IRON OR PVC PER SPECIFICATIONS.
3. A BORED CROSSING MAY BE REQUIRED BY THE ENGINEER.
4. CONCRETE KICKBLOCKS PER SHEET W3.18.

PARKER WATER & SANITATION DISTRICT	
CONDUIT OR STORM SEWER CROSSING	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	5/98, 10/16, 2/00, 12/07, 1/16

2016 REVISION — SHEET W4.6



1. PIPE SHALL BE WRAPPED WITH FELT LAYER BEFORE ENCASING.

PARKER WATER & SANITATION DISTRICT	
CROSSING STORM & SANITARY SEWERS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16, 10/16

2016 REVISION — SHEET W4.7

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
UTILITY DETAILS

COLORADO LICENSED — DANIEL L. SEAMAN — 07/30/20 — 46391 — PROFESSIONAL ENGINEER

PROJECT NO. 096502001

DRAWING NAME 096502001UT-DT

C7.13

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