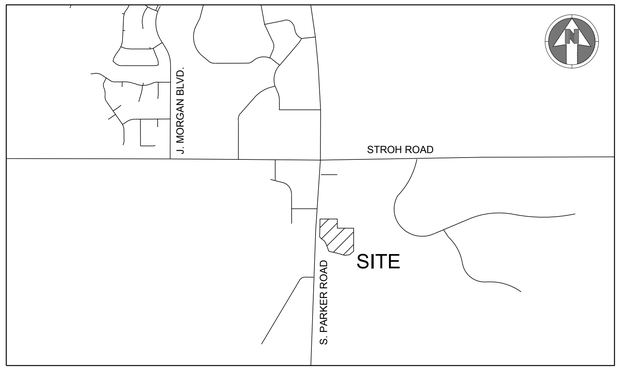
WATER AND SANITARY CONSTRUCTION PLANS

FOR

PARKER NHC

LOTS 6 THROUGH 14, INCLUSIVE, PARKER POINTE SUBDIVISION FILING NO. 1, SITUATED IN THE NORTHEAST 1/4 OF SECTION 3' TOWNSHIP 7 SOUTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF DOUGLAS, STATE OF COLORADO.



VICINITY MAP

SCALE:1"=1,000'

Sheet List Table	
Drawing Number	Sheet Title
C-500	WATER AND SANITARY COVER SHEET
C-501	WATER AND SANITARY NOTES AND LEGEND
C-511	UTILITY PLAN
C-551	WATER AND SANITARY DETAILS
C-552	WATER AND SANITARY DETAILS
C-553	WATER AND SANITARY DETAILS

MATERIALS LIST	
ITEM	QUANTITY
6" DIP	92 LF
6" PVC	16 LF
2" TYPE K COOPER	113 LF
3/4" TYPE K COOPER	4 LF
8" GATE VALVE	2
6" GATE VALVE	3
2" CURB STOP	1
12"X6" TEE	3
2" WET TAP	1
FIRE HYDRANT	2
3/4" CORP STOP	1
3/4" IRRIGATION METER	1
1"X3/4" TEE	1
CLEANOUT	1

CONTACTS:

OWNER'S REPRESENTATIVE
MEDDEVELOPMENT, LLC
JOHN ALMEIDA
10800 FARLEY, SUITE 380
OVERLAND PARK, KS 66210
816-564-2393

ENGINEER
S.A. MIRO INC.
JASON CARR
4582 SOUTH ULSTER STREET
SUITE 750 DENVER, CO 80237
303-741-3737

SURVEYOR
ENGINEERING SERVICE COMPANY
CHARLES BECKSTROM
14190 E. EVANS AVENUE
AURORA, CO 80014
303-337-1393

PUBLIC UTILITIES:

SOUTH METRO FIRE DISTRICT
9195 E. MINERAL AVENUE
CENTENNIAL, CO 80112
P: (720) 989-2244

PARKER WATER & SANITATION DISTRICT
18100 WOODMAN ROAD
PARKER, CO 80134
P: (303) 841-4627

TOWN OF PARKER
20120 E. MAIN STREET
PARKER, CO 80138
P: (303) 840-9546

FIRE FLOW BLOCK

TOTAL FIRE FLOW REQUIRED FOR THIS SITE IS 1875 GPM MINIMUM @ 20 PSI RESIDUAL PRESSURE
THIS FLOW MUST BE PROVIDED FROM A MINIMUM OF 2 FIRE HYDRANTS
INDIVIDUALLY, EACH FIRE HYDRANT MUST SUPPLY 1500 GPM MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS: 2015 INTERNATIONAL FIRE CODE AND 2015 INTERNATIONAL BUILDING CODE

OCCUPANCY GROUPS: B

CONSTRUCTION TYPE: 2B

FIRE FLOW CALCULATION AREA: 29,788 SF
TOTAL BUILDING AREA: 29,788 SF

BUILDING IS TO BE CONSTRUCTED WITH AUTOMATED FIRE SPRINKLER SYSTEM (NFPA 13) SO FIRE FLOW REQUIREMENT HAS BEEN REDUCED BY 50%.

BASIS OF BEARING:

BEARINGS ARE BASED ON THE NORTH LINE OF THE NE 1/4 SECTION 3, TOWNSHIP 7 SOUTH. RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING S89°59'29"W AND BOUNDED BY THE MONUMENTS SHOWN HEREON.

BENCHMARK:

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

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO DISTRICT STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE SOUTH METRO FIRE PROTECTION DISTRICT

(SIGNATURE OF FIRE CHIEF OR DESIGNATED REPRESENTATIVE)

DATE SIGNED_____

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 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:_____

S.A. MIRO INC.
CONSULTING ENGINEERS
4582 South Ulster Street
Suite 750, Denver, CO 80237
303-741-3737
www.samiro.com

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

DATE | DESCRIPTION | NO.

PROJECT: PARKER NHC
PARKER, CO 80134

DRAWING TITLE: WATER AND SANITARY COVER SHEET

FILE PATH: C:\Users\ssm\ACCDocs\S. A. Miro, Inc\Civil\Jobs\22057 Parker NHC\05 CAD\Plans and Details\C500-WATR-COVR.dwg C500 - 10/30/2023

COLORADO REGISTERED 33854 11/01/23 PROFESSIONAL ENGINEER

DESIGNED BY:	SSM
DRAWN BY:	SSM
CHECKED BY:	JDC
MIRO JOB NO.	22057

DRAWING NUMBER:

C-500

MASTER LEGEND:

PROPOSED

- PROPERTY LINE
- SECTION LINE
- RIGHT OF WAY LINE
- CENTER LINE
- CURB AND GUTTER
- SIDEWALK
- WALL
- FENCE (X)
- SIGN
- LIGHT
- TREE
- MINOR CONTOURS (5343)
- MAJOR CONTOURS (5345)
- RIDGE LINE (RL)
- SPOT ELEVATION (43.50)
- CABLE TV LINE (CATV)
- COMMUNICATION LINE (COMM)
- ELECTRICAL LINE (E)
- OVERHEAD ELECTRICAL LINE (OE)
- FIBER OPTIC LINE (FO)
- GAS LINE (G)
- TELEPHONE LINE (T)
- IRRIGATION LINE (IRR)
- RAW WATER LINE (RAW)
- SANITARY SEWER LINE (SS)
- STEAM LINE (ST)
- STORM SEWER LINE
- WATER LINE (W)
- EASEMENT
- INLET
- FLARED END SECTIONS
- CLEANOUT
- FIRE HYDRANT
- VALVE
- WATER FITTINGS
- PEDESTAL
- UTILITY CROSSING
- MANHOLES (TV, COM, E, FO, T, S, D, W)

EXISTING

- CURB AND GUTTER
- SIDEWALK
- WALL
- FENCE (X)
- SIGN
- LIGHT
- TREE
- MINOR CONTOURS (5343)
- MAJOR CONTOURS (5345)
- SPOT ELEVATION (43.50)
- CABLE TV LINE (EX CATV)
- COMMUNICATION LINE (EX COMM)
- ELECTRICAL LINE (EX E)
- OVERHEAD ELECTRICAL LINE (EX OE)
- FIBER OPTIC LINE (EX FO)
- GAS LINE (EX G)
- TELEPHONE LINE (EX T)
- IRRIGATION LINE (EX IRR)
- RAW WATER LINE (EX RAW)
- SANITARY SEWER LINE (EX SS)
- STEAM LINE (EX ST)
- STORM SEWER LINE (EX SD)
- WATER LINE (EX W)
- EASEMENT
- INLET
- FLARED END SECTIONS
- CLEANOUT
- FIRE HYDRANT
- VALVE
- PEDESTAL
- MANHOLES (TV, COM, E, FO, T, S, D, W)

ABBREVIATIONS:

BFV	BUTTERFLY VALVE	PCC	POINT OF COMPOUND CURVATURE
BOV	BLOW OFF VALVE	PCR	POINT OF CURB RETURN
BW	BOTTOM OF WALL @ FINISHED GRADE	PI	POINT ON INTERSECTION
CL	CENTERLINE	PRC	POINT OF REVERSE CURVATURE
CMP	CORRUGATED METAL PIPE	PT	POINT OF TANGENCY
EJ	EXPANSION JOINT	PVC	POLYVINYL CHLORIDE
ELEC.	ELECTRIC	RCP	REINFORCED CONCRETE PIPE
ELEV.	ELEVATION	RCB	REINFORCED CONCRETE BOX
EX	EXISTING	RL	RIDGE LINE
FES	FLARED END SECTION	ROW	RIGHT OF WAY
FG	FINISHED GRADE	RT	RIGHT
FS	FINISHED SURFACE	SD	STORM DRAINAGE SEWER
FL	FLOWLINE	SS	SANITARY SEWER
GB	GRADE BREAK	STA:	STATION
HP	HIGH POINT	STRM	STORM SEWER
FH	FIRE HYDRANT	TOF	TOP OF FLANGE
INV.	INVERT	TOP	TOP OF PIPE
IRR	IRRIGATION	TW	TOP OF WALL @ FINISHED GRADE
KB	KICK BLOCK	TYP.	TYPICAL
LF	LINEAR FEET	VCP	VITRIFIED CLAY PIPE
LP	LOW POINT	VPC	VERTICAL POINT OF CURVATURE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
ME	MATCH EXISTING	VPT	VERTICAL POINT OF TANGENCY
MH	MANHOLE	WATR	WATER LINE
PC	POINT OF CURVATURE		

PWSD 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
14. NO TREES ALLOWED IN EASEMENTS OR WITHIN 8' OF WATER OR SANITARY SEWER MAINS IN RIGHT OF WAY.
15. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PWSD AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSD SPECIFICATION MANUAL.

PWSD WATER SYSTEM 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 DAY'S 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.

PWSD SANITARY SEWER SYSTEM 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.

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
2. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE WORK SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIFICATIONS IN A SATISFACTORY MANNER. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AT THEIR EXPENSE TO COMPLETE ALL GRADING, UTILITY WORK AND INSTALLATION OF EROSION CONTROL MEASURES.
4. THE CONTRACTOR SHALL COORDINATE WORK WITH ALL ADJACENT PROJECTS.
5. DURING CONSTRUCTION IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR T0 PROTECT EXISTING UTILITY LINES SHOWN ON THESE PLANS AND THOSE UTILITY LINES WHICH MAY NOT BE SHOWN ON THESE PLANS.
6. EXISTING SITE INFORMATION SHOWN ON THESE DRAWINGS IS BASED UPON AVAILABLE DESIGN INFORMATION FROM PARKER POINTE . S.A. MIRO, INC. MAKES NO WARRANTIES OR CERTIFICATION OF THE COMPLETENESS OR ACCURACY OF THE EXISTING CONDITIONS PRESENTED. THE CONTRACTOR SHALL INSPECT THE SITE TO ASSESS EXISTING CONDITIONS, AND SATISFY THEMSELVES THAT THE DOCUMENTS ACCURATELY REPRESENT THE SITE CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND DURING INITIAL INSPECTIONS, OR SUBSEQUENTLY, SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY FOR RESOLUTION RELATIVE TO THE INTENDED CONSTRUCTION.
7. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED USING FIELD SURVEY DATA LOCATING MANHOLES, WATER VALVES, ELECTRICAL EQUIPMENT, AND OTHER FEATURES FOUND AT THE SURFACE. NO SUBSURFACE EXPLORATION HAS BEEN DONE TO VERIFY EXACT LOCATION OF EXISTING UTILITIES. THE CONTRACTOR SHALL POTHOLE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICT PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT AND DELAY RELATED TO UNVERIFIED EXISTING CONDITIONS. WHERE THE CONTRACTOR FINDS CONFLICTS OR DISCREPANCIES, THEY SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY APPROPRIATE ENTITIES FOR UTILITY LOCATES AND START OF CONSTRUCTION PRIOR TO ANY WORK BEING STARTED.
10. THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL AFFECTED PARTIES PRIOR TO ANY OUTAGES OR SHUTDOWN OF SERVICE.
11. ALL QUANTITIES SHOWN ON THESE PLANS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL FIELD VERIFY ALL QUANTITIES PRIOR TO CONSTRUCTION AND ORDERING OF ANY MATERIALS.
12. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
13. THE CONTRACTOR SHALL FOLLOW/VERIFY THE INTENT OF THE DESIGN AT ALL LOCATIONS OF TIE-IN TO EXISTING FEATURES.

DEMOLITION NOTES:

1. UNLESS OTHERWISE NOTED, EXISTING UTILITIES AND STRUCTURES SHALL REMAIN AND BE PROTECTED IN PLACE.
2. THE CONTRACTOR SHALL PROTECT ALL ADJACENT IMPROVEMENTS (BUILDINGS, ROADWAYS, FENCES, PARKING LOTS, UTILITIES, ETC.) FROM DAMAGE AND EROSION. ALL DISTURBED AREAS OUTSIDE OF THE LIMITS OF WORK SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.

HORIZONTAL CONTROL NOTES:

1. THE BASIS OF BEARING IS BEARINGS ARE BASED ON THE NORTH LINE OF THE NE 1/4 SECTION 3, TOWNSHIP 7 SOUTH. RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING S89°59'29"W AND BOUNDED BY THE MONUMENTS SHOWN HEREON.
2. THE CONTRACTOR SHALL VERIFY THAT BUILDING GRID LOCATIONS ARE CONSISTENT WITH LATEST ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.

PAVING NOTES:

1. THE CONTRACTOR SHALL ADJUST EXISTING AND PROPOSED MANHOLES, WATER VALVES AND OTHER SURFACE APPURTENANCES WITHIN THE LIMITS OF WORK TO FINISHED GRADE.
2. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL/LANDSCAPE PLANS FOR CONCRETE SCORING PATTERNS, COLOR AND FINISHING.
3. PROPOSED PAVEMENT DESIGN IS BASED UPON THE GEOTECHNICAL REPORT BY GROUND ENGINEERING DATED 11/14/22. S.A. MIRO, INC. MAKES NO WARRANTIES OR CERTIFICATION OF PAVEMENT PERFORMANCE.

UTILITY NOTES:

1. LOCATION OF ALL EXISTING UTILITIES (PRIVATE AND PUBLIC) SHALL BE IDENTIFIED AND VERIFIED BY THE CONTRACTOR PRIOR TO MOBILIZATION, CONSTRUCTION AND ORDERING OF MATERIALS. IF ANY CONFLICTS OR DISCREPANCIES ARE FOUND THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT, REPAIR AND DELAYS RELATED TO ANY AND ALL UNVERIFIED EXISTING CONDITIONS.
2. ALL UTILITY LENGTHS AND QUANTITIES SHOWN ON THESE PLANS ARE FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES PRIOR TO ORDERING OF ANY MATERIALS.
3. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
4. WHERE FLARED END SECTIONS ARE REQUIRED, THE LENGTH OF PIPE INCLUDES THE FLARED END SECTION.
5. ALL UTILITY WORK SHALL BE COMPLETED PRIOR TO ANY PAVING.
6. CONTRACTOR SHALL SURVEY THE LOCATION AND ELEVATION OF ALL INSTALLED UTILITIES PRIOR TO TRENCH BACKFILL, AND PROVIDE SURVEY INFORMATION TO THE ENGINEER UPON COMPLETION OF THE PROJECT FOR AS-BUILT DOCUMENTATION.

GRADING NOTES:

1. SITE GRADING (EXCAVATION, EMBANKMENTS, AND COMPACTION) SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST GEOTECHNICAL REPORT FOR THIS PROPERTY.
2. SPOT ELEVATIONS MAY BE ABBREVIATED FOR CLARITY. REFER TO THE ADJACENT CONTOUR LABELS FOR FULL ELEVATIONS.
3. MAXIMUM PROPOSED SLOPES SHALL BE 4:1 UNLESS NOTED OTHERWISE.
4. SPOT ELEVATIONS ARE TO FLOWLINE UNLESS NOTED OTHERWISE.
5. PROPOSED GRADING SHALL MEET AND MATCH EXISTING GRADE AT LIMITS OF DISTURBANCE.
6. PROPOSED GRADING AS SHOWN REFLECTS PLANNED FINISHED GRADE. THE CONTRACTOR SHALL ACCOUNT FOR PAVEMENT DEPTH, SUBGRADE REQUIREMENTS, OVEREXCAVATION, TOPSOIL, AND ANY PLANNED SURFACING CONSTRUCTION.
7. MAXIMUM TEMPORARY SLOPES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AND IN COMPLIANCE WITH OSHA REQUIREMENTS.
8. THE CONTRACTOR SHALL CONFORM TO OVEREXCAVATION REQUIREMENTS DETAILED WITHIN THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT. OVEREXCAVATION REQUIREMENTS ARE NOT DEPICTED ON THE CIVIL PLANS.

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303-741-3737
www.samiro.com

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

NO.	DESCRIPTION	DATE

PROJECT: **PARKER NHC**
PARKER, CO 80134

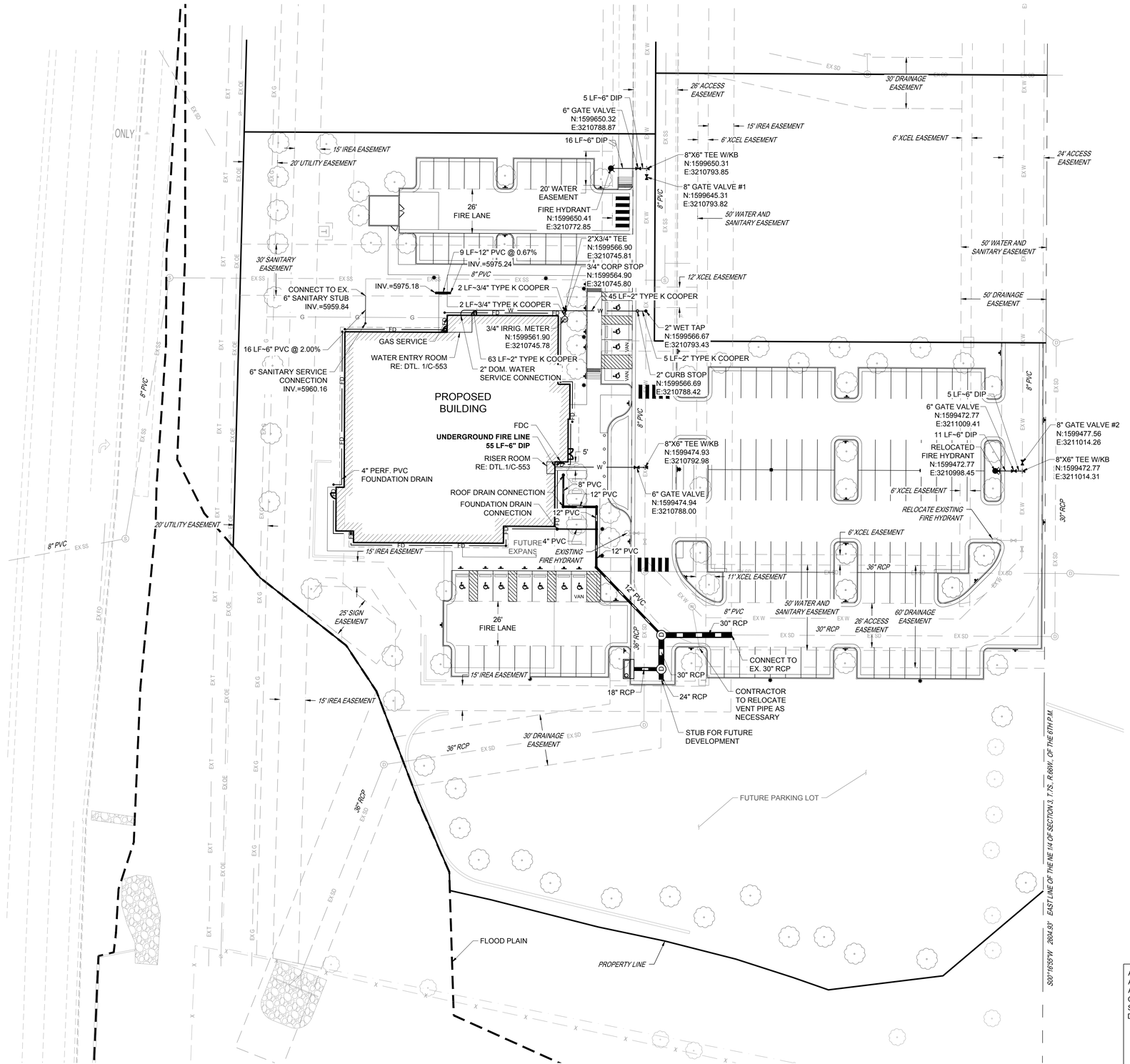
DRAWING TITLE: **WATER AND SANITARY NOTES AND LEGEND**

FILE PATH: C:\Users\ssm\ACCDocs\S. A. Miro, Inc\Civil\Jobs\22057 Parker NHC\05 CAD\Plans and Details\C500-WATR-COVR.dwg C501 - 10/30/2023

COLORADO REGISTERED PROFESSIONAL ENGINEER
JASON DEAN CARR
33854
11/01/23

DESIGNED BY:	SSM
DRAWN BY:	SSM
CHECKED BY:	JDC
MIRO JOB NO.	22057

DRAWING NUMBER:
C-501



30 0 30

SCALE: 1" = 30'

NOTES:

1. SEE SHEET C-001 FOR CIVIL NOTES AND LEGEND.
2. GAS SERVICE LINE IS SHOWN FOR INFORMATIONAL PURPOSES ONLY. FINAL DESIGN WILL BE DONE BY THE PROVIDER.

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO DISTRICT STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE SOUTH METRO FIRE PROTECTION DISTRICT

(SIGNATURE OF FIRE CHIEF OR DESIGNATED REPRESENTATIVE)

DATE SIGNED_____

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 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:_____

MIRO

S.A. MIRO INC.
CONSULTING ENGINEERS

4582 South Ulster Street
Suite 750, Denver, CO 80237
303-741-3737
www.samiro.com

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

NO.	DESCRIPTION	DATE

PROJECT:
PARKER NHC
PARKER, CO 80134

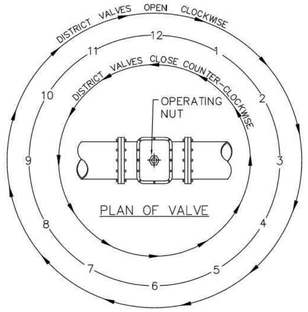
DRAWING TITLE:
UTILITY PLAN

FILE PATH: C:\Users\ssm\ACCDocs\S. A. Miro, Inc\Civil\Jobs\22057 Parker NHC\05 CAD\Plans and Details\C311-UTIL-PLAN.dwg C511 - 10/30/2023

COLORADO REGISTERED
STEPHANIE S. MARTIN
33854
11/01/23
PROFESSIONAL ENGINEER

DESIGNED BY:	SSM
DRAWN BY:	SSM
CHECKED BY:	JDC
MIRO JOB NO.	22057

DRAWING NUMBER:
C-511



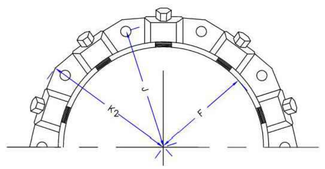
PLAN OF VALVE

NOTE:
ONLY RIGHT HAND OPENING VALVES ALLOWED.

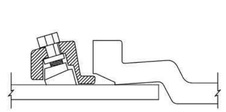
VALVE OPENING & CLOSING PROCEDURE

PARKER WATER & SANITATION DISTRICT	
VALVE OPERATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16 10/16

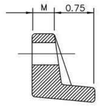
2016 REVISION — SHEET W3.4



MECHANICAL JOINT RESTRAINT



WEDGE DETAIL



BOLT HOLE DETAIL

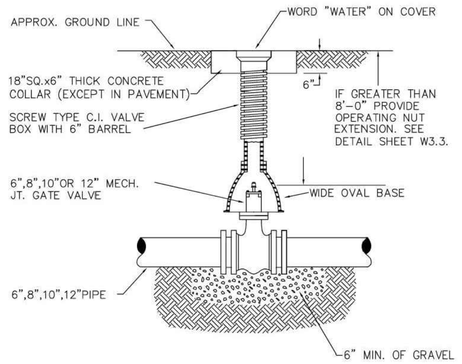
	NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES	
PVC	4"	2	2					PVC
	6"	6	3	11.12	9.5	7.00	0.88	
	8"	6	4	13.37	11.75	9.15	1.00	
	10"	8	6	15.62	14.00	11.20	1.00	
	12"	8	8	17.88	16.25	13.30	1.25	
DI	4"	4	2					DI
	6"	6	3	11.12	9.5	7.00	0.88	
	8"	6	4	13.37	11.75	9.15	1.00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



6-INCH VALVE BOXES

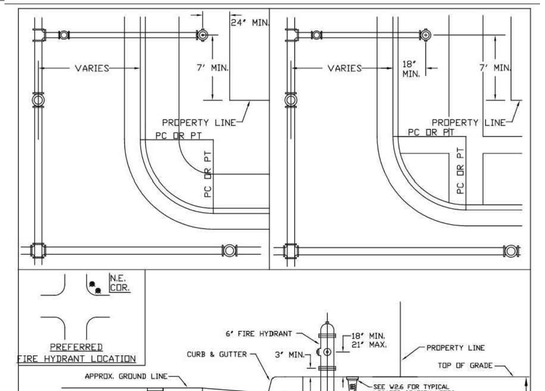
CHECK MATERIAL SPECIFICATIONS

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

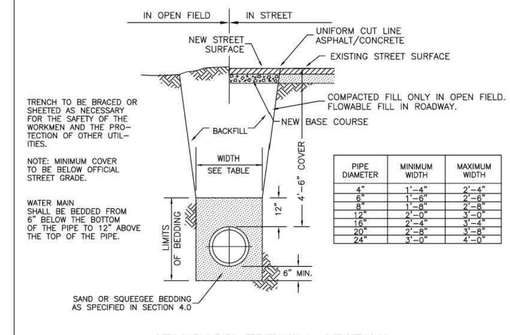


NOTES:

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]
5. FIRE HYDRANT EXTENSIONS MAY NOT BE MADE INTO SIDEWALK AREA.

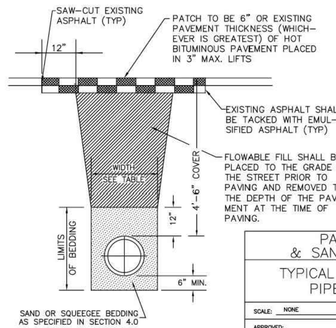
PARKER WATER & SANITATION DISTRICT	
FIRE HYDRANTS LOCATION & INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01 10/16 01/02 12/07 1/16

2016 REVISION — SHEET W2.5



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"

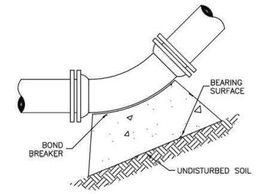
STANDARD TRENCH SECTION



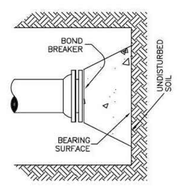
STREET CUT PATCH

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

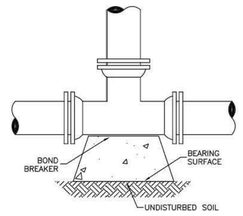
2016 REVISION — SHEET W4.1



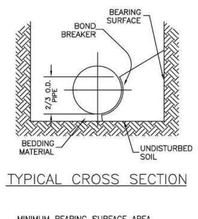
11-1/4°,22-1/2°,45° & 90° BENDS



DEAD END



TEE



TYPICAL CROSS SECTION

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)

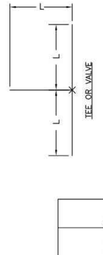
SIZE OF PIPE	BENDS				TEE OR DEAD END
	11-1/4°	22-1/2°	45°	90°	
4"	1.00	1.00	1.00	1.80	1.50
6"	1.00	1.25	2.25	4.00	3.00
8"	1.00	2.00	4.00	7.50	5.25
12"	2.00	4.25	8.25	15.25	11.00
16"	3.50	6.50	12.50	23.00	16.50
20"	5.00	10.00	19.50	35.50	25.00
24"	6.50	13.00	26.00	47.00	33.00

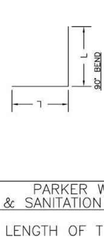
PARKER WATER & SANITATION DISTRICT	
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01 1/16 10/16

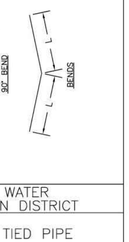
2016 REVISION — SHEET W3.18

LENGTH OF TIED PIPE

PIPE SIZE			4"			6"			8"			12"			16"			20"			24"		
			D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G
TEE OR VALVE			3/4"	6.0'	M.S.	3/4"	13.0'	M.S.	3/4"	20.0'	M.S.	3/4"	40.0'	M.S.	3/4"	60.0'	M.S.	1"	80.0'	M.S.	—	155.0'	—
PLUG OR 90° BEND			3/4"	6.0'	M.S.	3/4"	13.0'	M.S.	3/4"	20.0'	M.S.	3/4"	40.0'	M.S.	3/4"	60.0'	M.S.	1"	80.0'	M.S.	—	155.0'	—
45° BEND			3/4"	2.0'	M.S.	3/4"	4.0'	M.S.	3/4"	6.0'	M.S.	3/4"	11.0'	M.S.	1"	18.0'	M.S.	3/4"	24.0'	M.S.	—	45.0'	—
22-1/2° BEND			3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	2.0'	M.S.	3/4"	3.0'	M.S.	3/4"	5.0'	M.S.	3/4"	6.0'	M.S.	—	12.0'	—
11-1/4° BEND			3/4"	0.0'	M.S.	3/4"	0.0'	M.S.	3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	2.0'	M.S.	—	3.0'	—





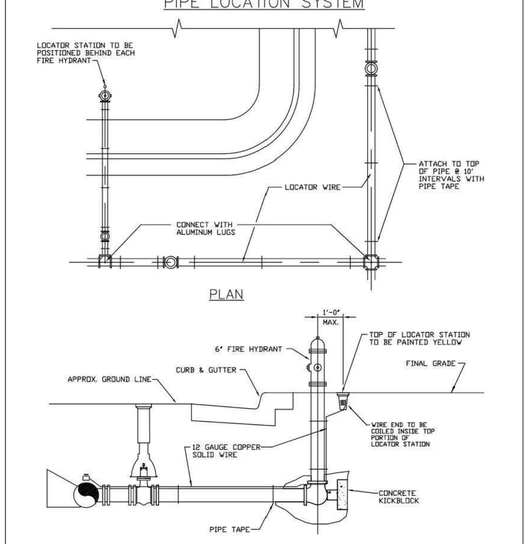


NOTES:

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 B-7.
8. NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A HEAVY HEX SERIES.
9. SEE TIE ROD DETAIL DRAWING A-50. 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. STAR BOLTS NOT ALLOWED ON PIPE LARGER THAN 16".
12. MINIMUM OF 4 RODS REQUIRED ON 16" PIPE IF STAR BOLTS ANE 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



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 PROBATIONARY 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

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NO.	DESCRIPTION	DATE

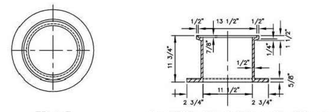
PROJECT:
PARKER NHC
PARKER, CO 80134

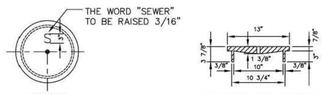
DRAWING TITLE:
WATER AND SANITARY DETAILS

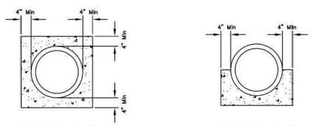
FILE PATH: C:\Users\ssm\ACCDocs\S. A. Miro, Inc\Civil\Jobs\22057 Parker NHC\05 CAD\Plans and Details\C551-WATR-DTLS.dwg C551 - 10/30/2023

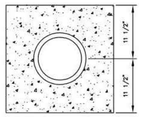
DESIGNED BY:	SSM
DRAWN BY:	SSM
CHECKED BY:	JDC
MIRO JOB NO.	22057

DRAWING NUMBER:
C-551







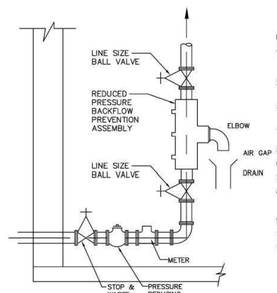


PARKER WATER & SANITATION DISTRICT

IN-LINE CLEANOUT SECTIONS

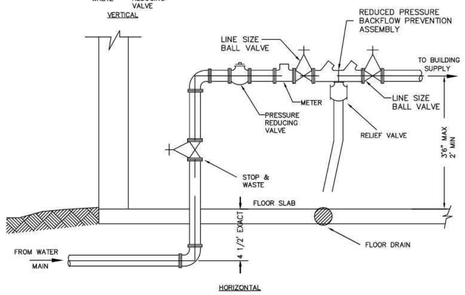
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 1/08 1/16 10/16

2016 REVISION SHEET S4.12



NOTES:

1. METER TO BE LOCATED IN AN UNOBSTRUCTED & ACCESSIBLE PLACE. (NOT IN CRAWL SPACE)
2. SEE WATER SYSTEM SPECIFICATIONS, IN CHAPTER ONE, FOR GENERAL METER NOTES.
3. VERTICAL AND HORIZONTAL REDUCED PRESSURE BACKFLOW CONFIGURATION ALLOWABLE PER AWWA C511.
4. APPROVED REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY WHICH MUST BE CERTIFIED.
5. 1.0' MINIMUM CLEARANCE AROUND BACKFLOW ASSEMBLY
6. FLOOR DRAIN TO BE 2X THE DIAMETER OF PIPE
7. SUPPORTED FIRMLY TO THE WALL.
8. FOR IRRIGATION APPLICATIONS, IRRIGATION MUST BE TAPPED AFTER THE METER AND MUST USE AN APPROVED RAIN SENSOR AND SMART ET CONTROLLER PER MATERIAL SPECIFICATIONS.
9. NO BYPASSES ALLOWED.
10. ALL PIPING MUST BE COPPER AND SAME SIZE AS TAP.
11. ALL FITTINGS MUST BE NO-LEAD BRASS PER MATERIAL SPECIFICATIONS.

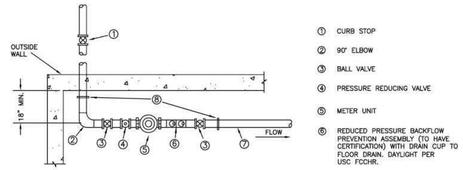


PARKER WATER & SANITATION DISTRICT

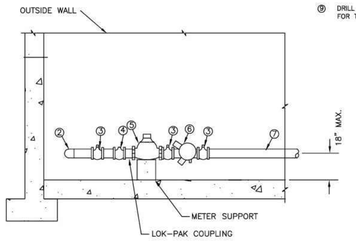
INSIDE COMMERCIAL METER INSTALLATION FOR 6" & SMALLER PIPE

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	8/99 1/16 2/00 10/16 4/01 01/02 06/05

2016 REVISION SHEET W5.8



① CURB STOP
② 90° ELBOW
③ BALL VALVE
④ PRESSURE REDUCING VALVE
⑤ METER UNIT
⑥ REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (TO HAVE CERTIFICATION) WITH DRAIN CUP TO FLOOR DRAIN. DAYLIGHT PER USC FCCHR.
⑦ TYPE K COPPER TUBING
⑧ CLAMP GROUND WIRE TO EACH SIDE OF METER UNIT
⑨ DRILL A HOLE IN THE WALL FOR TRANSMITTER



NOTES

1 – PIPE JOINT SHALL BE THREADED OR SOLDERED WITH SILVER SOLDER.
2 – INSTALLATION MUST ALLOW ACCESS FOR MAINTENANCE AND BE PROTECTED FROM FREEZING.
3 – SEE WATER SYSTEM SPECIFICATIONS FOR GENERAL METER NOTES.
4 – COMPANION FLANGES SHALL BE BRASS.
5 – METER SUPPORT SHALL BE EITHER CONCRETE OR ADJ. STEEL PIPE (SEE SHEET W3.10)
6 – 1.0' MINIMUM CLEARANCE AROUND BACKFLOW DEVICE
7 – FLOOR DRAIN TO BE 2X PIPE SIZE
8 – FOR IRRIGATION USES, ADD RAIN SENSOR AND SMART E.T. CONTROLLER

METER	YOKE DISTANCE
1.5"	13.25" WITH ADJUSTABLE FLANGE FOR GASKET
2"	17.25" WITH ADJUSTABLE FLANGE FOR GASKET

PARKER WATER & SANITATION DISTRICT

INSIDE SETTING FOR 1 1/2" & 2" METER

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	8/99 01/02 01/16 2/00 06/05 10/16 4/01 07/06

2016 REVISION SHEET W5.14

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	36–93
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

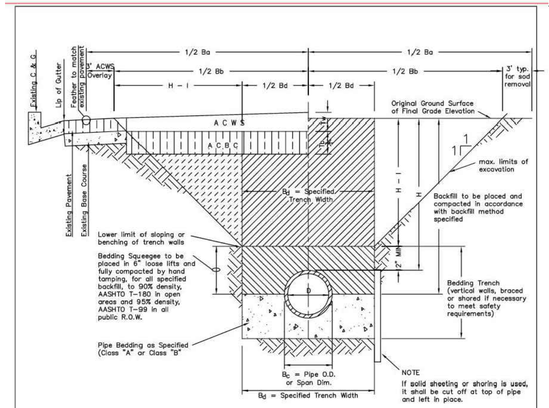
If approved by the District, fines form the trench walls and spoils pile may be used to provide uniform support for the pipe. No rock or stone larger than that allowed by the sieve analysis, or any other detrimental substance, shall be placed closer to the pipe than six inches (6"). Approved bedding 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: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	5/98 2/00 1/16 10/16

2016 REVISION SHEET W4.2



TYPICAL TRENCH DETAIL

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_o = 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_d = 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, replacement or relocation of curb and 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_d" is ≤ 5', then existing asphalt pavement shall be removed and replaced up to the gutter. Maximum asphalt pay widths, B_b & B_d shall then be based upon this actual width.*

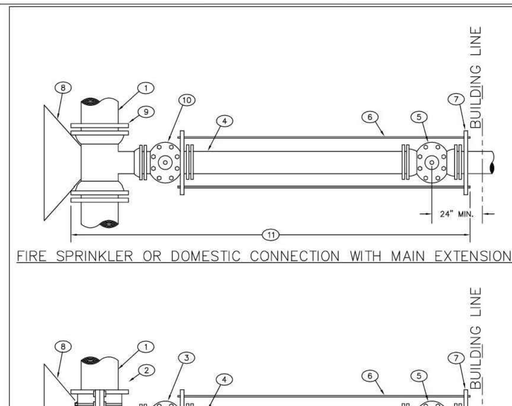
TABLE II ASPHALT AMD BASE COURSE REPLACEMENT SCHEDULE			
STREET WIDTH	ASPHALTIC BASE COURSE (T_b)	ASPHALTIC WEARING SURFACE (T_w)	TOTAL THICKNESS (T_o)
UP TO 36'	4"	2"	6"
36' TO 44'	4"	3"	7"
44' TO 48'	5"	3"	8"
WIDER THAN 48'	6"	3"	9"

PARKER WATER & SANITATION DISTRICT

SEWER TRENCHING AND BEDDING DETAIL

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	5/98 1/16 10/16

2016 REVISION SHEET S4.1



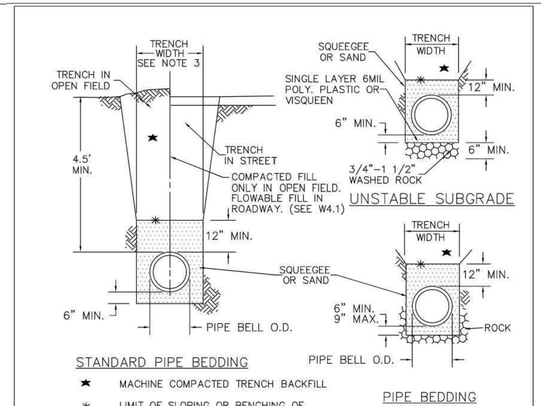
① EXISTING MAIN
② TAPPING SLEEVE
③ TAPPING VALVE
④ DOUBLE SPIGOT PIPE
⑤ PROPERTY LINE VALVE
⑥ TIE RODS
⑦ PIPE CLAMP
⑧ CONCRETE KICKBLOCK
⑨ M.J. ANCHORING TEE (SWIVEL TEE)
⑩ M.J. VALVE
⑪ POLYETHYLENE WRAPPED

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



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

MIRO

S.A. MIRO INC.
CONSULTING ENGINEERS

4582 South Ulster Street
Suite 750, Denver, CO 80237
303-741-3737
www.samiro.com

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PARKER, CO 80134

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COLORADO REGISTERED PROFESSIONAL ENGINEER
33854
11/01/23

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CHECKED BY:	JDC
MIRO JOB NO.	22057

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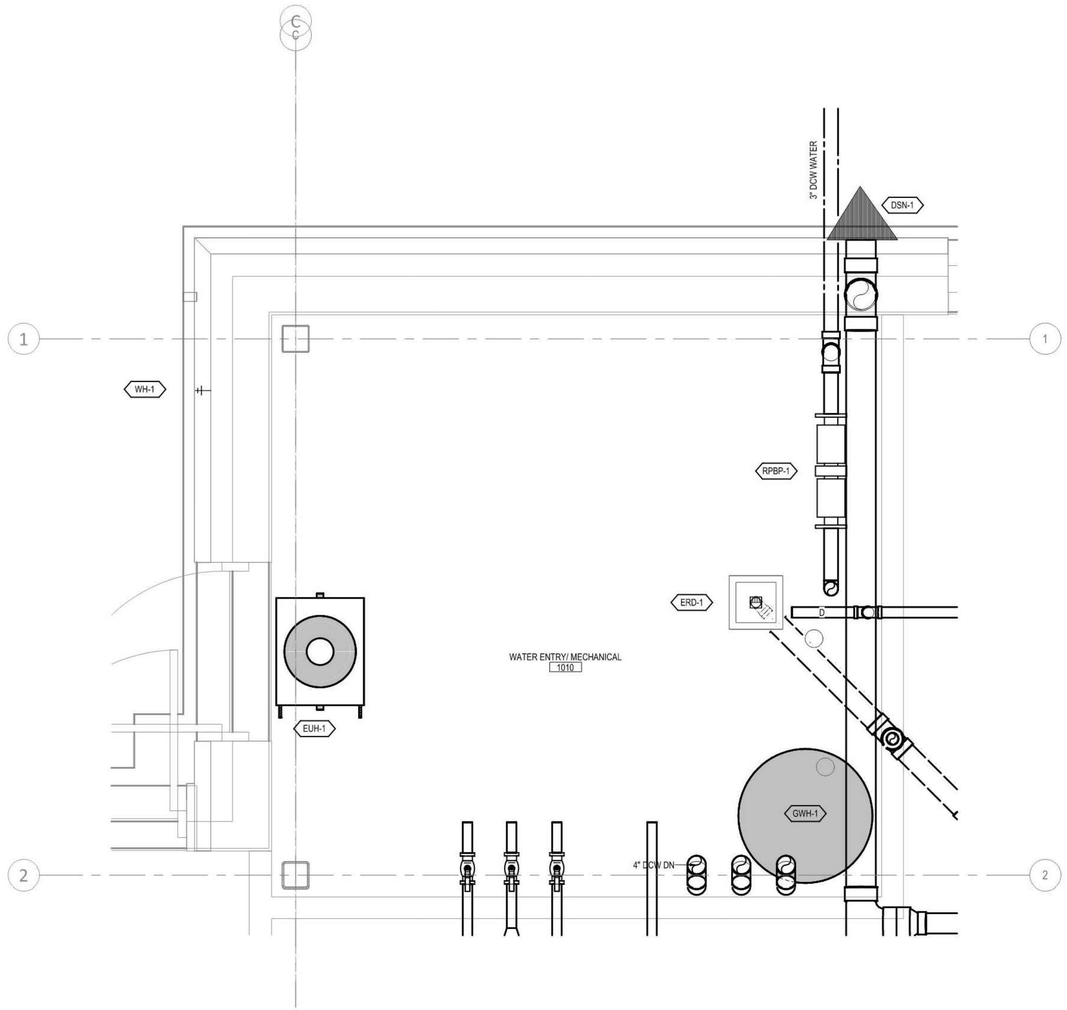
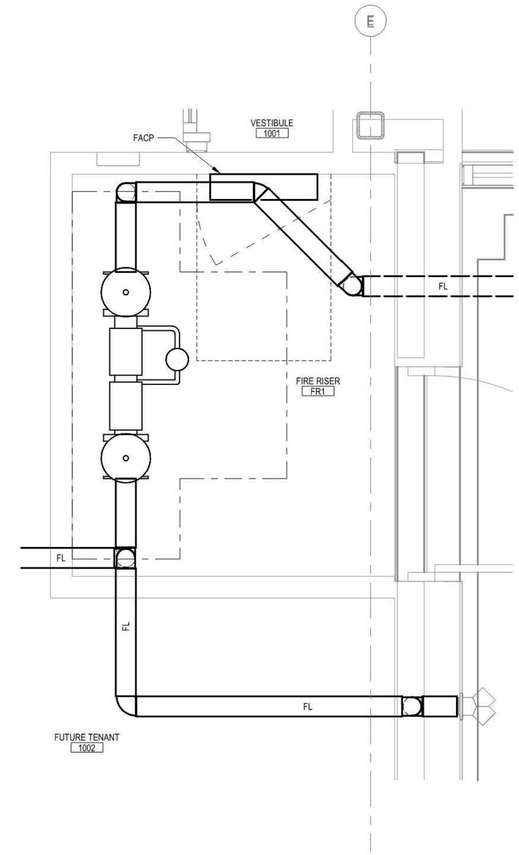


1 CS - ENLARGED WATER ENTRY / MECHANICAL ROOM PLAN
SCALE: 3/4" = 1'-0"



2 CS - ENLARGED FIRE RISER ROOM PLAN
SCALE: 3/4" = 1'-0"

1 / C-553 WATER ENTRY AND RISER ROOM ENLARGEMENTS

NO SCALE

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33854
11/01/23
PROFESSIONAL ENGINEER

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CHECKED BY:	JDC
MIRO JOB NO.	22057

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