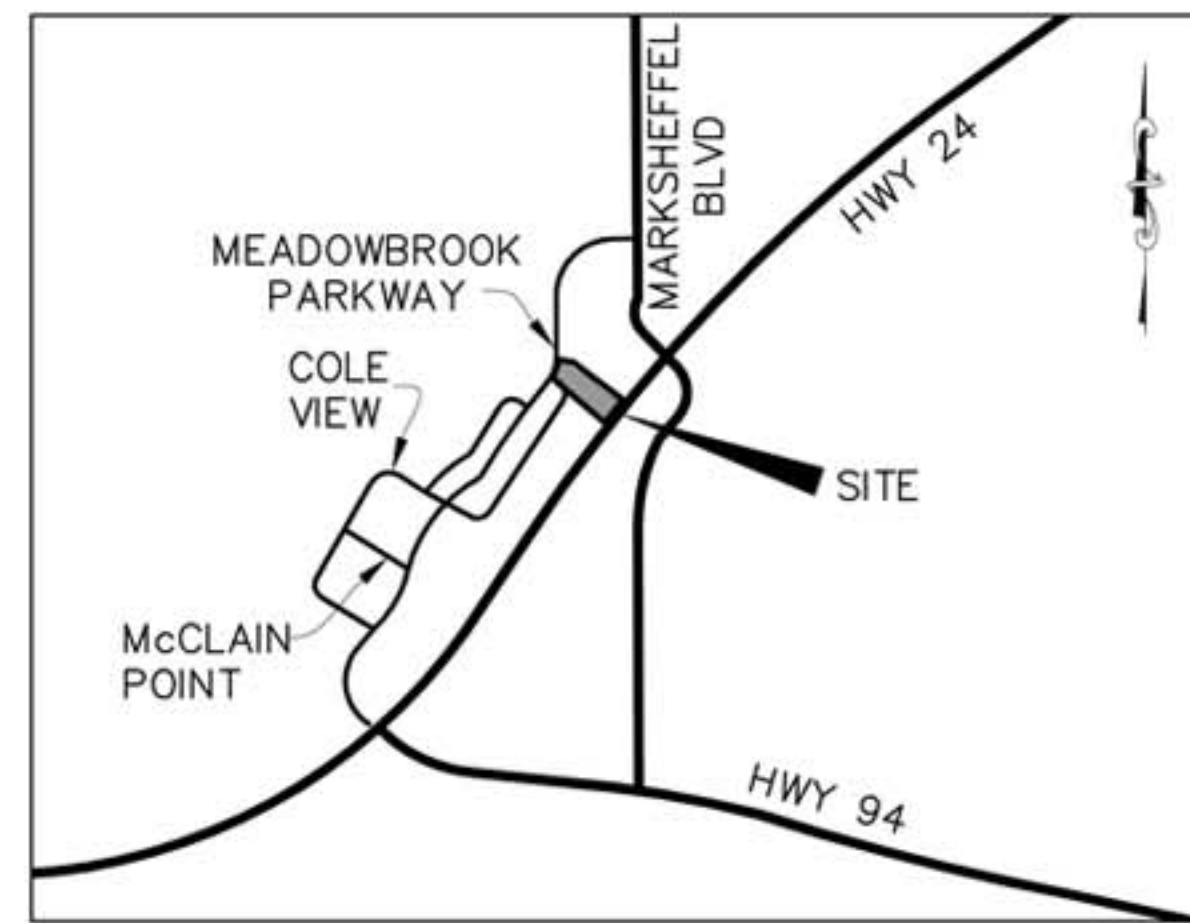


**WATER AND SANITARY SEWER SERVICE INSTALLATIONS GENERAL NOTES:**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS OTHERWISE NOTED. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.
- ALL WATER SYSTEM MAINS PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 200 (DR-14) PER AWWA C-900 AND ASTM D2411 SPECIFICATIONS, EXCEPT WHERE NOTED. SPECIFICALLY, SECTIONS OF WATER PIPE THAT CROSS UNDER MAJOR DRAINAGE WAYS (SAND CREEK) OR MAJOR THOROUGHFARES SHALL BE DUCTILE IRON PIPE.
- ALL FITTINGS SHALL BE CONSTRUCTED OF GRAY-IRON MATERIAL AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL BE WRAPPED WITH A 9-MIL THICKNESS POLYETHYLENE MATERIAL PER AWWA STANDARD C105.
- ALL WATER PIPES SHALL BE INSTALLED AT A MINIMUM DEPTH OF FIVE (5) FEET BELOW FINISHED GRADE.
- ALL BENDS, TEES FIRE HYDRANTS, BLOW-OFF, AND PLUGS AT DEAD END MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.
- VALVE BOXES SHALL BE TYLER SLIP; TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE OR APPROVED EQUAL.
- ALL WATER SYSTEM COMPONENTS SHALL BE FLUSHED AND CHLORINATED PER AWWA C-601, "DISINFECTING WATER MAINS" PRIOR TO ACCEPTANCE. THE CONTRACTOR SHALL PRODUCE A 25 MG/L SOLUTION BY ADDING CHLORINE TABLETS TO THE PIPE SECTION WITH PERMATEX CLEAR TRV INSIDE THE SYSTEM. CHLORINATION SHALL OCCUR PRIOR TO HYDROSTATIC TESTING. THE CONTRACTOR SHALL OBTAIN A BACTERIOLOGICAL SAMPLE AFTER THE SYSTEM HAS BEEN FLUSHED. A CLEAN BACTERIOLOGICAL SAMPLE MUST BE OBTAINED PRIOR TO THE SYSTEM BEING PLACED INTO SERVICE.
- HYDROSTATIC TESTING: ALL WATER SYSTEM MAINS SHALL BE FILED PRESSURE TESTED TO A MINIMUM OF 150 PSI OR 1 1/2 TIMES THE STATIC OPERATING PRESSURE, WHICHEVER IS GREATER. MAXIMUM ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING: \*10 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.
- ALL VALVES SHALL CONFORM TO OPEN LEFT CONVENTION PER CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- WHEN IT IS NECESSARY TO RAISE OR LOWER WATER MAINS AT OTHER UTILITY CROSSINGS THE CONTRACTOR SHALL INSURE A MINIMUM CLEARANCE OF 18" WHERE POSSIBLE BETWEEN THE OUTSIDE DIAMETERS OF PIPES.
- WHILE CONSTRUCTING THE WATER AND WASTE WATER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO THE PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE WATER SYSTEM.
- PRIOR TO TAPPING ANY EXISTING WATER MAIN THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR SAID TAP IN ACCORDANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- ALL NONMETALLIC PIPES SHALL HAVE TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #12 AWG INSULATED COPPER WIRE WITH NO. 12 COPPER CONNECTIONS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS. TRACER WIRE SHALL BE JOINED 3-WAY OR 4-WAY LOCKABLE MECHANICAL CONNECTORS SPECIFICALLY MANUFACTURED FOR USE IN UNDERGROUND TRACER WIRE INSTALLATIONS. NON-LOCKING FRICTION FIT, TWIST-ON, OR TAPED CONNECTIONS ARE NOT PERMITTED. THE TRACER WIRE SHALL ALSO BE CORROSION BY EPOXY OR SILICON COATING. ROUTE TRACER WIRES TO SURFACE AT ALL VALVE BOXES.
- THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
- SANITARY SEWER PIPE SHALL CONFORM TO ASTM D3034 SDR35 PVC.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.
- ALL SANITARY SEWER MANHOLES, LIDS, BASES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH (AWW) COLORADO SPRINGS DETAILS STANDARD MANHOLE DETAIL 1, EXCEPT AS NOTED ON THESE PLANS. WHERE REQUIRED ON THESE PLANS, WATER TIGHT MANHOLES, LIDS AND CONNECTIONS SHALL BE PROVIDED BY COLORADO SPRINGS STANDARDS.
- SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, OR AT THE DIRECTION OF THE INSPECTOR.
- OVERLOT GRADING AND STREET SUB-GRADE MUST BE WITHIN +/- ONE (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.
- TRACER WIRE IS TO BE INSTALLED WITH ALL SANITARY SEWER MAIN LINES AND SERVICES (FROM THE MAIN LINE TO THE BUILDING STRUCTURE), AS OUTLINED IN COMMENT #13.
- MINIMUM DEPTH OF SANITARY SEWER IS 6 FEET OF COVER. IF THIS MINIMUM CANNOT BE ACHIEVED DUE TO SHALLOW SEWER STUB THEN THE FOLLOWING APPLIES: OTHERWISE THE SEWER SERVICE MUST HAVE 6 FEET OF COVER:  
DEPTH GREATER THAN 6 FEET: MATERIAL TYPE SDR 35  
DEPTH BETWEEN 4 FEET AND 6 FEET: MATERIAL TYPE SCH 40 OR CAST IRON (CIP)  
DEPTH LESS THAN 4 FEET: MATERIAL TYPE SCH 40 OR CIP WITH CONCRETE CAP.
- WATER SERVICE MUST BE OVER THE SEWER AT ALL TIMES, SEWER SERVICE PIPE LOCATED WITHIN ONE FOOT OF THE WATER SERVICE LINE MUST BE CONSTRUCTED WITH SCH 40 PIPE OR CIP.
- ALL EXTERIOR SEWER CLEAN OUTS (CO) MUST HAVE A CAST IRON, TRAFFIC RATED COVER, OR EQUIVALENT CONCRETE COLLAR.
- UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ACCEPTANCE BY THE DISTRICT, TWO (2) COPIES OF "AS-CONSTRUCTED" PLANS AND TWO (2) SETS OF ELECTRONIC DATA FILES OF THE PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR RECORD.
  - THE TWO (2) COPIES SHALL BE COMPLETE WITH ALL "AS-CONSTRUCTED" INFORMATION TOGETHER WITH A CERTIFICATION BY THE PARTY RESPONSIBLE FOR CONSTRUCTION THAT ALL DATA THEREON IS ACCURATE AND REPRESENTS ACTUAL CONSTRUCTED CONDITIONS.
  - THE TWO PLAN SETS SHALL BE SUBMITTED ON SHEETS THAT ARE 24" X 36" IN SIZE.
  - THE PLAN SET SHALL BE ON A DURABLE MEDIA THAT CAN BE RUN THROUGH PHOTOCOPIING EQUIPMENT.
  - THE TWO ELECTRONIC DATA FORMATS SHALL BE SUBMITTED. THE FIRST ELECTRONIC DATA FILE SET SHALL BE IN AUTOCAD 2006 OR NEWER FORMAT WITH NO EXTERNAL REFERENCE DRAWINGS. ALL EXTERNAL REFERENCES MUST BE BOUND INTO THE DRAWING SET. THE SECOND SET OF ELECTRONIC DATA FILES SHALL BE IN ADOBE ACROBAT .PDF FORMAT.
  - "AS-CONSTRUCTED" PLANS SHALL BE SUBMITTED WITHIN TWO WEEKS OF COMPLETION OF THE WATER AND/OR SANITARY SEWER UTILITIES.
  - NO AUTHORIZATION TO CONNECT TO THE SYSTEM OR DISCHARGE TO THE SYSTEM WILL BE ALLOWED UNTIL THE "AS-CONSTRUCTED" DOCUMENTS HAVE BEEN RECEIVED AND ACCEPTED BY THE DISTRICT.
  - ALL PLANS, SPECIFICATIONS AND SUPPORTING DOCUMENTS SHALL BE PREPARED BY OR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF COLORADO. ALL PLANS AND SPECIFICATIONS SHALL BEAR THE SEAL AND SIGNATURE OF SAID LICENSED PROFESSIONAL ENGINEER.

# CBP LOT 2-1A

EL PASO COUNTY, STATE OF COLORADO  
UTILITY SERVICE PLAN



VICINITY MAP  
N.T.S.

**CONTACTS**

OWNER	HAMMERS CONSTRUCTION INC. 1411 WOOLSEY HEIGHTS COLORADO SPRINGS, CO 80915
CIVIL ENGINEER	MS CIVIL CONSULTANTS, INC 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ, P.E. 719-491-0818
WATER AND WASTEWATER	CHEROKEE METROPOLITAN DISTRICT 6250 PALMER PARK BOULEVARD COLORADO SPRINGS, CO 80915-1721 JEFF MUNGER 719-597-5080
FIRE DEPARTMENT	CIMARRON HILLS FIRE DEPARTMENT 1835 TUSKEGEE PLACE COLORADO SPRINGS, CO 80915 719-591-0969
TELEPHONE COMPANY	U.S. WEST COMMUNICATIONS (LOCATORS) 800-922-1987 AT&T (LOCATORS) 719-635-3674

**WATER INSTALLATION CORROSION CONTROL REQUIREMENTS**

REQUIRED, DESCRIBED AS FOLLOWS: PROVIDE CATHODIC PROTECTION & WRAP ALL METAL JOINTS, VALVES, PIPES AND HYDRANTS.

**CHEROKEE METROPOLITAN DISTRICT WATER PLAN APPROVAL**

THE CHEROKEE METROPOLITAN DISTRICT RECOGNIZES THE DESIGN PROFESSIONAL OF RECORD AS THE LICENSED ENGINEER HAVING RESPONSIBILITY FOR THE SUBMITTED DESIGN AND THE DISTRICT HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY. AS SUCH, THE APPROVAL GRANTED HEREIN IS FOR THE CONSTRUCTION OF THE FACILITIES AS REPRESENTED ON THESE DOCUMENTS. APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE BELOW AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**CHEROKEE METROPOLITAN DISTRICT WASTEWATER PLAN APPROVAL**

THE CHEROKEE METROPOLITAN DISTRICT RECOGNIZES THE DESIGN PROFESSIONAL OF RECORD AS THE LICENSED ENGINEER HAVING RESPONSIBILITY FOR THE SUBMITTED DESIGN AND THE DISTRICT HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY. AS SUCH, THE APPROVAL GRANTED HEREIN IS FOR THE CONSTRUCTION OF THE FACILITIES AS REPRESENTED ON THESE DOCUMENTS. APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE BELOW AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**CIMARRON HILLS FIRE DEPARTMENT**

ACCORDING TO THE MODELED CALCULATIONS REVIEWED BY THE GOVERNING WATER DISTRICT AND/OR COLORADO REGISTERED CIVIL ENGINEER/DESIGNER; THE THEORETICAL AVAILABLE FIRE FLOW AT NODE "A" IS 0000 GALLONS AT NODE "B" IS 0000 GALLONS PER MINUTE UNDER MAXIMUM DAILY DEMAND CONDITIONS AT 20PSI RESIDUAL. THE ACTUAL FIRE FLOW MAY VARY DUE TO VARIOUS PARAMETERS. UPON DETAILED REVIEW OF THE AVAILABLE WATER SUPPLY, FIRE HYDRANT LOCATIONS AND HOSE LAY DISTANCES, THESE PLANS ARE HEREBY CONSIDERED APPROVED.

FIRE DEPARTMENT SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**PRIVATE WATER MAIN EXTENSIONS**

THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THE INSTALLATION OF THESE PROPOSED WATER FACILITIES WILL BE MADE IN ACCORDANCE WITH THE DISTRICTS SPECIFICATIONS AND SHALL PROVIDE A MINIMUM OF FIVE FEET (5' 0") AND A MAXIMUM OF SIX (6' 0") OF COVER OVER THE WATER MAIN(S). THE UNDERSIGNED UNDERSTANDS THAT ALL WATER MAINS, FIRE HYDRANTS, AND APPURTENANCES AS INDICATED ON THIS INSTALLATION PLAN SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE MAINTAINED BY THE OWNER.

SIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_

DBA: HAMMERS CONSTRUCTION

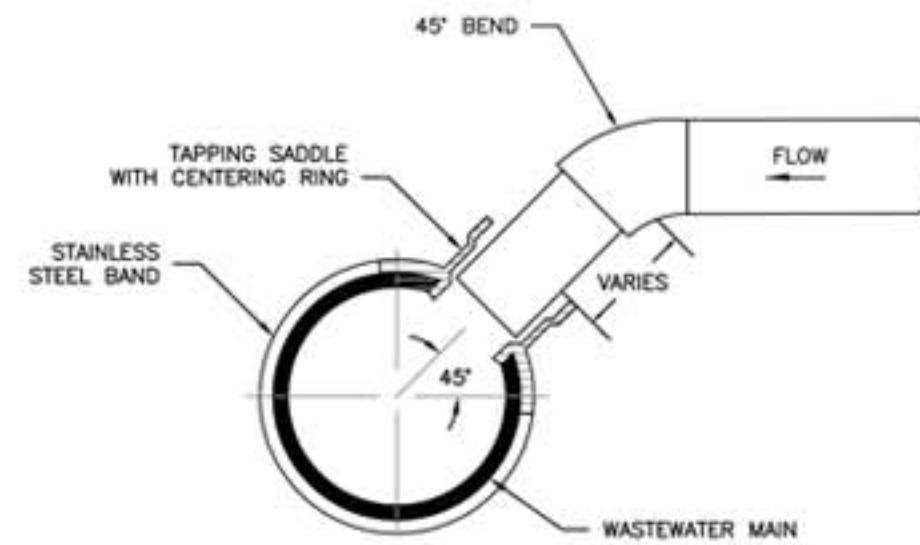
ADDRESS: 1411 WOOLSEY HEIGHTS, COLORADO SPRINGS, CO 80915

**ENGINEER'S STATEMENT**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLANS HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE CHEROKEE METROPOLITAN DISTRICT. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.



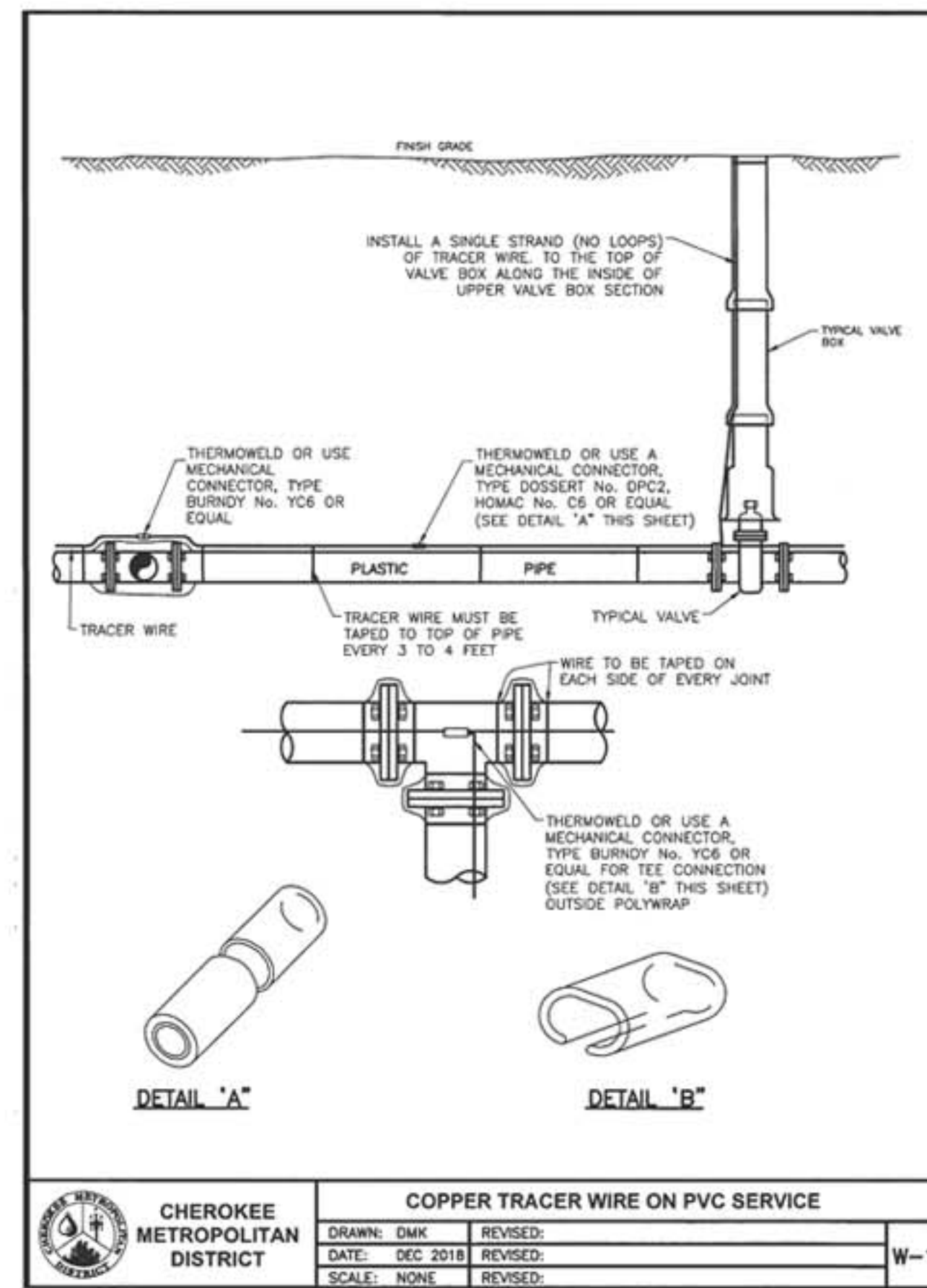
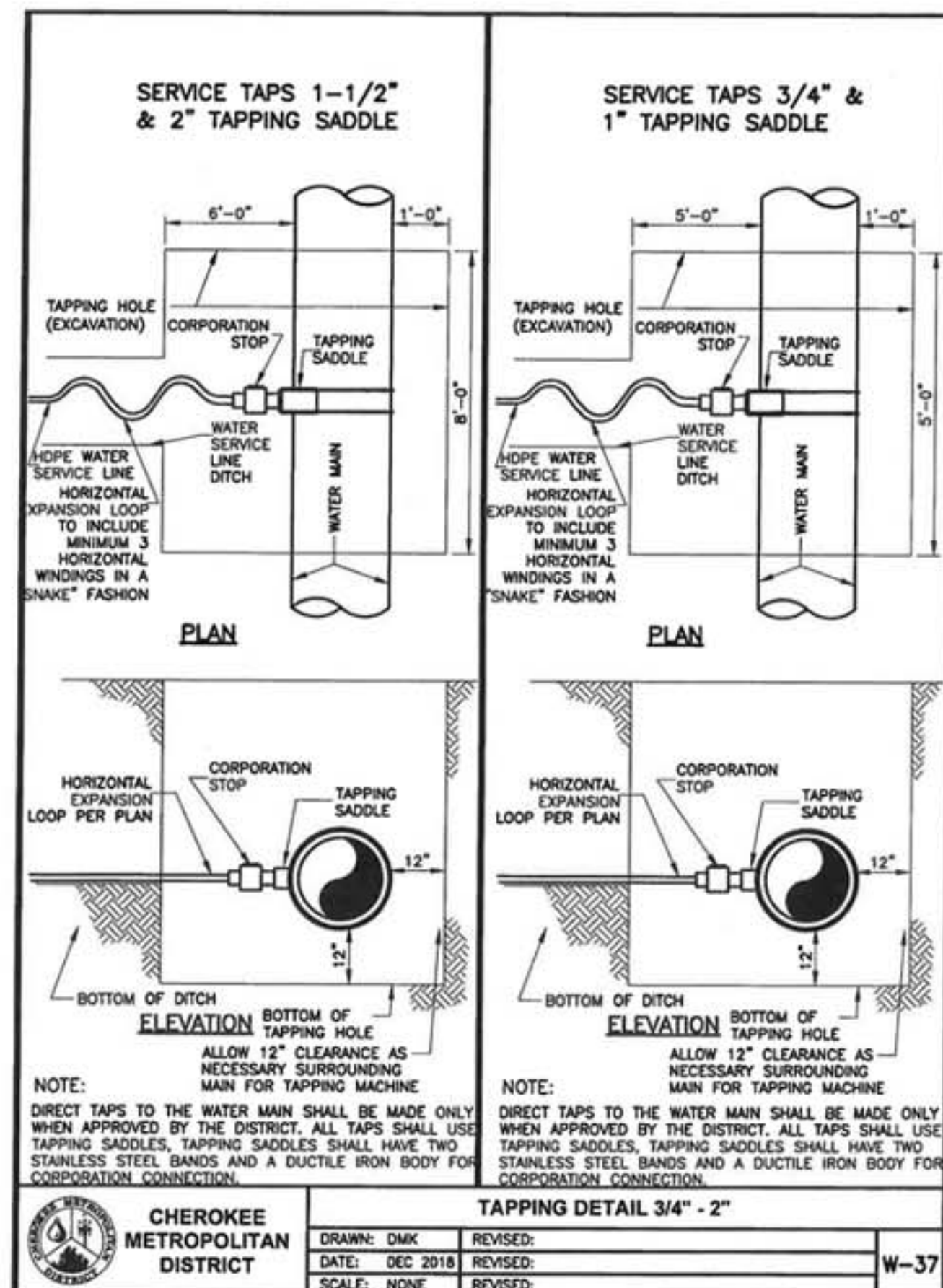
VIRGIL A. SANCHEZ, COLORADO P.E. #37160  
FOR AND ON BEHALF OF M & S CIVIL CONSULTANTS, INC. DATE: \_\_\_\_\_



TYPICAL WASTEWATER SERVICE TAPPING SADDLE

**NOTES:**

- WHEN THE WASTEWATER MAIN IS VCP, USE THE SDR 35 PVC SADDLE WITH A LARGER SKIRT. SADDLE SHALL BE ONE NOMINAL SIZE LARGER THAN THE WASTEWATER MAIN.
- PIPE WILL BE CUT WITH AN O.D. HOLE SAW OR TAPPING MACHINE. A 4-1/2" O.D. HOLE SAW SHALL BE USED FOR 4" TAPS AND A 6-1/2" O.D. HOLE SAW SHALL BE USED FOR 6" TAPS.
- ONLY 4" AND 6" TAP SIZES ARE ALLOWED.
- WASTEWATER TAPPING SADDLES SHALL HAVE A CENTERING RING.
- A GASKET SHALL BE USED TO ENSURE AN AIRTIGHT SEAL BETWEEN THE SADDLE AND THE PIPE.



CHEROKEE METROPOLITAN DISTRICT	DRAWN: DMK	REVISED:	W-37
	DATE: DEC 2018	REVISED:	
SCALE: NONE		REVISED:	

CHEROKEE METROPOLITAN DISTRICT	COPPER TRACER WIRE ON PVC SERVICE		W-12
	DRAWN: DMK	REVISED:	
DATE: DEC 2018		REVISED:	
SCALE: NONE		REVISED:	

UTILITY SERVICE PLAN  
CBP LOT 2-1A  
JOB NO. 44-034  
DATE PREPARED: JANUARY 2, 2019  
DATE REVISED: JUNE 28, 2019

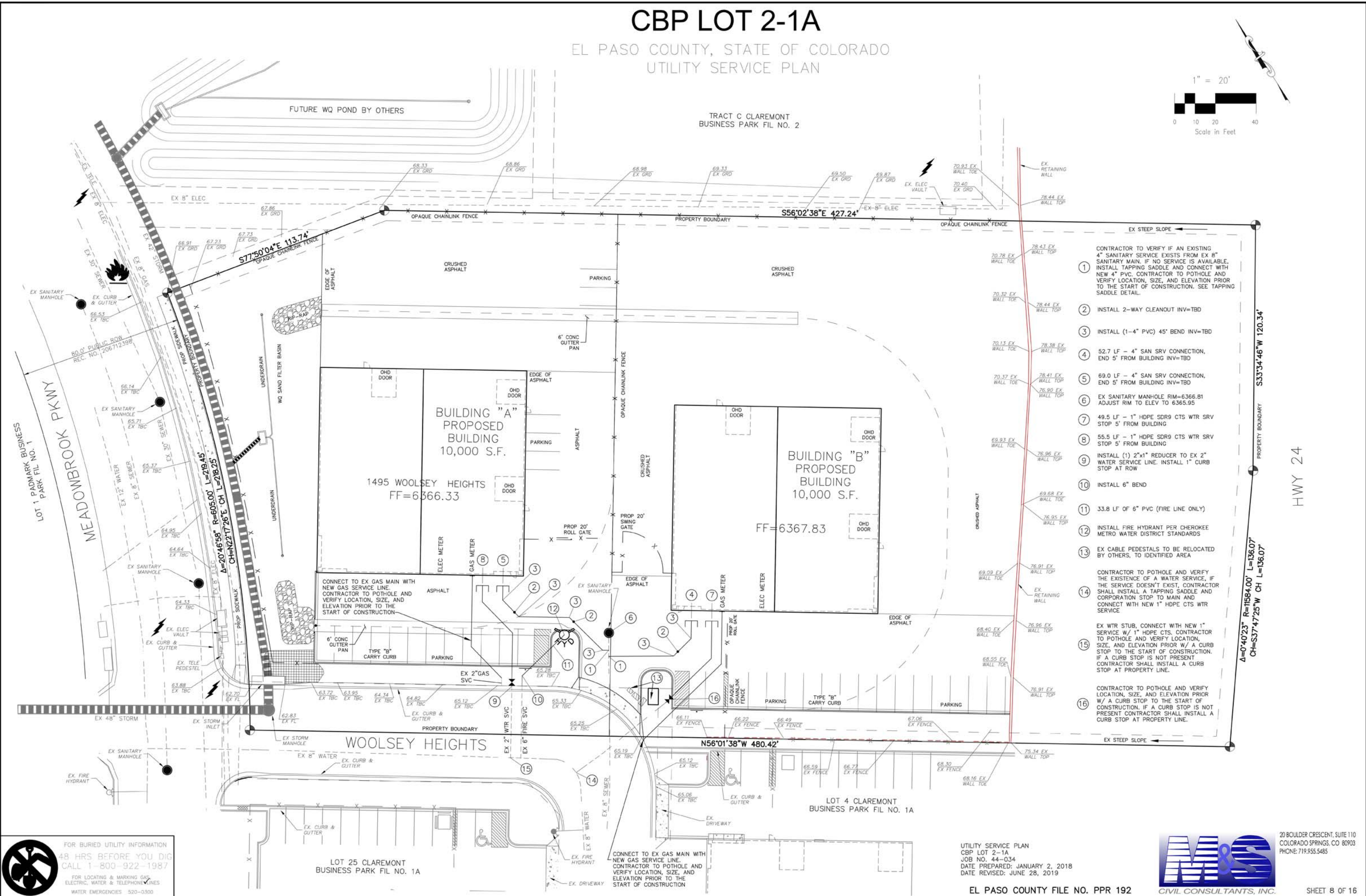
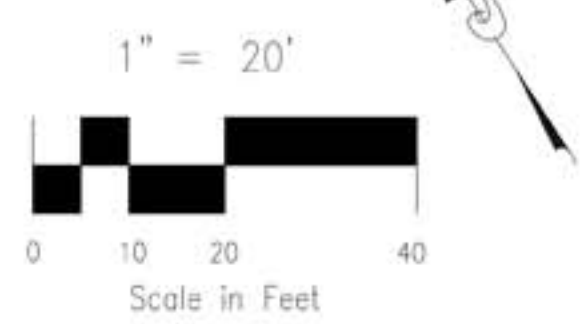
EL PASO COUNTY FILE NO. PPR 192



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

# CBP LOT 2-1A

EL PASO COUNTY, STATE OF COLORADO  
UTILITY SERVICE PLAN



- 1 CONTRACTOR TO VERIFY IF AN EXISTING 4" SANITARY SERVICE EXISTS FROM EX 8" SANITARY MAIN. IF NO SERVICE IS AVAILABLE, INSTALL TAPPING SADDLE AND CONNECT WITH NEW 4" PVC. CONTRACTOR TO POTHOLE AND VERIFY LOCATION, SIZE, AND ELEVATION PRIOR TO THE START OF CONSTRUCTION. SEE TAPPING SADDLE DETAIL.
- 2 INSTALL 2-WAY CLEANOUT INV=TBD
- 3 INSTALL (1-4" PVC) 45° BEND INV=TBD
- 4 52.7 LF - 4" SAN SRV CONNECTION, END 5' FROM BUILDING INV=TBD
- 5 69.0 LF - 4" SAN SRV CONNECTION, END 5' FROM BUILDING INV=TBD
- 6 EX SANITARY MANHOLE RIM=6366.81 ADJUST RIM TO ELEV TO 6365.95
- 7 49.5 LF - 1" HDPE SDR9 CTS WTR SRV STOP 5' FROM BUILDING
- 8 55.5 LF - 1" HDPE SDR9 CTS WTR SRV STOP 5' FROM BUILDING
- 9 INSTALL (1) 2"x1" REDUCER TO EX 2" WATER SERVICE LINE. INSTALL 1" CURB STOP AT ROW
- 10 INSTALL 6" BEND
- 11 33.8 LF OF 6" PVC (FIRE LINE ONLY)
- 12 INSTALL FIRE HYDRANT PER CHEROKEE METRO WATER DISTRICT STANDARDS
- 13 EX CABLE PEDESTALS TO BE RELOCATED BY OTHERS, TO IDENTIFIED AREA
- 14 CONTRACTOR TO POTHOLE AND VERIFY THE EXISTENCE OF A WATER SERVICE, IF THE SERVICE DOESN'T EXIST, CONTRACTOR SHALL INSTALL A TAPPING SADDLE AND CORPORATION STOP TO MAIN AND CONNECT WITH NEW 1" HDPE CTS WTR SERVICE
- 15 EX WTR STUB, CONNECT WITH NEW 1" SERVICE W/ 1" HDPE CTS. CONTRACTOR TO POTHOLE AND VERIFY LOCATION, SIZE, AND ELEVATION PRIOR W/ A CURB STOP TO THE START OF CONSTRUCTION. IF A CURB STOP IS NOT PRESENT CONTRACTOR SHALL INSTALL A CURB STOP AT PROPERTY LINE.
- 16 CONTRACTOR TO POTHOLE AND VERIFY LOCATION, SIZE, AND ELEVATION PRIOR W/ A CURB STOP TO THE START OF CONSTRUCTION. IF A CURB STOP IS NOT PRESENT CONTRACTOR SHALL INSTALL A CURB STOP AT PROPERTY LINE.

FOR BURIED UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

FOR LOCATING & MARKING GAS,  
ELECTRIC, WATER & TELEPHONE LINES  
WATER EMERGENCIES 520-0300

UTILITY SERVICE PLAN  
CBP LOT 2-1A  
JOB NO. 44-034  
DATE PREPARED: JANUARY 2, 2018  
DATE REVISED: JUNE 28, 2019



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5485

EL PASO COUNTY FILE NO. PPR 192

SHEET 8 OF 16