# COUNTY OF EL PASO, STATE OF COLORADO UTILITY SERVICE PLAN

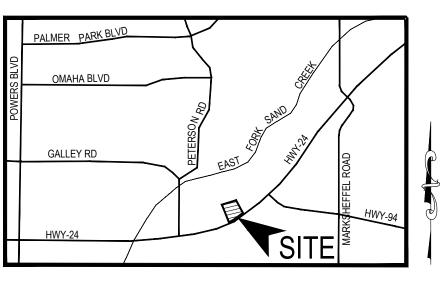
FEBRUARY 2023

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

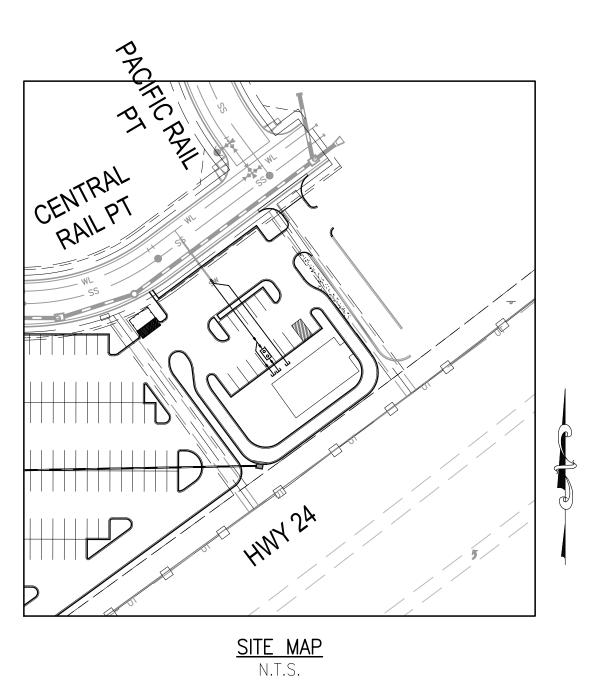
- 1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS OTHERWISE NOTED. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.
- 2. ALL WATER SYSTEM MAINS PIPE MATERIAL SHALL BE POLYVINAL CHLORIDE (PVC) CLASS 200 (DR-14) PER AWWA C-900 AND ASTM D241 SPECIFICATIONS, EXCEPT WHERE NOTED. SPECIFICALLY, SECTIONS OF WATER PIPE THAT CROSS UNDER MAJOR DRAINAGE WAYS OR MAJOR THOROUGHFARES SHALL BE DUCTILE IRON PIPE.
- 3. 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
- 4. ALL WATER PIPES SHALL BE INSTALLED WITH A MINIMUM COVER OF FIVE (5) FEET BELOW FINISHED GRADE.
- 5. ALL BENDS, TEES FIRE HYDRANTS, BLOW-OFF, AND PLUGS AT DEAD END MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.
- 6. VALVE BOXES SHALL BE TYLER SLIP; TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE OR APPROVED EQUAL.
- 7. 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 ADHERING 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.
- 8. 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.
- 9. ALL VALVES SHALL CONFORM TO OPEN LEFT CONVENTION PER CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- 10. 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.
- 11. 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.
- 12. 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.
- 13. 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.
- UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
- 15. SANITARY SEWER PIPE SHALL CONFORM TO ASTM D3034 SDR35 PVC.
- 16. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.
- 17. ALL SANITARY SEWER MANHOLES, LIDS, BASES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH CHEROKEE METROPOLITAN DISTRICT STANDARD MANHOLE DETAILS (5' MIN DIAMETER). EXCEPT AS NOTED ON THESE PLANS. WHERE REQUIRED ON THESE PLANS, WATER TIGHT MANHOLES, LIDS AND CONNECTIONS SHALL BE PROVIDED BY COLORADO SPRINGS STANDARDS. ALL NEW MANHOLES (IF ANY) SHALL BE COATED & LINED PER CMD STANDARDS.
- 18. SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, OR AT THE DIRECTION OF THE INSPECTOR.
- 19. OVERLOT GRADING AND STREET SUB-GRADE MUST BE WITHIN +/\_ ONE (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.
- 20. 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.
- 21. MINIMUM DEPTH OF SANITARY SEWER IS 6 FEET OF COVER, THE FOLLOWING ALLOWABLE DEPTH RULES APPLY FOR BURY DEPTHS BETWEEN 1' AND 30' IN CONSIDERATION OF THE MINIMUM DEPTH SHALL BE APPLIED: (SEE CSU WASTEWATER LESS 2.5.B FOR MORE INFORMATION)
- DEPTH GREATER THAN 4 FEET (AND LESS THAN 20'): MATERIAL TYPE DR 11 HDPE
- DEPTH BETWEEN 2 & 4 FEET (AND UP TO 20 FEET): MATERIAL TYPE SDR 26 OR SDR 35 PVC/PS 46 DEPTH BETWEEN 1 & 2 FEET (AND BETWEEN 20 & 30 FEET): MATERIAL TYPE DIP.
- 22. WATER SERVICE MUST BE OVER THE SEWER AT ALL TIMES (MINIMUM 18" INCHES) OTHERWISE STEEL CASING MUST BE USED, SEWER SERVICE
- 23. ALL EXTERIOR SEWER CLEAN OUTS (CO) MUST HAVE A CAST IRON, TRAFFIC RATED COVER, OR EQUIVALENT CONCRETE COLLAR.

PIPE LOCATED WITHIN ONE FOOT OF THE WATER SERVICE LINE MUST BE CONSTRUCTED WITH SCH 40 PIPE OR DIP.

- 24. 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. a. 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.
- b. THE TWO PLAN SETS SHALL BE SUBMITTED ON SHEETS THAT ARE 22" X 34" IN SIZE. c. THE PLAN SET SHALL BE ON A DURABLE MEDIA THAT CAN BE RUN THROUGH PHOTOCOPYING EQUIPMENT.
- d. 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.
- e. "AS-CONSTRUCTED" PLANS SHALL BE SUBMITTED WITHIN TWO WEEKS OF COMPLETION OF THE WATER AND/OR SANITARY SEWER UTILITIES. f. 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.
- q. 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.



**VICINITY MAP** 



# OWNER/DEVELOPER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS IN THESE DETAILED PLANS AND SPECIFICATIONS.

DANNY MIENTKA (MANAGER) CROSSROADS DEVELOPMENT COMPANY. LLC

# EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. COUNTY ENGINEER / ECM ADMINISTRATOR **AGENCIES:** 

OWNER/DEVELOPER: CROSSROADS DEVELOPMENT COMPANY, LLC 90 S. CASCADE AVE., SUITE 1500

COLORADO SPRINGS, CO 80903 DANNY MIENTKA (719) 448-4034

CIVIL ENGINEER: M & S CIVIL CONSULTANTS, INC. 212 N. WAHSATCH, SUITE 305 COLORADO SPRINGS, CO 80903

COUNTY ENGINEERING: EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT

2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 GILBERT LAFORCE, P.E. (719) 520-6300

TRAFFIC ENGINEERING: EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE

COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460

VIRGIL A. SANCHEZ P.E. (719) 955-5485

WATER RESOURCES: CHEROKEE METROPOLITAN DISTRICT 6250 PALMER PARK BOULEVARD COLORADO SPRINGS, CO 80915-1721

JEFF MUNGER (719) 597-5080 FIRE DISTRICT: CIMARRON HILLS FIRE DEPARTMENT 1835 TUSKEGEE PLACE

COLORADO SPRINGS, CO 80915 (719) 591-0960

7710 DURANT DR.

COLORADO SPRINGS, CO 80947

GAS DEPARTMENT: COLORADO SPRINGS UTILITIES 7710 DURANT DR.

TIM WENDT (719) 668-3556 ELECTRIC DEPARTMENT: COLORADO SPRINGS UTILITIES

> COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556

COMMUNICATIONS: QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922-1987 AT&T (LOCATORS) (719) 635-3674

#### 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

FOR AND ON BEHALF OF M & S CIVÎL CONSULTANTS, INC.

JOINTS, VALVES, PIPES AND HYDRANTS.

WATER INSTALLATION CORROSION CONTROL REQUIREMENTS

REQUIRED, DESCRIBED AS FOLLOWS: PROVIDE CATHODIC PROTECTION & WRAP ALL METAL

### CHEROKEE METROPOLITAN DISTRICT WATER & 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:

# 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 "FH-1" IS 2000 GPM UNDER MAXIMUM DAILY DEMAND CONDITIONS AT 28.3PSI 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: \_\_\_\_\_

THE PROJECT FILING NUMBER HAS BEEN REVISED

locate other project files on EDARP.

Our preference is that you revise this to: "EPC's EDARP File Number: PPR2311" [as shown on EDARP with no dashes or extras zeros or extra spaces in the file number]. This will help all stakeholders during and after construction to

FOR BURIED UTILITY INFORMATION

48 HRS BEFORE YOU DIG

& MARKING GAS, ELECTRIC, WATER & TELEPHONE CALL 1-800-922-1987

FILING

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RVIC

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SHEET INDEX

**BENCHMARK:** 

SHEET 1 TITLE SHEET SHEET 2 UTILITY SERVICE PLANS

1. NATIONAL GEODETIC VERTICAL DATUM OF 1929, MONUMENT R76 SET IN TOP OF

2. NATIONAL GEODETIC VERTICAL DATUM OF 1929, FOUND #5 REBAR AND ORANGE CAP

THE EAST LINE OF TRACT C "CROSSROADS MIXED USE FILING NO. 2" RECORDED UNDER

RECEPTION NO 22714975 IN THE RECORDS OF EL PASO COUNTY, COLORADO, BEING

MONUMENTED AT EACH END WITH A SET NO. 5 REBAR WITH AN ORANGE PLASTIC CAP

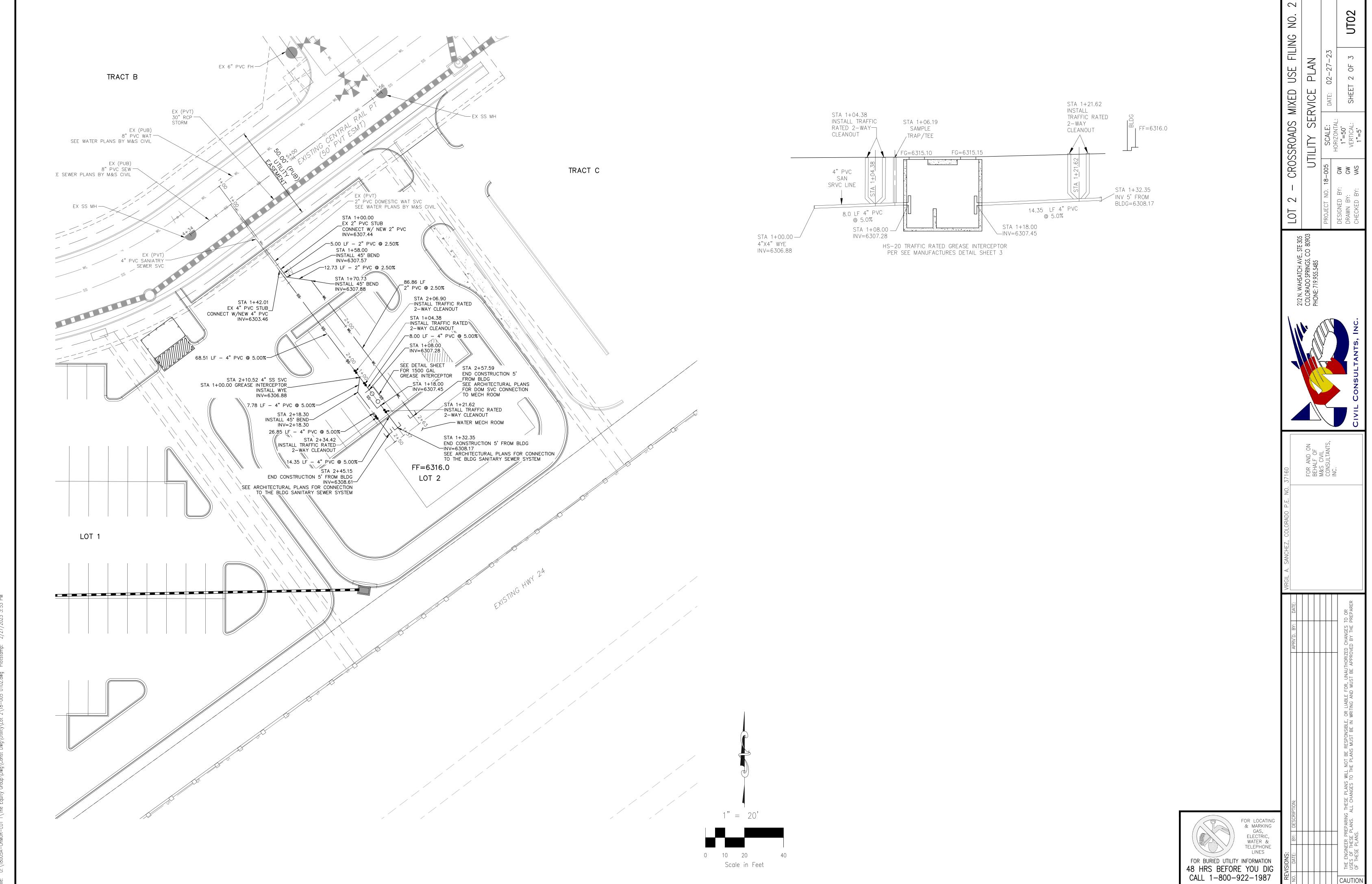
STAMPED "M&S CIVIL PLS 25966", WHICH BEARS NOO7'07'04"E A DISTANCE OF 871.79

CONCRETE MONUMENT ELEVATION = 6286.32'

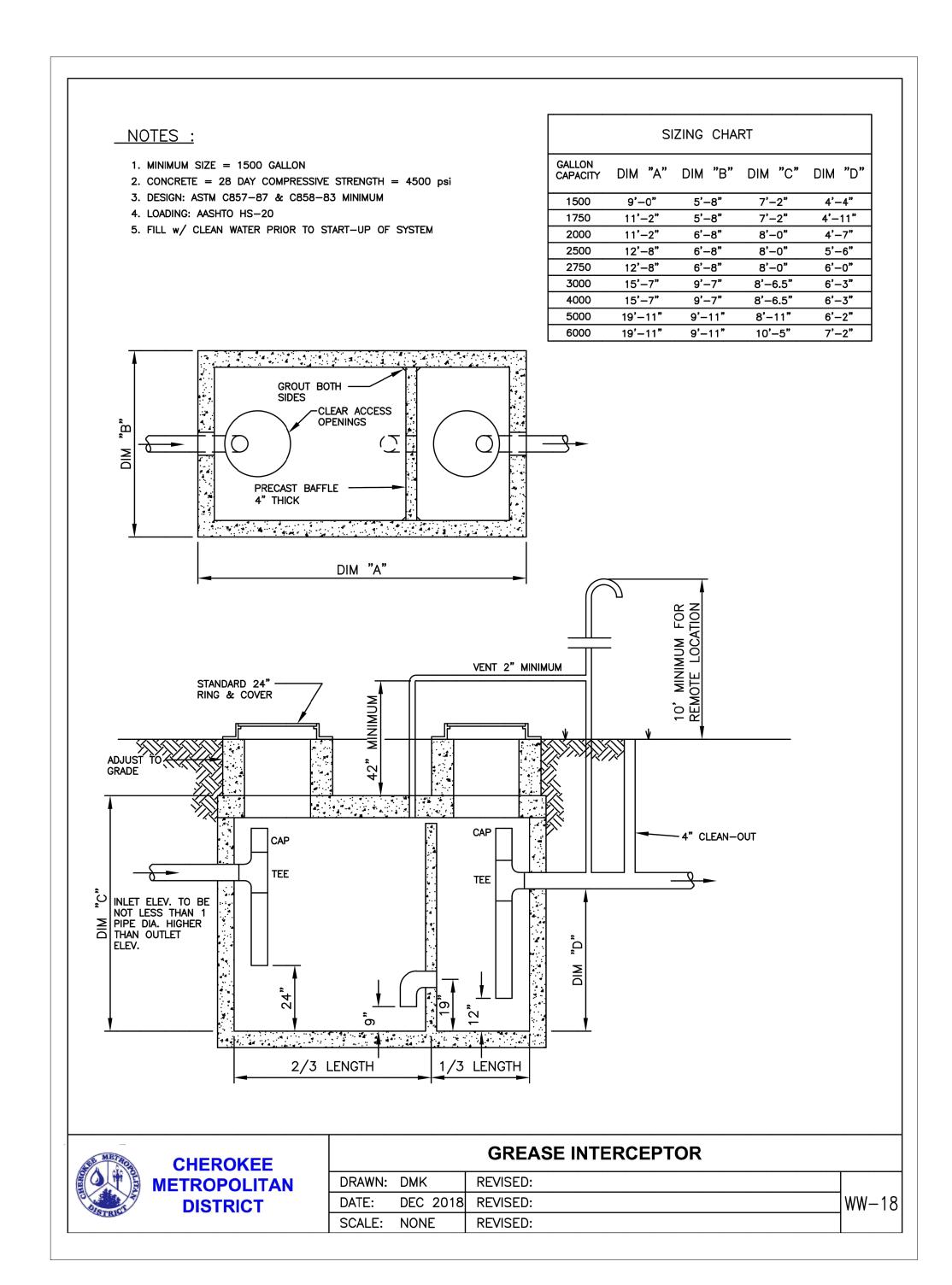
PLS 32820 ELEVATION = 6325.50'

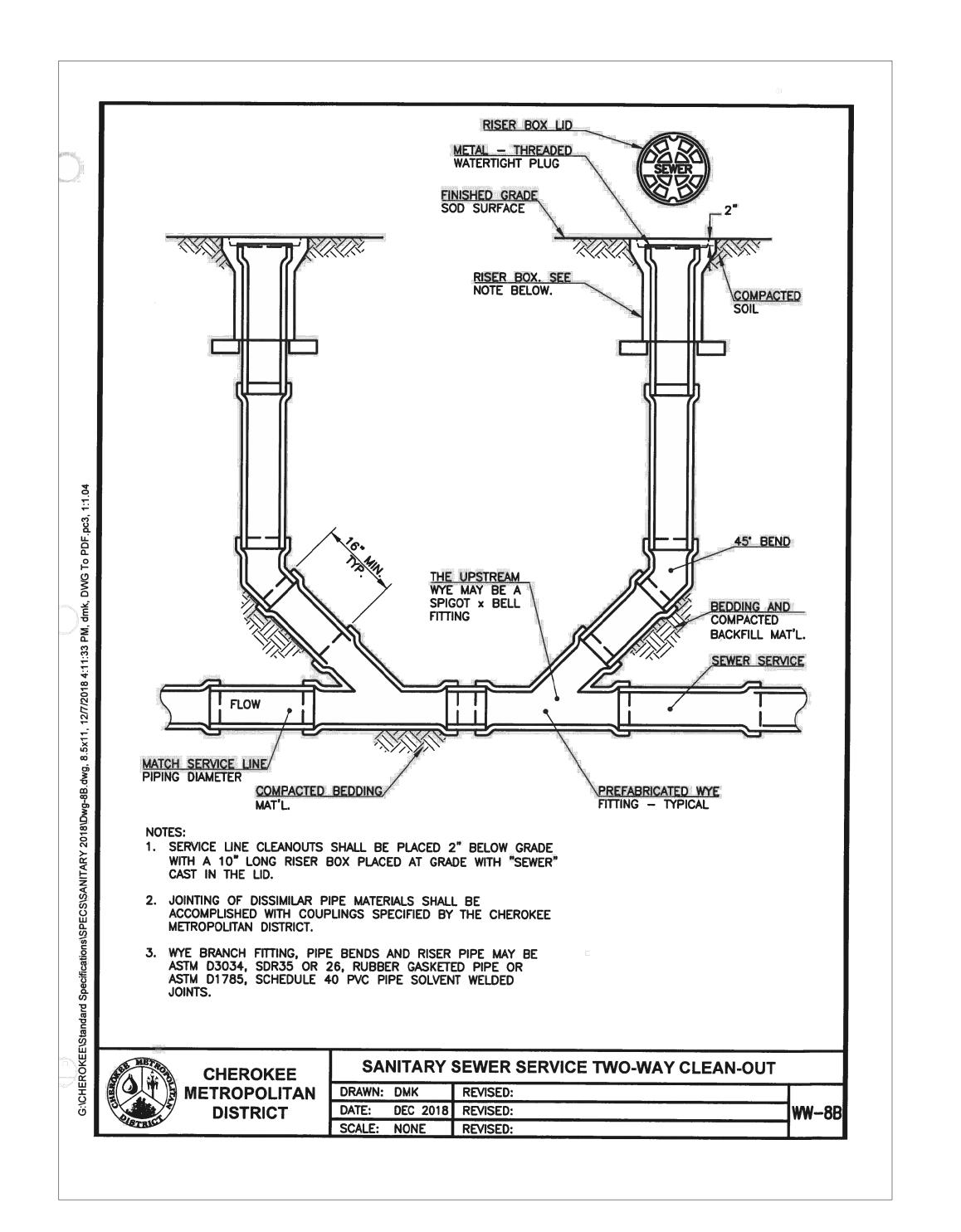
BASIS OF BEARINGS

SHEET 3 DETAILS



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MIXED USE FILING NO. SERVICE CROSSROADS LOT FOR LOCATING & MARKING GAS, ELECTRIC, WATER &
TELEPHONE

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