

- NOTES:**
1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS.
  2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
  3. ALL WYES ARE STATIONED USING MAIN LINE STATIONS.
  4. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED.
  5. ALL SERVICE STUB LINES SHALL HAVE A MINIMUM PIPE STIFFNESS OF SDR-26.
  6. ALL SANITARY SEWER MANHOLES ARE 4' DIAMETER UNLESS OTHERWISE NOTED.
  7. ALL SERVICE STUBS SHALL BE 90° TO THE MAIN, UNLESS OTHERWISE NOTED.
  8. REFERENCE "MANHOLE IN PAVED AREA" DETAIL FOR MANHOLES PROPOSED IN ASPHALT OR CONCRETE PAVEMENT.
  9. PROPOSED GRADING IS FOR REFERENCE ONLY. CONTRACTOR IS TO GRADE WITHIN THE LIMITS OF DISTURBANCE AND PROVIDE SANITARY COVER AS REQUIRED BY THE CITY'S TECHNICAL SPECIFICATIONS.

**MO GRS BENCHMARK:**

STATION NAME - JA-90

KC METRO ALUMINUM GRS DISK SET IN CONCRETE STAMPED "JA-90, 1988" LOCATED NEAR THE INTERSECTION OF LANGSFORD ROAD AND OLD LANGSFORD ROAD, 43 FEET SOUTHEAST OF THE CENTER OF LANGSFORD ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD. N:1001052.8503, E:2845604.8272

ELEV. 997.045

**PROJECT BENCHMARK:**

"SQUARE" CUT IN TOP OF CONCRETE STORM MANHOLE. STORM MANHOLE IS LOCATED APPROX. 130 FEET EAST OF THE INTERSECTION OF SE JOEL AVE & BLUE PARKWAY AND 26 FEET SOUTH OF THE CENTERLINE OF BLUE PARKWAY. N:996874.9690, E:2840937.1365

ELEV. 1005.719

RELEASED FOR CONSTRUCTION  
As noted on Plan Review  
Development Services Department  
Lee's Summit, Missouri  
01/17/2024

**SCHLAGEL**  
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS  
14920 West 107th Street • Lenexa, Kansas 66215  
(913) 492-5158 • Fax: (913) 492-8400  
WWW.SCHLAGELASSOCIATES.COM  
Missouri State Certificates of Authority  
#E2002003600-F #LAC2001005237 #LS200200859-F

PREPARED BY:

09.18.2023

SCHLAGEL & ASSOCIATES, P.A.

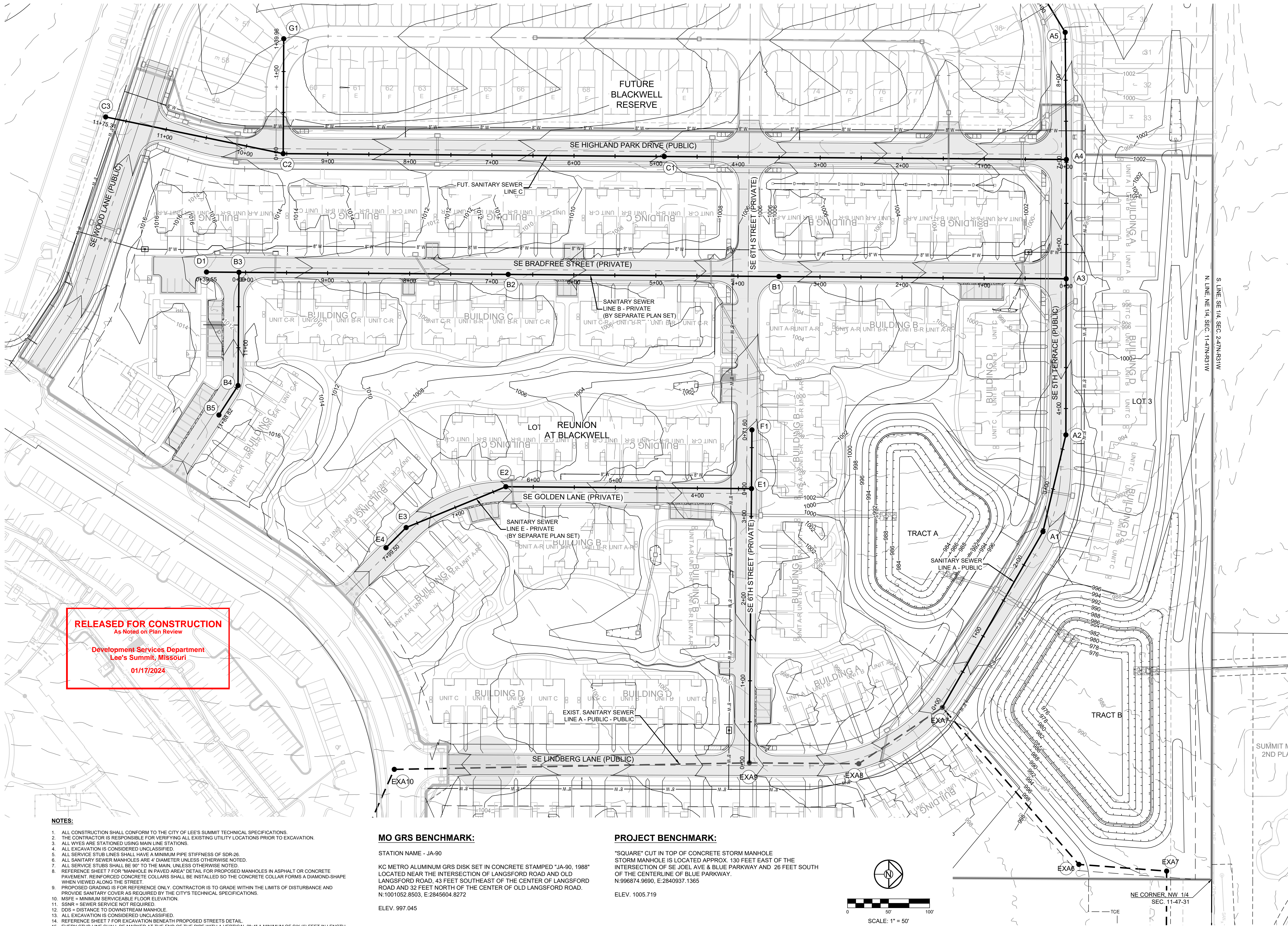
REUNION AT BLACKWELL  
PUBLIC SANITARY SEWER PLANS  
SE SHENANDOAH DRIVE LEE'S SUMMIT, MO

REVISION DATE	DESCRIPTION
05/05/2023	PER CITY COMMENTS
09/06/2026	PER MDCR COMMENTS
03/03/2023	DATE PREPARED
22-597	PROJ. NUMBER

DRAWN BY: ###	CHECKED BY: ###	DATE PREPARED: 03/03/2023	PROJ. NUMBER: 22-597
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GENERAL LAYOUT
SHEET
2





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5. ALL SERVICE STUB LINES SHALL HAVE A MINIMUM PIPE STIFFNESS OF SDR-26.
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7. ALL SERVICE STUBS SHALL BE 90° TO THE MAIN, UNLESS OTHERWISE NOTED.
8. REFERENCE SHEET 7 FOR "MANHOLE IN PAVED AREA" DETAIL FOR PROPOSED MANHOLES IN ASPHALT OR CONCRETE PAVEMENT. REINFORCED CONCRETE COLLARS SHALL BE INSTALLED SO THE CONCRETE COLLAR FORMS A DIAMOND-SHAPE WHEN VIEWED ALONG THE STREET.
9. PROPOSED GRADING IS FOR REFERENCE ONLY. CONTRACTOR IS TO GRADE WITHIN THE LIMITS OF DISTURBANCE AND PROVIDE SANITARY COVER AS REQUIRED BY THE CITY'S TECHNICAL SPECIFICATIONS.
10. MSFE = MINIMUM SERVICEABLE FLOOR ELEVATION.
11. SSNR = SEWER SERVICE NOT REQUIRED.
12. DDS = DISTANCE TO DOWNSTREAM MANHOLE.
13. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED.
14. REFERENCE SHEET 7 FOR EXCAVATION BENEATH PROPOSED STREETS DETAIL.
15. EVERY STUB LINE SHALL BE MARKED AT THE END OF THE PIPE WITH A VERTICAL 2"x4" A MINIMUM OF SIX (6) FEET IN LENGTH.

MO GRS BENCHMARK:

STATION NAME - JA-90

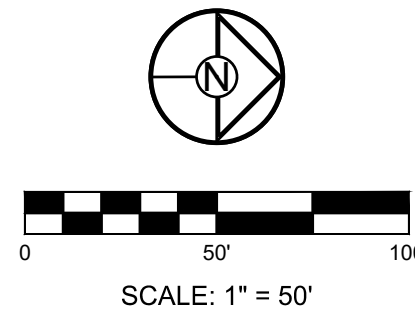
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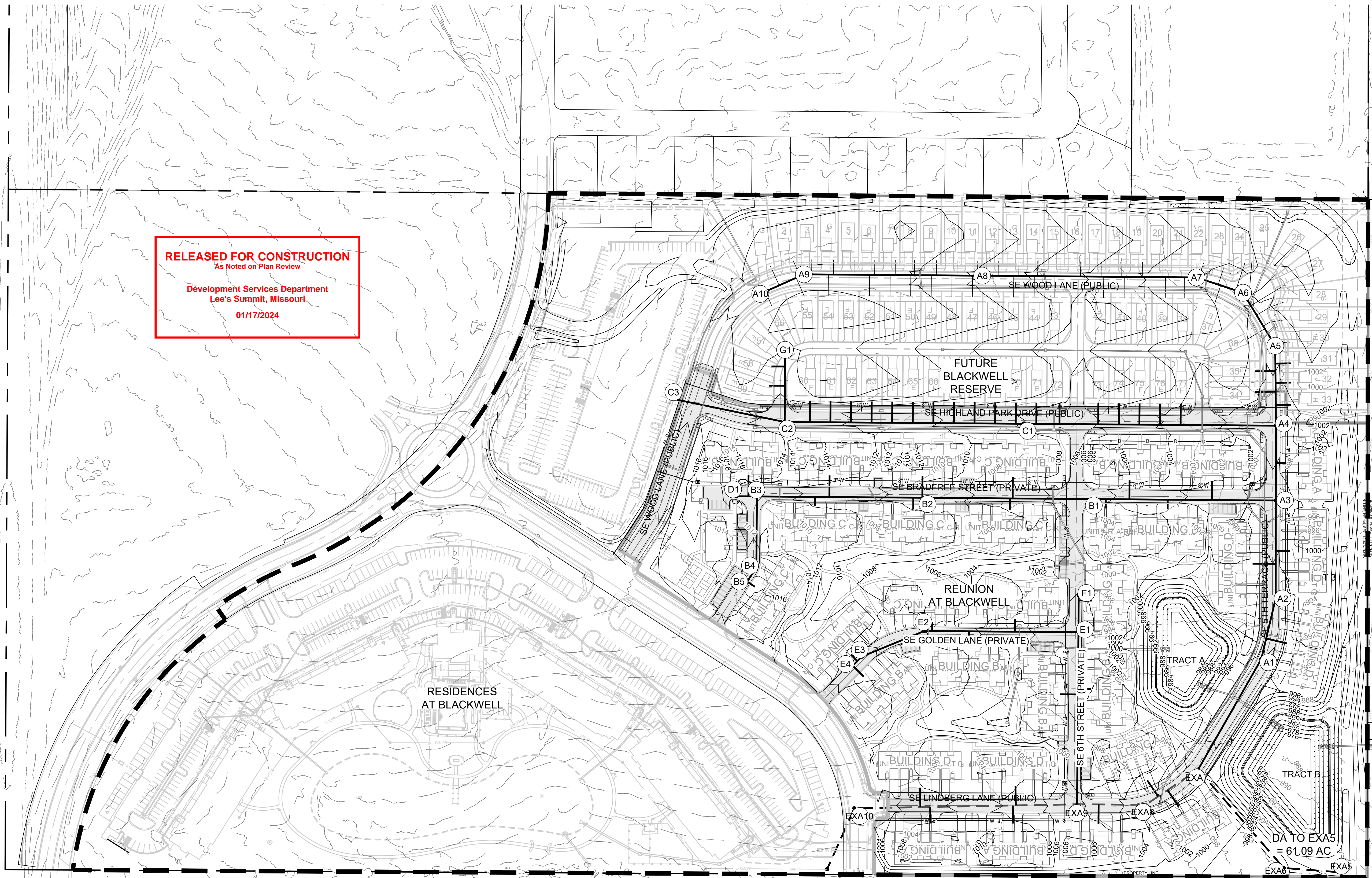
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SEC. 11-47-31

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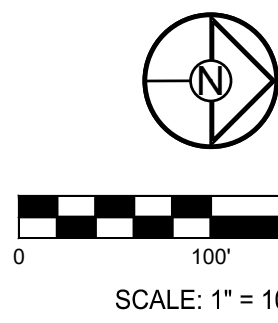
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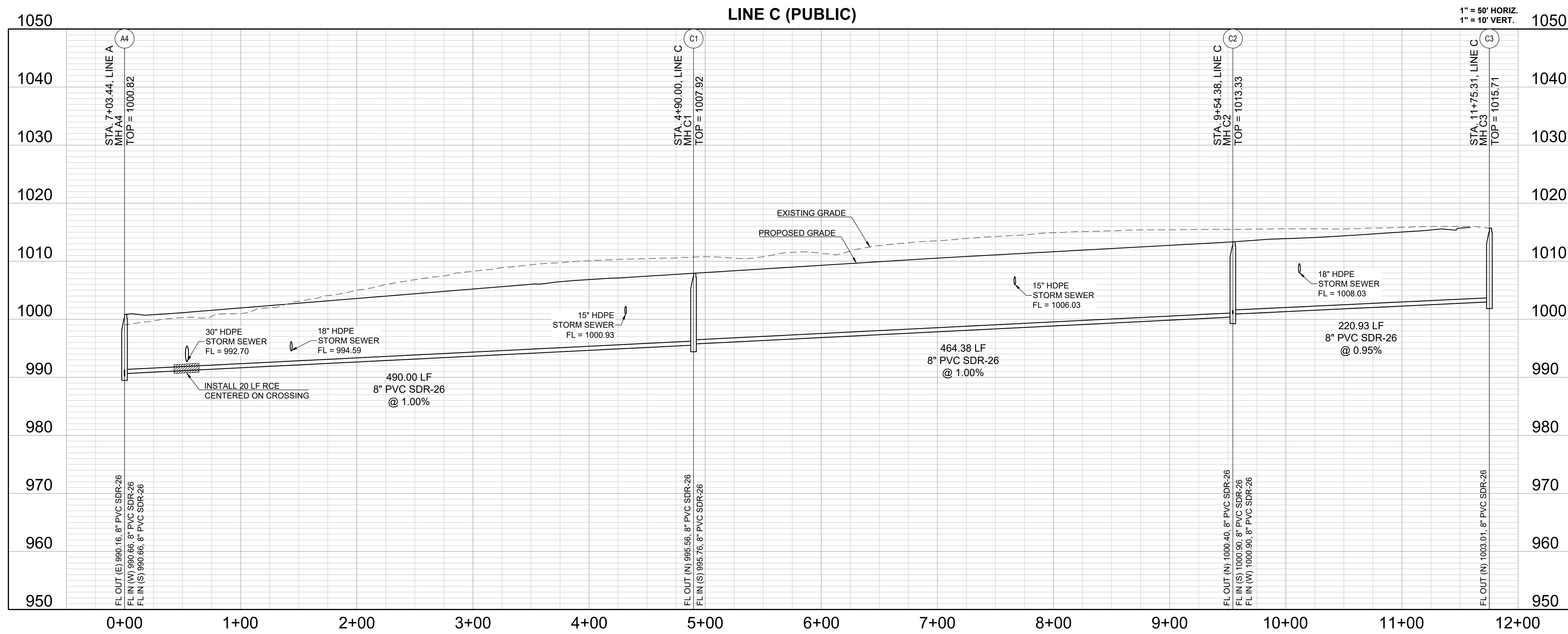
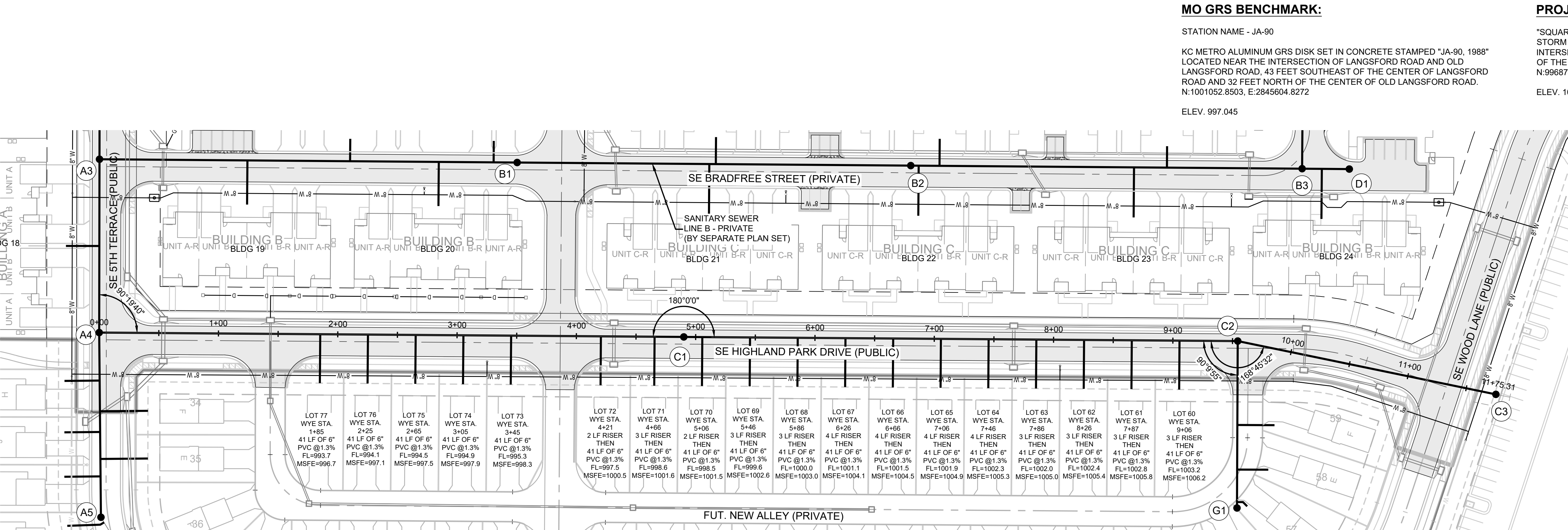
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WWW.SCHLAGELASSOCIATES.COM  
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#E200203600-F #LAC2001005237 #LS200208659-F

PREPARED BY:  

STATE OF MISSOURI  
MARK ALLEN BREUER  
JANUARY  
PE-2005007268  
09.18.2023

SCHLAGEL & ASSOCIATES, P.A.

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LINE C

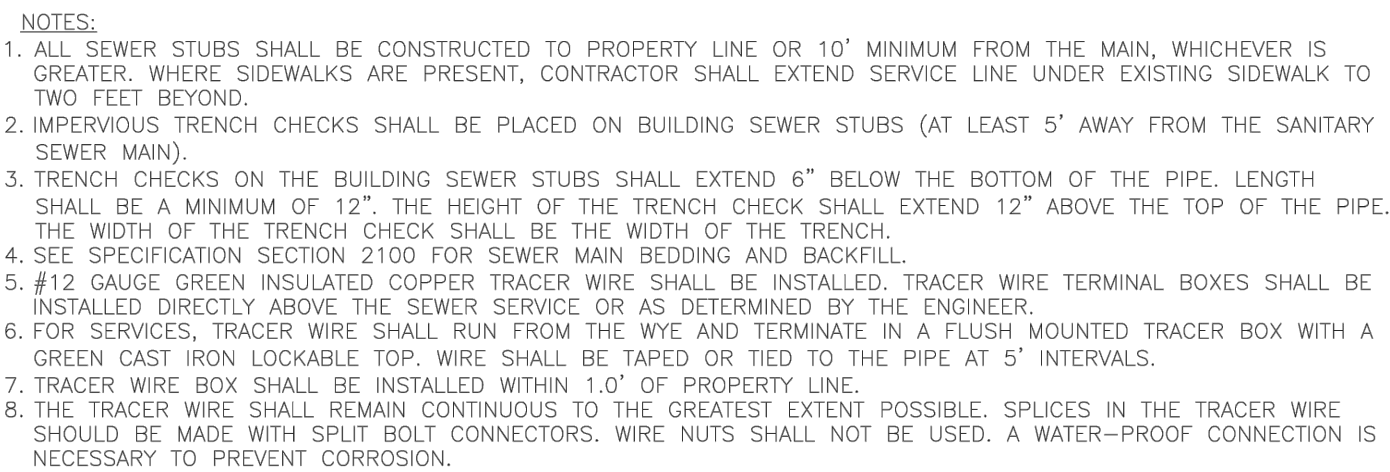
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Development Services Department  
Lee's Summit, Missouri  
01/17/2024

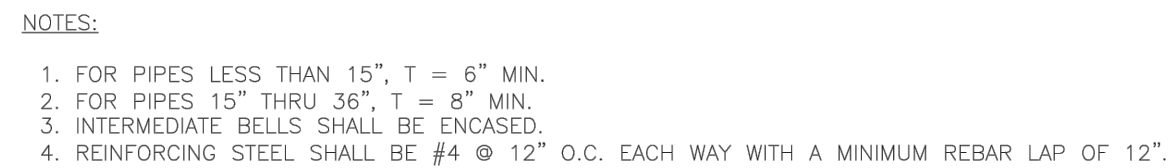


PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"



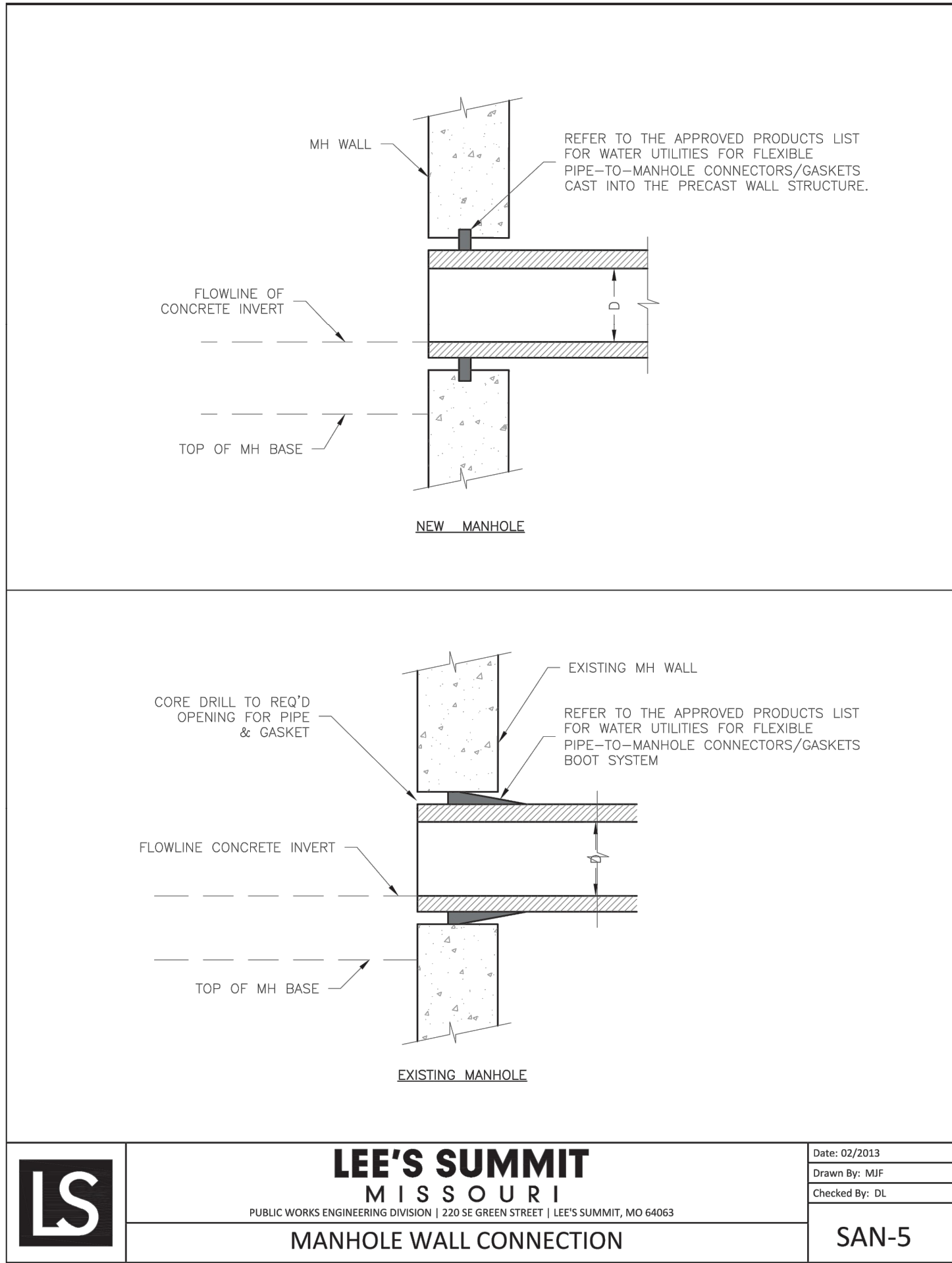
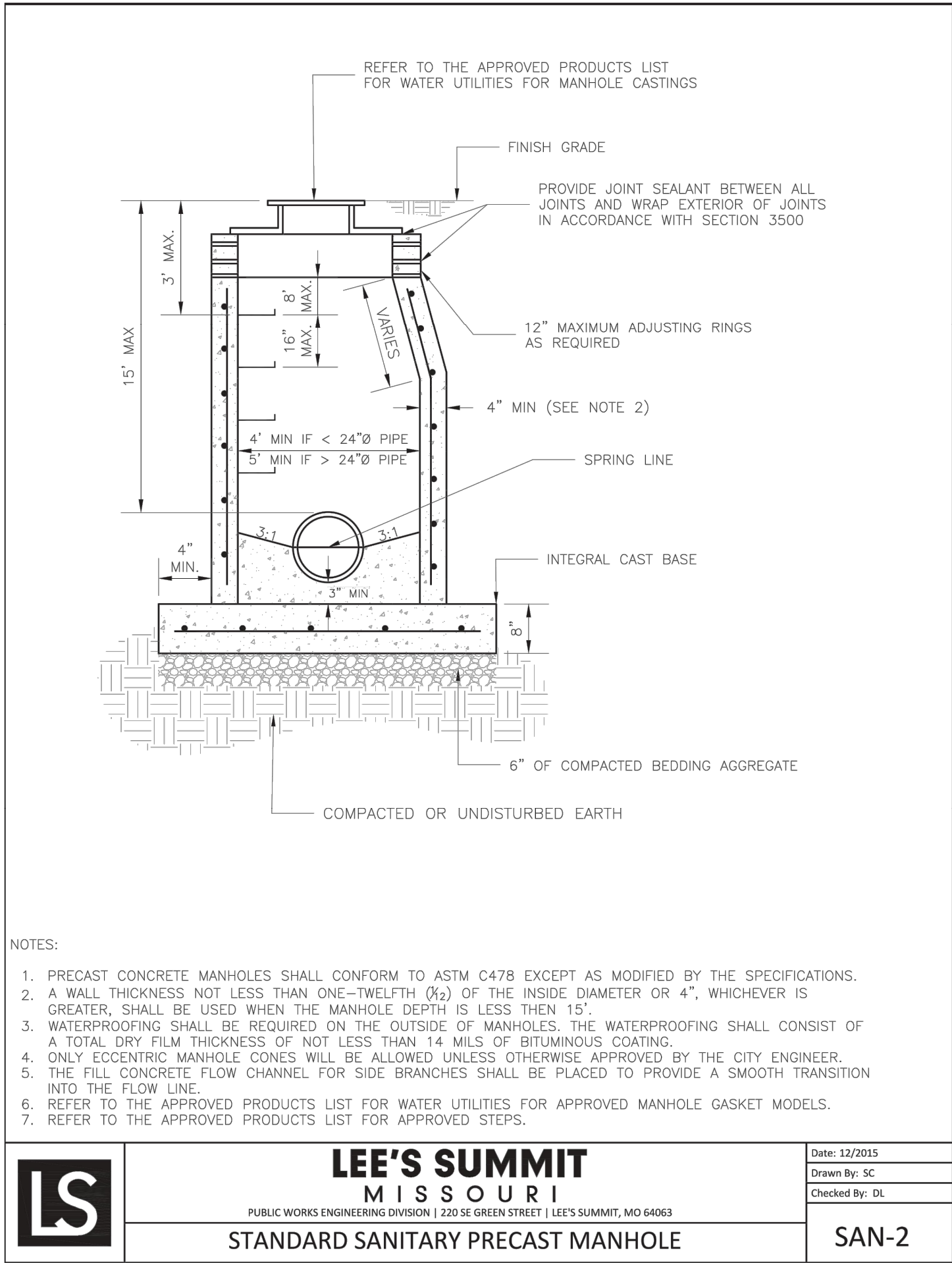
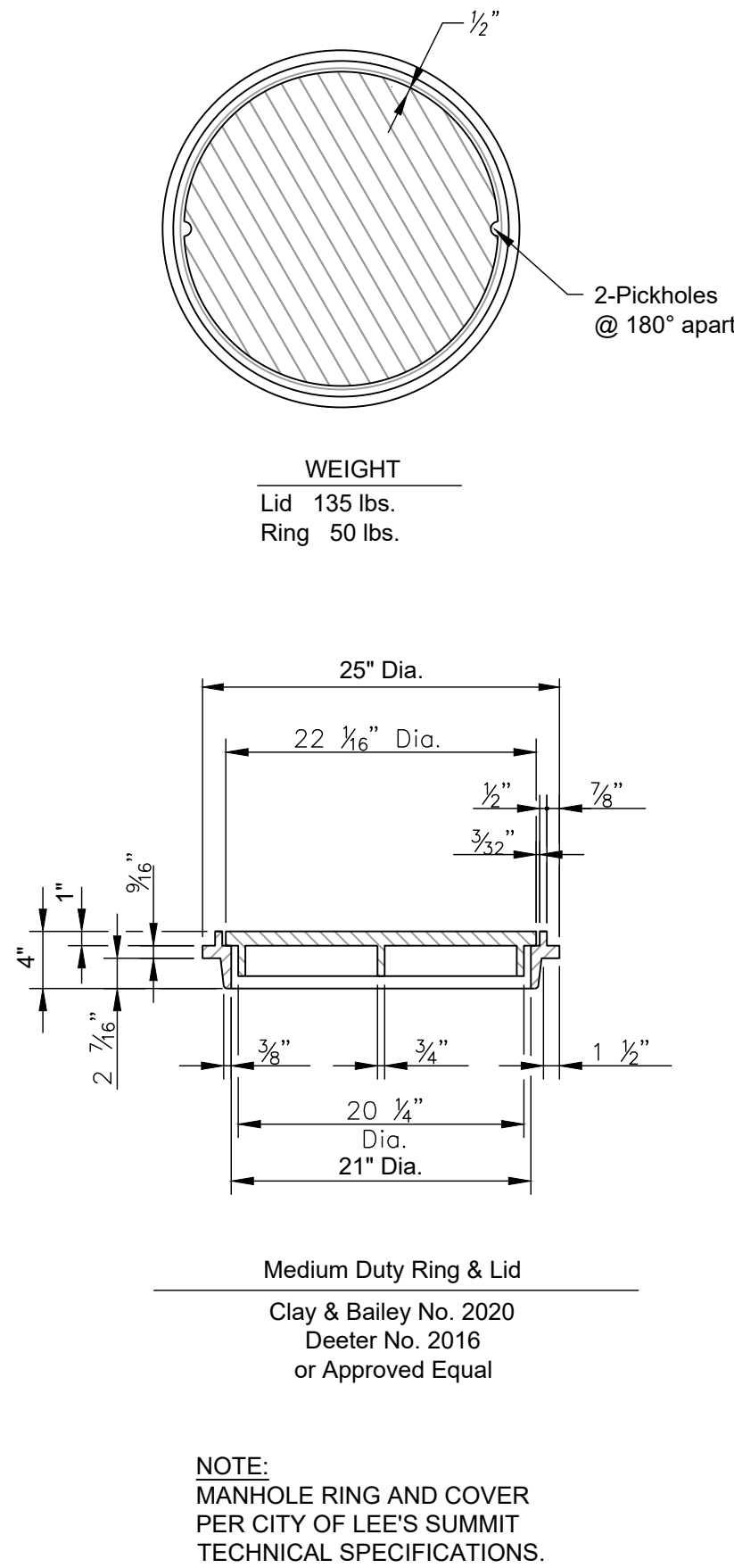
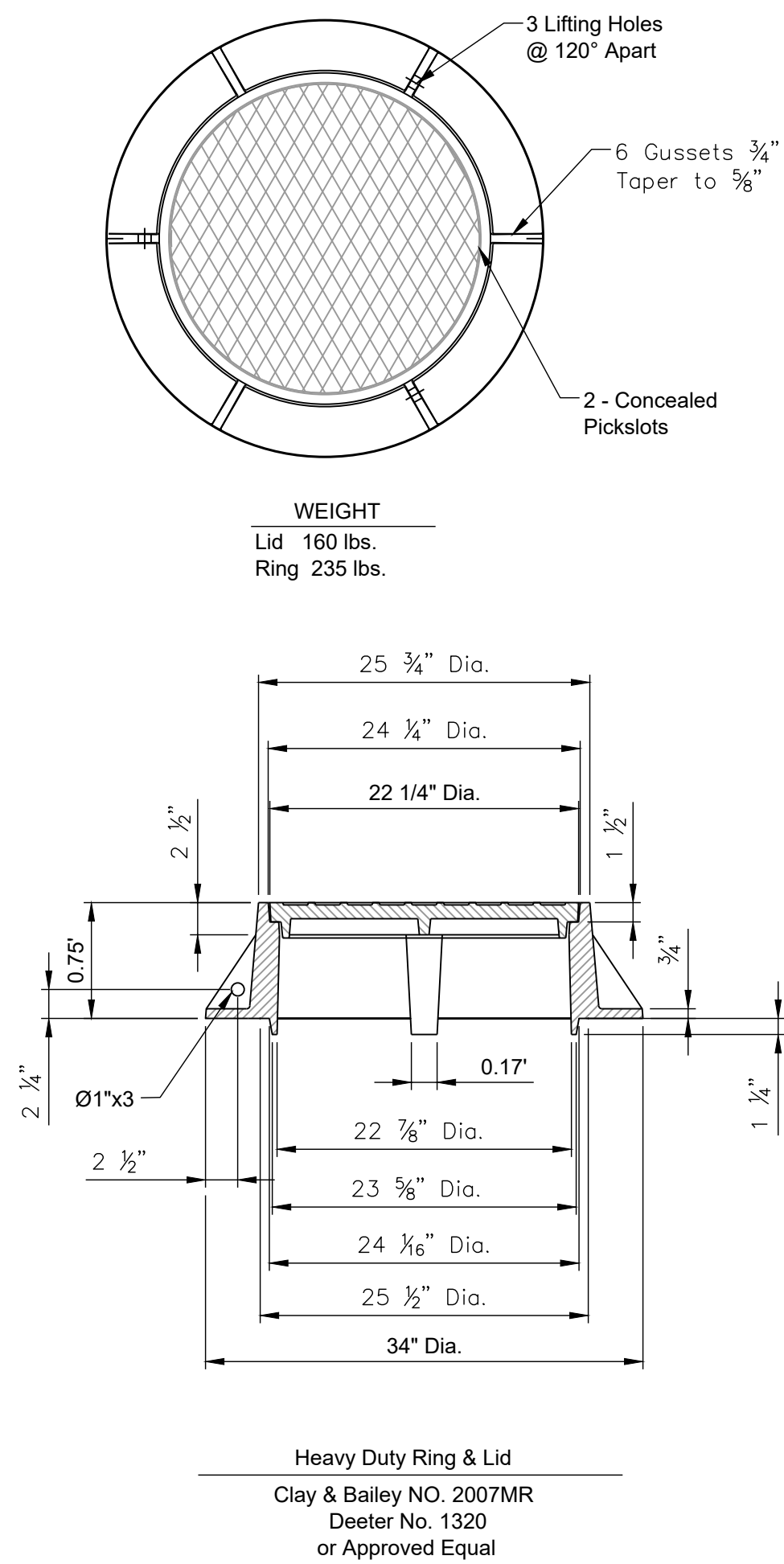
**NOTES:**

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
7. TESTING: CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL MATERIAL TESTING REQUIRED FOR THEIR WORK. THIS INCLUDES SCHEDULING OF TESTS, COORDINATING AND PROVIDING ACCESS TO SAMPLE LOCATIONS, AND SATISFYING ALL TEST RESULT REPORTING REQUIREMENTS.



## DETAILS





MANHOLE RING AND LID DETAILS  
NOT TO SCALE

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