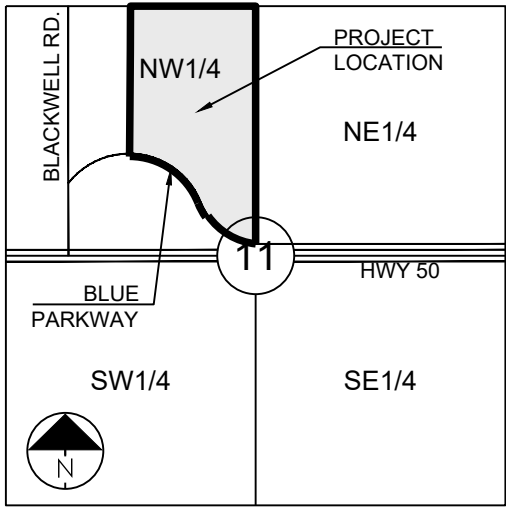


AC	- ACCESS EASEMENT
B/C	- BACK OF CURB
B/B	- BACK TO BACK
BM	- BENCHMARK
BL or B.L.	- BUILDING LINE
CO	- CLEANOUT
TJB	- TELEPHONE JUNCTION BOX
C&G	- CURB AND GUTTER
D/E	- DRAINAGE EASEMENT
E/E	- ELECTRICAL EASEMENT
EL	- ELEVATION
FL	- FLOW LINE
G/E	- GAS LINE EASEMENT
HDPE	- HIGH-DENSITY POLYETHYLENE
L/E	- LANDSCAPE EASEMENT
MSFE	- MINIMUM SERVICEABLE FLOOR ELEVATION
PVC	- POLYVINYL CHLORIDE
P/L	- PROPERTY LINE
PUB/E	- PUBLIC EASEMENT
RCP	- REINFORCED CONCRETE PIPE
ROW or R/W	- RIGHT-OF-WAY
S/E	- SANITARY SEWER EASEMENT
SL	- SERVICE LINE
SW	- SIDEWALK
TE	- TOP ELEVATION
U/E	- UTILITY EASEMENT
WSE	- WATER SURFACE ELEVATION
W/E	- WATERLINE EASEMENT



LOCATION MAP
SCALE 1" = 2000'

MISSOURI DEPARTMENT OF
TRANSPORTATION (MODOT)

SPIRE

3025 SE Clover Drive
Lee's Summit, MO 64082
(816) 399-0663brent.jones

EVERGY

1300 SE Hamblin Road
Lee's Summit, MO 64081
Office: (816) 347-347-4339
philip.ingham@evergy.com

Dena Mezger
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1800

AT&T

Mark Manion or Marty Loper
500 E. 8th Street, Room 370
Kansas City, MO 64106
(816) 275-2341 or (816) 275-

John Meadows
4700 Little Blue Parkway
Independence, MO 64051
(816) 795-2257

Mark Schaufler
1200 SE Hamblen Road
Lee's Summit, MO 64081
(816) 969-1900



811 or
1-800-344-7483
mo1call.com

SUMMARY OF QUANTITIES			
	ITEM	QUANTITY	UNITS
1	INSTALL 24" PVC SDR-26	440	LF
2	INSTALL 12" PVC SDR-26	1270	LF
3	INSTALL 8" PVC SDR-26	689	LF
4	INSTALL 6" PVC SDR-26	341	LF
5	INSTALL 12" D.I.P. W/ RESTRAINED JOINTS	319	LF
6	INSTALL 4" DIA. MANHOLE	10	EA
7	INSTALL 5" DIA. MANHOLE	4	EA
8	EXTRA DEPTH IN MANHOLES	152	VF
9	TRENCHING UNDER FUTURE STREET	762	LF
10	POST-CONSTRUCTION MANHOLE BARREL ADJUSTMENTS (ESTIMATED)	4	EA
11	POST-CONSTRUCTION RING (3'-12") ADJUSTMENT (ESTIMATED)	4	EA
12	REMOVE AND REPLACE CONCRETE STILLING BASIN	1	LS
13	INSTALL PIPE ENCASEMENT	28	LF
14	INSTALL CONCRETE COLLAR (FOR MANHOLE IN PAVED AREA)	4	EA
15	INSTALL STONE RIP-RAP	120	CY
16	SEED & MULCH DISTURBED AREAS	1	LS
17	EROSION CONTROL	1	LS

GENERAL NOTES:

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. ALL LOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EARTH EXCAVATION OR PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
7. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY OF LEE'S SUMMIT.
8. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
9. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
11. ALL EXCAVATIONS SHALL BE UNCLASSIFIED, NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
13. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
14. THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1200 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO PERMIT ISSUANCE.
15. THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
16. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

1. EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. DAMAGE CAUSED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES, PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURES.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY SEWER LINES, MANHOLES, AND SANITARY SEWER SERVICE LATERALS, AS MEASURED FROM EDGE TO EDGE. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, CONCRETE ENCASEMENT OF THE SANITARY LINE SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT.
5. PAYMENT FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, SEEDING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE CONNECTION TO ANY EXISTING MAIN.
7. TRENCH SPOILS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH, AND COMPACTED TO PREVENT SATURATION AND EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, EXCESS ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.
8. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED, UNLESS NOTED OTHERWISE. UNCLASSIFIED EXCAVATION FOR UTILITY TRENCHING IS SUBSIDIARY TO THE UNIT PRICE PROVIDED FOR THE PIPE. ANY QUANTITY PROVIDED FOR ROCK EXCAVATION IS BASED UPON THE BEST INFORMATION PROVIDED TO THE PROJECT ENGINEER. THE ENGINEER HAS THE AUTHORITY TO IDENTIFY AND DEFINE THE PHYSICAL CHARACTERISTICS TO DETERMINE THE CLASSIFICATION. UNIT PRICE QUANTITIES FOR ROCK EXCAVATION WILL BE PAID AT A TRENCH WIDTH OF THE NOMINAL PIPE DIAMETER OF THE INSTALLED MAIN PLUS 18 INCHES. CONTRACTOR IS REQUIRED TO DISPOSE OF EXCESS ROCK FROM THEIR TRENCHES BY DISPOSING IT IN AREAS AS SPECIFIED BY THE PROJECT ENGINEER.

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT & GRADING
3	TRIB MAP
4	LINE A
5	LINE A
6	EXISTING LINE
7	LINE B
8	DETAILS

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

RESIDENCES AT BLACKWELL
PUBLIC SANITARY SEWER MAIN PLANS
HERITAGE STREET LEE'S SUMMIT, MO

APPROVED BY:

CITY ENGINEER
APPROVED FOR ONE YEAR FROM THIS DATE

GRIFFIN RILEY PROPERTY GROUP
 JAKE LOVELESS, VICE PRESIDENT
 21 SE 29TH TERRACE
 LEE'S SUMMIT
 p 816-366-7900
 JAKE@GRIFFINRILEY.COM

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

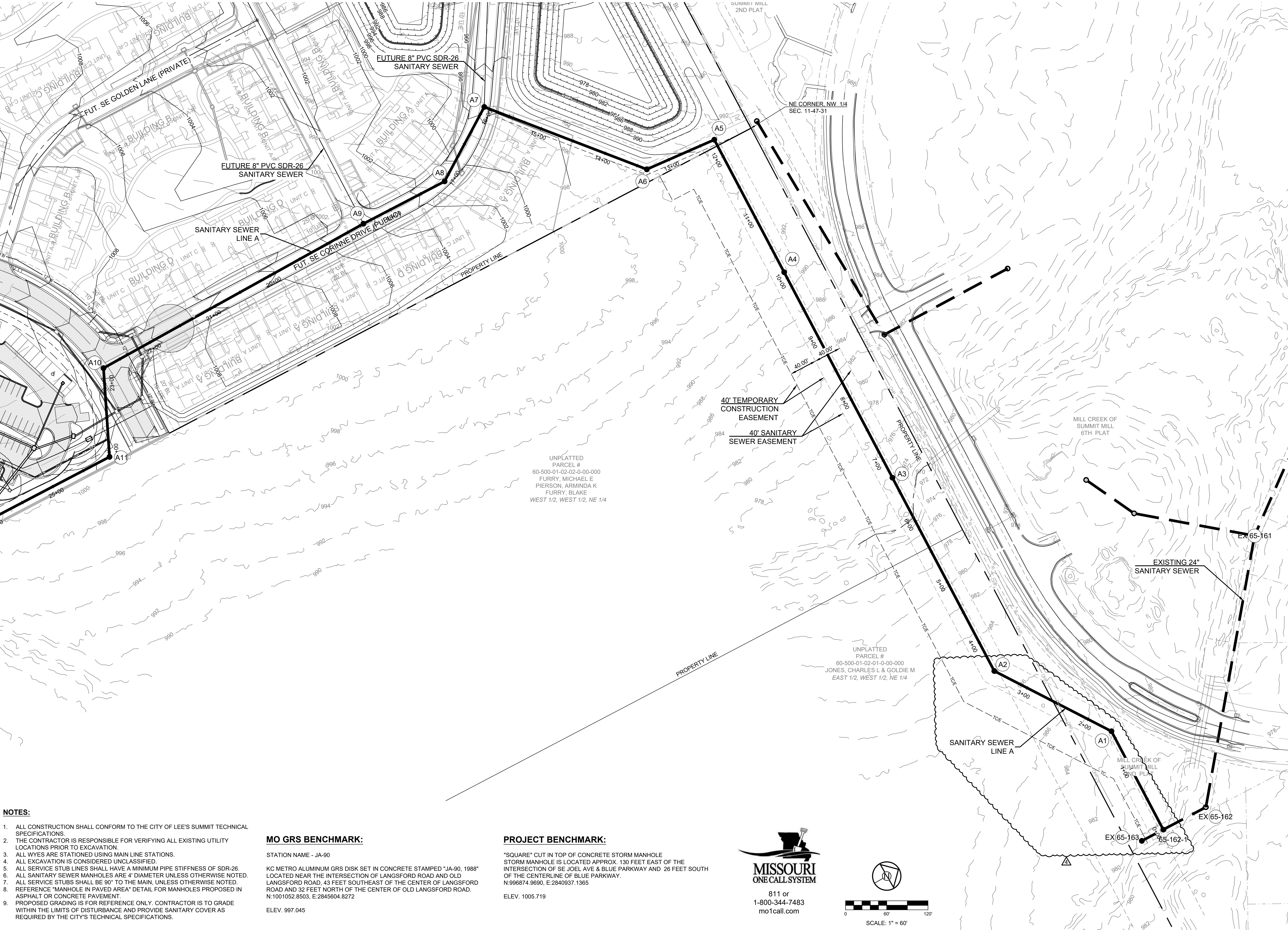
PROJECT BENCHMARK:

"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

COVER SHEET

SHEET



NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS.
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3. ALL WYES ARE STATIONED USING MAIN LINE STATIONS.
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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



811 or
1-800-344-7483
mo1call.com



PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

RESIDENCES AT BLACKWELL
PUBLIC SANITARY SEWER MAIN PLANS
HERITAGE STREET LEE'S SUMMIT, MO

REVISION DATE	DESCRIPTION
01/23/2023	PER CITY COMMENTS
03/24/2023	PER CITY COMMENTS
05/31/2023	PER MDNA COMMENTS
07/25/2023	PER MDNA & CITY COMMENTS
01/03/2024	PER CITY COMMENTS
01/17/2024	PER CITY COMMENTS
11/30/2022	PER CITY COMMENTS
PROJ. NUMBER:	22-102

GENERAL
LAYOUT &
GRADING

SHEET

2



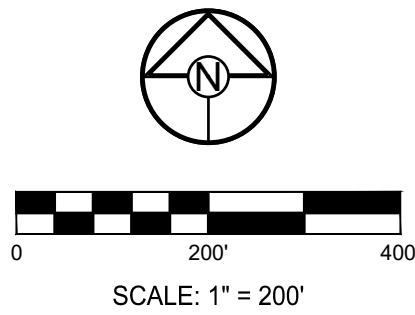
NOTE:
CITY OF LEE'S SUMMIT TO PROVIDE
SANITARY SEWER CALCULATIONS.

MO GRS BENCHMARK:

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ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD.
N:1001052.8503, E:2845604.8272
ELEV. 997.045

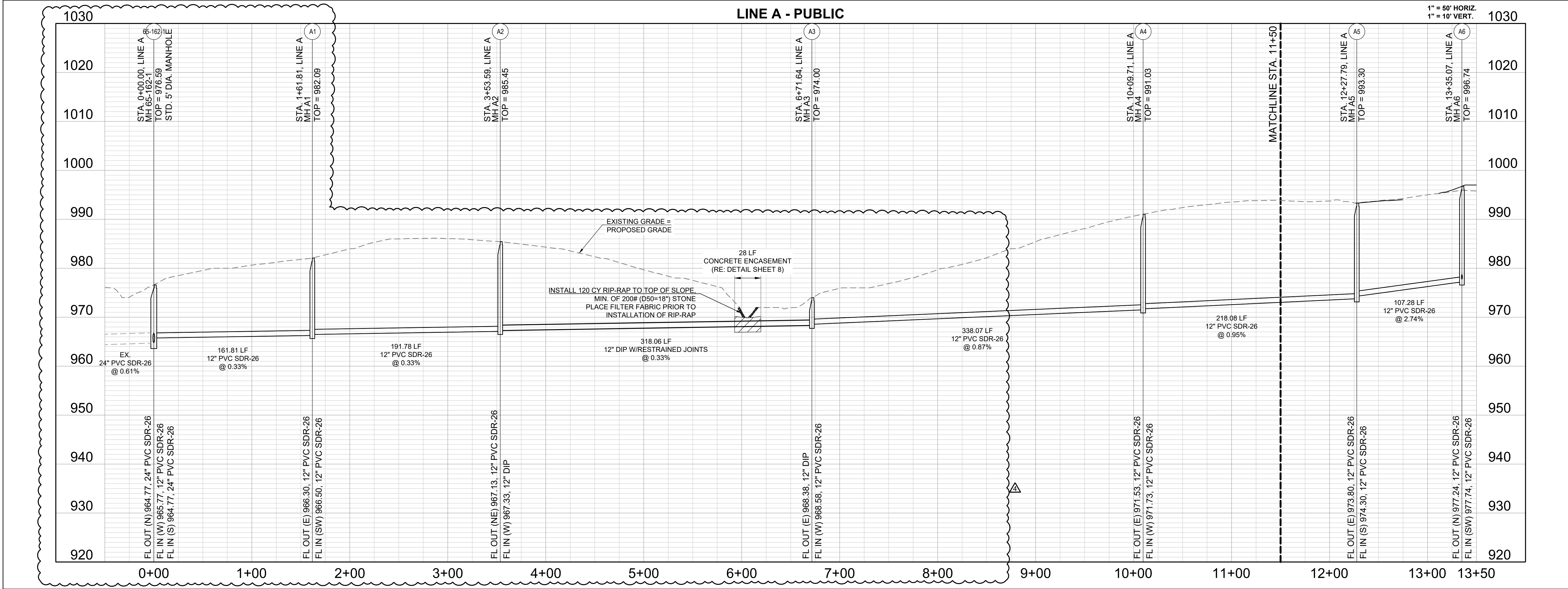
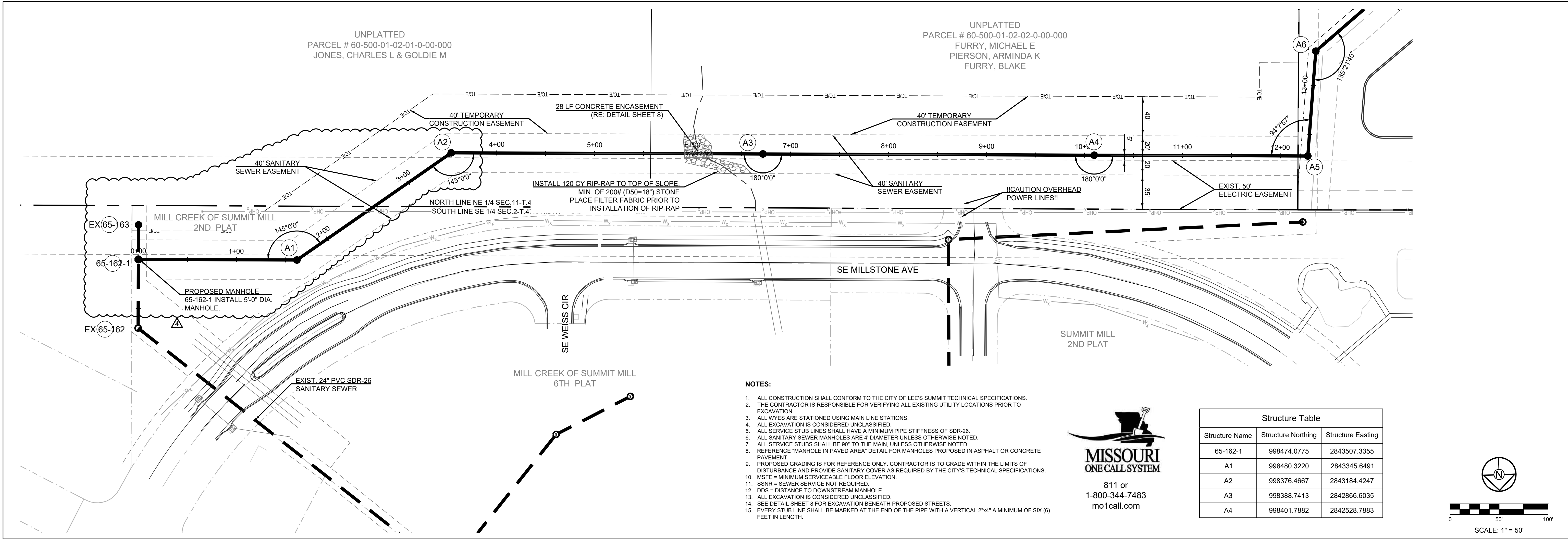
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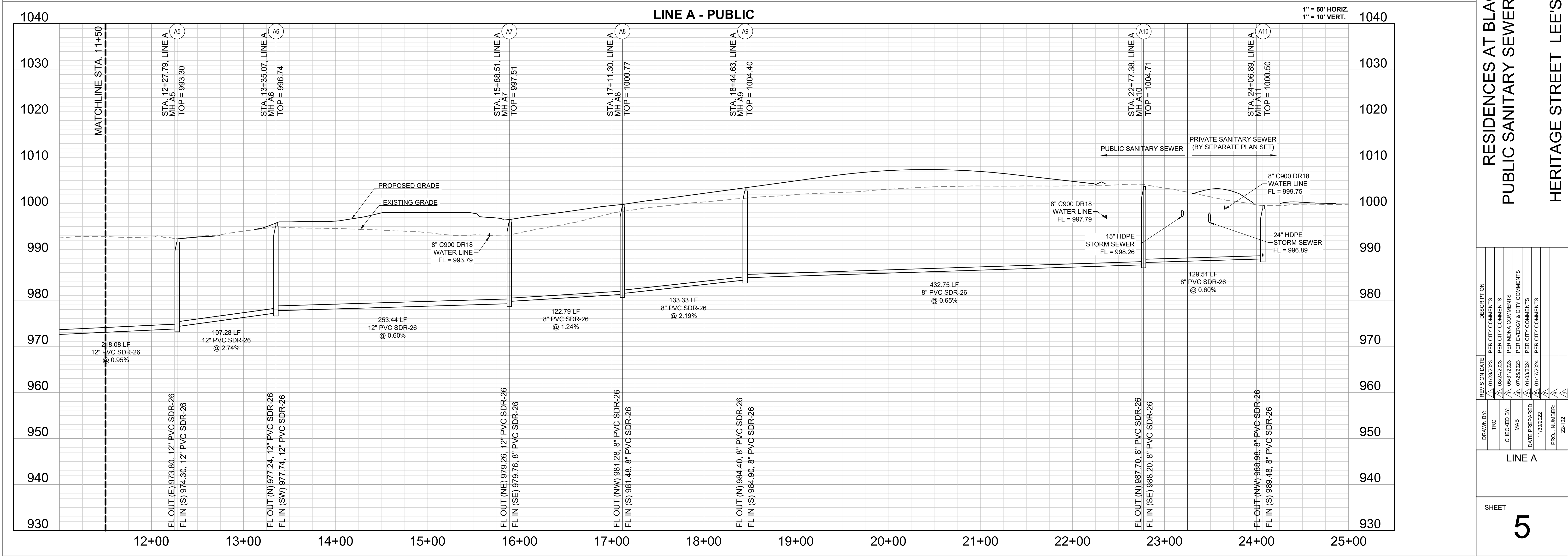
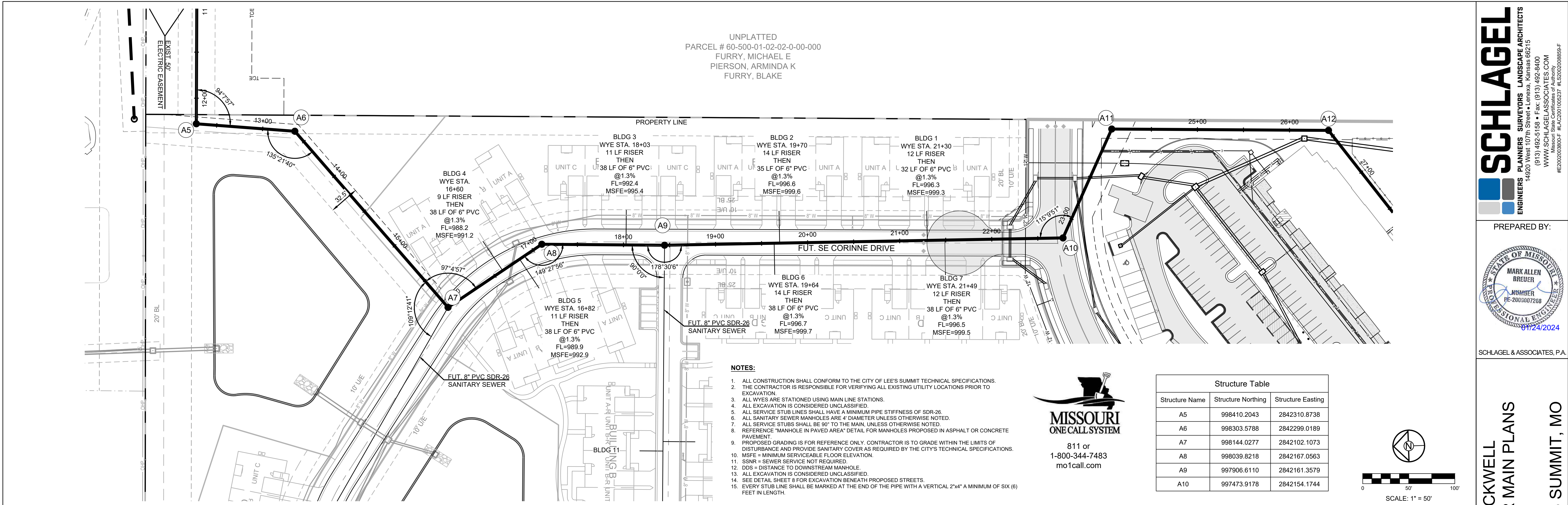
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ELEV. 1005.719



RESIDENCES AT BLACKWELL
PUBLIC SANITARY SEWER MAIN PLANS
HERITAGE STREET LEE'S SUMMIT, MO

REVISION DATE	DESCRIPTION
1 01/23/2023	PER CITY COMMENTS
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3 05/31/2023	PER MDNA COMMENTS
4 07/25/2023	PER EVERGY & CITY COMMENTS
5 01/03/2024	PER CITY COMMENTS
6 01/17/2024	PER CITY COMMENTS
7 01/23/2024	PER CITY COMMENTS
8 01/23/2024	PER CITY COMMENTS
9 01/23/2024	PER CITY COMMENTS
10 01/23/2024	PER CITY COMMENTS





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 #LAC2001006237 #LS2002008659-F

PREPARED BY:

MARK ALLEN BREUER
NUMBER
PE-2003007268
6/12/2024

SCHLAGEL & ASSOCIATES, P.A.

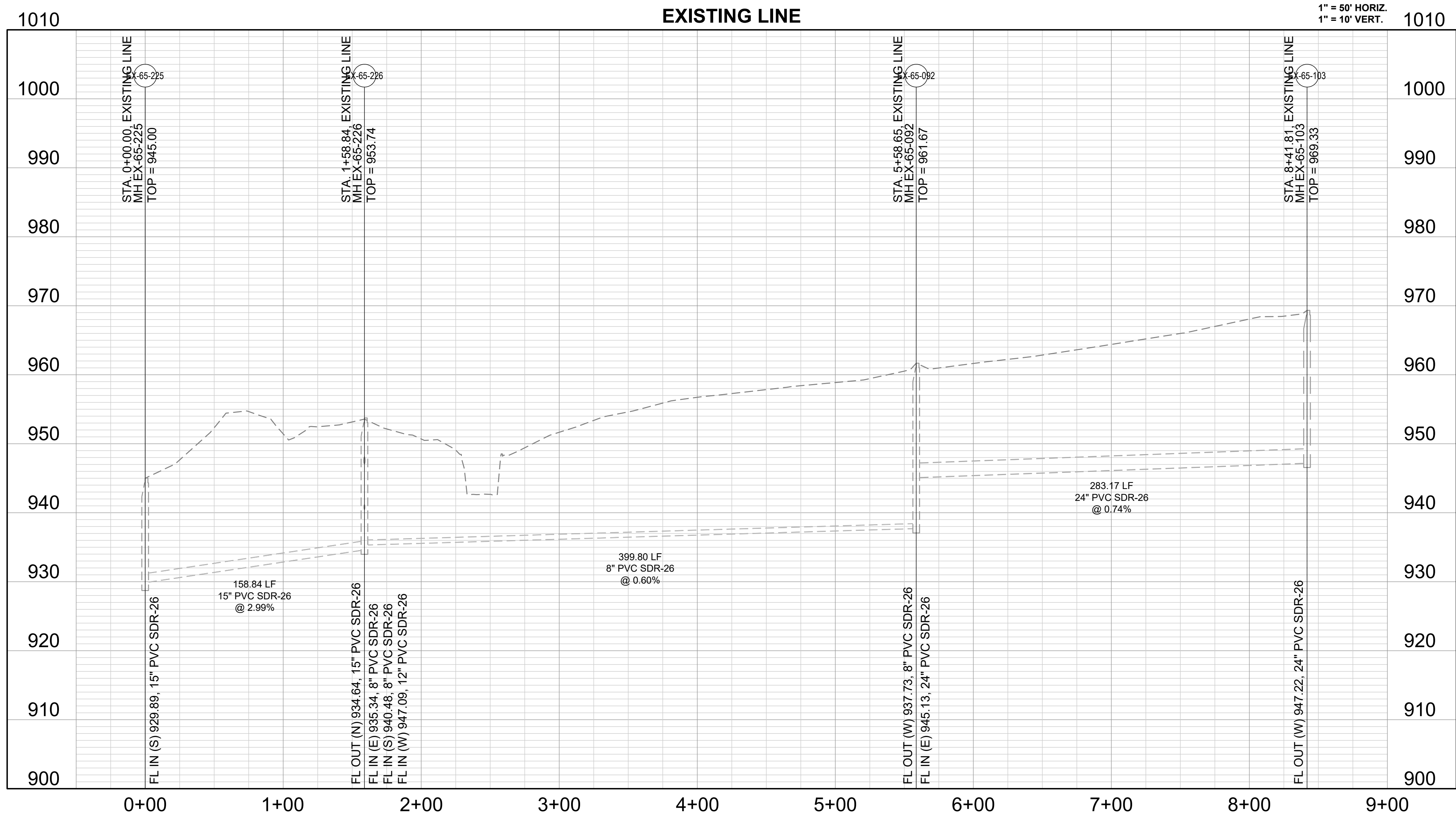
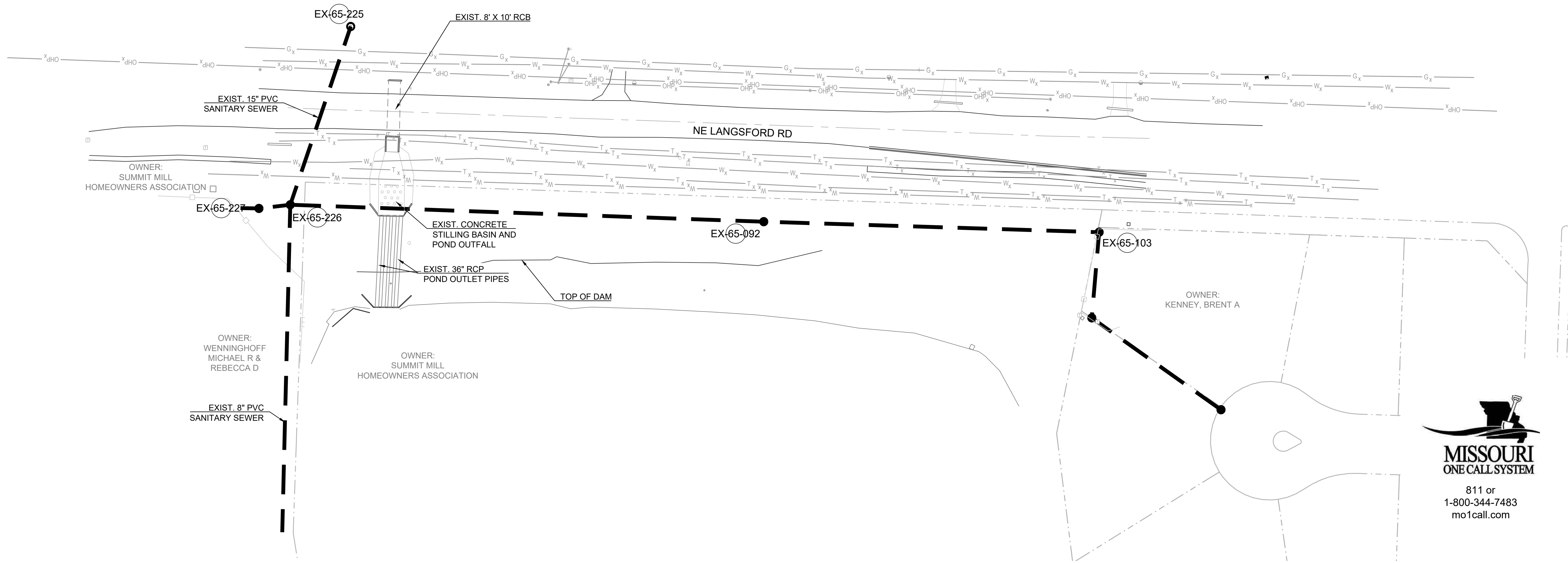
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01/03/2024	PER CITY COMMENTS
01/17/2024	PER CITY COMMENTS
11/30/2022	
22-102	

LINE A

SHEET

5



PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

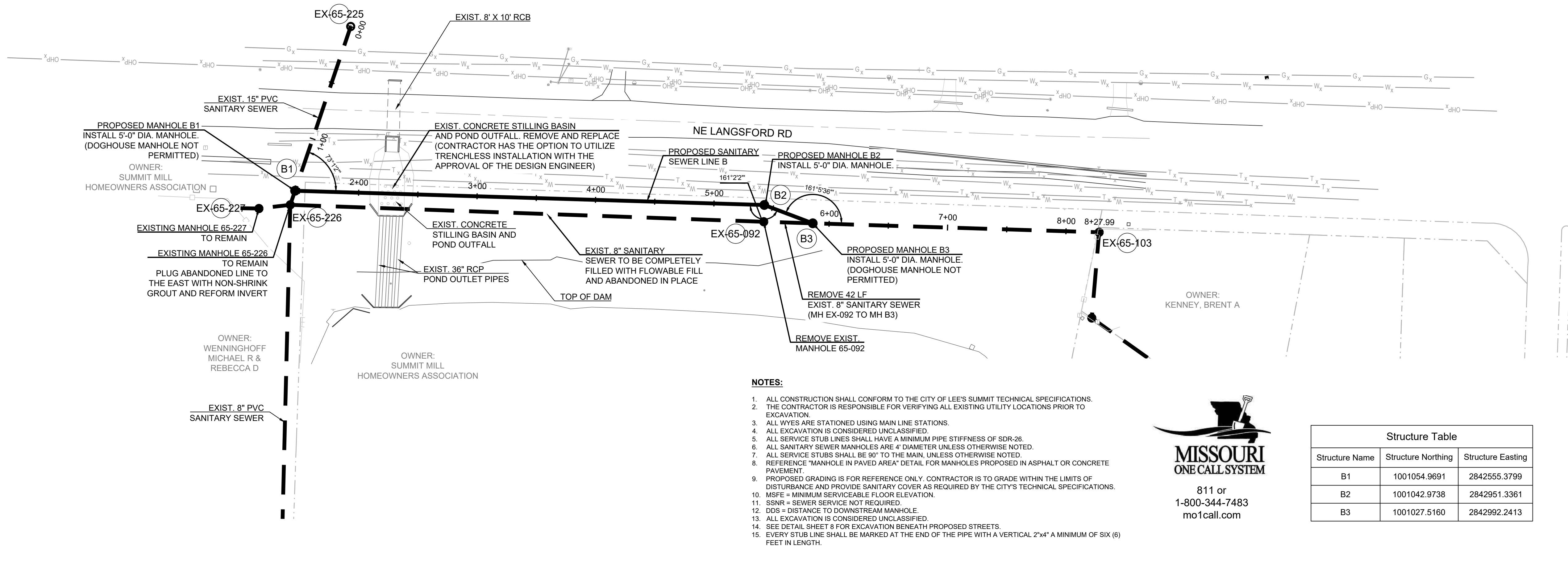
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01/17/2024	PER CITY COMMENTS
11/30/2022	PROJ. NUMBER:
22-102	

EXISTING LINE

SHEET

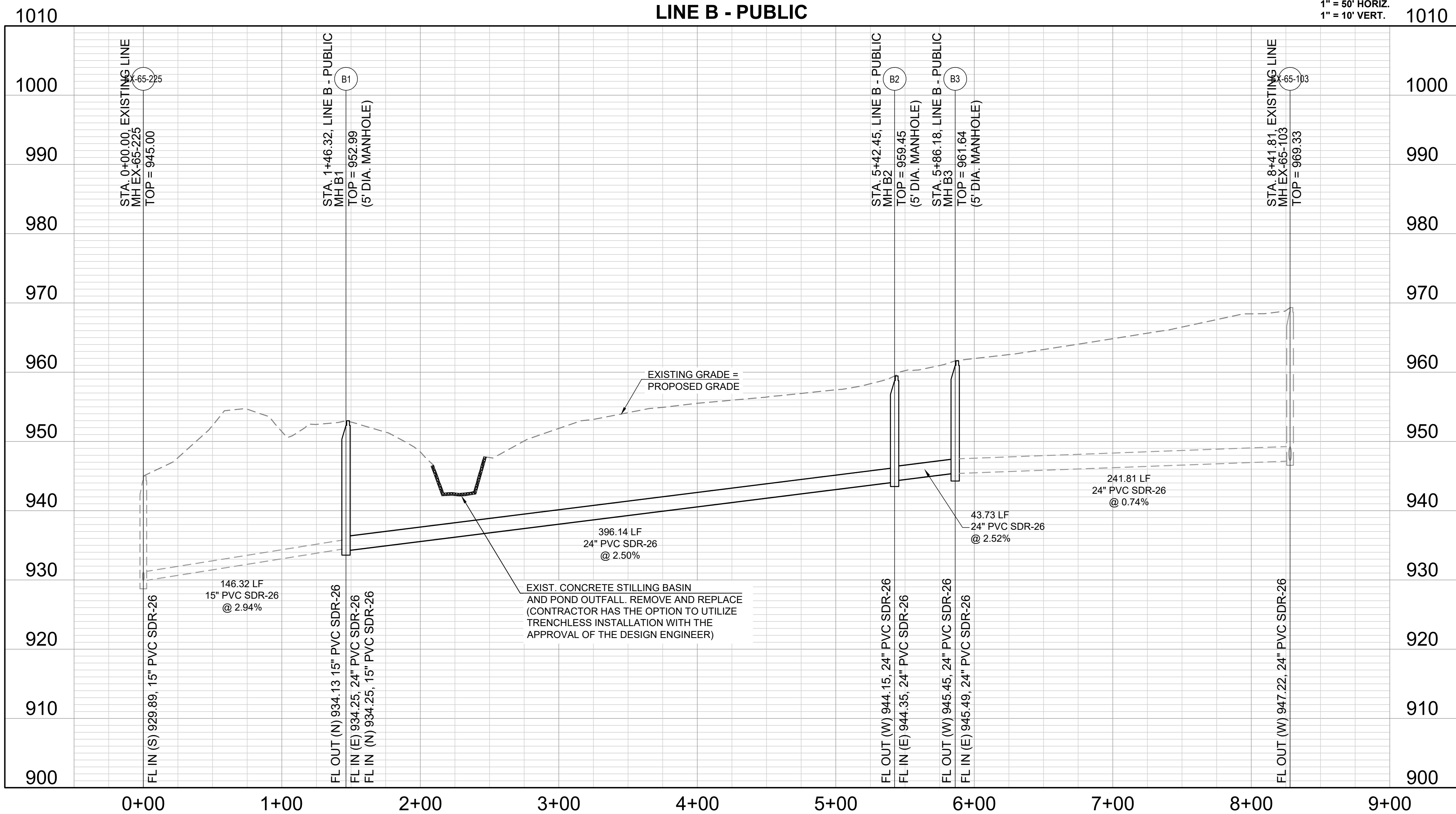
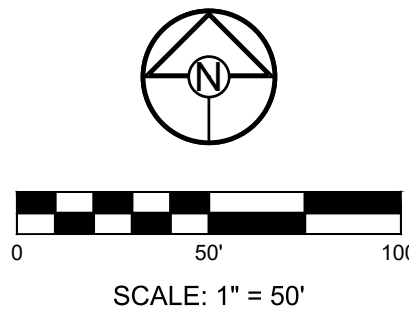
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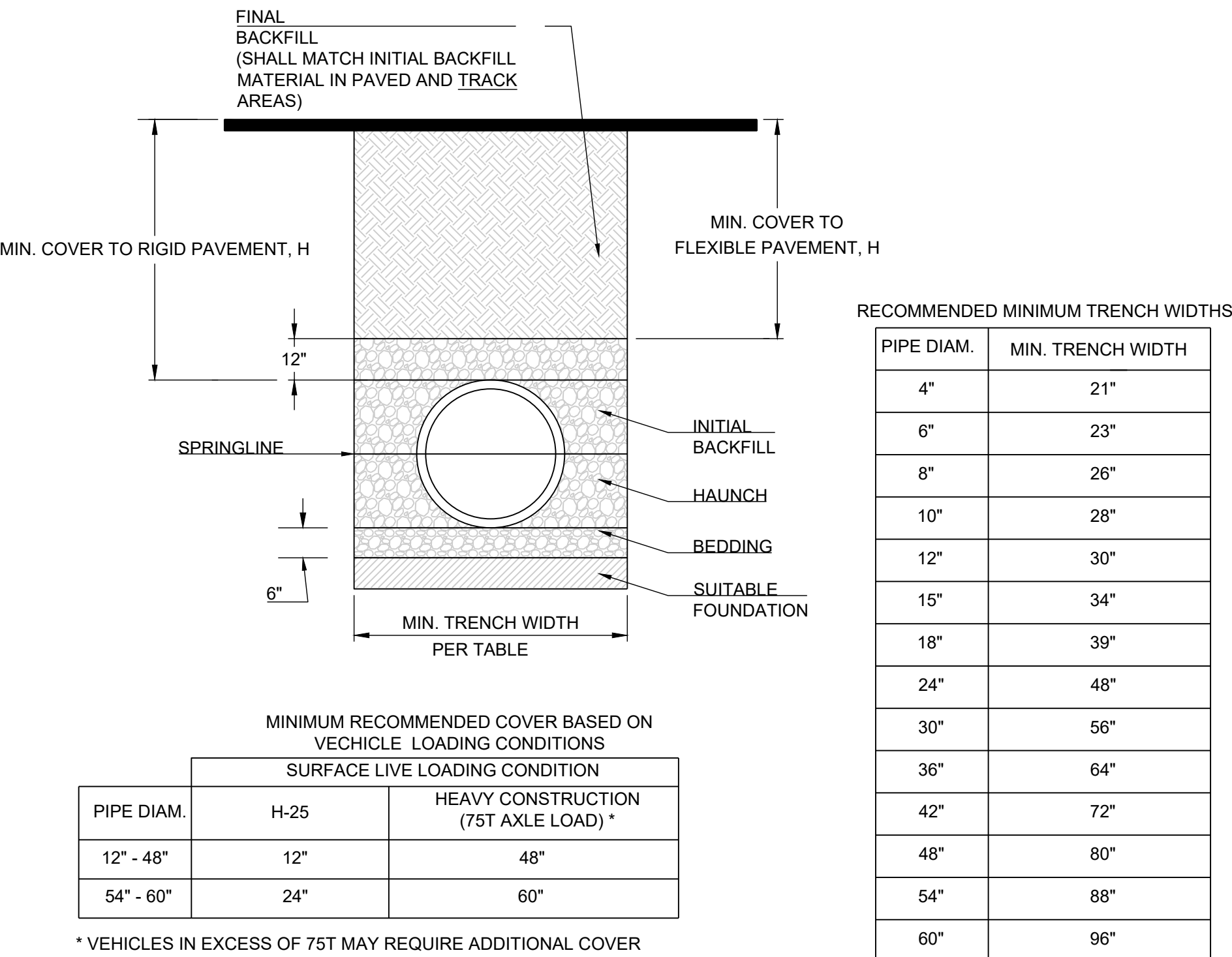
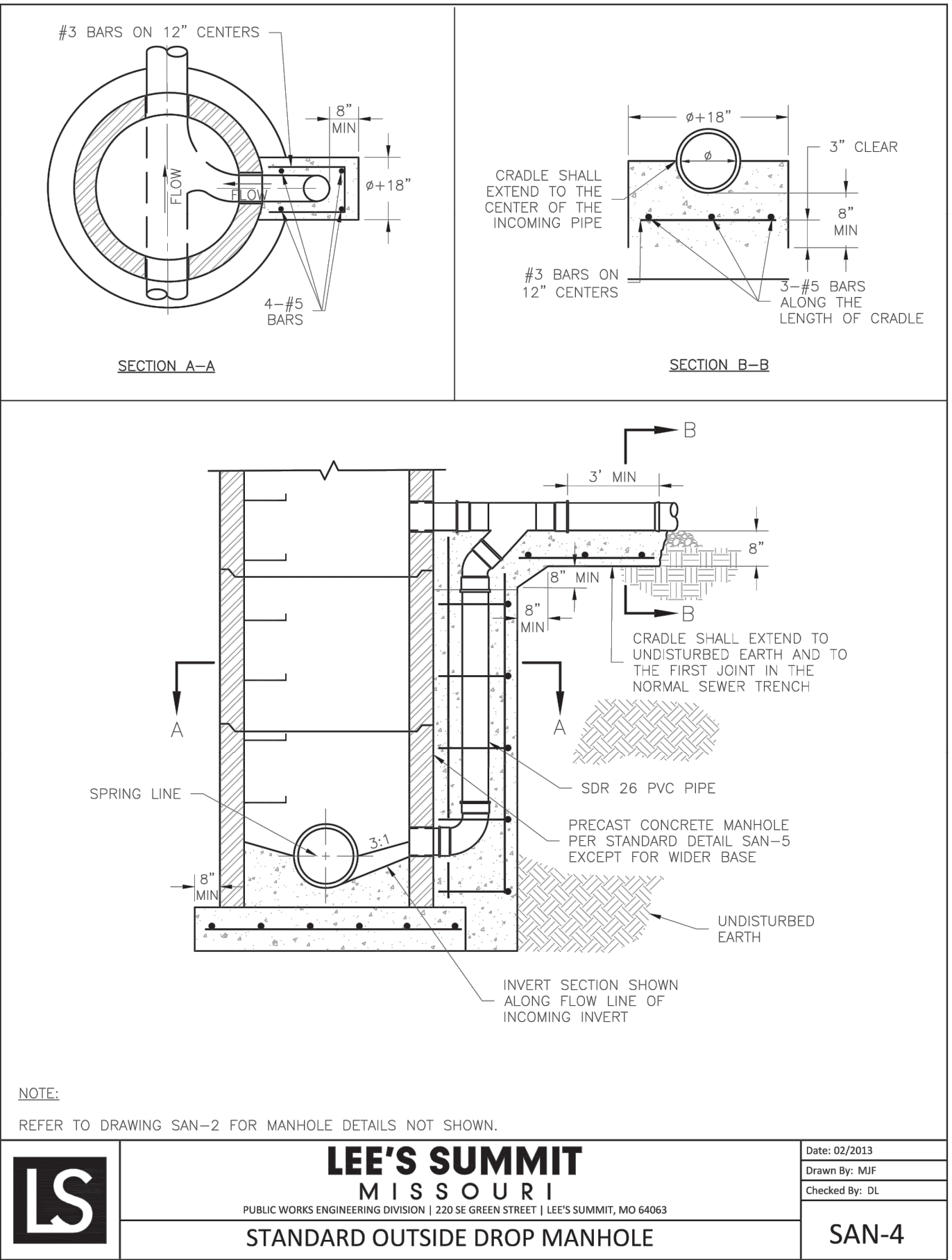
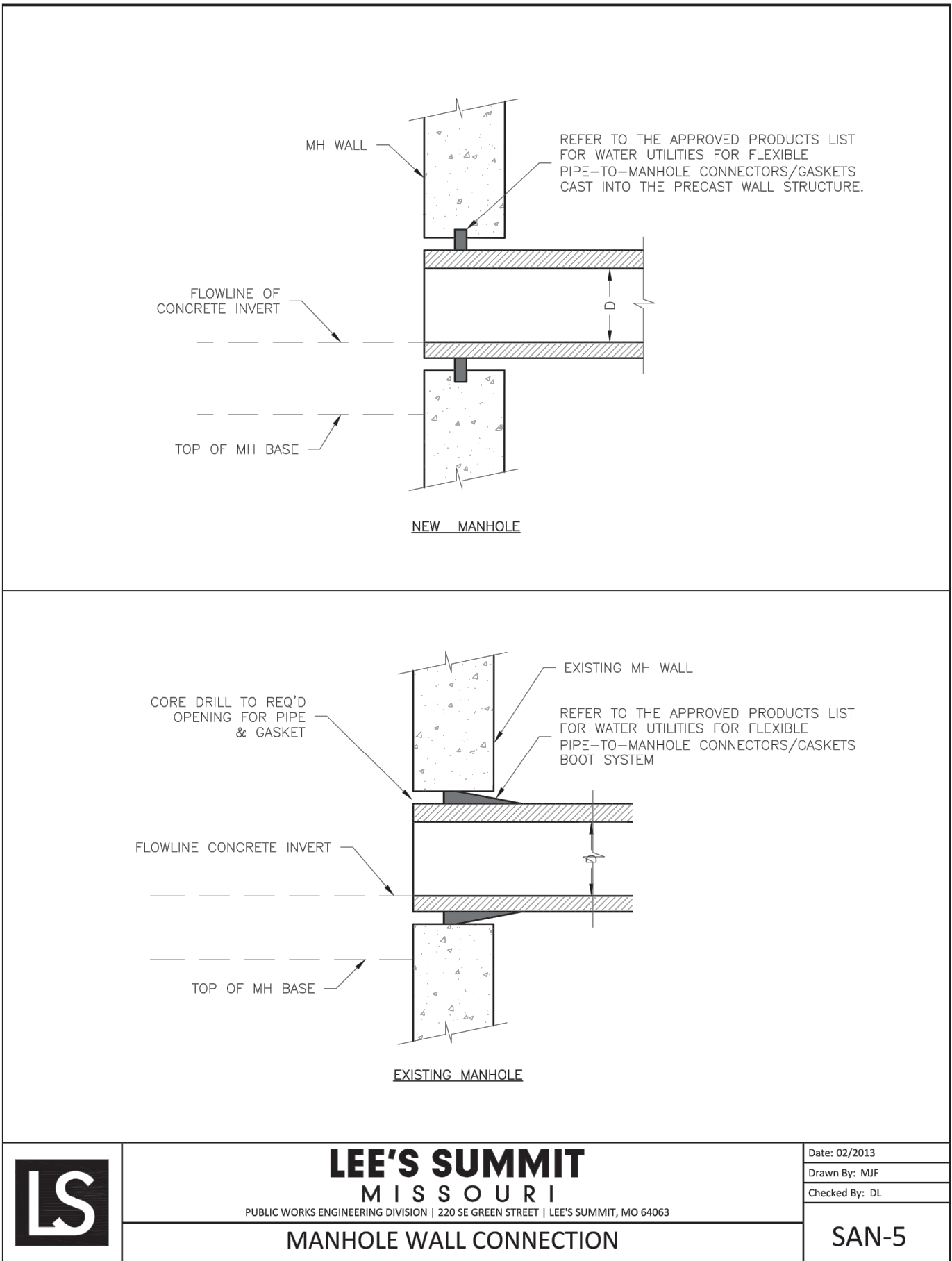
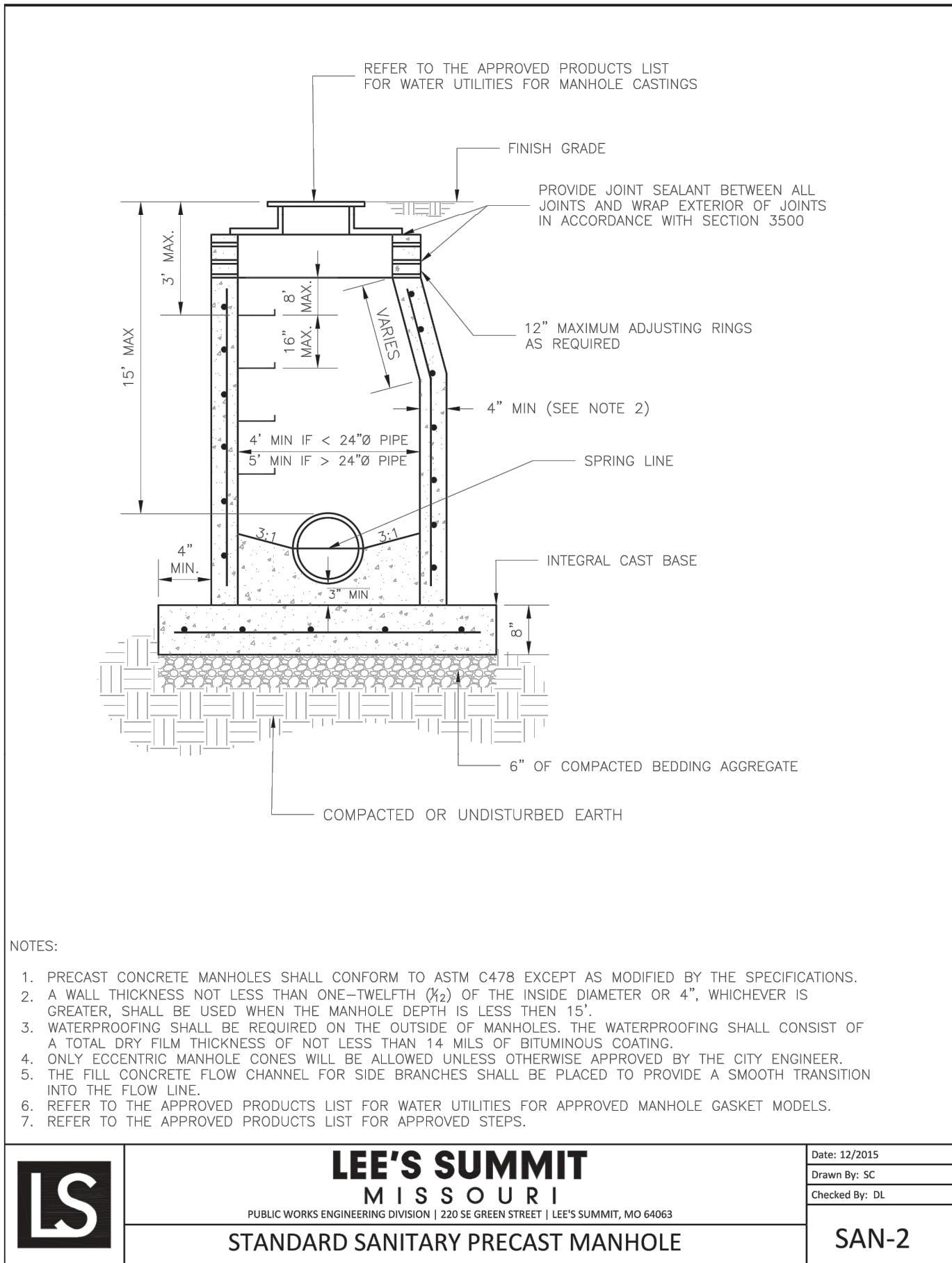
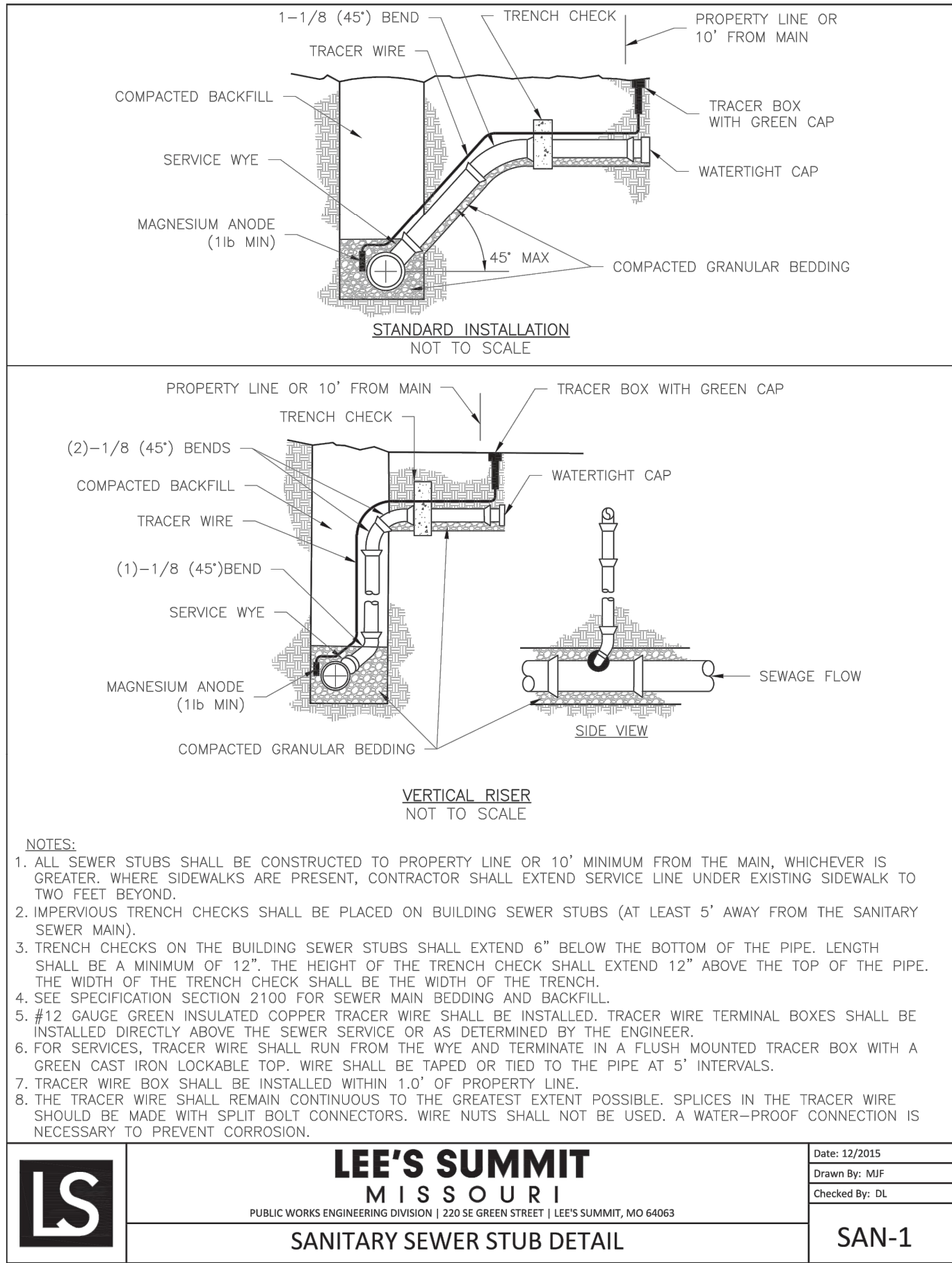
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 8. REFERENCE "MANHOLE IN PAVED AREA" DETAIL FOR MANHOLES PROPOSED IN ASPHALT OR CONCRETE PAVEMENT.
 9. PROPOSED GRADING IS FOR REFERENCE ONLY. CONTRACTOR IS TO GRADE WITHIN THE LIMITS OF DISTURBANCE AND PROVIDE SANITARY COVER AS REQUIRED BY THE CITY'S TECHNICAL SPECIFICATIONS.
 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. SEE DETAIL SHEET 8 FOR EXCAVATION BENEATH PROPOSED STREETS.
 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.



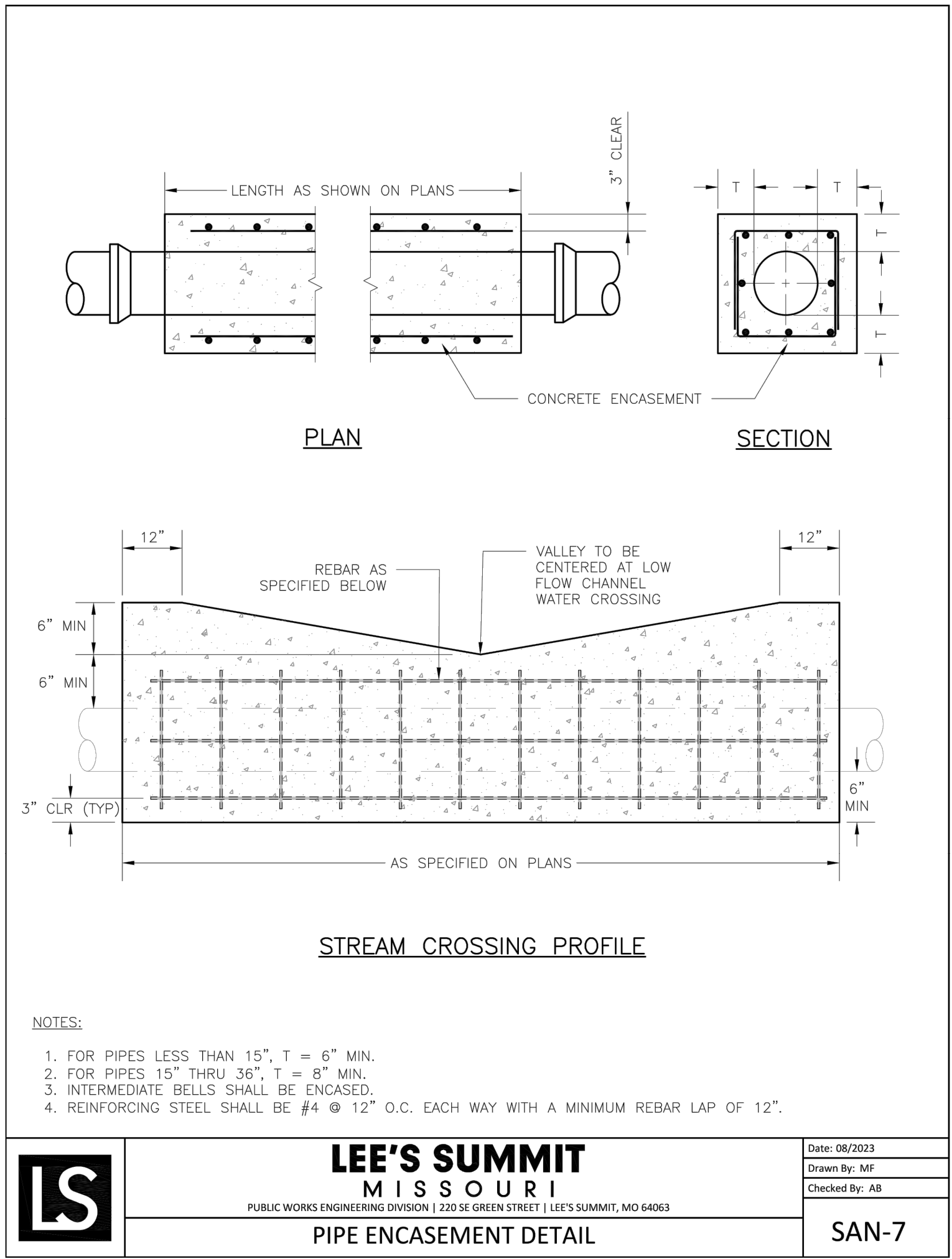
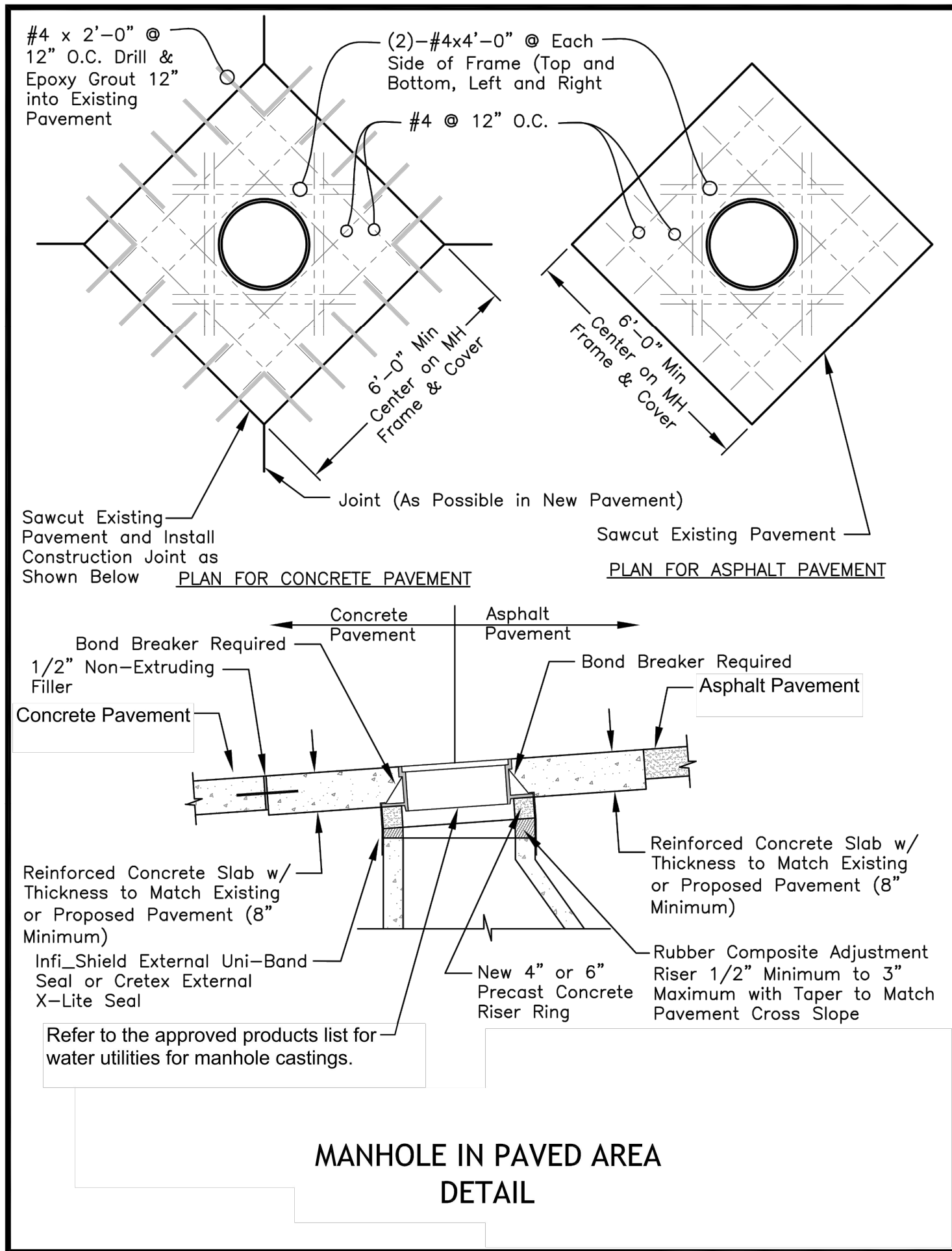
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B2	1001042.9738	2842951.3361
B3	1001027.5160	2842992.2413



REVISION DATE	DESCRIPTION
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07/25/2023	PER ENERGY & CITY COMMENTS
01/03/2024	PER CITY COMMENTS
01/17/2024	PER CITY COMMENTS
11/30/2022	
22-102	



- NOTES:**
- 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
 - MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 - 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.
 - 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 6" (100mm) .
 - 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.
 - 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 FLOATATION. 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.



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