

RAINTREE VILLAGE

SANITARY SEWER PLAN

SECTION 25 & 36, TOWNSHIP 47 N, RANGE 32 W
IN LEE'S SUMMIT, JACKSON COUNTY, MO

PROJECT CONTACTS

DEVELOPER:

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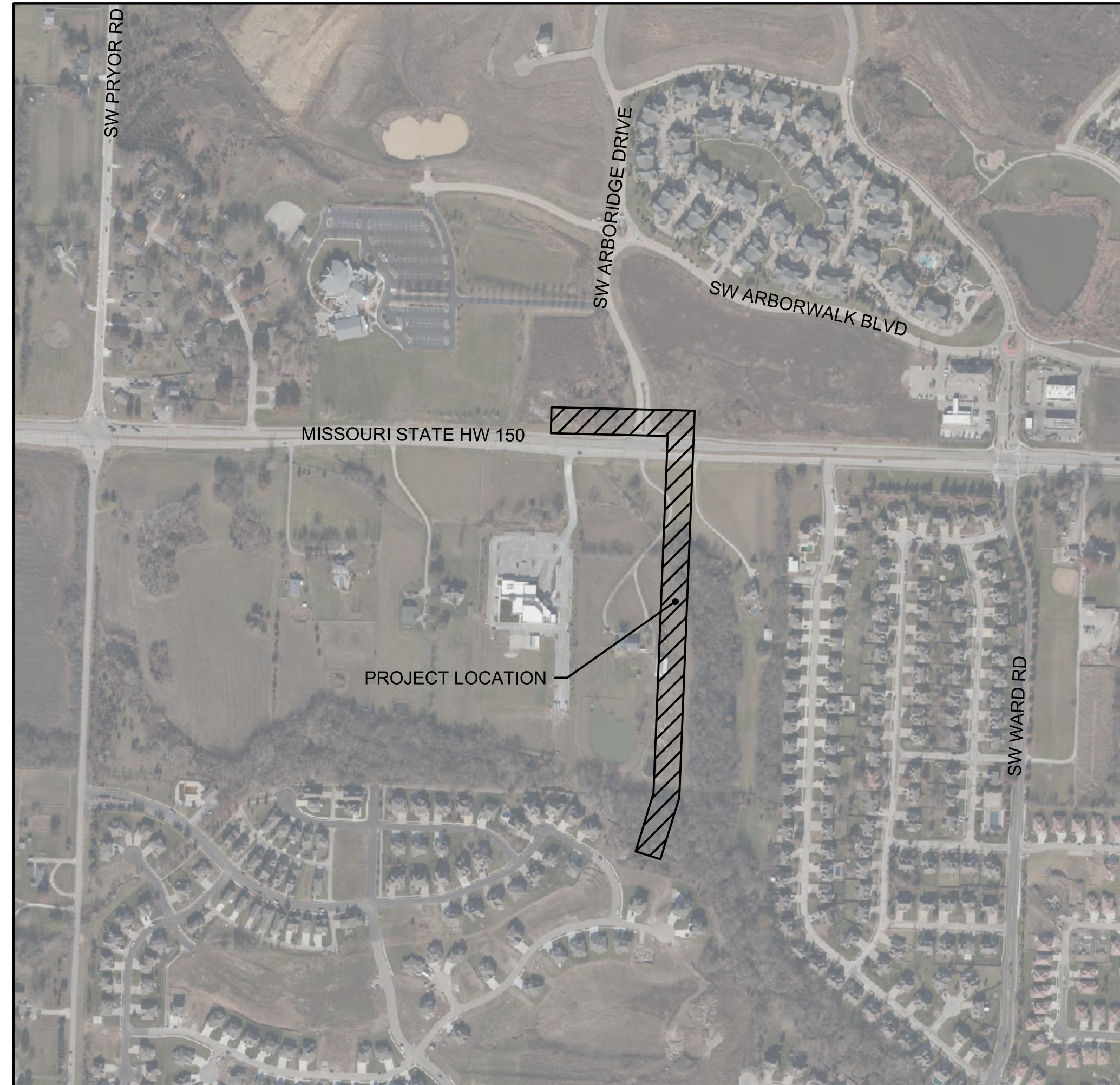
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VICINITY MAP

PROPERTY DESCRIPTION:

TITLE COMMITMENT NO. 210232

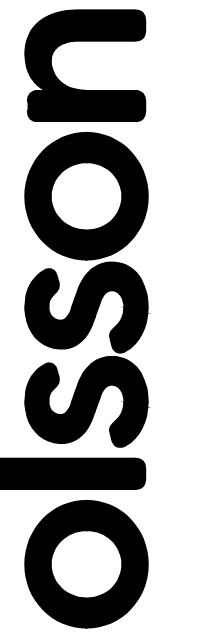
PROPERTY DESCRIPTION PER CHICAGO TITLE INSURANCE COMPANY'S ALTA
COMMITMENT FOR TITLE INSURANCE NO. 210232 UPDATE 7/15/2021, DATED JUNE
30, 2021 AT 08:00 AM.

TRACT 1:

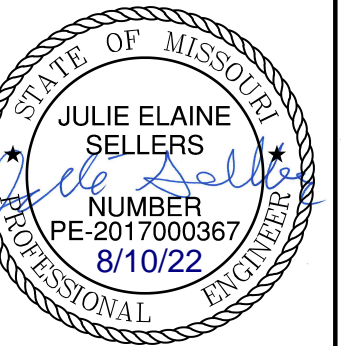
ALL THAT PART OF THE SOUTH HALF OF SECTION 25, TOWNSHIP 47, RANGE 32, IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, LYING NORTH OF THE NORTH LINE OF MISSOURI HIGHWAY 150, AS PRESENTLY ESTABLISHED, LYING EAST OF THE EAST LINE OF SW ARBORIDGE DRIVE AND SOUTH OF THE SOUTH LINE OF SW ARBORWALK BOULEVARD AS SHOWN ON THE PLAT OF ARBORWALK 4TH PLAT, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, AND THE WEST LINE OF TRACT 6-A, A SUBDIVISION IN ARBORWALK 6TH PLAT, LOTS 3001 THRU 3003 AND TRACT "6-A", A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI. (SHOWN FOR CONVENIENCE IN REPORTING; SEE SCHEDULE B-1 #15 HEREIN)

Sheet List Table

Sheet Number	Sheet Title
S0.0	TITLE SHEET
S1.0	GENERAL NOTES
S2.0	SANITARY SEWER PLAN & PROFILE
S2.1	SANITARY SEWER PLAN & PROFILE
S3.0	DETAILS SHEET
S3.1	DETAILS SHEET



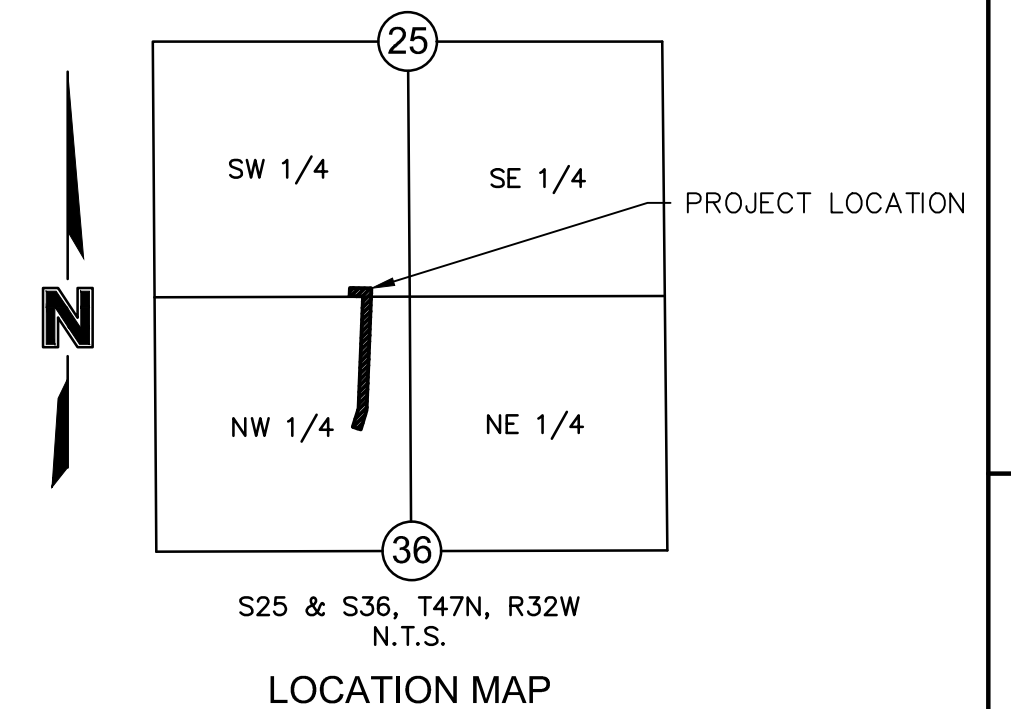
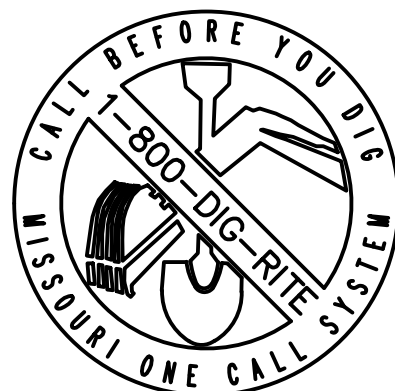
Missouri Certificate of Authority #
1301 Burlington Street
North Kansas City, MO 64111

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<p> TITLE SHEET SANITARY SEWER PLANS </p>	
<p> RAIN TREE VILLAGE FINAL DEVELOPMENT PLAN </p>	
<p> LEE'S SUMMIT, MO </p>	<p>2022</p>

Drawn by: _____ CSM
 Checked by: _____ CSM
 Approved by: _____ JS
 A/QC by: _____ JS
 Project no.: _____ A21-04054
 Drawing no.: C TTL01 A2104054
 Date: _____ 07.29.2022

HEET
S0.0



OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

JULIE E SELLERS, P.E.
CIVIL ENGINEER
MO# 2017000367

8/10/22

DATE

DWG: Z:\20104001-04500\021-04054-a\40-design\AutoCAD\final plans\Sheets\GNCV\Sanitary Sewer Plans\C_TTL01_A2104054.dwg
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GENERAL NOTES:

1. LINEAR FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS (NOT SLOPE MEASUREMENTS) FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CURRENT "CITY STANDARDS" AND SPECIFICATIONS OF THE CPD-DS-LDD, LEE'S SUMMIT, EXCEPT AS NOTED.
3. THE DEVELOPER SHALL PERFORM ALIGNMENT AND GRADE, INFILTRATION - EXFILTRATION, DEFLECTION, SOIL DENSITY, AND MANHOLE TESTS AS CALLED OUT IN SECTION 2500 OF THE CURRENT APWA (AMERICAN PUBLIC WORKS ASSOCIATION) STANDARDS AND SPECIFICATIONS. ANY SECTION OF SEWER FAILING ANY OF THE ABOVE MENTIONED TESTS SHALL BE RETESTED BY THE DEVELOPER AFTER REPLACEMENT OR REPAIR.
4. THE DEVELOPER MAY, AS AN ALTERNATE, SUBSTITUTE A.B.S. OR V.C.P. PIPE FOR P.V.C. PIPE. THE FOLLOWING PIPE DEFLECTION TEST SHALL BE IMPLEMENTED ON A.B.S. AND P.V.C. PIPE:
- THE DEVELOPER SHALL PERFORM DIAMETRICAL DEFLECTION TESTS ON FLEXIBLE AND SEMI-FLEXIBLE (I.E. POLY-VINYL-CHLORIDE AND ACRYLONITRILE BUTADIENE STYRENE) PIPE WHEN USED AS A PUBLIC DIAMETER. ALL TESTS HALL BE CONDUCTED BETWEEN MANHOLES. SEWER TESTS SHALL BE CONDUCTED BETWEEN MANHOLES. SEWER TESTED SHALL BE 100% OF THE TOTAL SEWER INSTALLED. A MANDREL WITH A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE BEING INSTALLED SHALL BE USED.
5. THE DEVELOPER SHALL PERFORM DIAMETRICAL DEFLECTION TESTS ON FLEXIBLE AND SEMI-FLEXIBLE (I.E. POLY-VINYL-CHLORIDE AND ACRYLONITRILE BUTADIENE STYRENE) PIPE WHEN USED AS A PUBLIC SEWER PRIOR TO FINAL ACCEPTANCE. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE 5% OF THE INSIDE DIAMETER. ALL TESTS SHALL BE CONDUCTED BETWEEN MANHOLES. SEWER TESTED SHALL BE 100% OF THE TOTAL SEWER INSTALLED. A MANDREL WITH A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE BEING INSTALLED SHALL BE USED.
6. PRIOR TO ORDERING PRE-CAST STRUCTURES, SHOP DRAWINGS ARE TO BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. THE DESIGN ENGINEER SHALL INDICATE APPROVAL OF THE SHOP DRAWINGS.
7. DEVELOPER SHALL PROVIDE EARTHWORK AND MATERIAL TESTING TO COMPLY WITH THE STANDARD SPECIFICATIONS OF THE CPD-DS-LDD.
8. DURING CONSTRUCTION OF THE PROJECT, THE DEVELOPER SHALL KEEP ONE RECORD COPY OF ALL SPECIFICATIONS, DRAWINGS, ADDENDA, MODIFICATIONS, AND SHOP DRAWINGS AT THE SITE IN GOOD CONDITION. THESE DOCUMENTS SHALL BE ANNOTATED TO SHOW ALL CHANGES MADE DURING CONSTRUCTION. THE EXACT LOCATION OF ALL SEWER WYES, TEES, AND SERVICE LINES SHALL BE RECORD ON THESE DOCUMENTS. AT THE CONCLUSION OF CONSTRUCTION, THESE DOCUMENTS SHALL BE FORWARDED TO THE DESIGN ENGINEER FOR PREPARATION OF AS-BUILT DRAWINGS.
9. THE PROJECT BENCHMARKS AND ALL ELEVATIONS SHOWN ON THE PROFILES ARE N.G.V.D.
10. THE DEVELOPER IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE DEVELOPER MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT IS THE DEVELOPERS RESPONSIBILITY TO RELOCATE AND/OR ADJUST ALL EXISTING UTILITIES, CONFLICT WITH PROPOSED SITE IMPROVEMENTS.
11. THE DEVELOPER SHALL 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. THE NAMES AND TELEPHONE NUMBERS OF UTILITY COMPANIES, EVEN IF ONLY REMOTELY INVOLVED WITH THIS HIS PROJECT ARE LISTED UNDER "UTILITY CONTACTS" THIS SHEET.
12. THE DEVELOPER SHALL PROVIDE AND MAINTAIN ALL TRAFFIC CONTROL MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).
13. THE SITE PLAN IS BASED ON SURVEY BY OLSSON, COMPLETED 02-24-2020. CONDITIONS ON SITE AT THE TIME OF CONSTRUCTION MAY VARY FROM THE SURVEYED CONDITIONS. DEVELOPER SHALL VERIFY EXISTING SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
14. THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL PERMITS (EXCEPT LAND DISTURBANCE), BONDS, INSURANCE, ETC. AND PAYING ALL FEES. THE COST OF DEVELOPERS BONDS AND INSURANCE AS REQUIRED BY THE CITY OF LEE'S SUMMIT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
15. DEVELOPER SHALL COMPLY WITH ALL APPLICABLE REGULATIONS REQUIRED BY THE CITY AND THE STATE.
16. THE DEVELOPER MUST REMOVE AT HIS COST ANY BAD SUBSURFACE SOIL WHICH WOULD NOT BE ABLE TO SUPPORT ANY PROPOSED PUBLIC IMPROVEMENT. BACKFILL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTIONS 2100 AND 2201 ENTITLED "GRADING AND SITE PREPARATION" AND "SUBGRADE PREPARATION".
17. VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). THE DEVELOPER IS ADVISED TO USE BENCHMARK INFORMATION FOR VERTICAL CONTROL. HORIZONTAL CONTROL (CONTROL POINT INFORMATION) IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). THE DEVELOPER IS ADVISED TO USE CONTROL POINT INFORMATION FOR HORIZONTAL CONTROL.

PLUMBING NOTES:

1. ALL LOTS HAVE BEEN SUPPLIED WITH WYES OR LATERALS. PLUMBER SHALL CONNECT HOUSE SERVICE TO MAIN AT LOCATIONS INDICATED.
2. ALL SERVICE LINES SHALL BE LAID AT 2% MINIMUM SLOPE, UNLESS OTHERWISE NOTED.
3. M.S.F.E. ELEVATION - INDICATES BASEMENT FLOOR ELEVATION OR LOWEST FLOOR ELEVATION SERVICEABLE BY PROPOSED SANITARY SEWER.

EXCAVATING NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO CONTROL DOWNSTREAM EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION.
2. THE DEVELOPER SHALL BE RESPONSIBLE FOR RECORDING ROCK ELEVATIONS AT 25 FOOT (MAXIMUM) INTERVALS WHERE ENCOUNTERED, AND FURNISHING THIS INFORMATION TO THE DESIGN ENGINEER FOR USE ON AS-BUILTS.
3. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES. EROSION CONTROL PLANS AND PROCEDURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION.
4. NO SUBSURFACE EXPLORATION FOR THE DETERMINATION OF AND/OR THE LOCATION OF EXISTING ROCK HAS BEEN MADE.
5. WHEN SEWER LINES CROSS A LOW POINT IN A CREEK, THE SEWER LINE MUST BE ENCASED ACCORDING TO LEE'S SUMMIT.
6. DEVELOPER IS RESPONSIBLE FOR KEEPING ALL PUBLIC ROADWAYS ADJACENT TO THE CONSTRUCTION SITE FREE OF DIRT AND DEBRIS RESULTING FROM ACTIVITIES RELATED TO THE CONSTRUCTION OF THIS PROJECT. INSPECTIONS AND CLEANUP TO OCCUR ON A DAILY BASIS.
7. DEVELOPER SHALL KEEP THE ENTIRE PROJECT SITE FREE OF DEBRIS AND TRASH AT ALL TIMES. DEVELOPER SHALL EXECUTE WORK USING METHODS THAT MINIMIZE EXCESSIVE NOISE OR DUST EMISSIONS. DEVELOPER SHALL PROVIDE METHODS, MEANS AND FACILITIES TO PREVENT CONTAMINATION OF SOIL OR WATER FROM DISCHARGE OF REGULATED MATERIALS (I.E. FUEL) USED DURING CONSTRUCTION.
8. THE DEVELOPER SHALL ERECT AND MAINTAIN ORANGE COLORED TEMPORARY CONSTRUCTION FENCE AROUND ALL AREAS INDICATED ON THE PLANS TO BE LEFT UNDISTURBED BOTH TEMPORARY AND PERMANENTLY THE DEVELOPER WILL BE GIVEN NOTICE WHEN HE MAY ENTER THESE AREAS MARKED TEMPORARY BY THE OWNER ONCE PERMITS HAVE BEEN OBTAINED. THE FENCE MATERIAL SHALL BE 48" TALL. HIGH DENSITY POLYETHYLENE (HDPE) WITH NOMINAL MESH OPENING SIZE OF 1.25 INCHES X 1.25 INCHES.

Sanitary Sewer Design Information											
Upstream Manhole	Downstream Pipe Slope	Downstream Pipe Diameter	Proposed Cumulative Area	Future Cumulative Area	Peak Base Flow	Peak Infiltration Flow	Peak Inflow	Total Peak Flow	Downstream Pipe Mannings N	Downstream Pipe Capacity	Downstream Pipe Full Flow Velocity
	(%)	(in)	(Ac.)	(Ac.)	(gpd)	(gpd)	(cfs)	(cfs)		(cfs)	(fps)
EX MH 7517	0.54%	18	19.31	21.14	60675.00	20225.000	0.969	1.094	0.013	7.70	4.36
SS 1-1	0.50%	10	19.31	21.14	60675.00	20225.000	0.969	1.094	0.013	1.55	2.84
SS 1-2	0.50%	10	19.31	21.14	60675.00	20225.000	0.969	1.094	0.013	1.55	2.84
SS 1-3	0.50%	10	19.31	21.14	60675.00	20225.000	0.969	1.094	0.013	1.55	2.84
SS 1-4	0.50%	10	19.31	21.14	24229.55	10112.500	0.969	1.022	0.013	1.55	2.84
SS 1-5	0.50%	10	3.95	21.14	37635.00	12545.000	0.647	0.725	0.013	1.55	2.84



OVERALL DRAINAGE COVERAGE MAP

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
1	10" SANITARY PVC (SDR-26)	L.F.	1888	
2	MANHOLES, STD. 4' DIA.	EA.	5	
3	CONNECTION TO EXISTING M.H.	EA.	1	

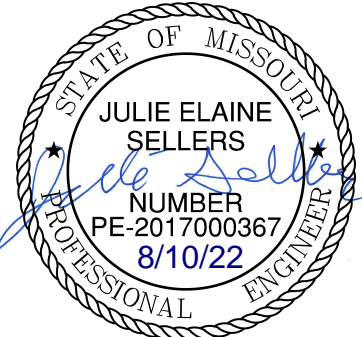
SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.

AS-BUILT / SERVICE LINE NOTE

- 1.) CONTRACTOR SHALL PLACE 2"x4" TIMBER OR METALLIC TAPE AT END OF EACH SERVICE LINE STUB. STANDARD 8' LENGTH MAY BE VARIED WITH 3' EXPOSED WHEN PLACED DIRECTLY OVER THE SERVICE LINE TERMINATION POINT. 2"x4" TIMBER SHALL BE MARKED APPROPRIATELY TO IDENTIFY SEWER SERVICE STUB.
- 2.) CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING OF ROCK ELEVATIONS AT 25' INTERVALS WHERE ENCOUNTERED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR RECORDING SERVICE LINE LOCATIONS FROM THE DOWNSTREAM OR UPSTREAM MANHOLE AND SERVICE LINE LENGTHS DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL ALSO RECORD VERTICAL ELEVATIONS WITH A REFERENCE POINT. ALL INFORMATION SHALL BE PROVIDED TO THE ENGINEER OF RECORD FOR PREPARATION OF AS-BUILT PLANS.

olsson

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Missouri Certificate of Authority #
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
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BY	REVISIONS DESCRIPTION				
	DATE	REV. NO.			

GENERAL NOTES
SANITARY SEWER PLANS

RAINTREE VILLAGE
FINAL DEVELOPMENT PLAN

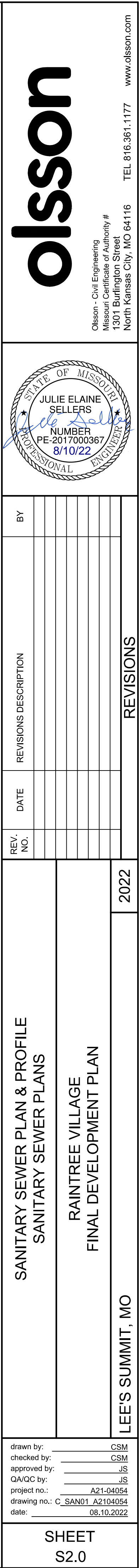
LEE'S SUMMIT, MO

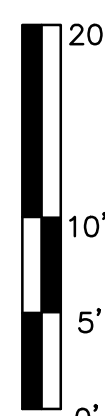
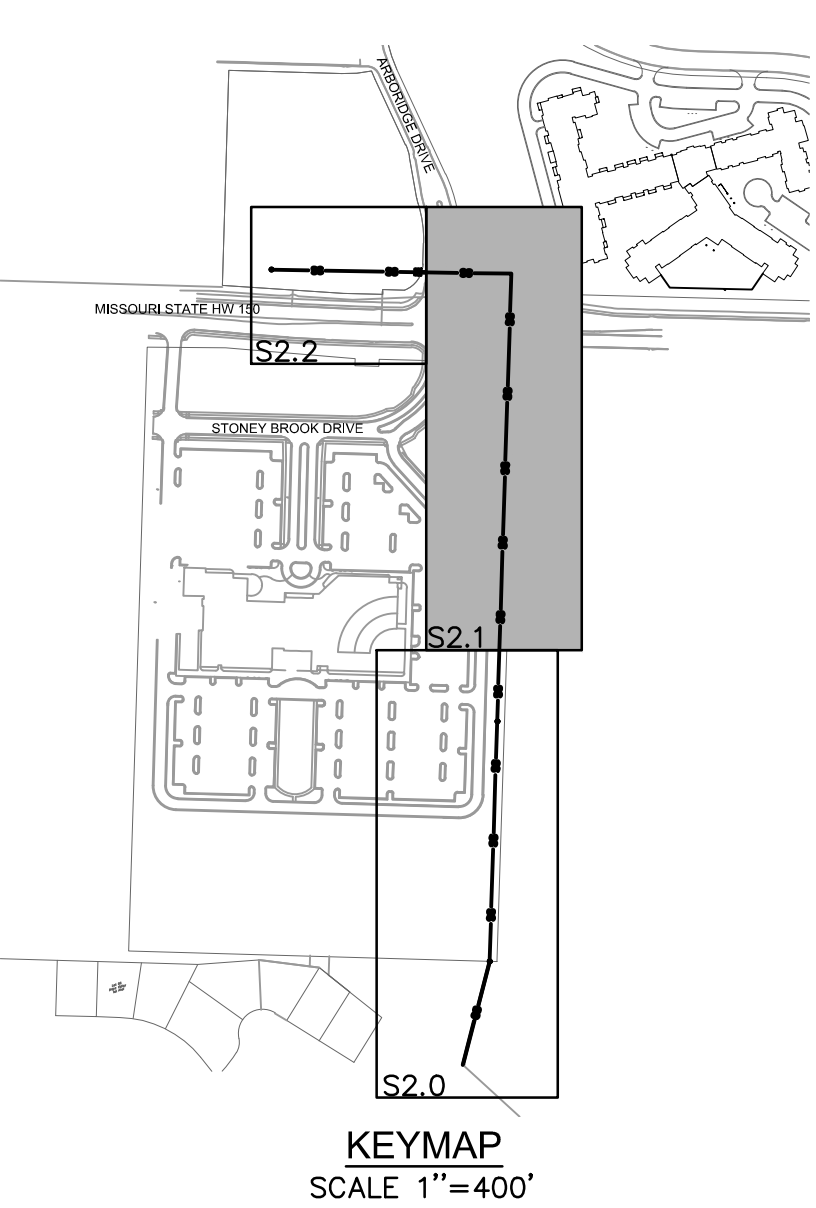
2022

drawn by: CSM
checked by: CSM
approved by: JS
QA/QC by: JS
project no.: A21-04054
drawing no.: C_TTL01_A2104054
date: 07.29.2022

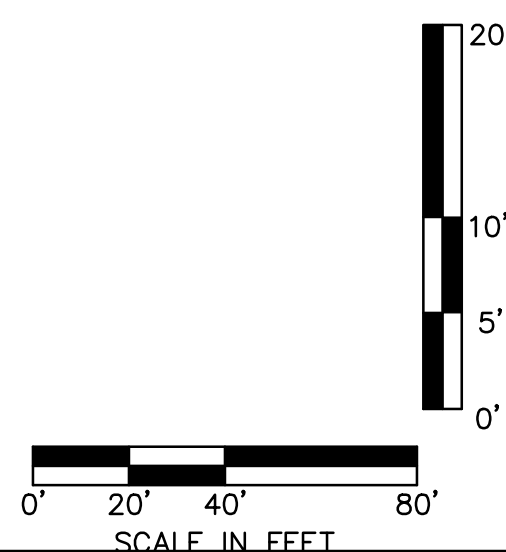
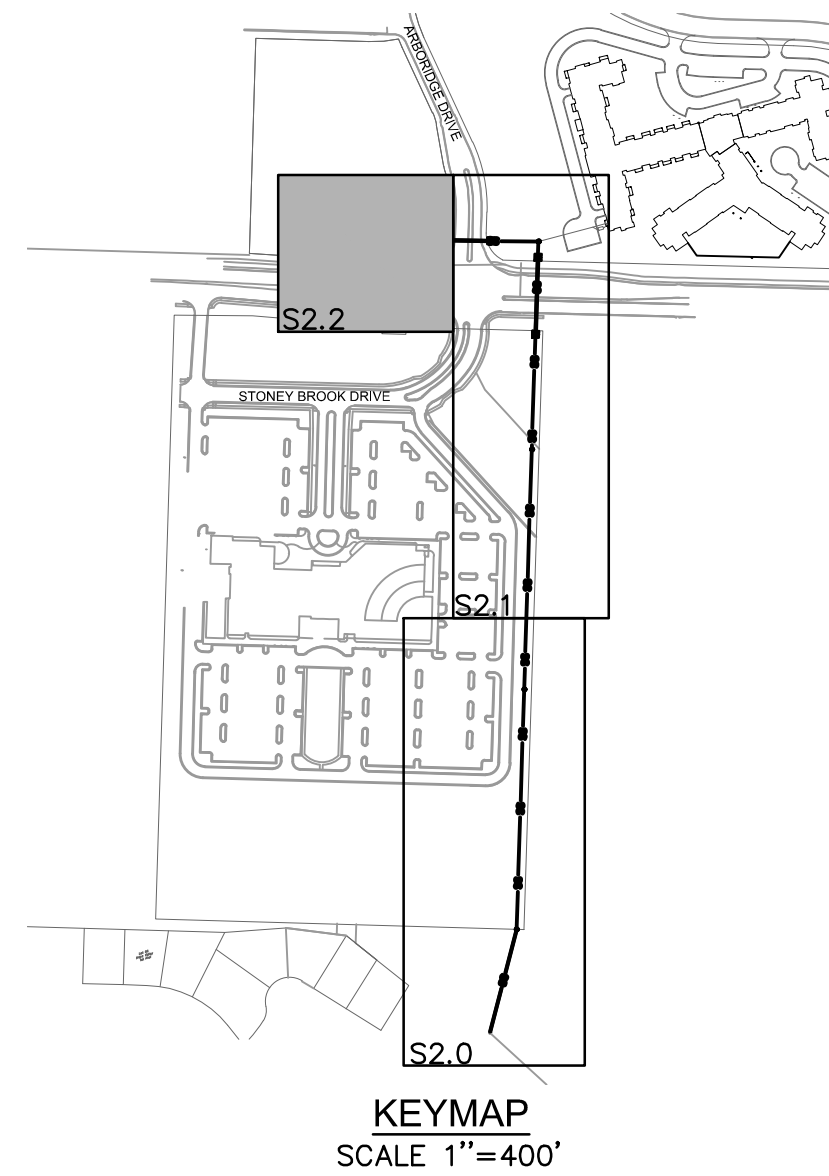
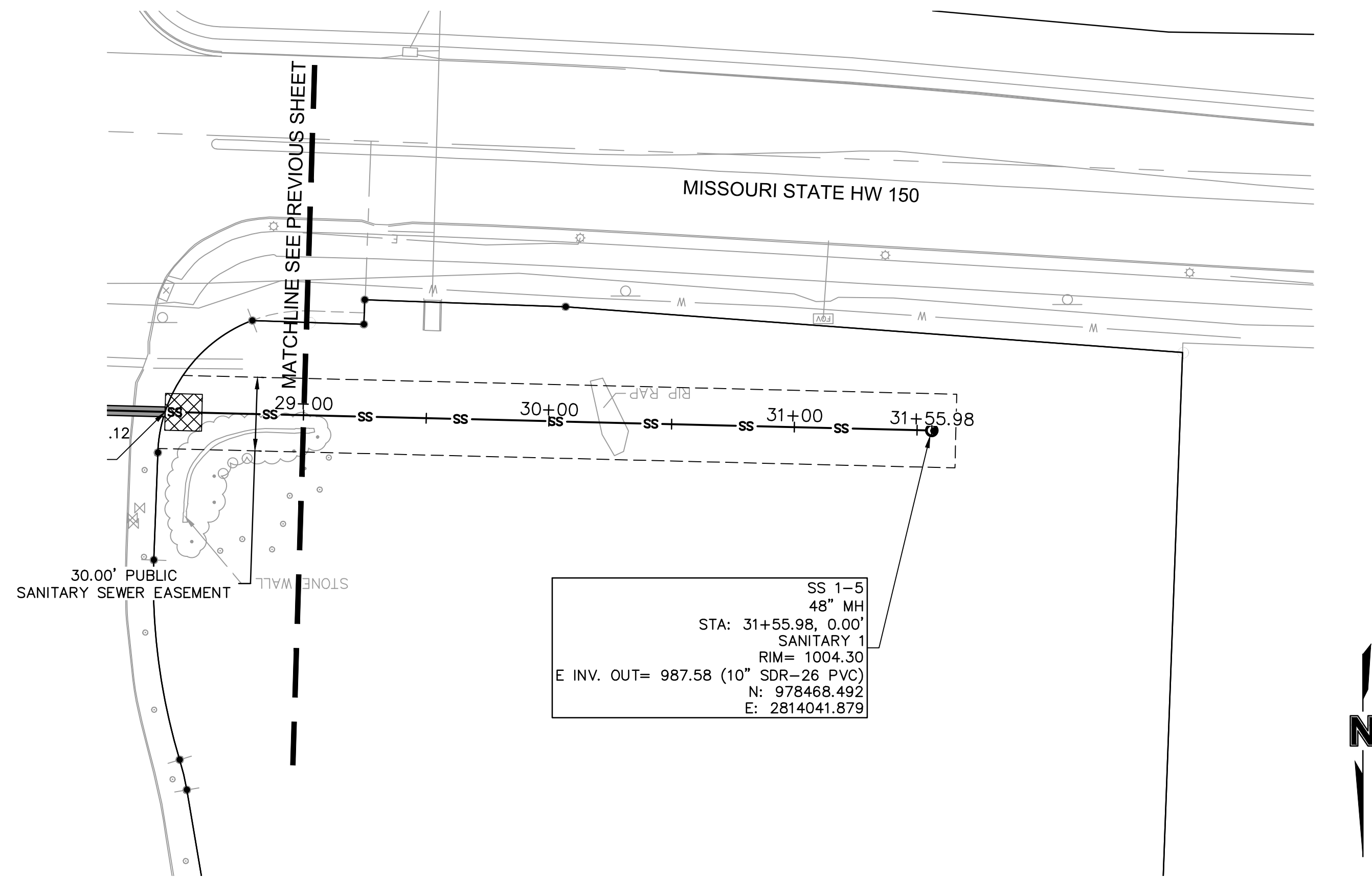
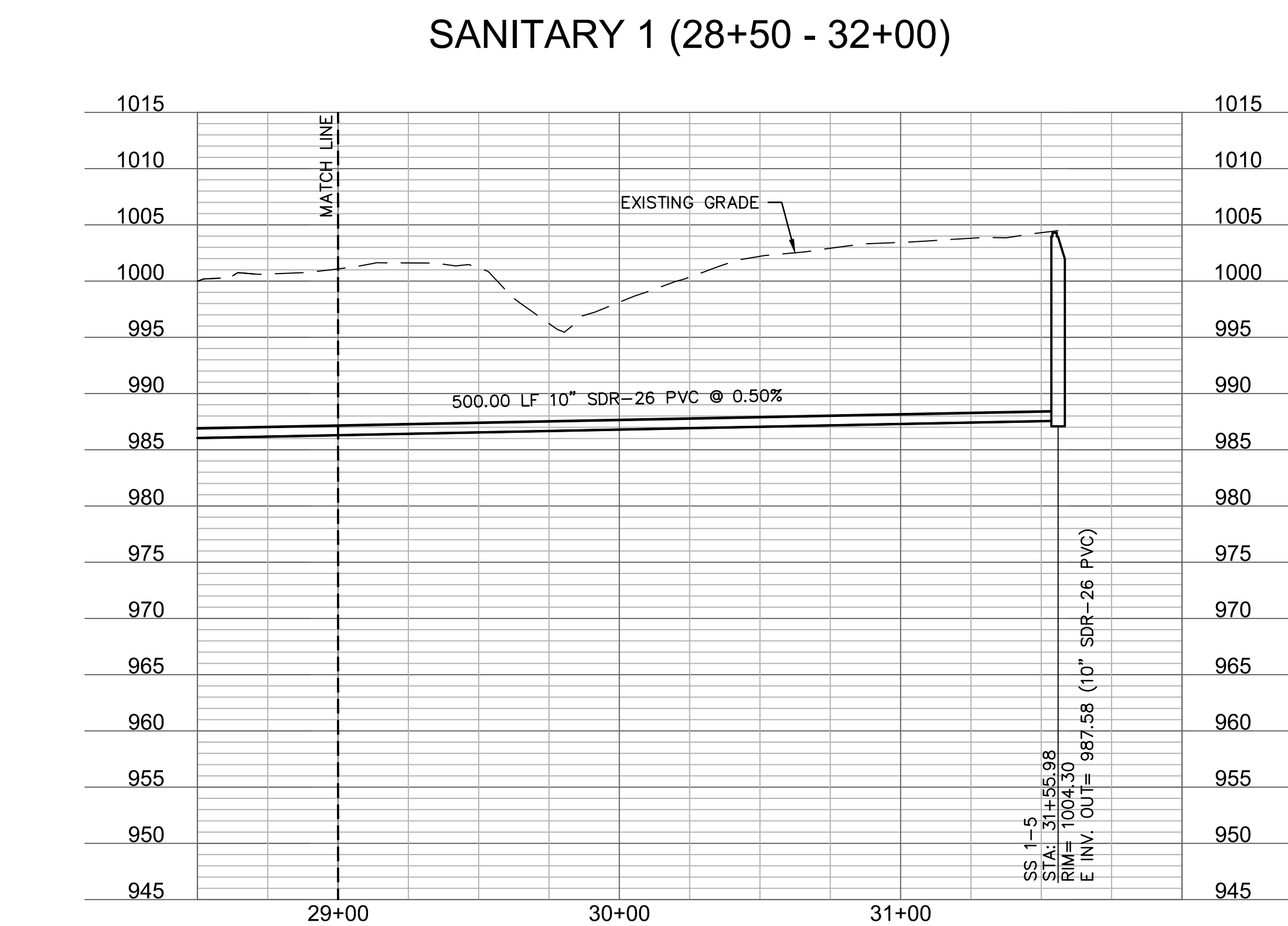
SHEET
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ALL NOTES REFERENCED ON THIS PLAN SHEET MAY HAVE APPLICATIONS TO EVERY FACET OF THE CONSTRUCTION PLANS. THE NOTE HEADINGS OR TITLES ARE TO BE USED AS A GENERAL GUIDE TO APPLICABLE SITUATIONS.

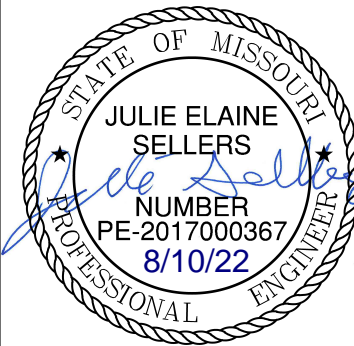




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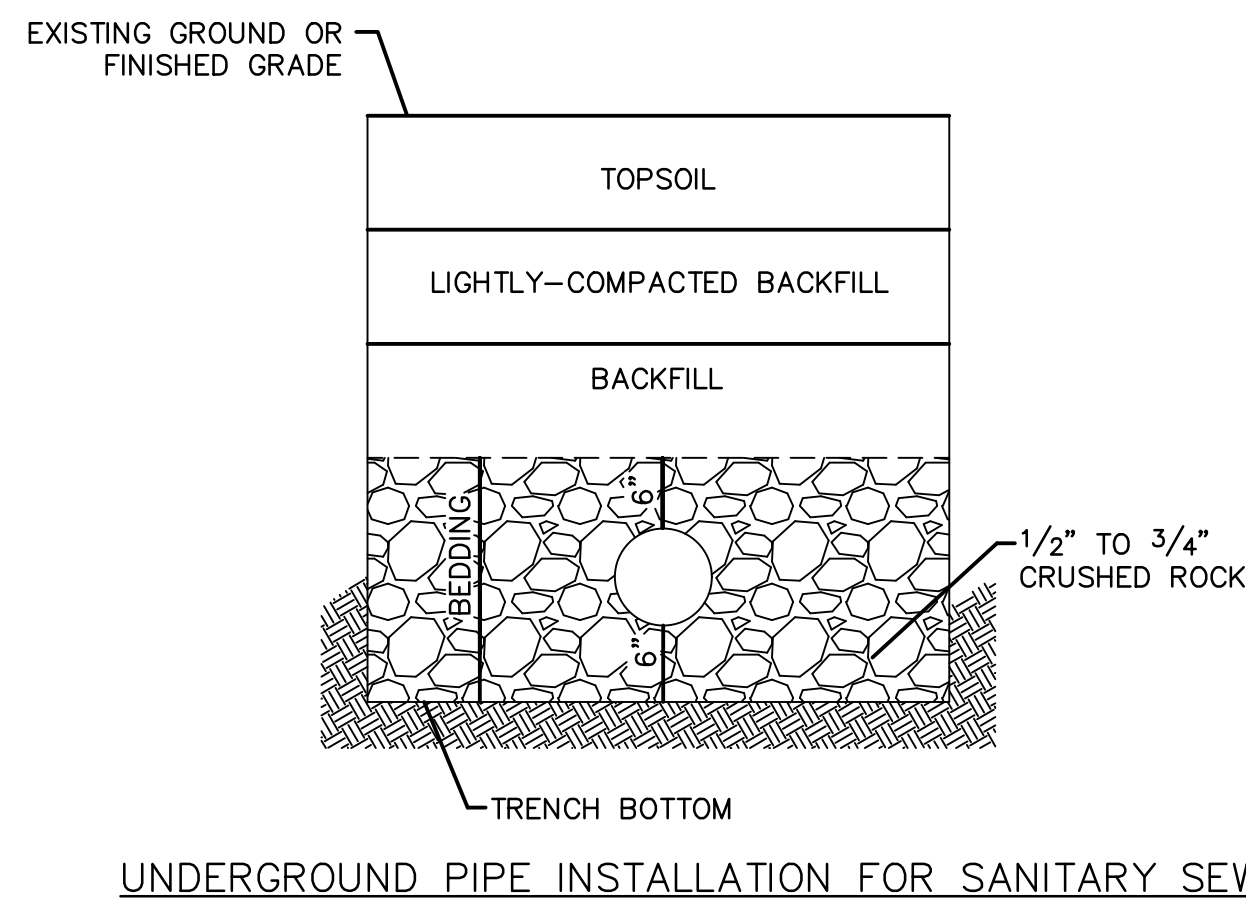
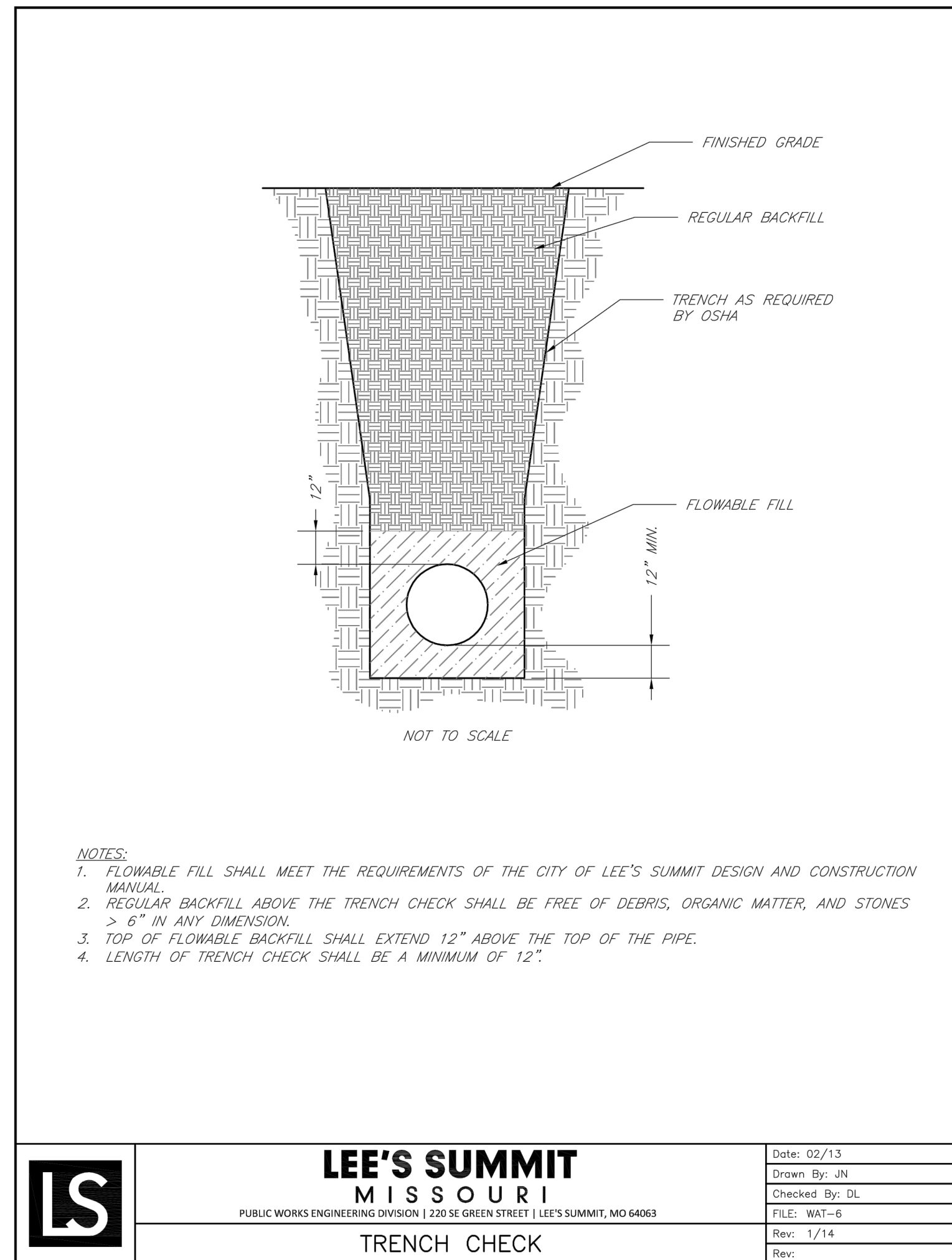


drawn by: _____ CSM checked by: _____ CSM approved by: _____ JS CADC by: _____ JS project no.: _____ A21-04054 drawing no.: C_SAN01_A2104054 date: _____ 08.10.2022	SANITARY SEWER PLAN & PROFILE SANITARY SEWER PLANS		REV. NO.	DATE	REVISIONS DESCRIPTION	BY
	RAIN TREE VILLAGE FINAL DEVELOPMENT PLAN					
LEE'S SUMMIT, MO	2022		REVISIONS			
SHEET S2.2						

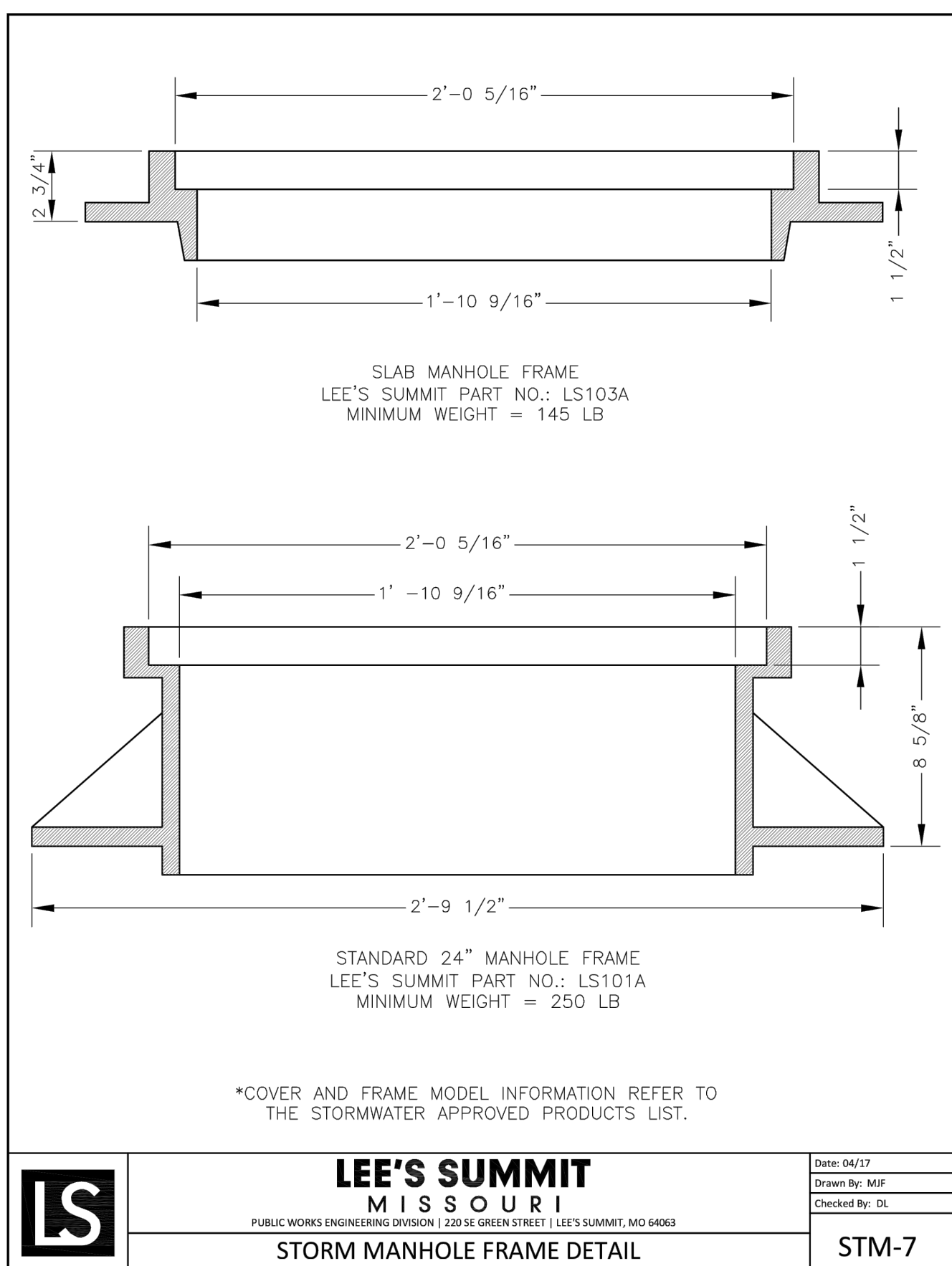
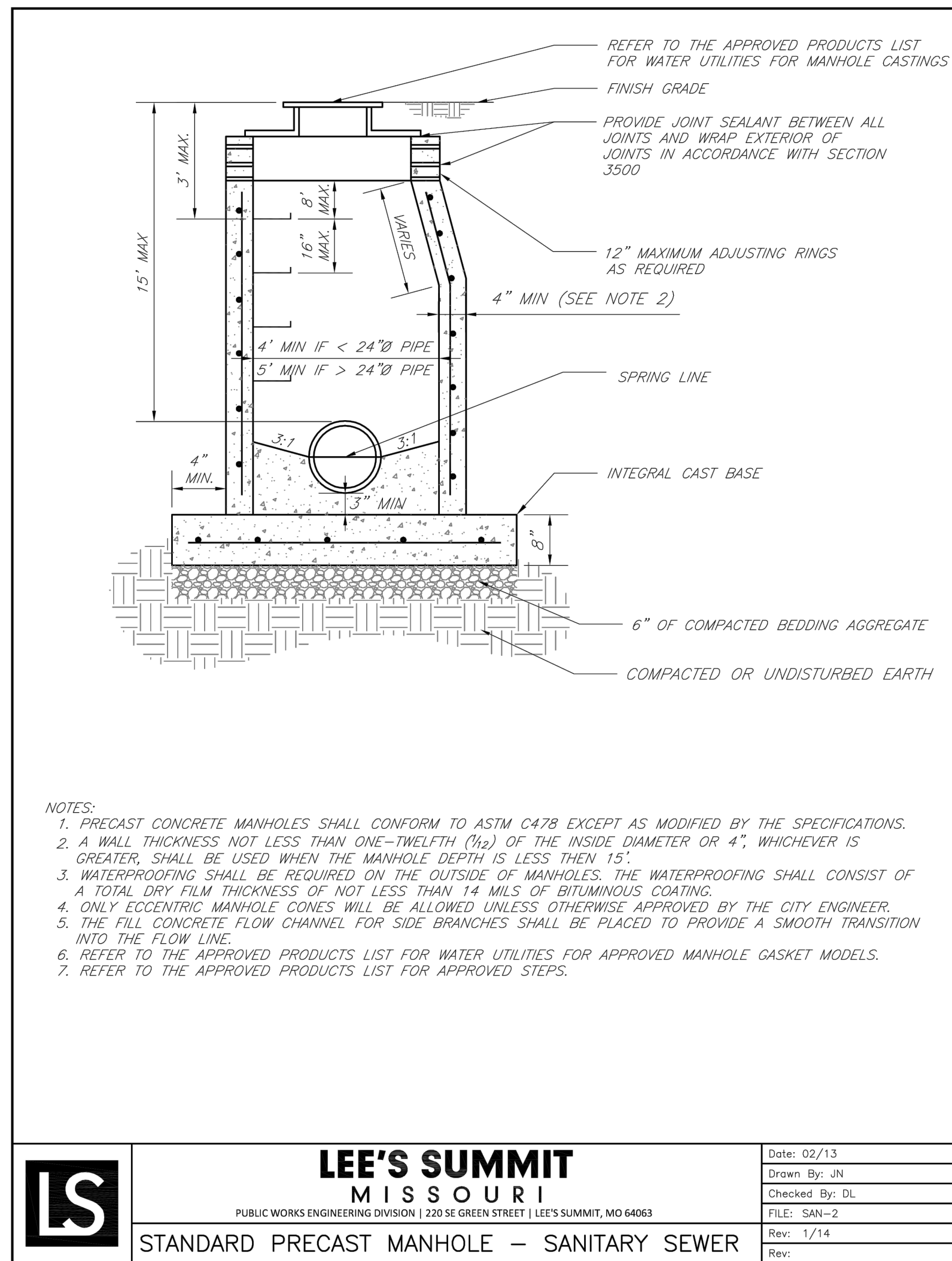
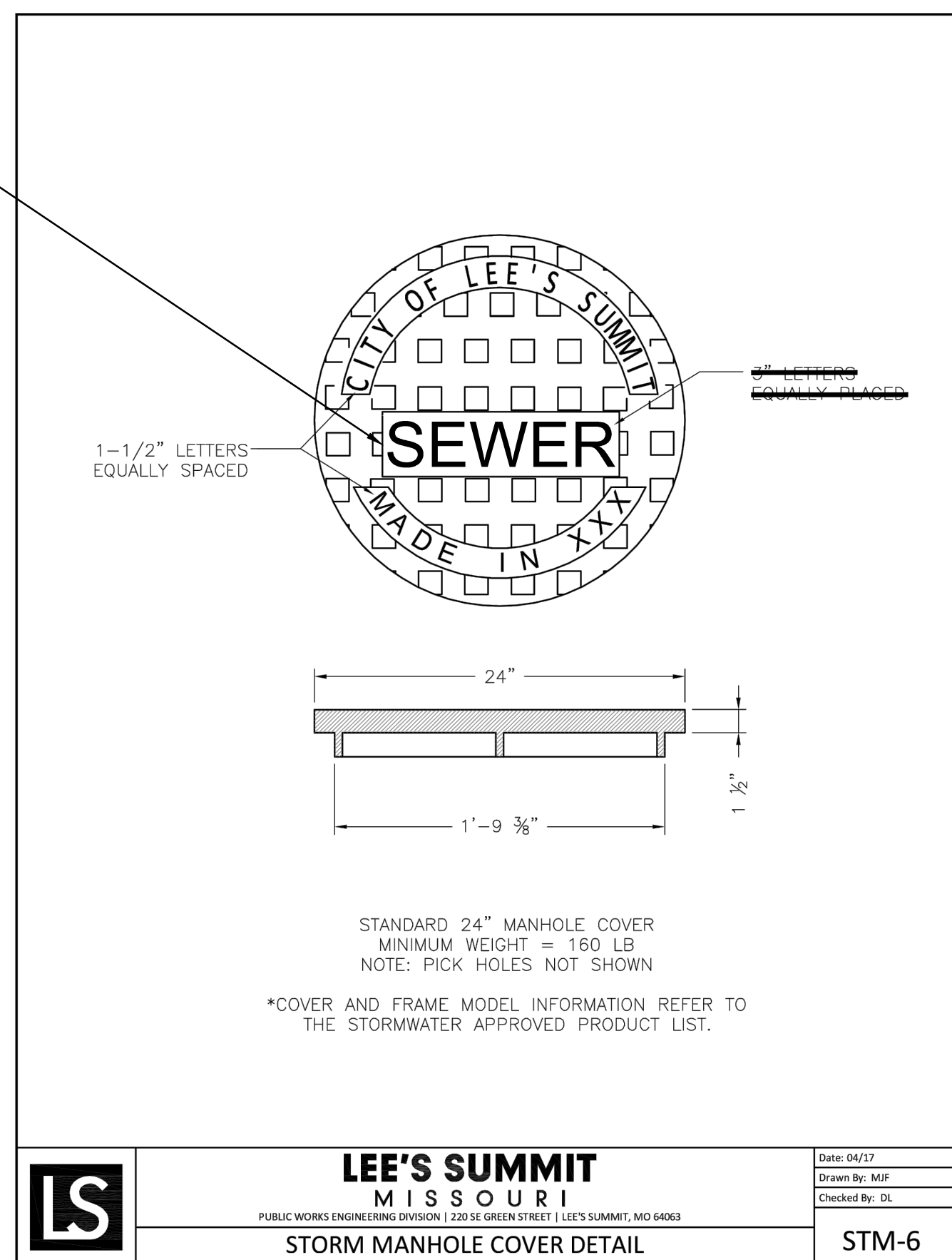
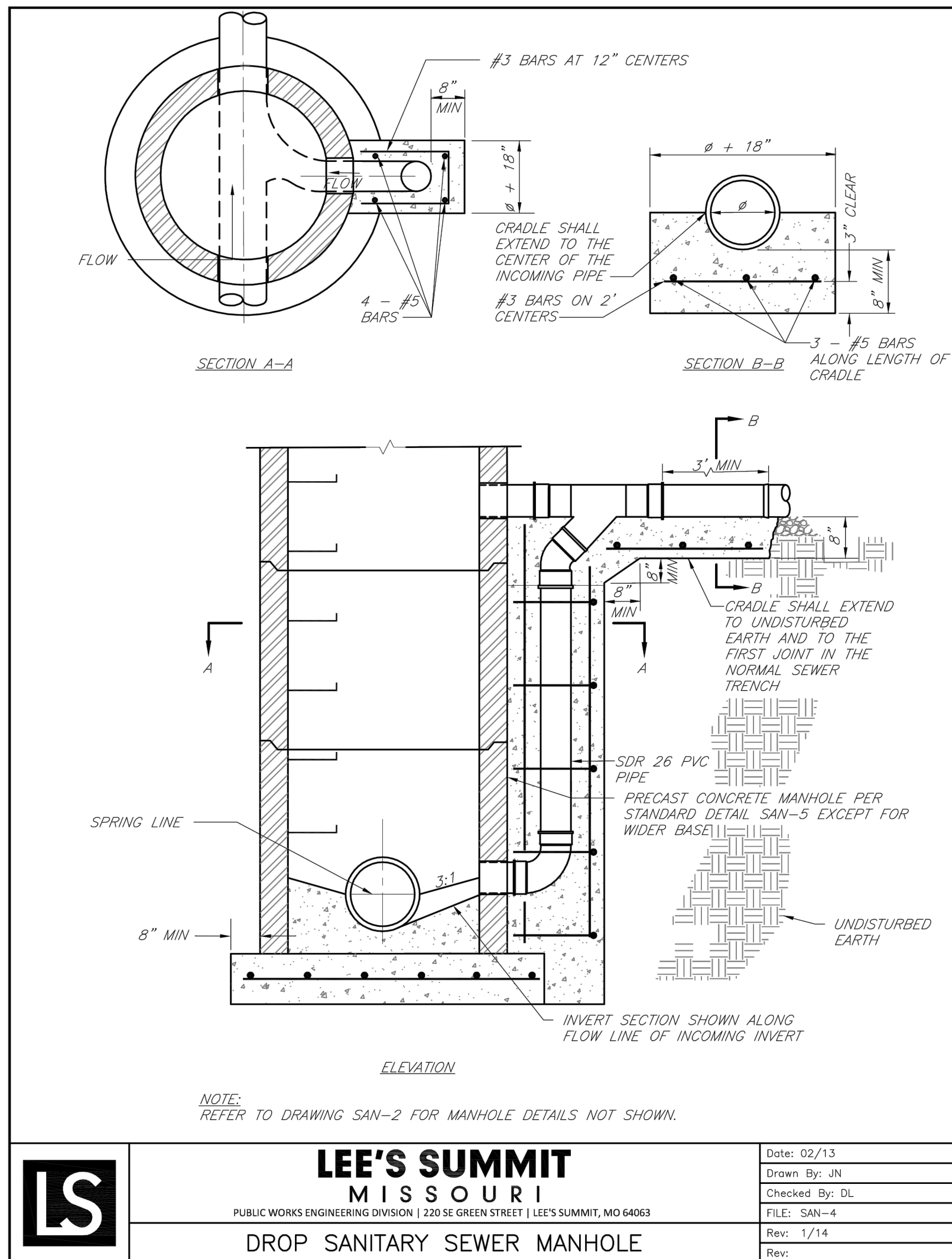


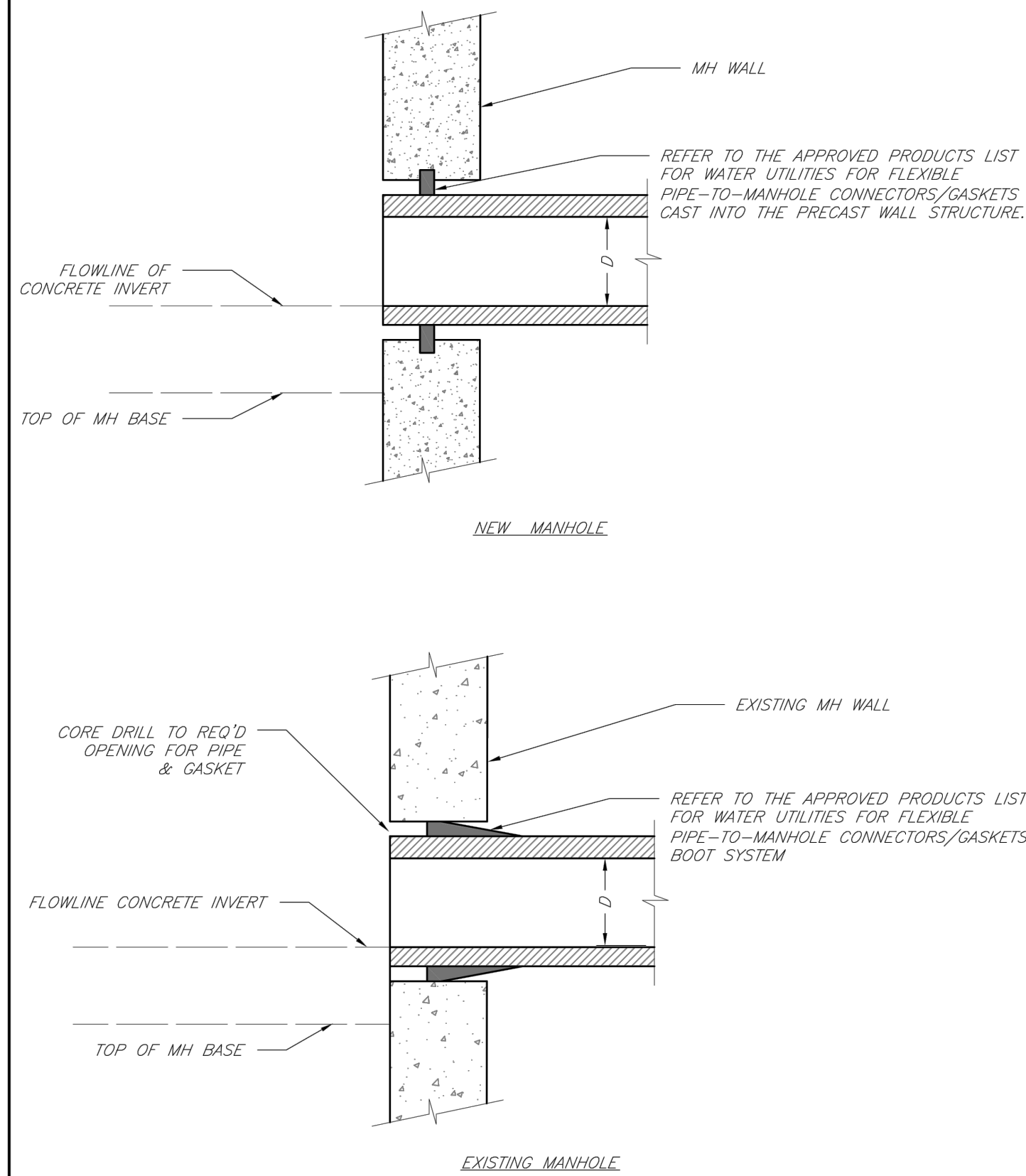
olson

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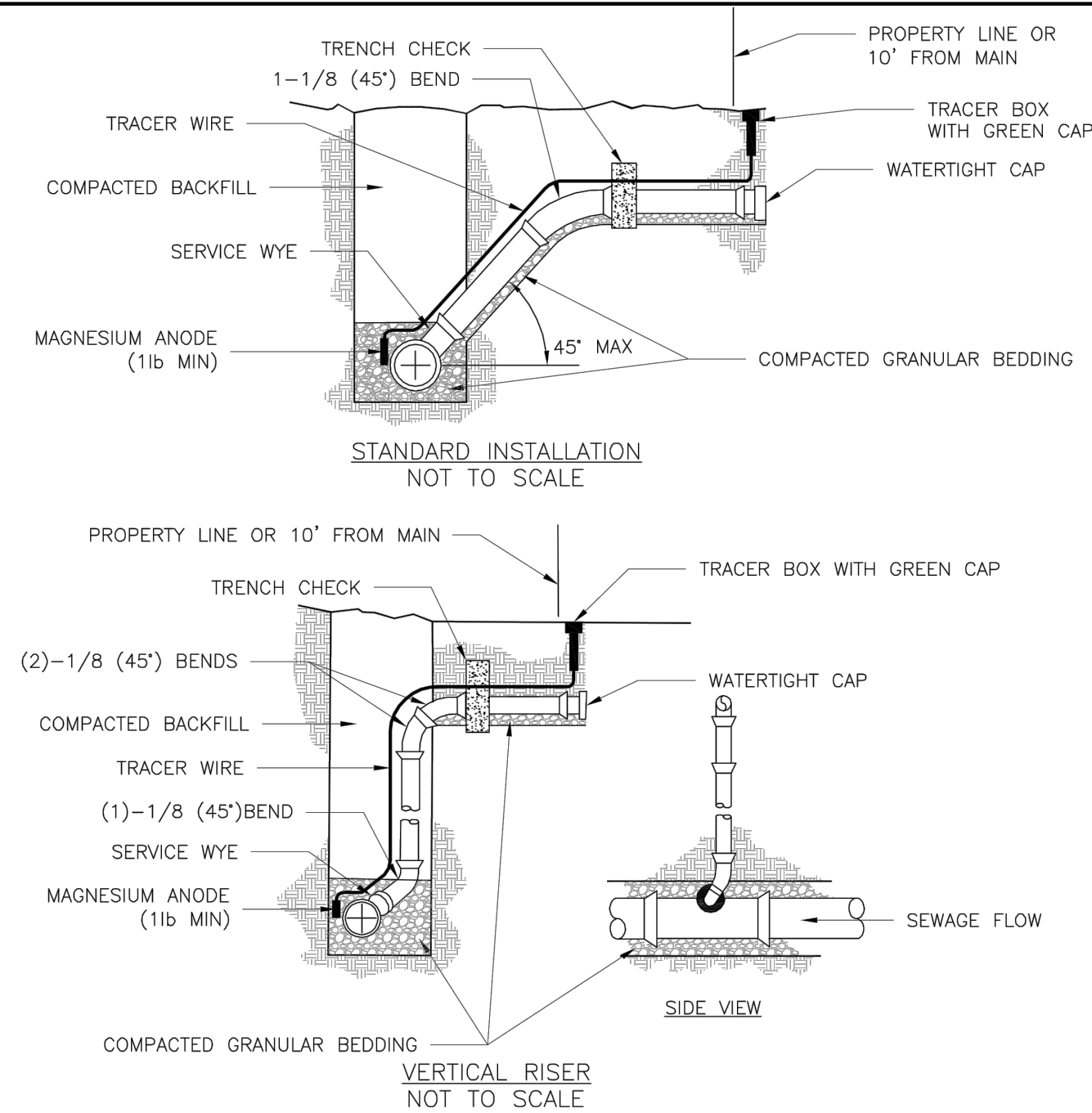


- NOTES:**
1. A MINIMUM OF 36 INCHES OF COVER SHALL BE OVER THE TOP OF THE PIPE. THIS MINIMUM OF COVER SHALL BE FROM THE TOP OF PIPE TO THE FINISHED GRADE.
 2. BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL 6 INCHES ABOVE THE TOP OF THE PIPE.
 3. TRENCH BACKFILL IN PAVED AREAS WITHIN STREET OR ALLEY RIGHT OF WAYS
 - a. NARROW TRENCH: SUITABLE BACKFILL MATERIAL FOR TRENCHES 24 INCHES OR LESS IN WIDTH AND SHALL BE TYPE A FLOWABLE FILL.
 - b. STANDARD TRENCH: SUITABLE BACKFILL MATERIAL FOR TRENCHES BETWEEN 24 TO 48 INCHES WIDE SHALL BE EITHER TYPE A FLOWABLE FILL OR DENSE, WELL GRADED AGGREGATE BASE MATERIAL. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS FOR KDOT AB-3; MODOT TYPES 1 OR 5; OR APWA 2202.2.
 - c. WIDE TRENCH: SUITABLE BACKFILL MATERIAL FOR TRENCHES GREATER THAN 48 INCHES WIDE SHALL BE SUITABLE MATERIAL AS SPECIFIED FOR EARTH EMBANKMENT IN APWA STANDARD SPECIFICATIONS, SECTION 2102.2.C.
 4. SUITABLE BACKFILL MATERIAL OUTSIDE OF PAVED AREAS WITHIN RIGHT OF WAY, AND ALL AREAS OUTSIDE RIGHT OF WAY, MAY BE SUITABLE MATERIAL AS SPECIFIED FOR EARTH EMBANKMENT IN APWA STANDARD SPECIFICATIONS, SECTION 2102.2.C. SUITABLE BACKFILL MATERIAL MAY ALSO BE OTHER TRENCH BACKFILL MATERIAL (FLOWABLE FILL OR AGGREGATE BASE) DEPENDING ON SITE CONDITIONS, TRENCH WIDTHS OR AT THE DIRECTION OF THE CITY'S ON SITE INSPECTOR.



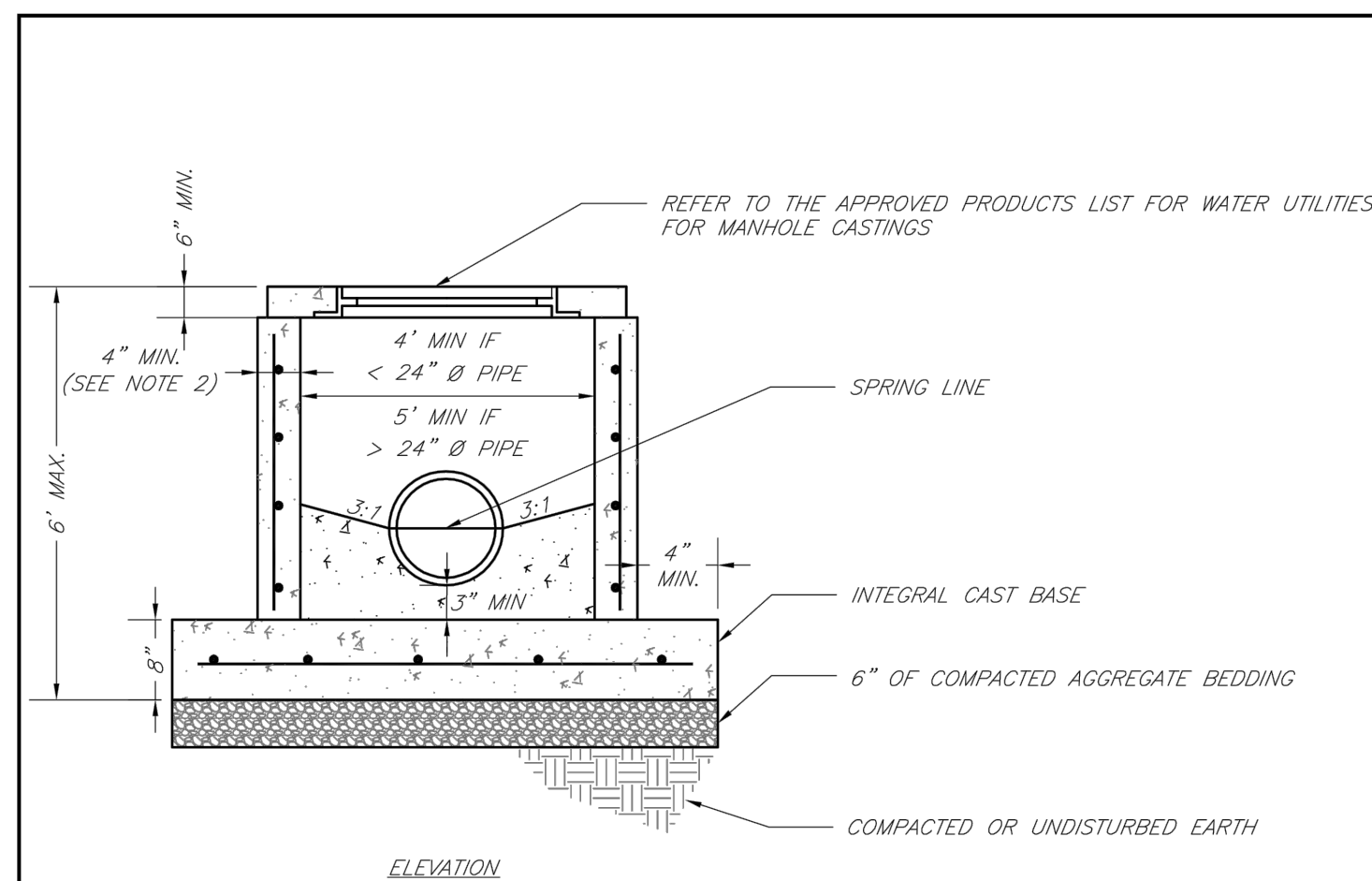


	<h1 style="text-align: center;">LEE'S SUMMIT</h1> <h2 style="text-align: center;">MISSOURI</h2> <p style="text-align: center;">PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</p>	Date: 02/13 Drawn By: JN Checked By: DL FILE: SAN-5 Rev: 1/14 Rev:
	<h2 style="text-align: center;">MANHOLE WALL CONNECTIONS</h2>	



- NOTES:**
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
 2. ALL EXISTING SIDEWALKS SHALL BE REPAIRED TO ORIGINAL CONDITION.
 3. ALL EXISTING CONCRETE OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STRIP, 36" ABOVE GROUND AND PAINTED GREEN.
 4. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER LINES (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
 5. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
 6. SEWER SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
 7. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED, TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
 8. TRACER LINES, TRACER BOXES, TRACER WIRE SHALL BE PAINTED GREEN. THE TRACER WIRE SHALL BE PAINTED GREEN. CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
 9. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
 10. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

	LEE'S SUMMIT MISSOURI		Date: 04/17
	PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063		Drawn By: MJF
	BUILDING SEWER STUB AND RISER		Checked By: DL
			SAN-1



- NOTES:
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
 2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER SHALL BE USED.
 3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TWO-PLY HOT FILL MEMBRANE OF NOT LESS THAN 14 MILS OF BUTYLS OR EQUIVALENT COATING.
 4. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
 5. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR MANHOLE GASKET MODELS.
 6. PROVIDE STEPS AS SHOWN ON THE APPROVED PRODUCTS LIST FOR MANHOLE DEPTHS GREATER THAN 4'.

	LEE'S SUMMIT MISSOURI <small>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</small>		Date: 02/13 Drawn By: JN Checked By: DL FILE: SAN-3
	SHALLOW PRECAST MANHOLE – SANITARY SEWER		Rev: 1/14 Rev:

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DETAILS SHEET

SANITARY SEWER PLANS

RAINTREE VILLAGE

FINAL DEVELOPMENT PLAN

LEE'S SUMMIT, MO

drawn by: _____ CSM
checked by: _____ CSM
approved by: _____ JS
QA/QC by: _____ JS
project no.: _____ A21-04054
drawing no.: C DTL01 A2104054
date: _____ 07.29.2022

SHEET
S3.1