

August 10th, 2021

Updated September 15th, 2021



Lee's Summit, Missouri
Development Services - Engineering Division
Attn: Sue Pyles
220 SE Green Street
Lee's Summit, Missouri 64063

**Re: Sanitary Sewer Memo for "Lee's Summit Logistics" Project
1220 NW Main Street, Lee's Summit, MO**

This memorandum and the attached exhibits are intended to provide an overview of the sanitary sewer systems for the project located at 1220 NW Main Street. Current conditions on the site consist of open green space. It is assumed the existing sanitary main that runs throughout the site was designed to handle the future development within this space.

The proposed conditions consist of three (3) industrial warehouses ranging from 100,000 sf to 500,000 sf. As stated above, the site has existing public main extension that cuts through the proposed site. With that, the proposed service for each building will involve sanitary sewer service lines connections in lull of a sanitary sewer main. These connections will be made from building MEP rooms to existing sewer main. The proposed sanitary sewer design will keep the same drainage patterns as the existing system. Additionally, the new service lines will utilize gravity flow to connect to the existing gravity main.

Existing Sanitary Sewer Main Extension:

Per survey information, the northern portion of the project will utilize the existing 24" RCP sanitary sewer main, while the southern building will utilize the existing 12" VCP sanitary sewer main. Per the survey information, given the flowlines and distance, slope, etc. the capacity of each line is listed below:

Existing Sanitary Sewer 24"

Pipe diameter 24" RCP at 2.10% grade with a capacity of 32.87 cfs.

Proposed Site Flow Rate: 1.15 cfs

Existing Pipe without Proposed Site Flow Rate: 32.87 cfs

Existing Sanitary Sewer 36"

Pipe diameter 36" RCP at 1.53% grade with a capacity of 82.72 cfs.

Proposed Site Flow Rate: 1.15 cfs

Existing Pipe without Proposed Site Flow Rate: 82.72 cfs

Olsson is still working with the City on additional information such as the watershed boundary, that is generated by the City of Lee's Summit. This will help determine the exact capacity of the existing line and location in which is best for the proposed service line connections. Per the calculations above, and dependent on the overall watershed for these particular sanitary sewer mains, it appears that the total sewer of the site would be within the appropriate capacity of the

existing pipes. Olsson will continue to work with City staff on the sanitary sewer capacity memo and determination of existing conditions. Please find the attached calculations to help explain the sanitary sewer capacity.

If you have any further questions, please contact me at 913.381.1170 or lmoore@olsson.com.

Sincerely,

Luke Moore
OLSSON

Terry Parsons, P.E.
OLSSON



Attachments include

- **Project Superbowl Capacity Calculations**
 - **General Layout "Exhibit A"**

-

Project Name: Lee's Summit Logistics - Sanitary Sewer
Project Number: 021-04157
Description: Sanitary Sewer Analysis - Line Capacity **Date Printed:** 8/10/2021

Design Flow All Phases Commercial
Proposed Drainage Area TO Existing 24" Main
 Total Acres 76.37 ac
 Total Lots 3

 Peak Hourly Flow
 Industrial 0.015 cfs/ac

Calculated Total **1.146 cfs**

Overall Drainage Area TO Existing 36" Main
 Total Acres 229.63 ac
 Total Lots Unknown

 Peak Hourly Flow
 Commercial 0.011 cfs/ac

Calculated Total **2.526 cfs**

Assumption of 306 ac. per contours, etc. However, our capacity as you see below, the watershed should consist of at least 1500 ac. in order for the capacity to make sense. City staff to verify watershed of existing sanitary sewer main.

PIPE AREA CAPACITY CALCULATION TABLE													
SANITARY AREAS				Design Flows				Pipe Flow Calculations					
Upstream	Downstream	Watershed	Land Use	cfs/Acre	Infiltration/Inflow	Total	Max Design Q	Pipe Size	Length	% Slope	Q Capacity	Manning's	
		Acreage			Allowance	cfs/Acre	(cfs)	(inches)	(feet)		(cfs)	n	
Service Lines	Existing 24" Pipe	76.37	Industrial	0.0150	System	0.0015	0.0150	1.1456	24.00	462.00	2.10	32.87	0.01
Existing 24" Pipe	Existing 36" Pipe	229.63	Industrial	0.0110	System	0.0015	0.0125	2.8704	36.00	500.00	1.53	82.72	0.01

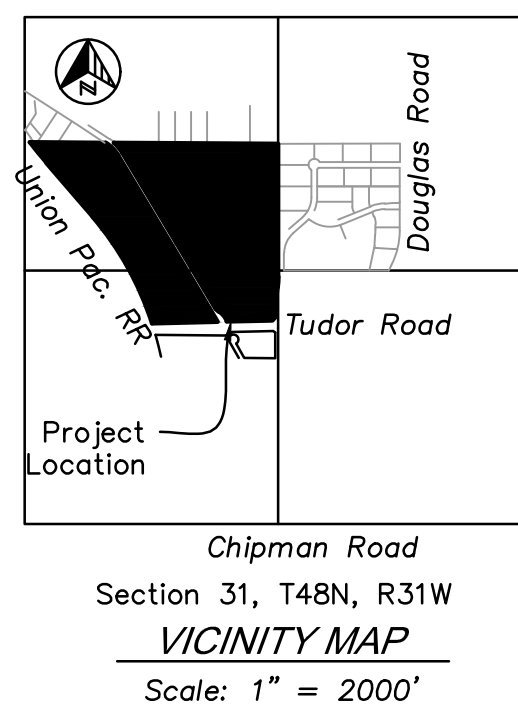
CAPACITY / FLOW SUMMARY TABLE							
Upstream Manhole	Minimum Slope %	Pipe Size In	Capacity (cfs)	Calculated Total Q (cfs)	Max Design Q (cfs)	Calculated Capacity Used (%)	Max Design Capacity Used (%)
Existing 24" Pipe	2.10	24.00	32.87	1.15	1.15	3%	3%
Existing 36" Pipe	1.53	36.00	82.72	2.53	2.87	3%	3%
Max Design Capacity < or = 78% of Pipe Capacity			CHECK OK				

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS SANITARY SEWER MAIN EXTENSION PLANS

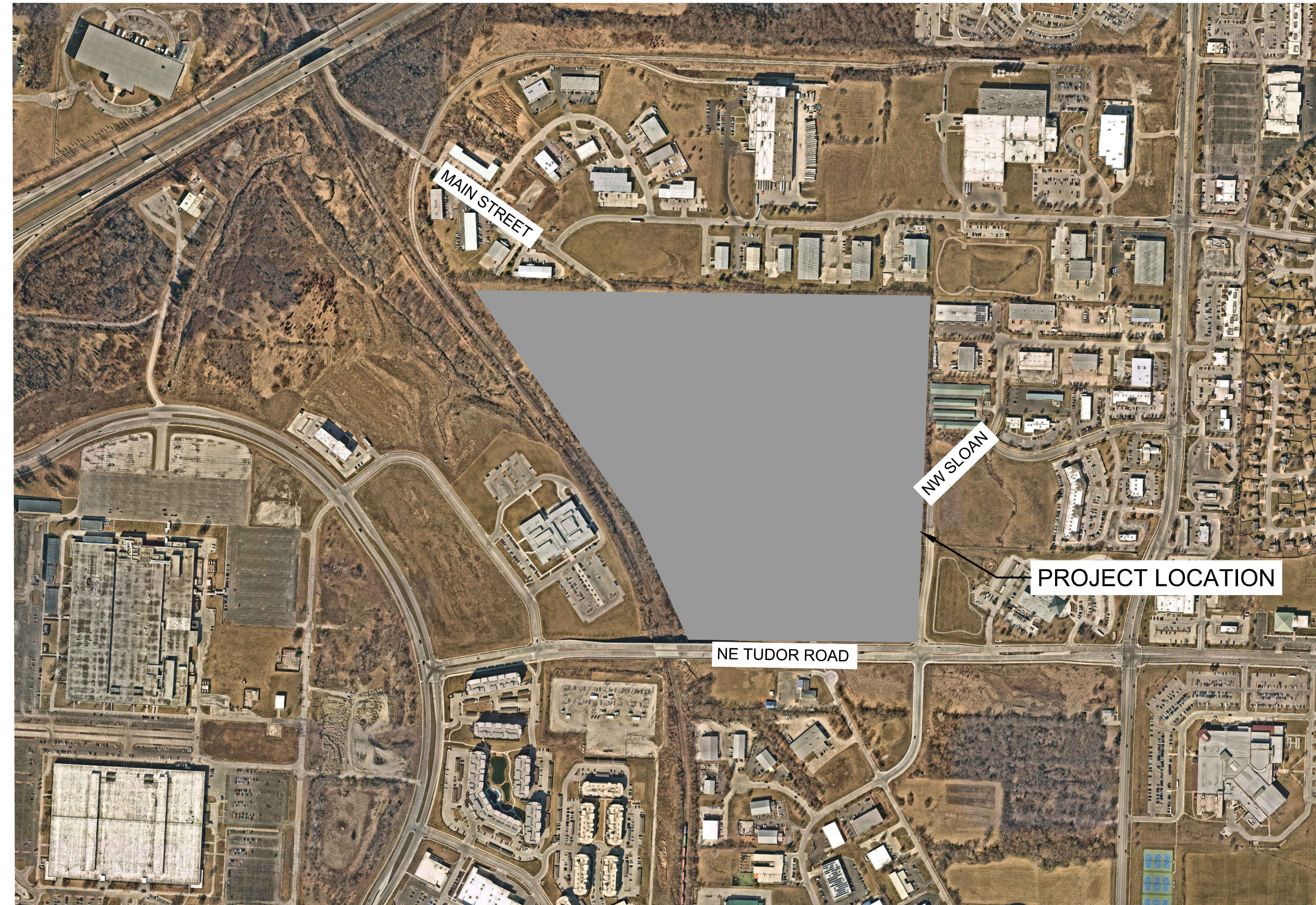
AN UNPLATTED PARCEL IN THE WEST HALF OF
SECTION 31, TOWNSHIP 48 NORTH, RANGE 31 WEST,
IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

UTILITY AND GOVERNING AGENCY CONTACT INFORMATION	
CITY OF LEE'S SUMMIT, MO	
CITY OF LEE'S SUMMIT: CITY HALL	220 SE GREEN STREET LEE'S SUMMIT, MO 64063 PH: 816-969-1200
LEE'S SUMMIT DEVELOPMENT SERVICES:	220 SE GREEN STREET LEE'S SUMMIT, MO 64063 PH: 816-969-1800
LEE'S SUMMIT PUBLIC WORKS:	220 SE GREEN STREET LEE'S SUMMIT, MO 64063 PH: 816-969-1800
LEE'S SUMMIT UTILITIES SERVICE CENTER:	1200 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64081 PH: 816-969-1900
LEE'S SUMMIT R-7 SCHOOL DISTRICT	KINZIE WOODERSON 301 NE TUDOR ROAD LEE'S SUMMIT, MO 64086 PH: 816-986-1050 KINZIE.WOODERSON@LRS7.NET
CABLE/FIBER/TELEPHONE SERVICE	
AT&T	RON GIFFERT 500 E. 8TH STREET, ROOM 1146 KANSAS CITY, MO 64106 PH: 816-275-1550 EMAIL:RG7910@ATT.COM
CONSOLIDATED COMMUNICATIONS	JOHN CASTILOW 14859 W. 95TH STREET LENEXA, KS 66215 PH: 913-322-9785 EMAIL:JOHNCASTILOW@CONSOLIDATED.COM
GOOGLE FIBER	LAUREN MARCUCCI 1814 WESTPORT ROAD KANSAS CITY, MO 64111 PH: 913-663-1900 EMAIL:LMARCUCCI@GOOGLE.COM
CHARTER/SPECTRUM	TROY PREWITT 8221 W. 119TH STREET OVERLAND PARK, KS 66213 PH: 816-401-3573 EMAIL:TROY.PREWITT@CHARTER.COM
ELECTRIC SERVICE	
EVERGY	JEFF R. WILLIAMS - ENGINEER CENTRAL DIVISION 401 SE BAILEY ROAD LEE'S SUMMIT, MO 64081 PH: 816-347-4310 EMAIL:JEFF.WILLIAMS@KCPL.COM
GAS SERVICE	
SPIRE GAS	RICHARD FROCK 3025 SE CLOVER DRIVE LEE'S SUMMIT, MO 64082 PH: 816-472-3489 EMAIL:RICHARD.FROCK@SPIREENERGY.COM

DEVELOPMENT TEAM CONTACT INFORMATION	
OWNER/DEVELOPER	
SHAUN COFER SCANNELL PROPERTIES #436, LLC	8801 RIVER CROSSING BLVD SUITE 300 INDIANAPOLIS, IN 46240 PH: 317-218-1648 EMAIL:Shaunc@scannellproperties.com
CIVIL ENGINEER	
SETH REECE/LUKE MOORE CJ SHIPWRIGHT, PE OLSSON	7301 W. 133RD STREET SUITE 200 OVERLAND PARK, KS 66213 PH: 913.381.1170 EMAIL:sreece@olsson.com/lmoore@olsson.com EMAIL:cshipwright@olsson.com



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 EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, & OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. CALL 1-800-DIG-RITE.



LOCATION MAP
NOT TO SCALE

PROPERTY DESCRIPTION:

ALL THAT PART OF AN UNPLATTED TRACT OF LAND, TOGETHER WITH ALL THAT PART OF NORTH MAIN STREET RIGHT OF WAY, ALL LYING IN THE WEST HALF OF SECTION 31, TOWNSHIP 48 NORTH, RANGE 31 WEST, LYING IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, DESCRIBED BY PATRICK ETHAN WARD, MO PLS-20050071, OF OLSSON MOLC-366, AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF SECTION 31, TOWNSHIP 48 NORTH, RANGE 31 WEST; THENCE SOUTH 01 DEGREE 59 MINUTES 47 SECONDS WEST, ON THE EAST LINE OF SAID SOUTHWEST QUARTER, A DISTANCE OF 65.98 FEET TO A POINT ON THE WEST LINE OF NW SLOAN STREET RIGHT OF WAY, AS ESTABLISHED IN DOCUMENT 2013E0075031, SAID POINT ALSO LYING ON A NON-TANGENT CURVE; THENCE IN A SOUTHERLY DIRECTION, DEPARTING SAID EAST LINE, ON SAID WEST LINE AND ON A CURVE TO THE RIGHT WHOSE INITIAL TANGENT BEARS SOUTH 02 DEGREES 47 MINUTES 37 SECONDS WEST, HAVING A RADIUS OF 970.00 FEET, THROUGH A CENTRAL ANGLE OF 6 DEGREES 27 MINUTES 07 SECONDS, AN ARC DISTANCE OF 109.23 FEET TO A POINT OF TANGENCY; THENCE SOUTH 09 DEGREES 14 MINUTES 44 SECONDS WEST, CONTINUING ON SAID WEST LINE, A DISTANCE OF 111.80 FEET TO A POINT OF CURVATURE; THENCE IN A SOUTHERLY DIRECTION, CONTINUING ON SAID WEST LINE AND ON A CURVE TO THE LEFT, HAVING A RADIUS OF 1030.00 FEET, THROUGH A CENTRAL ANGLE OF 7 DEGREES 14 MINUTES 57 SECONDS, AN ARC DISTANCE OF 130.32 FEET TO A POINT OF TANGENCY; THENCE SOUTH 01 DEGREE 59 MINUTES 47 SECONDS WEST, CONTINUING ON SAID WEST LINE, A DISTANCE OF 69.49 FEET TO A POINT ON THE NORTH LINE OF NE TUDOR ROAD RIGHT OF WAY, AS ESTABLISHED IN SAID DOCUMENT 2013E0075031; THENCE SOUTH 46 DEGREES 15 MINUTES 48 SECONDS WEST, DEPARTING SAID WEST LINE, ON SAID NORTH LINE, A DISTANCE OF 46.09 FEET TO A POINT; THENCE SOUTH 89 DEGREES 24 MINUTES 16 SECONDS WEST, CONTINUING ON SAID NORTH LINE, AND ON THE NORTH LINE OF NW TUDOR ROAD RIGHT OF WAY, AS ESTABLISHED IN DOCUMENT 2013E0075030, A DISTANCE OF 1249.23 FEET TO A POINT ON THE EAST LINE OF UNION PACIFIC RAILROAD RIGHT OF WAY, AS NOW ESTABLISHED, SAID POINT ALSO LYING ON A NON-TANGENT CURVE; THENCE IN A NORTHERLY AND NORTHWESTERLY DIRECTION, DEPARTING SAID NORTH LINE, ON SAID EAST LINE AND ON A CURVE TO THE LEFT WHOSE INITIAL TANGENT BEARS NORTH 15 DEGREES 46 MINUTES 27 SECONDS WEST, HAVING A RADIUS OF 3203.90 FEET, THROUGH A CENTRAL ANGLE OF 22 DEGREES 48 MINUTES 11 SECONDS, AN ARC DISTANCE OF 1275.12 FEET TO A POINT OF TANGENCY; THENCE NORTH 38 DEGREES 34 MINUTES 39 SECONDS WEST, CONTINUING ON SAID EAST LINE, A DISTANCE OF 738.40 FEET TO A POINT OF CURVATURE; THENCE IN A NORTHWESTERLY DIRECTION, CONTINUING ON SAID EAST LINE AND ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 5981.13 FEET, THROUGH A CENTRAL ANGLE OF 2 DEGREES 39 MINUTES 22 SECONDS, AN ARC DISTANCE OF 277.27 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH HALF OF SAID NORTHWEST QUARTER, SAID POINT ALSO LYING ON A NON-TANGENT LINE; THENCE SOUTH 87 DEGREES 40 MINUTES 30 SECONDS EAST, DEPARTING SAID EAST LINE, ON SAID NORTH LINE, A DISTANCE OF 2581.78 FEET TO THE NORTHEAST CORNER OF SAID SOUTH HALF; THENCE SOUTH 01 DEGREE 53 MINUTES 30 SECONDS WEST, ON SAID EAST LINE OF SAID NORTHWEST QUARTER, A DISTANCE OF 1318.02 FEET TO THE POINT OF BEGINNING, CONTAINING 3,439,837 SQUARE FEET OR 78.9678 ACRES, MORE OR LESS.

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

Colin J. Shipwright
COLIN JENNINGS SHIPWRIGHT, P.E.
CIVIL ENGINEER
MO # PE-2021039302
10/15/2021
DATE

<input type="checkbox"/>	NOT FOR CONSTRUCTION
<input checked="" type="checkbox"/>	REVIEWED FOR CONSTRUCTION

Sheet List Table	
Sheet Number	Sheet Title
SS1.00	TITLE SHEET
SS1.01	GENERAL NOTES
SS2.00	GENERAL LAYOUT PLAN
SS3.00	EXISTING LINE 1 - PLAN & PROFILE
SS3.01	PROPOSED LINE 1 - PLAN & PROFILE
SS3.02	DESIGN TABLES
SS4.00	DETAILS SHEET
SS4.01	DETAILS SHEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TITLE SHEET
SANITARY SEWER MAIN EXTENSION PLANS
SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
FIRST PLAT, LEE'S SUMMIT LOGISTICS
LEE'S SUMMIT, MO
2021

drawn by: _____ CJS
checked by: _____ LVM
approved by: _____ MAP
QA/QC by: _____ MAP
project no.: 021-04157
drawing no. C_SAN_TTL01_02104157
date: 10/01/2021

SHEET
SS1.00

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\GNV\PHASE 1\Sanitary Sewer Main\C_SAN_TTL01_02104157.dwg
 DATE: Oct 13, 2021 12:11pm XREFS: C_SAN_TBLK_02104157 C_XAERIAL_02104157 USER: cshipwright

USER: cshipwright

DWG: F:\2021\04001-04500\021-04157\40-Design\AutocAD\Final Plans\Sheets\GNCV\PHASE 1\Sanitary Sewer Main\C_SAN_TTL01_02104157.dwg

DATE: Oct 13, 2021 12:11pm

REFERENCES: C:\PBASE_02104157 C:\XAERIAL_02104157

GENERAL NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

- 1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY;
A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES.
E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

- 1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

- 1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
4. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

- 1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
A. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

SANITARY SEWER GENERAL NOTES

- 1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEE'S SUMMIT, MISSOURI.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
4. ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.
5. COORDINATES ARE PROVIDED AT THE CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE LID DURING INSTALLATION.
6. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF SANITARY SEWER.
7. SANITARY SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
8. MANHOLE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO 1/2 THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE MANHOLE.
9. PIPE PENETRATIONS SHALL USE GASKETS TO ENSURE WATERTIGHT SEALS.
10. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.
11. SEWER LINE INSPECTIONS AND TESTING MUST BE SCHEDULED A MINIMUM OF TWO FULL BUSINESS DAYS IN ADVANCE. CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT. TESTING SHALL INCLUDE
A. MANDREL TEST OF ALL GRAVITY SEWERS. IF THE MANDREL TEST FAILS ON ANY SECTION OF PIPE, THAT SECTION SHALL BE UNCOVERED AND REPLACED.
B. AIR PRESSURE TEST OF ALL GRAVITY SEWERS.
C. VACUUM TEST OF ALL MANHOLES.
12. REFER TO SHEET SS3.02 FOR SANITARY DESIGN & SEWER LATERAL INFORMATION.
13. ALL SERVICE LINE CONNECTIONS SHALL BE MADE WITH AN 8"x8" PVC WYE, 8"PVC 45° BEND, AND THE APPROPRIATE LENGTH OF 8" PVC LATERAL (UNLESS OTHERWISE SHOWN) AND CAP. SEE DETAIL SHEET SS4.00.
14. MSFE- INDICATES LOWEST FLOOR SERVICEABLE BY PROPOSED SANITARY SEWER.
15. MAXIMUM DEVIATION FROM LATERAL STATION LOCATIONS AS CALLED OUT SHALL BE 2.0' TO AVOID PIPE JOINT.
16. SANITARY LATERALS ARE DESIGNED @ 2.00% SLOPE. IF RISER IS INDICATED, IT IS TO BE AT THE SANITARY MAIN, UNLESS OTHERWISE NOTED.
17. REFER TO CURRENT CITY SPECIFICATIONS FOR MINIMUM PIPE SLOPES.
18. CONTRACTOR MAY BE REQUIRED TO RECONSTRUCT PIPE AND STRUCTURE IF MINIMUM INVERT DROP OR PIPE SLOPE REQUIREMENTS ARE NOT MET.
19. SANITARY STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.
20. GRAVITY SANITARY SEWER AND WATER LINES SHALL BE SEPARATED BY A MINIMUM OF 10' HORIZONTALLY WHEN PARALLEL AND 2' VERTICALLY WHEN CROSSING. WATER LINES SHALL CROSS ABOVE SANITARY SEWERS.

ESTIMATE OF QUANTITIES table with columns: ITEM NO., DESCRIPTION, QUANTITY, UNIT, AS-BUILT QUANTITY, UNIT. Rows include: 1 CONNECT TO EXISTING SANITARY SEWER, 2 10" PVC SDR-26 PIPE (MAIN LINE), 3 STANDARD 4'-0" I.D. MANHOLE (8' DEEP)

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.

olsson logo and contact information: Olsson - Civil Engineering, Missouri Certificate of Authority #001692, 7301 West 133rd Street, Suite 200, Overland Park, KS 66213-4760, TEL 913.381.1170 www.olsson.com



REVISIONS table with columns: REV. NO., DATE, REVISIONS DESCRIPTION, BY

GENERAL NOTES SANITARY SEWER MAIN EXTENSION PLANS, SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS FIRST PLAT, LEE'S SUMMIT LOGISTICS, LEE'S SUMMIT, MO, 2021, drawing no. C_SAN_TTL01_02104157, date: 10/01/2021

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 USER: cshipwright V_XBOUW_01274 C_XBASE_02104157

LEGEND

- PROPERTY LINE
- INTERNAL LOT LINES
- SECTION LINE
- CATV EXISTING CABLE TELEVISION LINES
- FO EXISTING FIBER OPTICS
- TEL EXISTING UNDERGROUND COMMUNICATION LINE
- G EXISTING NATURAL GAS PIPE
- P-OH EXISTING OVERHEAD POWER LINE
- P-UG EXISTING UNDERGROUND POWER LINE
- SS EXISTING SANITARY SEWER
- W EXISTING WATER PIPE
- W PROPOSED WATER PIPE
- FP PROPOSED FIRE PROTECTION LINE
- UGE PROPOSED UNDERGROUND ELECTRIC LINE
- G PROPOSED GAS LINE
- PROPOSED PUBLIC SANITARY SEWER MAIN
- SS PROPOSED SANITARY SEWER SERVICE LINE
- PROPOSED STORM LINE

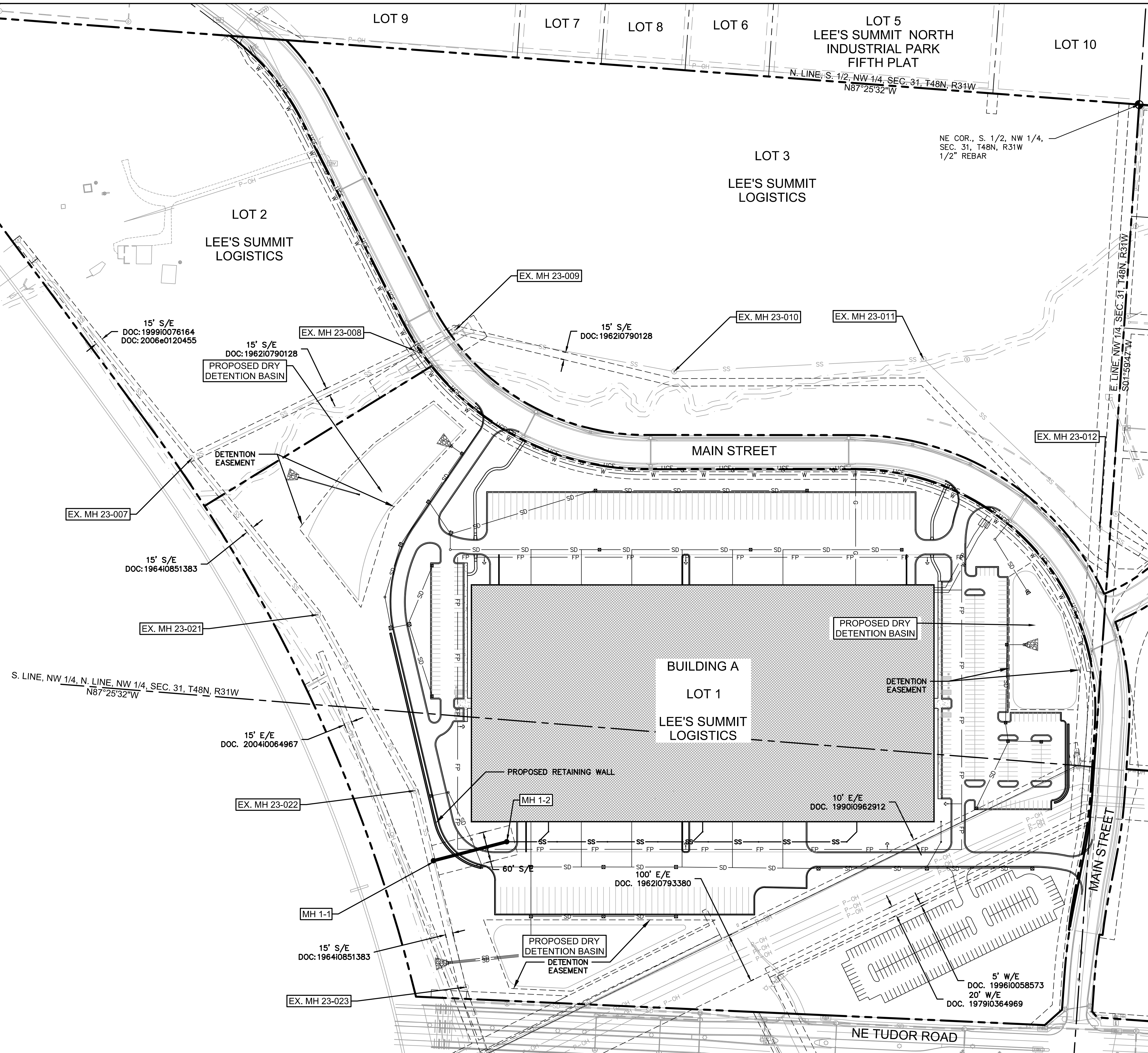
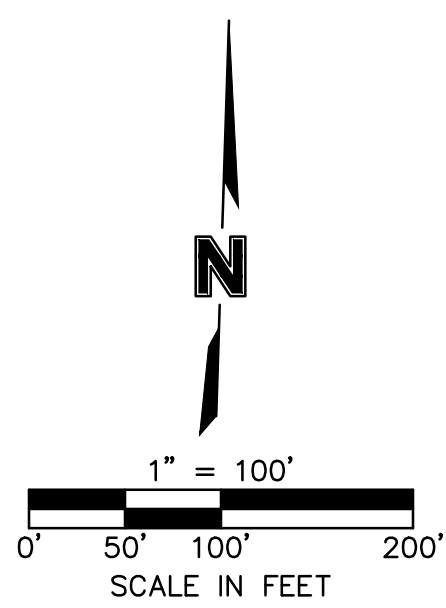
EASEMENT/SETBACK LEGEND

- D/E STORM DRAINAGE EASEMENT
- S/B PROPERTY SETBACK
- S/E SANITARY SEWER EASEMENT
- U/E UTILITY EASEMENT
- E/E ELECTRIC EASEMENT

NOTE

FUTURE IMPROVEMENTS ARE SHOWN FOR REFERENCE ONLY.

Structure Table		
STRUCTURE ID	NORTHING	EASTING
EX. M.H. 23-021	52748.0730	54560.3570
EX. M.H. 23-022	52405.6950	54765.5110
EX. M.H. 23-023	52019.4100	54880.2366
EX. M.H. 23-024	51642.6950	55015.6956
M.H. 1-1	52267.7460	54806.4815
M.H. 1-2	52310.5480	54950.5973



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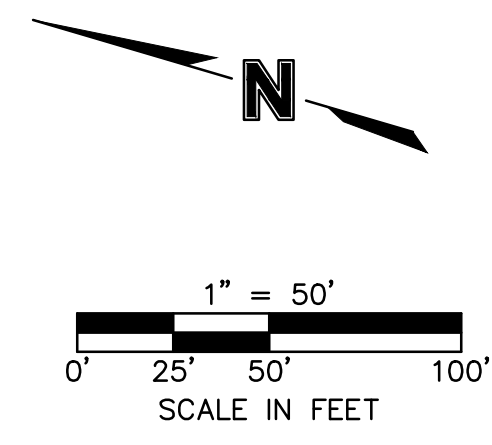
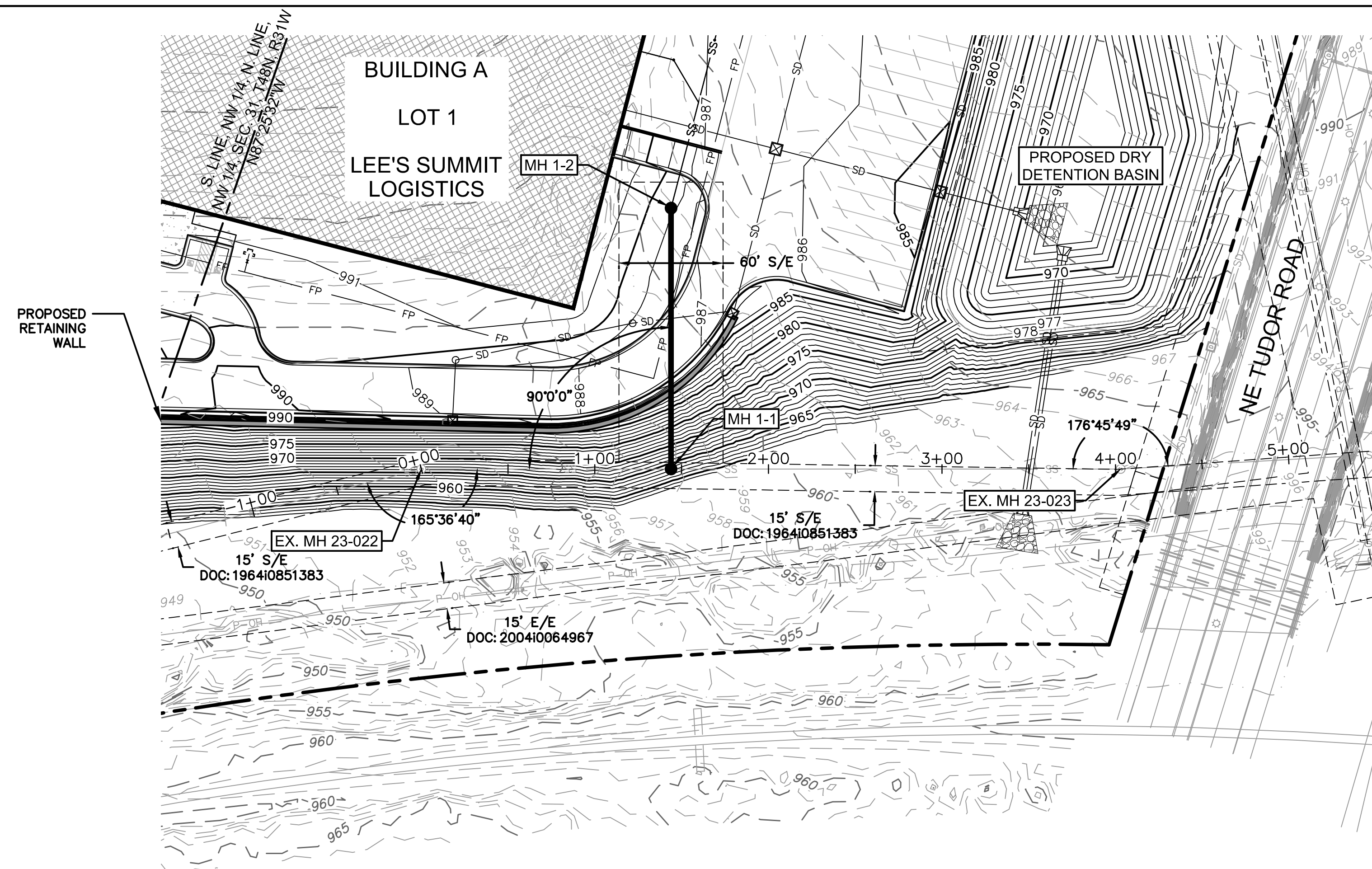


REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GENERAL LAYOUT PLAN
 SANITARY SEWER MAIN EXTENSION PLANS
 SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
 FIRST PLAT, LEE'S SUMMIT LOGISTICS
 LEE'S SUMMIT, MO

drawn by: CJS
 checked by: LVM
 approved by: MAP
 QA/QC by: MAP
 project no.: 021-04157
 drawing no.: SAN_GLP01_02104157
 date: 10/01/2021

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sanitary Sewer Main\CSAN_PL01_02104157.dwg
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 USER: cshipwright C:\XBASE_02104157



LEGEND

	PROPERTY LINE
	EXISTING CONTOUR
	PROPOSED CONTOUR

EASEMENT/SETBACK LEGEND

- D/E STORM DRAINAGE EASEMENT
- S/B PROPERTY SETBACK
- S/E SANITARY SEWER EASEMENT
- U/E UTILITY EASEMENT
- E/E ELECTRIC EASEMENT

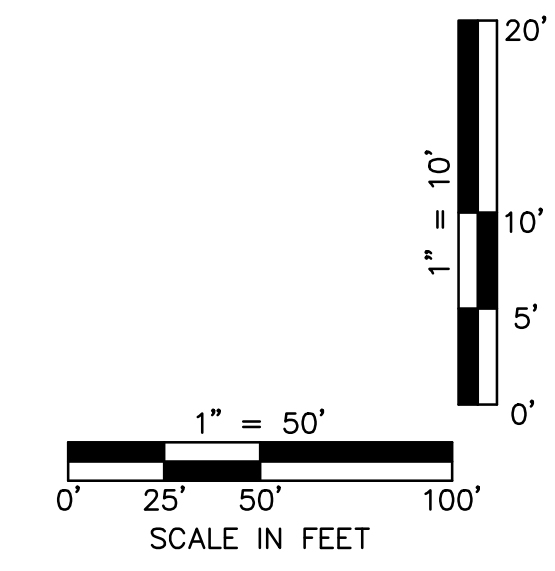
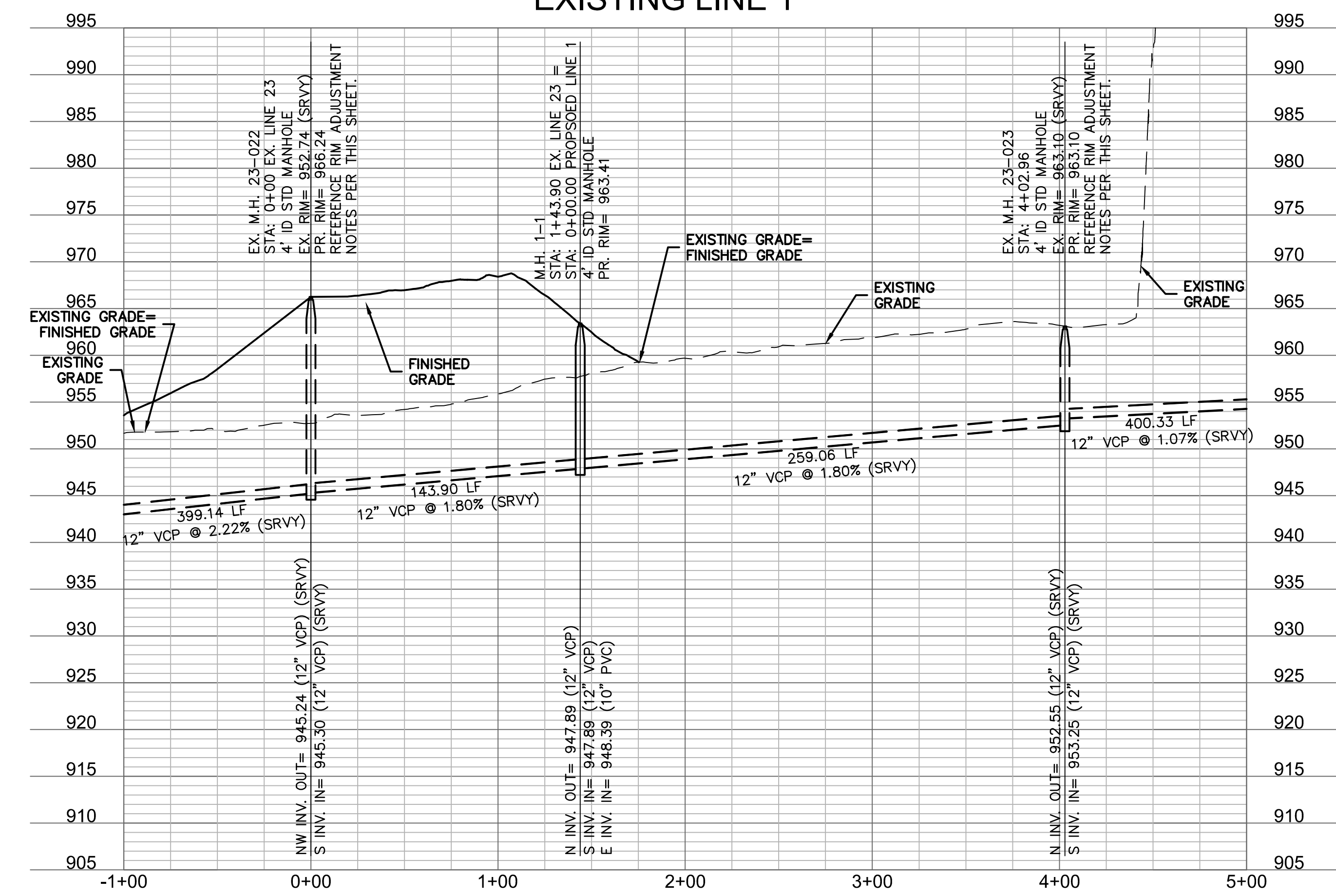
SANITARY SEWER NOTES:

1. ALL SANITARY SEWER SERVICE PIPE SHALL BE PVC SDR-26. SEWER SERVICE LINE W/PUSH ON JOINTS.
2. TEN FEET OF HORIZONTAL SEPARATION AND TWO FEET OF VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN WATER LINES AND THE SANITARY SEWER SERVICE LINE.
3. IN THE EVENT OF WORK IN OR ON THE UG SANITARY MAIN, ANY TREES OR PLANTINGS PLACED WITHIN THE SEWER EASEMENT MAY BE REMOVED WITHOUT REPLACEMENT OR COMPENSATION THERE-OF.
4. FOR VERTICAL RISERS AND ENCASEMENTS, SEE SANITARY SEWER CONNECTION SHEETS.
5. ROOF DRAINS SHALL NOT BE CONNECTED TO THE SANITARY SEWER.
6. REPLACE/ADD BARREL SECTIONS AS REQUIRED TO MEET THE GRADE REQUIREMENTS.
7. MANHOLE STATIONS AND PIPE LENGTHS SHOWN ON PLANS ARE TO THE CENTER OF MANHOLES. DO NOT SCALE DRAWINGS.
8. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY PAVEMENT OR SIDEWALKS DAMAGED DURING THE CONSTRUCTION OF THE SANITARY SEWER MAIN.

RM ADJUSTMENT NOTES:

1. REPLACE/ADD BARREL SECTIONS AS REQUIRED TO MEET THE GRADE REQUIREMENTS.

EXISTING LINE 1



STRUCTURES	
ID	DESCRIPTION
EX. M.H. 23-022 0+00	4' ID STD MANHOLE EXISTING SANITARY SEWER - LINE 1 RIM= 966.24 52405.6950; 54765.5110 INV IN = 945.30 (12" VCP) INV OUT = 945.24 (12" VCP) N: 52405.695; E: 54765.511
EX. M.H. 23-023 4+02.96	4' ID STD MANHOLE EXISTING SANITARY SEWER - LINE 1 RIM= 963.10 52019.4100; 54880.2366 INV IN = 953.25 (12" VCP) INV OUT = 952.55 (12" VCP) N: 52019.410; E: 54880.237
M.H. 1-1 1+43.90	4' ID STD MANHOLE EXISTING SANITARY SEWER - LINE 1 RIM= 963.41 52267.7460; 54806.4815 INV IN = 947.89 (12" VCP) INV IN = 948.39 (10" PVC) INV OUT = 947.89 (12" VCP) N: 52267.746; E: 54806.481

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TEL 913.381.1170 www.olsson.com

STATE OF MISSOURI

COLIN JENNINGS
SHIPWRIGHT
NUMBER
PE-2021039302
10/15/2021

PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

EXISTING LINE 1 - PLAN & PROFILE
SANITARY SEWER MAIN EXTENSION PLANS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
FIRST PLAT, LEE'S SUMMIT LOGISTICS

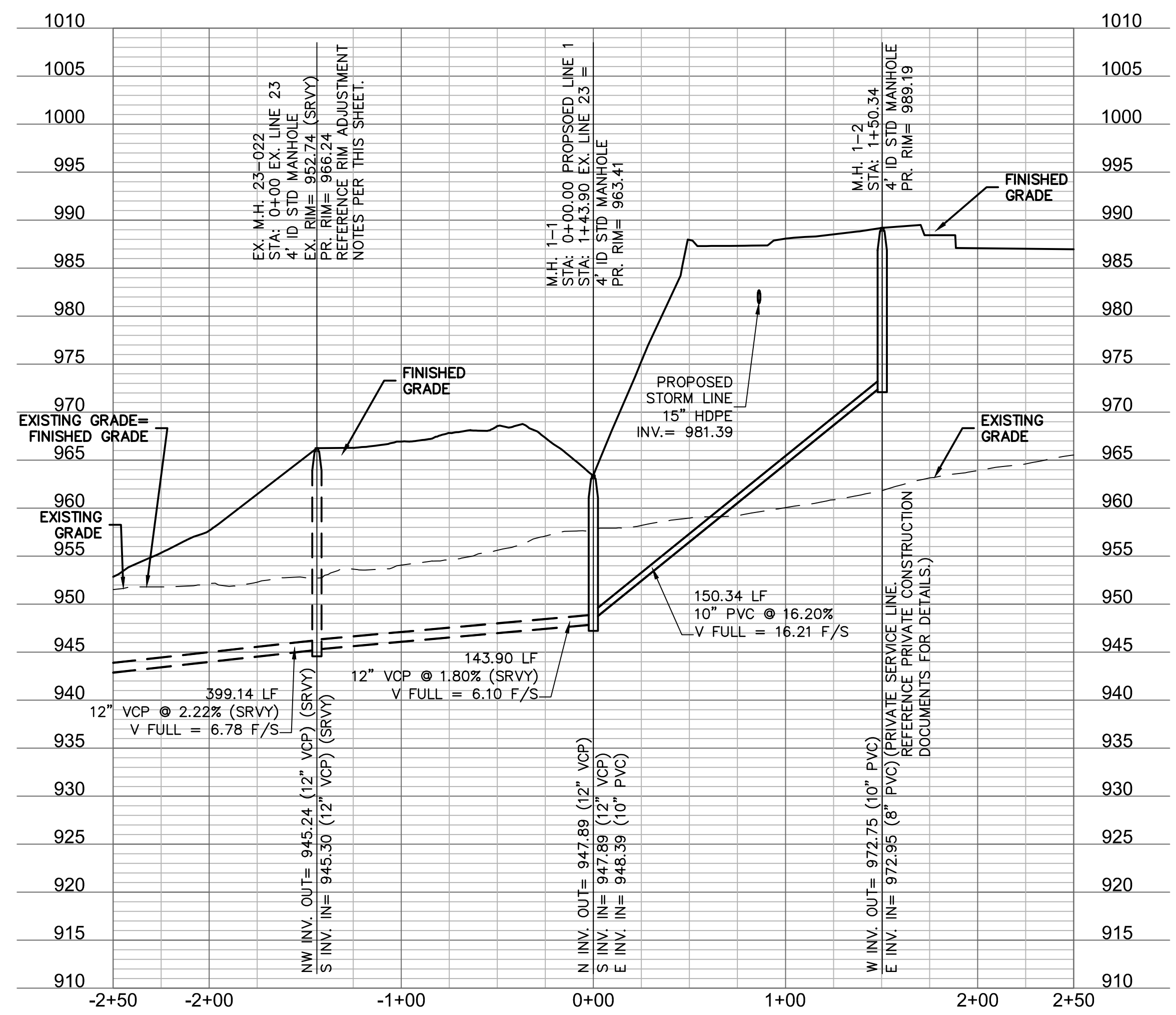
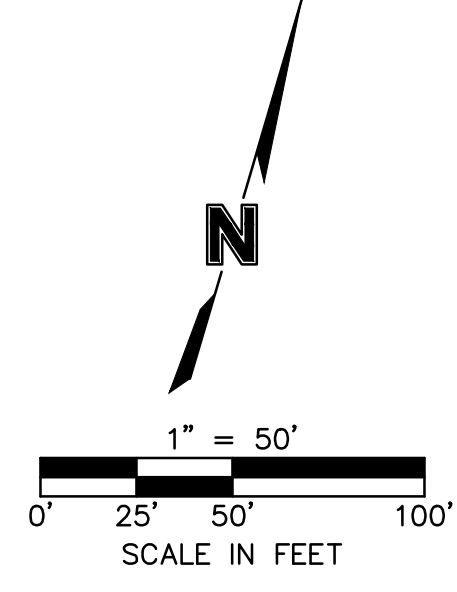
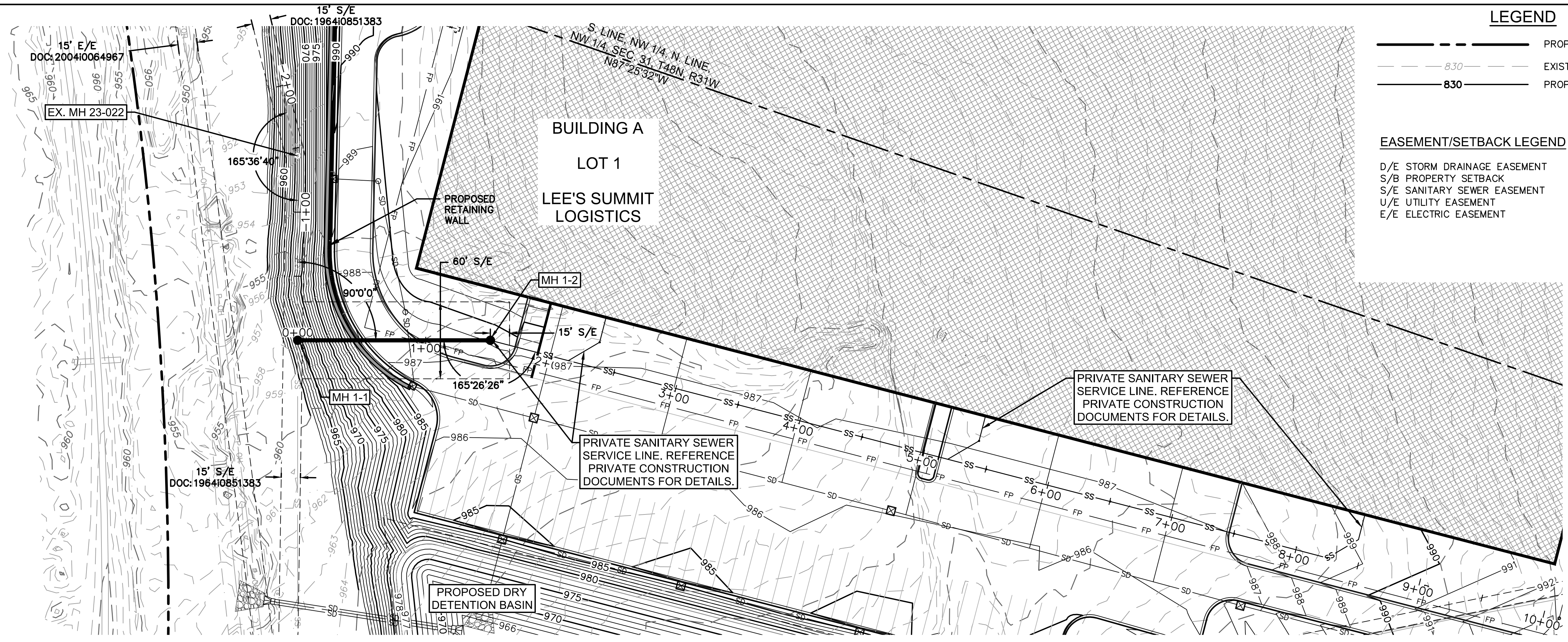
LEE'S SUMMIT, MO

2021

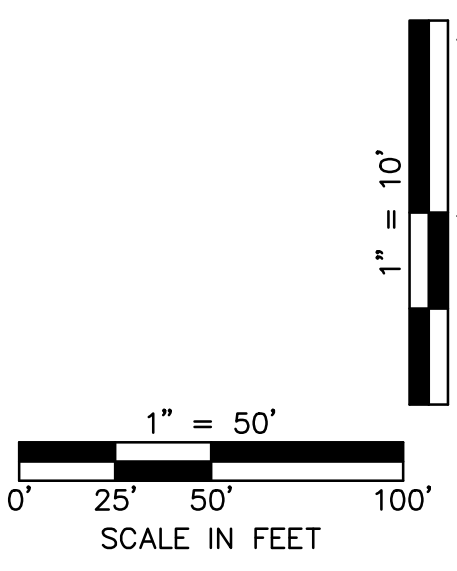
drawn by: CJS
checked by: LWM
approved by: MAP
QA/QC by: MAP
project no.: 021-04157
drawing no.: SAN_PL01_02104157
date: 10/01/2021

SHEET
SS3.00

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\GNCV\PHASE 1\Sanitary Sewer Main\PLP01_02104157.dwg
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 USER: cshipwright C_XBASE_02104157



STRUCTURES	
ID	DESCRIPTION
EX. M.H. 23-022 0+00	4" ID STD MANHOLE EXISTING SANITARY SEWER - LINE 1 RIM= 966.24 52405.6950; 54765.5110 INV IN = 945.30 (12" VCP) INV OUT = 945.24 (12" VCP) N: 52405.695; E: 54765.511
M.H. 1-1 1+43.90	4" ID STD MANHOLE EXISTING SANITARY SEWER - LINE 1 RIM= 963.41 52267.7460; 54806.4815 INV IN = 947.89 (12" VCP) INV IN = 948.39 (10" PVC) INV OUT = 947.89 (12" VCP) N: 52267.746; E: 54806.481
M.H. 1-2 1+50.34	4" ID STD MANHOLE PROPOSED SANITARY SEWER - LINE 1 RIM= 989.19 52310.5480; 54950.5973 INV IN = 972.95 (8" PVC) INV OUT = 972.75 (10" PVC) N: 52310.548; E: 54950.597



- SANITARY SEWER NOTES:**
- ALL SANITARY SEWER SERVICE PIPE SHALL BE PVC SDR-26. SEWER SERVICE LINE W/PUSH ON JOINTS.
 - TEN FEET OF HORIZONTAL SEPARATION AND TWO FEET OF VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN WATER LINES AND THE SANITARY SEWER SERVICE LINE.
 - IN THE EVENT OF WORK IN OR ON THE UG SANITARY MAIN, ANY TREES OR PLANTINGS PLACED WITHIN THE SEWER EASEMENT MAY BE REMOVED WITHOUT REPLACEMENT OR COMPENSATION THERE-OF.
 - FOR VERTICAL RISERS AND ENCASEMENTS, SEE SANITARY SEWER CONNECTION SHEETS.
 - ROOF DRAINS SHALL NOT BE CONNECTED TO THE SANITARY SEWER.
 - REPLACE/ADD BARREL SECTIONS AS REQUIRED TO MEET THE GRADE REQUIREMENTS.
 - MANHOLE STATIONS AND PIPE LENGTHS SHOWN ON PLANS ARE TO THE CENTER OF MANHOLES. DO NOT SCALE DRAWINGS.
 - CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY PAVEMENT OR SIDEWALKS DAMAGED DURING THE CONSTRUCTION OF THE SANITARY SEWER MAIN.
- RIM ADJUSTMENT NOTES:**
- REPLACE/ADD BARREL SECTIONS AS REQUIRED TO MEET THE GRADE REQUIREMENTS.

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROPOSED LINE 1 - PLAN & PROFILE
 SANITARY SEWER MAIN EXTENSION PLANS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
 FIRST PLAT, LEE'S SUMMIT LOGISTICS

2021

drawn by: CJS
 checked by: LVM
 approved by: MAP
 QA/QC by: MAP
 project no.: 021-04157
 drawing no.: SAN_PLP01_02104157
 date: 10/01/2021

SHEET
SS3.01

Sanitary Sewer Design Information											
Upstream Manhole	Downstream Pipe Slope (%)	Downstream Pipe Diameter (in)	Proposed Cumulative Area (Ac.)	Future Cumulative Area (Ac.)	Peak Base Flow 50-Year Design (gpd)	Peak Infiltration Flow 50-Year Design (gpd)	Peak Inflow 50-Year Design (cfs)	Total Peak Flow (cfs)	Downstream Pipe Mannings N	Downstream Pipe Capacity (cfs)	Downstream Pipe Full Flow Velocity (fps)
EX MH 23-022	1.80%	12	304.38	0.00	456570.00	152190.000	4.007	4.949	0.014	4.44	5.65
MH 1-1	16.20%	10	39.38	0.00	59070.00	19690.000	0.948	1.070	0.014	8.19	15.01

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BY

REVISIONS DESCRIPTION

DATE

REV. NO.

DESIGN TABLES
 SANITARY SEWER MAIN EXTENSION PLANS

SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
 FIRST PLAT, LEE'S SUMMIT LOGISTICS

LEE'S SUMMIT, MO 2021

REVISIONS

drawn by: CJS
 checked by: LVM
 approved by: MAP
 QA/QC by: MAP
 project no.: 021-04157
 drawing no. C_SAN_TTL01_02104157
 date: 10/01/2021

SHEET
 SS3.02

USER: cshipwright

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 C_PBASE_02104157
 C_XAERIAL_02104157

STANDARD INSTALLATION
NOT TO SCALE

VERTICAL RISER
NOT TO SCALE

NOTES:

- ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHICHEVER IS GREATER. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
- IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
- 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.
- SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
- #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.
- FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
- TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
- 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.

Date: 12/2015
 Drawn By: MIF
 Checked By: DL
SAN-1

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64663

STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB
MATCHING COVER: LS101B

Date: 09/16/04
 Drawn By: JN
 Checked By:
 FILE: SANITARY SEWER-1
 Rev: 01/04/07
 Rev: 1/13

CITY OF LEE'S SUMMIT, MO
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
STANDARD 24" MANHOLE FRAME

STANDARD SANITARY PRECAST MANHOLE

NOTES:

- PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
- A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THAN 15'.
- WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
- ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
- REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
- REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

Date: 12/2015
 Drawn By: SC
 Checked By: DL
SAN-2

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64663

STANDARD 24" MANHOLE COVER
LEE'S SUMMIT PART NO.: LS101B
MINIMUM WEIGHT = 160 LB
MATCHING FRAME: LS101A
NOTE: PICK HOLES NOT SHOWN

Date: 09/16/04
 Drawn By: JN
 Checked By:
 FILE: SANITARY SEWER-2
 Rev: 04/05/07
 Rev: 12/12

CITY OF LEE'S SUMMIT, MO
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
STANDARD 24" MANHOLE COVER

MANHOLE WALL CONNECTION

Date: 02/2013
 Drawn By: MIF
 Checked By: DL
SAN-5

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64663

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 Overland Park, KS 66213-4750
 TEL 913.381.1170
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REV. NO.	DATE	REVISIONS DESCRIPTION

DETAILS SHEET
 SANITARY SEWER MAIN EXTENSION PLANS
 SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
 FIRST PLAT, LEE'S SUMMIT LOGISTICS
 LEE'S SUMMIT, MO

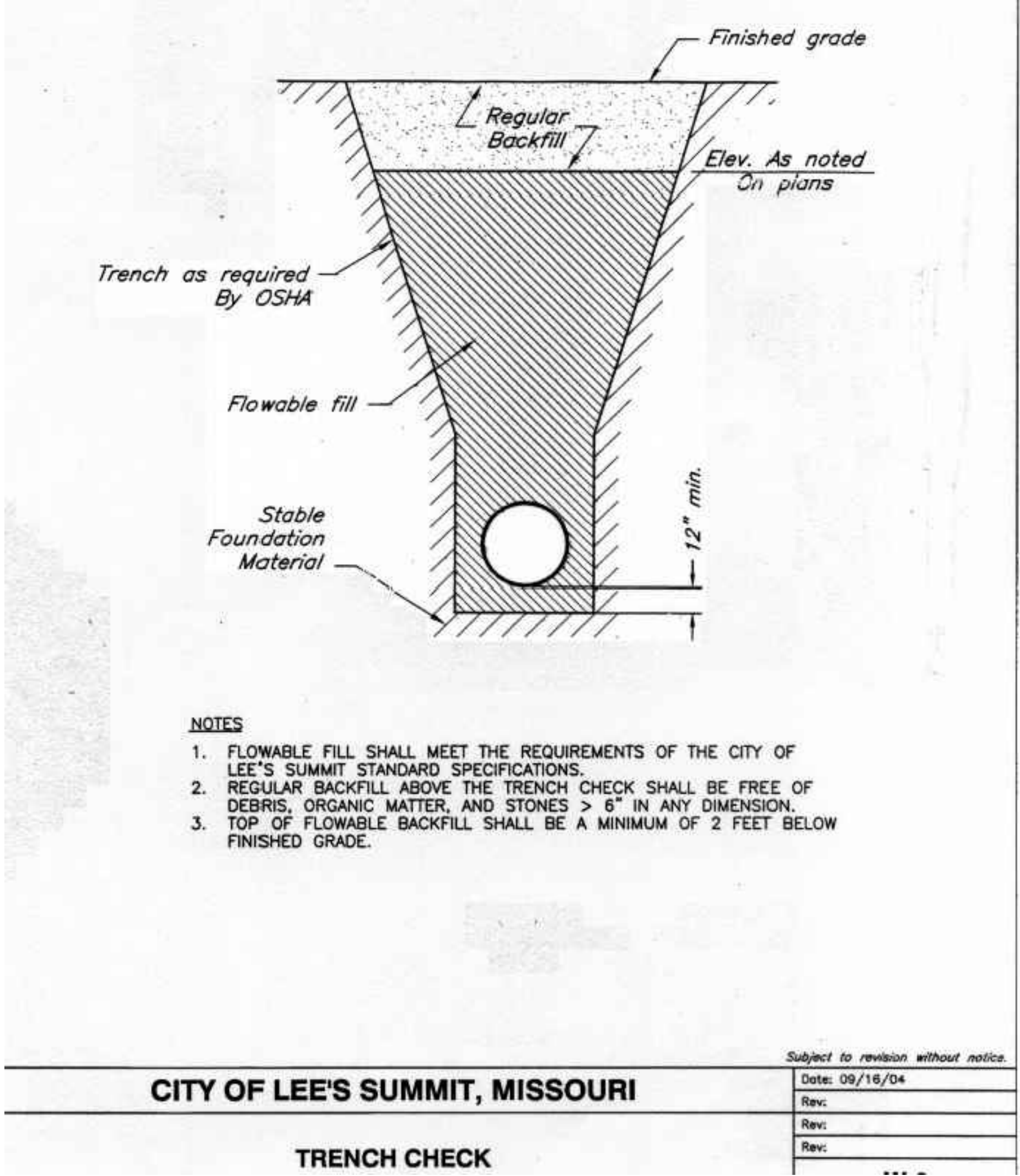
REVISIONS

2021

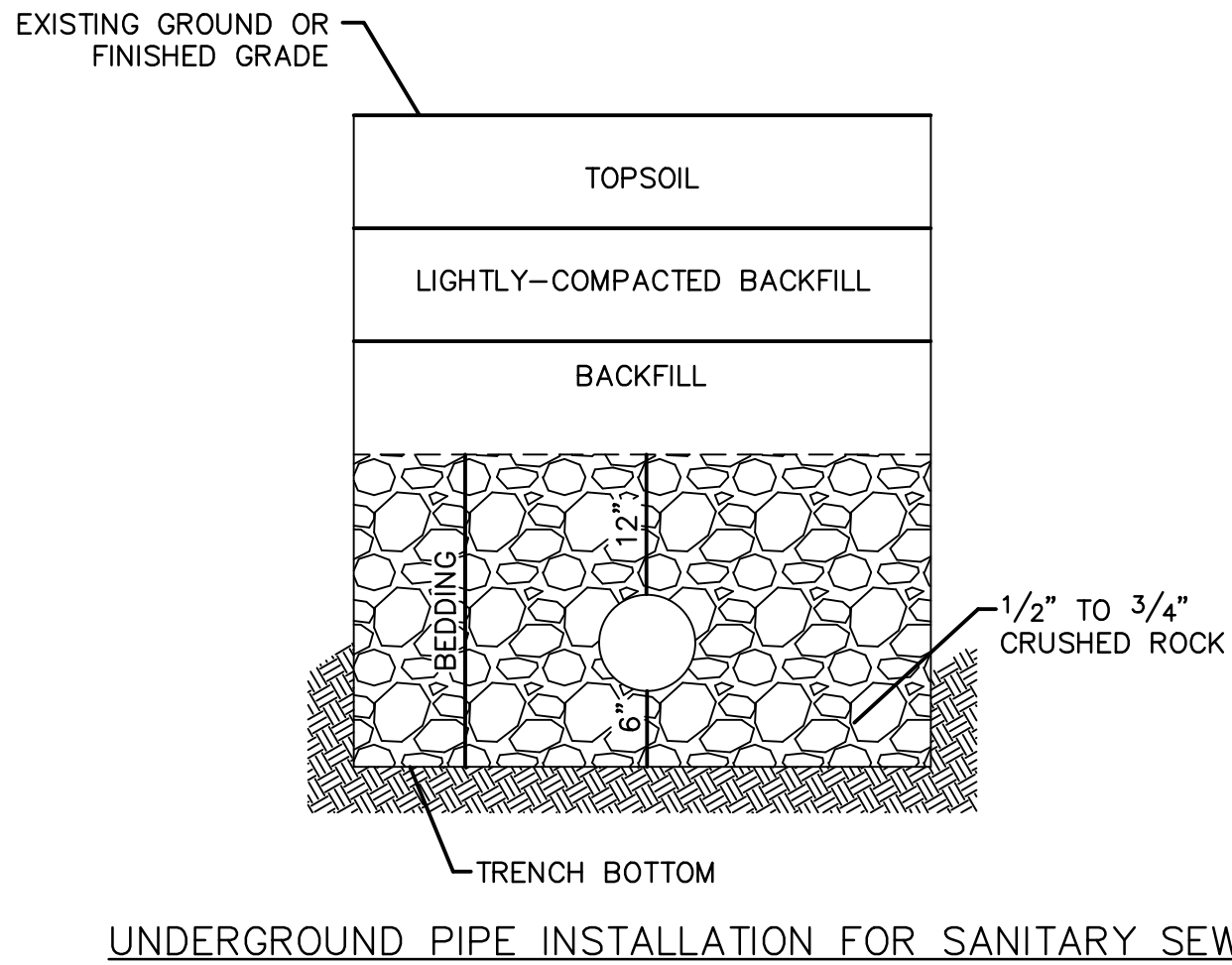
drawn by: CJS
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SHEET
SS4.00

DWG: F:\2021\04001-04500\021-04157\40-Design\AutoCAD\Final Plans\Sheets\GNCV\PHASE 1\Sanitary Sewer Main\C_SAN_TTL01_02104157.dwg
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CITY OF LEE'S SUMMIT, MISSOURI
TRENCH CHECK



- 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 MATERIAL SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL. BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL 12 INCHES ABOVE THE TOP OF THE PIPE.
 3. BACKFILL MATERIAL AND PLACEMENT SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL.
 4. TRENCHING SHALL BE IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
 5. MINIMUM AND MAXIMUM TRENCH WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DETAILS SHEET
 SANITARY SEWER MAIN EXTENSION PLANS
 SCANNELL DEVELOPMENT LEE'S SUMMIT LOGISTICS
 FIRST PLAT, LEE'S SUMMIT LOGISTICS
 LEE'S SUMMIT, MO
 2021

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