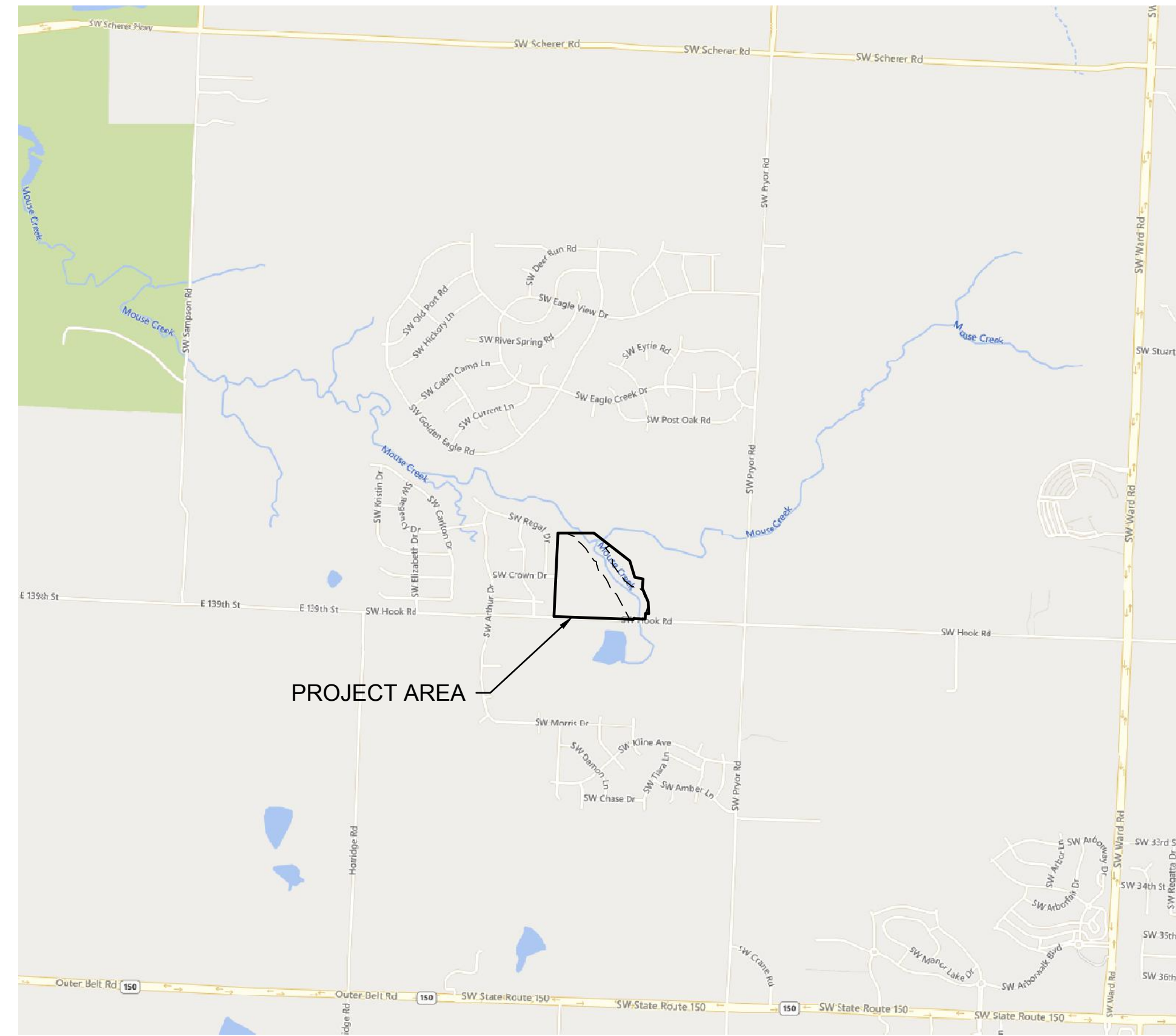
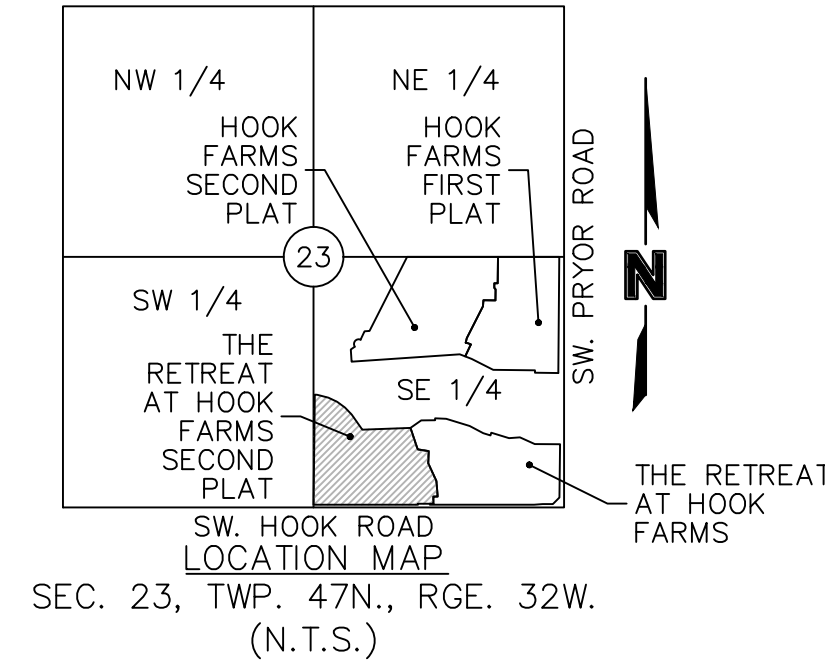


# THE RETREAT AT HOOK FARMS SECOND PLAT SANITARY SEWER PLANS

SECTION 23, TOWNSHIP 47 N, RANGE 32 W  
IN LEE'S SUMMIT, JACKSON COUNTY, MO



SHEET LIST	
NUMBER	TITLE
C201	TITLE SHEET
C202	GENERAL NOTES
C203	GENERAL LAYOUT
C204	SANITARY SEWER PLAN & PROFILE (LINE 1)
C205	SANITARY SEWER PLAN & PROFILE (LINE 1)
C206	SANITARY SEWER PLAN & PROFILE (LINE 1)
C207	SANITARY SEWER PLAN & PROFILE (LINE 2)
C208	SANITARY SEWER PLAN & PROFILE (LINE 3)
C209	SANITARY SEWER PLAN & PROFILE (LINE 4)
C210	SANITARY SEWER DESIGN TABLES
C211	DETAIL SHEET
C212	DETAIL SHEET

PROJECT TEAM & UTILITY CONTACT LIST	
<b>OWNER / DEVELOPER</b> HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC. 8300 NE UNDERGROUND DRIVE KANSAS CITY, MO 64161 CONTACT: AARON SCHMIDT PHONE: 816.455.2500	<b>UTILITY SERVICE NUMBERS</b> NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800  NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940  NAME: SPIRE (MGE) PHONE: 314-342-0500  NAME: AT&T PHONE: 800-286-8313  NAME: EVERGY PHONE: 816-471-5275  NAME: SPECTRUM (TWC) PHONE: 877-772-2253  NAME: GOOGLE FIBER PHONE: 877-454-6959
<b>ENGINEER</b> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JULIE E. SELLERS, P.E. PHONE: 816.361.1177 EMAIL: JSSELLERS@OLSSON.COM	
<b>SURVEYOR</b> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH, P.L.S. PHONE: 816.361.1177 EMAIL: JROUDEBOUSH@OLSSON.COM	

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

### PROPERTY DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 23, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED BY OR UNDER THE DIRECT SUPERVISION OF JASON S. ROUDEBUSH, P.L.S. 2002014092 AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 87°58'53" WEST, ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 2,651.35 FEET TO THE SOUTHEAST CORNER OF MONARCH VIEW 1ST PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 98169637 IN BOOK 163 AT PAGE 62 IN JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 02°43'00" EAST, ON THE WEST LINE OF SAID SOUTHEAST QUARTER, ALSO BEING THE EAST LINE OF SAID MONARCH VIEW 1ST PLAT, 30.00 FEET TO THE NORTHWEST CORNER OF SW HOOK ROAD AS ESTABLISHED BY RIGHT-OF-WAY DEED RECORDED AS INSTRUMENT NUMBER 199910077639 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE NORTH 02°43'00" EAST, ON SAID WEST AND EAST LINES, AND ALSO BEING EAST LINE OF MONARCH VIEW 2ND PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT, RECORDED AS INSTRUMENT NUMBER 200010047892 IN BOOK 167 AT PAGE 87 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, 1,163.24 FEET; THENCE LEAVING SAID WEST AND EAST LINES, SOUTH 87°16'25" EAST, 25.54 FEET; THENCE SOUTH 73°15'30" EAST, 121.46 FEET; THENCE SOUTH 62°39'56" EAST, 102.90 FEET; THENCE SOUTH 52°04'22" EAST, 102.90 FEET; THENCE SOUTH 41°28'48" EAST, 102.90 FEET; THENCE SOUTH 33°05'07" EAST, 195.12 FEET; THENCE NORTH 90°00'00" EAST, 510.19 FEET TO A POINT ON THE WESTERLY LINE OF PROPOSED THE RETREAT AT HOOK FARMS; THENCE SOUTH 16°31'39" EAST, ALONG SAID WESTERLY LINE, 238.84 FEET; THENCE SOUTH 78°36'20" EAST, ALONG SAID WESTERLY LINE, 118.51 FEET; THENCE SOUTH 04°39'35" WEST, ALONG SAID WESTERLY LINE, 128.06 FEET; THENCE SOUTH 23°04'06" EAST, ALONG SAID WESTERLY LINE, 206.79 FEET; THENCE SOUTH 02°38'45" EAST, ALONG SAID WESTERLY LINE, 164.78 FEET; THENCE NORTH 87°58'48" WEST, ALONG SAID WESTERLY LINE, 45.85 FEET; THENCE SOUTH 01°54'56" WEST, ALONG SAID WESTERLY LINE, 76.13 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID WESTERLY LINE, 38.61 FEET TO A POINT ON THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SW HOOK ROAD, AS ESTABLISHED BY RIGHT OF WAY DEED RECORDED AS INSTRUMENT NUMBER 2007E0016663 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE LEAVING SAID WESTERLY LINE, CONTINUING NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 125.00 FEET; THENCE SOUTH 02°01'07" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 10.00 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 853.20 FEET TO THE NORTHWEST CORNER OF SAID RIGHT-OF-WAY DEED, ALSO BEING THE NORTHEAST CORNER OF SW HOOK ROAD, AS ESTABLISHED BY SAID RIGHT-OF-WAY DEED INSTRUMENT NUMBER 199910077639; THENCE CONTINUING NORTH 87°58'53" WEST ALONG THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SAID SW HOOK ROAD, 252.00 FEET TO THE POINT OF BEGINNING. CONTAINING 1,085,519 SQUARE FEET OR 24.92 ACRES, MORE OR LESS.

### BENCHMARK

JA-74  
 ELEVATION: 1058.10  
 N: 978461-2779  
 E: 2809447-9650  
 DESCRIPTION: KC METRO ALUMINUM GRS DISK SET IN CONCRETE. THE STATION IS STAMPED JA-74, 1988, AND PROJECTS ABOUT 1 INCH

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

*Julie E. Sellers*  
 JULIE E. SELLERS, P.E.  
 CIVIL ENGINEER  
 MO # PE-2017000367

10/11/22  
 DATE

## AS BUILT

DATE SURVEYED: 2022-06-17

**olsson**

Olsson - Civil Engineering  
 Missouri Certificate of Authority #001592  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
 FAX 816.361.1888  
 www.olsson.com



REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

TITLE SHEET	BY	REVISIONS
SANITARY SEWER PLANS		
THE RETREAT AT HOOK FARMS SECOND PLAT		
LEE'S SUMMIT, MO		2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4056  
 date: 05-05-2021

SHEET  
C201

USER: ssaylor

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\Sanitary Sewer Plans\C\_TTL01\_A194059.dwg  
 DATE: Oct 04, 2022 11:47am  
 XREFS: C\_PTEBLK\_A194059



USER: cwoodward

USER: cwoodward

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Sanitary Sewer Plans\C\_TTL01\_A194059.dwg  
DATE: Oct 11, 2022 3:20pm  
XREFS: C\_PTBK\_A194059 C\_PBNY\_A194059

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 ENCR OACH 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 C210 FOR SANITARY DESIGN & SEWER LATERAL INFORMATION.
13. ALL SERVICE LINE CONNECTIONS SHALL BE MADE WITH AN 8"x4" PVC WYE, 4"PVC 45° BEND, AND THE APPROPRIATE LENGTH OF 4" PVC LATERAL (UNLESS OTHERWISE SHOWN) AND CAP. SEE DETAIL SHEET C211.
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, UNIT, QUANTITY, AS-BUILT. Rows include 8" SANITARY PVC (SDR-26), 8" SANITARY DIP, MANHOLES, STD. 4' DIA., CONNECTION TO EXISTING MANHOLE, TRACER WIRE, TRACER WIRE BOX, SERVICE WYE, 4" LATERAL PIPE.

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 #001592, 1301 Burlington Street, North Kansas City, MO 64116, TEL 816.361.1177, FAX 816.361.1888, www.olsson.com

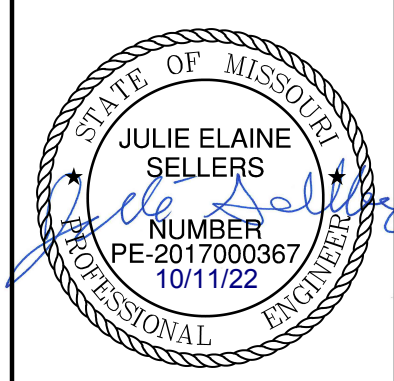


Table with columns: REV. NO., DATE, REVISIONS DESCRIPTION. Includes revision 1 dated 08-26-2021 and revision 2 dated 10-28-2021.

Project title block: GENERAL NOTES SANITARY SEWER PLANS, THE RETREAT AT HOOK FARMS SECOND PLAT, LEE'S SUMMIT, MO, 2021. Includes drawing, checked, designed, QA/QC, project no., and date fields.

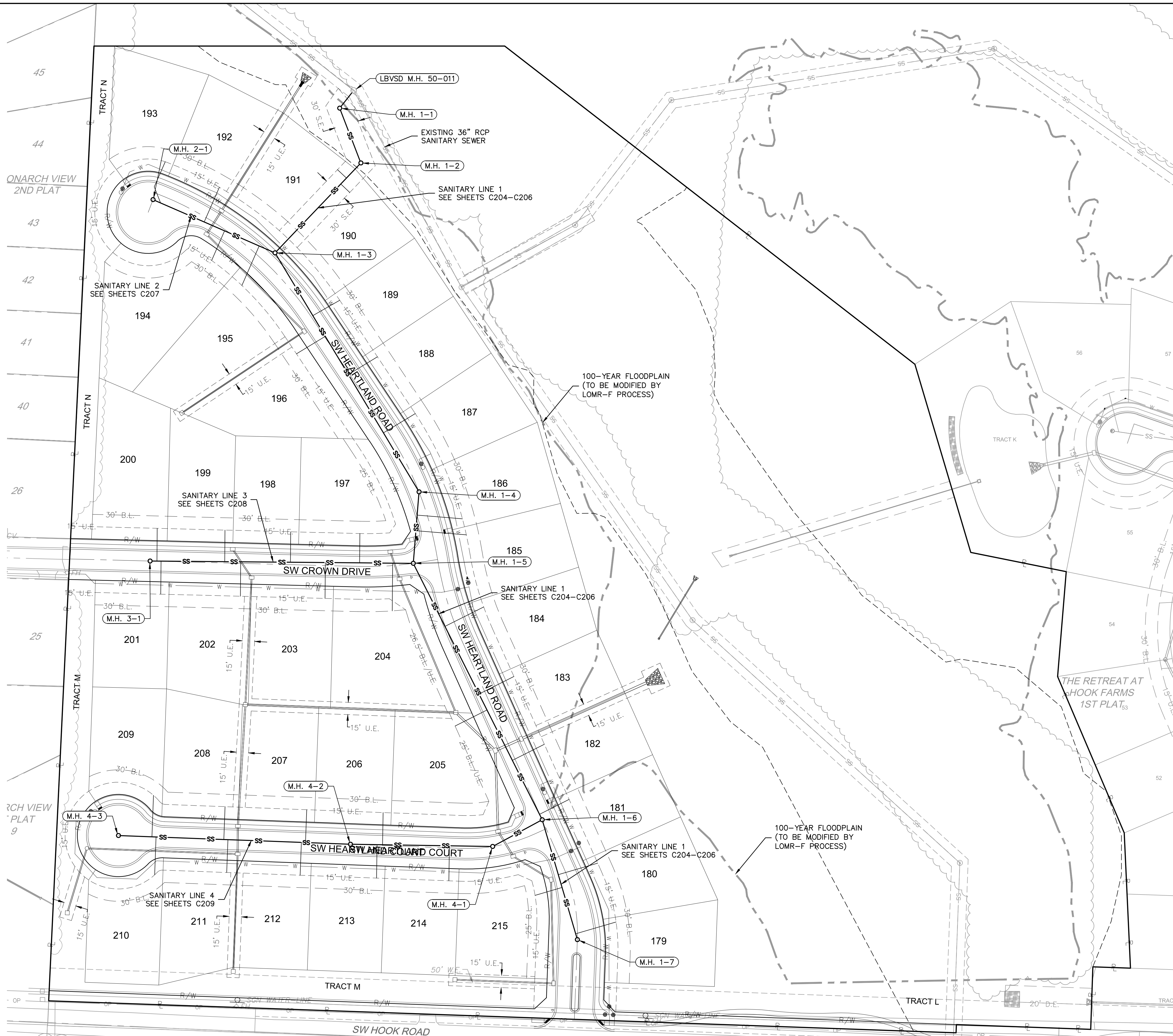
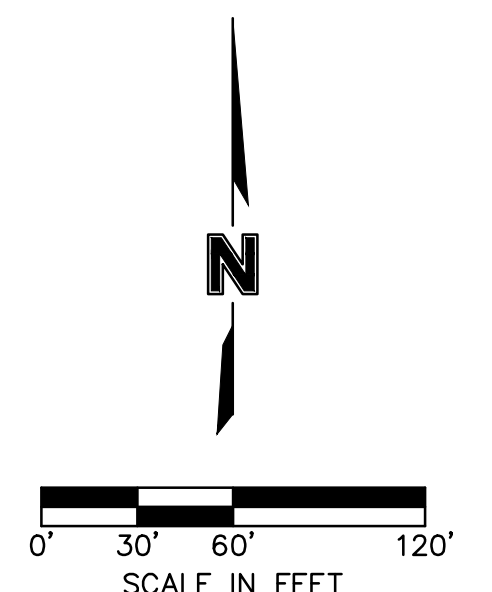
AS BUILT
DATE SURVEYED: 2022-06-17

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Structure Table		
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M.H. 1-2	984863.8620	2810261.0363
M.H. 1-3	984754.4779	2810156.5554
M.H. 1-4	984463.6221	2810331.8659
M.H. 1-5	984376.6574	2810324.8057
M.H. 1-6	984064.5664	2810481.7876
M.H. 1-7	983918.6417	2810524.5714
M.H. 2-1	984819.3161	2810008.0594
M.H. 3-1	984379.4568	2810004.4809
M.H. 4-1	984032.0420	2810421.4259
M.H. 4-2	984034.7893	2810248.3774
M.H. 4-3	984045.3382	2809965.9777

ASBUILT STRUCTURE TABLE		
STRUCTURE ID	NORTHING	EASTING
MH 4-3	984046.3500	2809965.3640
MH 4-2	984033.9170	2810247.7240
MH 4-1	984031.5310	2810421.7080
MH 3-1	984378.9890	2810004.1140
MH 2-1	984820.0280	2810006.4870
MH 1-7	983917.3200	2810524.9120
MH 1-6	984064.9330	2810483.0040
MH 1-5	984376.9470	2810326.0620
MH 1-4	984463.6690	2810332.7320
MH 1-3	984753.6630	2810155.2820
MH 1-2	984865.3570	2810262.3360
MH 1-1	984931.4340	2810234.4530
LBVSD MH 50-011	984952.0350	2810252.0040

**AS BUILT**  
 DATE SURVEYED: 2022-06-17



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STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 PE NUMBER PE-2017000367  
 10/11/22  
 PROFESSIONAL ENGINEER

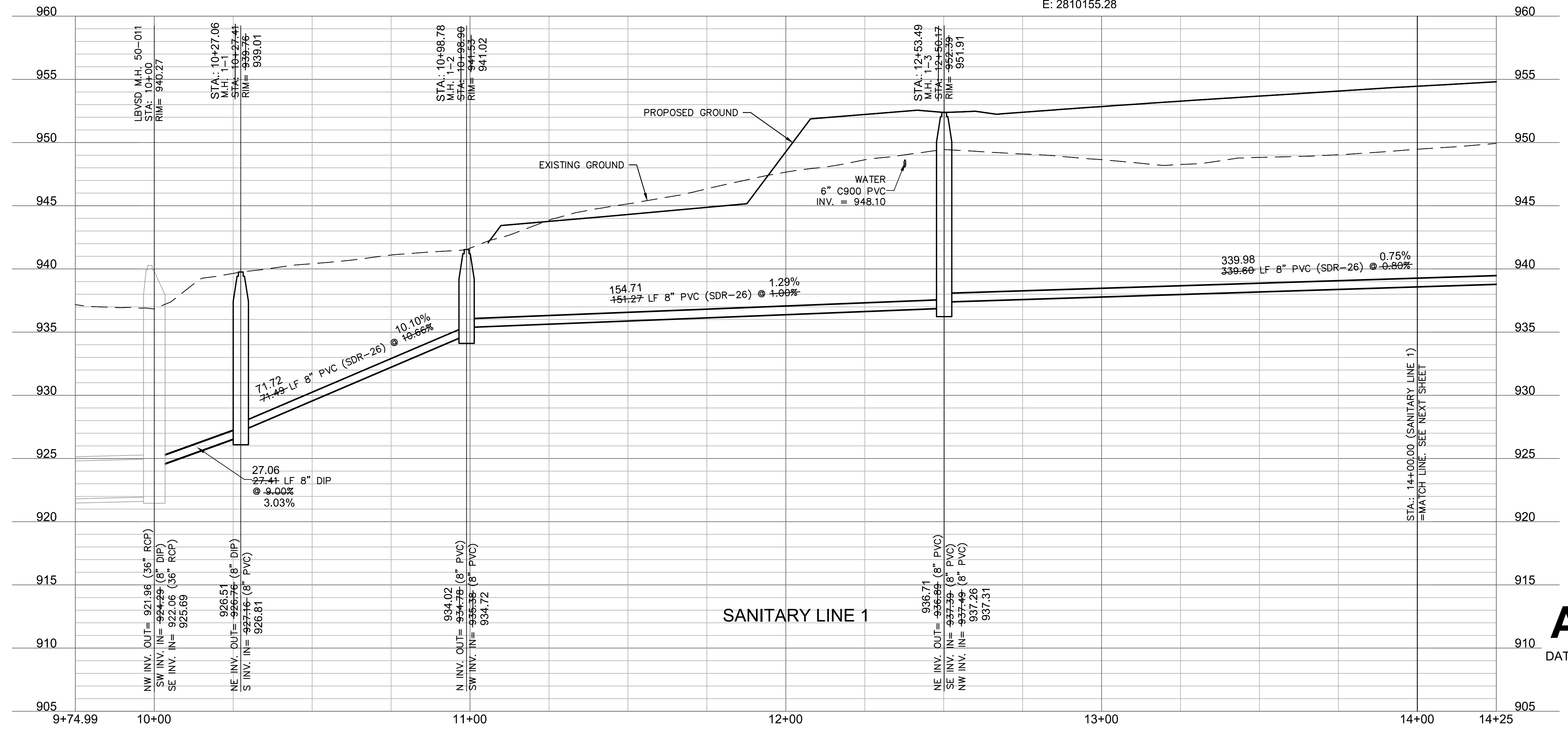
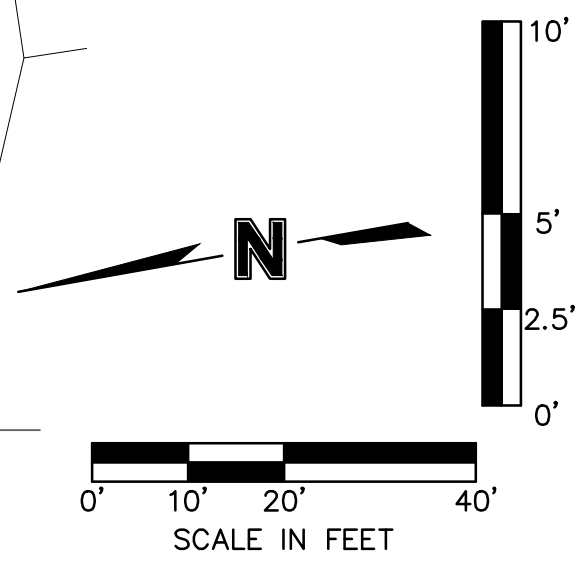
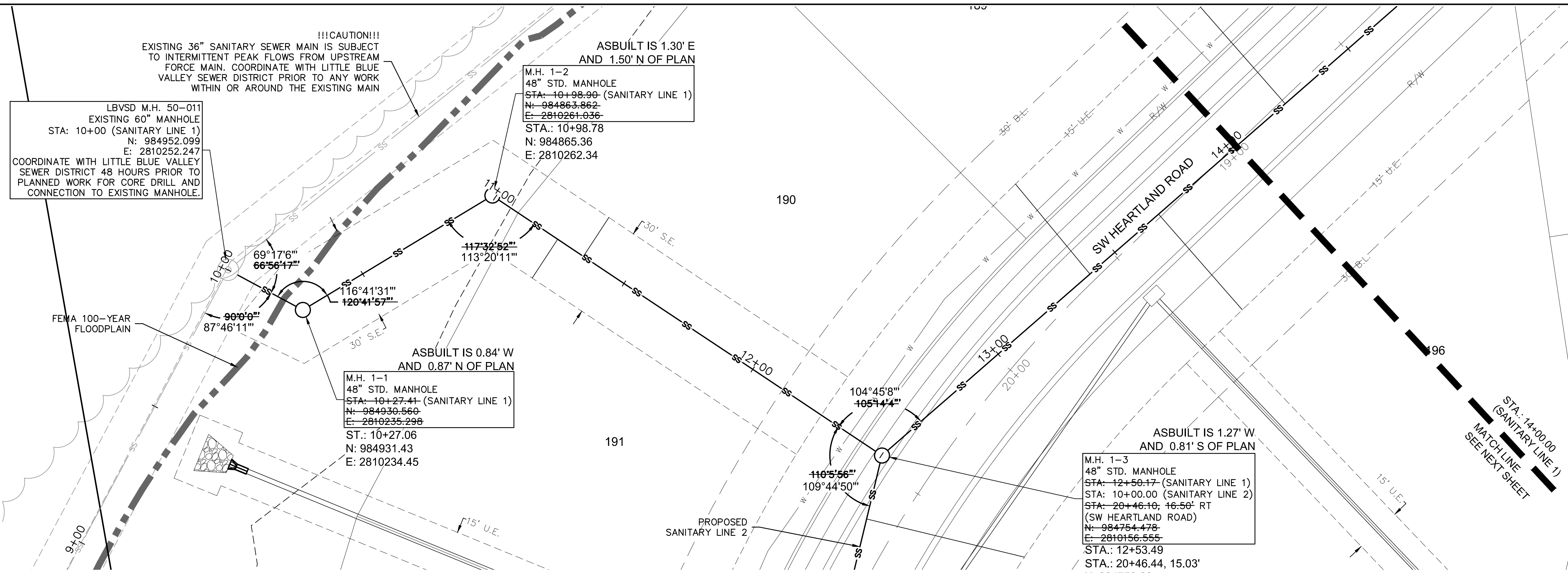
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

GENERAL LAYOUT  
 SANITARY SEWER PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

SHEET  
 C203

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**AS BUILT**  
 DATE SURVEYED: 2022-06-17

Olsson - Civil Engineering  
 Missouri Certificate of Authority #001592  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
 FAX 816.361.1888  
 www.olsson.com

JULIE ELAINE SELLERS  
 PE-2017000367  
 10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-28-2021	REVISED PER CITY COMMENTS

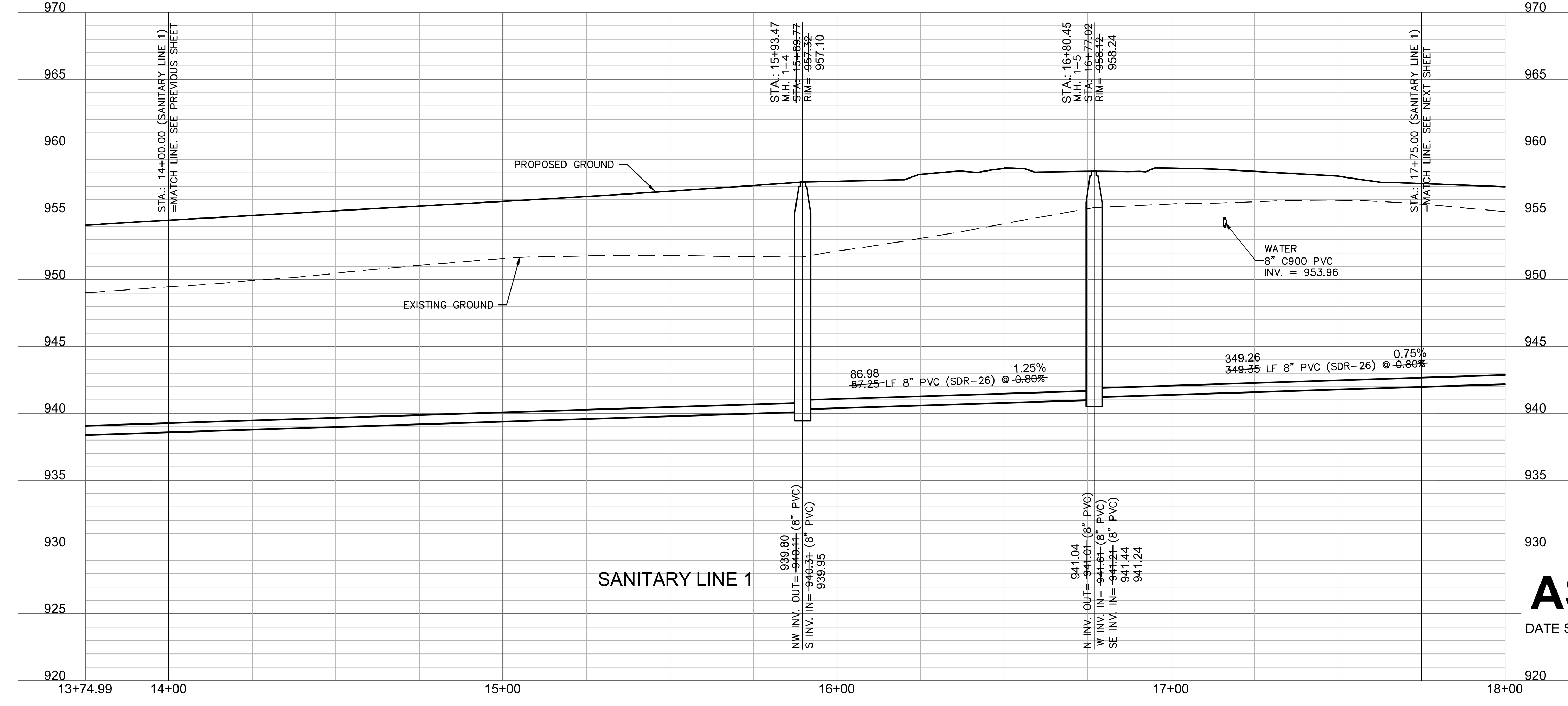
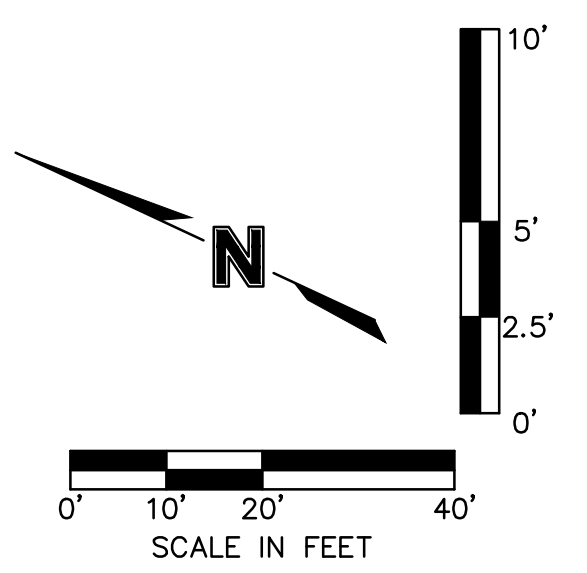
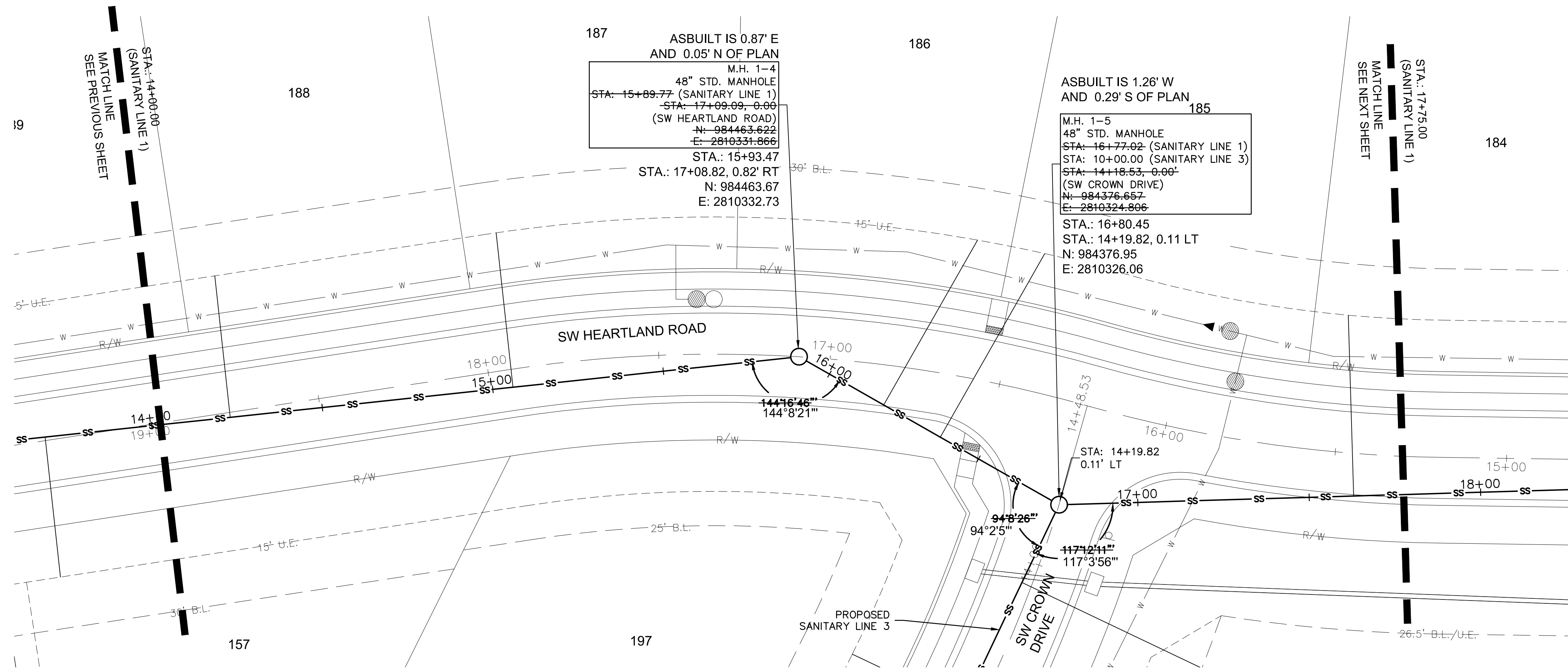
SANITARY SEWER PLAN & PROFILE (LINE 1)  
 SANITARY SEWER PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO

2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

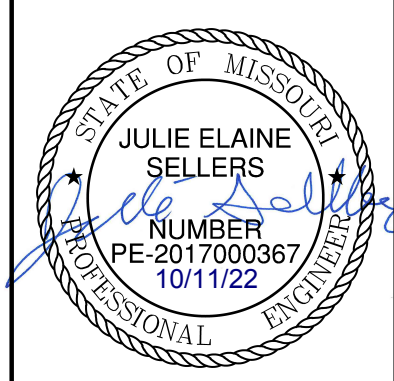
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 DATE: Oct 11, 2022 3:29pm XREFS: C:\XBASE\_A194059 C:\PBASE\_A194059 C:\PSSMR\_A194059 C:\PUTIL\_A194059 C:\PTBLK\_A194059



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 DATE SURVEYED: 2022-06-17

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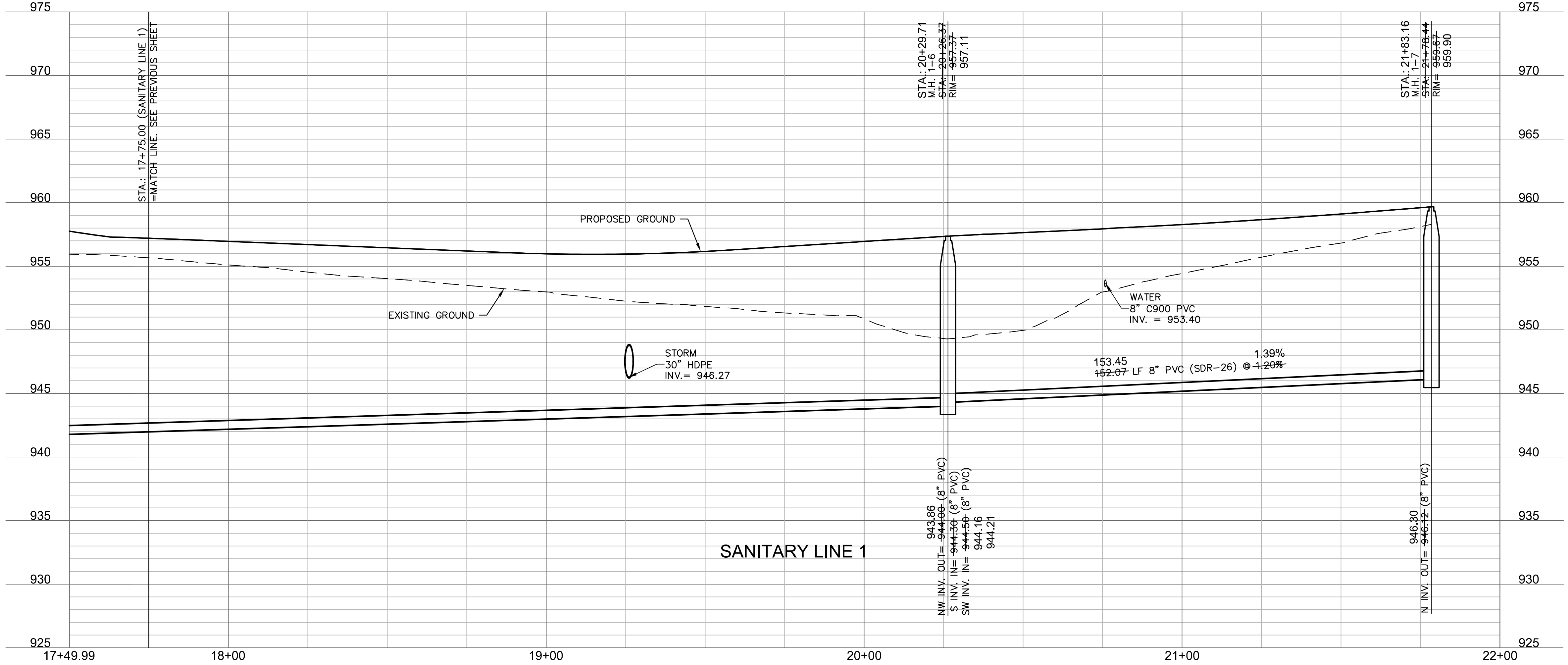
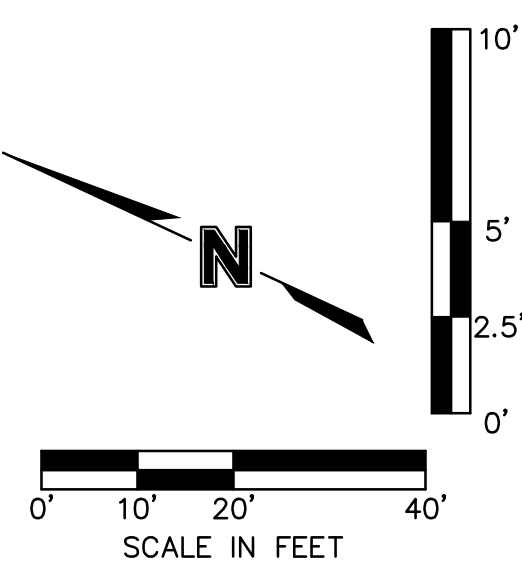
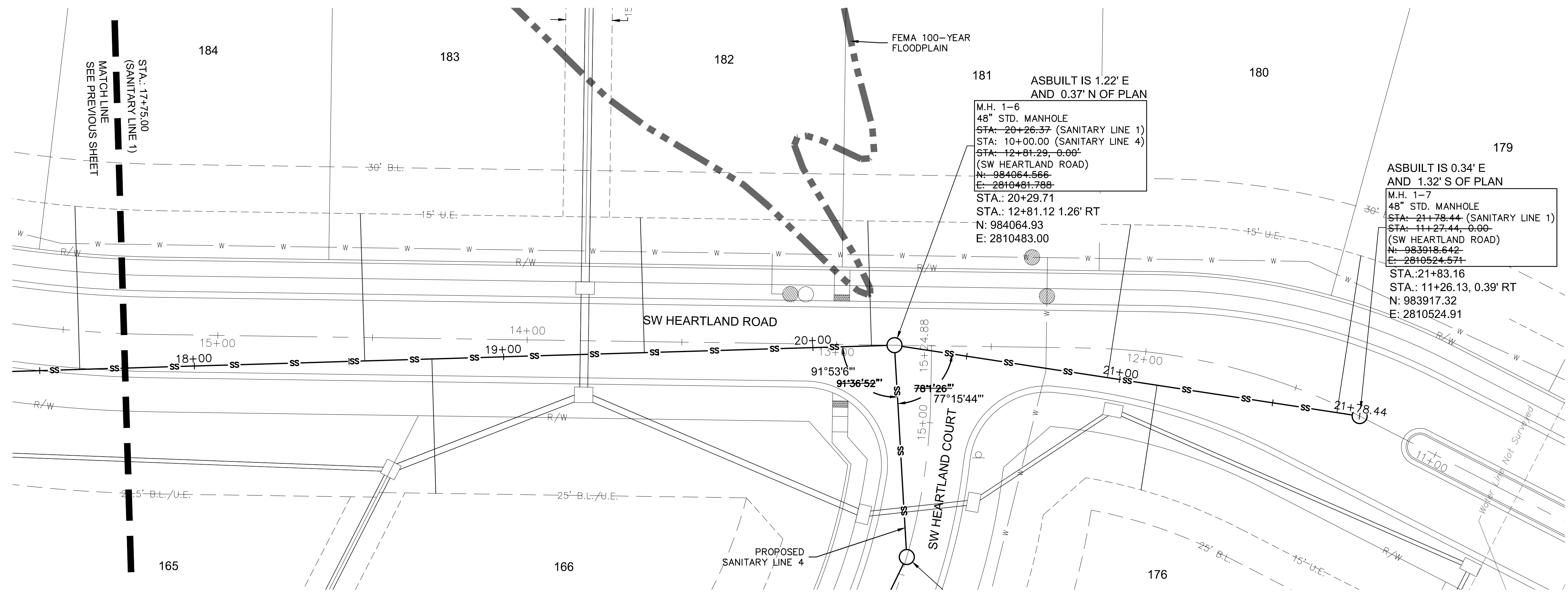
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1	08-28-2021	REVISED PER CITY COMMENTS
2	10-28-2021	REVISED PER CITY COMMENTS

SANITARY SEWER PLAN & PROFILE (LINE 1)		2021
SANITARY SEWER PLANS		
THE RETREAT AT HOOK FARMS SECOND PLAT		2021
LEE'S SUMMIT, MO		

SHEET  
 C205

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Sanitary Sewer Plans\VC\_SAN01\_A194059.dwg USER: cwoodward  
 DATE: Oct 11, 2022 3:30pm XREFS: C:\BASE\_A194059 C:\PBASE\_A194059 C:\PUTIL\_A194059 C:\PTBLK\_A194059



**AS BUILT**

DATE SURVEYED: 2022-06-17

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JULIE ELAINE SELLERS  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2017000367  
 10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

SANITARY SEWER PLAN & PROFILE (LINE 1)  
 SANITARY SEWER PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

2021

REVISIONS

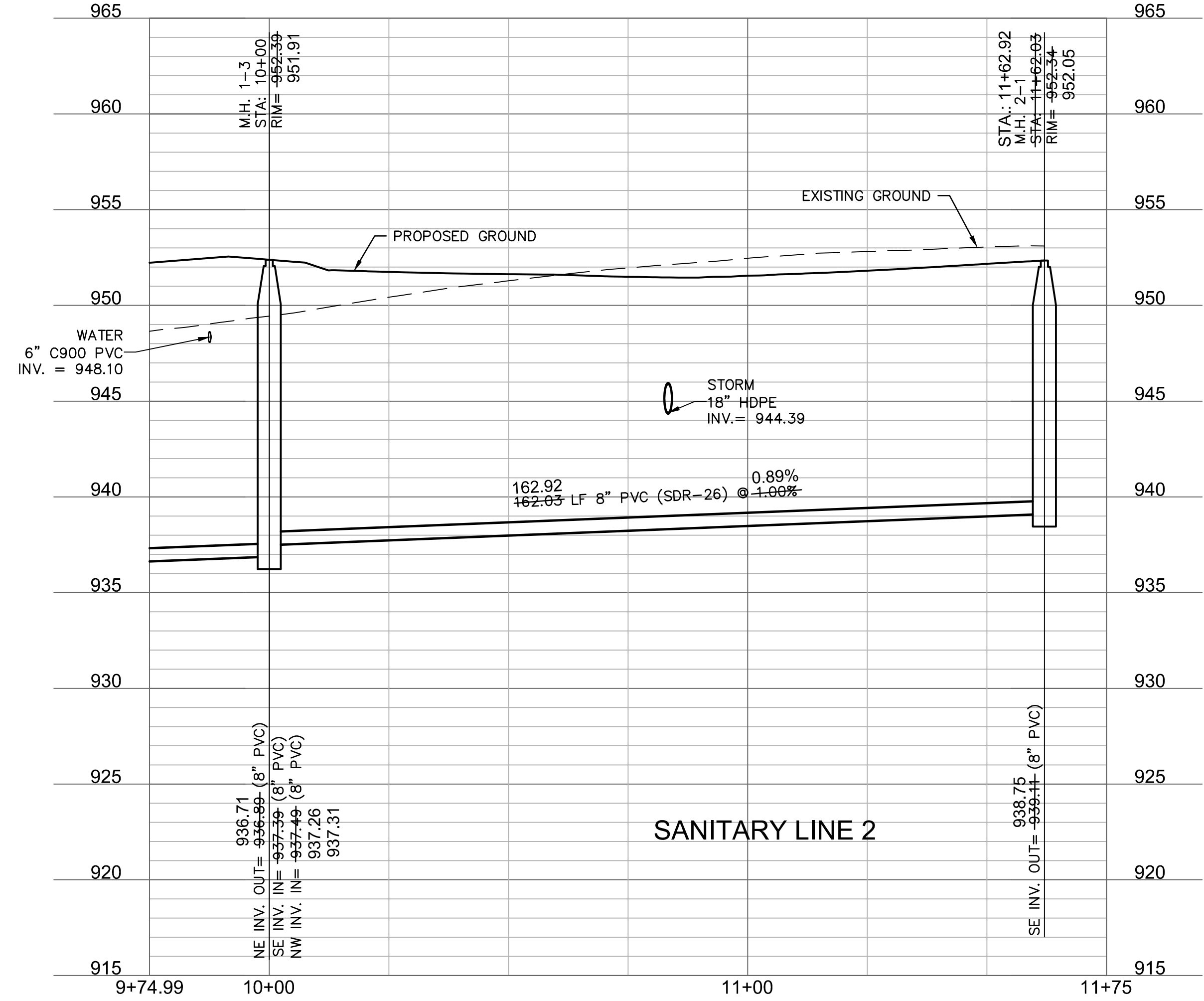
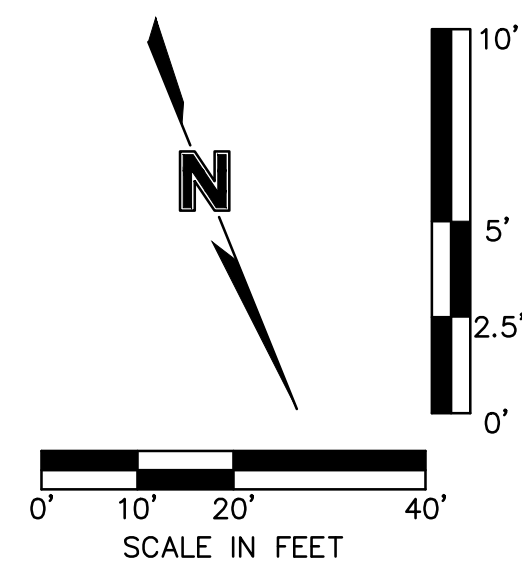
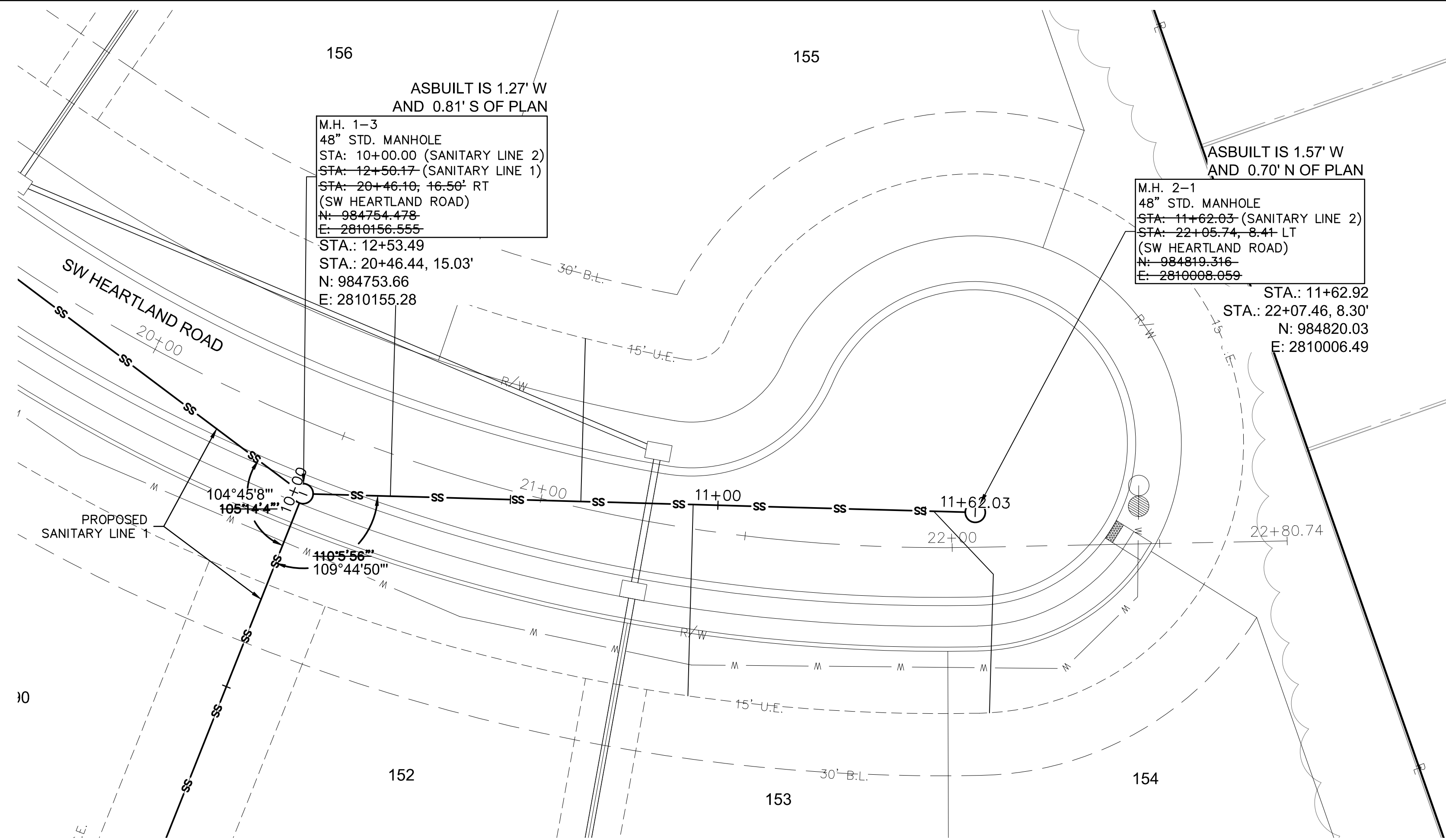
LEE'S SUMMIT, MO

2021

SHEET C206

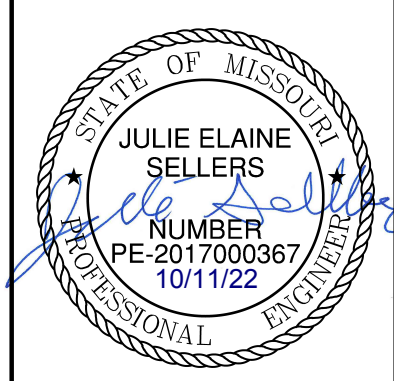
drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

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REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-28-2021	REVISED PER CITY COMMENTS
2	10-28-2021	REVISED PER CITY COMMENTS

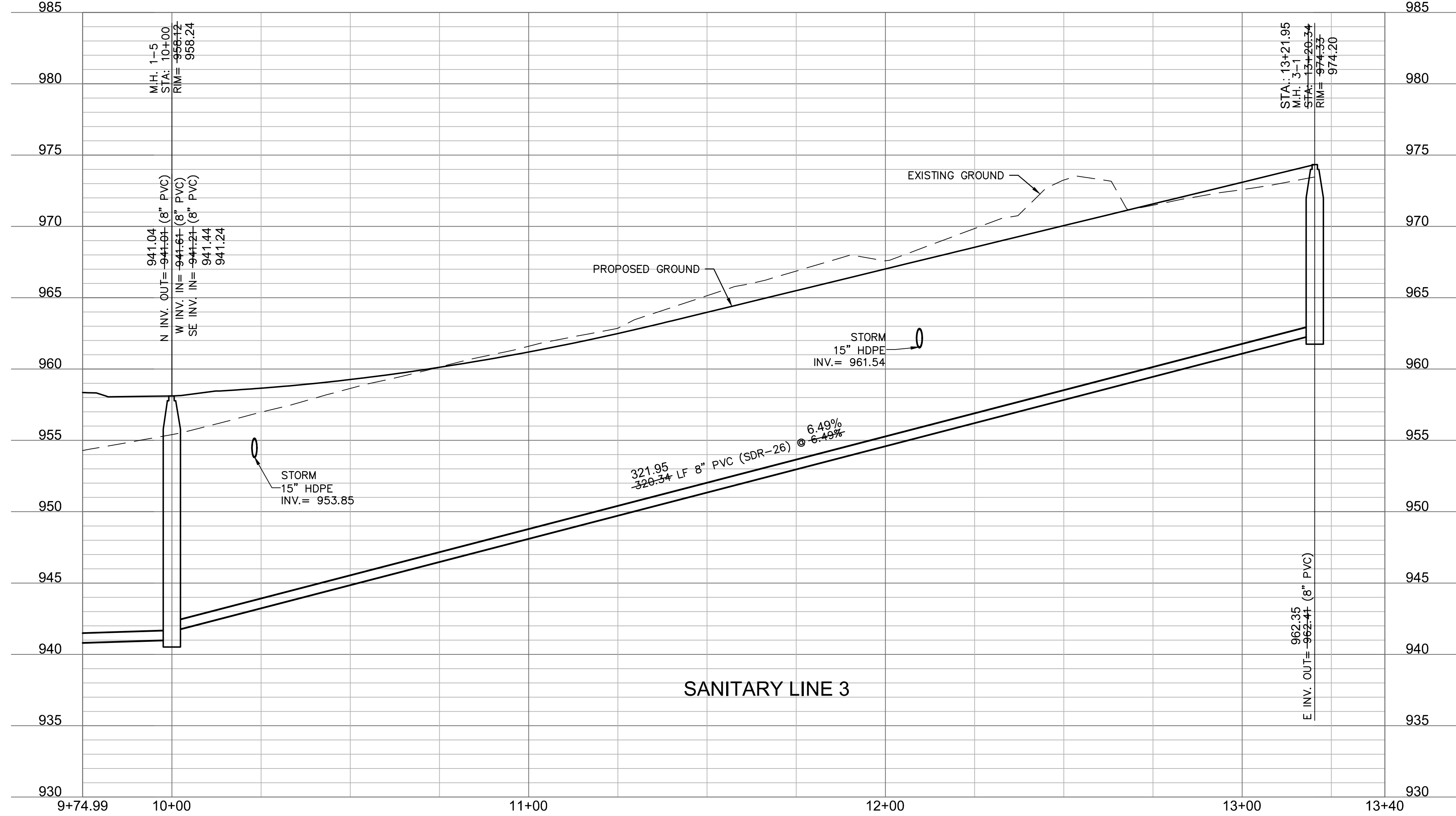
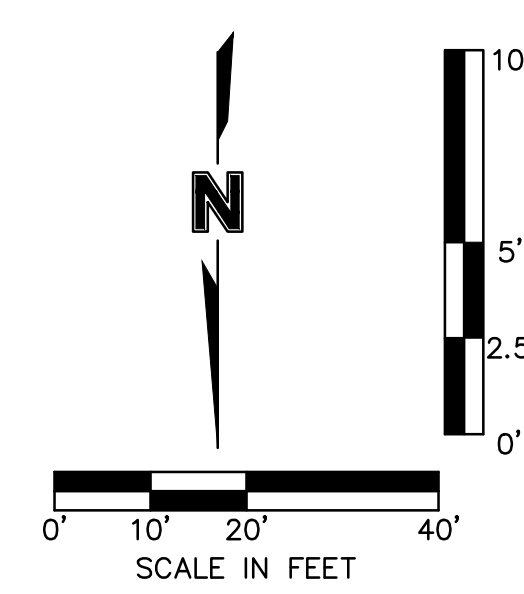
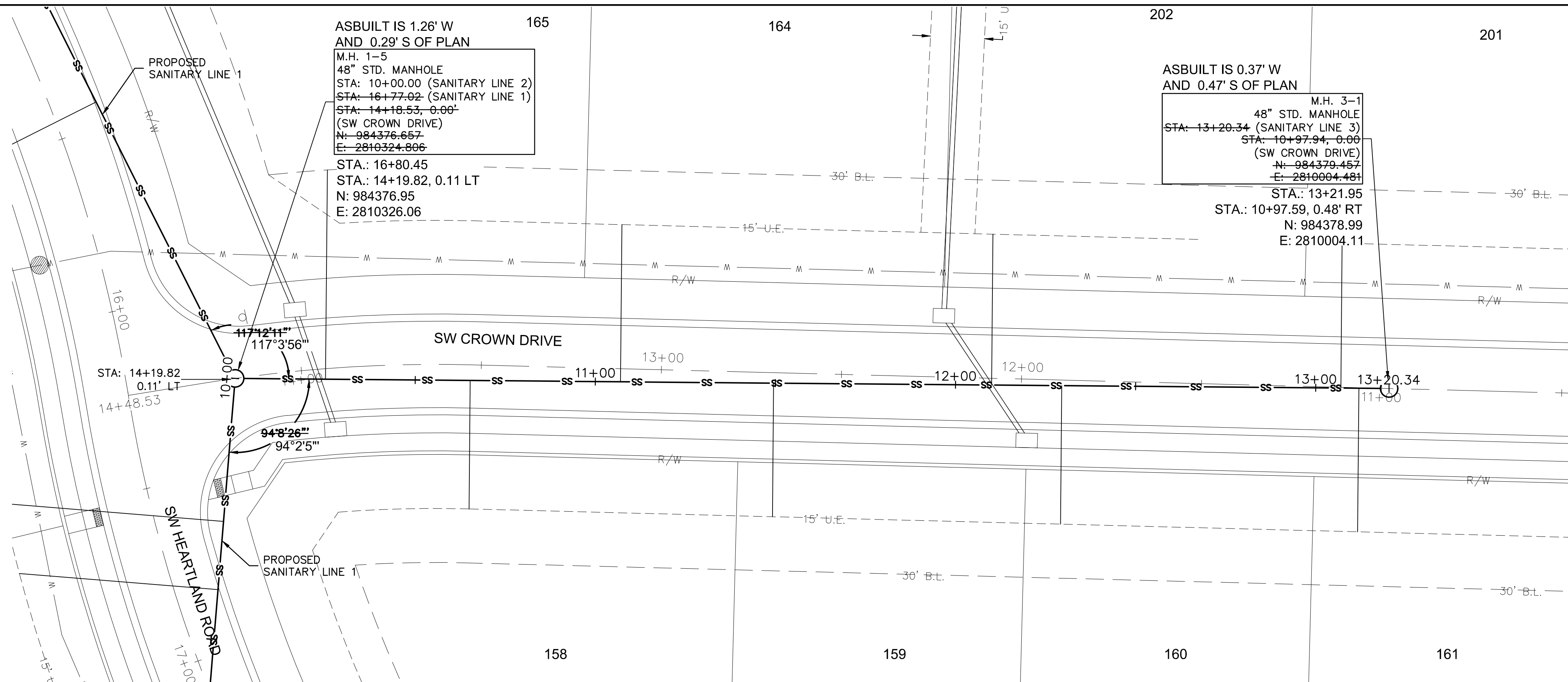
SANITARY SEWER PLAN & PROFILE (LINE 2)  
 SANITARY SEWER PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

SHEET C207

**AS BUILT**  
 DATE SURVEYED: 2022-06-17

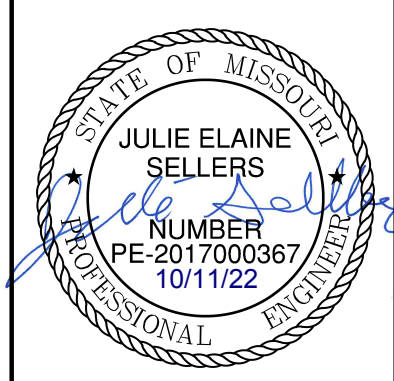
drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Sanitary Sewer Plans\AC\_SANO1\_A194059.dwg USER: cwoodward  
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**AS BUILT**  
 DATE SURVEYED: 2022-06-17

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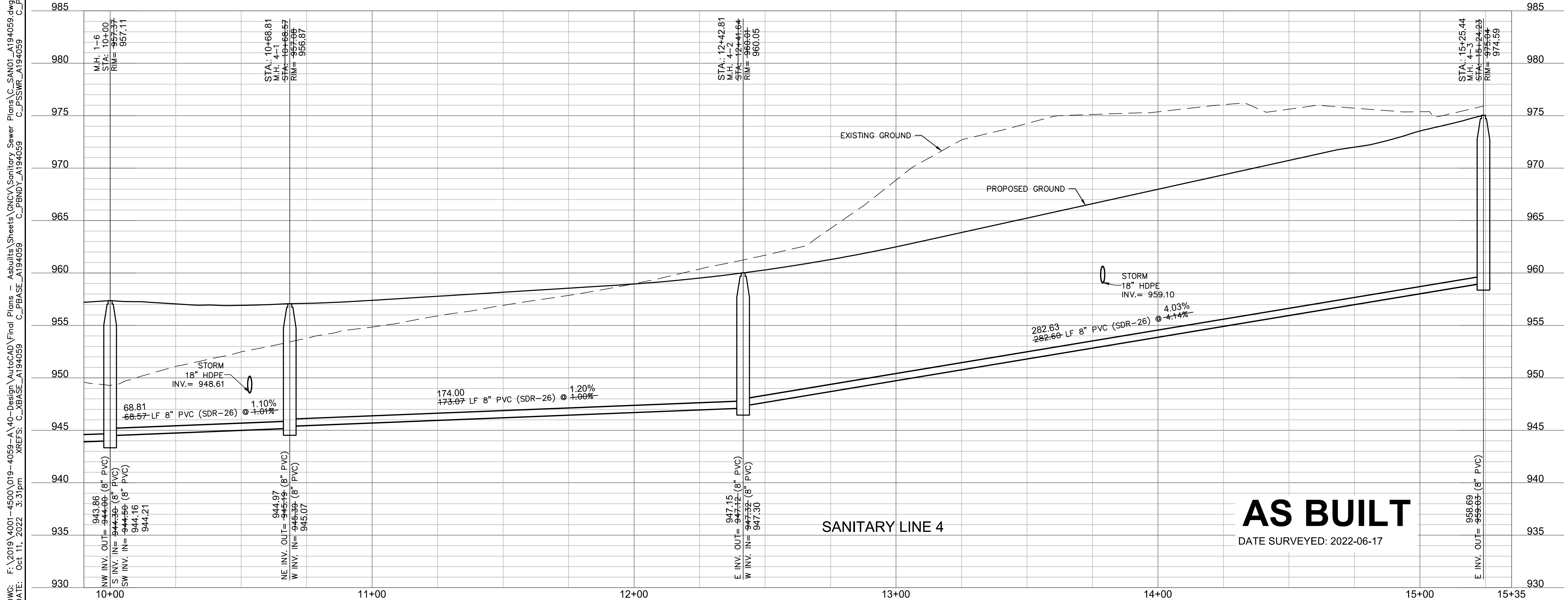
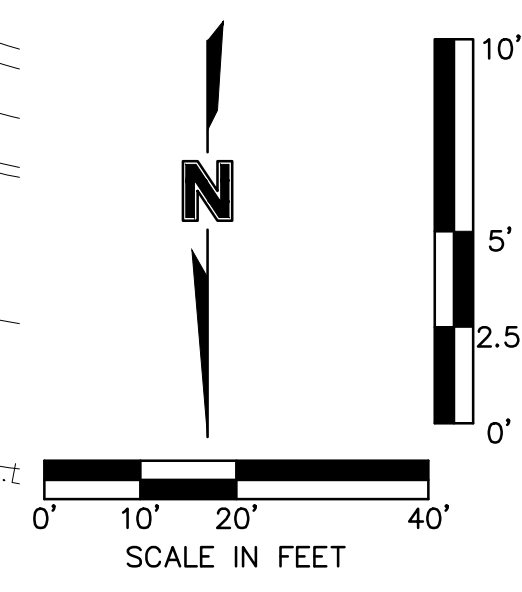
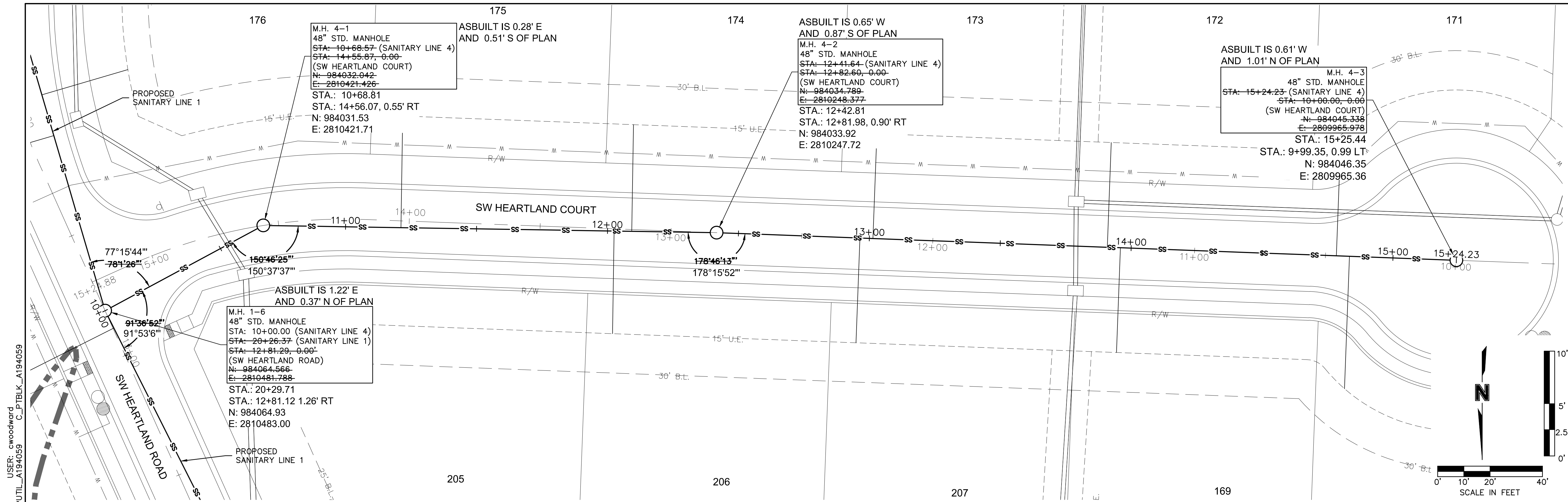
REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-28-2021	REVISED PER CITY COMMENTS

SANITARY SEWER PLAN & PROFILE (LINE 3)  
 SANITARY SEWER PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

SHEET  
 C208

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021



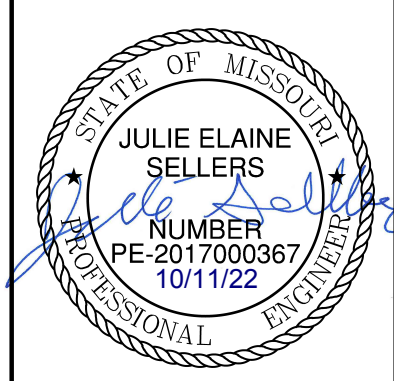


**AS BUILT**  
DATE SURVEYED: 2022-06-17

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1	08-26-2021	REVISED PER CITY COMMENTS
2	10-28-2021	REVISED PER CITY COMMENTS

SANITARY SEWER PLAN & PROFILE (LINE 4)  
 SANITARY SEWER PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

SHEET C209

USER: ssao/or

Plans\C\_TAB01\_A194059.dwg

Final Plans

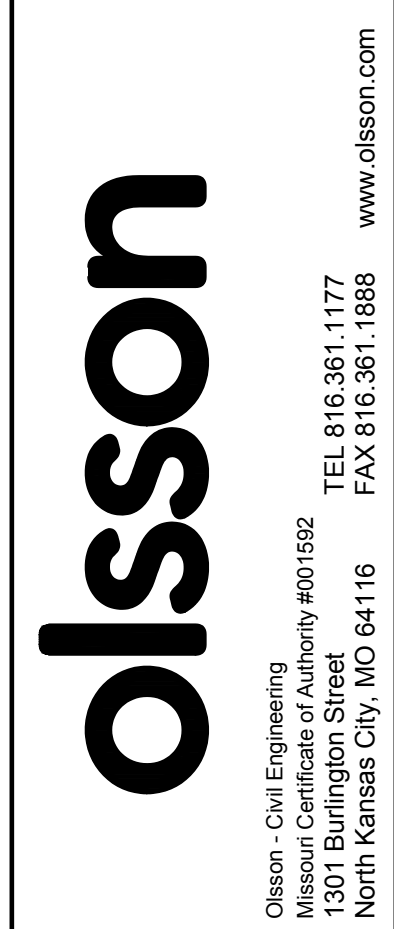
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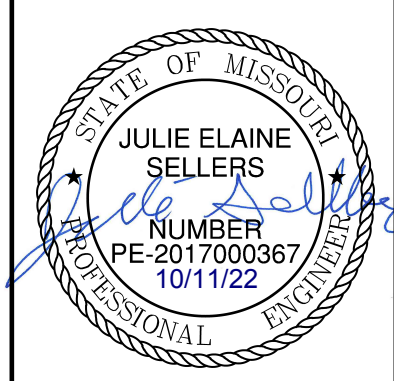
Sanitary Sewer Laterals							
Lot Number	Lateral Station	Lateral Length (ft)	Riser (ft)	Flowline at Main (ft)	Flowline at End of Lateral (ft)	Minimum Servicable Floor Elevation (ft)	
179	21+71.02	51.28	0.0	946.0	948.1	950.86	
180	20+95.99	49.95	0.0	945.1	947.1	949.93	
181	20+18.95	40.37	1.0	943.9	946.7	949.52	
182	19+45.50	43.61	0.0	943.3	945.2	948.02	
183	18+55.08	47.61	1.0	942.6	945.6	948.36	
184	17+62.95	52.72	2.0	941.9	945.9	948.70	
185	16+37.19	61.59	4.0	940.7	946.8	949.63	
186	16+18.20	55.32	4.0	940.5	946.6	949.36	
187	15+05.81	45.16	4.0	939.4	945.3	948.06	
188	14+22.90	41.50	3.0	938.8	943.5	946.34	
189	13+40.18	37.72	3.0	938.1	942.8	945.60	
190	11+34.17	15.00	5.0	935.7	941.9	944.73	
191	11+24.37	15.00	4.0	935.6	940.8	943.65	
192	10+94.04	46.12	0.0	938.4	940.3	943.15	
193	11+52.03	54.31	0.0	939.0	941.1	943.89	
194	10+66.96	39.31	1.0	938.2	940.9	943.72	
195	10+21.07	52.46	2.0	937.7	941.7	944.51	
196	13+68.84	41.06	3.0	938.3	943.1	945.90	
197	10+65.26	35.66	2.0	945.8	949.5	952.31	
198	11+49.50	37.09	2.0	951.3	955.0	957.81	
199	12+29.49	38.46	1.0	956.5	959.2	962.04	
200	13+11.97	39.86	1.0	961.8	964.6	967.43	
201	13+06.96	40.23	1.0	961.5	964.3	967.11	
202	12+10.01	41.89	2.0	955.2	959.0	961.83	
203	11+06.99	43.64	2.0	948.5	952.4	955.18	
204	10+25.10	58.12	3.0	943.2	948.3	951.13	
205	18+76.80	43.44	2.0	942.8	946.6	949.43	
206	12+02.53	39.17	0.0	946.7	948.5	951.31	
207	12+96.38	40.00	2.0	949.6	953.3	956.14	
208	13+95.89	40.00	3.0	953.7	958.4	961.24	
209	14+83.39	50.57	4.0	957.3	963.3	966.05	
210	14+78.39	46.08	4.0	957.1	963.0	965.76	
211	13+90.89	40.00	3.0	953.5	958.2	961.03	
212	13+01.38	40.00	2.0	949.8	953.5	956.35	
213	12+09.26	40.70	0.0	946.8	948.6	951.40	
214	11+21.14	42.64	0.0	945.9	947.8	950.56	
215	21+12.22	34.22	0.0	945.3	947.0	949.81	

\*Basement sewer service may not be available. A pump associated piping located on the interior of the building may need to be provided to lift

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 M.H. 1	0.61%	36	13.77	0.00	20655	6885	0.383	0.426	0.013	52.09	7.37
M.H. 1-1	9.00%	8	13.77	0.00	20655	6885	0.383	0.426	0.013	3.63	10.39
M.H. 1-2	10.29%	8	13.77	0.00	20655	6885	0.383	0.426	0.013	3.88	11.10
M.H. 1-3	1.00%	8	13.10	0.00	19650	6550	0.367	0.407	0.013	1.21	3.46
M.H. 1-4	0.80%	8	10.06	0.00	15090	5030	0.289	0.321	0.013	1.08	3.10
M.H. 1-5	0.80%	8	9.41	0.00	14115	4705	0.272	0.302	0.013	1.08	3.10
M.H. 1-6	0.80%	8	4.37	0.00	6555	2185	0.135	0.149	0.013	1.08	3.10
M.H. 1-7	1.20%	8	0.00	0.00	0	0	0.000	0.000	0.013	1.32	3.79
M.H. 2-1	1.00%	8	0.00	0.00	0	0	0.000	0.000	0.013	1.21	3.46
M.H. 3-1	6.49%	8	0.00	0.00	0	0	0.000	0.000	0.013	3.08	8.82
M.H. 4-1	1.00%	8	3.16	0.00	4740	1580	0.100	0.110	0.013	1.21	3.46
M.H. 4-2	1.00%	8	2.14	0.00	3210	1070	0.069	0.076	0.013	1.21	3.46
M.H. 4-3	4.14%	8	0.00	0.00	0	0	0.000	0.000	0.013	2.46	7.04



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

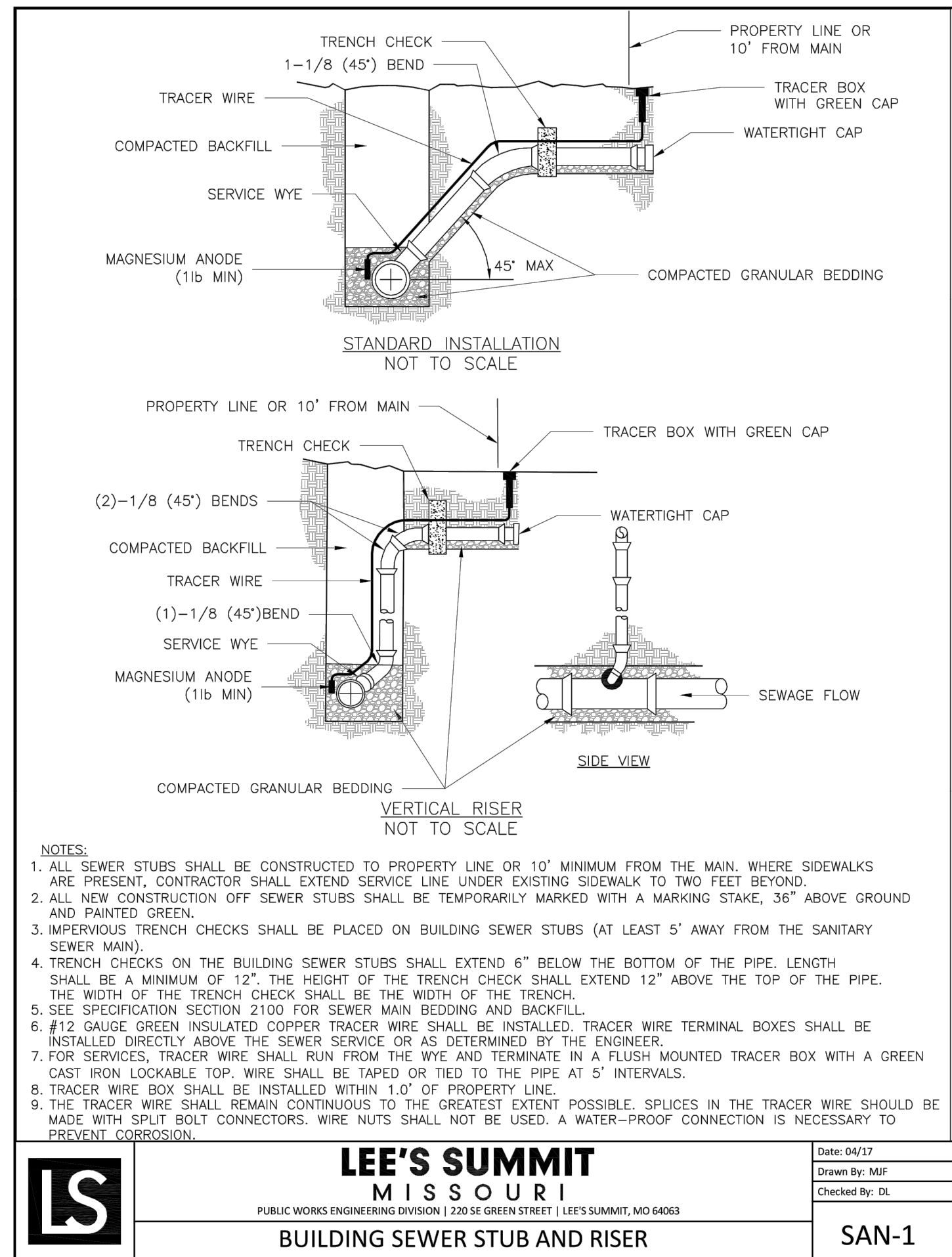
SANITARY SEWER DESIGN TABLES  
SANITARY SEWER PLANS  
THE RETREAT AT HOOK FARMS  
SECOND PLAT  
LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.  
checked by: B.M.W./A.A.  
designed by: B.M.W./A.A.  
QA/QC by: J.E.S.  
project no.: A19-4059  
date: 05-05-2021

SHEET C210

**NOT AS BUILT**

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Sanitary Sewer Plans\C\_DTL01\_A194059.dwg  
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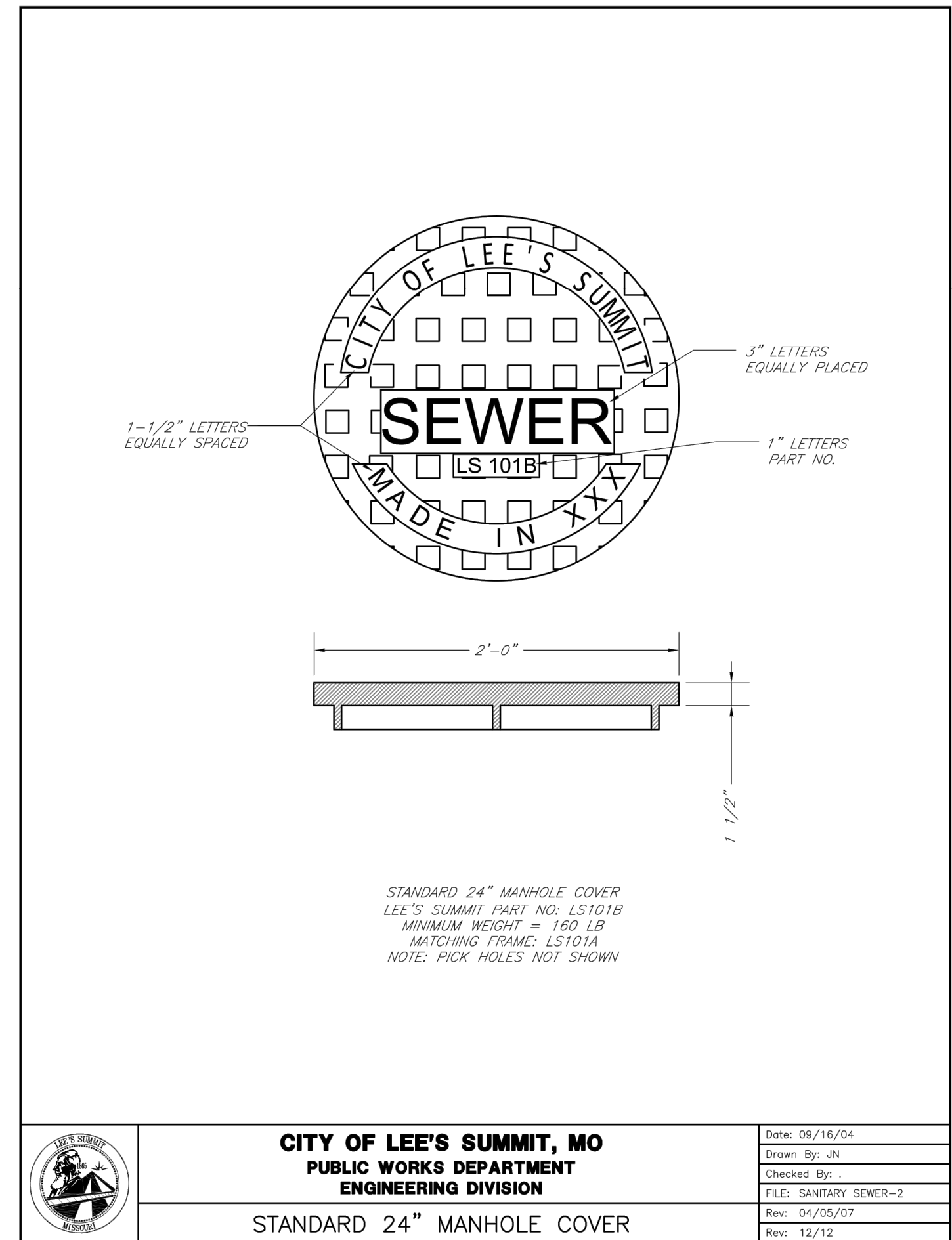
**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**BUILDING SEWER STUB AND RISER**

LS

Date: 04/17  
 Drawn By: MUF  
 Checked By: DL

SAN-1

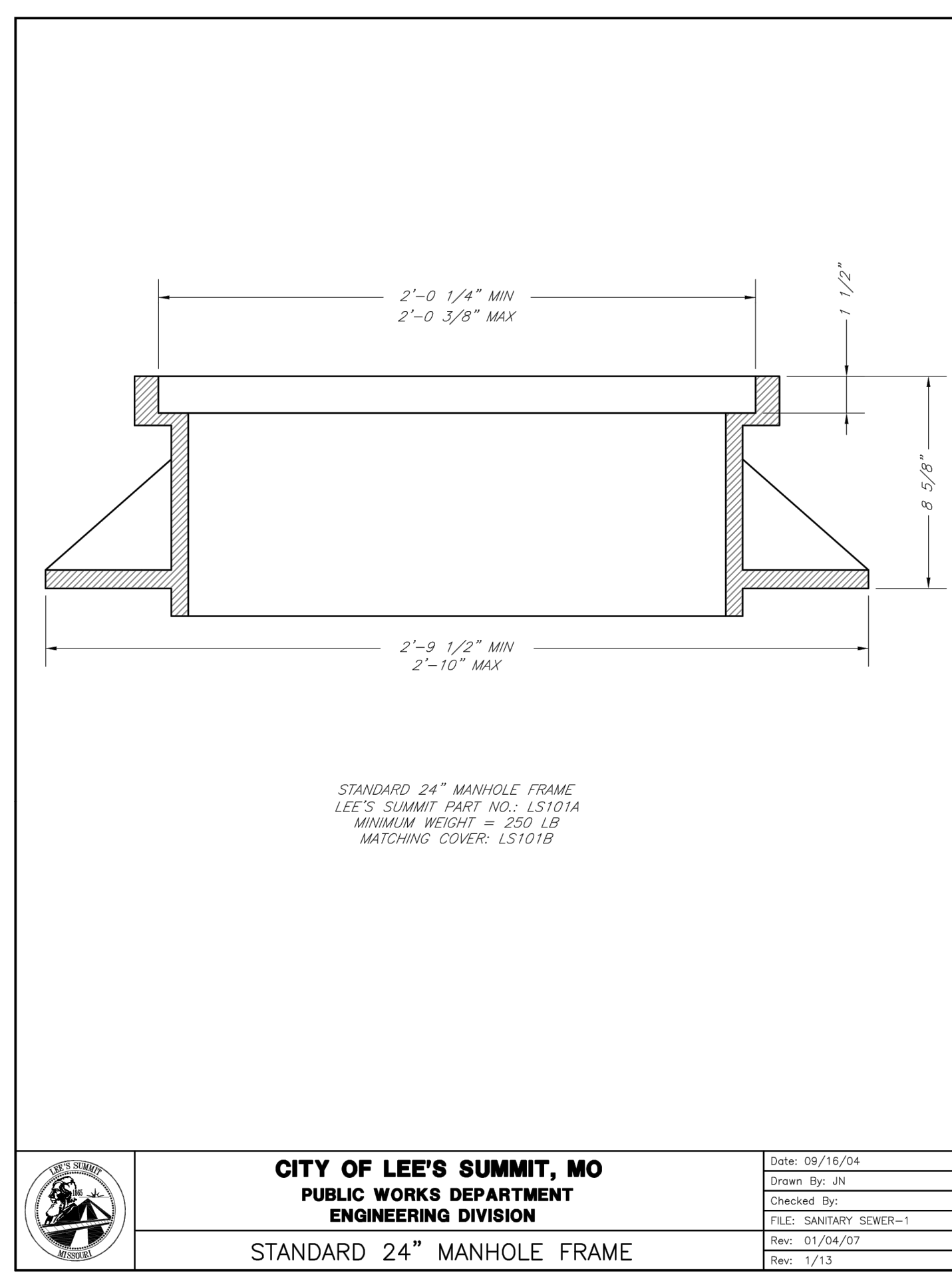


**CITY OF LEE'S SUMMIT, MO**  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION

**STANDARD 24" MANHOLE COVER**

LS

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

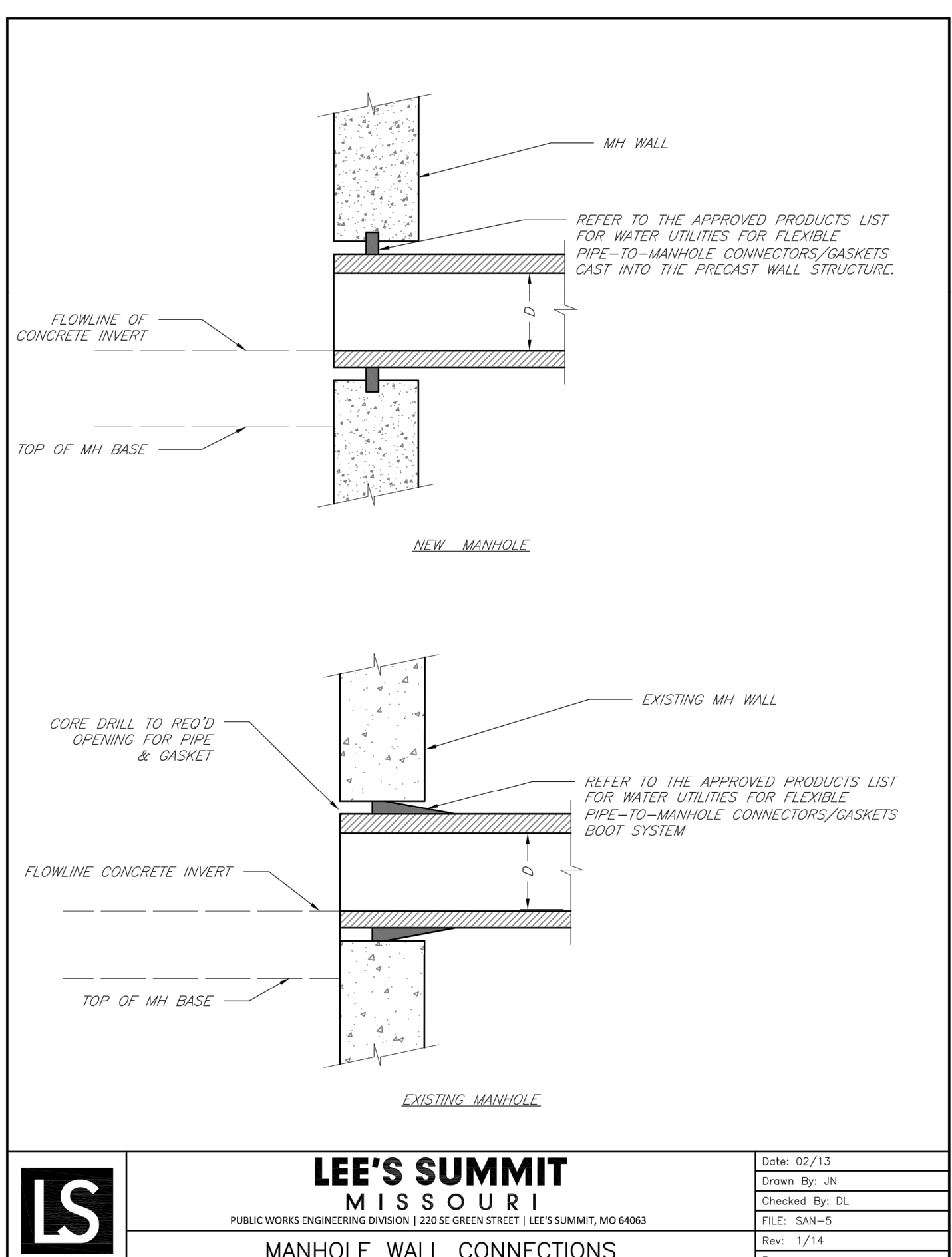


**CITY OF LEE'S SUMMIT, MO**  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION

**STANDARD 24" MANHOLE FRAME**

LS

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

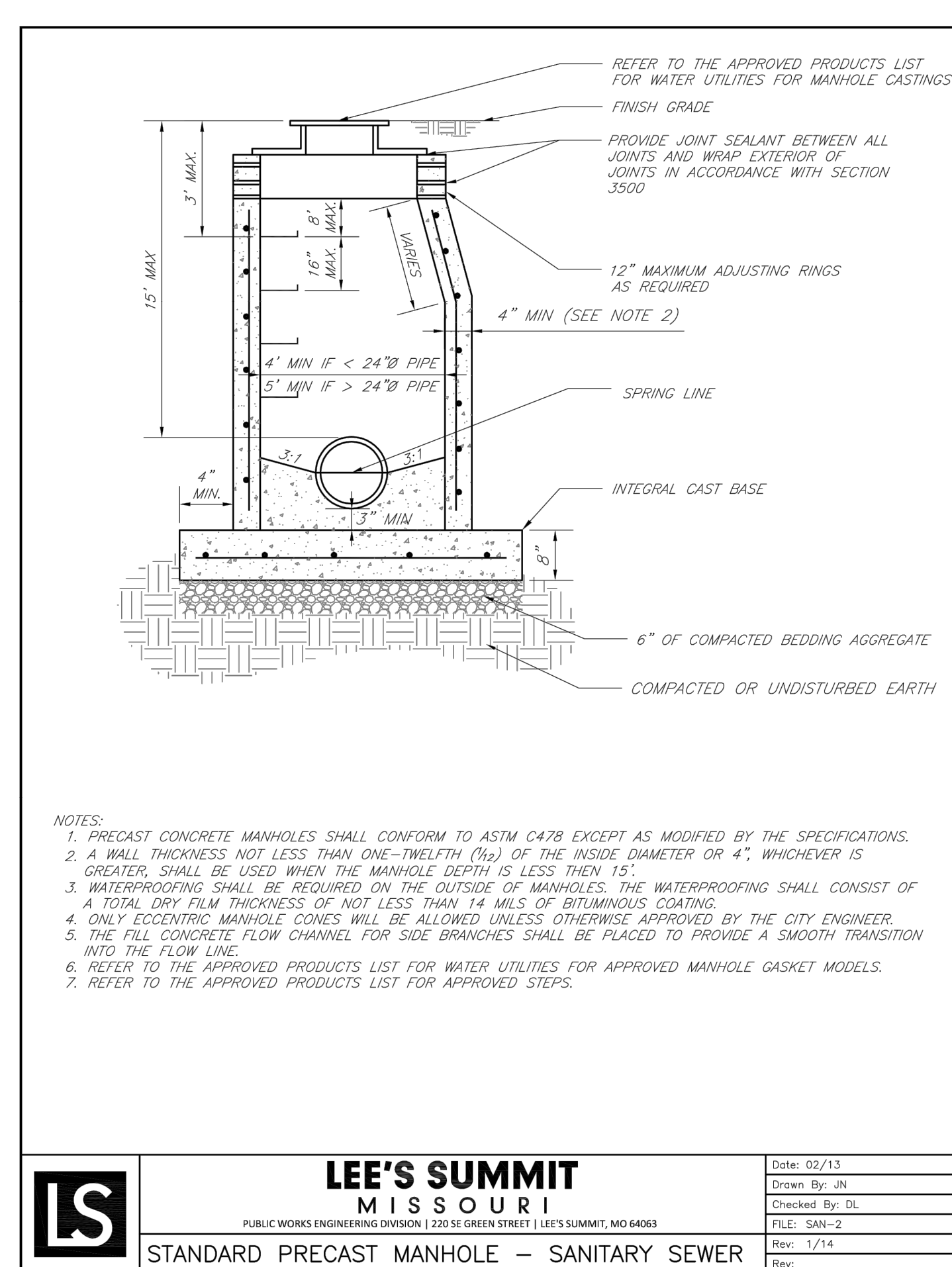


**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**MANHOLE WALL CONNECTIONS**

LS

Date: 09/13  
 Drawn By: jN  
 Checked By: DL  
 FILE: SAN-5  
 Rev: 1/14



**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**STANDARD PRECAST MANHOLE - SANITARY SEWER**

LS

Date: 02/13  
 Drawn By: jN  
 Checked By: DL  
 FILE: SAN-2  
 Rev: 1/14

- 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 WHEN THE MANHOLE DEPTH IS LESS THAN 15'.
  3. 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.
  4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
  5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
  6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
  7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

**NOT AS BUILT**

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 JULIE ELAINE SELLERS  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2017000367  
 10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

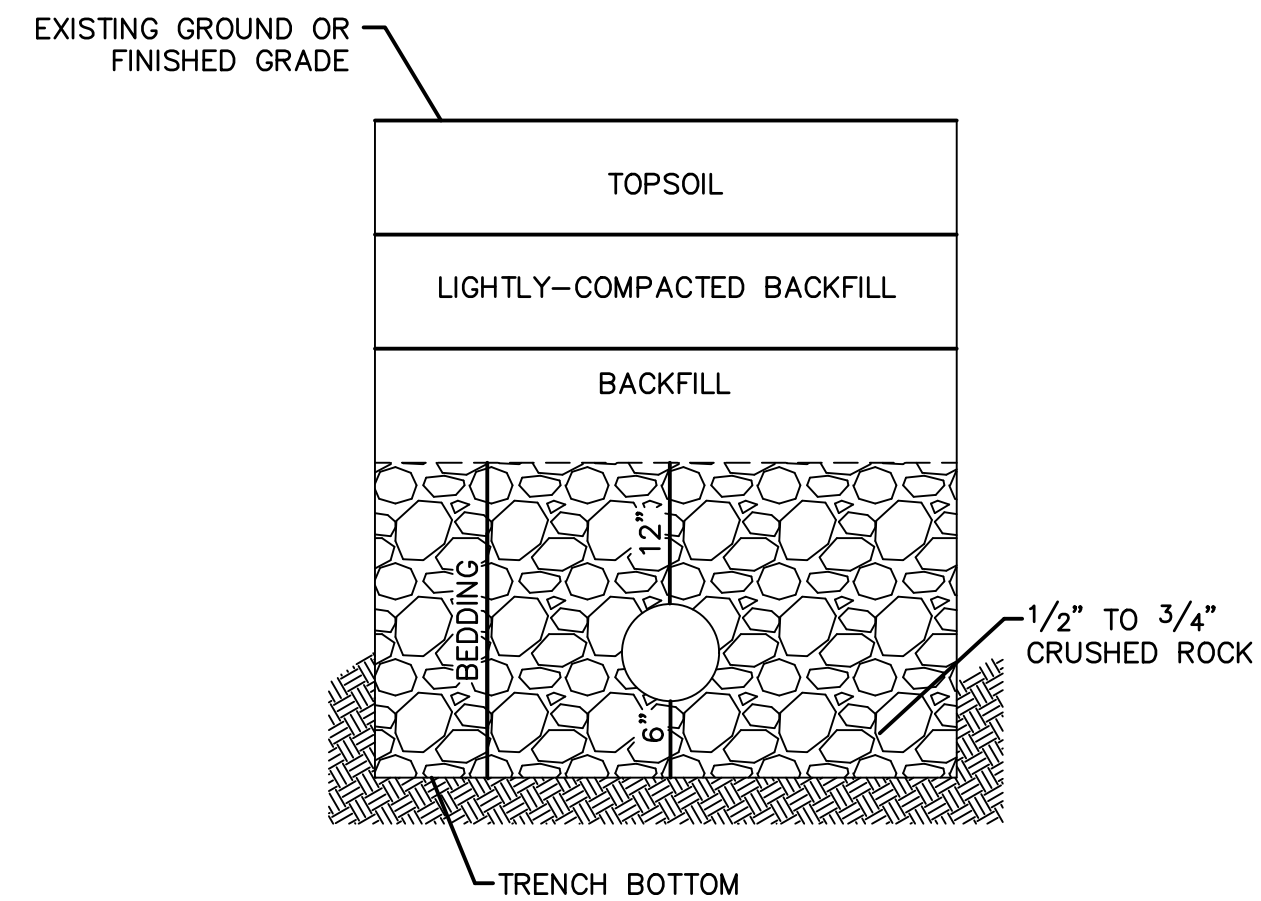
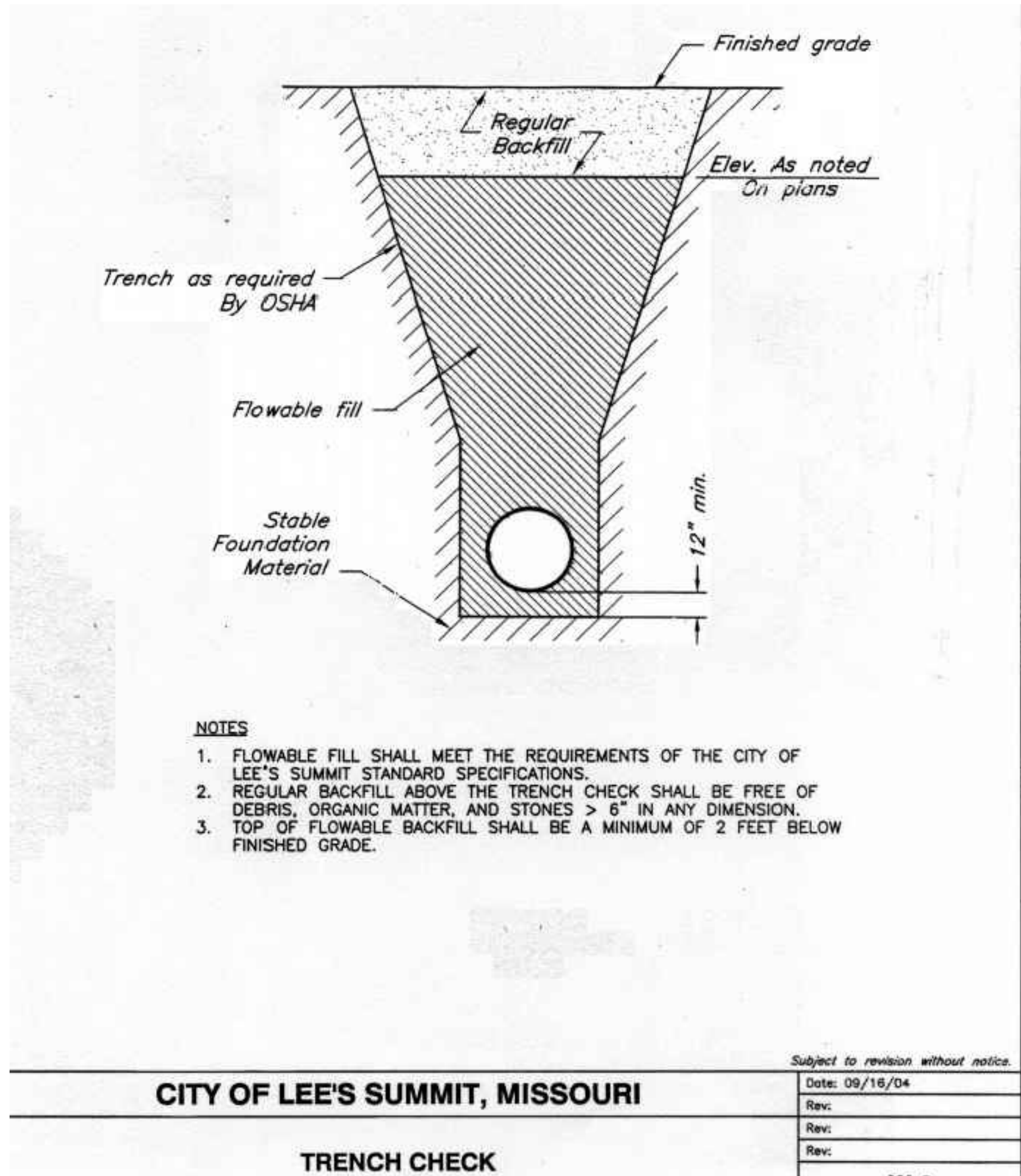
BY: \_\_\_\_\_

**DETAIL SHEET**  
**SANITARY SEWER PLANS**  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

**SHEET C211**

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\Sanitary Sewer Plans\C\_DTL01\_A194059.dwg  
 DATE: Oct 04, 2022 11:48am XREFS: C\_PTBK\_A194059 USER: ssaylor



- 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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SHEET  
C212

REVISIONS