GENERAL NOTES

- The underground utilities shown herein have been plotted from available information and do not necessarily reflect the actual existence, or nonexistence, size, type, number, or locations of these or other utilities. The contractor shall be responsible for verifying the actual locations of all underground utilities, shown or not shown, and said utilities shall be located in the field prior to any grading, excavation, or construction of improvements. These provisions shall in now way absolve any party from complying with the "UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT", Chapter 319, RSMO.
- Gas, Water, and other Utilities shall not conflict with the depth or horizontal location of existing and proposed sanitary and storm sewers, including building
- The Contractor shall secure all required permits and notify the Development Services - Inspection Group of the City of Lee's Summit (816-969-1200) at least 48 hours prior to any construction.
- 4. Prior to submittal of construction bids, the Contractor shall be required to visit the site to verify existing conditions and proposed improvements.
- All construction materials and methods used shall comply with the latest editions of the City of Lee's Summit "DESIGN AND CONSTRUCTION MANUAL" as adopted by City Ordinance NO. 5813. See said Manual for standard details.
- The Contractor shall be responsible for notification and coordination with all Utility Companies.
- The Contractor shall notify the Engineer immediately of any discrepancies in the
- "Controlled Fill" indicates fill to be placed in accordance with APWA Section 2100 for grading and site preparation, with APWA Section 2200 for street construction (paving), with APWA Section 2500 for sanitary sewer construction and with APWA Section 2600 for storm sewer construction unless otherwise
- All sanitary manholes shall have a 4' inside diameter unless otherwise noted.
- 10. All disturbed areas to be seeded upon completion of construction.

EXISTING SANITARY SEWER ASSUMPTIONS

- 1. Existing sanitary sewer at Point of Connection = 24" PVC at
- Depth of flow at Point of Connection for fully developed watershed
- Y(c) from "Modern Sewer Design", Figure 3-24, critical flow and critical velocity in circular conduits.

Point of Connection

24" PVC at 0.45% Capacity = 14.0 cfs Y(c)/D = .60. depth of flow = 15" = 1.25'

PROPOSED SANITARY SEWER ASSUMPTIONS

Sanitary sewers provide service for this plan only Design flow rate of 0.02 cfs / acre per City Staff Recommendation.

DESIGN FLOWS

Know what's below.

Call before you dig.

| Drainage Area | Acreage | Design Flow (cfs) | Total Design Flow (cfs) |
|---------------|--------------|-------------------|-------------------------|
| Commercial | 13.75 | 0.02 | 0.67 |
| Residential | <i>83.53</i> | 0.02 | _0.80 |
| | | | Total 1.47 |

UTILITIES

130 SE Hamblen

KCPL

City of Lee's Summit Department of Public Works 220 SE Green Lee's Summit, 816-969-1800

AT&T 215 N. Spring Independence,

816-325-5610

Road Lee's Summit, 816-347-4320 Missouri One Call 1-800-344-7483

Time Warner 6550 Winchester Avenue Kansas City, Mo. 913-643-1901

Energy 3025 SE Clover Road Lee's Summit,

Missouri Gas 816-537-4681

> **DEVELOPER** JCM DEVELOPMENT, LLC 1314 MARKET STREET

> > LEE'S SUMMIT, MO 64082

(816) 786-4008

CONTACT - CHRIS JEFFRIES

ENGINEER Hg CONSULT, INC. **CONTACT - KEVIN STERRETT** 1411 N.E. TODD GEORGE ROAD LEES SUMMIT, MISSOURI 64086 (816) 703-7098

COBEY CREEK - 1ST PLAT

OFF-SITE SANITARY SEWER MAIN EXTENSION

NE & SE $\frac{1}{4}$, SECTION 29 & NW $\frac{1}{4}$ SECTION 28, TOWNSHIP 47 NORTH, RANGE 31 WEST LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



VICINITY MAP

LEGEND

Existing Section Line

Existing Lot Line

Existing Sidewalk

Existing Waterline

Existing Gas Main

Existing Right-of-Way Line

Existing Easement Line

Existing Curb & Gutter

Existing Storm Sewer

Existing Storm Structure

Existing Sanitary Sewer

Existing Contour Major

Existing Contour Minor

Existing Sanitary Manhole

| | Proposed Right-of-Way |
|----------|---------------------------|
| | Proposed Property Line |
| | Proposed Lot Line |
| | Proposed Easement |
| | Proposed Curb & Gutter |
| | Proposed Sidewalk |
| | Proposed Storm Sewer |
| | Proposed Storm Structure |
| A | Proposed Fire Hydrant |
| w/L | Proposed Waterline |
| | Proposed Sanitary Sewer |
| • | Proposed Sanitary Manhole |
| | Proposed Contour Major |
| - | Proposed Contour Minor |
| ======== | Future Curb & Gutter |
| | |

PROJECT BENCHMARK: #1 MODNR MONUMENT JA-45

N: 986351.65 E: 2824617.51 TOP ELEV. 1012.79

#2 MONUMENT AT THE INTERSECTION OF M150 & DOC HENRY ROAD N: 977823.53 E: 2828220.61 TOP ELEV. 1006.04

INDEX OF SHEETS

OFF-SITE SANITARY SEWER PLANS

- COVER SHEET
- GENERAL UTILITY LAYOUT OFF-SITE SANITARY SEWER

SANITARY SEWER - PLAN AND PROFILE

- SANITARY SEWER LINE A (STA. 0+00 TO 15+00)
- SANITARY SEWER LINE A(STA. 15+00 TO 26+49.69)

STANDARD DETAILS

- STANDARD DETAILS STANDARD PRECAST MANHOLE & MANHOLE WALL CONNECTION
- STANDARD DETAILS MANHOLE COVER AND FRAME
- STANDARD DETAILS SANITARY PIPE ENCASEMENT & TYPICAL TRENCHING AND BEDDING DETAIL

LEGAL DESCRIPTION:

All that part of the Southeast Quarter of Section 29, Township 47 North, Range 31 West, more particularly described as follows:

Commencing at the Southeast corner of said Southeast Quarter; thence North 02°30'29" East, along the East line of the Southeast Quarter of said Section 29, a distance of 58.62 feet; thence departing said East line, North 87°29'31" West, a distance of 40.00 feet to the North right-of-way line of Missouri State Highway No. 150, as now established, and the Point of Beginning; thence South 85°26'23" West, along the North right-of-way line of said Missouri State Highway No. 150, a distance of 142.47 feet; thence South 65°50'12" West, continuing along said North right-of-way line, a distance of 27.99 feet; thence continuing along said North right-of-way line, North 87°54'10" West, along a line 30 feet North of and parallel with the South line of said Southeast Quarter, a distance of 1436.75 feet; thence departing said North right-of-way line, North 02°32'36" East, a distance of 2613.35 feet to the North line of said Southeast Quarter; thence South 87°44'49" East, along the North line of said Southeast Quarter, a distance of 1641.53 feet to the Northeast corner of said Southeast Quarter; thence South 02°30'29" West, along the East line of said Southeast Quarter, a distance of 1081.05 feet; thence departing said East line, North 87°29'31" West, a distance of 30.00 feet; thence South 02°30'29" West, along a line 30 feet West of and parallel with the East line of said Southeast Quarter, a distance of 1302.74 feet; thence South 08°13'07" West, a distance of 100.51 feet; thence South 02°30'29" West, along a line 40 feet West of and parallel with the East line of said Southeast Quarter, a distance of 96.45 feet to the Point of Beginning. Containing 4,237,595.37 square feet or 97.28 acres, more or less.

NOTE:

- 1) The subject property is located within the Big Creek Watershed.
- 2) There was no oil or gas wells located on the subject property as of May 14, 2018 as shown by the Missouri Geological Survey GEOSTRAT (Geosciences Technical Resource Asessment Tool).

As Built drawings have been prepared by HG Consult, Inc. Engineering based on elevation shots by Ladwig and Associates on 03/04/2021



OFF-SITE

Prepared: November 21, 2018





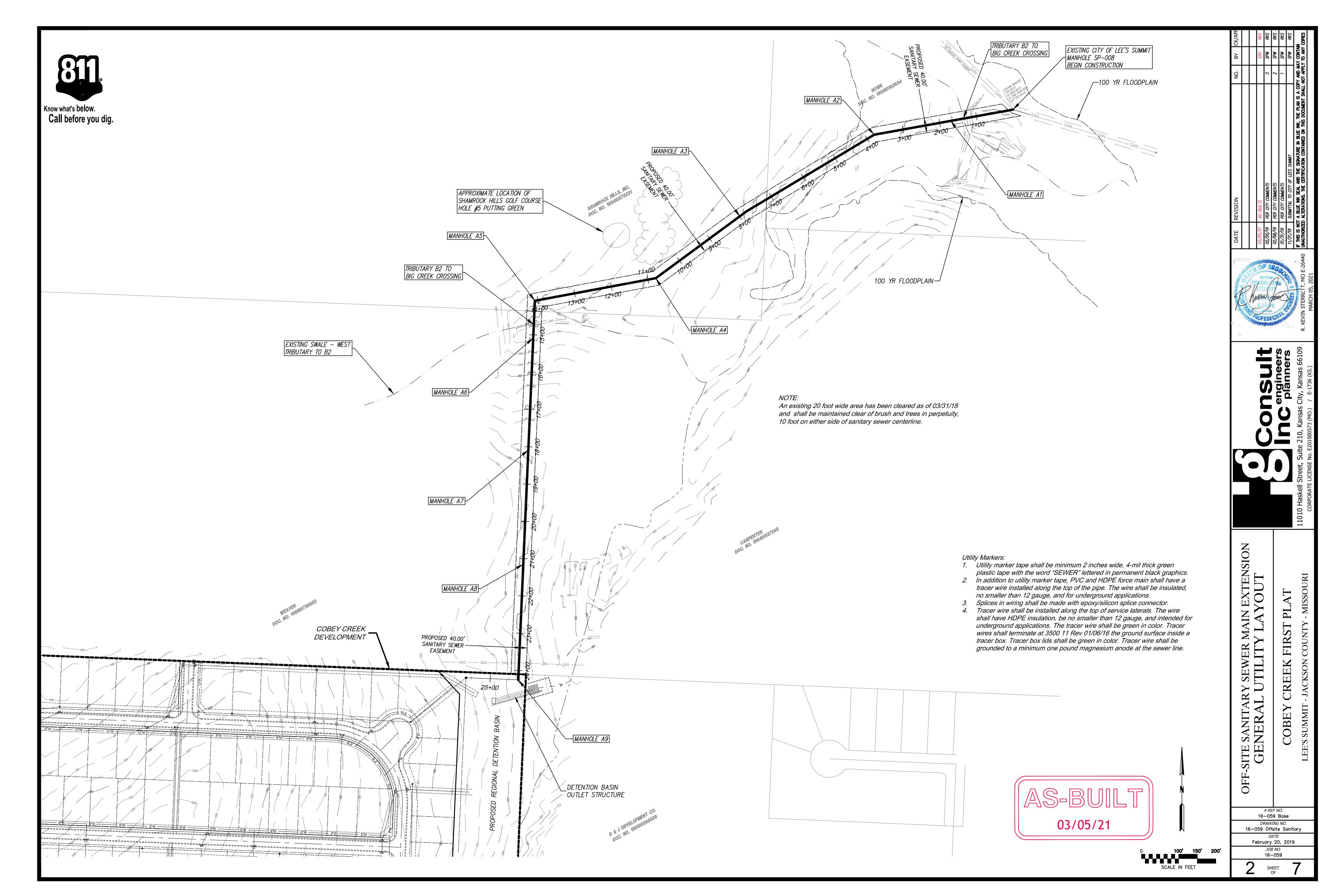
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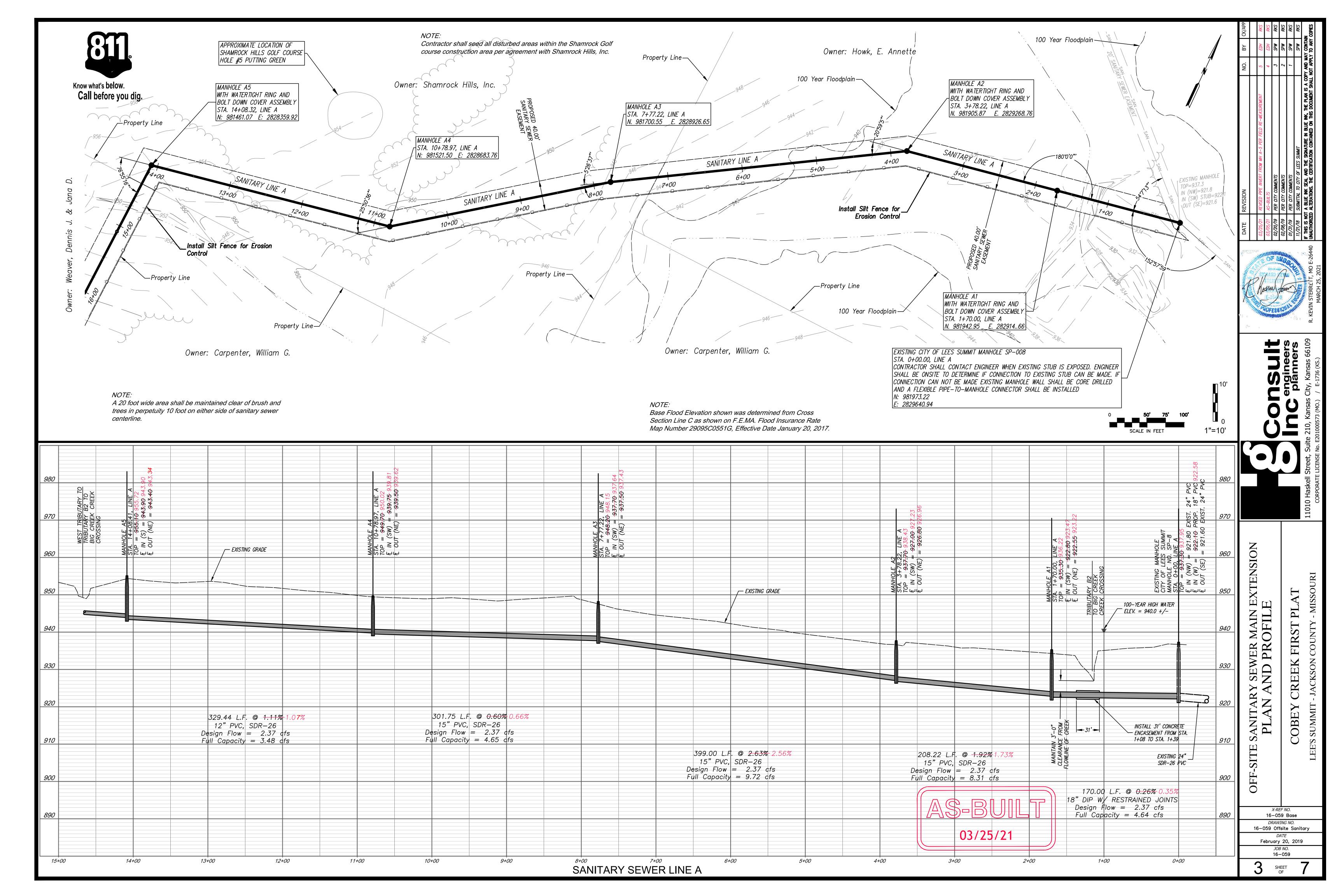
SANITARY SEWER MAIN COVER SHEET CREEK

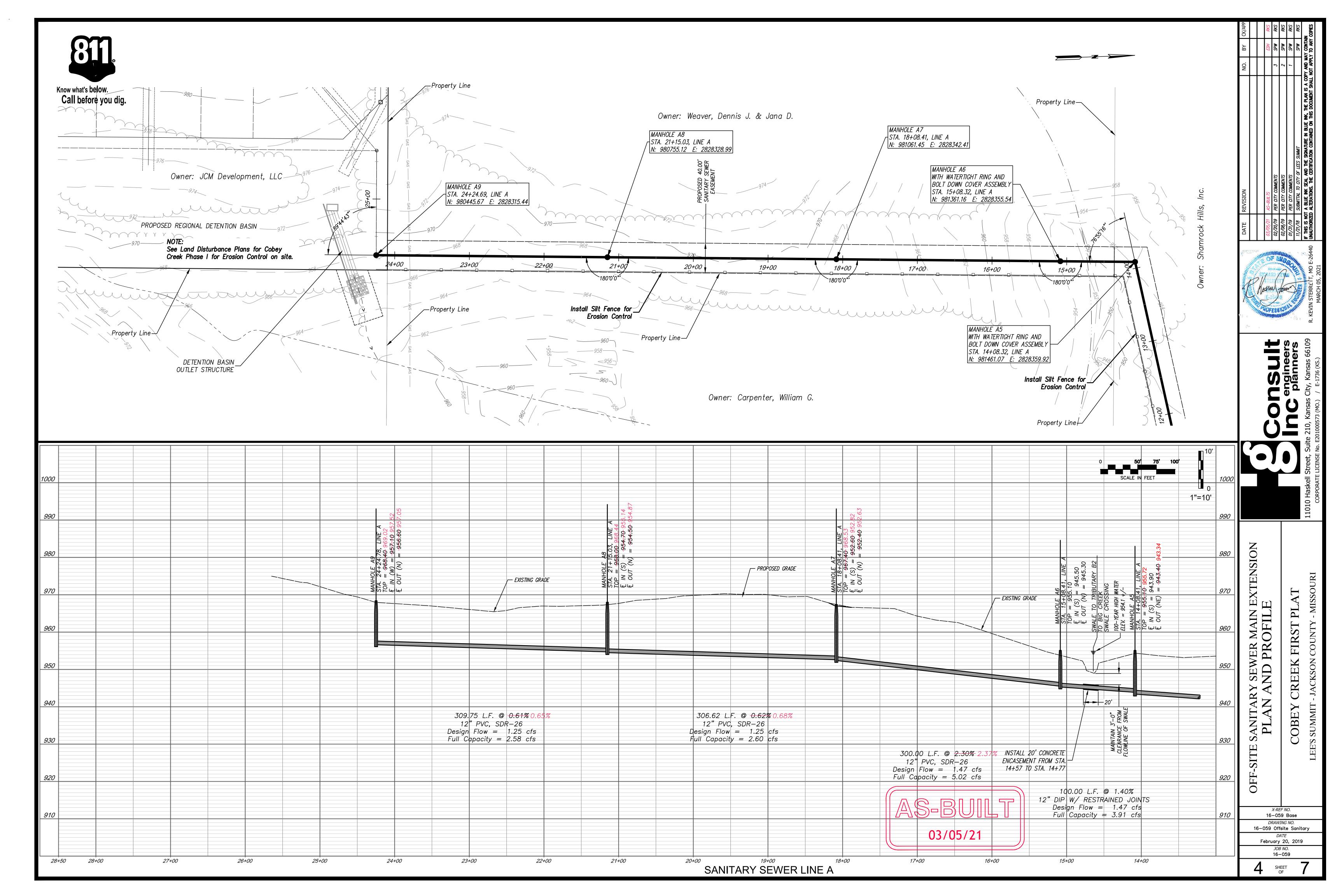
EXTENSION

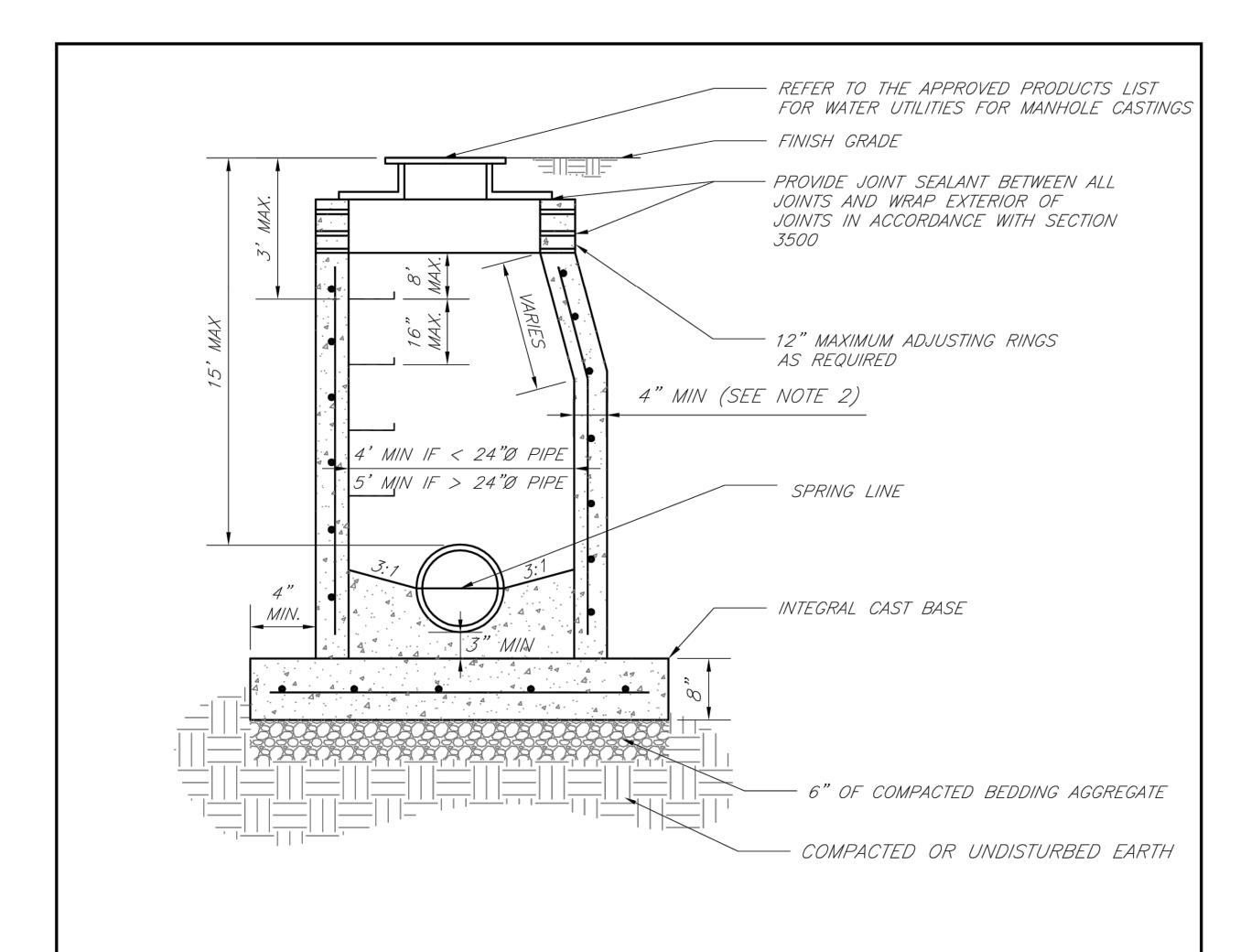
X-REF NO. 16—059 Base DRAWING NO. 16-059 Offsite Sanitary February 20, 2019 JOB NO.

16-059





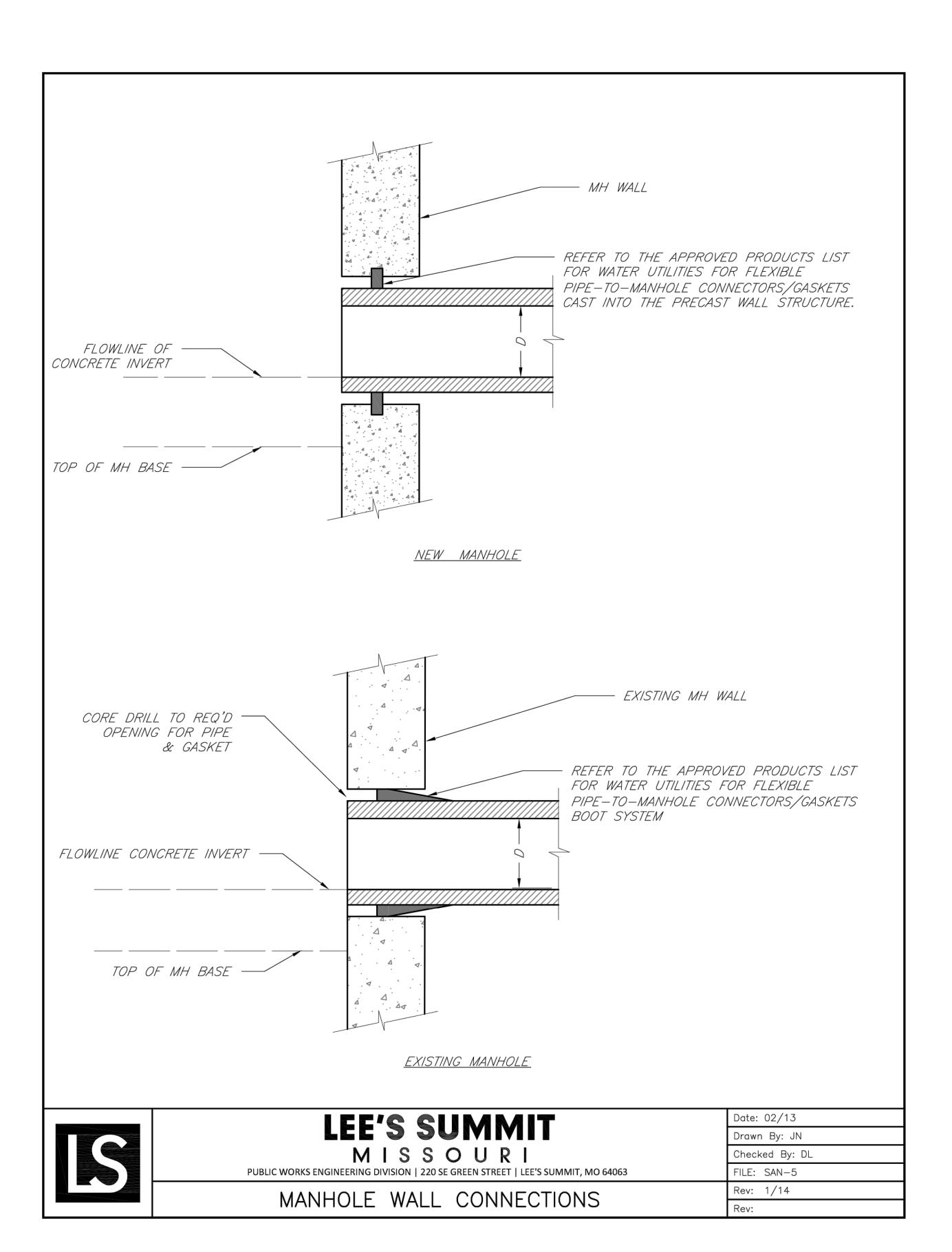




NOTES:

- 1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
- 2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH ($^{\prime\prime}\!\!\!/_{12}$) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 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.



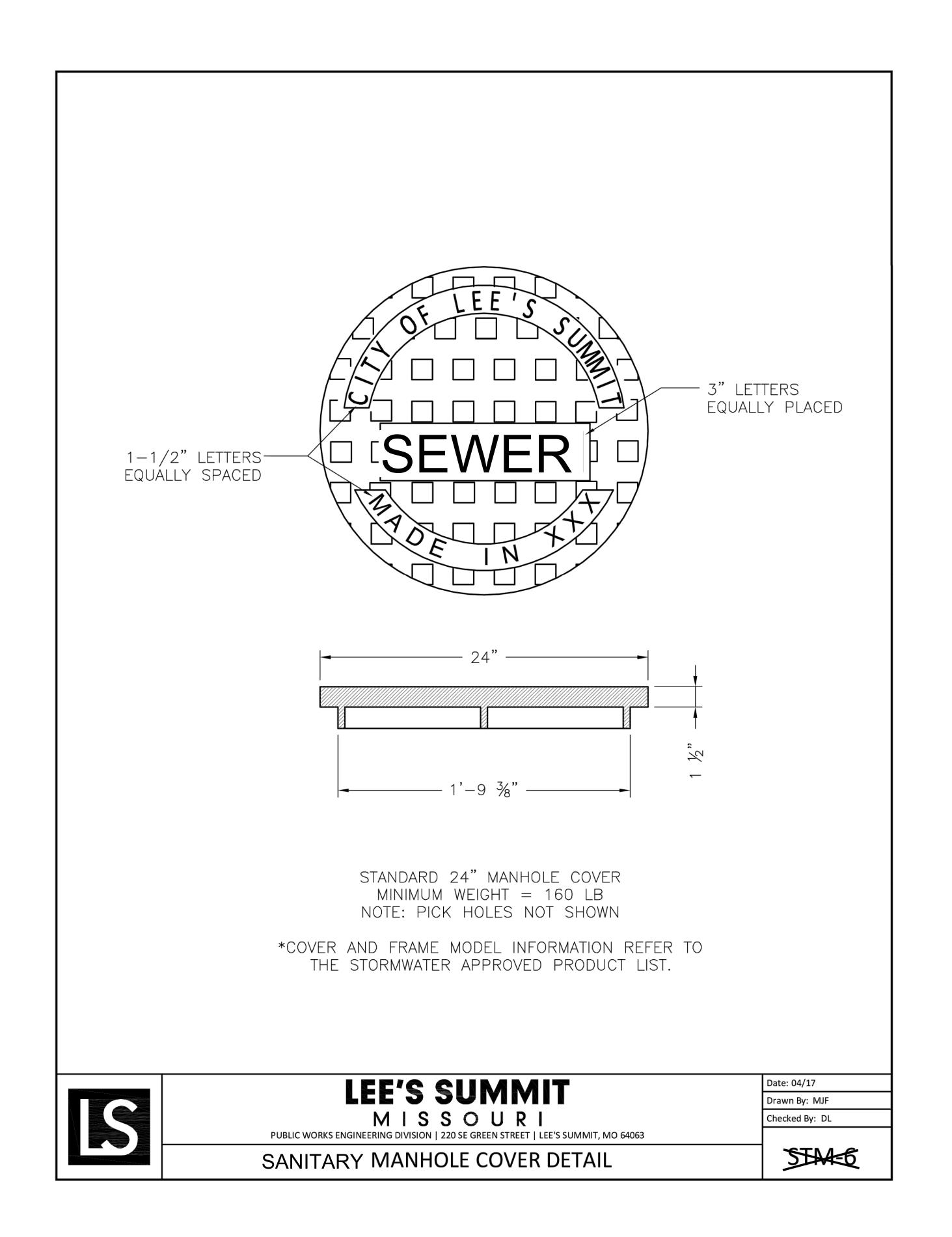


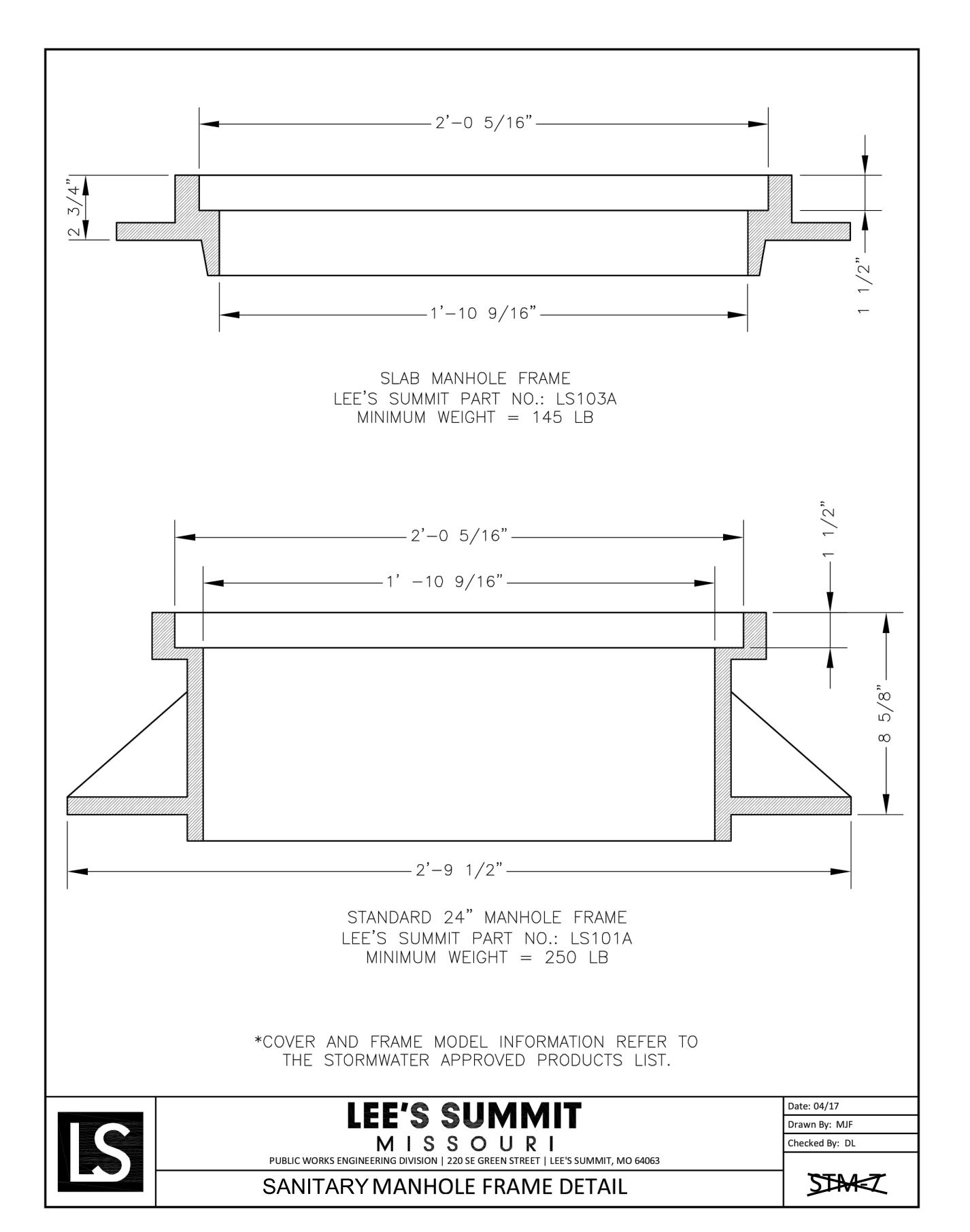


COBEY

16-059 Base 16-059 Offsite Sanitary February 20, 2019

JOB NO. 16-059 5 SHEET OF







A-SITE SANITARY SEWER MAIN EXTENSION SANITARY DETAILS

COBEY CREEK FIRST PLAT

X-REF NO.
16-059 Base

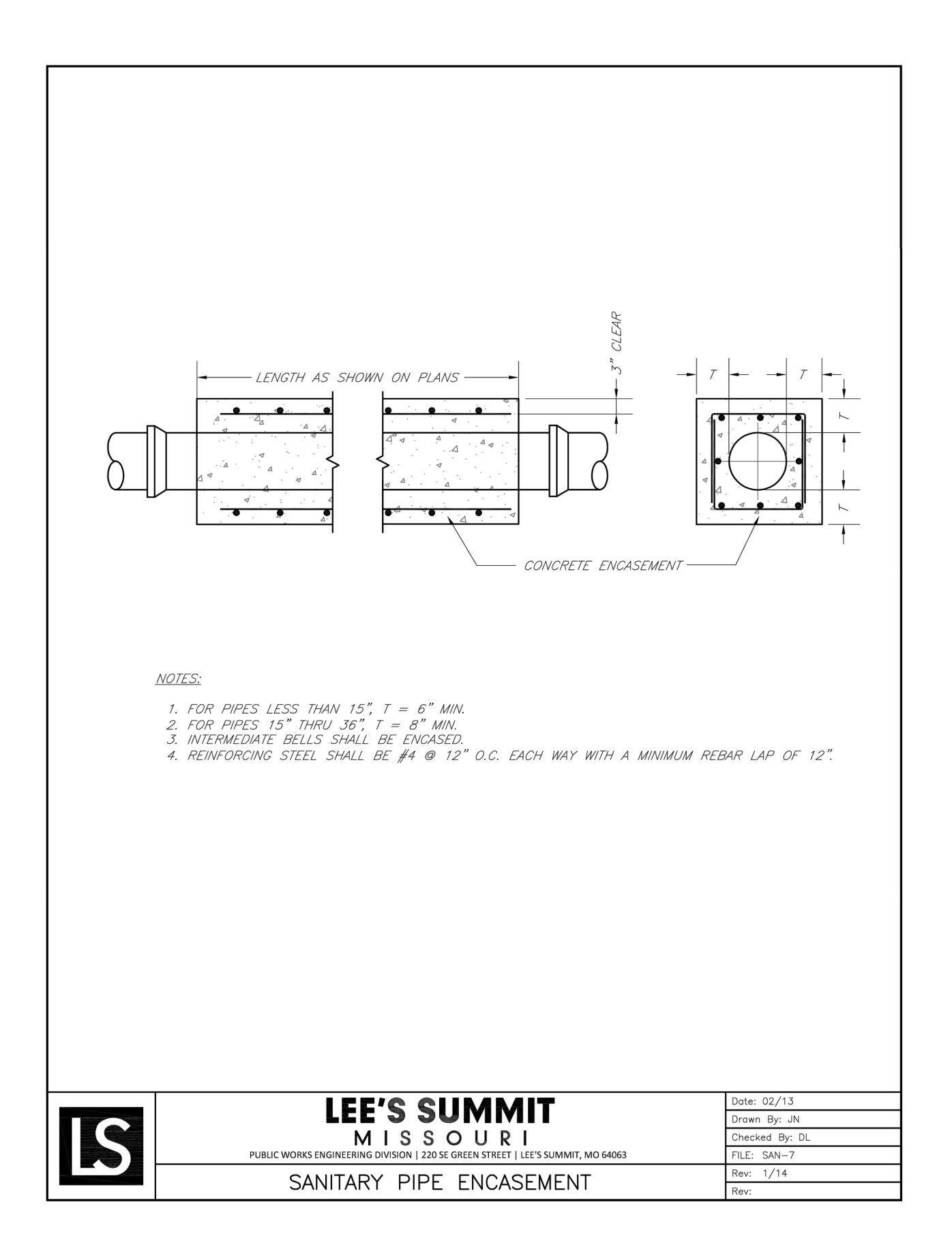
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16-059 Offsite Sanitary

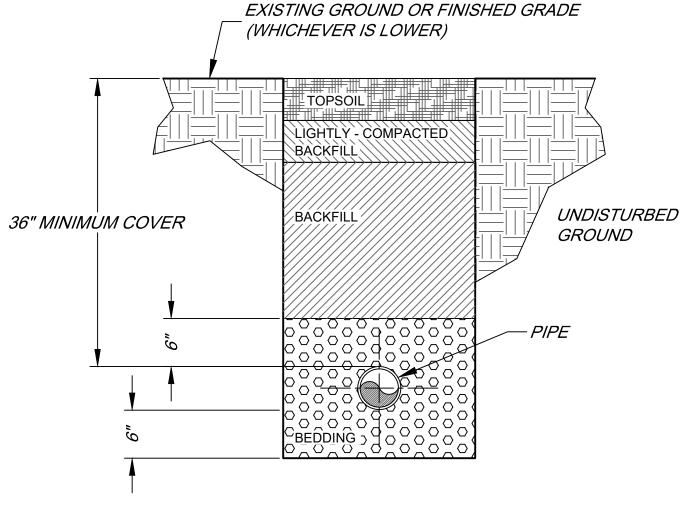
DATE

6 SHEET OF

DATE
February 20, 2019

JOB NO.
16-059





NOTES:

1. BEDDING: BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL OF 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL OF 6 INCHES ABOVE THE TOP OF THE PIPE.

2. BACKFILL: A) TRENCH FOUNDATION:

THE AREA AT THE BOTTOM OF THE EXCAVATION SHALL BE COMPOSED OF A STABLE MATERIAL CAPABLE OF SUPPORTING THE PLACEMENT OF BEDDING MATERIAL, PIPE, OR STRUCTURES. B) BACKFILL OF ALL PIPES UNDER ROADWAYS, CURB AND GUTTER

AND ALL OTHER PAVED AREAS WITHIN THE RIGHT OF WAY SHALL CONSIST OF FLOWABLE BACKFILL AS SPECIFIED IN APWA SPEC. 2100 PARAGRAPH 2602.2H MIX DESIGN TYPE A. THE FLOWABLE BACKFILL SHALL EXTEND 2 FEET FROM THE BACK OF CURB TO 2 FEET BACK OF CURB, UP TO 18" INCHES BELOW FINISHED GRADE. FOR EXISTING ROADWAYS FLOWABLE BACKFILL SHALL BE EXTENDED TO THE BASE OF PAVEMENT.

SANITARY SEWER TYPICAL TRENCHING AND BEDDING DETAIL

NOT TO SCALE

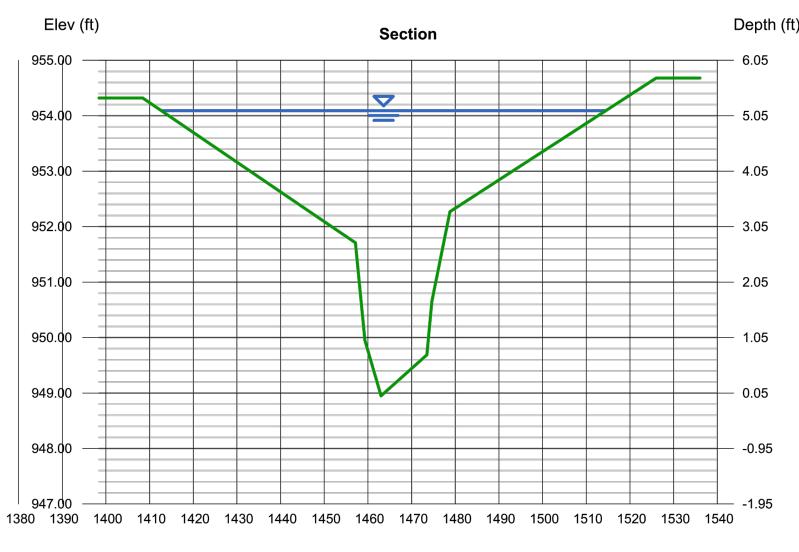
Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Feb 6 2019

Cobey Creek Swale to Tributary B2

| User-defined | | Highlighted | |
|------------------|----------|---------------------|----------|
| Invert Elev (ft) | = 948.95 | Depth (ft) | = 5.14 |
| Slope (%) | = 0.80 | Q (cfs) | = 479.00 |
| N-Value | = 0.069 | Area (sqft) | = 175.08 |
| | | Velocity (ft/s) | = 2.74 |
| Calculations | | Wetted Perim (ft) | = 103.32 |
| Compute by: | Known Q | Crit Depth, Yc (ft) | = 3.74 |
| Known Q (cfs) | = 479.00 | Top Width (ft) | = 101.76 |
| ` , | | ECI (#1) | - 5.26 |

(Sta, El, n)-(Sta, El, n)... (1408.41, 954.32)-(1446.65, 952.27, 0.080)-(1457.14, 951.71, 0.050)-(1459.29, 949.95, 0.035)-(1462.99, 948.95, 0.035)-(1473.51, 949.69, 0.035)-(1474.65, 950.65, -(1478.78, 952.27, 0.050)-(1526.03, 954.68, 0.080)



SWALE TO TRIBUTARY B2 WATER SURFACE CALCULATIONS AT SANITARY SEWER CROSSING



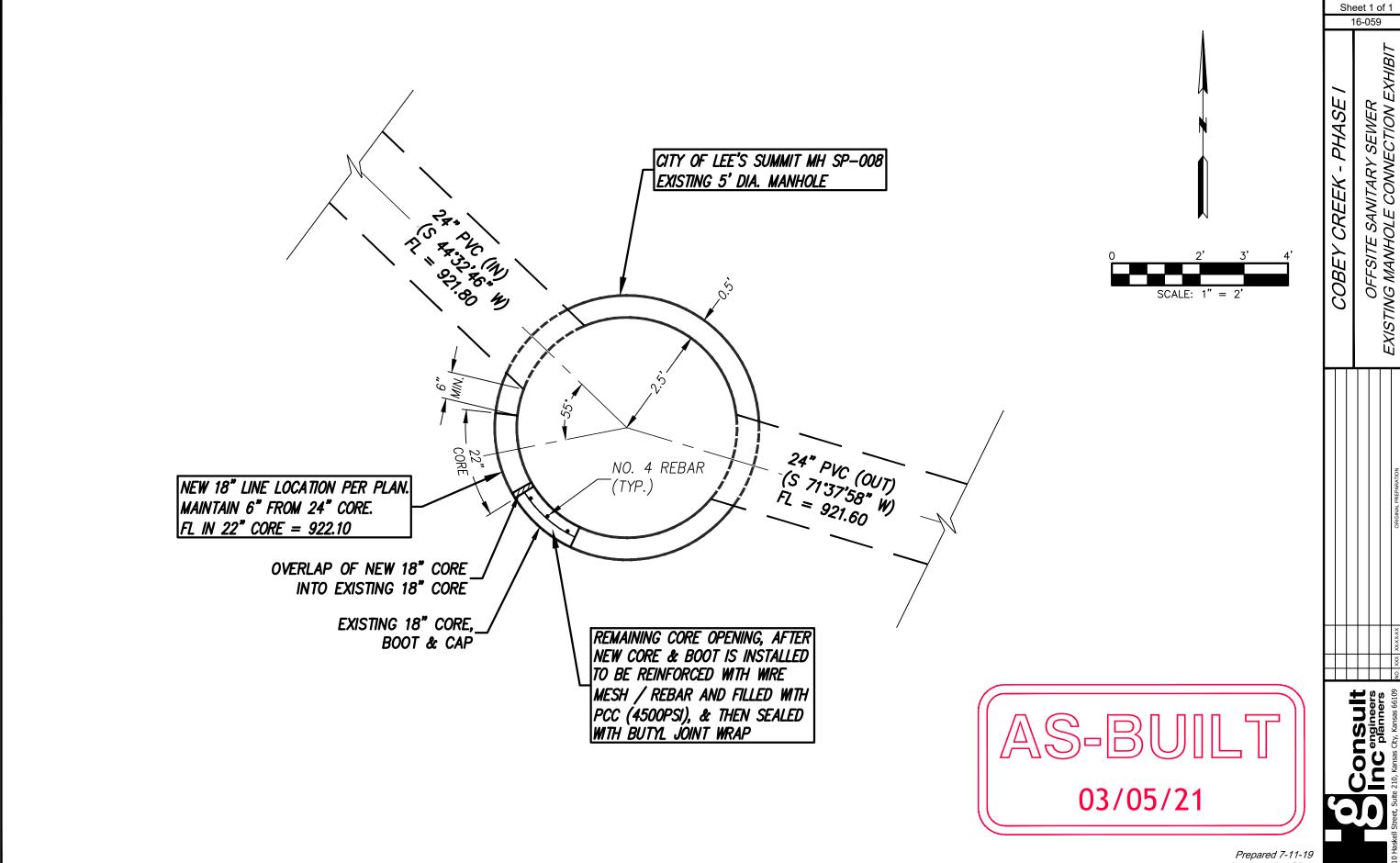
CREEK FIRST PLAT SANITARY SEWER MAIN SANITARY DETAIL

COBEY

16-059 Base

16-059 Offsite Sanitary February 20, 2019 *JOB NO.* 16-059

SHEET OF



Prepared By: SPW