

LEE'S SUMMIT FIRE STATION NO. 4

5031 NORTHEAST LAKEWOOD WAY

LEE'S SUMMIT, MISSOURI 64064

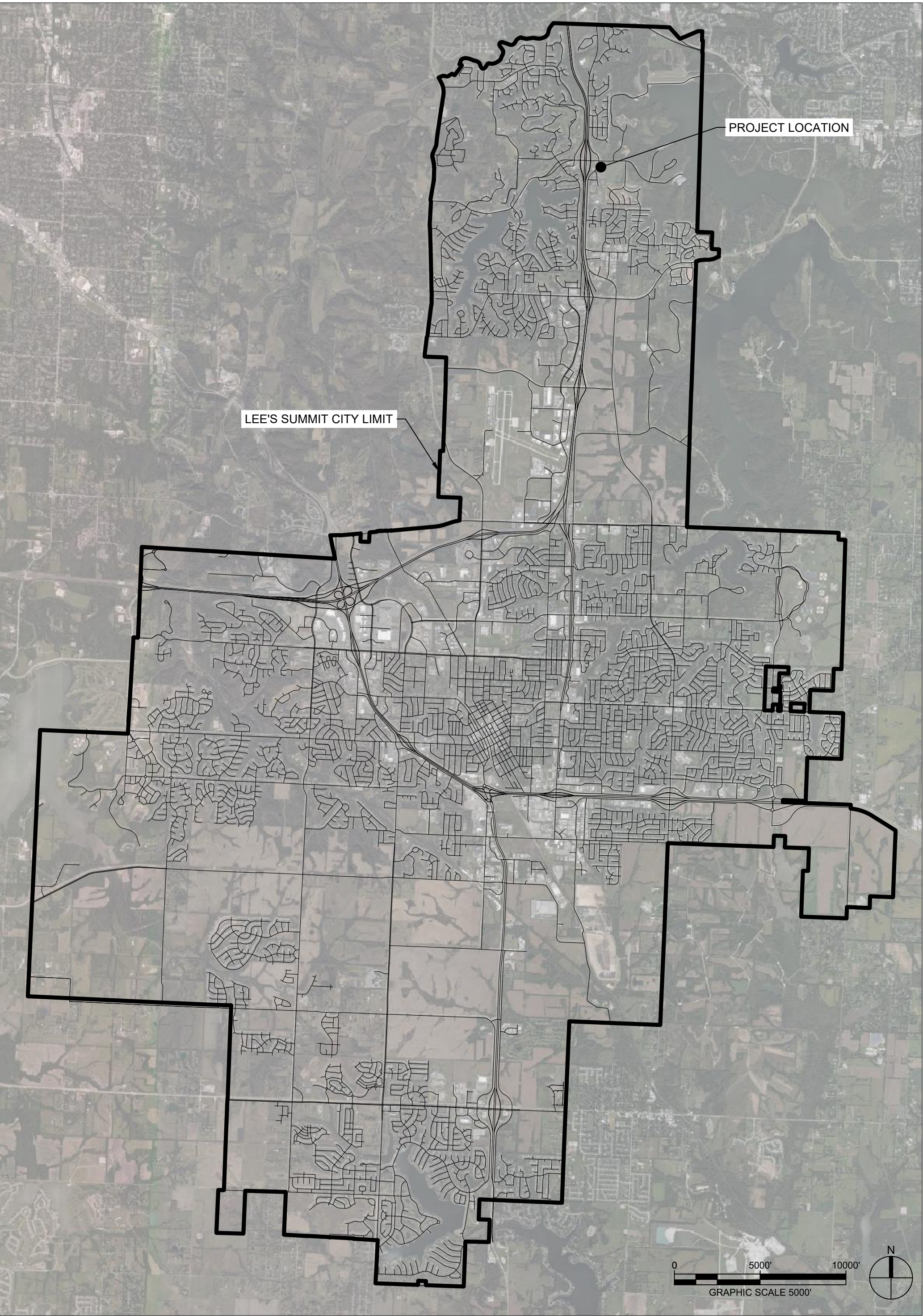
PUBLIC OFFSITE STORM SEWER

CONSULTANT:

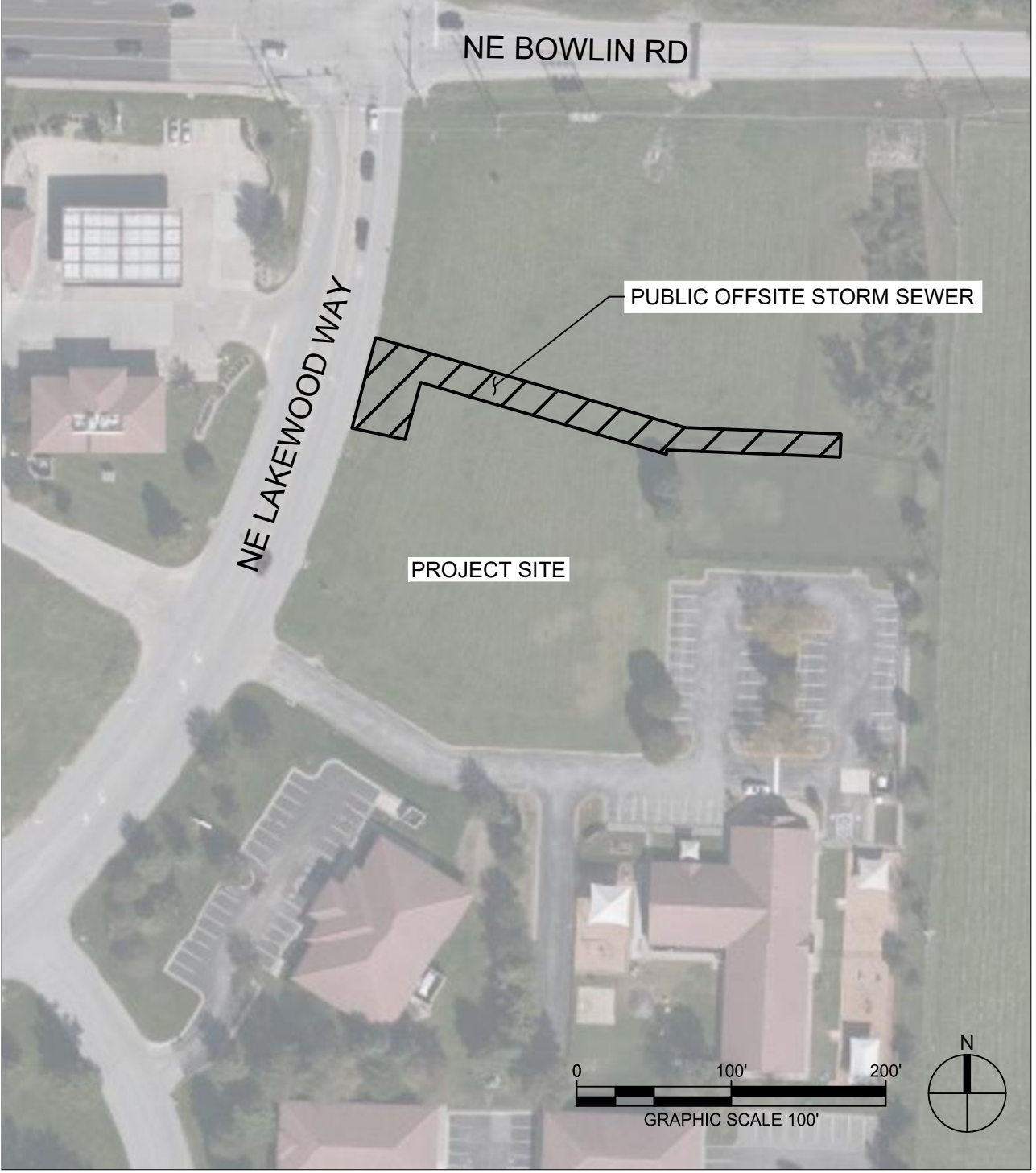


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VICINITY MAP



SITE LOCATION MAP



INDEX OF DRAWINGS

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C-002	COVER SHEET
C-230	PUBLIC STORMWATER PROFILES
C-530	STORMWATER DETAILS
C-540	SANITARY SEWER DETAILS



#	Description	Date
3	ASI 03	12.08.2022

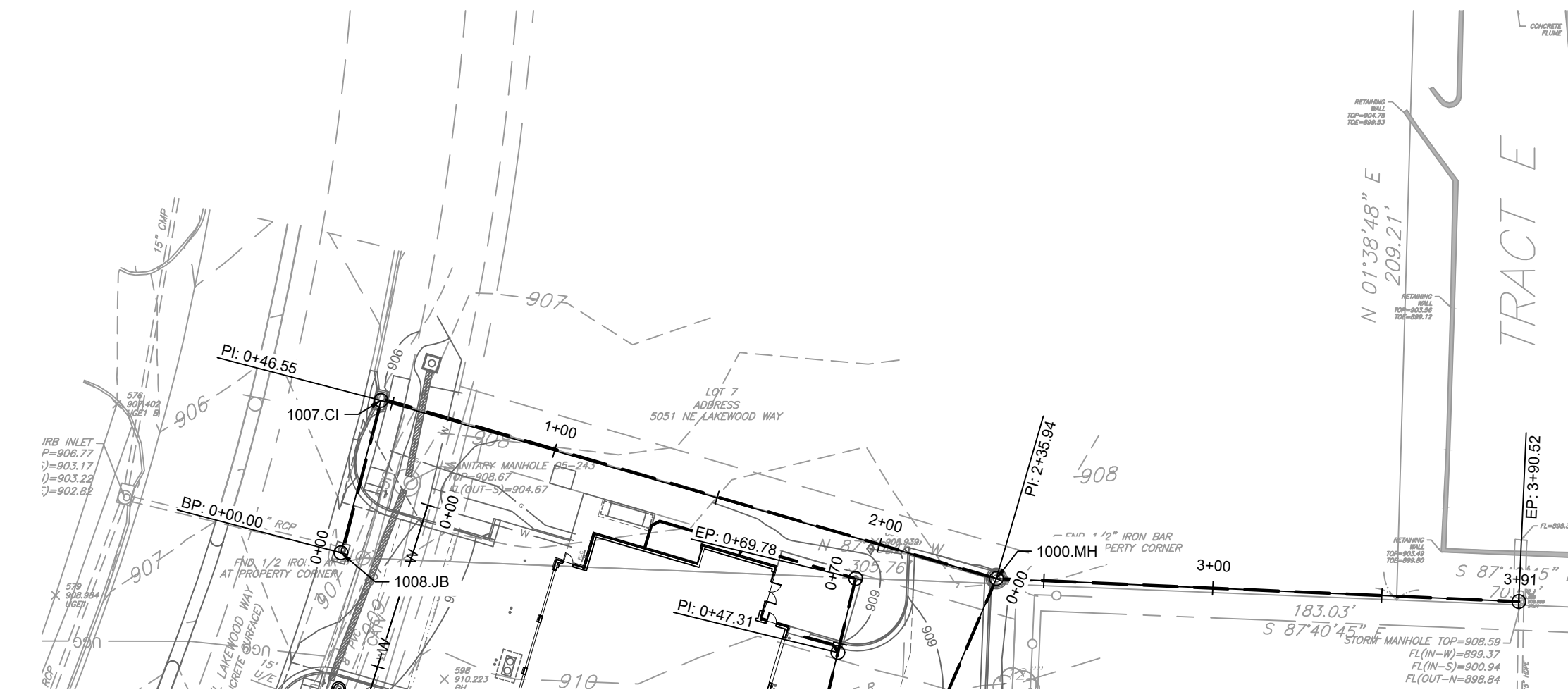
RECORD
DRAWINGS

PROJECT NO: 18225R21001
DATE: 12.08.2022

COVER
SHEET

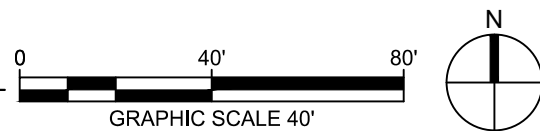
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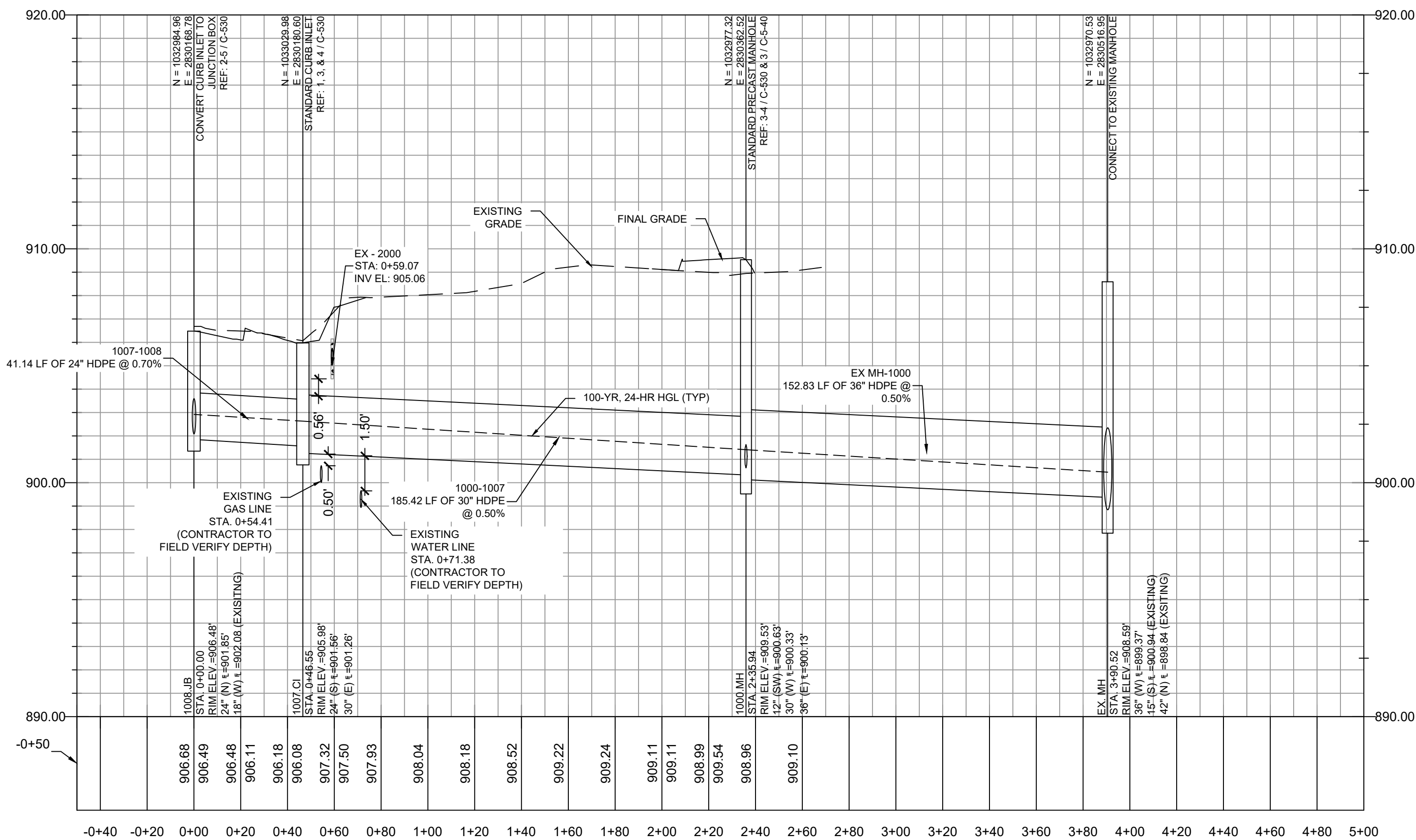


1 EX MH - 1008.JB PLAN

SCALE: 1"=40'



C



2 EX MH - 1008.JB PROFILE

SCALE: HORIZONTAL 1"=40' SCALE: VERTICAL 1"=4'

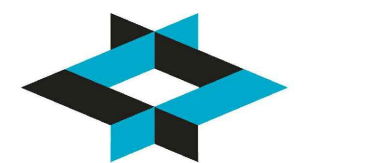
A

100-YR, 24-HR STORM EVENT													
PIPE NAME	UPSTREAM NODE	DOWNSTREAM NODE	LENGTH (FT)	INLET INVERT ELEVATION (FT)	OUTLET INVERT ELEVATION (FT)	SLOPE (%)	PIPE DIAMETER (INCHES)	MANNING'S ROUGHNESS (N)	ENTRANCE LOSSES	EXIT/BEND LOSSES	PEAK FLOW (CFS)	TIME OF PEAK FLOW OCCURRENCE (DAYS HH:MM)	MAX FLOW VELOCITY (FT/SEC)
EX-MH-1000	1000.MH	EX-MH	152.83	900.13	899.37	0.50	36	0.012	0.50	0.90	14.11	0 12:05	6.17
1000-1007	1007.CI	1000.MH	185.42	901.26	900.33	0.50	30	0.012	0.50	0.80	12.23	0 12:05	6.05
1007-1008	1008.JB	1007.CI	41.14	901.85	901.56	0.70	24	0.012	0.50	0.80	11.50	0 12:00	6.74

100-YR, 24-HR STORM EVENT	
STRUCTURE NAME	MAX HGL ELEVATION (FT)
EX. MH	900.45
1000.MH	901.41
1007.CI	902.63
1008.JB	902.92

GENERAL NOTES:

- CONSTRUCTION OF STORMWATER IMPROVEMENTS SHALL BE AS PER CITY OF LEE'S SUMMIT, MO STANDARD SPECIFICATIONS AND STANDARD SPECIAL PROVISIONS.
- THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION AND FOR MAKING HIS OWN VERIFICATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- PROTECT ALL COMPONENTS DURING DEMOLITION / CONSTRUCTION PROCESS. MAINTAIN BMP'S THROUGHOUT THE DURATION OF CONSTRUCTION.
- CONTRACTOR TO PROVIDE DETAILED AS-BUILT DRAWINGS TO OWNER, ENGINEER, AND CITY OF LEE'S SUMMIT, MO UPON COMPLETION OF ALL IMPROVEMENTS.



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(913) 362-9090 PHONE

SECURITY & IT ENGINEERS

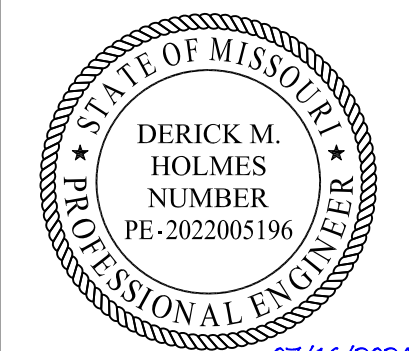
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FIRE STATION #4 CITY OF LEE'S SUMMIT

5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022
3	ASI 03	12.08.2022



DERICK HOLMES - CIVIL ENGINEER
MOR PE-2022005196

The Professional Engineers and Architect are not responsible for the design or construction of any structure or system not shown on this sheet. It is the responsibility of the client to verify the accuracy of the information provided on this sheet. The Professional Engineers and Architect are not responsible for the design or construction of any structure or system not shown on this sheet. It is the responsibility of the client to verify the accuracy of the information provided on this sheet.

PROJECT NO: 18225R21001

DATE: 10.19.2022

DRAWN BY: HFL

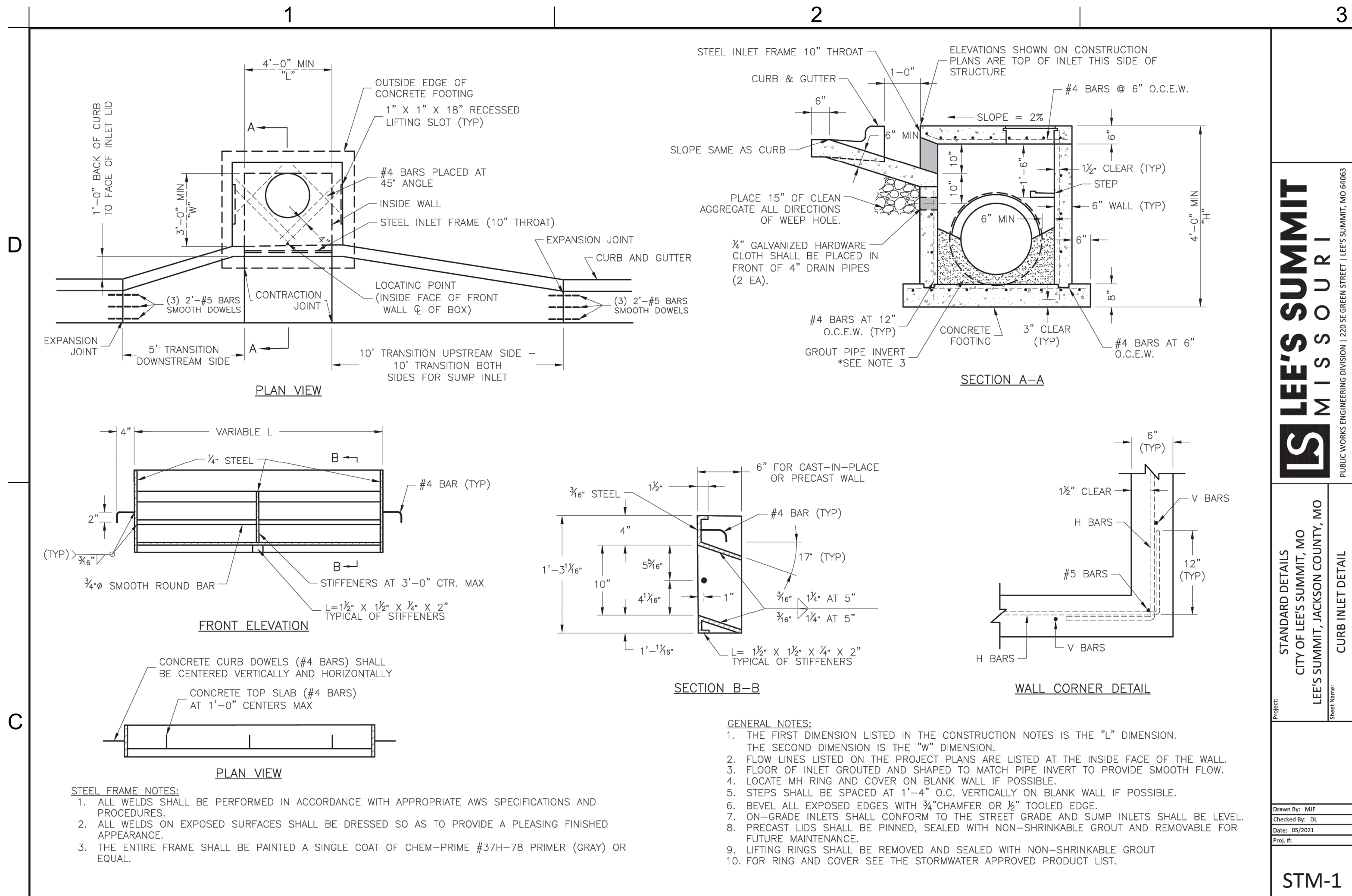
CHKD BY: CDW

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PUBLIC
STORMWATER
PROFILES

C-230

PLEASE CONSIDER THE ENVIRONMENT
BEFORE PRINTING THIS



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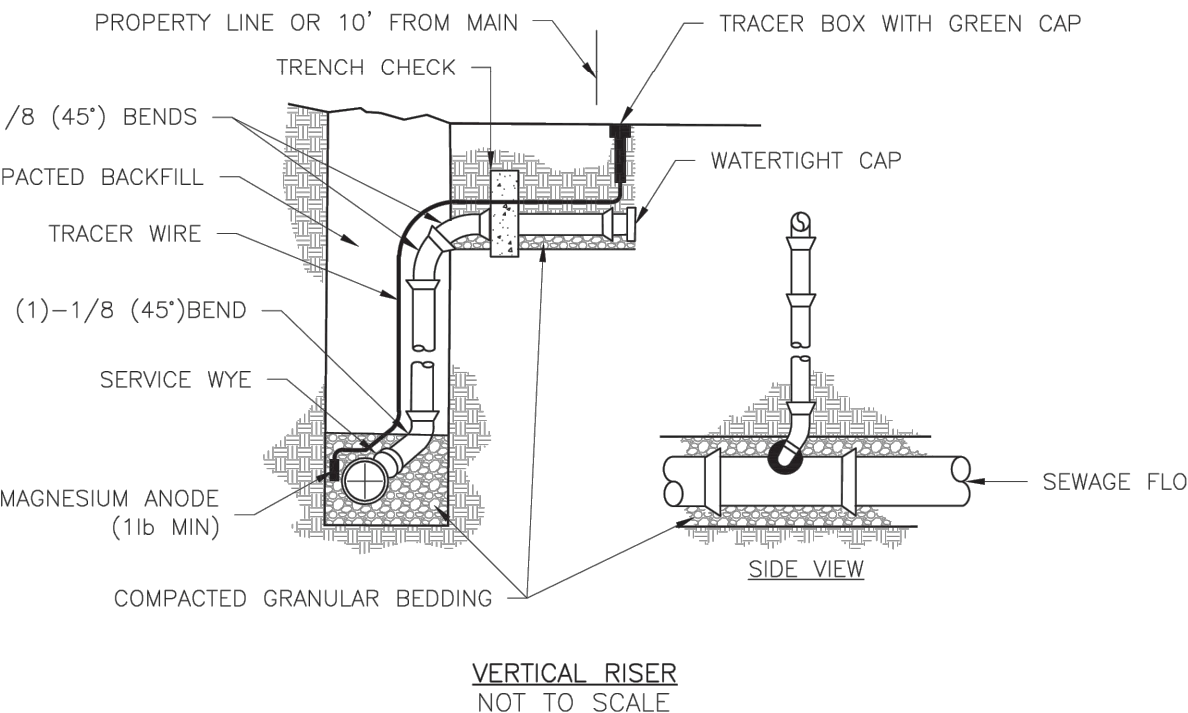
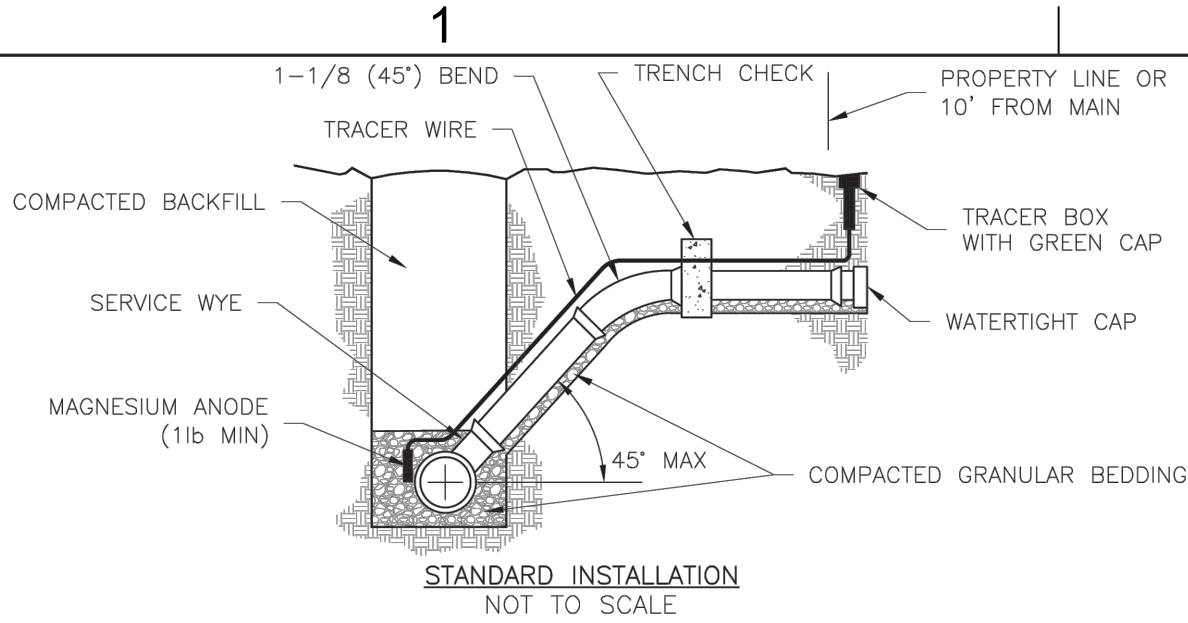
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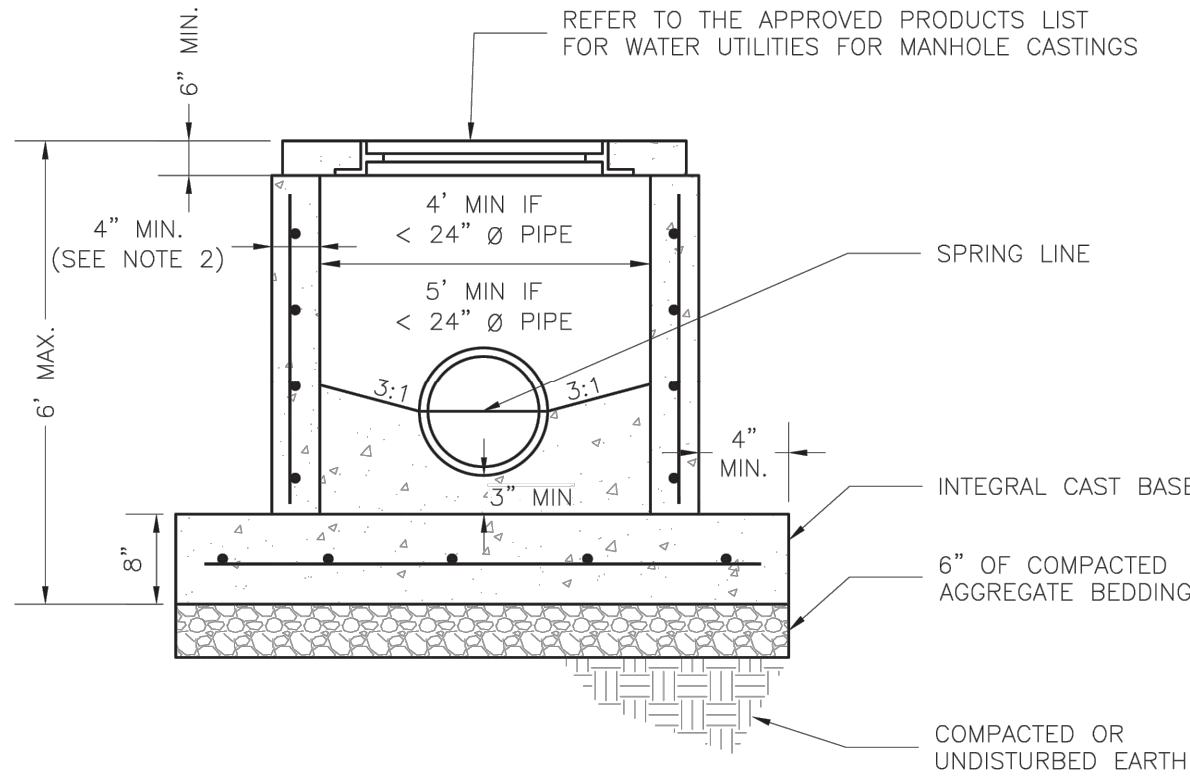


- NOTES:
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHICHEVER IS GREATER. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
 2. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
 3. 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 PIPE.
 4. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
 5. #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.
 6. 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.
 7. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
 8. 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.

LS	LEE'S SUMMIT MISSOURI <small>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</small>	Date: 12/2015 Drawn By: MJF Checked By: DL
	SANITARY SEWER STUB DETAIL	SAN-1

SANITARY SEWER STUB

NTS

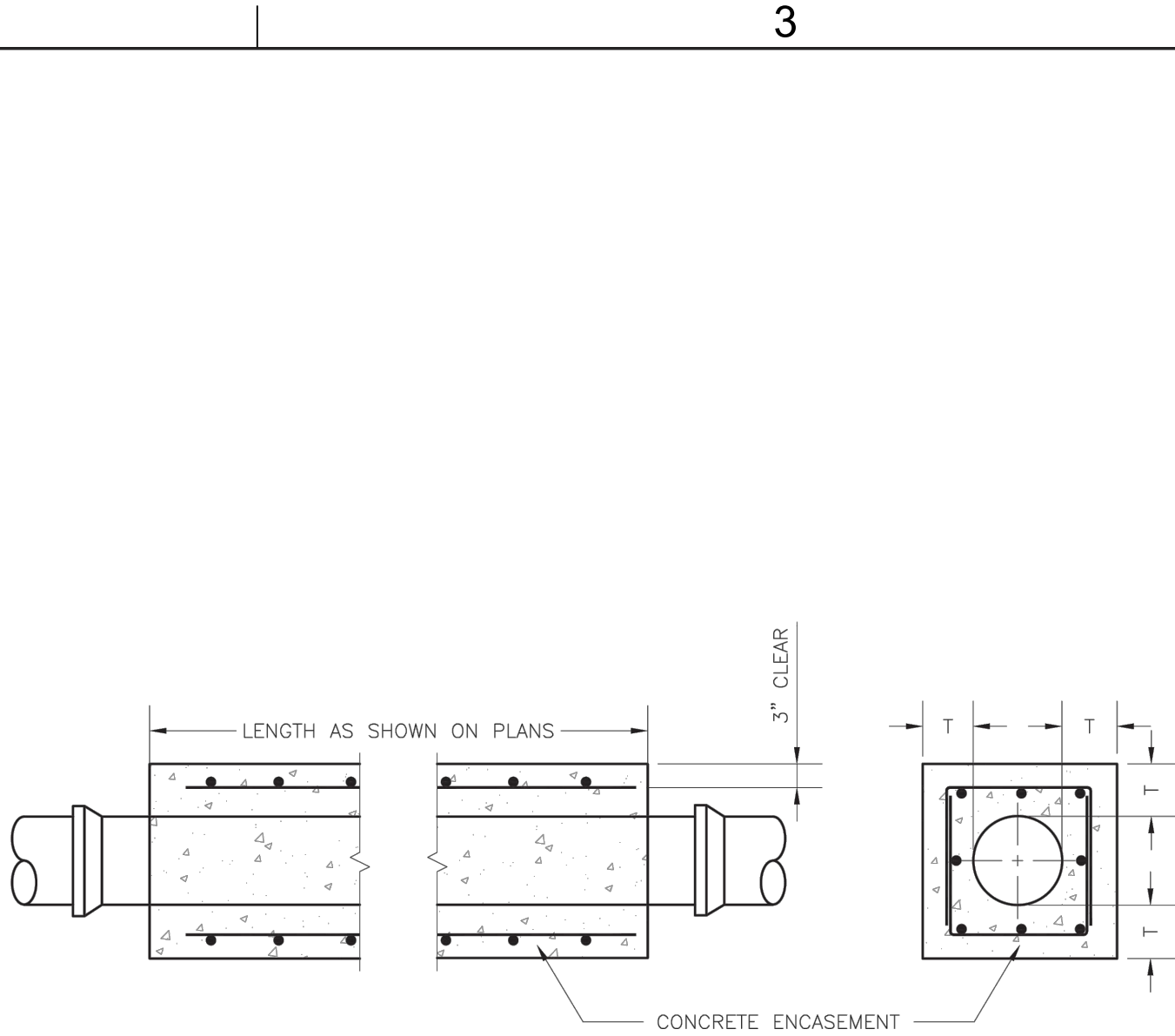


- NOTES:
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
 2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER SHALL BE USED.
 3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS 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'.

LS	LEE'S SUMMIT MISSOURI <small>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</small>	Date: 12/2015 Drawn By: MJF Checked By: DL
	STANDARD SHALLOW SANITARY PRECAST MANHOLE	SAN-3

STANDARD SHALLOW SANITARY PRECAST MANHOLE

NTS

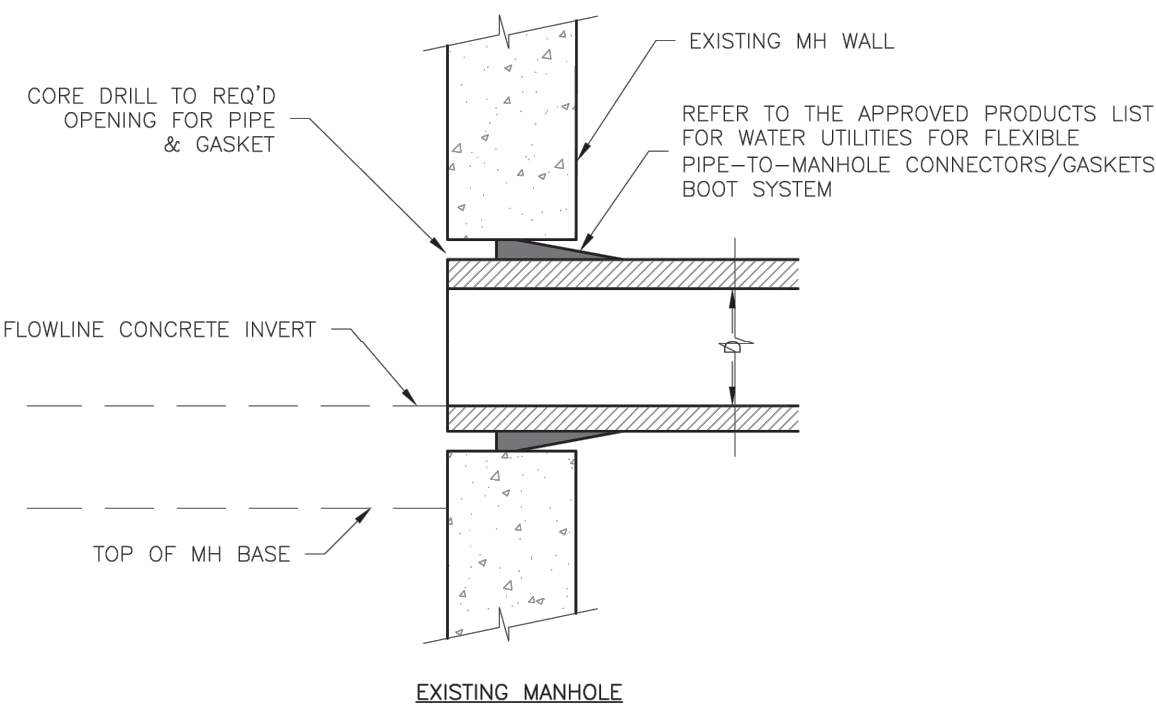
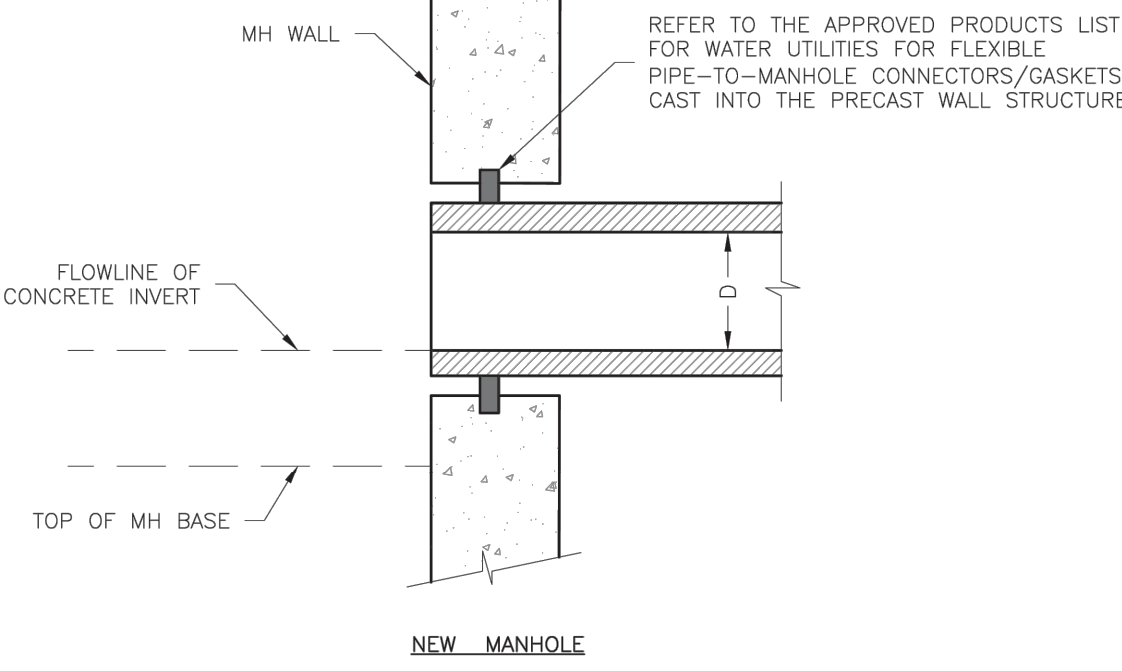


- NOTES:
1. FOR PIPES LESS THAN 15", T = 6" MIN.
 2. FOR PIPES 15" THRU 36", T = 8" MIN.
 3. INTERMEDIATE BELLS SHALL BE ENCASED.
 4. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".

LS	LEE'S SUMMIT MISSOURI <small>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</small>	Date: 01/2016 Drawn By: JN Checked By: DL
	PIPE ENCASEMENT DETAIL	SAN-7

PIPE ENCASEMENT

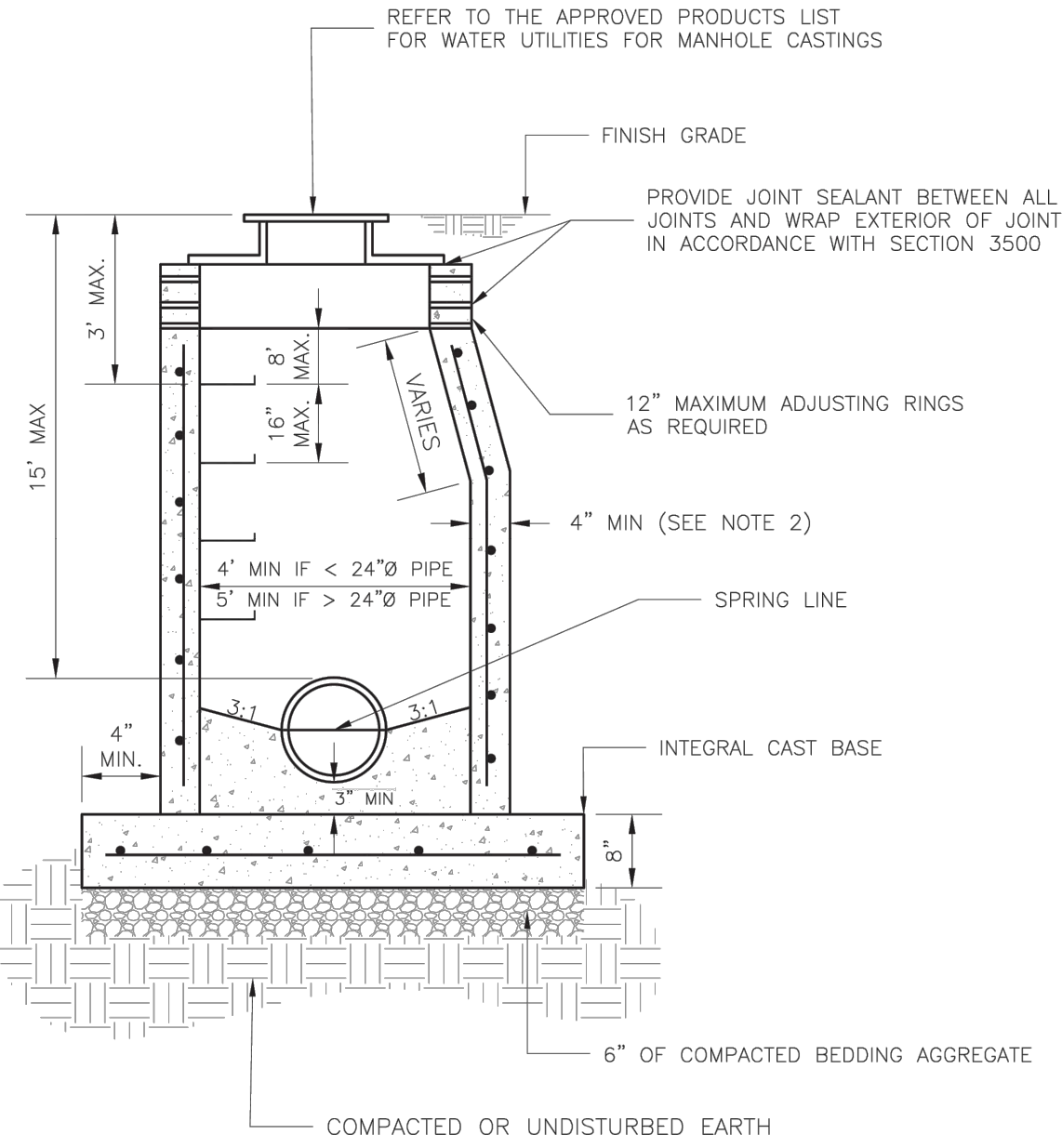
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LS	LEE'S SUMMIT MISSOURI <small>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</small>	Date: 02/2013 Drawn By: MJF Checked By: DL
	MANHOLE WALL CONNECTION	SAN-5

MANHOLE WALL CONNECTION

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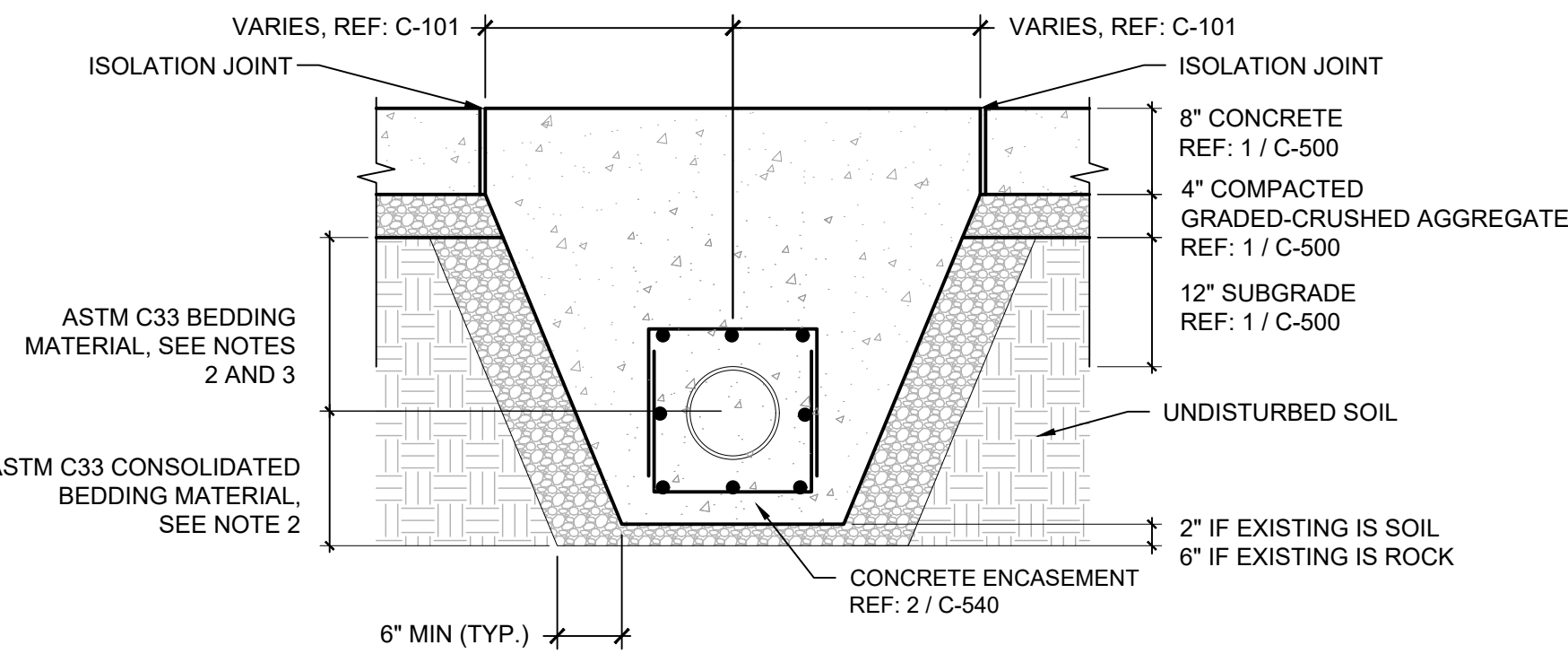


- NOTES:
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
 2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THAN 15'.
 3. WATERPROOFING SHALL BE REQUIRED 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.

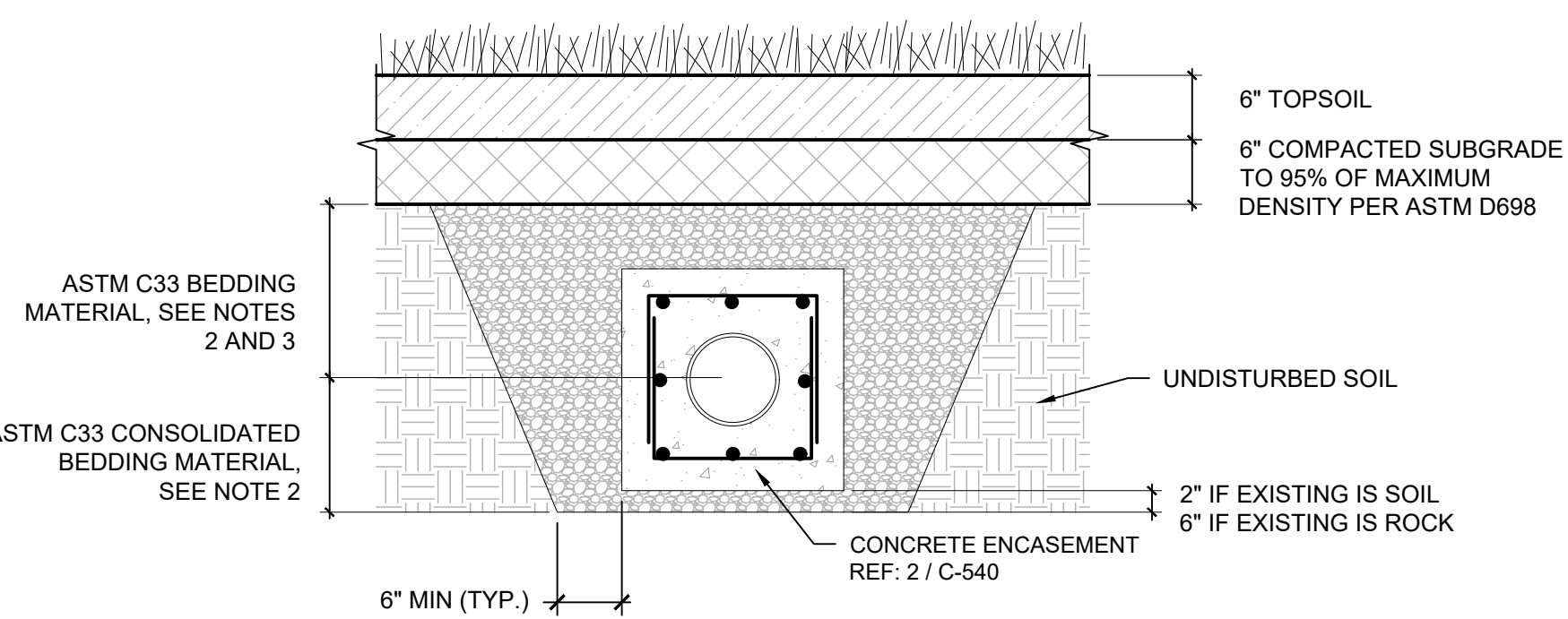
LS	LEE'S SUMMIT MISSOURI <small>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</small>	Date: 12/2015 Drawn By: SC Checked By: DL
	STANDARD SANITARY PRECAST MANHOLE	SAN-2

STANDARD SANITARY PRECAST MANHOLE

NTS



SANITARY SEWER UNDER PAVEMENT



SANITARY SEWER UNDER GRASS

- NOTES:
1. INSTALLATION SHALL BE AS PER THE KANSAS CITY METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (KC APWA) SPECIFICATION 2100, GRADING AND SITE PREPARATION.
 2. BEDDING MATERIAL SHALL MEET THE REQUIREMENTS OF KC APWA SPECIFICATION 2102.4 G. PLACE BEDDING PER SECTION 2102.4 H.
 3. BEDDING MATERIAL TO BE HAND COMPACTED TO 95% OF MAX DENSITY (ASTM D698).

TRENCHING & BACKFILL DETAIL

NTS

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FIRE STATION #4
CITY OF LEE'S SUMMIT

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LEE'S SUMMIT, MISSOURI 64064

#	Description	Date
3	ASI 03	12.08.2022
11	ASI 11	08.08.2023

STATE OF MISSOURI
PROFESSIONAL ENGINEER
DERICK M. HOLMES
NUMBER
PE-2022005196
07/16/2024
DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196
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PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	DMH
CHKD BY:	SJB

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SANITARY SEWER DETAILS

C-540

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