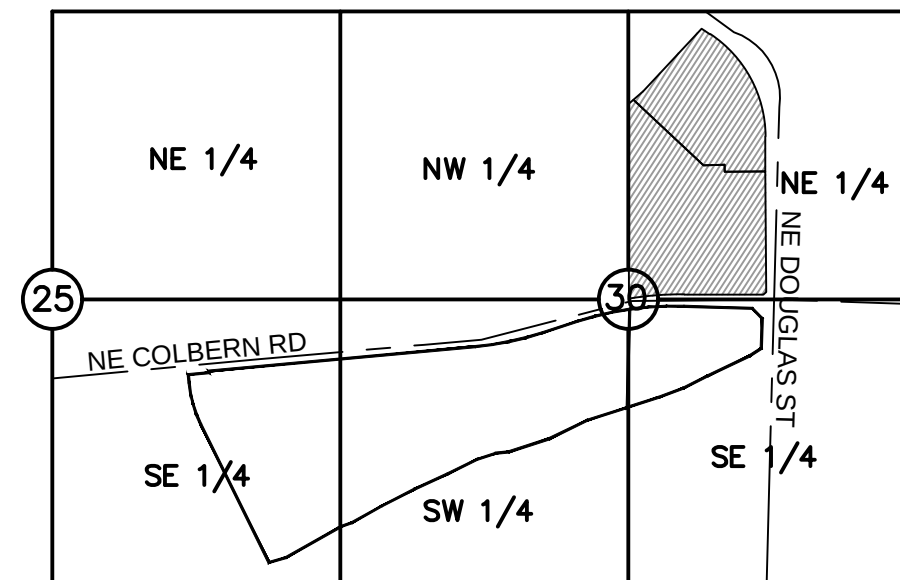


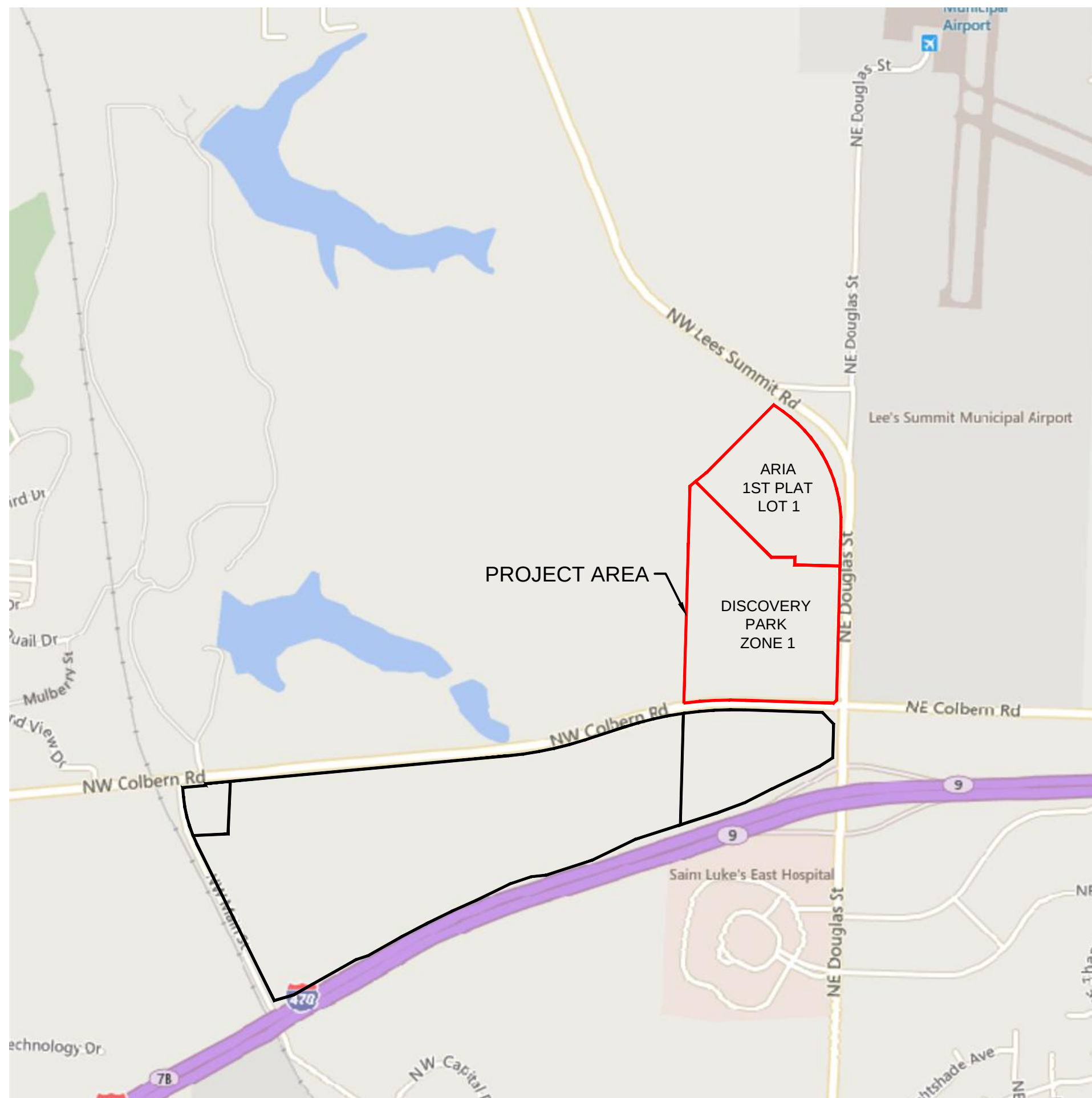
PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

SECTION 25, TOWNSHIP 48N, RANGE 32W
SECTION 30, TOWNSHIP 48N, RANGE 31W
IN LEE'S SUMMIT, JACKSON COUNTY, MO



S25, T48N, R32W
S30, T48N, R31W
N.T.S.
VICINITY MAP

PROJECT TEAM & UTILITY CONTACT LIST	
<u>OWNER/DEVELOPER</u> INTRINSIC DEVELOPMENT 3622 ENDEAVOR AVE. STE. 101 COLUMBIA, MO 65201 CONTACT: JON ODLE PHONE: 573.615.2252	<u>UTILITY SERVICE NUMBERS</u> NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER UTILITIES PHONE: 816-969-1900 NAME: SPIRE PHONE: 314-342-0500
<u>ENGINEER</u> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: DAVID DEICKMAN PHONE: 816.854.9315 EMAIL: DEICKMAN@OLSSON.COM	NAME: AT&T PHONE: 800-286-8313 NAME: EVERGY PHONE: 816-471-5275 NAME: SPECTRUM PHONE: 877-772-2253
<u>SURVEYOR</u> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH PHONE: 816.361.1177 EMAIL: JROUDEBUSH@OLSSON.COM	NAME: GOOGLE FIBER PHONE: 877-454-6959



PROPERTY DESCRIPTION

AIRIA FIRST PLAT LOT 1:
AS PROVIDED BY STEWART TITLE GUARANTY COMPANY:
TRACT OF LAND IN THE NORTHEAST QUARTER OF SECTION 30 TOWNSHIP 48 NORTH, RANGE 31 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER SECTION; THENCE SOUTH 01 DEGREES 37 MINUTES 50 SECONDS WEST, ON THE WEST LINE OF SAID QUARTER SECTION, 853.75 FEET TO A POINT ON THE SOUTHEAST LOT LINE OF LOT 1, LEE'S SUMMIT ROAD PUMP STATION, A SUBDIVISION RECORDED IN BOOK 1 51 AT PAGE 90 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE NORTH 50 DEGREES 41 MINUTES 15 SECONDS EAST, ON SAID SOUTHEAST LOT LINE, 59.22 FEET; TO THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE CONTINUING NORTH 50 DEGREES 41 MINUTES 15 SECONDS EAST ALONG SAID LINE, 116.89 FEET; THENCE NORTH 44 DEGREES 49 MINUTES 51 SECONDS EAST, 792.38 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NW LEE'S SUMMIT ROAD AS ESTABLISHED BY DOCUMENT NUMBER 2015E0017982 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE ON SAID WESTERLY RIGHT-OF-WAY LINE, SOUTH 54 DEGREES 34 MINUTES 12 SECONDS EAST, 95.69 FEET; THENCE SOUTHEASTERLY ALONG A CURVE TO THE RIGHT BEING TANGENT TO THE LAST DESCRIBED COURSE WITH A RADIUS OF 1,142.00 FEET, A CENTRAL ANGLE OF 56 DEGREES 01 MINUTES 43 SECONDS AND AN ARC DISTANCE OF 1,116.74 FEET; THENCE SOUTH 01 DEGREES 27 MINUTES 31 SECONDS WEST, 322.27 FEET; THENCE LEAVING SAID RIGHT-OF-WAY LINE, NORTH 88 DEGREES 32 MINUTES 29 SECONDS WEST, 375.74 FEET; THENCE NORTH 01 DEGREES 27 MINUTES 27 SECONDS EAST, 62.94 FEET; THENCE SOUTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 195.68 FEET; THENCE NORTH 45 DEGREES 00 MINUTES 00 SECONDS WEST, 889.18 FEET TO THE POINT OF BEGINNING, CONTAINING 979,968 SQUARE FEET OR 22.50 ACRES, MORE OR LESS

DISCOVERY PARK ZONE 1:
A TRACT OF LAND IN THE NORTHEAST QUARTER OF SECTION 30 TOWNSHIP 48 NORTH, RANGE 31 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER SECTION; THENCE SOUTH 01°37'50" WEST, ON THE WEST LINE OF SAID QUARTER SECTION, 853.75 FEET TO A POINT ON THE SOUTHEAST LOT LINE OF LOT 1, LEE'S SUMMIT ROAD PUMP STATION, A SUBDIVISION RECORDED IN BOOK 1 51 AT PAGE 90 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE, AND THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE NORTH 50°41'15" EAST, ON SAID SOUTHEAST LOT LINE, 59.22 FEET; THENCE LEAVING SAID LOT LINE, SOUTH 45°00'00" EAST, 889.18 FEET; THENCE NORTH 90°00'00" EAST, 195.68 FEET; THENCE SOUTH 01°27'22" WEST, 62.94 FEET; THENCE SOUTH 88°32'29" EAST, 375.74 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NE DOUGLAS STREET AS ESTABLISHED BY DOCUMENT NUMBER 2015E0017982 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE ON SAID WESTERLY RIGHT-OF-WAY LINE, SOUTH 01°27'31" WEST, 1,114.58 FEET; THENCE SOUTH 46°40'17" WEST, 35.22 FEET TO THE INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY LINE OF NE COLBURN ROAD AS ESTABLISHED BY A SURVEY PROVIDED BY HAMILTON STERRETT AND DOOLEY, PROJECT NUMBER 99021; THENCE ON SAID NORTHERLY RIGHT-OF-WAY LINE NORTH 88°06'56" WEST, 730.85 FEET; THENCE WESTERLY ALONG A CURVE TO THE LEFT HAVING AN INITIAL TANGENT BEARING OF NORTH 87°33'04" WEST WITH A RADIUS OF 2,904.93 FEET, A CENTRAL ANGLE OF 10°06'02" AND AN ARC DISTANCE OF 512.10 FEET TO THE SOUTHWEST CORNER OF THE SAID NORTHEAST QUARTER; THENCE NORTH 01°37'22" EAST, ON THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30, A DISTANCE OF 1,328.05 FEET TO THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SAID NORTHEAST QUARTER; THENCE CONTINUING ON THE SAID WEST LINE, NORTH 01°37'50" EAST, 473.96 FEET TO THE POINT OF BEGINNING, CONTAINING 1,717.917 SQUARE FEET OR 39.42 ACRES, MORE OR LESS.

Sheet List Table	
Sheet Number	Sheet Title
C650	TITLE SHEET
C651	GENERAL NOTES
C652	OVERALL SANITARY SEWER PLAN
C653	SANITARY SEWER PLAN & PROFILE (EX. SANITARY LINE Z)
C654	SANITARY SEWER PLAN & PROFILE (EX. SANITARY LINE Z CONT'D)
C655	SANITARY SEWER PLAN & PROFILE (EX. SANITARY LINE Z CONT'D)
C656	SANITARY SEWER PLAN & PROFILE (SANITARY LINE A)
C657	SANITARY SEWER PLAN & PROFILE (SANITARY LINE A CONT'D)
C658	SANITARY SEWER PLAN & PROFILE (SANITARY LINE A CONT'D)
C659	SANITARY SEWER PLAN & PROFILE (SANITARY LINE B)
C660	SANITARY SEWER PLAN & PROFILE (SANITARY LINES C, D & E)
C661	SANITARY FORCE MAIN RELOCATION PLAN & PROFILE
C662	SANITARY FORCE MAIN RELOCATION PLAN & PROFILE CONT'D
C663	SANITARY FORCE MAIN RELOCATION PLAN & PROFILE CONT'D
C664	SANITARY FORCE MAIN RELOCATION PLAN & PROFILE CONT'D
C665	SANITARY SEWER MASTER DRAINAGE PLAN
C666	SANITARY SEWER CALCULATIONS
C667	SANITARY SEWER DETAILS
C668	SANITARY SEWER DETAILS

OIL/GAS WELLS:

NO OIL OR GAS WELLS ARE LOCATED WITHIN PROJECT LIMITS.
INFORMATION OBTAINED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES,
GEOLOGICAL SURVEY GEOSCIENCES TECHNICAL RESOURCE ASSESSMENT TOOL (GEOSTRAT).

FLOOD CERTIFICATION:

THE ENTIRE SITE IS LOCATED WITHIN ZONE X, "AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM THE 1% ANNUAL CHANCE FLOOD" AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 29095C0409G, REVISION DATE JANUARY 20, 2017.

[illegible]

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USER: oromeroev



PLAN LEGEND

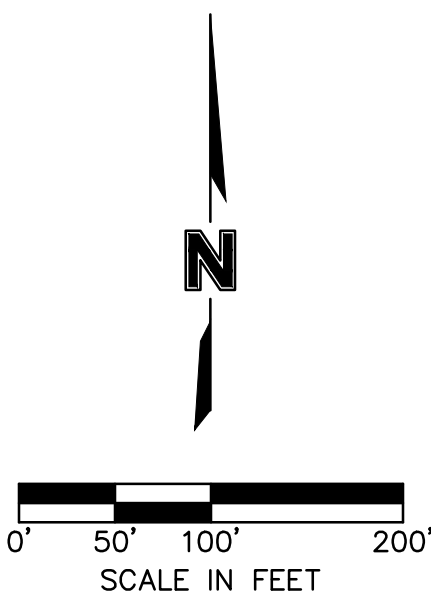
*THIS LEGEND APPLIES TO ALL SHEETS UNLESS EXPLICITLY SHOWN OTHERWISE ON EACH SHEET.

- SS EXISTING SANITARY SEWER
- SS PROPOSED SANITARY SEWER
- PROPERTY LINE / R/W LINE
- PROPERTY LOT LINE
- PROPOSED SANITARY SEWER EASEMENT
- OTHER UTILITIES' EASEMENT
- PROPOSED STORM SEWER
- W PROPOSED WATER PIPE
- P-UG EXISTING POWER SERVICE
- G EXISTING NATURAL GAS PIPE

✕ REMOVE EXISTING TREE

- EXISTING LIGHT POLE
- ⊕ EXISTING SIGN
- ⊠ EXISTING SPRINKLER BOX
- ⊕ EXISTING SPRINKLER CONTROL VALVE
- ⊕ EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- ⊠ EXISTING WATER METER
- ⊠ EXISTING ELECTRIC BOX
- ⊠ EXISTING ELECTRIC VAULT
- ⊠ EXISTING ELECTRIC METER
- ⊠ EXISTING ELECTRIC RISER
- EXISTING ELECTRIC MANHOLE

*SCALE MAY AFFECT THE SIZE OF SURVEY SYMBOLS IN PLAN, BUT SHAPE WILL BE RETAINED.



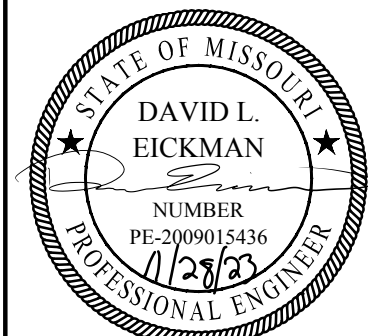
OVERALL SANITARY SEWER PLAN PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBURN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

2023

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/16/2023	REVISED PER CITY COMMENTS	



DAVID EICKMAN, P.E.
MOR 2009015436

REVISIONS

drawn by: GS/SOSUN
checked by: AR/JN
approved by: DE
QA/QC by: JS/NH
project no.: D21-04643
drawing no.: C_SAND0_D2104643
date: 11.28.2023

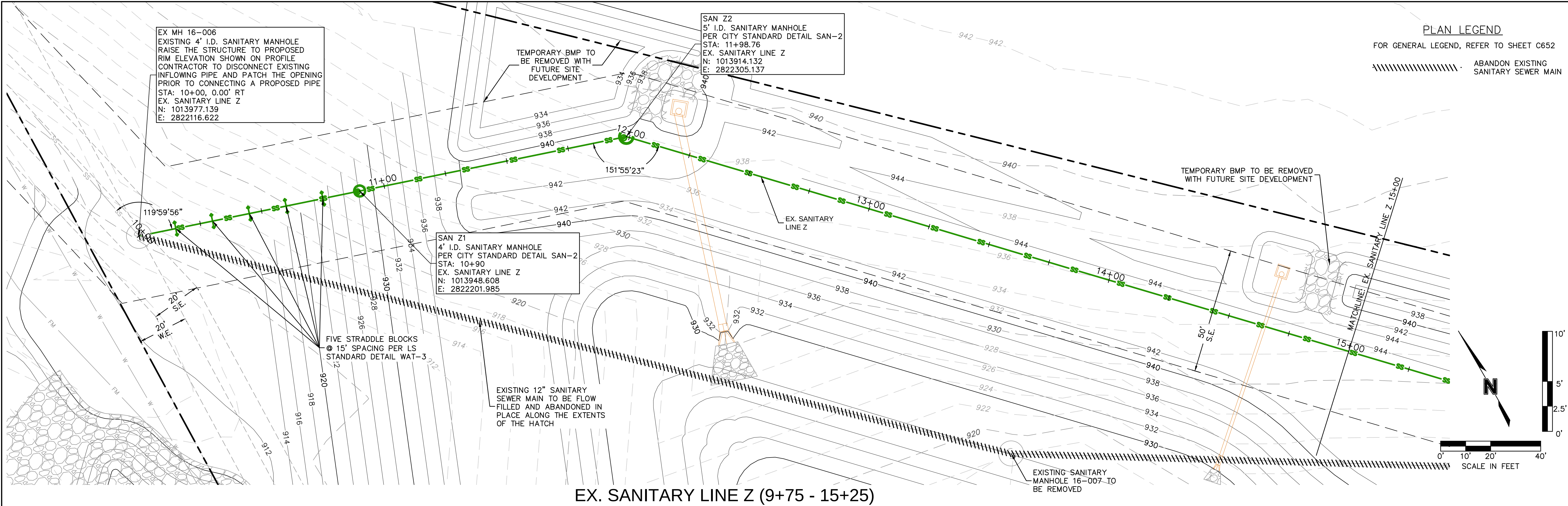
SHEET
C652

olsson

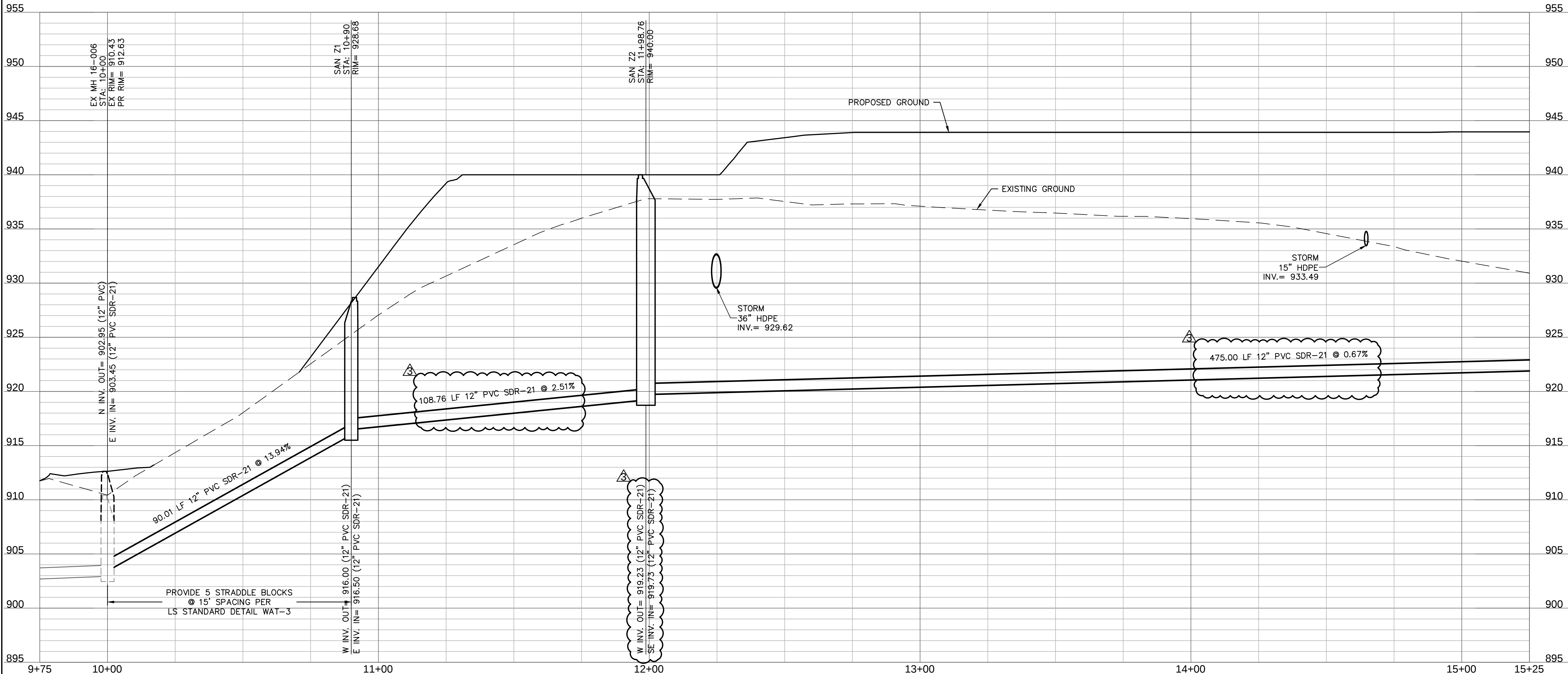
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Missouri Certificate of Authority #001592
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North Kansas City, MO 64116
TEL 816.361.1177
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EX. SANITARY LINE Z (9+75 - 15+25)



SANITARY SEWER PLAN & PROFILE (EX. SANITARY LINE Z)

PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

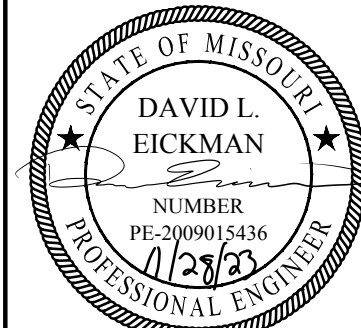
THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBURN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

2023

drawn by: GS/SOSUN
checked by: AR/JN
approved by: DE
QA/QC by: JS/NH
project no.: D21-04643
drawing no.: C_SAN01_D2104643
date: 11.28.2023

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C653

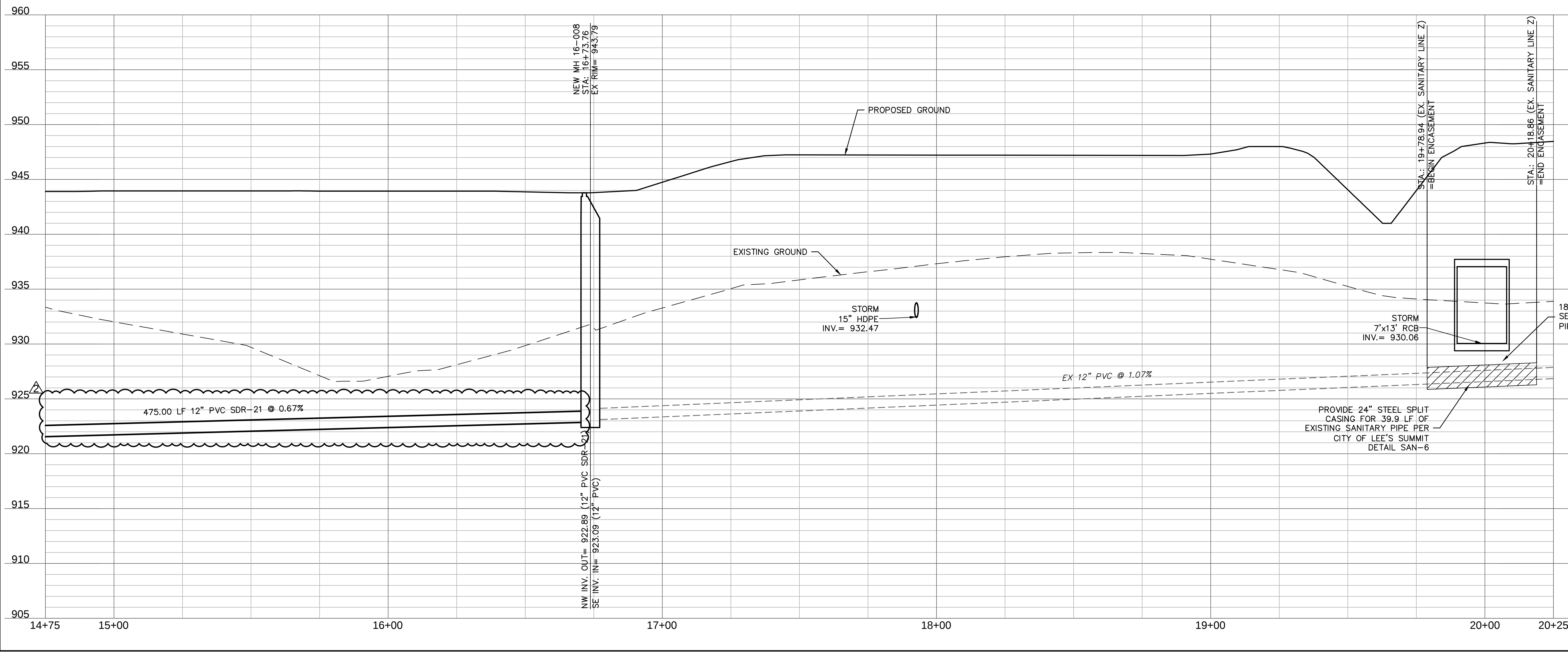


DAVID EICKMAN, P.E.
MOR 2009015436

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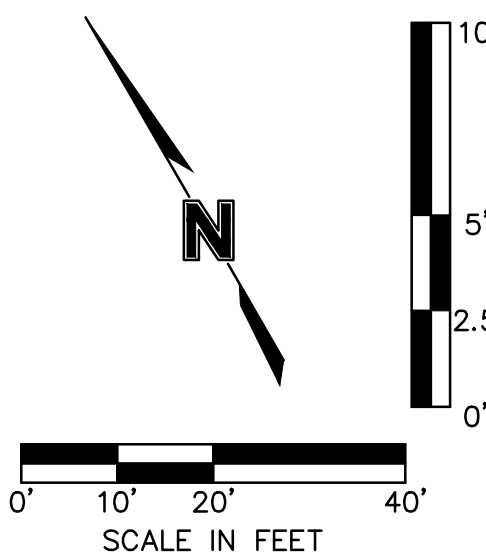
REVISIONS

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North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com



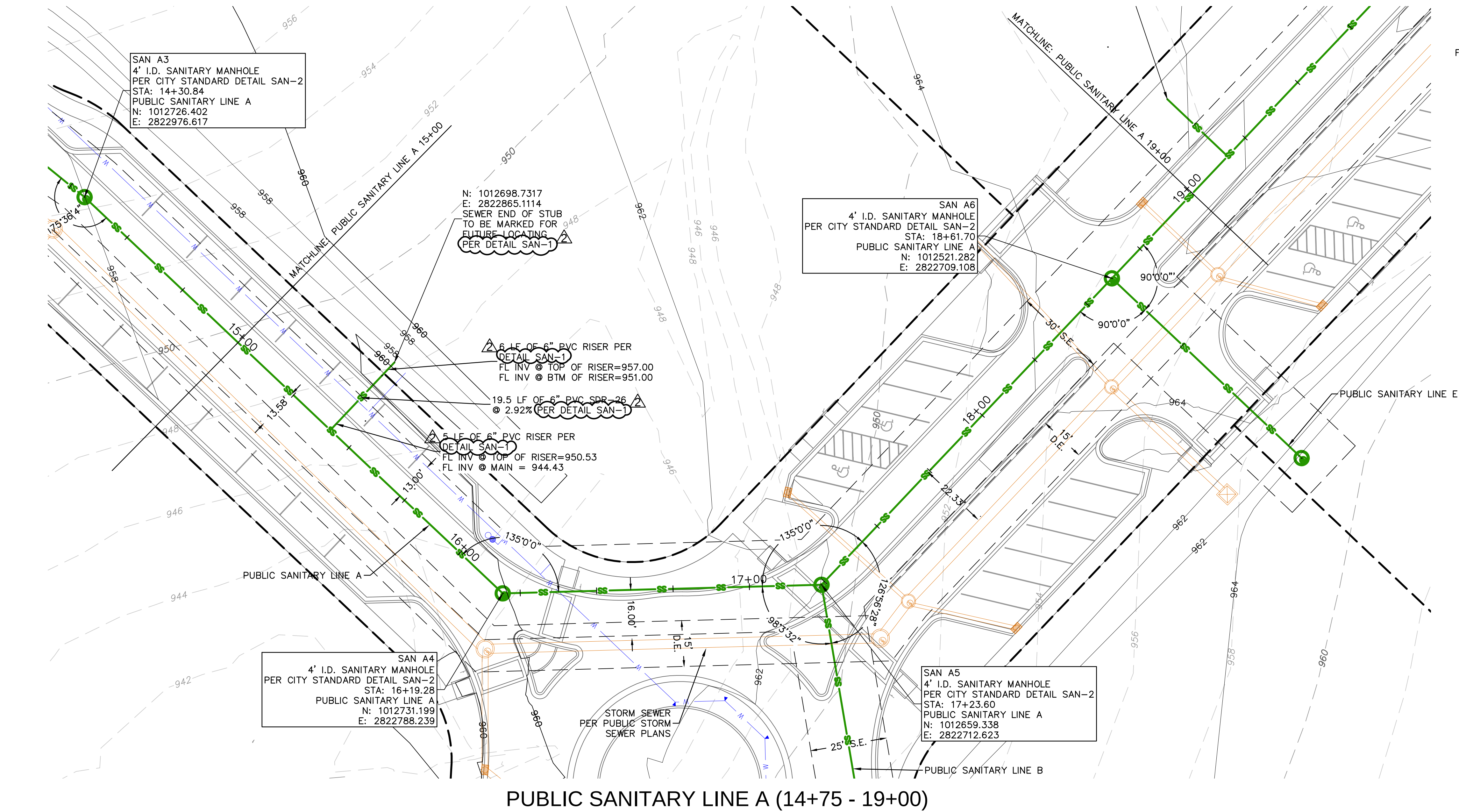
NOTES:

1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

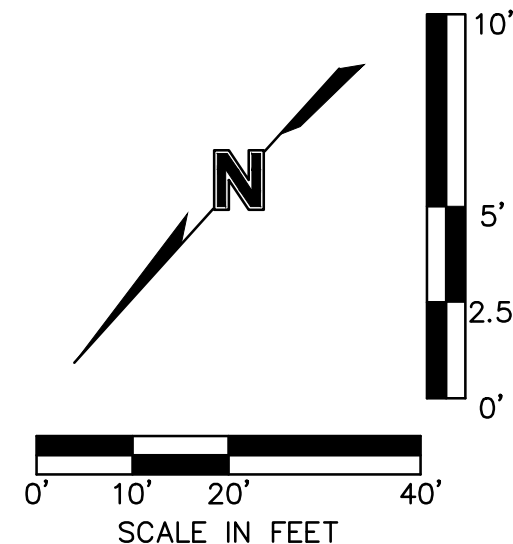


SANITARY SEWER PLAN & PROFILE (EX. SANITARY LINE Z CONT'D) PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS		drawn by: _____ CS/OS/JN	
		checked by: _____ AR/JN	
THE VILLAGE AT DISCOVERY PARK ZONE 1 NW COLBERN RD & NE DOUGLAS ST		approved by: _____ DE	
		QA/QC by: _____ JS/NE	
LEE'S SUMMIT, MISSOURI		project no.: _____ D21-04643	
		drawing no.: C SAN01 D2104643	
		date: _____ 11.28.2023	
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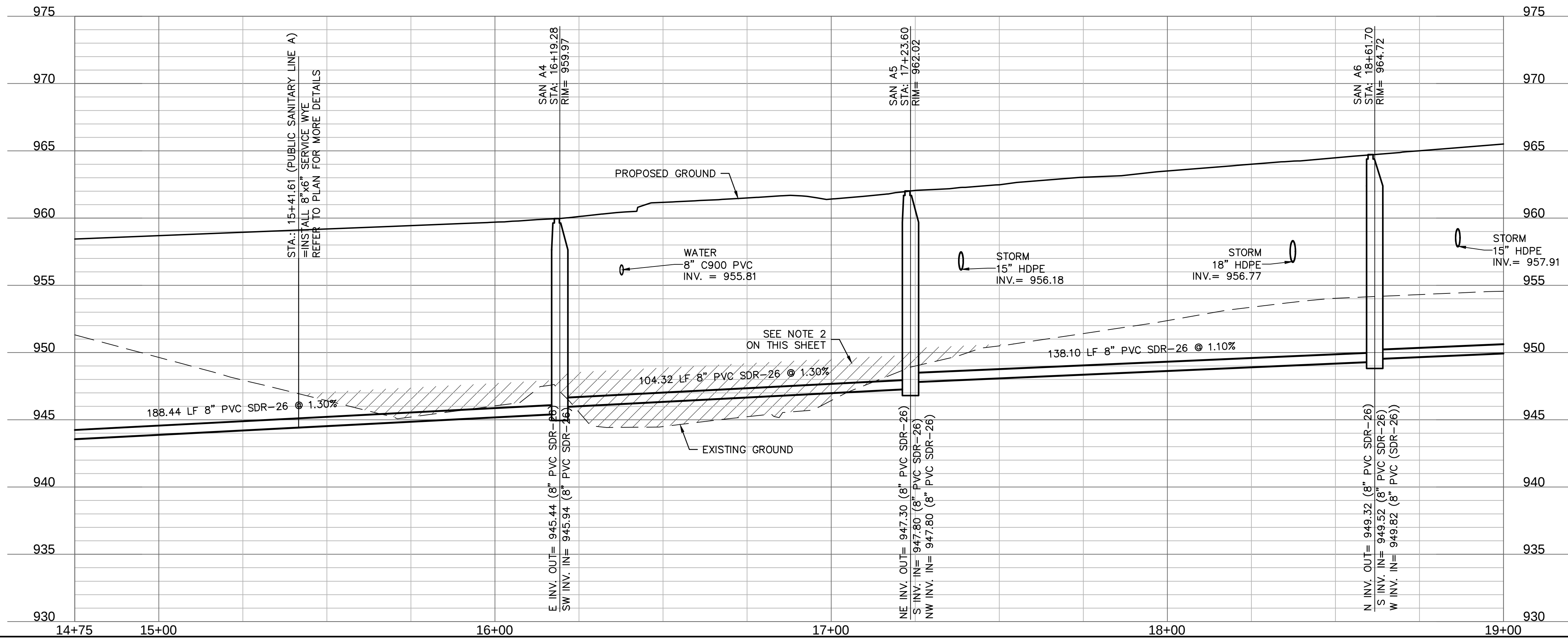
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C_XALTA_B2104643
C_FROAD_D2104643
T_PBASE_D02104643



PLAN LEGEND
FOR GENERAL LEGEND, REFER TO SHEET C652



- NOTES:
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SANITARY SEWER PLAN & PROFILE (SANITARY LINE A CONT'D)
PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBURN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

2023

drawn by: GS/SJS/JN
checked by: AR/JN
approved by: DE
QA/QC by: JS/NH
project no.: D21-04643
drawing no.: C_SAN02_D2104643
date: 11/28/2023

SHEET
C657



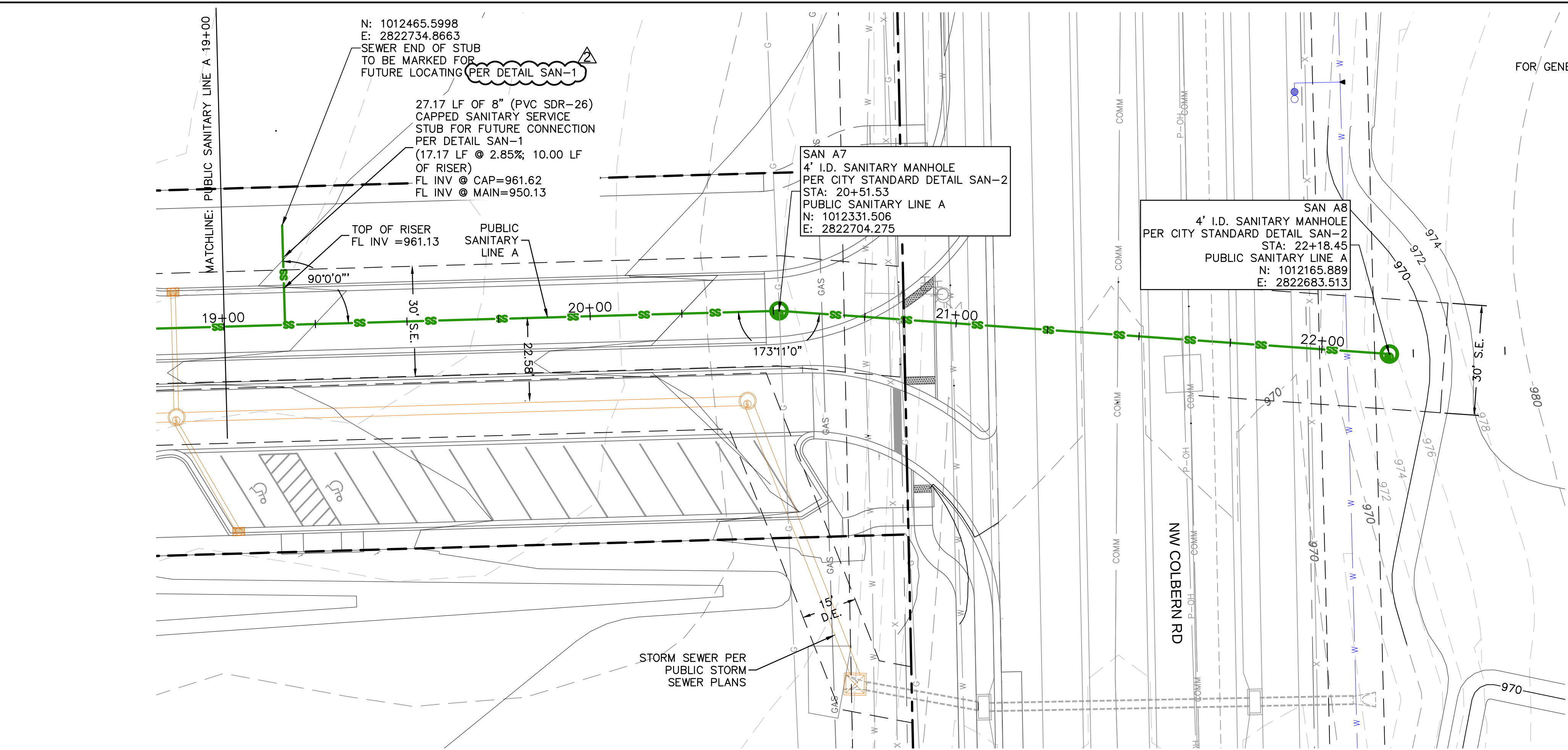
DAVID EICKMAN, P.E.
MOR 2009015436

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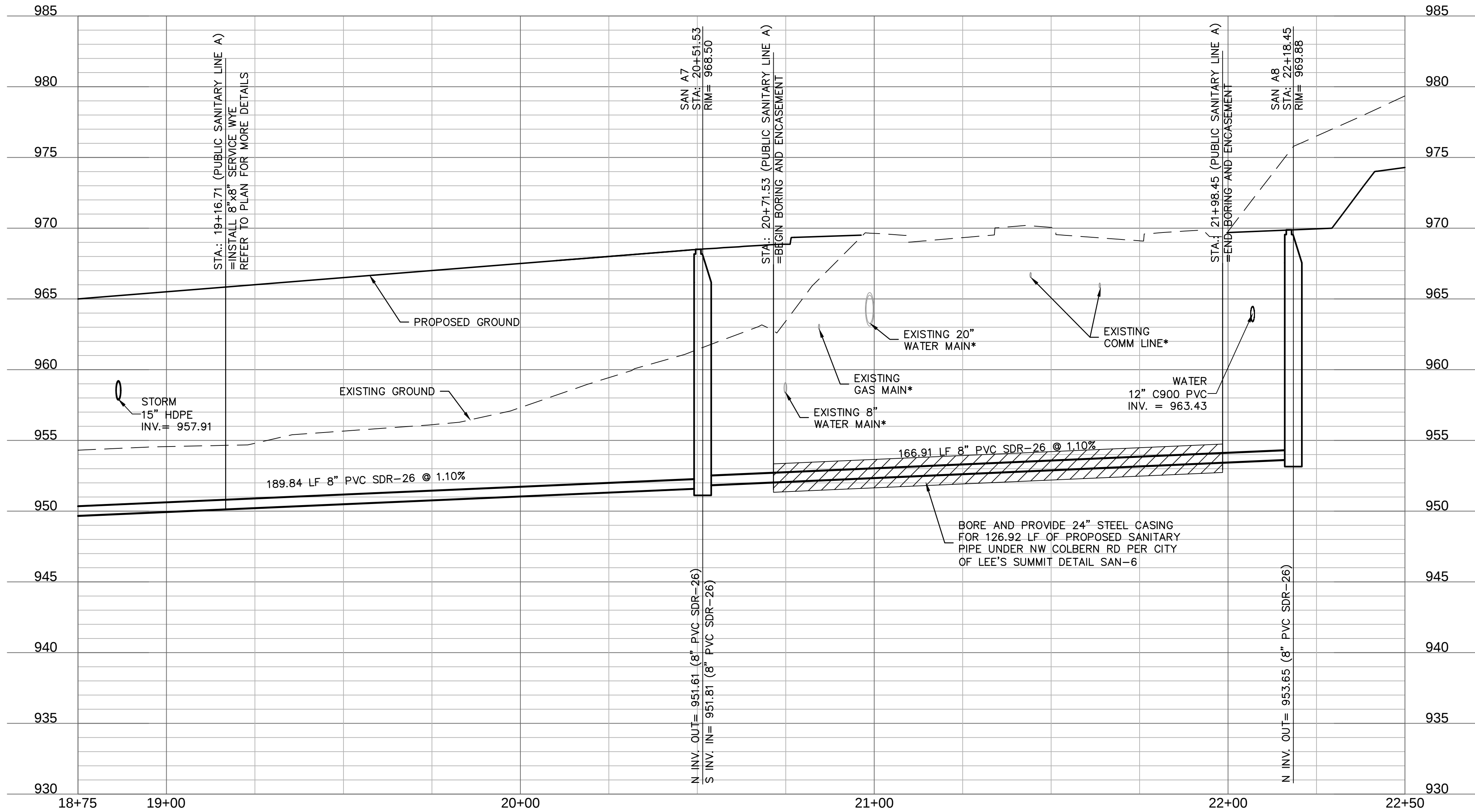
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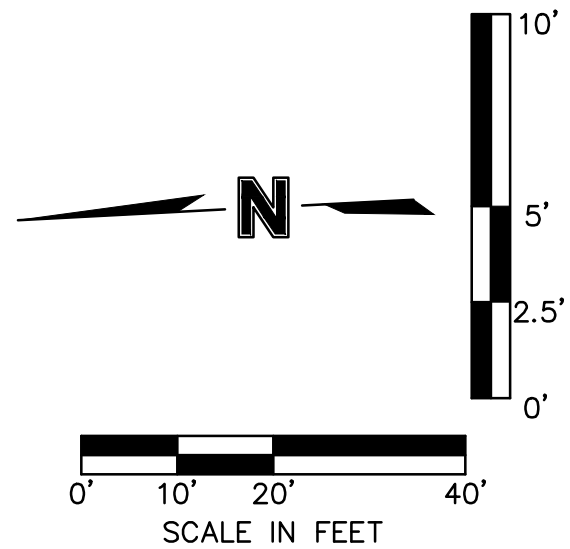


PUBLIC SANITARY LINE A (18+75 - 22+50)



NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

*EXACT LOCATION AND DEPTH OF EXISTING UTILITY UNKNOWN. CONTRACTOR TO VERIFY LOCATION AND DEPTH ON SITE



PLAN LEGEND
FOR GENERAL LEGEND, REFER TO SHEET C652

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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
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STATE OF MISSOURI
DAVID L. EICKMAN
NUMBER PE-2009015436
12/23
PROFESSIONAL ENGINEER

DAVID EICKMAN, P.E.
MOR 2009015436

BY

REVISIONS DESCRIPTION

REV. NO.

DATE

1 10/10/2023 REVISED PER CITY COMMENTS

2 11/10/2023 REVISED PER CITY COMMENTS

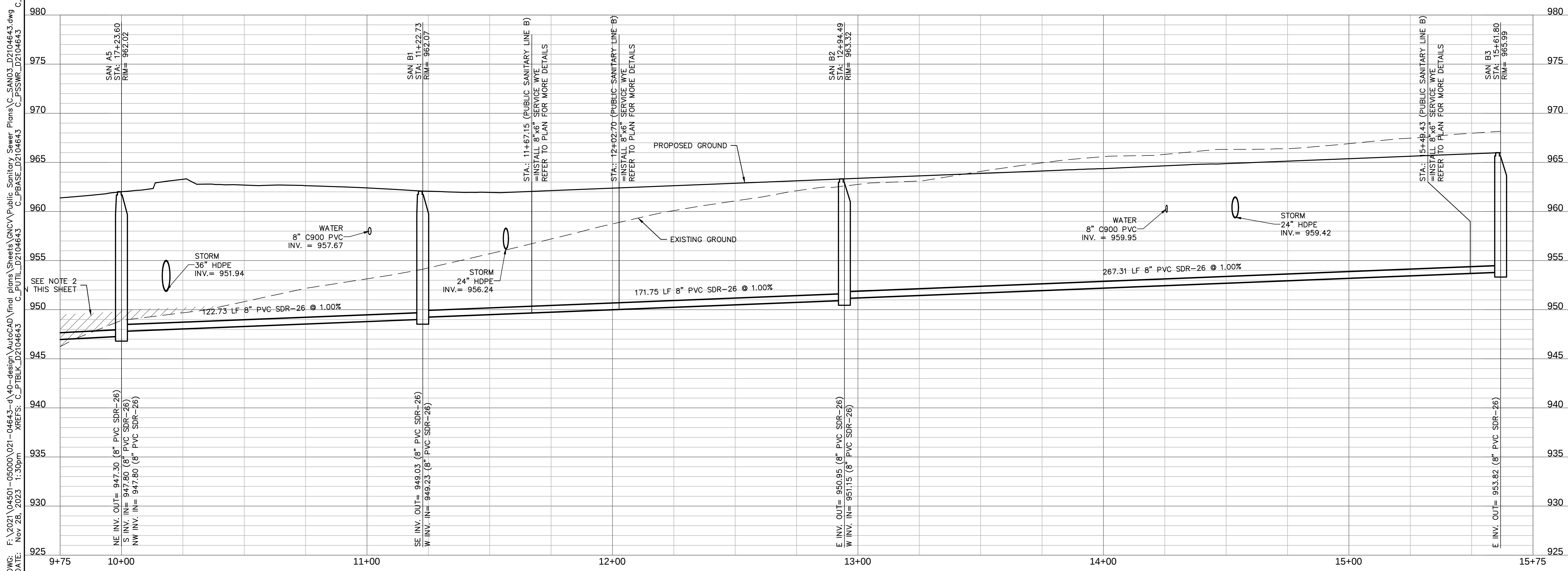
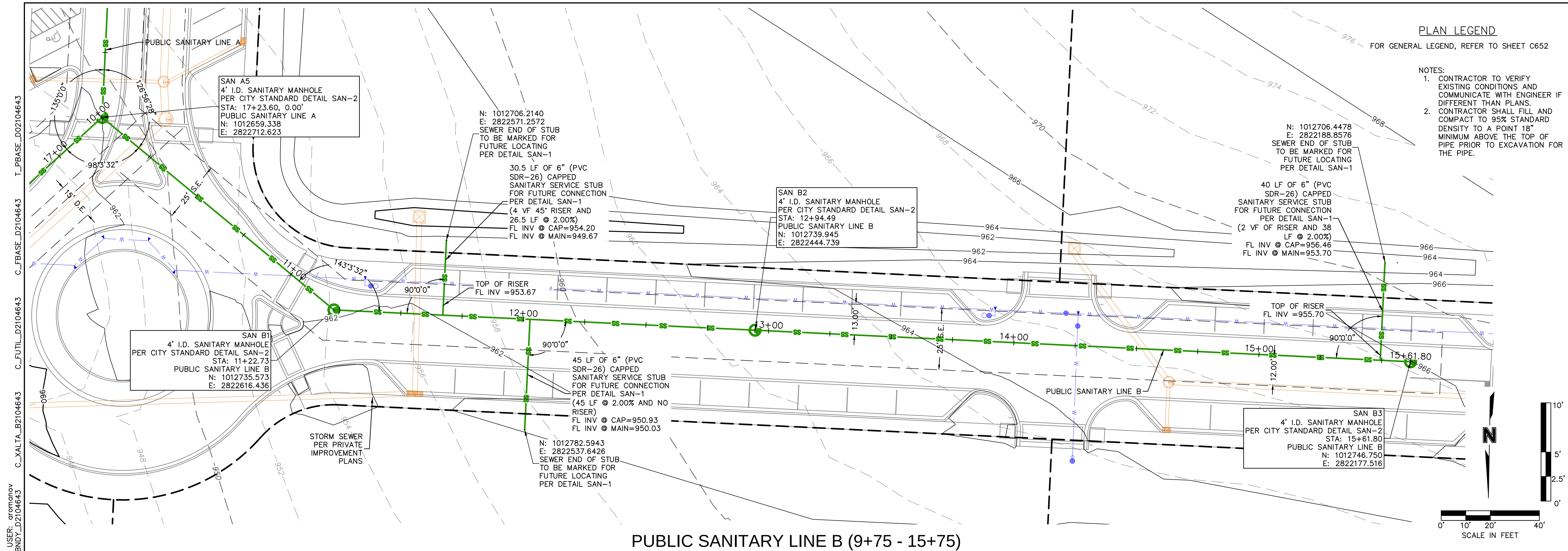
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PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

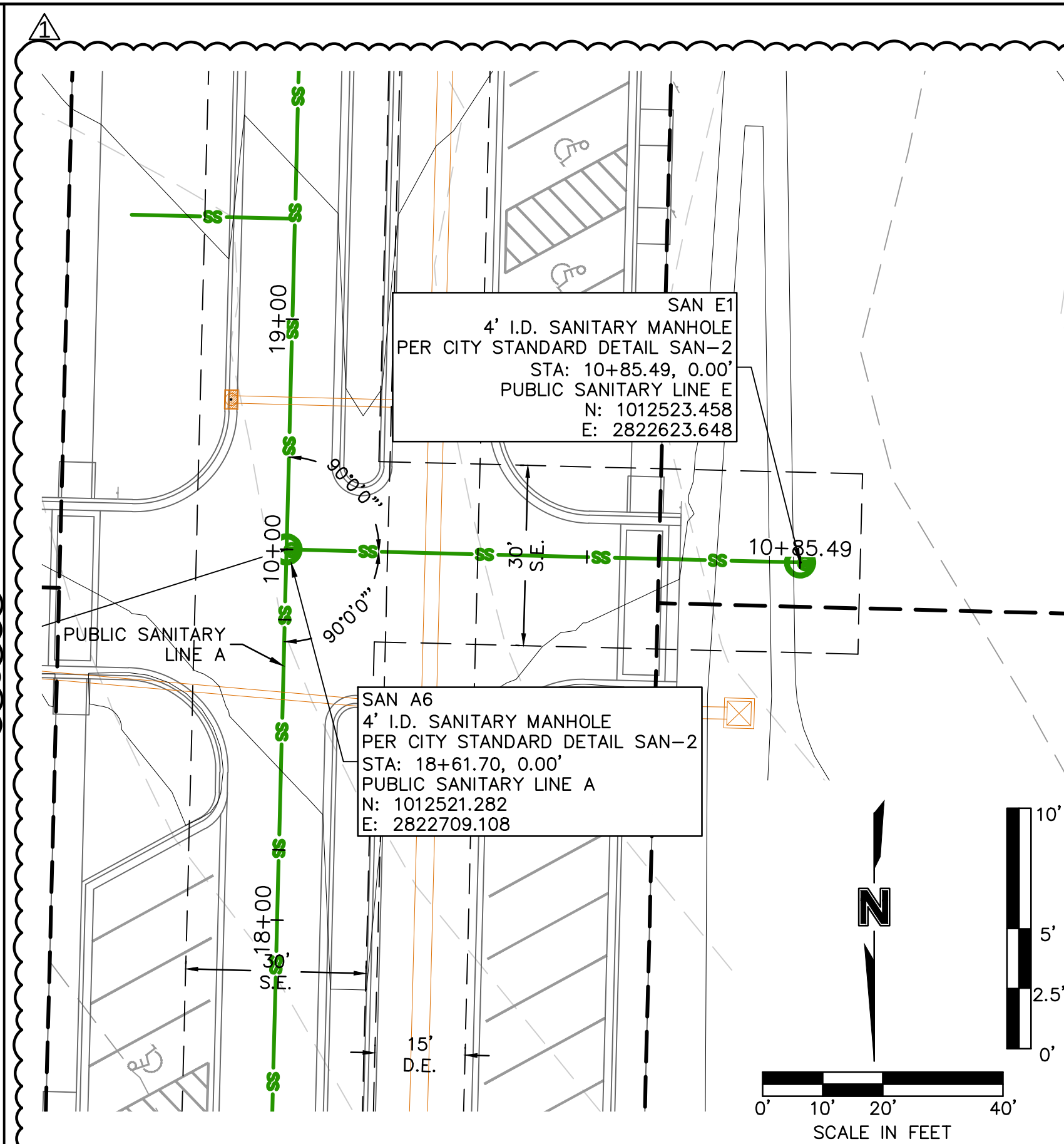
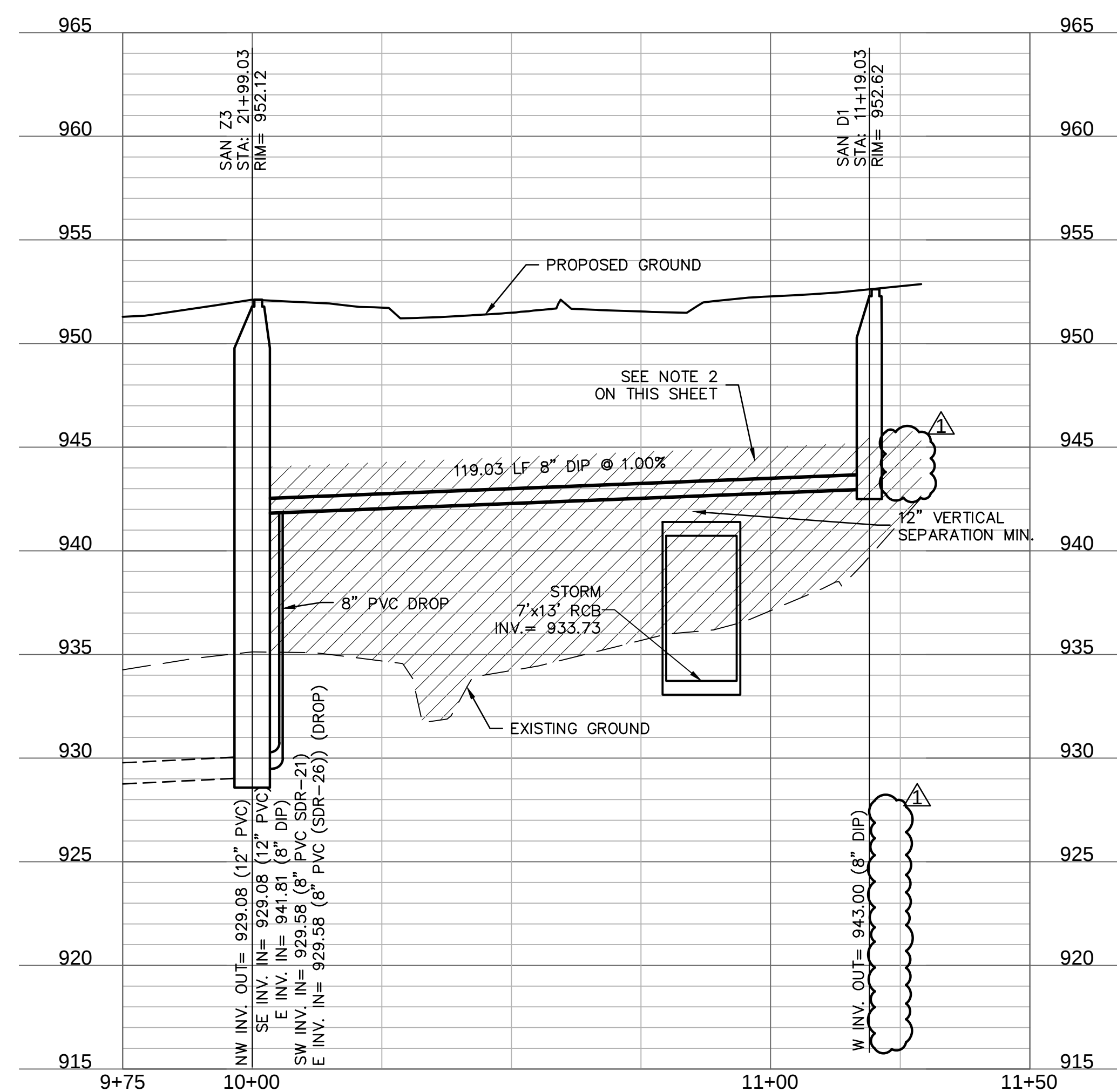
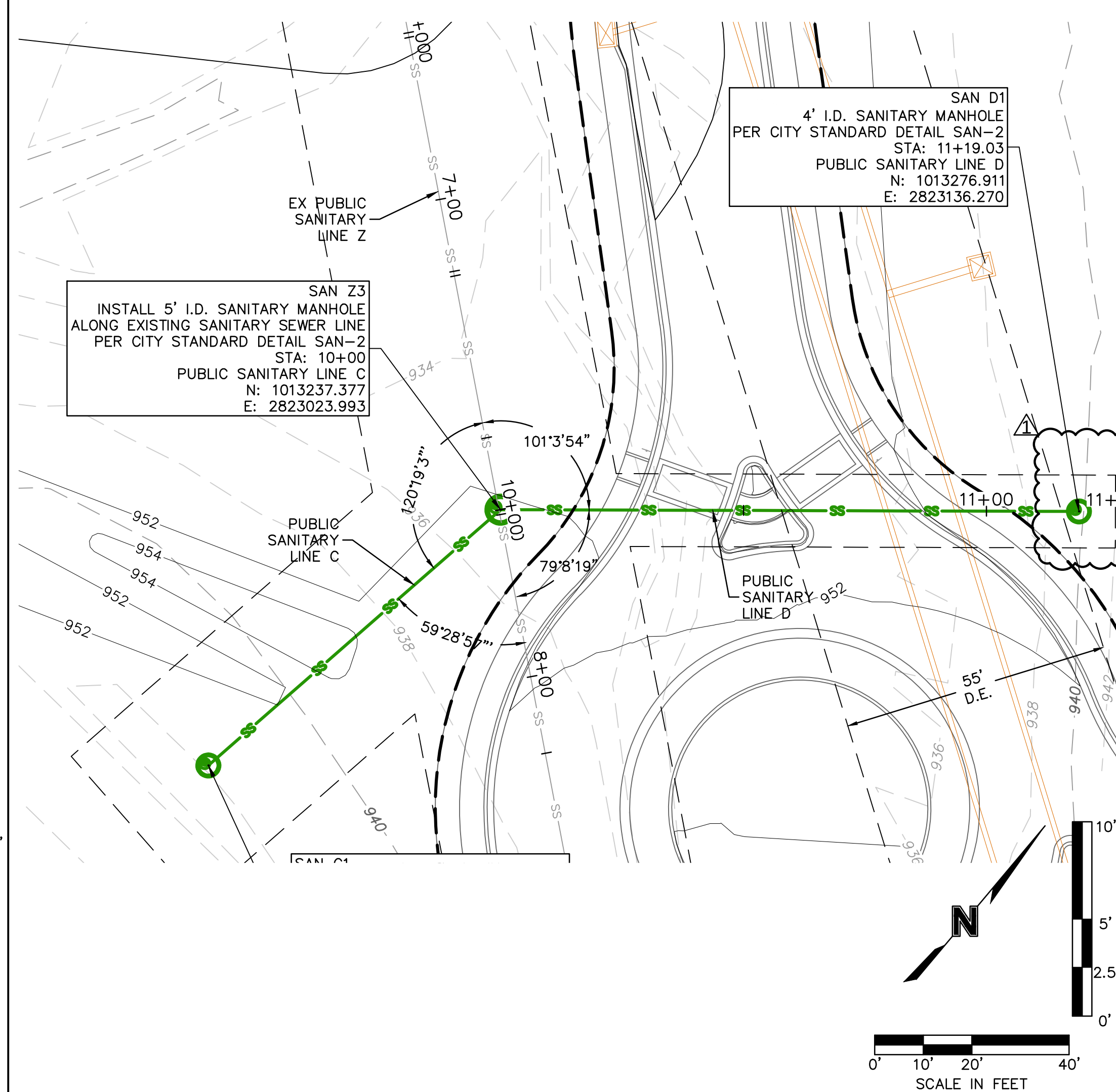
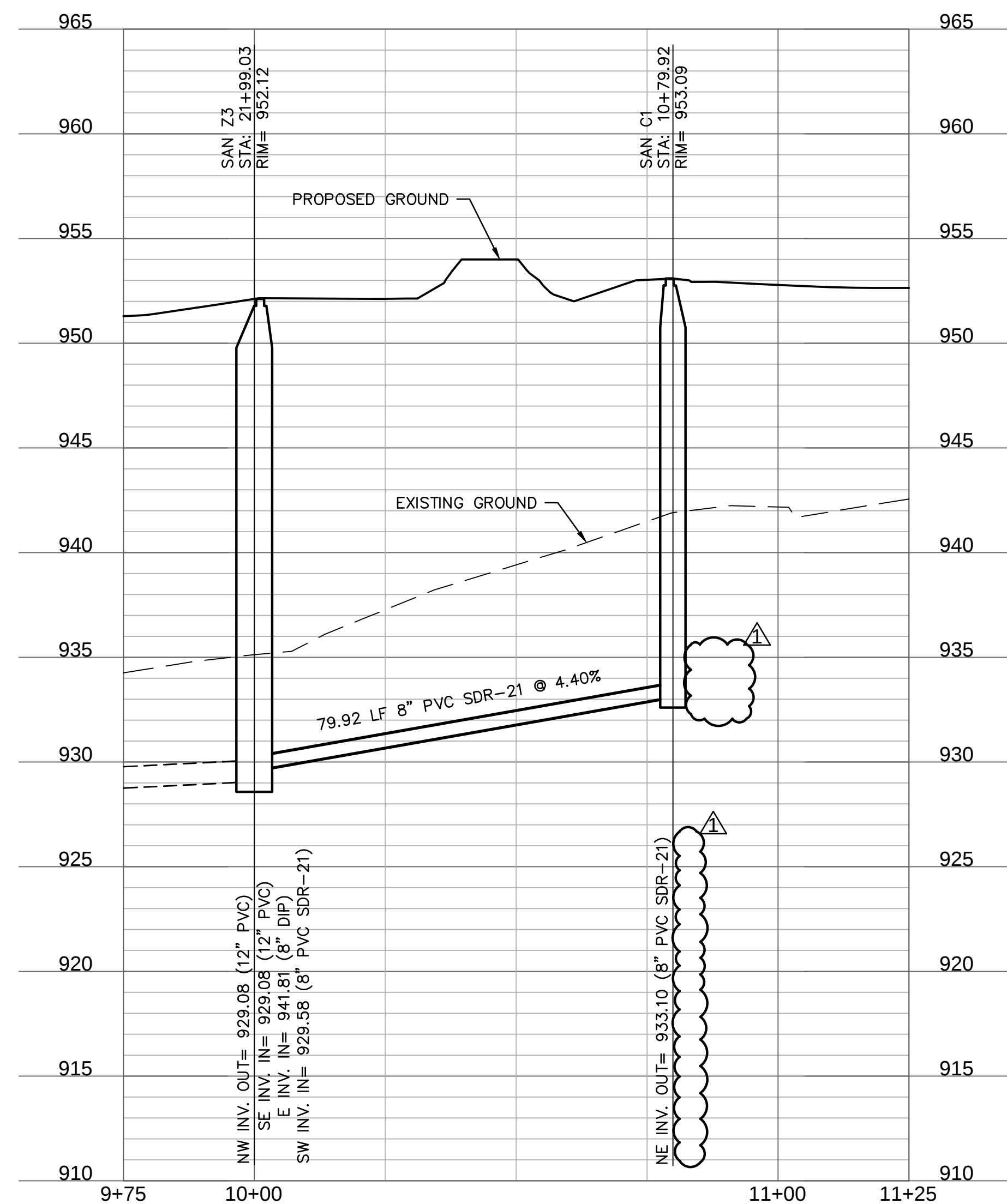
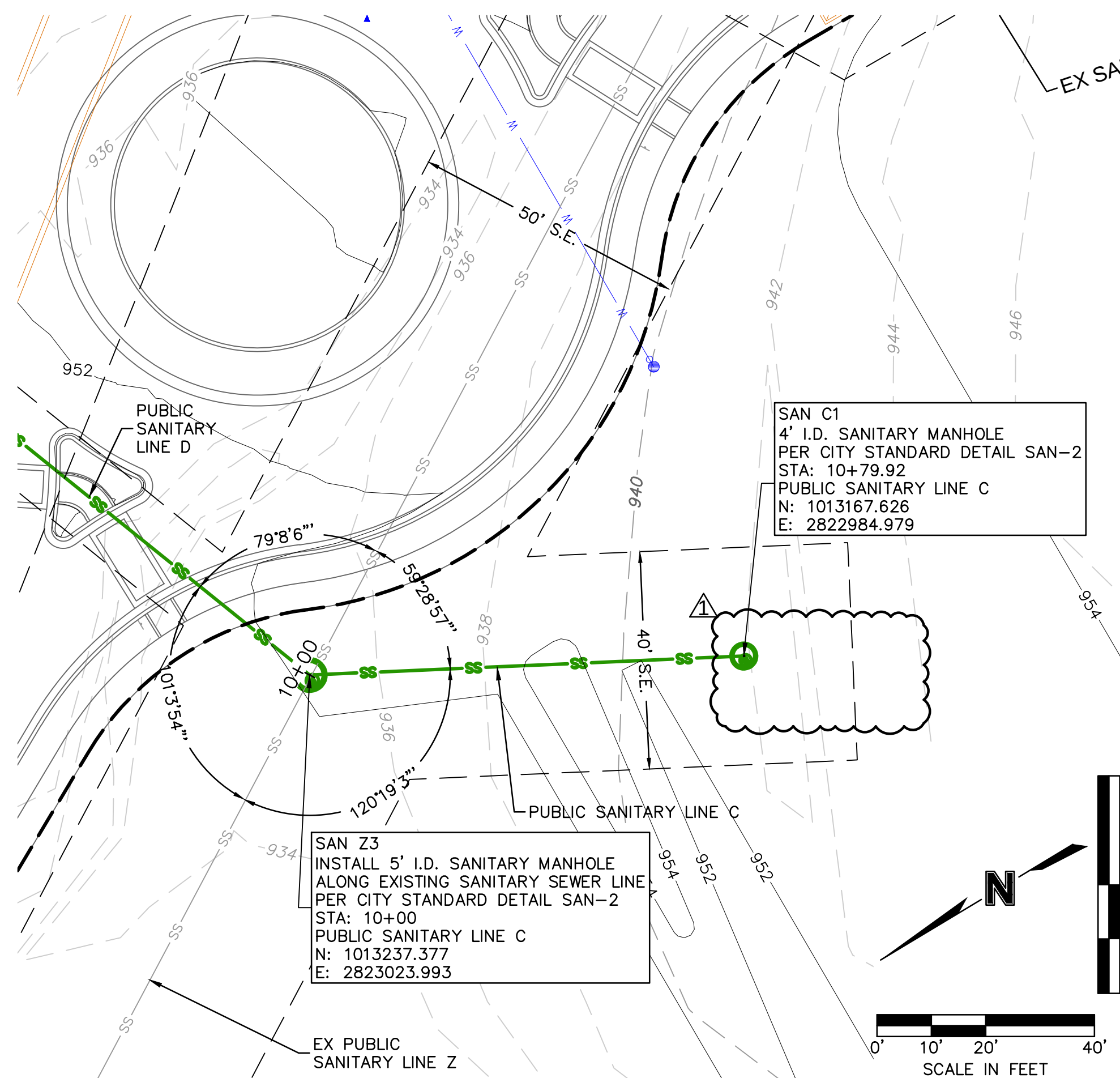
THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBERN RD & NE DOUGLAS ST

2023

drawn by: GS/SOSUN
checked by: AR/JN
approved by: DE
QA/QC by: JS/NH
project no.: D21-04643
drawing no.: C_SAN02_D2104643
date: 11.28.2023

SHEET
C658



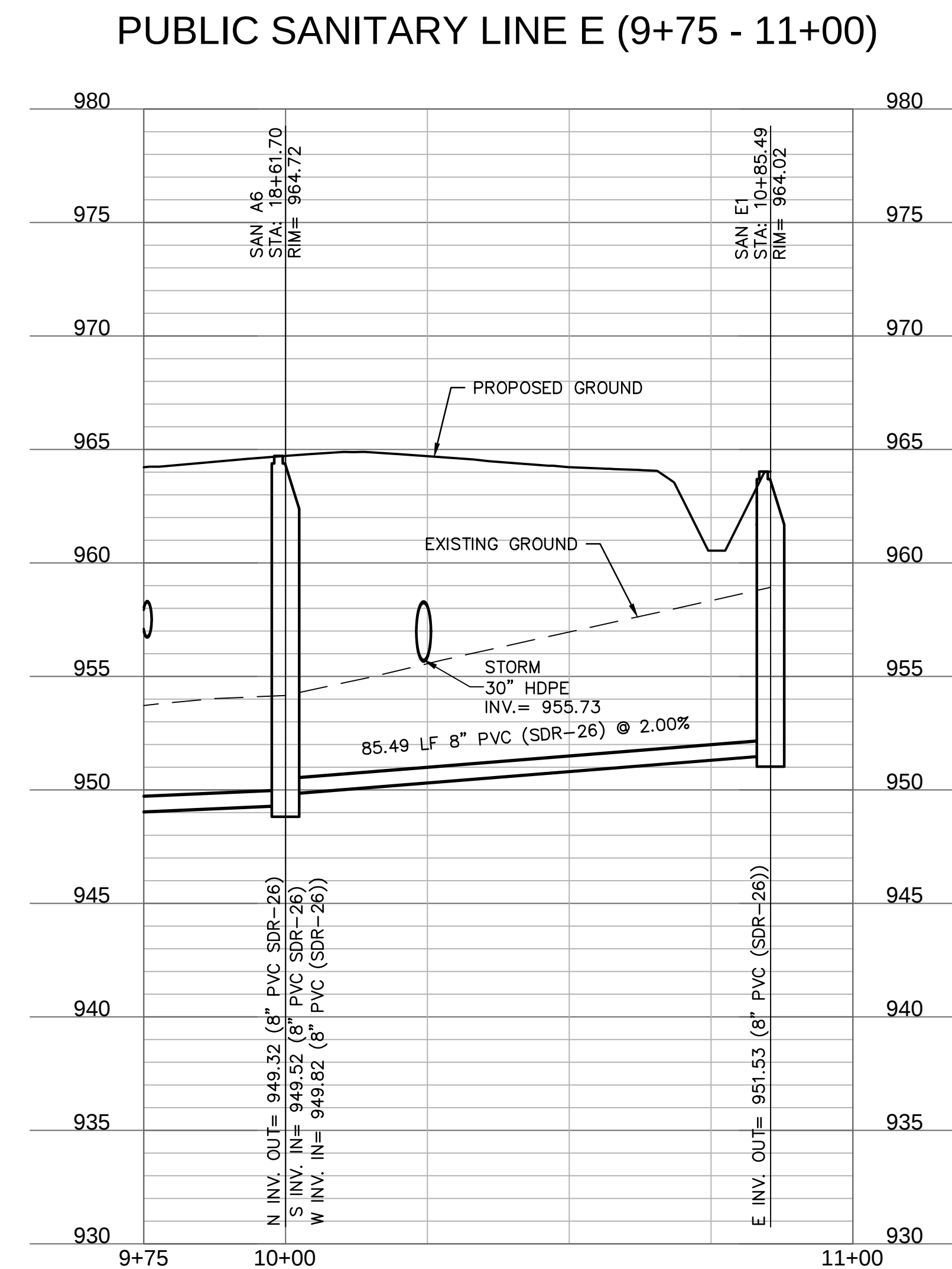


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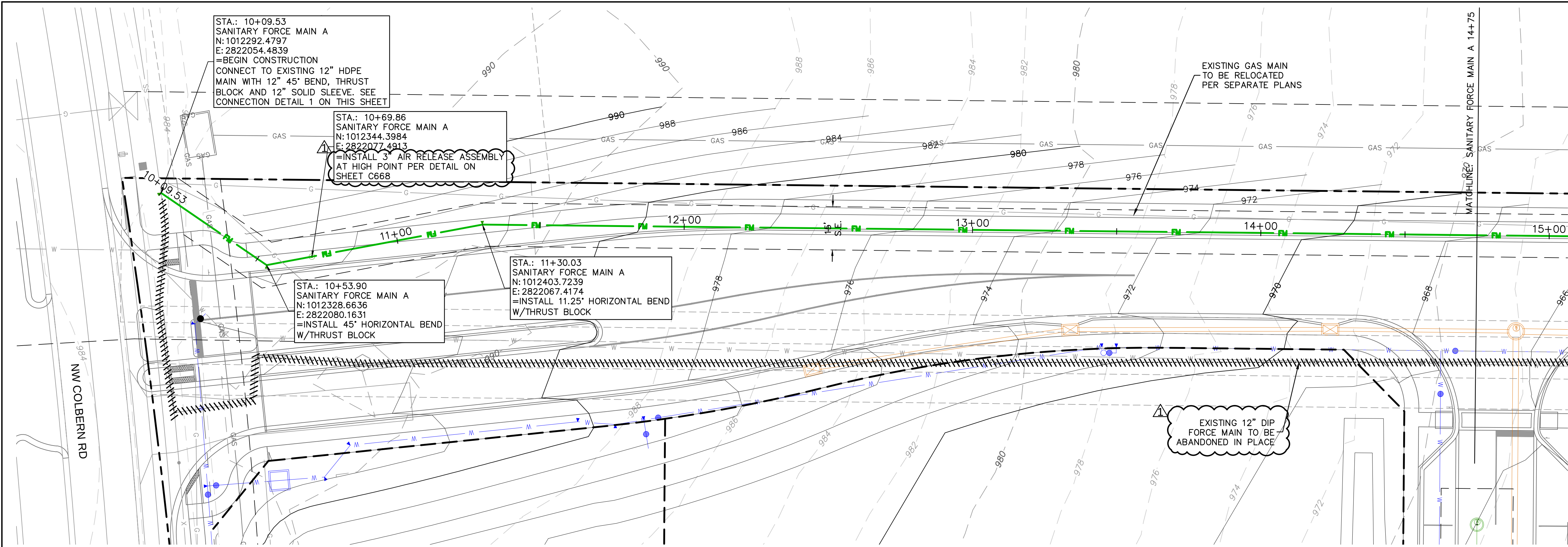
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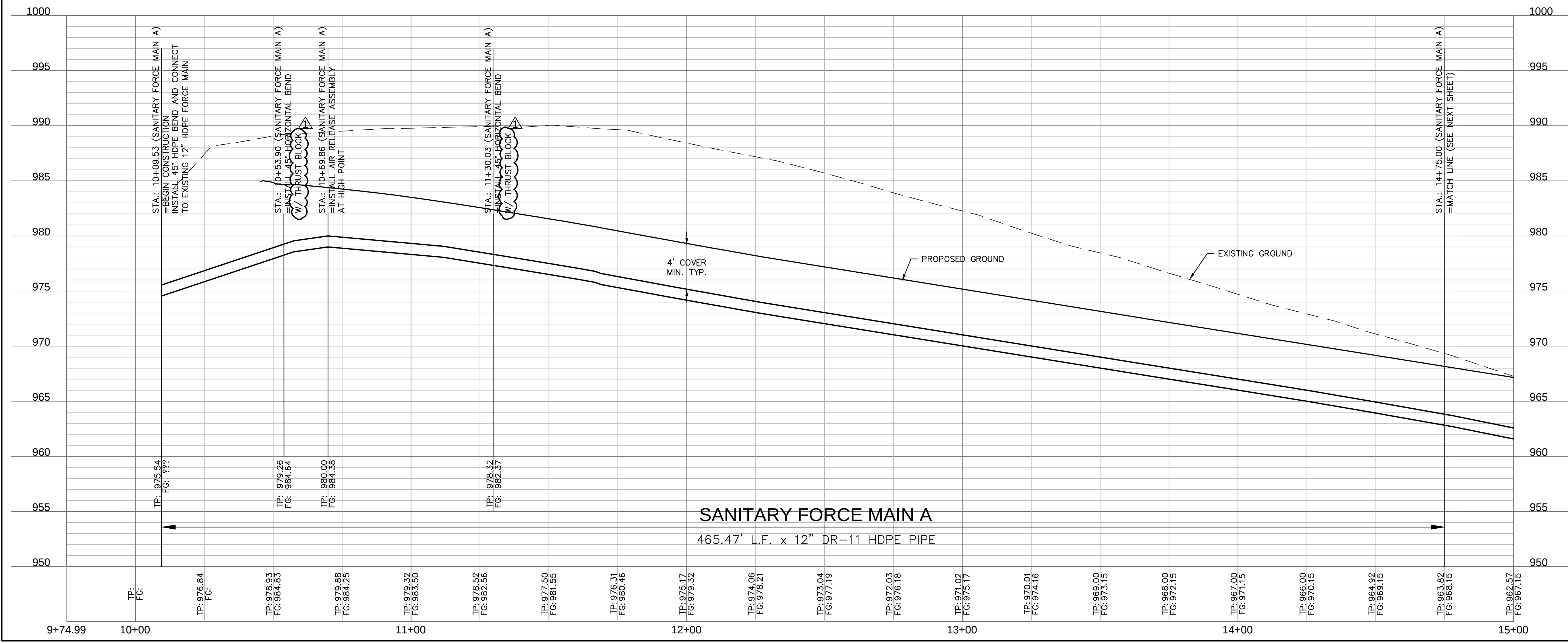
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.



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SANITARY FORCE MAIN A (9+74.99 - 15+00)



PLAN LEGEND

FOR GENERAL LEGEND, REFER TO SHEET C652

===== ABANDON EXISTING FORCE MAIN

EXISTING 12" HDPE FORCE MAIN TO REMAIN

HDPE TO HDPE ELECTROFUSION COUPLING

45° BEND

PROPOSED 12" HDPE FORCE MAIN

STRADDLE BLOCK

12" FORCE MAIN PLUG VALVE

EXISTING 12" HDPE FORCE MAIN TO BE ABANDONED

FORCE MAIN CONNECTION DETAIL 1
NOT TO SCALE

SCALE IN FEET

0' 10' 20' 40'

NOTES:

- CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
- CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

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Missouri Certificate of Authority #001592
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North Kansas City, MO 64116
TEL 816.361.1177
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DAVID L. EICKMAN
NUMBER PE-2009015436
12/25
PROFESSIONAL ENGINEER

DAVID EICKMAN, P.E.
MOR 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/16/2023	REVISED PER CITY COMMENTS	

REVISIONS

2023

SANITARY FORCE MAIN RELOCATION PLAN & PROFILE

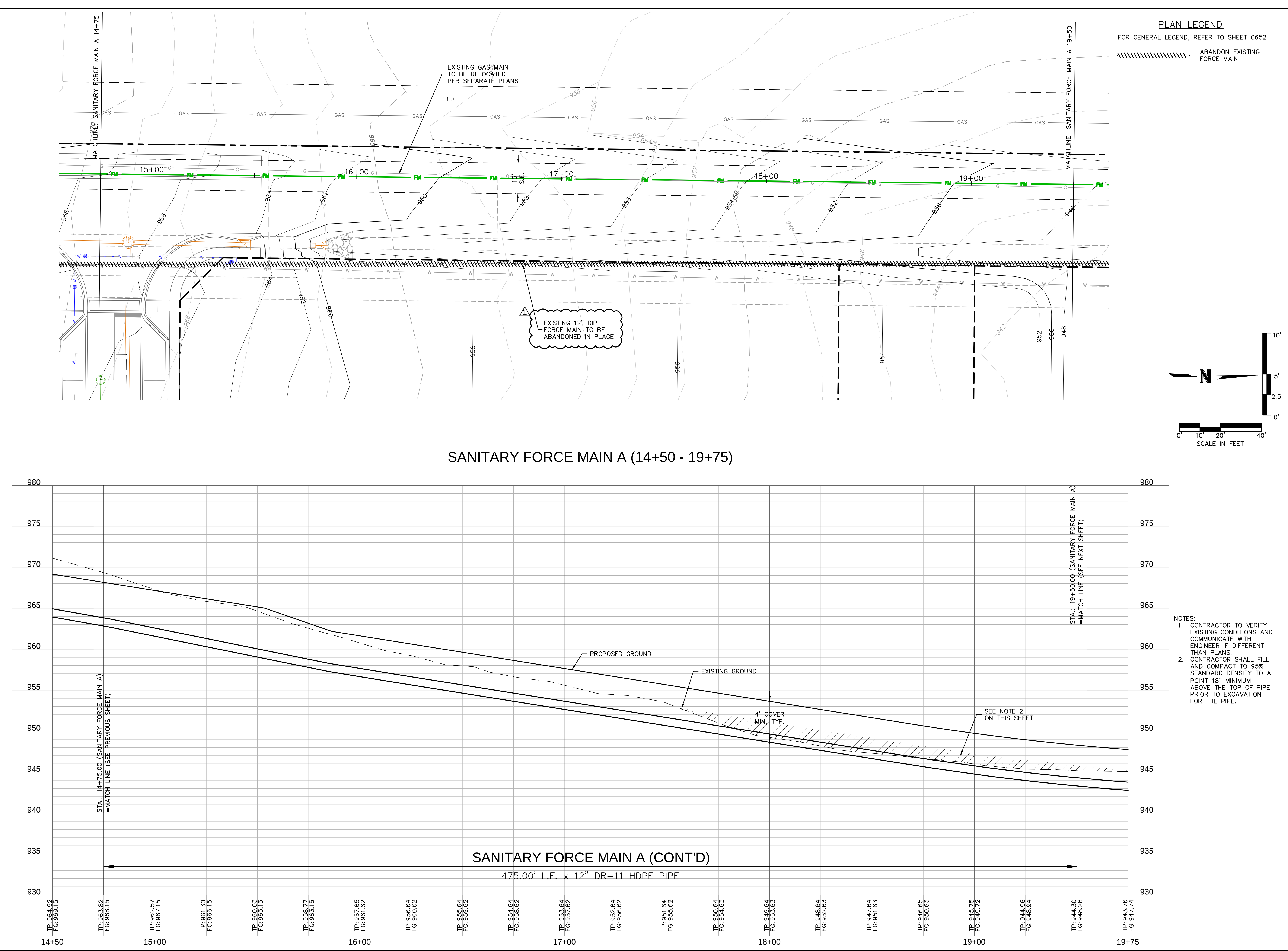
PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBERN RD & NE DOUGLAS ST

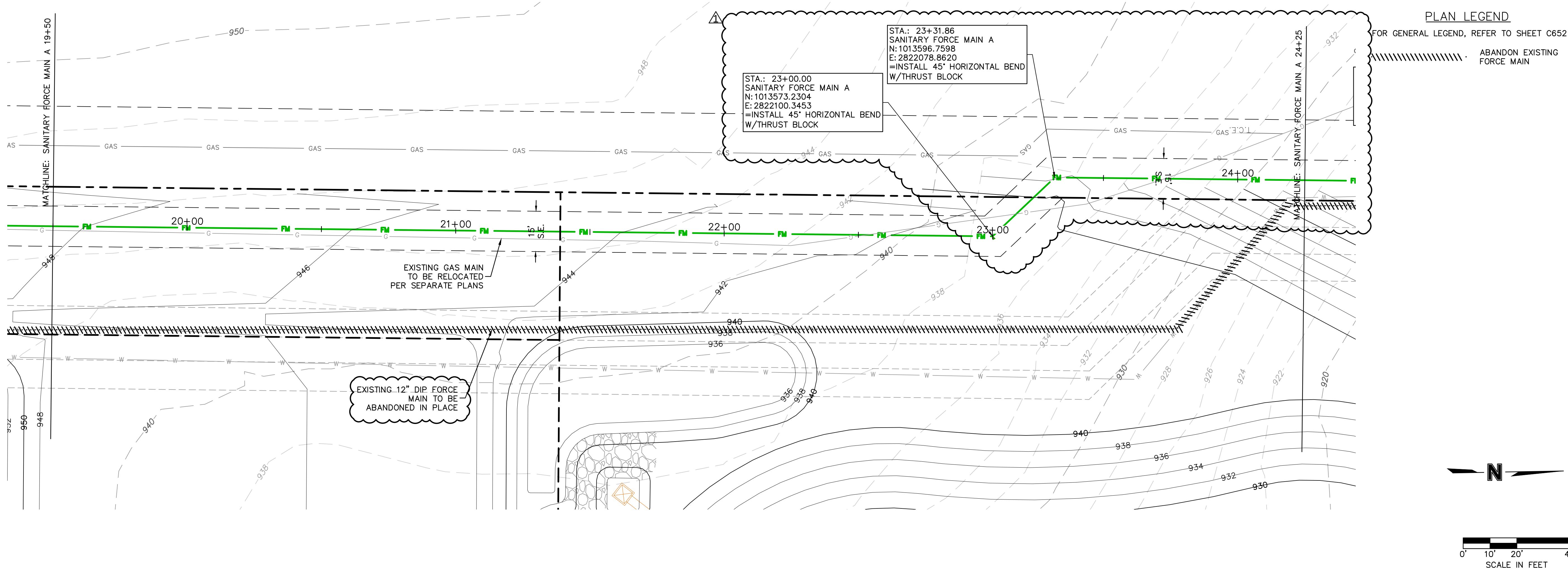
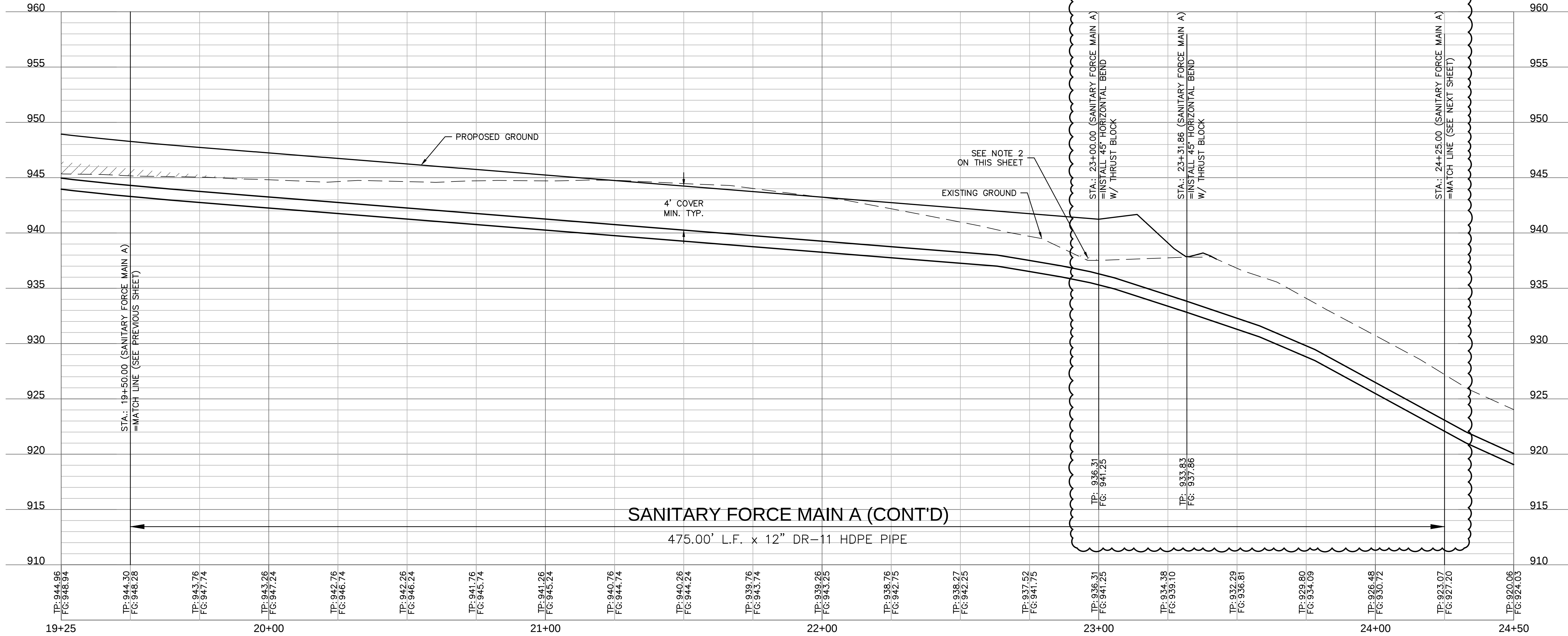
LEE'S SUMMIT, MISSOURI

drawn by: GS/SJS/JN
checked by: AR/JN
approved by: DE
QA/QC by: JN/NH
project no.: D21-04643
drawing no.: SAN_FM_D2104643
date: 11.28.2023

SHEET C661



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SANITARY FORCE MAIN A (19+25 - 24+50)

- NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
 2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

SANITARY FORCE MAIN RELOCATION PLAN & PROFILE CONT'D
PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBURN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

2023

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SHEET
C663



DAVID EICKMAN, P.E.
MOR 2009015436

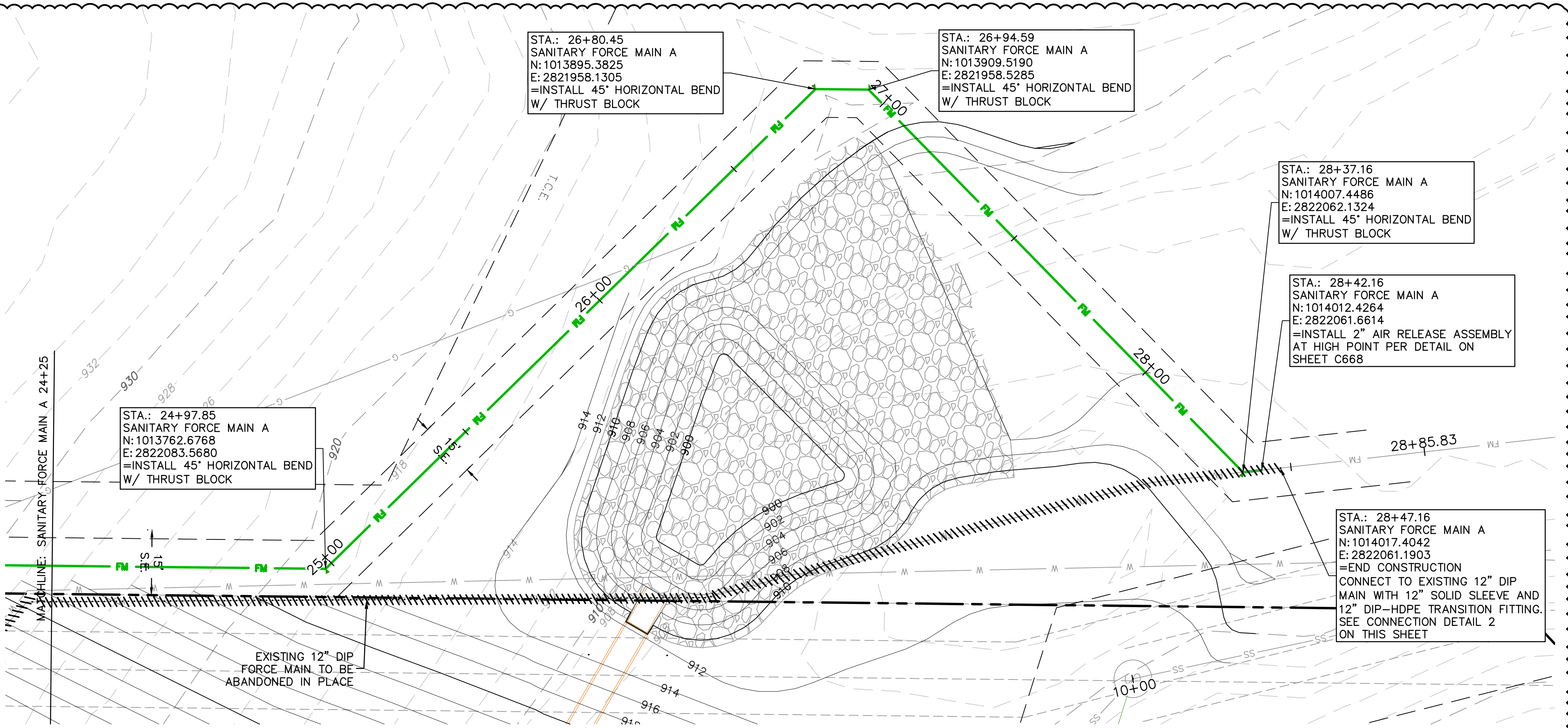
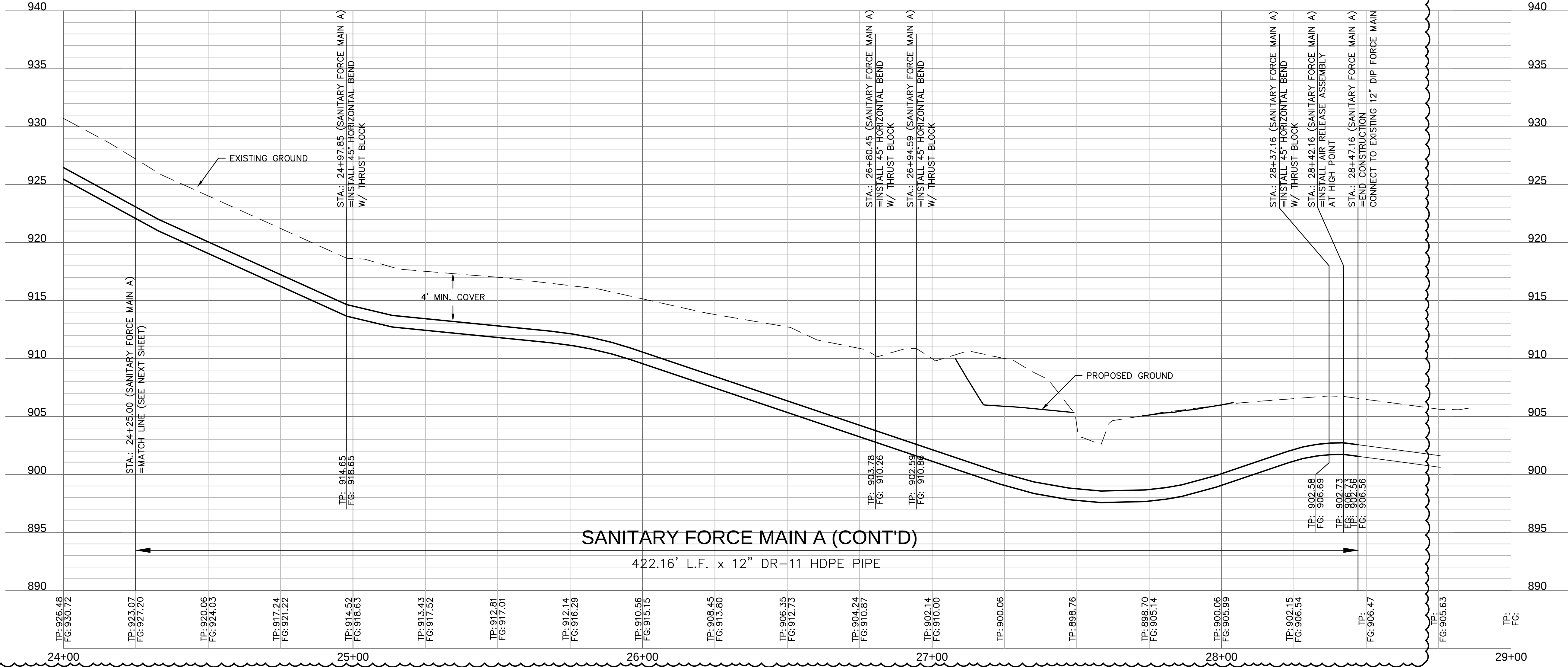
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/16/2023	REVISED PER CITY COMMENTS	

REVISIONS

olsson

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

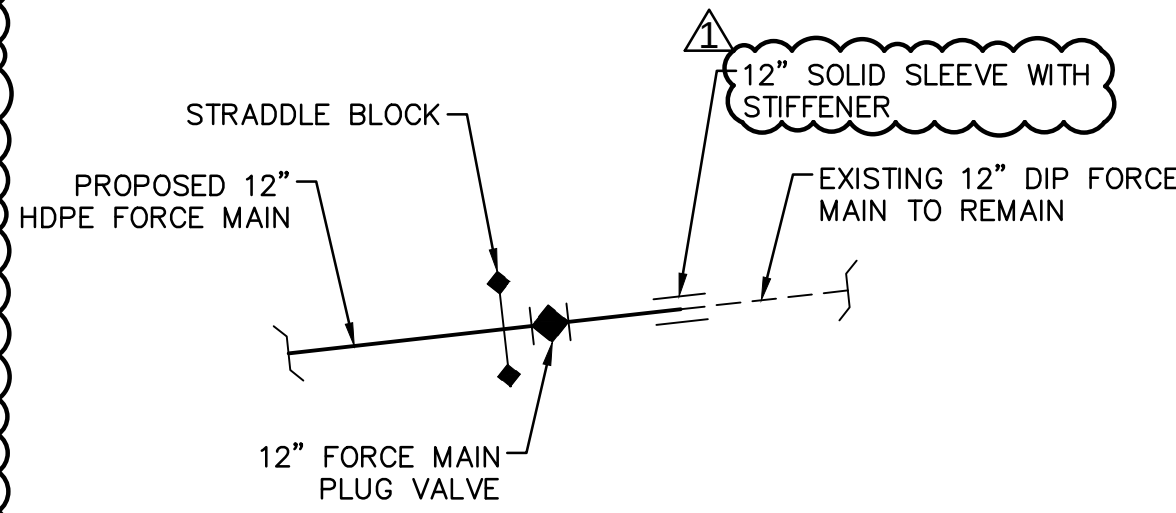
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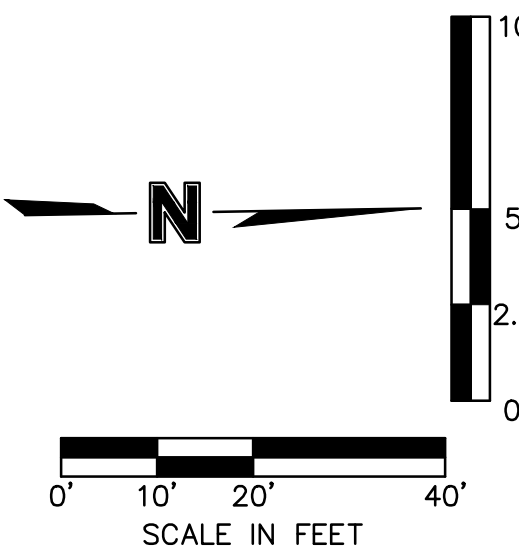
SANITARY FORCE MAIN A (24+00 - 29+00)

PLAN LEGEND
FOR GENERAL LEGEND, REFER TO SHEET C652

ABANDON EXISTING
FORCE MAIN



FORCE MAIN CONNECTION DETAIL 2
NOT TO SCALE



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SANITARY FORCE MAIN RELOCATION PLAN & PROFILE CONT'D
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THE VILLAGE AT DISCOVERY PARK ZONE 1
NW COLBURN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

2023

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QA/QC by: JS/NH
project no.: D21-04643
drawing no.: SAN_FM_D2104643
date: 11.28.2023

SHEET
C664



DAVID EICKMAN, P.E.
MOR 2009015436

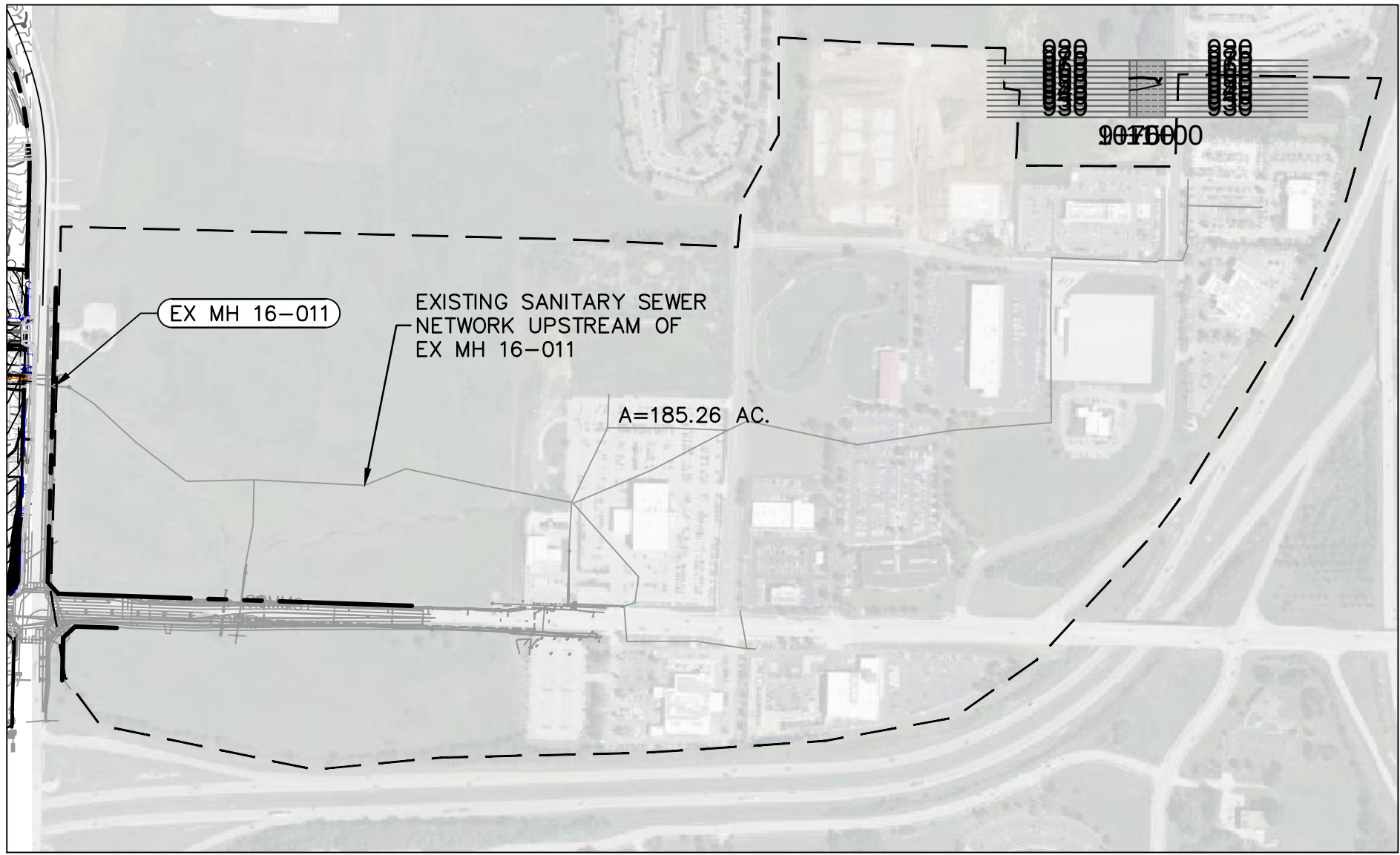
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TRIBUTARY AREA TO EX MH 16-011
1"=500'

PLAN LEGEND

*THIS LEGEND APPLIES TO ALL SHEETS UNLESS EXPLICITLY SHOWN OTHERWISE ON EACH SHEET.

- SS

EXISTING SANITARY SEWER

SS

PROPOSED SANITARY SEWER

TRIBUTARY AREA TO SANITARY STRUCTURE

PROPERTY LINE / R/W LINE

PROPERTY LOT LINE

PROPOSED SANITARY SEWER EASEMENT

OTHER UTILITIES' EASEMENT

PROPOSED STORM SEWER

W

PROPOSED WATER PIPE

P-UG

EXISTING POWER SERVICE

G

EXISTING NATURAL GAS PIPE
- ✕

REMOVE EXISTING TREE

○

EXISTING LIGHT POLE

⌵

EXISTING SIGN

⌵

EXISTING SPRINKLER BOX

⌵

EXISTING SPRINKLER CONTROL VALVE

⌵

EXISTING WATER VALVE

⌵

EXISTING FIRE HYDRANT

⌵

EXISTING WATER METER

⌵

EXISTING ELECTRIC BOX

⌵

EXISTING ELECTRIC VAULT

⌵

EXISTING ELECTRIC METER

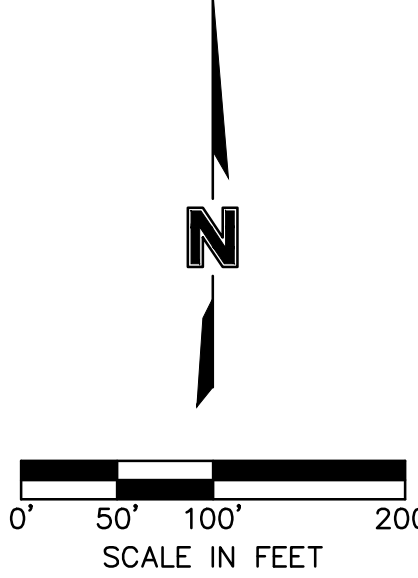
⌵

EXISTING ELECTRIC RISER

●

EXISTING ELECTRIC MANHOLE
- *SCALE MAY AFFECT THE SIZE OF SURVEY SYMBOLS IN PLAN, BUT SHAPE WILL BE RETAINED.

Sanitary Sewer Peak Base Flow Table					
Lot Number	Description	EDU	Building Parameter	Stories	PBF Non-res (gpd)
1	Office/Retail	0.3 per 1000 sq ft	13196 sq ft	2.0	2375
2	Hotel	0.3 per room	107 rooms	n/a	9630
3	Hotel	0.3 per room	123 rooms	n/a	11070
4a	Retail (1st Floor)	0.2 per 1000 sq ft	10200 sq ft	1.0	612
4b	Apartments (2nd Floor)	1.00	10200 sq ft	1.0	3060
5a	Retail (1st Floor)	0.2 per 1000 sq ft	12800 sq ft	1.0	768
5b	Apartments (2nd Floor)	1.00	12800 sq ft	1.0	3840
6	Animal Hospital	1.0 per 1000 sq ft	8000 sq ft	1.0	2400
7	Pet Spa	1.0 per 1000 sq ft	14400 sq ft	1.0	4320
8a	Retail (1st Floor)	0.2 per 1000 sq ft	10200 sq ft	1.0	612
8b	Apartments (2nd Floor)	1.00	10200 sq ft	1.0	3060
9	Apartments	1.00	63500 sq ft	4.0	76200
10	Apartments	1.00	63500 sq ft	4.0	76200
11	Apartments	1.00	10800 sq ft	4.0	12960
12	Apartments	1.00	19000 sq ft	4.0	22800
13	Retail	0.2 per 1000 sq ft	3600 sq ft	1.0	216
14	Clubhouse	1.00	24900 sq ft	1.0	325



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STATE OF MISSOURI

DAVID L. EICKMAN

NUMBER PE-2009015436

11/28/23

PROFESSIONAL ENGINEER

DAVID EICKMAN, P.E.

MO# 2009015436

BY

REVISIONS

REVISIONS DESCRIPTION

DATE

REV. NO.

SANITARY SEWER MASTER DRAINAGE PLAN

PUBLIC SANITARY SEWER AND FORCE MAIN RELOCATION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1

NW COLBURN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

2023

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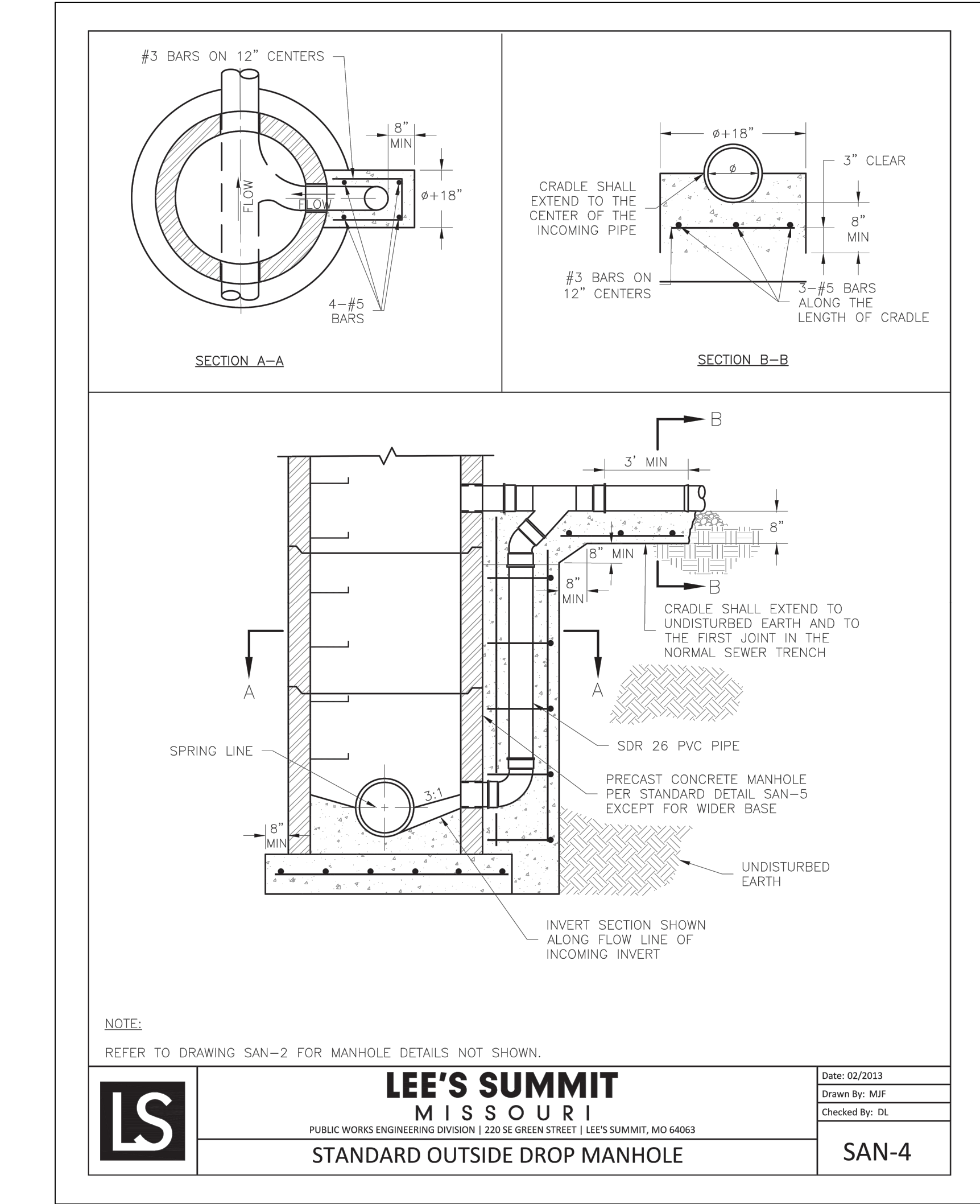
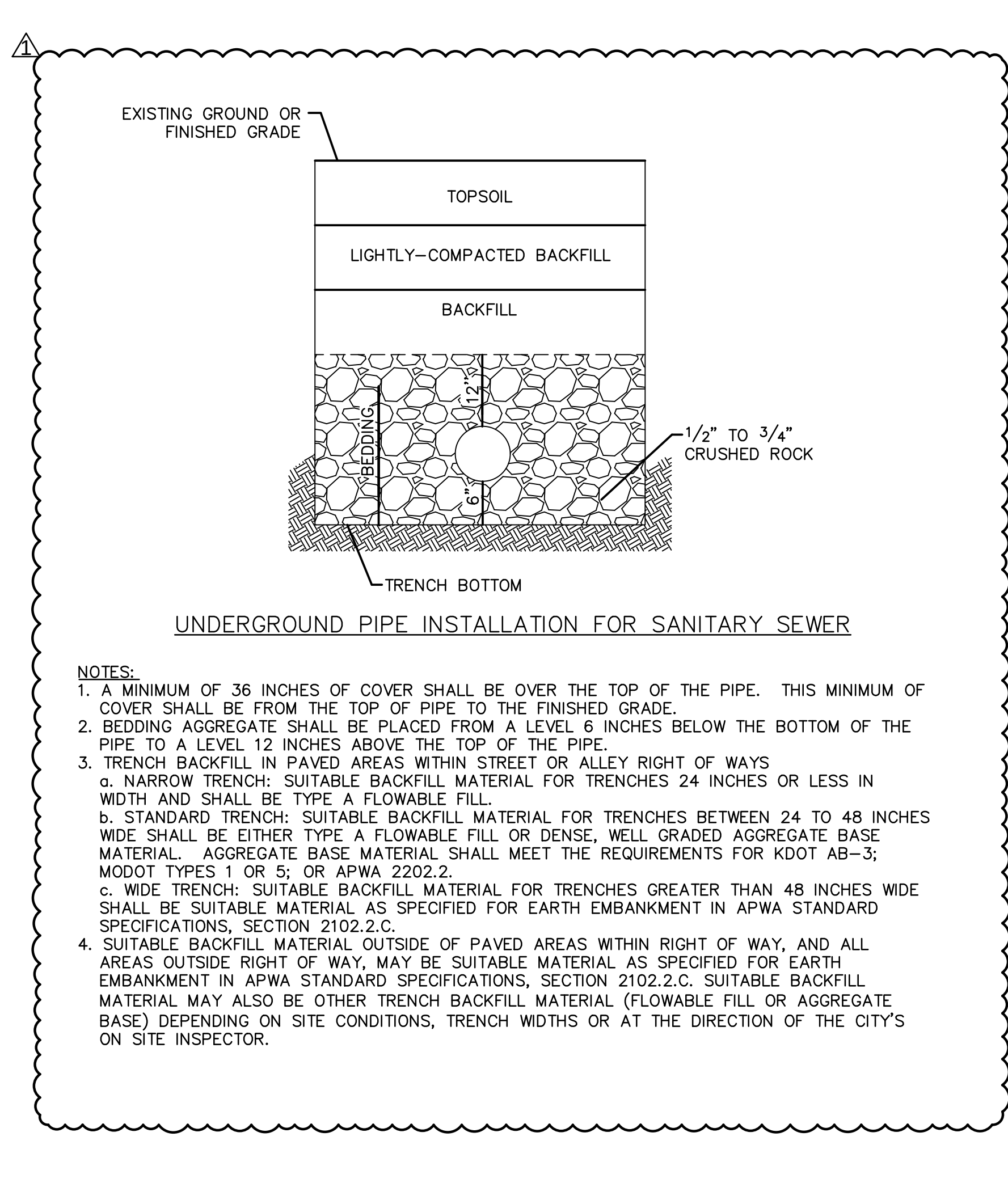
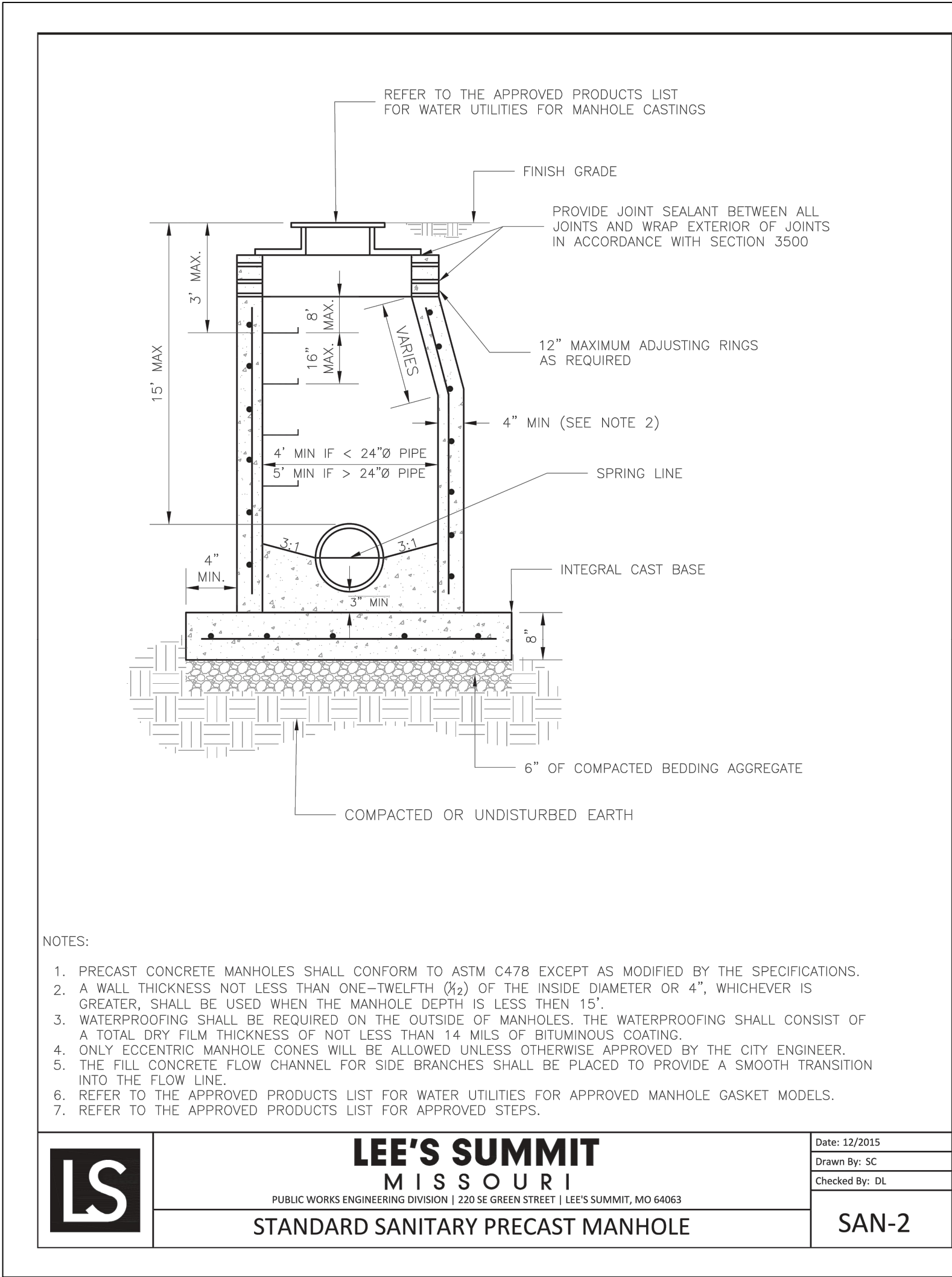
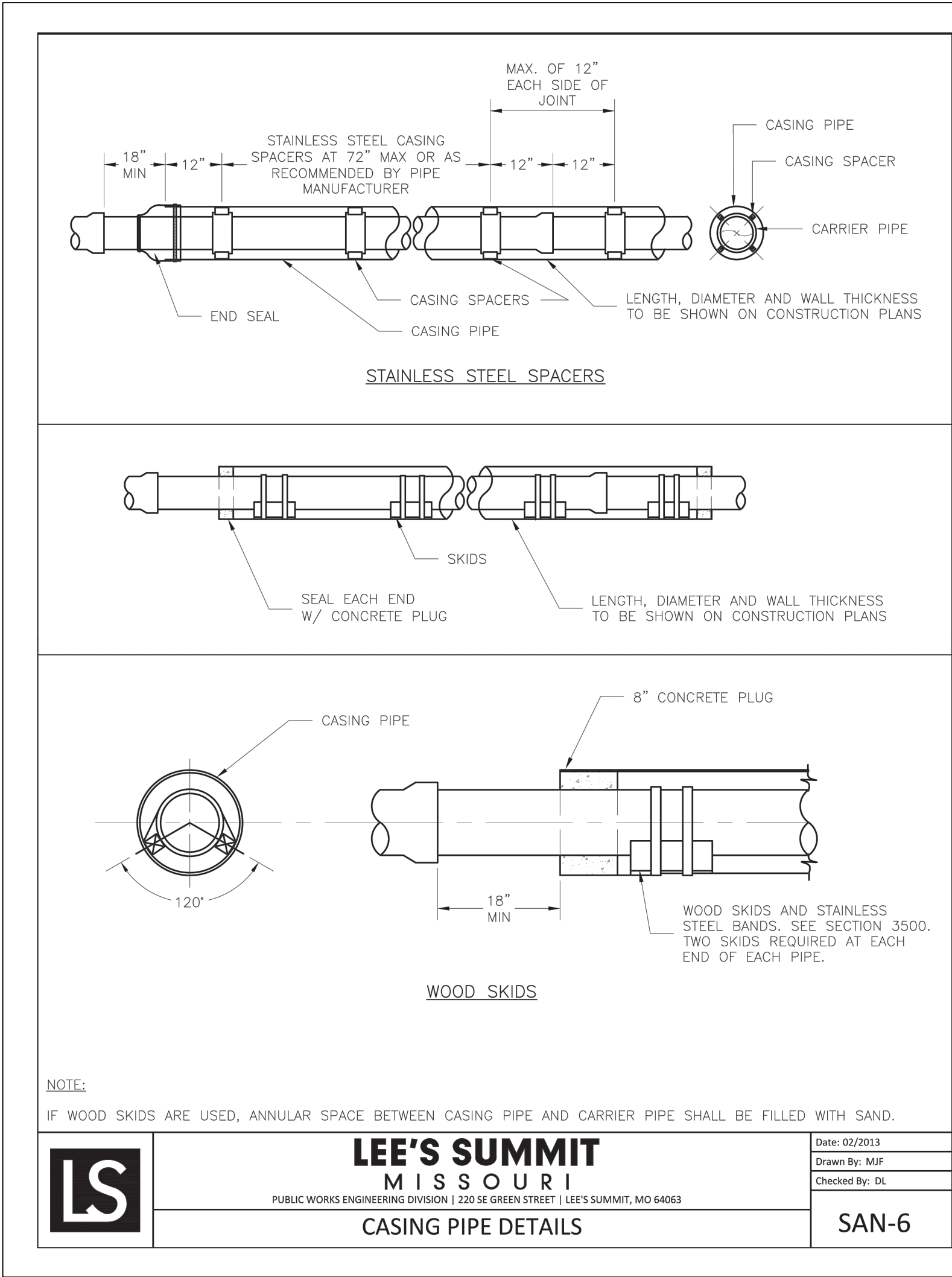
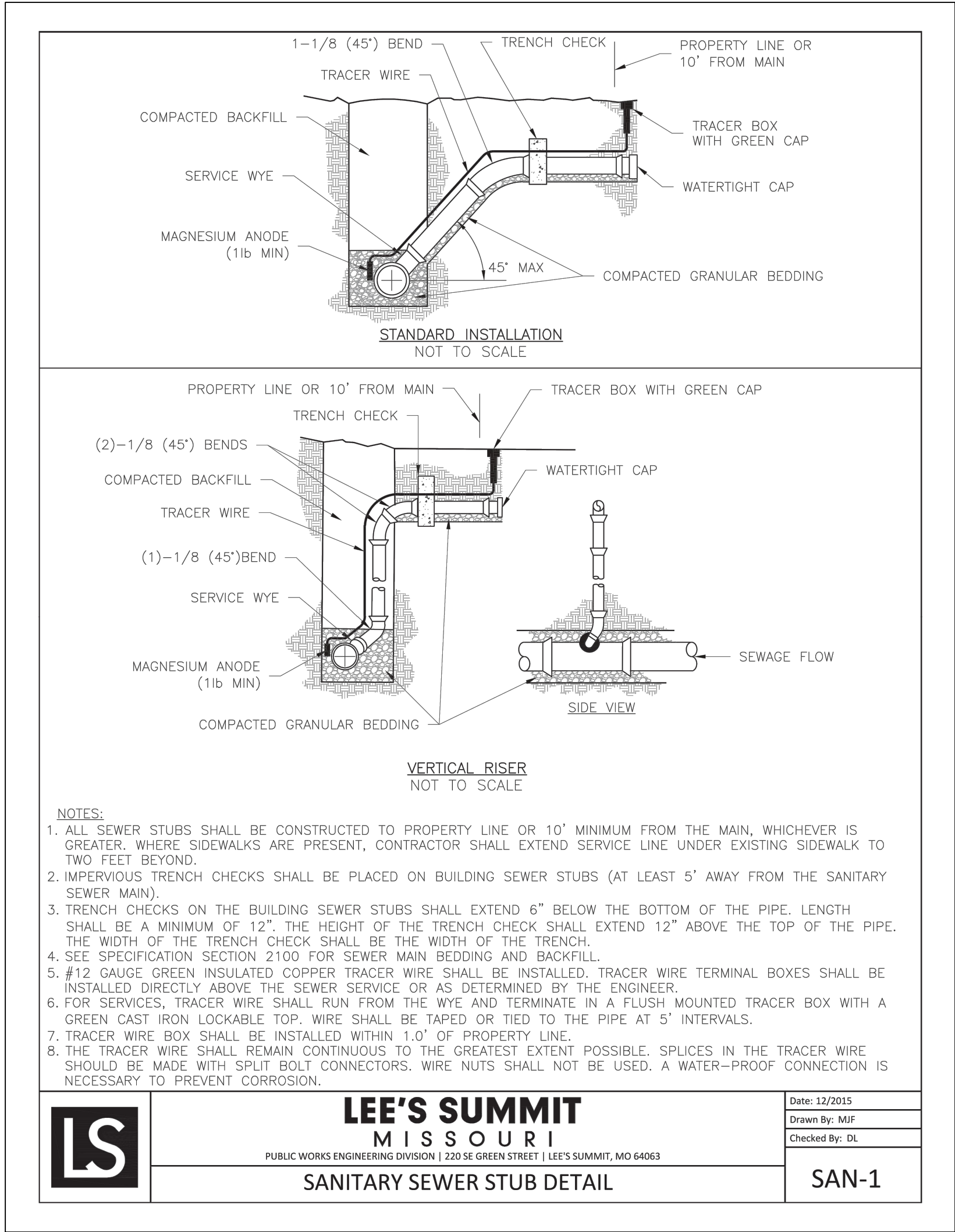
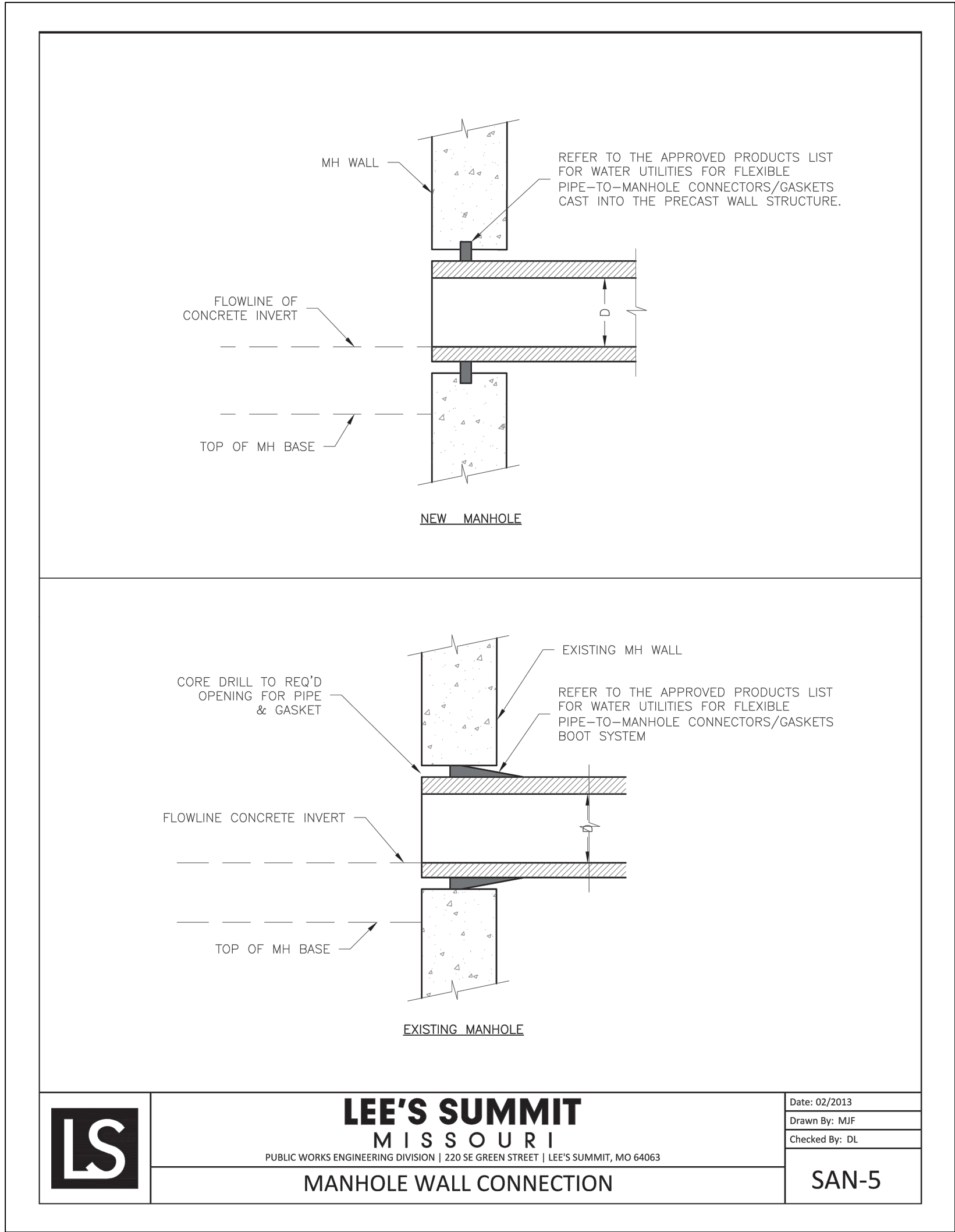
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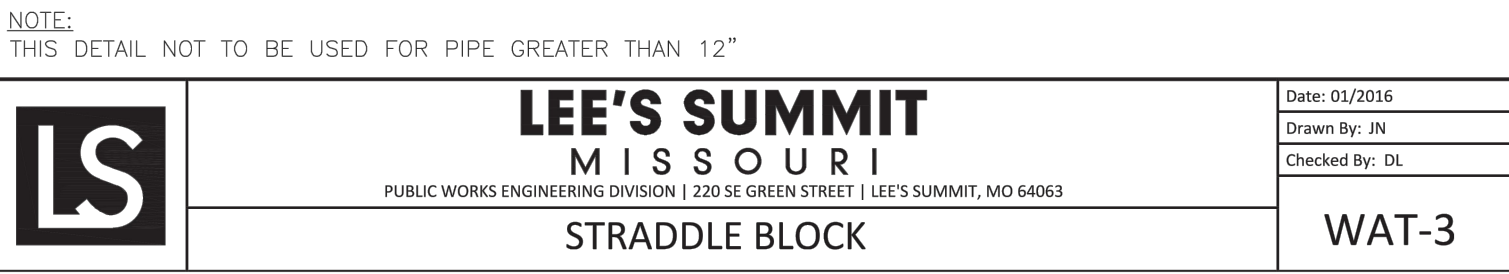
date: 11.28.2023

SHEET

C665

Sanitary Sewer Design Information											
Upstream Manhole	Downstream Pipe Slope	Downstream Pipe Diameter	Proposed Cumulative Area	Future Cumulative Area	Peak Base Flow	Peak Infiltration Flow	Peak Inflow	Total Peak Flow	Downstream Pipe Mannings N	Downstream Pipe Capacity	Downstream Pipe Full Flow Velocity
	(%)	(in)	(Ac.)	(Ac.)	(gpd)	(gpd)	(cfs)	(cfs)		(cfs)	(fps)
EX MH 16-006	0.99%	12	231.42	0.00	347130.00	57855.000	2.124	2.751	0.013	3.54	4.51
SAN Z1	13.94%	12	231.42	0.00	347130.00	57855.000	2.124	2.751	0.013	13.30	16.94
SAN Z2	2.51%	12	231.42	0.00	347130.00	57855.000	2.124	2.751	0.013	5.64	7.19
NEW MH 16-008	0.67%	12	231.42	0.00	347130.00	57855.000	2.124	2.751	0.013	2.92	3.71
NEW MH 16-009	1.07%	12	231.42	0.00	347130.00	57855.000	2.124	2.751	0.013	3.69	4.69
SAN Z3	1.24%	12	231.42	0.00	347455.00	57855.000	2.124	2.752	0.013	3.97	5.05
NEW MH 16-010	1.24%	12	221.11	0.00	341295.00	55277.500	2.030	2.643	0.013	3.97	5.05
SAN A1	1.10%	8	33.62	0.00	76200.00	8405.000	0.309	0.440	0.013	1.27	3.63
SAN A2	1.10%	8	32.26	0.00	2375.00	8065.000	0.401	0.417	0.013	1.27	3.63
SAN A3	1.10%	8	30.16	0.00	45240.00	7540.000	0.379	0.460	0.013	1.27	3.63
SAN A4	1.30%	8	28.68	0.00	43020.00	7170.000	0.363	0.441	0.013	1.38	3.95
SAN A5	1.30%	8	24.21	0.00	36315.00	6052.500	0.314	0.379	0.013	1.38	3.95
SAN A6	1.10%	8	24.21	0.00	18078.00	6052.500	0.314	0.351	0.013	1.27	3.63
SAN A7	1.10%	8	19.97	0.00	29955.00	4992.500	0.266	0.320	0.013	1.27	3.63
SAN A8	1.10%	8	19.97	0.00	29955.00	4992.500	0.266	0.320	0.013	1.27	3.63
SAN B1	1.00%	8	4.47	0.00	83544.00	1117.500	0.041	0.172	0.013	1.21	3.46
SAN B2	1.00%	8	1.15	0.00	2400.00	287.500	0.019	0.023	0.013	1.21	3.46
SAN B3	1.00%	8	0.00	0.00	0.00	0.000	0.000	0.000	0.013	1.21	3.46
SAN C1	4.40%	8	9.19	0.00	89160.00	2297.500	0.084	0.226	0.013	2.53	7.26
SAN D1	1.00%	8	1.12	0.00	216.00	280.000	0.010	0.011	0.013	1.21	3.46





- NOTES:**
1. MANHOLE RING & COVER TO BE SET AT EXISTING GRADE UNLESS OTHERWISE SPECIFIED OR INDICATED ON THE DRAWINGS.
 2. ALL CONCRETE SHALL HAVE CONSHIELD OR MASTERLIFE AMA 100 FROM BASF
 3. AIR RELEASE VALVES SHALL HAVE A REINFORCED NYLON BODY. ALL INTERNAL PARTS ARE TO BE MADE FROM 316 STAINLESS STEEL OR NON-METALLIC POLY MATERIALS. THE HINGE OF THE SEAL ON THE ORIFICE SHALL BE MADE OF EPDM RUBBER. ALL HARDWARE SHALL BE 316 STAINLESS STEEL. ALL VALVES, NIPPLES, AND HARDWARE USED FOR CONNECTIONS SHALL BE STAINLESS STEEL. AIR RELEASE VALVES SHALL BE ARI MODEL D-26, D-26 NS, OR D-025 AS CALLED OUT ON THE PLANS.