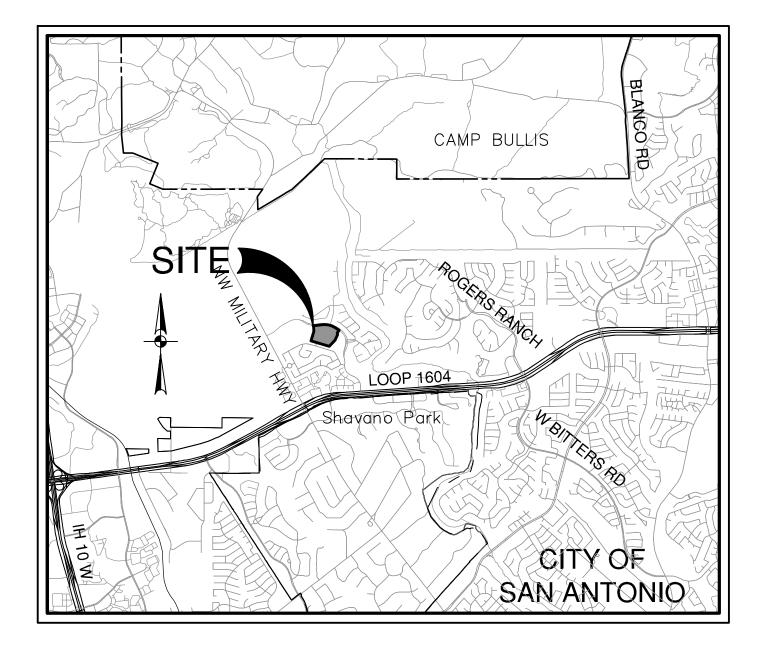
# SHAVANO HIGHLANDS HILLTOP

# SAN ANTONIO, TEXAS

## CIVIL CONSTRUCTION PLANS

**Sheet List Table** 

	Officer List Table	<u> </u>
	Sheet Title	Sheet Number
	COVER SHEET	C0.00
	MASTER DRAINAGE PLAN	C1.00
	DRAIN A PLAN & PROFILE (STA. 1+00.00 TO 4+60.00)	C1.01
	DRAIN A PLAN & PROFILE (STA. 4+60.00 TO END)	C1.02
	DRAIN B & C PLAN & PROFILE	C1.03
	DRAIN D PLAN & PROFILE (STA. 1+00 TO 1+80.00)	C1.04
	DRAIN D PLAN & PROFILE (STA. 1+80.00 TO END)	C1.05
	DRAINAGE DETAILS	C1.10
	DRAINAGE DETAILS	C1.11
	DRAINAGE DETAILS	C1.12
٨	DRAINAGE DETAILS	C1.13
<u></u>	SUMMIT PLACE PLAN & PROFILE (STA. 1+53.75 TO 7+00.00)	C2.00
	SUMMIT PLACE PLAN & PROFILE (STA. 7+00.00 TO 12+00.00)	C2.01
	SUMMIT PLACE PLAN & PROFILE (STA. 12+00.00 TO 20.00)	C2.02
	SUMMIT PLACE PLAN & PROFILE (STA. 20+00.00 TO END)	C2.03
	STREET DETAILS SHEET 1 OF 3	C2.10
	STREET DETAILS SHEET 2 OF 3	C2.11
	STREET DETAILS SHEET 3 OF 3	C2.12
	SIGNAGE PLAN	C3.00
	SIGNAGE DETAILS	C3.10
	SIGNAGE DETAILS	C3.11
	OVERALL WATER PLAN	C4.00
	WATER DETAILS	C4.10
	WATER NOTES	C4.11
	OVERALL SANITARY SEWER PLAN	C5.00
	SANITARY SEWER LINE A PLAN AND PROFILE (STA. 1+00.00 TO 8+00.00)	C5.01
	SANITARY SEWER LINE A PLAN AND PROFILE (STA. 8+00.00 TO END)	C5.02
	SANITARY SEWER LINE B PLAN AND PROFILE (STA. 1+00.00 TO 5+50.00)	C5.03
	SANITARY SEWER LINE B PLAN AND PROFILE (STA. 5+50.00 TO END)	C5.04
	SANITARY SEWER LINE C PLAN AND PROFILE	C5.05
	SANITARY SEWER LINE D & E PLAN AND PROFILE (STA. 1+00.00 TO 6+50.00)	C5.06
	SANITARY SEWER LINE E PLAN AND PROFILE (STA. 6+50.00 TO END)	C5.07
	SANITARY SEWER LINE F PLAN AND PROFILE	C5.08
	SANITARY SEWER DETAILS	C5.10
	SANITARY SEWER NOTES	C5.11
	UTILITY PLAN	C6.00
	GRADING PLAN	C7.00
	SWPPP	C8.00
	SWPPP DETAILS	C8.10



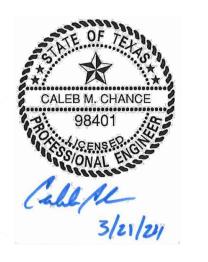
**LOCATION MAP** 

PREPARED FOR:

SHAVANO ROGERS NORTH NO. 3, LTD 11 LYNN BATTS LANE SUITE 100 SAN ANTONIO, TEXAS 78218

> MAY 2023 **UPDATED MARCH 2024**





#### WATER (SAWS PRESSURE ZONE 11)

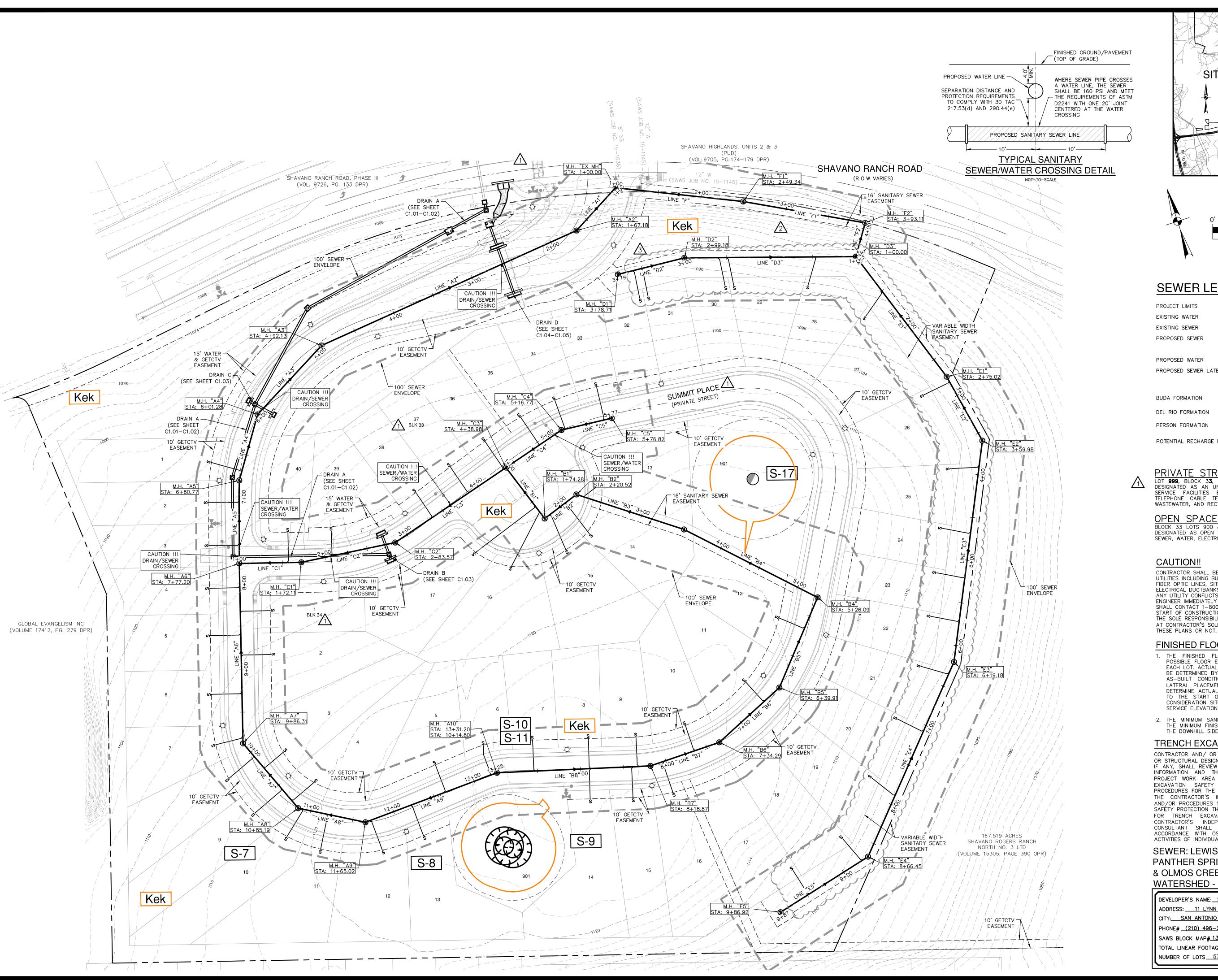
DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD
ADDRESS: 11 LYNN BATTS LANE SUITE 100
CITY: SAN ANTONIO STATE: TX ZIP: 78218
PHONE# <u>(210)-828-6131</u> FAX#
SAWS BLOCK MAP# 138644 TOTAL EDU'S 57 TOTAL ACREAGE 18.91
TOTAL LINEAR FOOTAGE OF PIPE:8"-3087 LF PLAT NO. 23-11800016
NUMBER OF LOTS 57 SAWS JOB NO. 23-1028

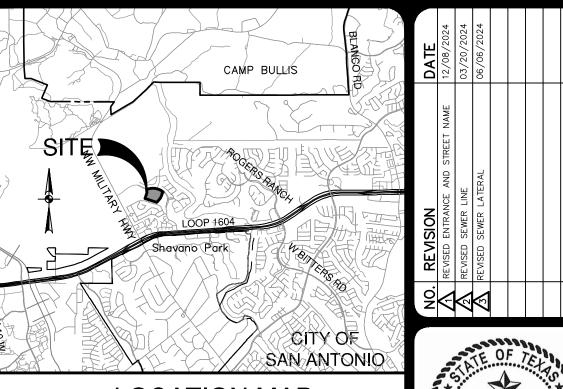
SEWER: LEWIS CREEK-SALADO CREEK PANTHER SPRINGS CREEK-SALADO CREEK, & OLMOS CREEK-SAN ANTONIO RIVER WATERSHED - DOS RIOS W.R.C.

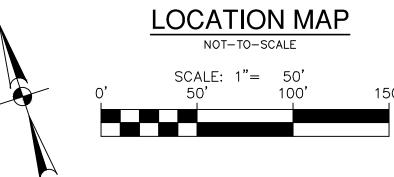
ť.	<del>/</del>
Ì	DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD
1	ADDRESS: 11 LYNN BATTS LANE SUITE 100
Ì	CITY: SAN ANTONIO STATE: TX ZIP: 78218
	PHONE# <u>(210) 496-2668</u> FAX#
ĺ	SAWS BLOCK MAP# 138644 TOTAL EDU'S 57 TOTAL ACREAGE 18.91
Ì	TOTAL LINEAR FOOTAGE OF PIPE: 8"- 4,103.0LF PLAT NO. 23-1180001
Ì	NUMBER OF LOTS 57 SAWS JOB NO. 23-1525
L	

SHAVANO HIGHLANDS HILLTOP

PD JOB NO.



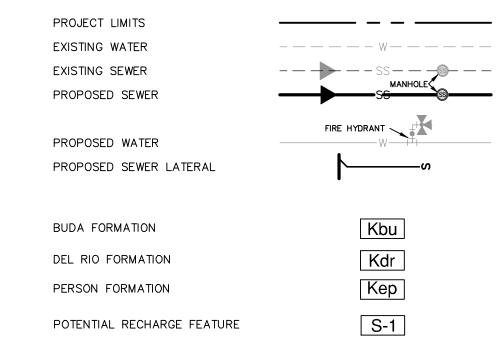




# CALEB M. CHANCE

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#### SEWER LEGEND



PRIVATE STREET DESIGNATION:

LOT 999, BLOCK 33, CB OR NCB 17701, IS A PRIVATE STREET AND I DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

BLOCK 33 LOTS 900 & 901 AND BLOCK 34 LOTS 900 NCB 17701, AR DESIGNATED AS OPEN SPACE AND AS A COMMON AREA AND A DRAINAGE, SEWER, WATER, ELECTRIC, GAS, TELEPHONE AND CABLE TV EASEMENT.

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL B AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON

### FINISHED FLOOR NOTES:

- 1. THE FINISHED FLOOR ELEVATIONS (FF) REPRESENT THE MINIMUM POSSIBLE FLOOR ELEVATION TO PROVIDE SANITARY SEWER SERVICE EACH LOT. ACTUAL FINISHED FLOOR ELEVATIONS FOR EACH LOT ARE BE DETERMINED BY THE BUILDER AND SHALL TAKE INTO CONSIDERATION AS-BUILT CONDITIONS FOR FOUND SEWER SERVICES AND ACTUA LATERAL PLACEMENT. IT IS THE BUILDER'S SOLE RESPONSIBILITY DETERMINE ACTUAL FINISHED FLOOR ELEVATIONS FOR EACH LOT PRIOF TO THE START OF HOME FOUNDATION CONSTRUCTION TAKING INT CONSIDERATION SITE DRAINAGE, STREET ACCESS AND SANITARY SEWER SERVICE ELEVATIONS.
- 2. THE MINIMUM SANITARY SEWER LATERAL GRADES WERE BASED UPON THE MINIMUM FINISHED FLOOR ELEVATIONS FOR THE LOTS LOCATED O THE DOWNHILL SIDES OF THE PROPOSED ROADWAYS.

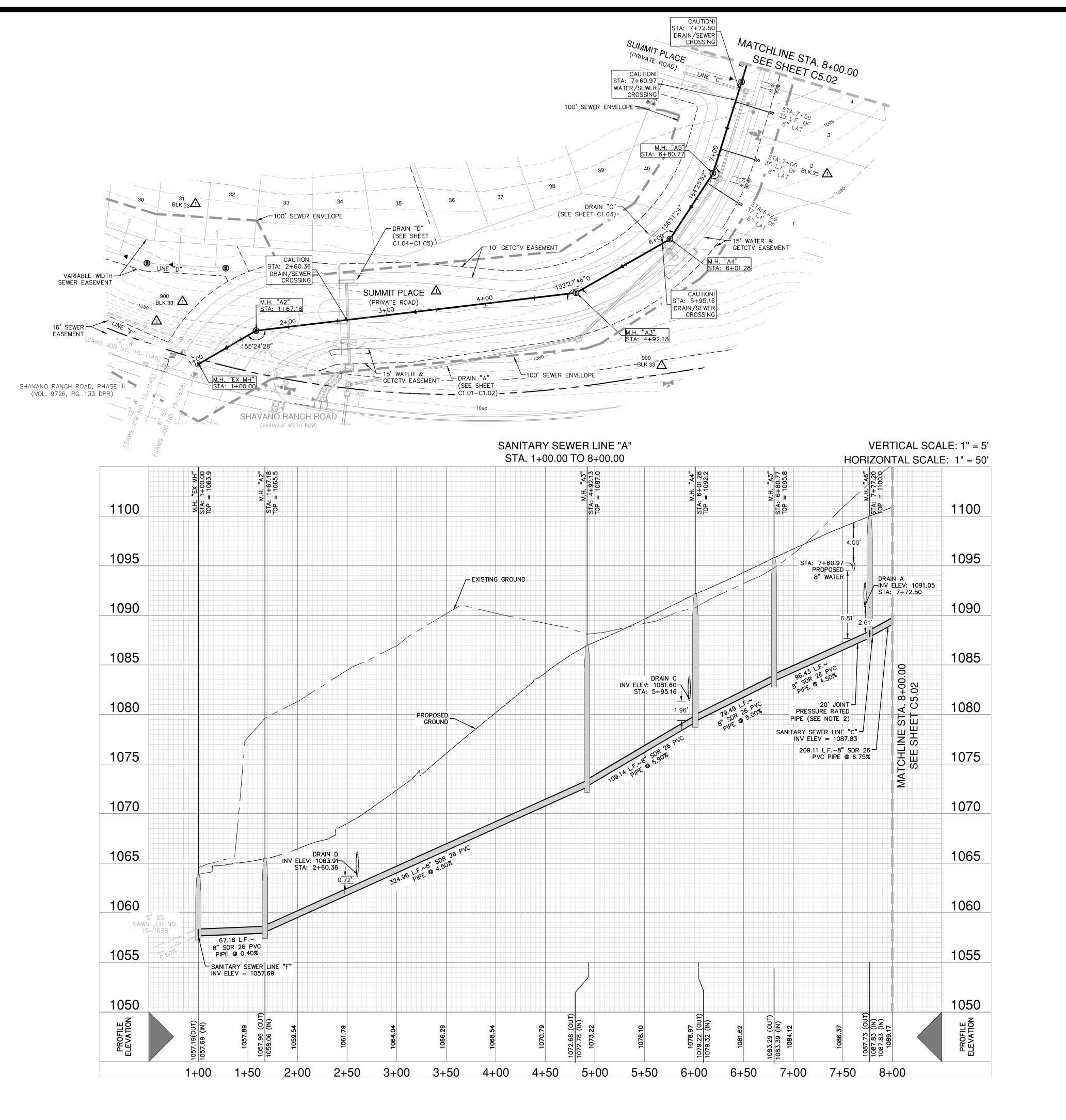
#### TRENCH EXCAVATION SAFETY PROTECTION:

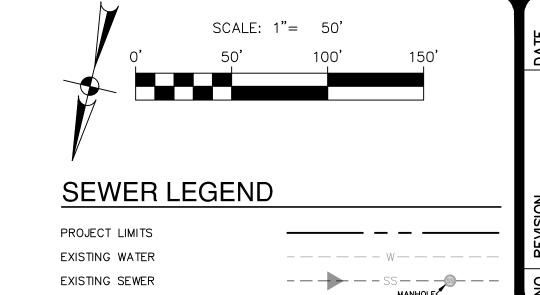
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SEWER: LEWIS CREEK-SALADO CREEK, PANTHER SPRINGS CREEK-SALADO CREEK, & OLMOS CREEK-SAN ANTONIO RIVER WATERSHED - DOS RIOS W.R.C.

ı	DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD
l	ADDRESS: 11 LYNN BATTS LANE SUITE 100
l	CITY: SAN ANTONIO STATE: TX ZIP: 78218
l	PHONE# <u>(210) 496-2668</u> FAX#
l	SAWS BLOCK MAP# <u>138644</u> TOTAL EDU'S <u>57</u> TOTAL ACREAGE <u>18.91</u>
l	TOTAL LINEAR FOOTAGE OF PIPE: <u>8"- 4,103.0L</u> F PLAT NO. <u>23-118000</u> 16
l	NUMBER OF LOTS <u>57</u> SAWS JOB NO. <u>23-1525</u>

. <sub>NO.</sub> 23-1180001 8834-25 JANUARY 2023 DESIGNER HECKED BL DRAWN BM







PRIVATE STREET DESIGNATION:

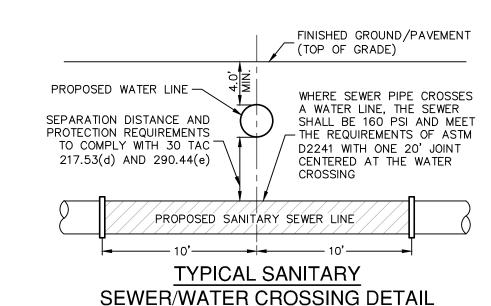
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PROPOSED SEWER

PROPOSED WATER

PROPOSED SEWER LATERAL

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#### CAUTION!!

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NOT-TO-SCALE

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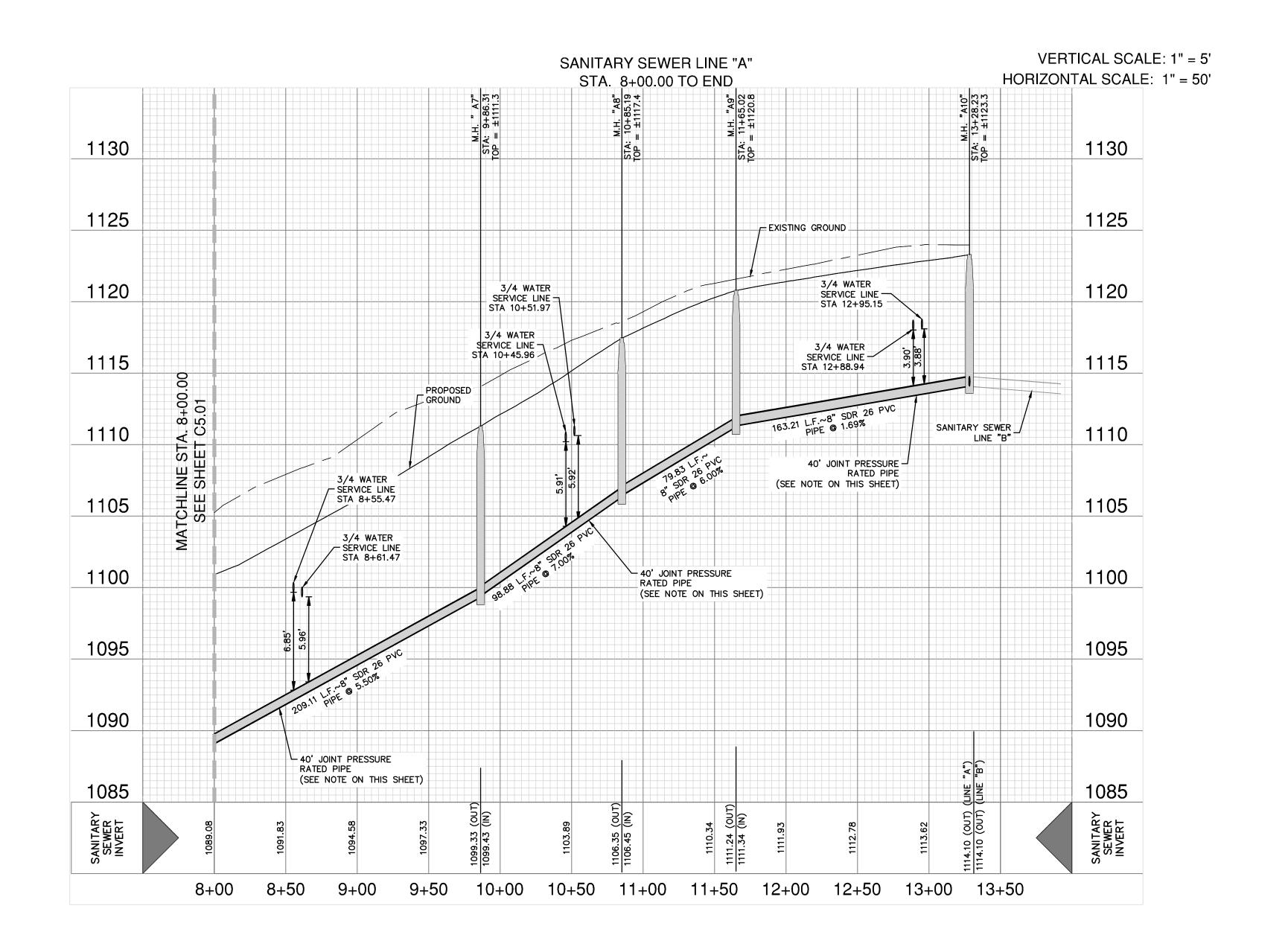
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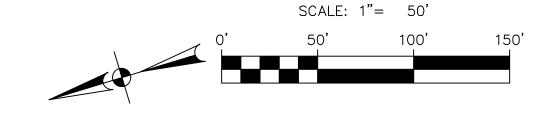
SEWER: LEWIS CREEK-SALADO CREEK, PANTHER SPRINGS CREEK-SALADO CREEK, & OLMOS CREEK-SAN ANTONIO RIVER WATERSHED - DOS RIOS W.R.C.

	DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD	
<u> </u>	ADDRESS: 11 LYNN BATTS LANE SUITE 100	II
-	CITY: SAN ANTONIO STATE: TX ZIP: 78218	II
	PHONE# (210) 496-2668 FAX#	II
	SAWS BLOCK MAP# <u>138644</u> TOTAL EDU'S <u>57</u> TOTAL ACREAGE <u>18.91</u>	
	TOTAL LINEAR FOOTAGE OF PIPE: <u>8"- 4,103.0L</u> F PLAT NO. <u>23-118000</u> 16	
	NUMBER OF LOTS 57 SAWS JOB NO. 23-1525	H

PLAT NO. 23-1180001 8834-25 MARCH 2023 DESIGNER CHECKED BL DRAWN RG

C5.01





#### SEWER LEGEND

PROPOSED SEWER LATERAL

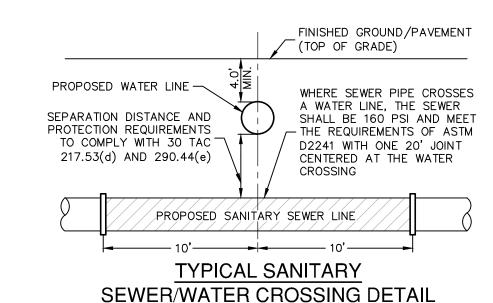
PROJECT LIMITS EXISTING WATER EXISTING SEWER PROPOSED SEWER PROPOSED WATER



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THESE PLANS OR NOT.

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NOT-TO-SCALE

## TRENCH EXCAVATION SAFETY PROTECTION:

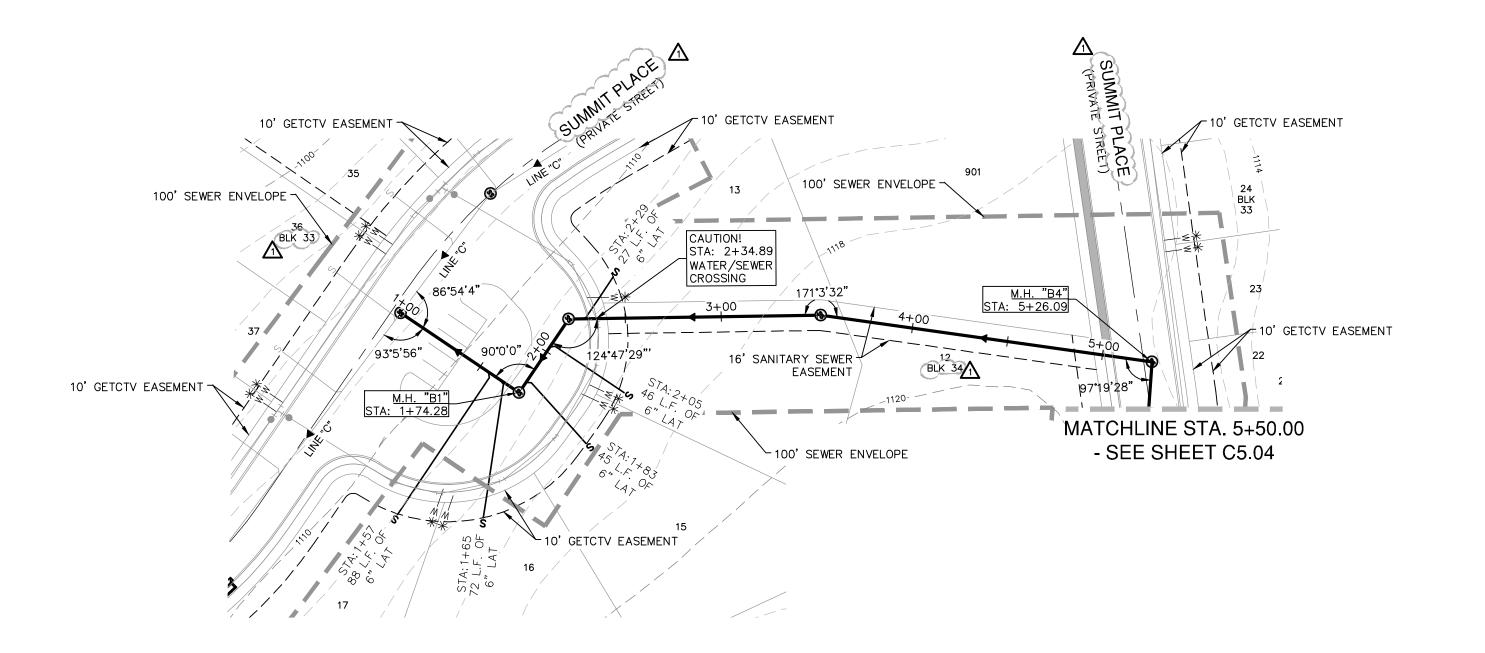
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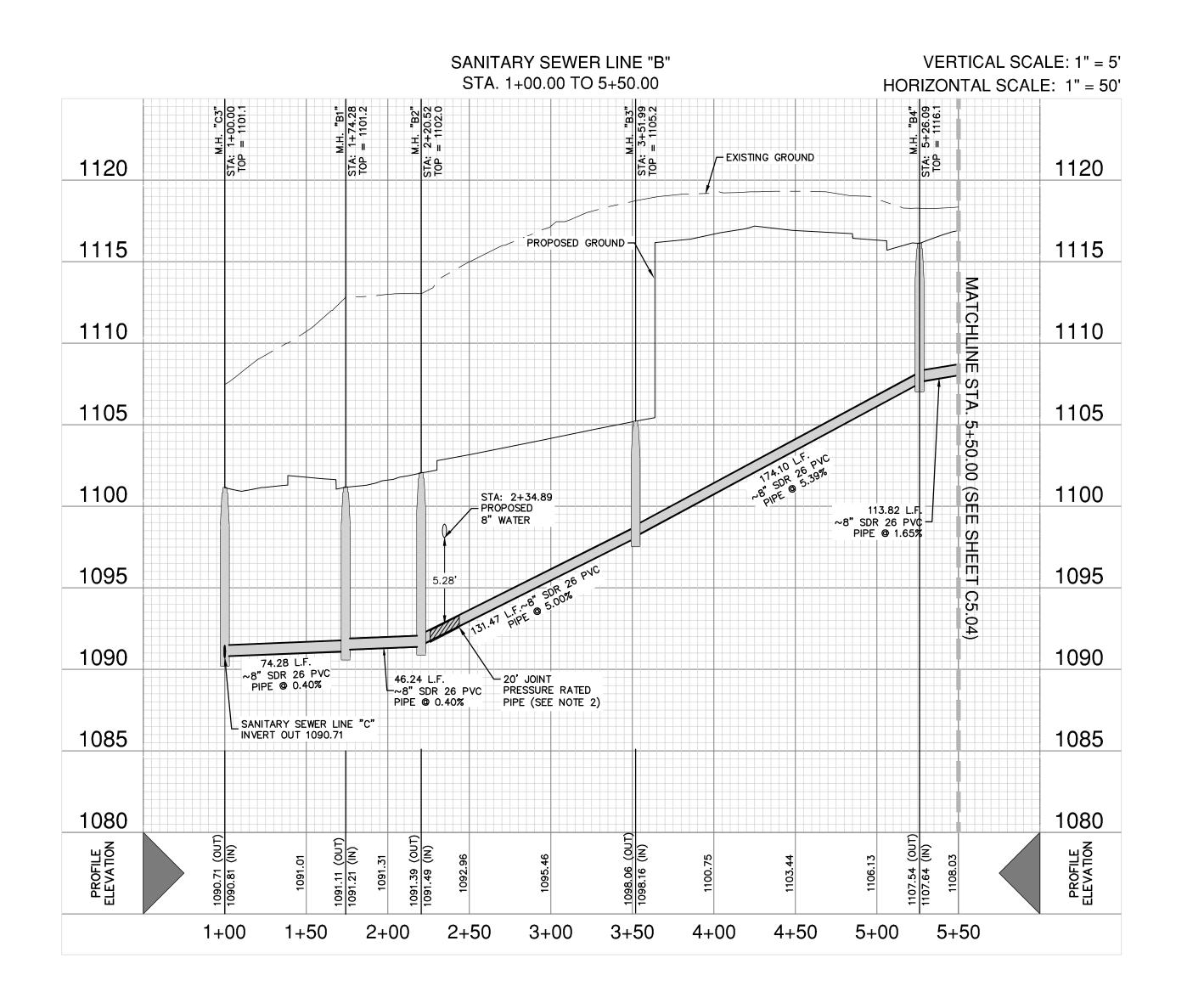
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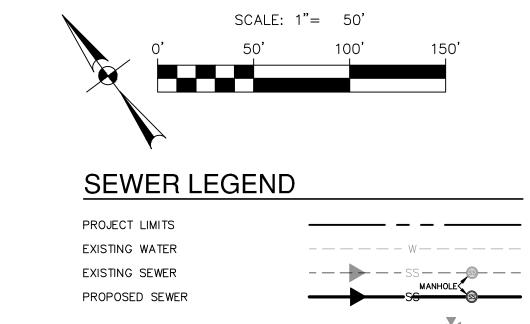
J	DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD	
	ADDRESS: 11 LYNN BATTS LANE SUITE 100	
ŀ	CITY: SAN ANTONIO STATE: TX ZIP: 78218	
•	PHONE# <u>(210) 496-2668</u> FAX#	
•	SAWS BLOCK MAP <u># 138644</u> TOTAL EDU'S <u>57</u> TOTAL ACREAGE <u>18.91</u>	
١	TOTAL LINEAR FOOTAGE OF PIPE: <u>8"- 4,103.0L</u> F PLAT NO. <u>23-118000</u> 16	
	NUMBER OF LOTS 57 SAWS JOB NO. 23-1525	$\mathbb{R}^{2}$
ŀ		<b>] </b>

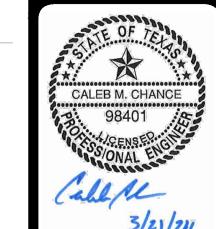
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PLAT NO. 23-11800010 8834-25 DATE JANUARY 2023 DESIGNER CHECKED\_BL\_DRAWN\_RG









PRIVATE STREET DESIGNATION:

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SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT,

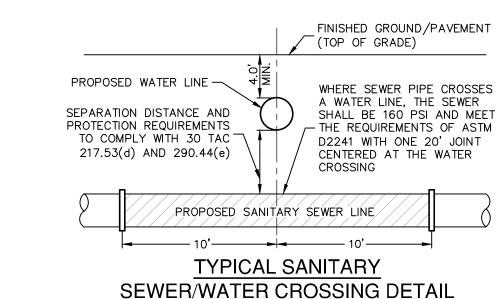
TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER,

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PROPOSED WATER

PROPOSED SEWER LATERAL

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NOT-TO-SCALE

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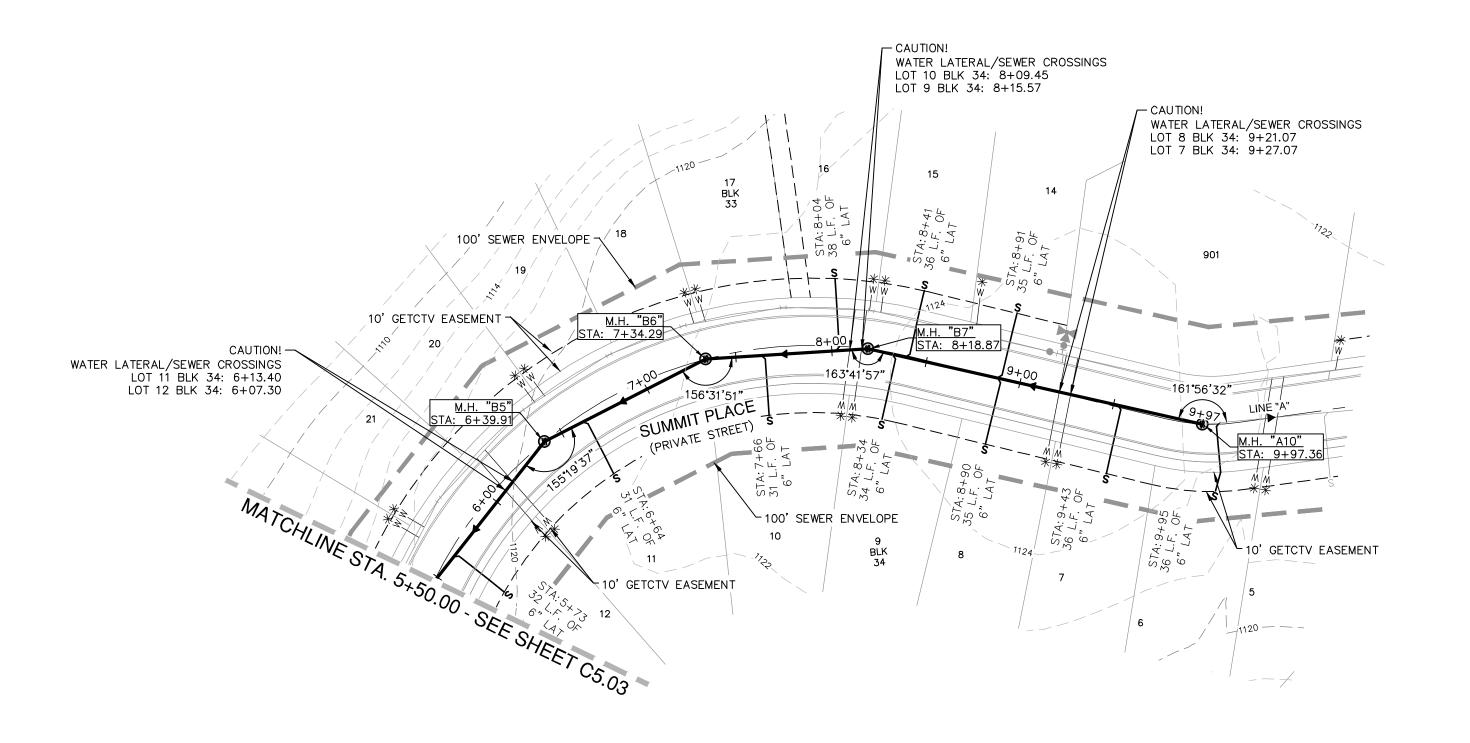
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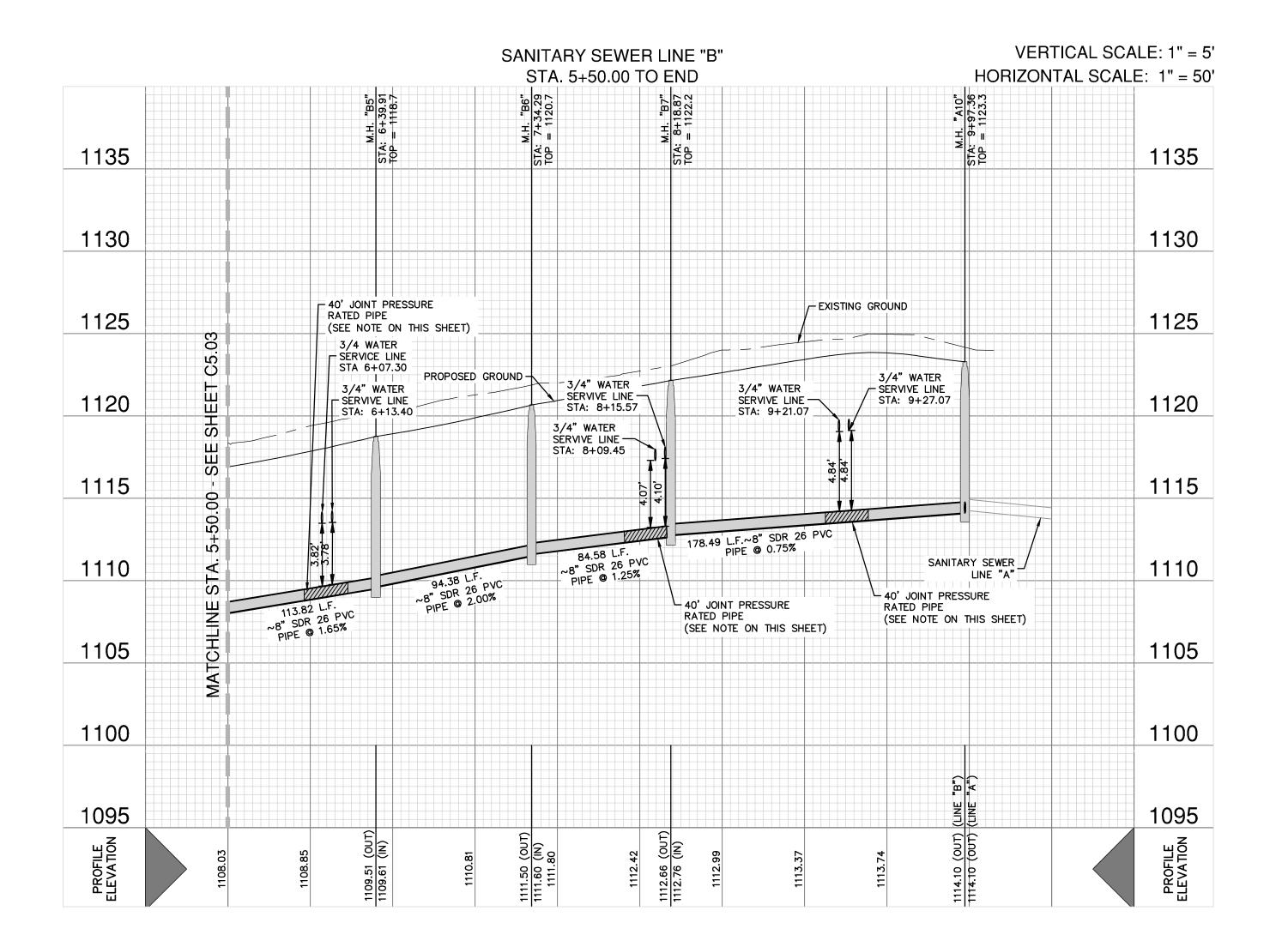
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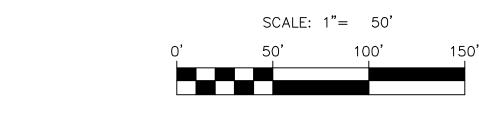
DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD	PLAT	NO. 23-118	300016
ADDRESS: 11 LYNN BATTS LANE SUITE 100			
CITY: SAN ANTONIO STATE: TX ZIP: 78218	JOB	NO. <u>8834</u>	25
PHONE#(210) 496-2668	DATE	MARCH	2023
SAWS BLOCK MAP# 138644 TOTAL EDU'S 57 TOTAL ACREAGE 18.91	DESI	GNERF	RG
TOTAL LINEAR FOOTAGE OF PIPE: <u>8"- 4,103.0L</u> F PLAT NO. <u>23-118000</u> 16	CHEC	CKED_BL_DRA	AWN_EG
NUMBER OF LOTS 57 SAWS JOB NO. 23-1525		C5.	03

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NY SEWER LINE STA. 1+00.00



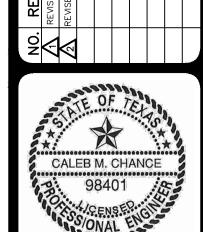




#### SEWER LEGEND

PROJECT LIMITS EXISTING WATER EXISTING SEWER PROPOSED SEWER

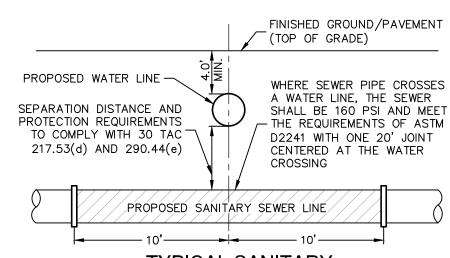
PROPOSED WATER



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TYPICAL SANITARY SEWER/WATER CROSSING DETAIL NOT-TO-SCALE

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DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD	$ \cdot\rangle $
ADDRESS: 11 LYNN BATTS LANE SUITE 100	ß
CITY: SAN ANTONIO STATE: TX ZIP: 78218	
PHONE# <u>(210) 496-2668</u> FAX#	K
SAWS BLOCK MAP# <u>138644</u> TOTAL EDU'S <u>57</u> TOTAL ACREAGE <u>18.91</u>	B
TOTAL LINEAR FOOTAGE OF PIPE: <u>8"- 4,103.0L</u> F PLAT NO. <u>23-118000</u> 16	()
NUMBER OF LOTS 57 SAWS JOB NO. 23-1525	K

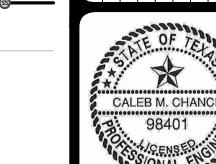
T<sub>PLAT NO.</sub> 23-11800016 8834-25 JOB NO. MARCH 2023 DESIGNER CHECKED BL DRAWN EG

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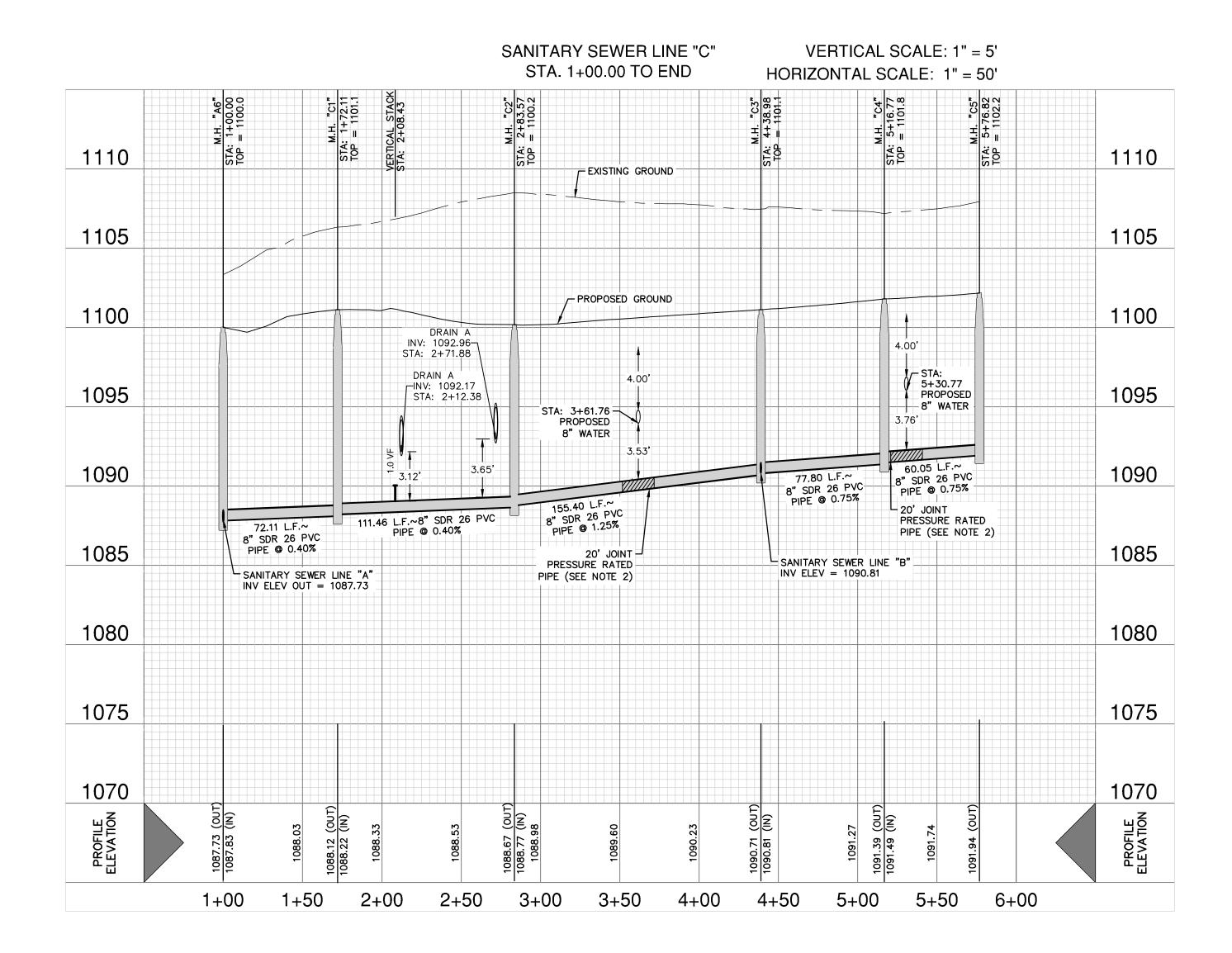
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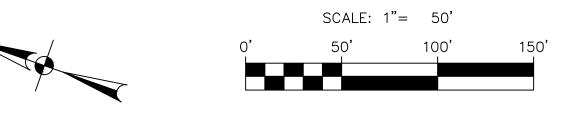
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PROPOSED SEWER LATERAL





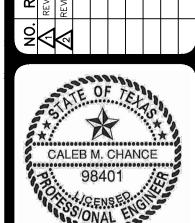




#### SEWER LEGEND

PROJECT LIMITS EXISTING WATER EXISTING SEWER PROPOSED SEWER

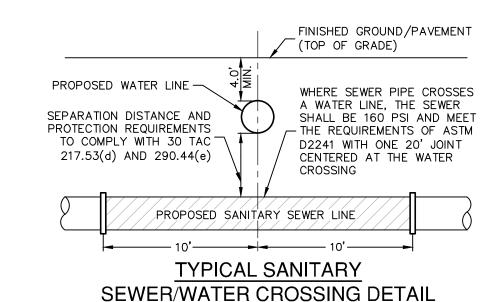
PROPOSED WATER PROPOSED SEWER LATERAL



PRIVATE STREET DESIGNATION

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NOT-TO-SCALE

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	ADDRESS: 11 LYNN BATTS LANE SUITE 100	HŚ
${\mathbb R}^{-1}$	CITY: SAN ANTONIO STATE: TX ZIP: 78218	II₹
	PHONE# <u>(210) 496-2668</u> FAX#	Ιζ
$\mathcal{L}$	SAWS BLOCK MAP# <u>138644</u> TOTAL EDU'S <u>57</u> TOTAL ACREAGE <u>18.91</u>	K
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$ \langle Z \rangle $	NUMBER OF LOTS 57 SAWS JOB NO. 23-1525	IК
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HIGHLANDS ANTONIO, TEXAS

V<sub>PLAT NO.</sub> 23-11800016 JOB NO. 8834-25 DATE MARCH 2023 RG DESIGNER CHECKED\_BL DRAWN\_RG

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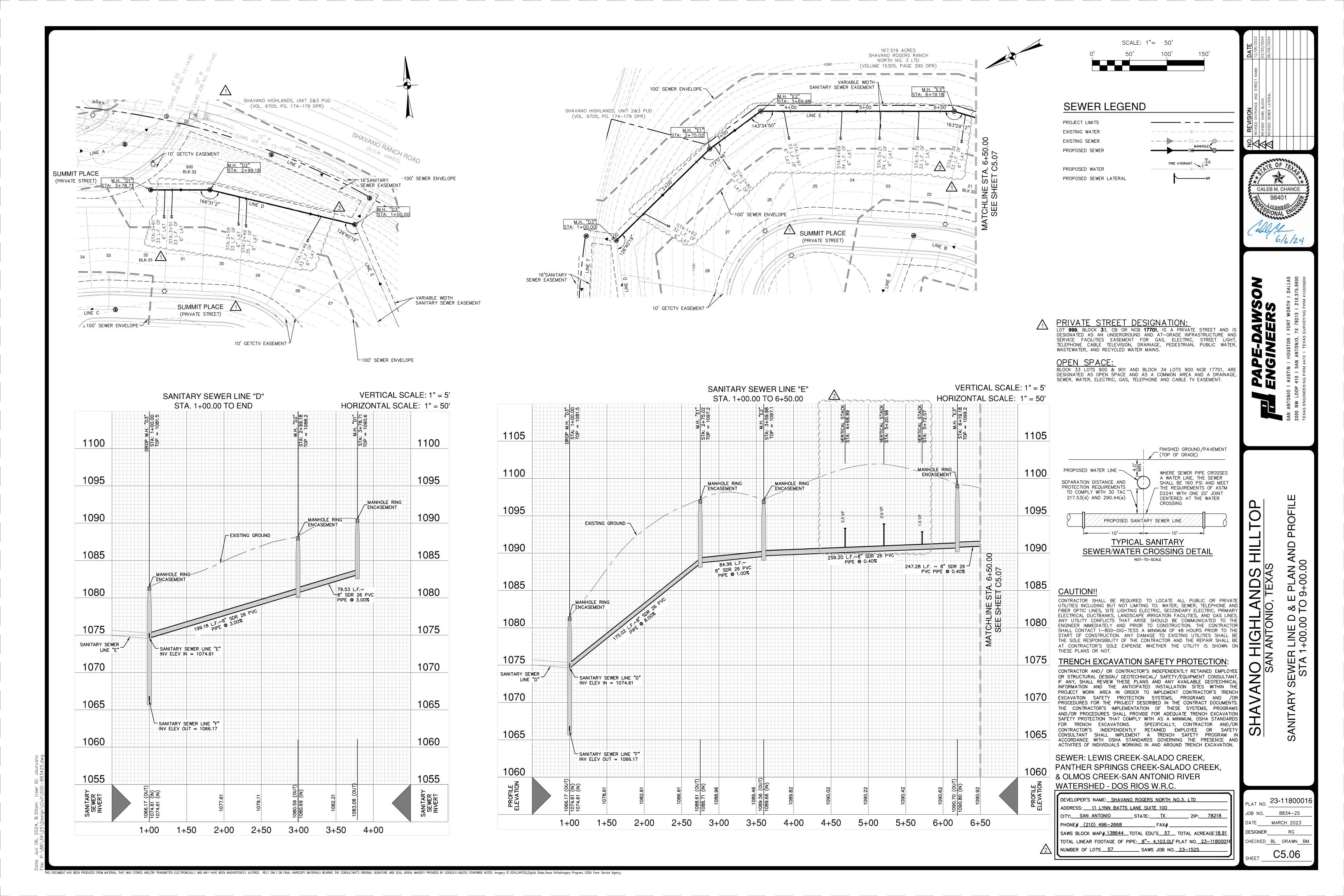
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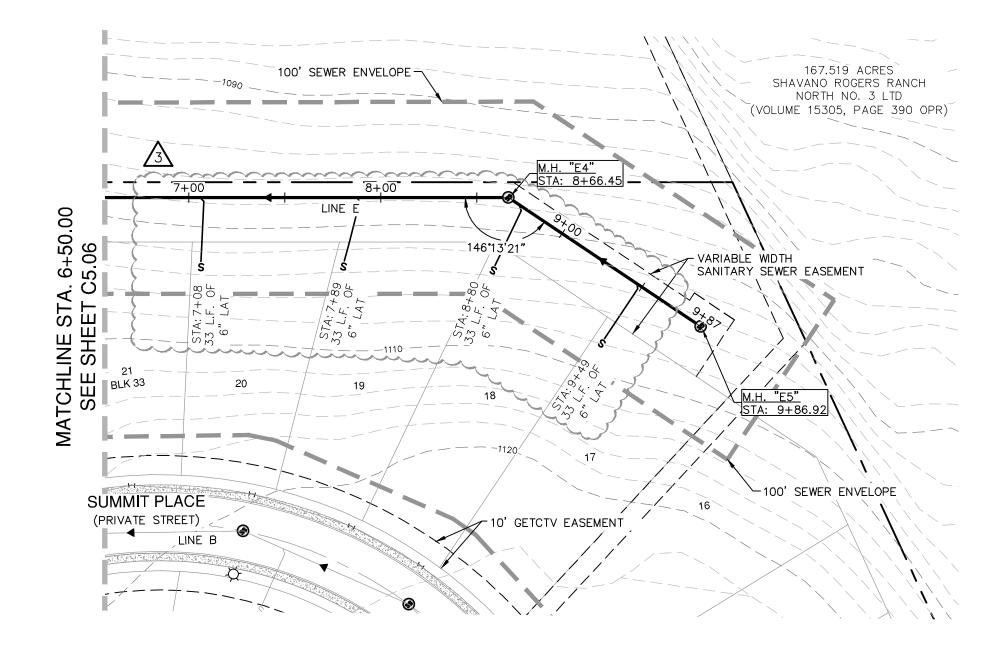
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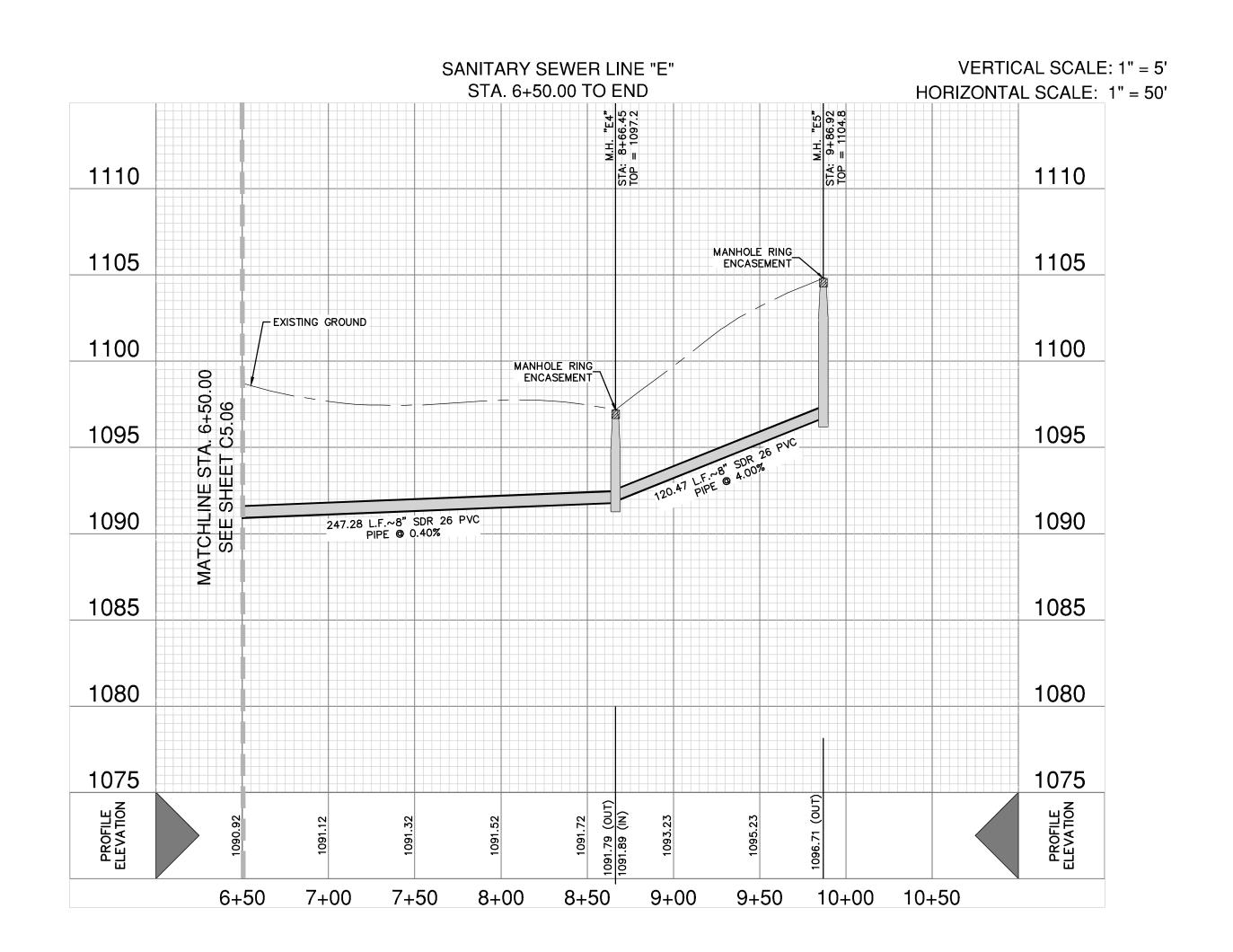
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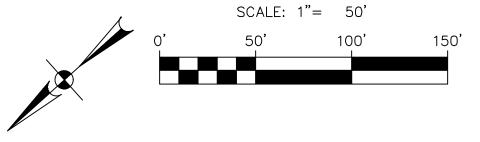
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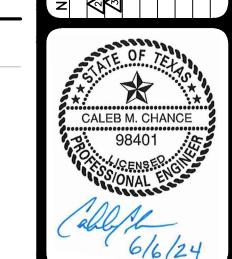






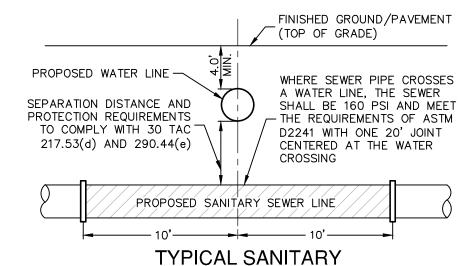
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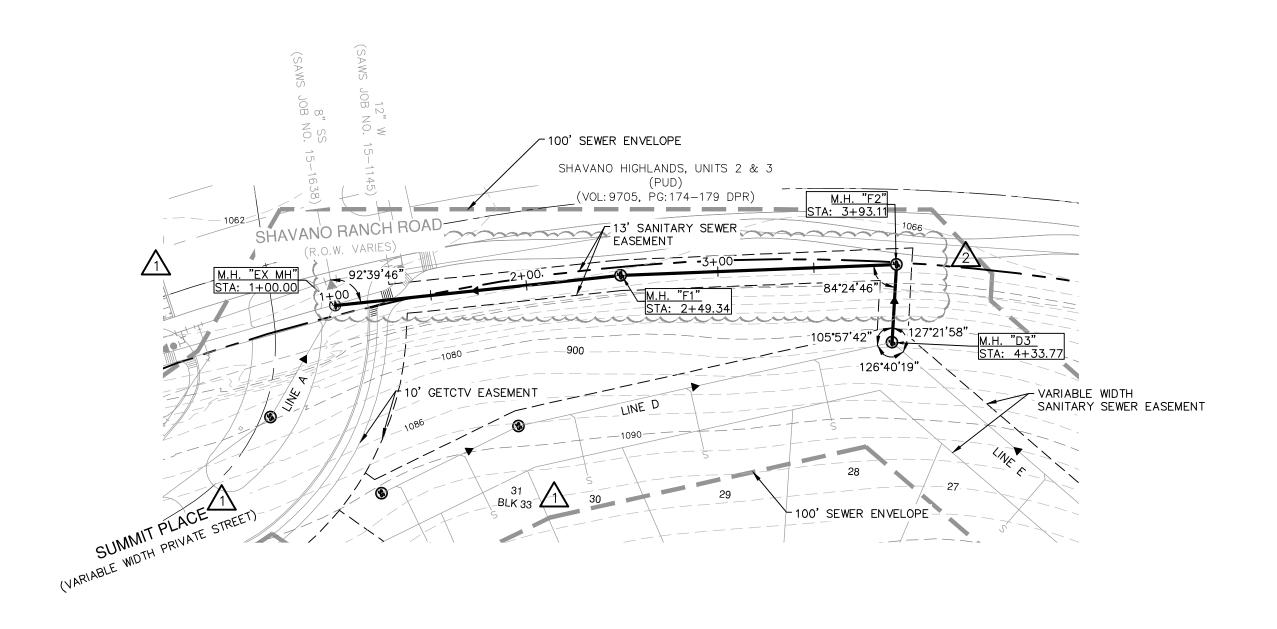
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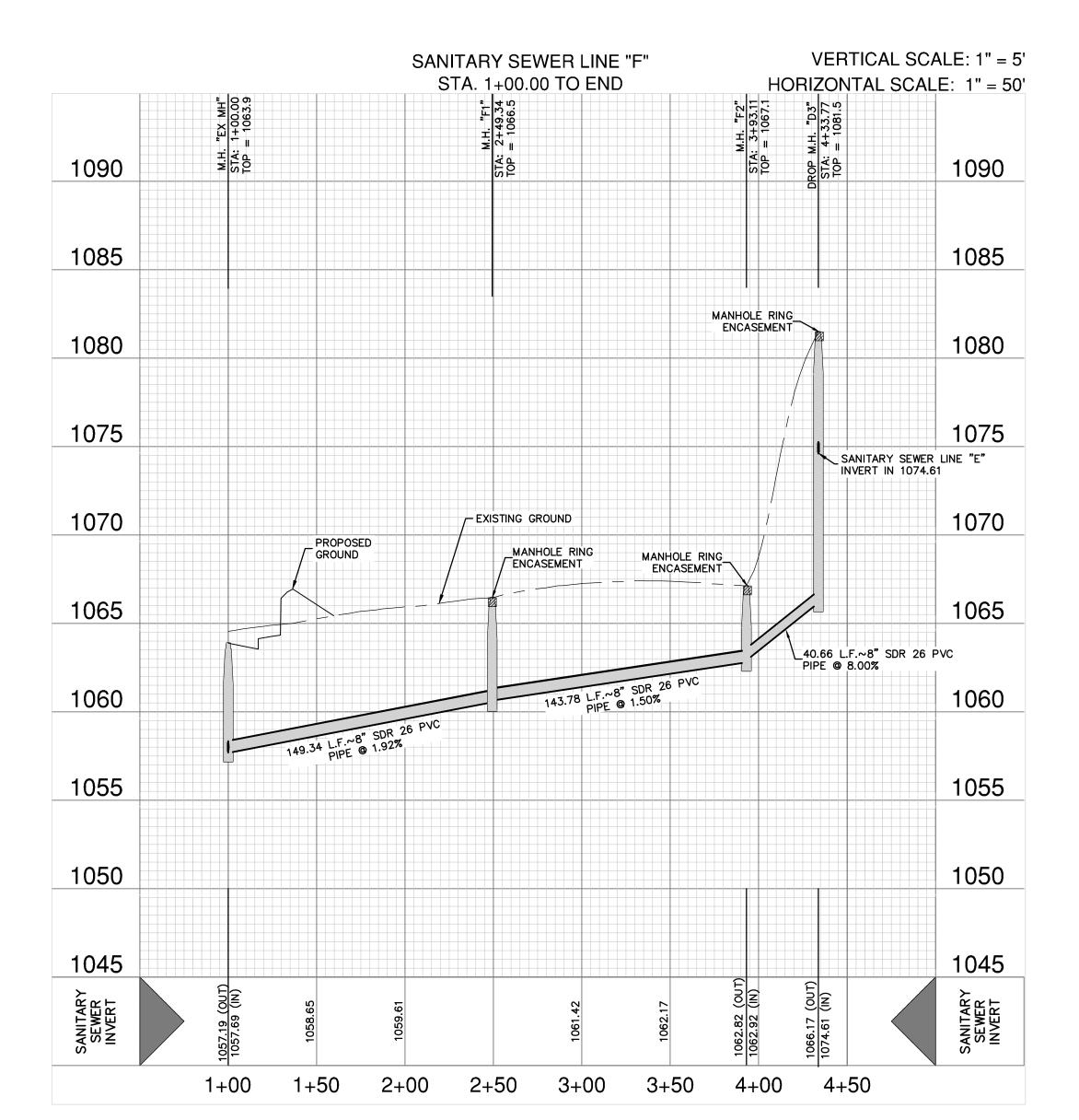
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	TOTAL LINEAR FOOTAGE OF PIPE: <u>8"- 4,103.0L</u> F PLAT NO. <u>23-118000</u> 16
$\sqrt{2}$	NUMBER OF LOTS 57 SAWS JOB NO. 23-1525

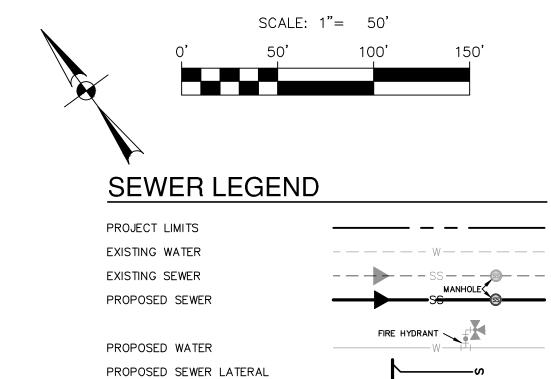
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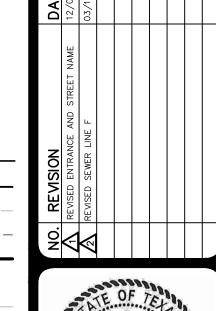
PLAT NO. 23-11800016 JOB NO. 8834-25 MARCH 2023 DESIGNER CHECKED BL DRAWN BM C5.07

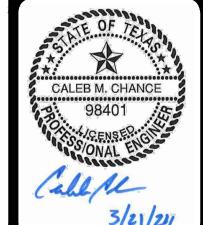
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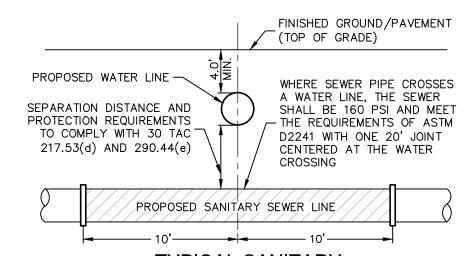




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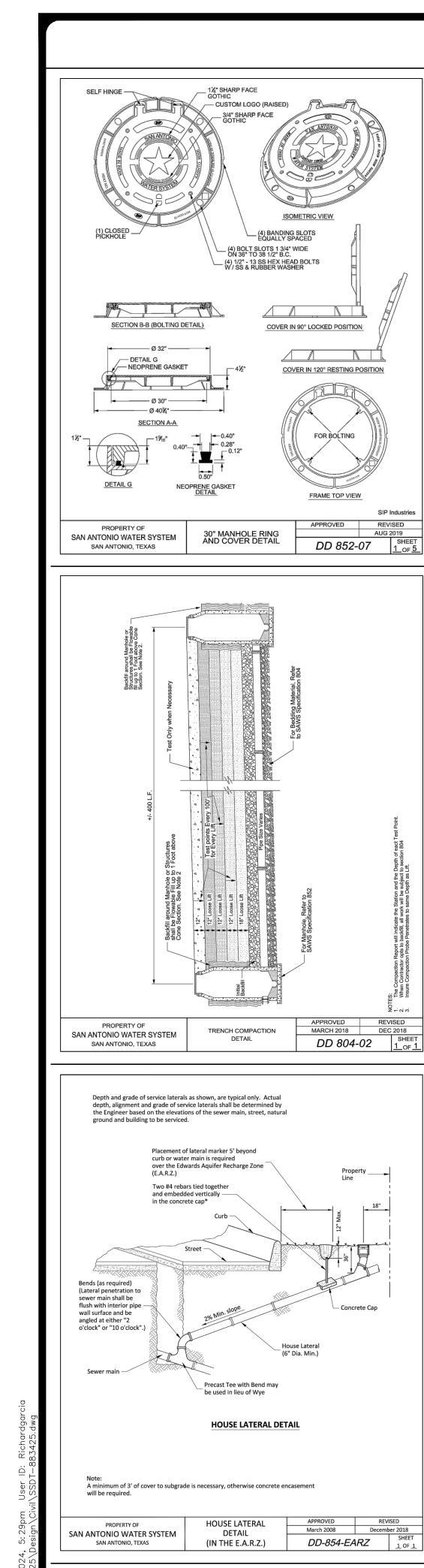
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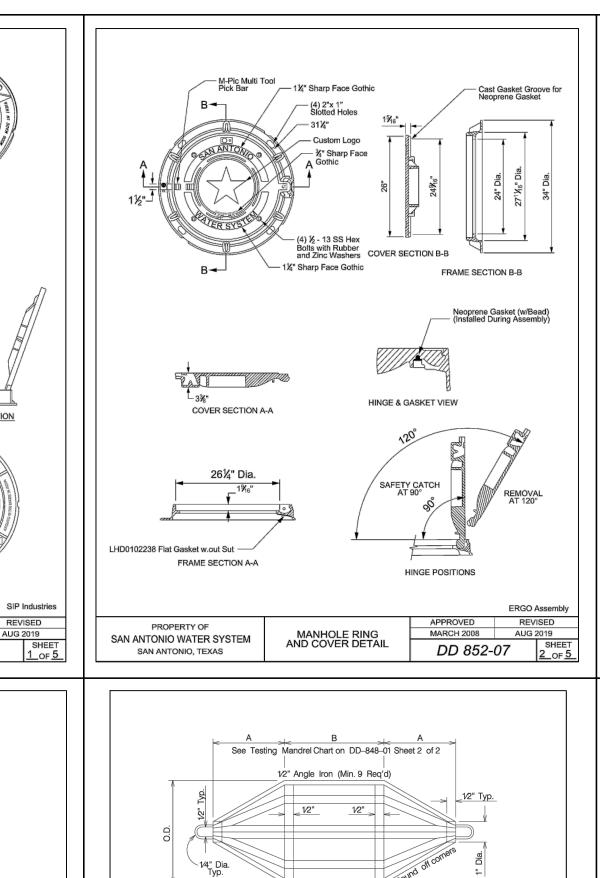
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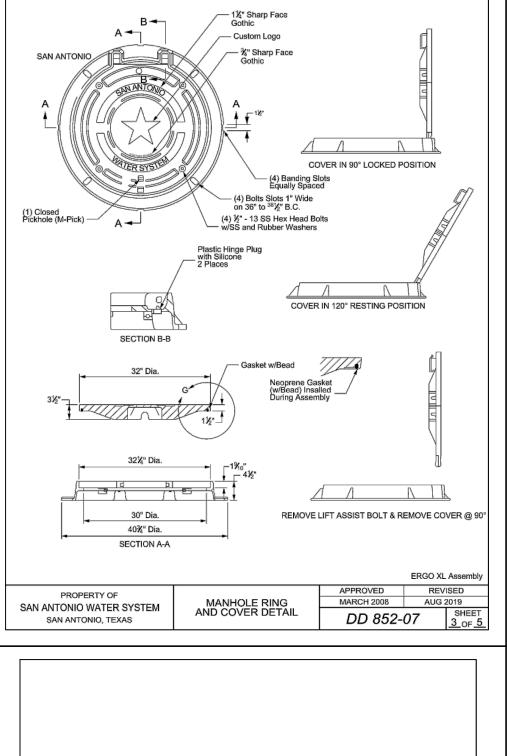
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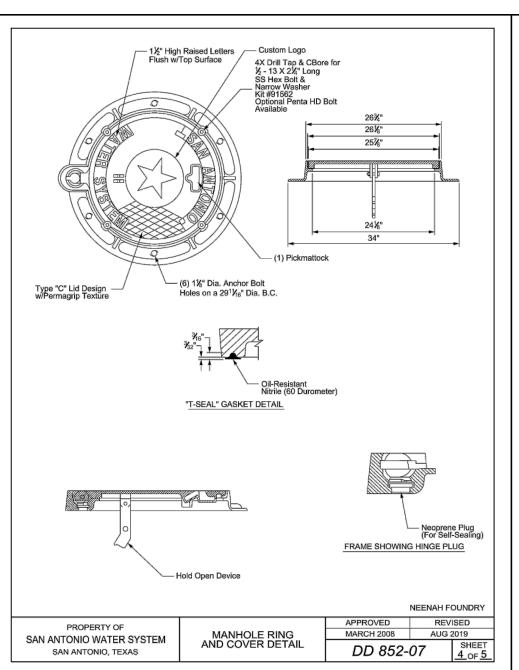
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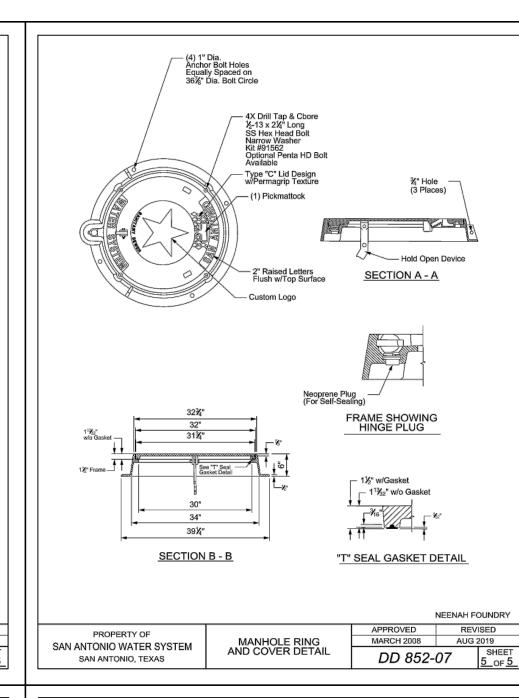
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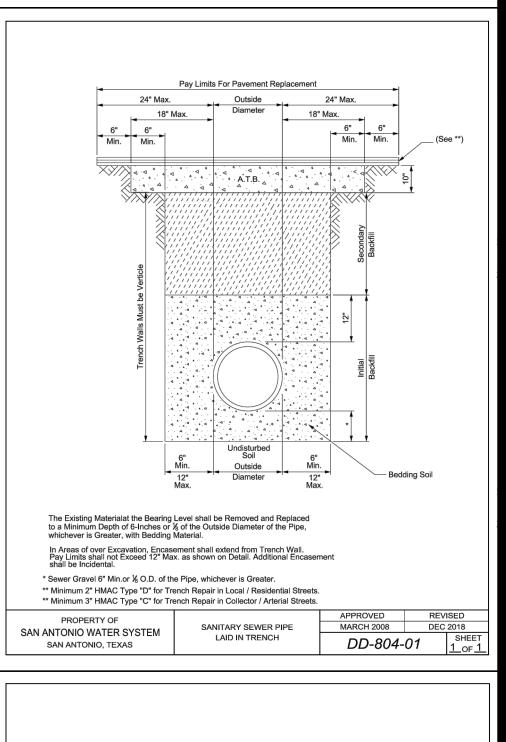


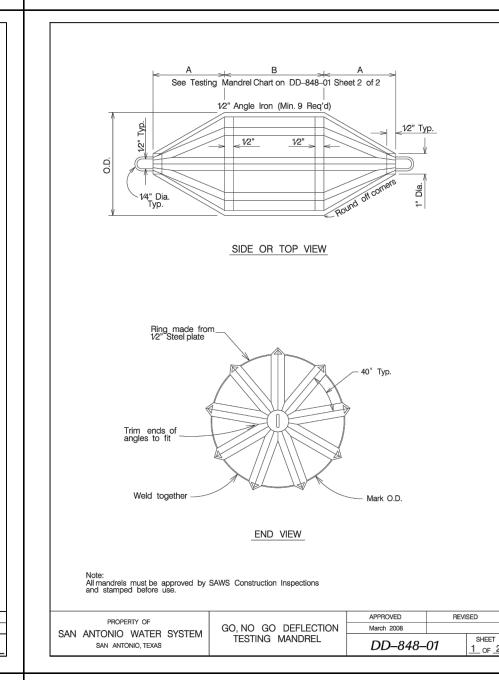


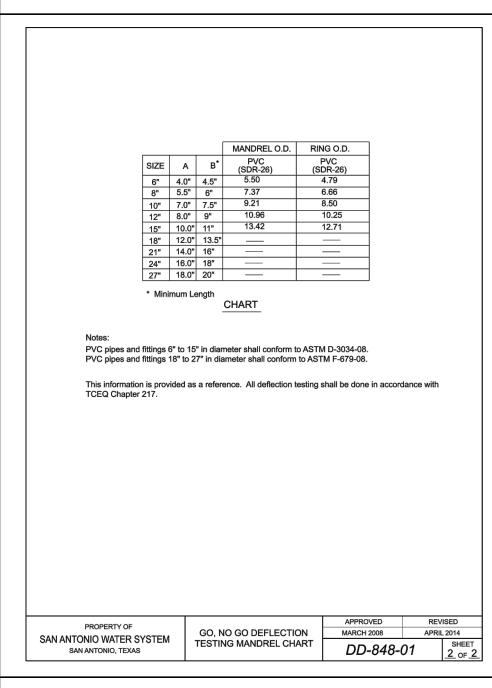


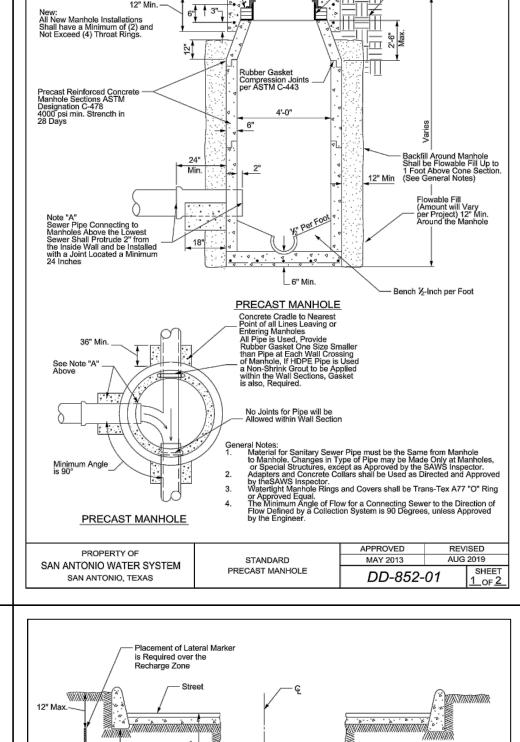


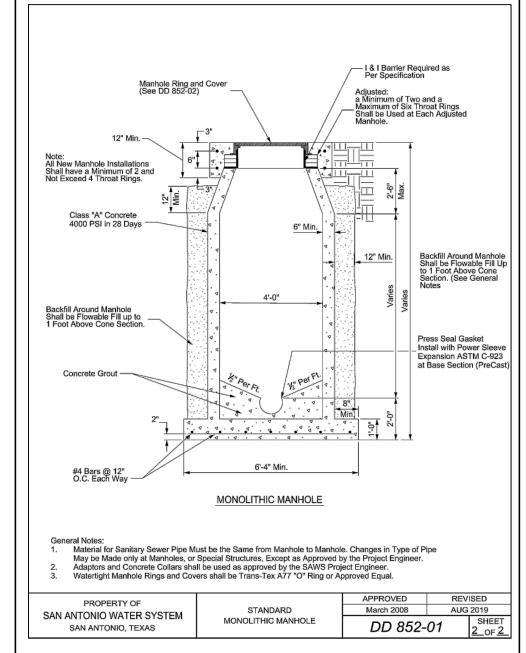


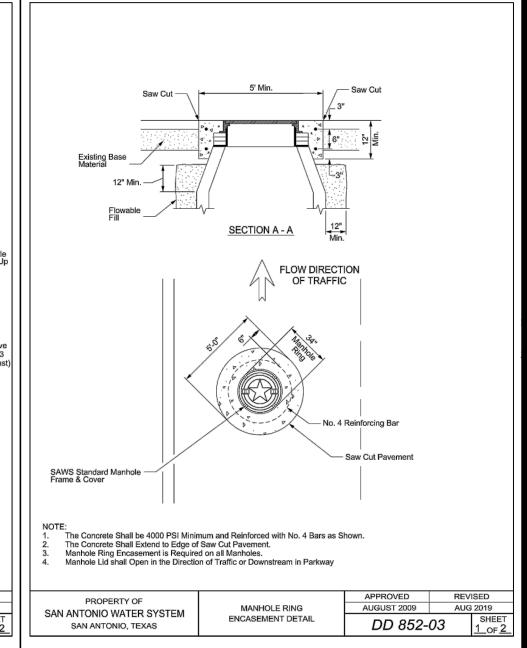


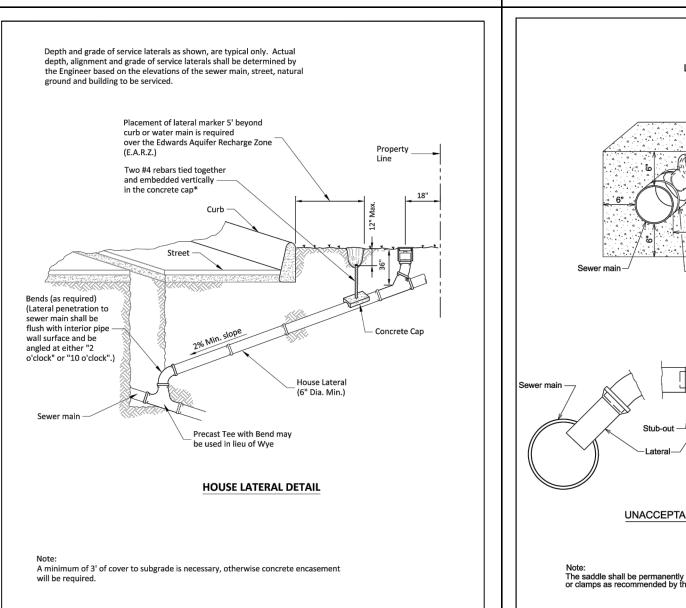


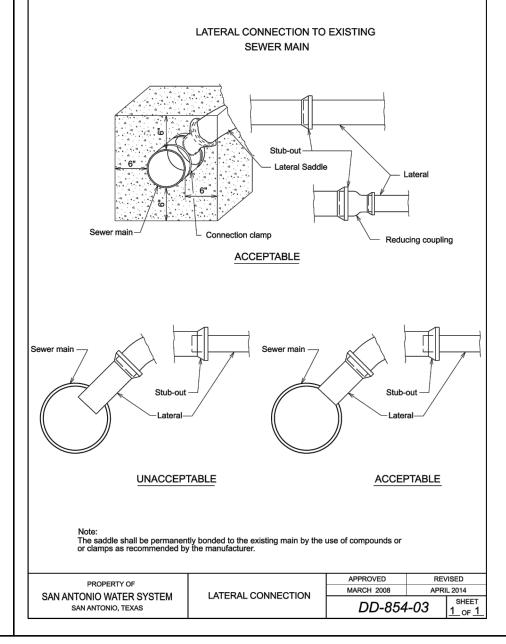


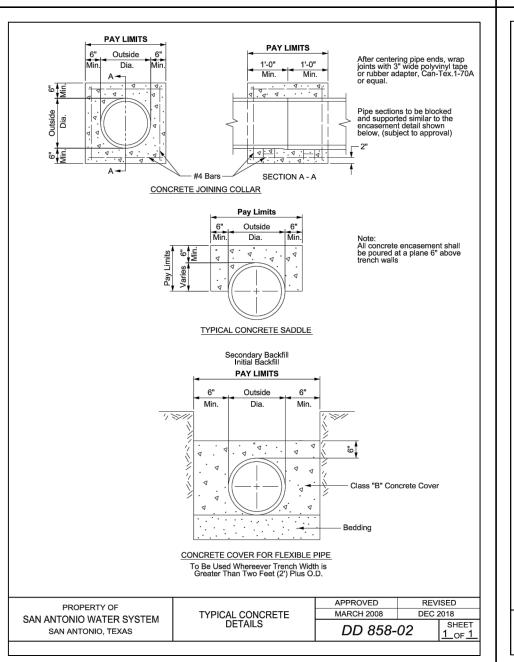


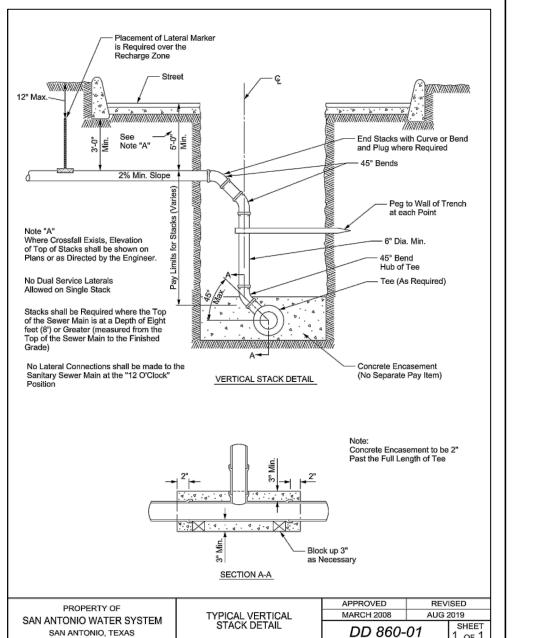












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SHAVANO HILLTC SAN ANTONIO, TEXAS
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CALEB M. CHANCE

3/21/21

March 2008 December 2018 DD-854-EARZ

PLAT NO. 23-1180001 8834-25 MARCH 2023 DESIGNER CHECKED BL DRAWN EG C5.10

#### TCEQ - ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

- 1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
- 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
- 3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE: THE NAME OF THE APPROVED PROJECT:
- THE ACTIVITY START DATE; AND THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
- 4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND
- 5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTI Y STABILIZED.
- 6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCFQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
- SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.
- 8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
- 9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET C4.05.

- IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.
- 10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
- 11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: \_\_\_\_N/A\_\_
- IF PIPE FLEXURE IS PROPOSED. THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: N/A

SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC

- 12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED
- SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES. IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON SHEET C3.04. (FOR POTENTIAL FUTURE LATERALS).
- THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET C4.01 TO C4.04 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN
- 13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC \$217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.
- 14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT. IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).
- 15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC \$217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:
- (a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW. THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING **REQUIREMENTS:**
- (1) LOW PRESSURE AIR TEST.

5 DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

- (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828. ASTM C-924 OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 INSUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS
- (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO B TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION. (i) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER

THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE. ) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

- WHERE: T = (0.085 \* D \* K)/Q
- T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS  $K = 0.000419 \times D \times L$ , BUT NOT LESS THAN 1.0 D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
- L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE
- (C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

PIPE DIAMETER (INCHES) 6 8 10 12 15 18 21 24	MIN. TIME (SECONDS) 340 454 567 680 850 1020 1190 1360 1530	LENGTH FOR MIN. (FEET) 398 298 239 199 159 133 114 100 88	TIME, LONGER LENGTH (SECONDS) 0.855(L) 1.520(L) 2.374(L) 3.419(L) 5.342(L) 7.693(L) 10.471(L) 13.676(L) 17.309(L)
30	1700	80	21.369(L)
33	1870	72	25.856(L)

- (D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME. (E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
- ) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.
- (G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR. 2) INFILTRATION / EXFILTRATION TEST
- NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE. (B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.
- THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL. WHICHEVER IS GREATER.
- (D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.
- (E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION
- (b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED: (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.
- A) MANDREL SIZING ) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS. AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.
- (ii) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD. THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE, IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL. MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE. (iii) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.
- (B) MANDREL DESIGN. ) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
- (ii) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS. (iii) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER
- iv) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING. METHOD OPTIONS.
- AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED. ) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A

TAC §217.58.

- DEFLECTION TEST. (iii) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A
- CASE-BY-CASE BASIS. (2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION. A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS
- OR MINUS 0.2% DEFLECTION. (3) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL (4) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT
- (5) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE
- PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. 16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30
- a) ALL MANHOLES MUST PASS A LEAKAGE TEST. (b) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
- ) HYDROSTATIC TESTING. ) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH
- (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG. FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR. (C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE. (2) VACUUM TESTING.
- (A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A
- (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING. C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
- (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE. (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S
- RECOMMENDATIONS. (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
- (G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF (H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.
- 17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC \$213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

#### SAWS CONSTRUCTION NOTES (LAST REVISED JULY 2017)

#### SAWS GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
- A.CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) 'DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE? C.CURRENT 'SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION"
- D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
- THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS\_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS
- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION lacksquare(210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
- () THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIFLD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
  - THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. TH FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
  - SAWS UTILITY LOCATES: HTTP: //WWW.SAWS.ORG/SERVICE/LOCATES - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
  - COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480 COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951 ■ TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, RBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO IT ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
  - ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
  - THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER
  - GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
  - HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON PROJECT SEWER NOTES SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION ONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- . COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION RÉQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- . A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

#### SAWS SEWER NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
- A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
- B.ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO. C.CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
- D.CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF
- CONTAMINATED SOIL/MATERIALS. E.CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS. F.MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED

SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

FEDERAL, STATE OR LOCAL AGENCIES.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ

IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".

PRIOR TO TIE-INS. ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS: THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PSI PRESSÙRÉ RÀTED PVC AT THE PROPOSED WATER CROSSING.

- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)
- . SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE RÉGARDLESS OF SIZE.
- MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
- ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

- ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED TO 10' PAST THE PROPERTY LINE AND CAPPED AND SEALED. CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG, TWO ?) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET C5.10 /1
- NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO
- THE PROPERTY LINF.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION. SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- . ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED. 3. CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER
- MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS. . CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR
- 10. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND, WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING
- 12. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- 13. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- 14. IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATIONS SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5' ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- 5. ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT SEWER: LEWIS CREEK-SALADO CREEK PANTHER SPRINGS CREEK-SALADO CREEK & OLMOS CREEK-SAN ANTONIO RIVER WATERSHED - DOS RIQS W.R.C.

	DEVELOPER'S NAME: SHAVANO ROGERS NORTH NO.3, LTD				
	ADDRESS: 11 LYNN BATTS LANE SUITE 100				
	CITY: SAN ANTONIO STATE: TX ZIP: 78218				
<i>&gt;</i>	PHONE# <u>(210) 496-2668</u> FAX#				
	SAWS BLOCK MAP# <u>138644</u> TOTAL EDU'S <u>57</u> TOTAL ACREAGE <u>18.91</u>				
Ì	TOTAL LINEAR FOOTAGE OF PIPE: 8"- 4,103.0LF PLAT NO. 23-11800016				
	NUMBER OF LOTS 57 SAWS JOB NO. 23-1525				



NO 23-1180001 8834-25 MARCH 2023 DESIGNER

CHECKED BL DRAWN EG