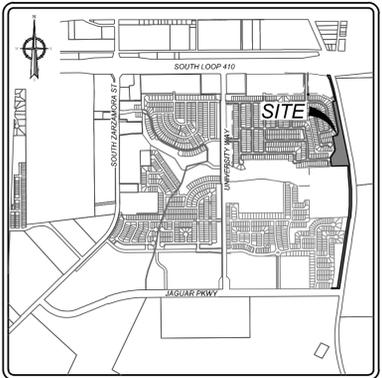
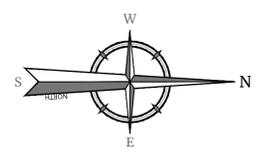


- LEGEND**
- G.E.T.V.E = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
  - = FLOW ARROW
  - (A) = LOT GRADE TYPE
  - ▨ = PROPOSED DRIVEWAY LOCATION
  - H.P. = HIGH POINT

- GENERAL NOTES:**
1. ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.
  2. CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
  3. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
  4. AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC.) TO PREVENT EROSION FROM OCCURRING.
  5. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
  6. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
  7. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES, THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
  8. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
  9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL WALES.



LOCATION MAP  
N.T.S.



SCALE: 1" = 50'  
Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m)

MATCHLINE "A" SEE THIS SHEET

MATCHLINE "A" SEE THIS SHEET

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV.	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS  
OMAR A. ESPINOSA  
125560  
LICENSED PROFESSIONAL ENGINEER  
2/4/25

VIDA SAN ANTONIO  
LIFT STATION  
PLAT# 23-11800297  
SAN ANTONIO  
BEXAR COUNTY  
TEXAS

**Colliers** SAN ANTONIO (KFW)  
3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBE Form 1-1009  
TBE'S Form: 10196500

SCALE: AS SHOWN	DATE: OCT. 2023	DRAWN BY: EC	CHECKED BY: OE
PROJECT NUMBER: 391-10-19	DRAWING NAME: GR3911015		

SHEET TITLE:  
**OVERALL GRADING PLAN**

SHEET NUMBER:  
**3.0**

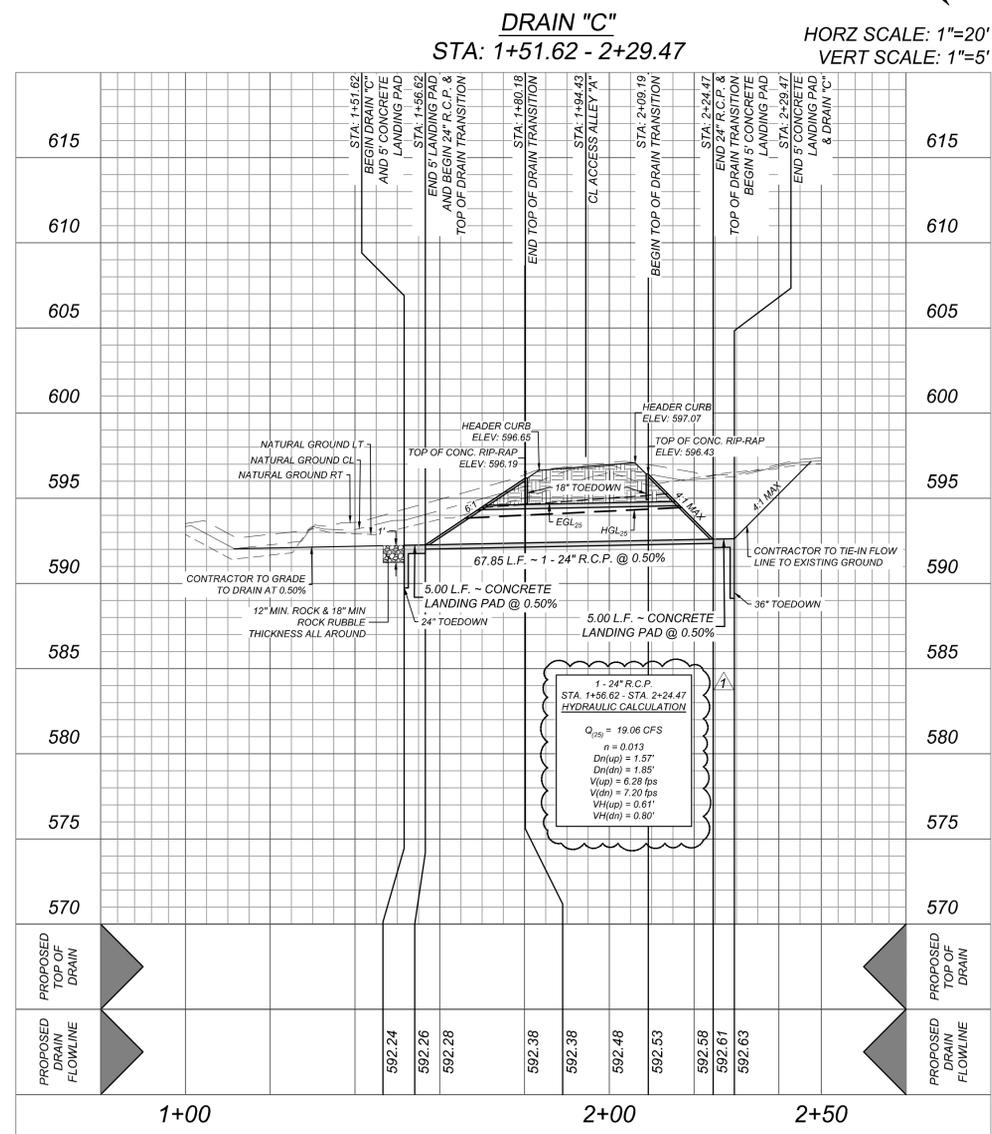
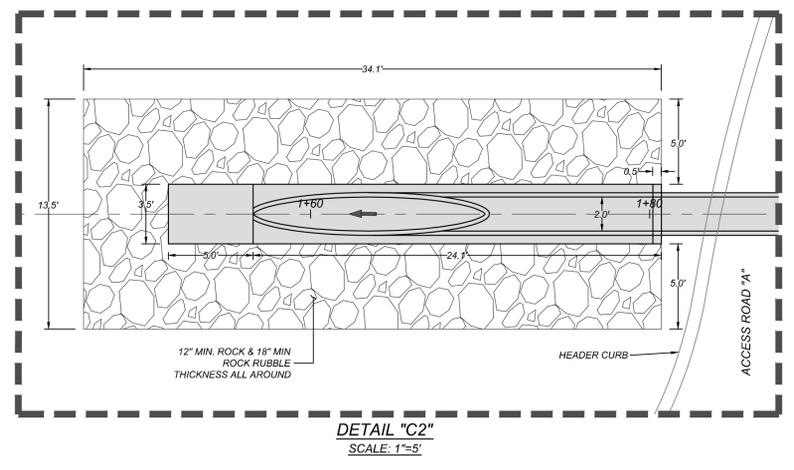
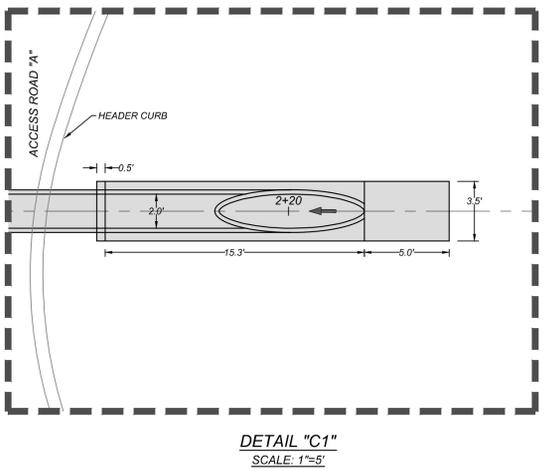
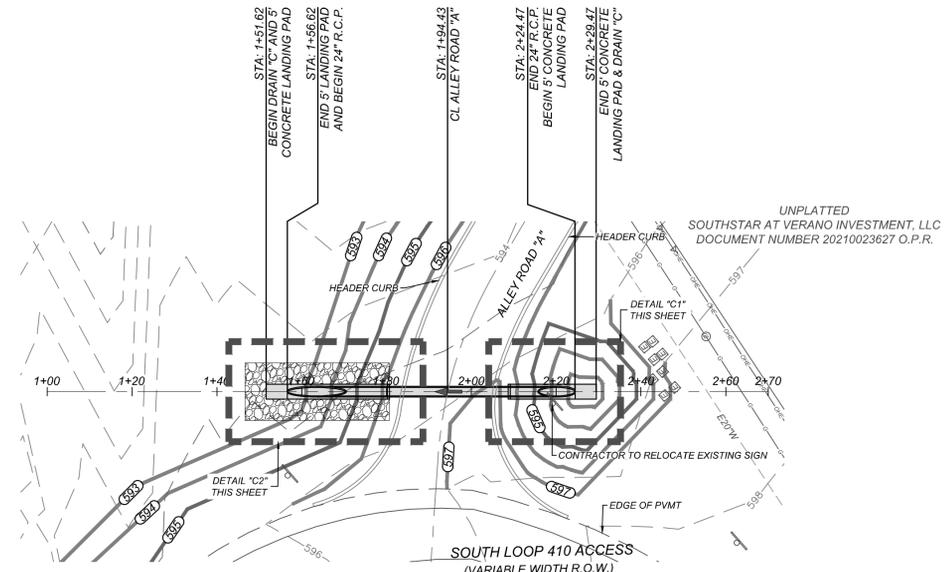




**TRENCH EXCAVATION SAFETY PROTECTION**  
 CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**CAUTION:**  
 THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, 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 THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

- NOTE:**
1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
  2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE BEXAR COUNTY WILL ACCEPT.



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REV	DATE	BY	DESCRIPTION
1	11/05/24	SC	REVISED DRAIN CALCULATIONS

STATE OF TEXAS  
 OMAR A. ESPINOSA  
 LICENSED PROFESSIONAL ENGINEER  
 2/4/25

VIDA SAN ANTONIO  
 LIFT STATION  
 PLAT# 23-11800297

SAN ANTONIO  
 BEXAR COUNTY  
 TEXAS

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 San Antonio, TX 78231  
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 TBE'S Form: 10196550

SCALE: AS SHOWN DATE: OCT. 2023 DRAWN BY: EC CHECKED BY: OE  
 PROJECT NUMBER: 391-10-19 DRAWING NAME: DRPP391015\_C  
 SHEET TITLE: DRAIN "C" PLAN & PROFILE  
 SHEET NUMBER: 4.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



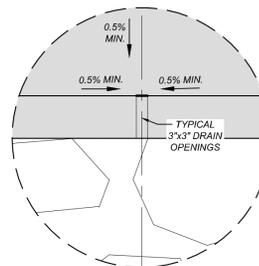
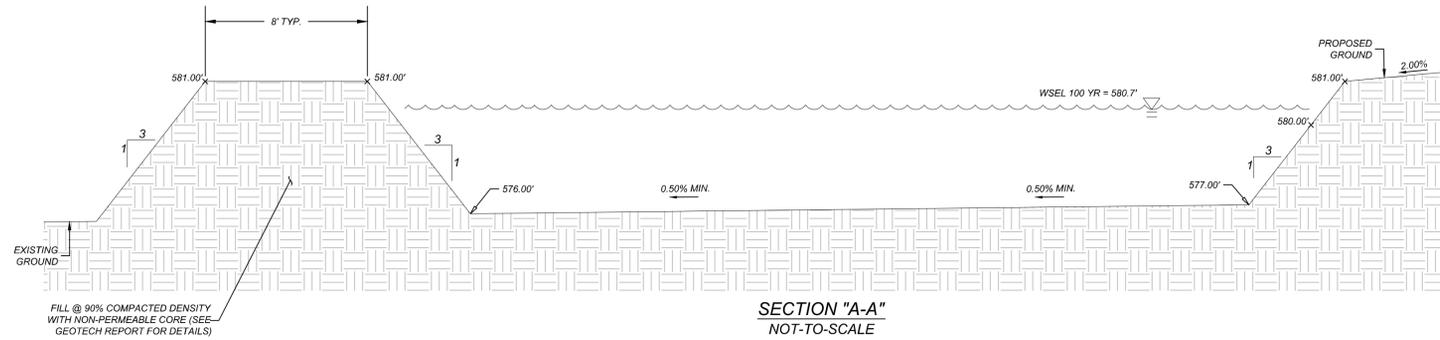
NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SOODING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).

**CAUTION:**  
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

**TRENCH EXCAVATION SAFETY PROTECTION**

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



CONTRACTOR TO PROVIDE MIN. 0.5% SLOPE TO AND BETWEEN 3'x3' DRAIN OPENINGS TO ENSURE POSITIVE DRAINAGE AND ELIMINATE THE POSSIBILITY OF PONDING.

**LEVEL SPREADER HEAD HYDRAULIC CALCULATION**

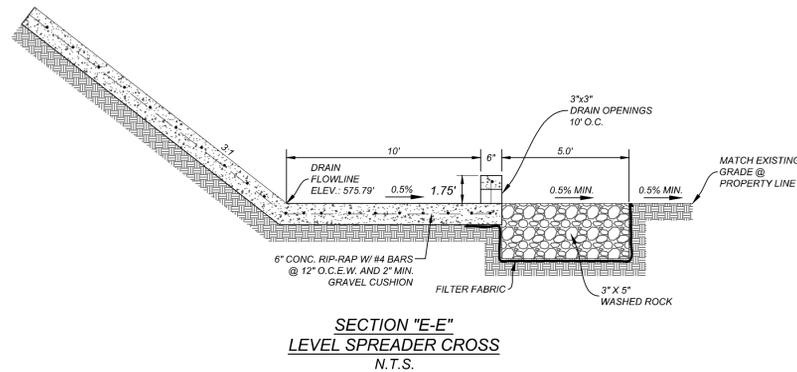
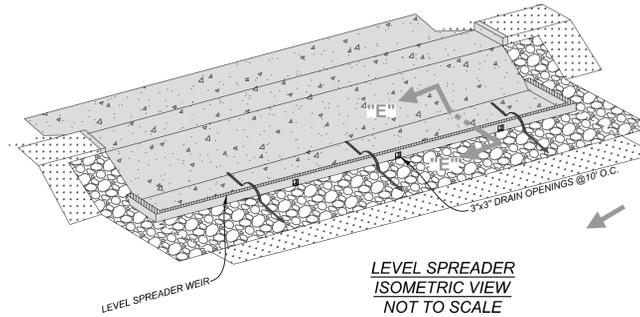
$$Q_{24} = C'LH^{3/2}$$

$$H = \left( \frac{Q_{24}}{C'L} \right)^{2/3}$$

$$H = \left( \frac{387.5 \text{ CFS}}{3 \times 60 \text{ FT}} \right)^{2/3}$$

$$H = 1.67 \text{ FT}$$

• USE 1.75 LF. HEIGHT



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REV.	DATE	DRAWN BY	DESCRIPTION



*[Signature]*  
2/4/25

VIDA SAN ANTONIO  
LIFT STATION  
PLAT# 23-11800297

SAN ANTONIO  
BEXAR COUNTY  
TEXAS

**Colliers** SAN ANTONIO (KFW)  
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TBE'S Form #10196500

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	OCT. 2023	EC	OE
PROJECT NUMBER:	DRAWING NAME:		
391-10-19	BA3911015_B		

SHEET TITLE:  
**DETENTION BASIN "B"**  
(1 OF 2)

SHEET NUMBER:  
4.4

REV	DATE	DRAWN BY	DESCRIPTION

2/4/25

STATE OF TEXAS  
 OMAR A. ESPINOSA  
 LICENSED PROFESSIONAL ENGINEER  
 125560

VIDA SAN ANTONIO  
 LIFT STATION  
 PLAT# 23-11800297

SAN ANTONIO  
 BEXAR COUNTY  
 TEXAS

Engineering & Design

SCALE: AS SHOWN DATE: OCT. 2023 DRAWN BY: EC CHECKED BY: OE

PROJECT NUMBER: 39110-19 DRAWING NUMBER: DRP9391015\_01.DLS

SHEET TITLE: DRAIN DETAILS (1 OF 2)

SHEET NUMBER: 4.5

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

### BOX DATA

SECTION DIMENSIONS	Fill Height (ft.)	M (ft.)	REINFORCING (sq. in. / ft.)								LIFT HEIGHT (ft.)
			AS1	AS2	AS3	AS4	AS5	AS7	AS8		
6 2 8 7 7 2 < 3	4.2	4.2	0.23	0.27	0.19	0.17	0.19	0.19	0.17	7.2	
6 2 7 7 7 2 < 3	4.3	4.3	0.20	0.17	0.17	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 10	39	39	0.20	0.17	0.17	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 15	39	39	0.26	0.20	0.20	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 20	39	39	0.24	0.26	0.26	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 25	39	39	0.43	0.32	0.32	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 30	39	39	0.52	0.38	0.38	0.17	0.17	0.17	0.17	6.8	
6 3 8 7 7 < 2	< 2	< 2	0.20	0.31	0.22	0.17	0.19	0.19	0.17	7.9	
6 3 7 7 7 2 < 3	4.3	4.3	0.21	0.24	0.19	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 3-5	39	39	0.17	0.17	0.17	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 10	39	39	0.17	0.18	0.17	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 15	39	39	0.17	0.18	0.19	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 20	39	39	0.22	0.24	0.24	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 25	39	39	0.28	0.31	0.31	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 30	39	39	0.35	0.38	0.39	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 35	39	39	0.42	0.46	0.46	0.17	0.17	0.17	0.17	7.5	
6 4 8 7 7 < 2	< 2	< 2	0.19	0.34	0.25	0.17	0.19	0.19	0.17	8.6	
6 4 7 7 7 2 < 3	4.3	4.3	0.19	0.27	0.21	0.17	0.17	0.17	0.17	8.2	
6 4 7 7 7 3-5	39	39	0.17	0.21	0.19	0.17	0.17	0.17	0.17	8.2	
6 4 7 7 7 10	39	39	0.17	0.20	0.21	0.17	0.17	0.17	0.17	8.2	
6 4 7 7 7 15	39	39	0.18	0.27	0.27	0.17	0.17	0.17	0.17	8.2	
6 4 7 7 7 20	39	39	0.24	0.34	0.35	0.17	0.17	0.17	0.17	8.2	
6 4 7 7 7 25	39	39	0.29	0.42	0.42	0.17	0.17	0.17	0.17	8.2	
6 4 7 7 7 30	39	39	0.35	0.51	0.51	0.17	0.17	0.17	0.17	8.2	
6 5 8 7 7 < 2	< 2	< 2	0.19	0.37	0.28	0.17	0.19	0.19	0.17	9.3	
6 5 7 7 7 2 < 3	4.3	4.3	0.17	0.30	0.24	0.17	0.17	0.17	0.17	8.9	
6 5 7 7 7 3-5	39	39	0.17	0.23	0.21	0.17	0.17	0.17	0.17	8.9	
6 5 7 7 7 10	39	39	0.17	0.22	0.23	0.17	0.17	0.17	0.17	8.9	
6 5 7 7 7 15	39	39	0.17	0.29	0.29	0.17	0.17	0.17	0.17	8.9	
6 5 7 7 7 20	39	39	0.20	0.37	0.38	0.17	0.17	0.17	0.17	8.9	
6 5 7 7 7 25	39	39	0.25	0.45	0.46	0.17	0.17	0.17	0.17	8.9	
6 5 7 7 7 30	39	39	0.30	0.54	0.55	0.17	0.17	0.17	0.17	8.9	

SECTION DIMENSIONS	Fill Height (ft.)	M (ft.)	REINFORCING (sq. in. / ft.)								LIFT HEIGHT (ft.)
(ft.)	(ft.)	(ft.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8		
5 2 8 7 6 < 2	< 2	< 2	0.19	0.27	0.18	0.14	0.19	0.19	0.17	6.0	
5 2 6 6 6 2 < 3	4.4	4.4	0.22	0.20	0.16	0.14	0.14	0.14	0.14	5.1	
5 2 6 6 6 3-5	44	44	0.16	0.14	0.14	0.14	0.14	0.14	0.14	5.1	
5 2 6 6 6 10	36	36	0.15	0.14	0.14	0.14	0.14	0.14	0.14	5.1	
5 2 6 6 6 15	36	36	0.20	0.18	0.18	0.14	0.14	0.14	0.14	5.1	
5 2 6 6 6 20	36	36	0.28	0.23	0.24	0.14	0.14	0.14	0.14	5.1	
5 2 6 6 6 25	36	36	0.33	0.29	0.29	0.14	0.14	0.14	0.14	5.1	
5 2 6 6 6 30	36	36	0.39	0.34	0.35	0.14	0.14	0.14	0.14	5.1	
5 3 8 7 6 < 2	< 2	< 2	0.19	0.31	0.21	0.14	0.19	0.19	0.17	6.6	
5 3 6 6 6 2 < 3	4.5	4.5	0.18	0.24	0.19	0.14	0.14	0.14	0.14	5.7	
5 3 6 6 6 3-5	36	36	0.14	0.17	0.16	0.14	0.14	0.14	0.14	5.7	
5 3 6 6 6 10	36	36	0.14	0.16	0.16	0.14	0.14	0.14	0.14	5.7	
5 3 6 6 6 15	36	36	0.16	0.21	0.22	0.14	0.14	0.14	0.14	5.7	
5 3 6 6 6 20	35	35	0.21	0.27	0.28	0.14	0.14	0.14	0.14	5.7	
5 3 6 6 6 25	35	35	0.26	0.34	0.34	0.14	0.14	0.14	0.14	5.7	
5 3 6 6 6 30	35	35	0.31	0.41	0.41	0.14	0.14	0.14	0.14	5.7	
5 4 8 7 6 < 2	< 2	< 2	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2	
5 4 6 6 6 2 < 3	4.5	4.5	0.18	0.27	0.22	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 3-5	45	45	0.14	0.19	0.18	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 10	36	36	0.14	0.18	0.18	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 15	35	35	0.14	0.23	0.24	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 20	35	35	0.17	0.30	0.31	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 25	35	35	0.21	0.37	0.38	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 30	35	35	0.25	0.44	0.45	0.14	0.14	0.14	0.14	6.3	
5 5 8 7 6 < 2	< 2	< 2	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8	
5 5 6 6 6 2 < 3	4.5	4.5	0.14	0.29	0.24	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 3-5	45	45	0.14	0.21	0.20	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 10	45	45	0.14	0.19	0.20	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 15	36	36	0.14	0.24	0.25	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 20	35	35	0.15	0.31	0.32	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 25	35	35	0.18	0.38	0.39	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 30	35	35	0.22	0.46	0.47	0.14	0.14	0.14	0.14	6.9	

SECTION DIMENSIONS	Fill Height (ft.)	M (ft.)	REINFORCING (sq. in. / ft.)								LIFT HEIGHT (ft.)
(ft.)	(ft.)	(ft.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8		
5 4 8 7 6 < 2	< 2	< 2	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2	
5 4 6 6 6 2 < 3	4.5	4.5	0.18	0.27	0.22	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 3-5	45	45	0.14	0.19	0.18	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 10	36	36	0.14	0.18	0.18	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 15	35	35	0.14	0.23	0.24	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 20	35	35	0.17	0.30	0.31	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 25	35	35	0.21	0.37	0.38	0.14	0.14	0.14	0.14	6.3	
5 4 6 6 6 30	35	35	0.25	0.44	0.45	0.14	0.14	0.14	0.14	6.3	
5 5 8 7 6 < 2	< 2	< 2	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8	
5 5 6 6 6 2 < 3	4.5	4.5	0.14	0.29	0.24	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 3-5	45	45	0.14	0.21	0.20	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 10	45	45	0.14	0.19	0.20	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 15	36	36	0.14	0.24	0.25	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 20	35	35	0.15	0.31	0.32	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 25	35	35	0.18	0.38	0.39	0.14	0.14	0.14	0.14	6.9	
5 5 6 6 6 30	35	35	0.22	0.46	0.47	0.14	0.14	0.14	0.14	6.9	

HL93 LOADING

BRIDGE DIVISION STANDARD

**SINGLE BOX CULVERTS**

PRECAST

6'-0" SPAN

SCP-6

DATE: \_\_\_\_\_

SCALE: \_\_\_\_\_

PROJECT NUMBER: \_\_\_\_\_

DRAWING NUMBER: \_\_\_\_\_

SHEET NUMBER: \_\_\_\_\_

### BOX DATA

SECTION DIMENSIONS	Fill Height (ft.)	M (ft.)	REINFORCING (sq. in. / ft.)								LIFT HEIGHT (ft.)
			AS1	AS2	AS3	AS4	AS5	AS7	AS8		
6 2 8 7 7 2 < 3	4.2	4.2	0.23	0.27	0.19	0.17	0.19	0.19	0.17	7.2	
6 2 7 7 7 2 < 3	4.3	4.3	0.20	0.17	0.17	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 10	39	39	0.20	0.17	0.17	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 15	39	39	0.26	0.20	0.20	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 20	39	39	0.24	0.26	0.26	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 25	39	39	0.43	0.32	0.32	0.17	0.17	0.17	0.17	6.8	
6 2 7 7 7 30	39	39	0.52	0.38	0.38	0.17	0.17	0.17	0.17	6.8	
6 3 8 7 7 < 2	< 2	< 2	0.20	0.31	0.22	0.17	0.19	0.19	0.17	7.9	
6 3 7 7 7 2 < 3	4.3	4.3	0.21	0.24	0.19	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 3-5	39	39	0.17	0.17	0.17	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 10	39	39	0.17	0.18	0.17	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 15	39	39	0.17	0.18	0.19	0.17	0.17	0.17	0.17	7.5	
6 3 7 7 7 20	39	39	0.22	0.24	0.24	0.17	0.17	0.17	0.17	7.5	













**TRENCH EXCAVATION SAFETY PROTECTION**

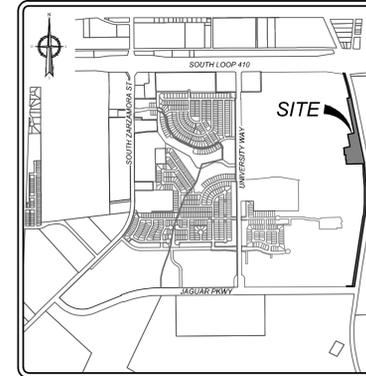
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**COMPACTION NOTE:**

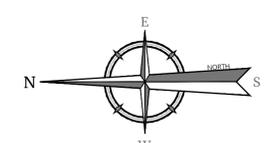
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

**LEGEND**

- PROPOSED WATER MAIN = [Symbol]
- PROPOSED FIRE HYDRANT = [Symbol]
- PROPOSED WATER VALVE = [Symbol]
- PROPOSED SANITARY SEWER MAIN = [Symbol]
- PROPOSED SANITARY SEWER MANHOLE = [Symbol]
- PROPOSED FORCE MAIN = [Symbol]
- VARIABLE WIDTH MAINTENANCE ACCESS ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT = [Symbol]
- VARIABLE WIDTH MAINTENANCE ACCESS & WATER EASEMENT = [Symbol]
- VARIABLE WIDTH SANITARY SEWER EASEMENT = [Symbol]
- 50' SANITARY SEWER EASEMENT = [Symbol]
- EXISTING WATER MAIN = [Symbol]
- EXISTING FIRE HYDRANT = [Symbol]
- EXISTING WATER VALVE = [Symbol]
- EXISTING SANITARY SEWER MAIN = [Symbol]
- EXISTING SANITARY SEWER MANHOLE = [Symbol]



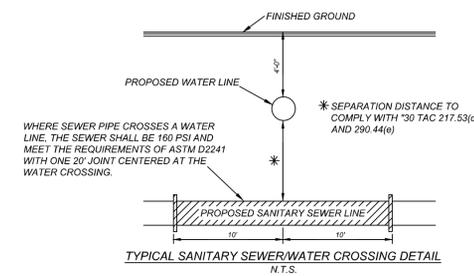
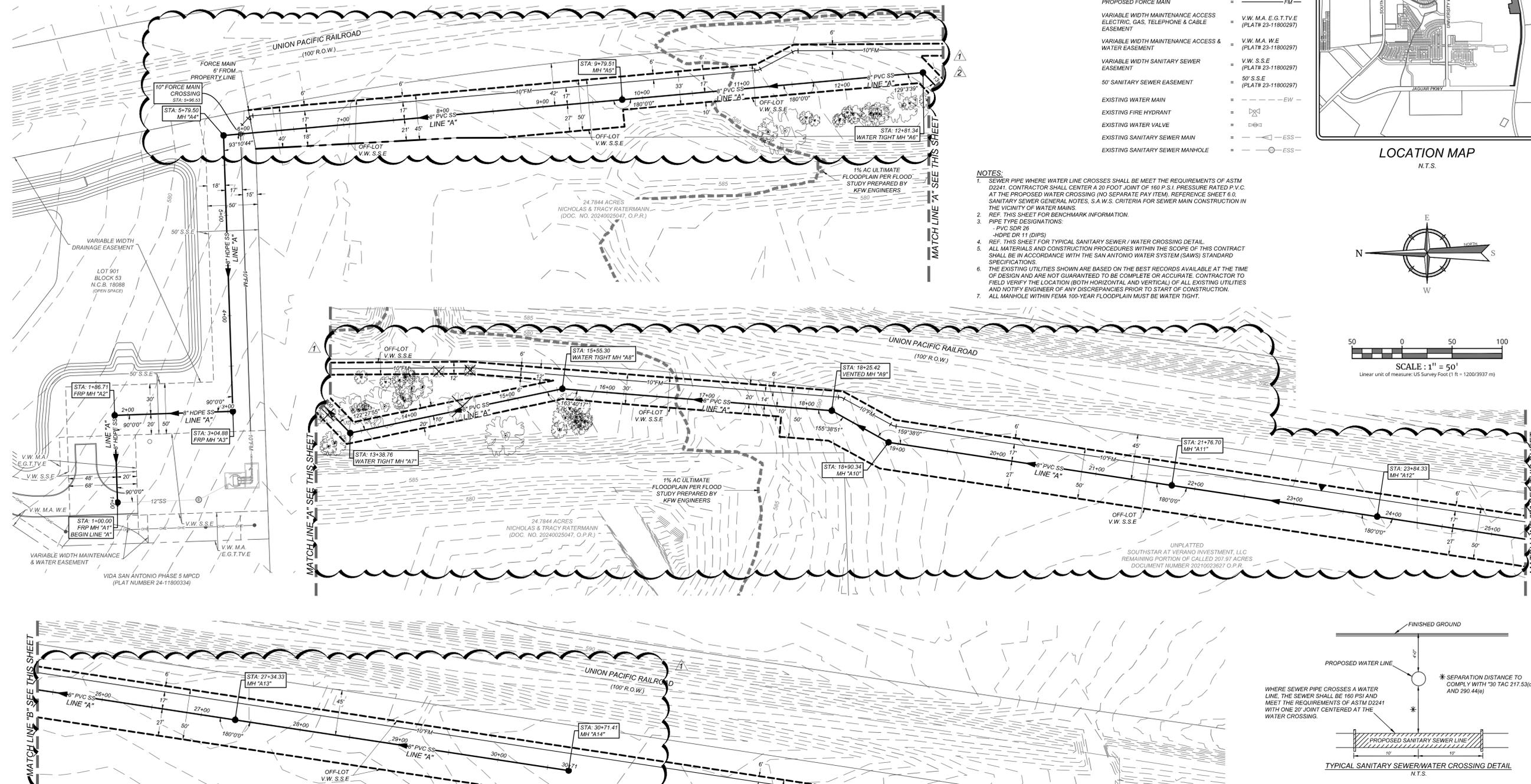
**LOCATION MAP**  
N.T.S.



**SCALE: 1" = 50'**  
Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m)

**NOTES:**

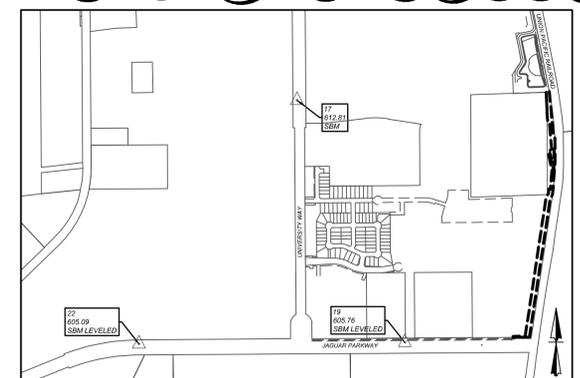
1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 6.0. SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
2. REF. THIS SHEET FOR BENCHMARK INFORMATION.
3. PIPE TYPE DESIGNATIONS:
  - PVC SDR 26
  - HDPE DR 11 (DIPS)
4. REF. THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
5. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.
6. THE EXISTING UTILITIES SHOWN ARE BASED ON THE BEST RECORDS AVAILABLE AT THE TIME OF DESIGN AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR TO FIELD VERIFY THE LOCATION (BOTH HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION.
7. ALL MANHOLE WITHIN FEMA 100-YEAR FLOODPLAIN MUST BE WATER TIGHT.



**CAUTION!!**  
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

**MANHOLE NOTE:**  
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL D0852-02.

**LOWER - WEST SEWERSHED - DOS RIOS \ LEON CREEK W.R.C.**  
DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC  
DEVELOPER'S ADDRESS: 2055 CENTRAL PLAZA, SUITE 110  
CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78130  
PHONE: FAX: TOTAL ACREAGE: 3.000 ACRES  
SAWS BLOCK MAP#: 154536 TOTAL EDUS: 0  
TOTAL LINEAR FOOTAGE OF PIPE: 2,491.91 LF OF 8" PVC SDR 26  
475.5 LF OF 8" HDPE DR 11  
NUMBER OF LOTS: 0 SAWS JOB#: 23-1645 PLAT NO.: 23-11800297



**BENCHMARKS**

BM # 17	DESC: SBM	N: 13664122.55	E: 2120283.46	ELEV: 612.81
BM # 19	DESC: SBM LEVELED	N: 13661280.86	E: 2121553.82	ELEV: 605.76
BM # 22	DESC: SBM LEVELED	N: 13661263.43	E: 2118419.92	ELEV: 605.09

CONTRACTOR TO RIVAL LEVEL LOOP THROUGH BMS PROVIDED TO CONFIRM BEFORE CONSTRUCTION. CONTACT ENGINEER SURVEYOR IMMEDIATELY IF ELEVATIONS DO NOT MATCH THOSE SHOWN.

**BENCHMARK MAP**  
SCALE: NOT-TO SCALE

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Formerly known as **KFW**  
**811**  
PROTECT YOURSELF  
ALL STATES REQUIRE NOTIFICATION OF EXCAVATION, OBSTRUCTION, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE  
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DESCRIPTION
1	07/16/23	REVISED SANITARY SEWER STATIONING FROM 5+79.80 TO 5+79.80
2	07/16/23	MOVE SANITARY SEWER MANHOLES FROM P+79.80 TO 15+45.29
3	07/16/23	REMOVED MAN "A2" - RENUMBERED UPSTREAM LINES

STATE OF TEXAS  
**OMAR A. ESPINOSA**  
125560  
LICENSED PROFESSIONAL ENGINEER  
2/15/25

FOR  
**VIDA SAN ANTONIO LIFT STATION**  
PLAT# 23-11800297

SAN ANTONIO BEXAR COUNTY TEXAS

**Colliers**  
Engineering & Design  
SAN ANTONIO (KFW)  
3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBE Form No. 10-1909  
TBE'S Form No. 10196500

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	OCT. 2023	EC	OE
PROJECT NUMBER:	391-10-19	DRAWING NUMBER:	0553911019

SHEET TITLE:  
**OVERALL SANITARY SEWER PLAN**  
SHEET NUMBER:  
6.1

**TRENCH EXCAVATION SAFETY PROTECTION**

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**NOTES:**

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- REF. SHEET 6.1 FOR BENCHMARK INFORMATION.
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- ALL MANHOLE WITHIN FEMA 100-YEAR FLOODPLAIN MUST BE WATER TIGHT.

**CAUTION!!!**

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**MANHOLE NOTE:**

ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL, DD82-02.

**LEGEND**

- V.W. M.A. E.G.T.V.E. = VARIABLE WIDTH MAINTENANCE ACCESS ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT (PLAT# 23-11800297)
- V.W. M.A. W.E. = VARIABLE WIDTH MAINTENANCE ACCESS & WATER EASEMENT (PLAT# 23-11800297)
- V.W. S.S.E. = VARIABLE WIDTH SANITARY SEWER EASEMENT (PLAT# 23-11800297)
- 50' S.S.E. = 50' SANITARY SEWER EASEMENT (PLAT# 23-11800297)

**LOWER - WEST SEWERSHED - DOS RIOS \ LEON CREEK W.R.C.**

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC  
 DEVELOPER'S ADDRESS: 2055 CENTRAL PLAZA, SUITE 110  
 CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78130  
 PHONER: FAXR: TOTAL ACREAGE: 3.000 ACRES  
 SAWS BLOCK MAP#: 154536 TOTAL EDUS: 0  
 TOTAL LINEAR FOOTAGE OF PIPE: 2,491.91 LF OF 8" PVC SDR 26  
 479.5 LF OF 8" HDPE DR 11  
 NUMBER OF LOTS: 0 SAWS JOB#: 23-1645 PLAT NO.: 23-11800297



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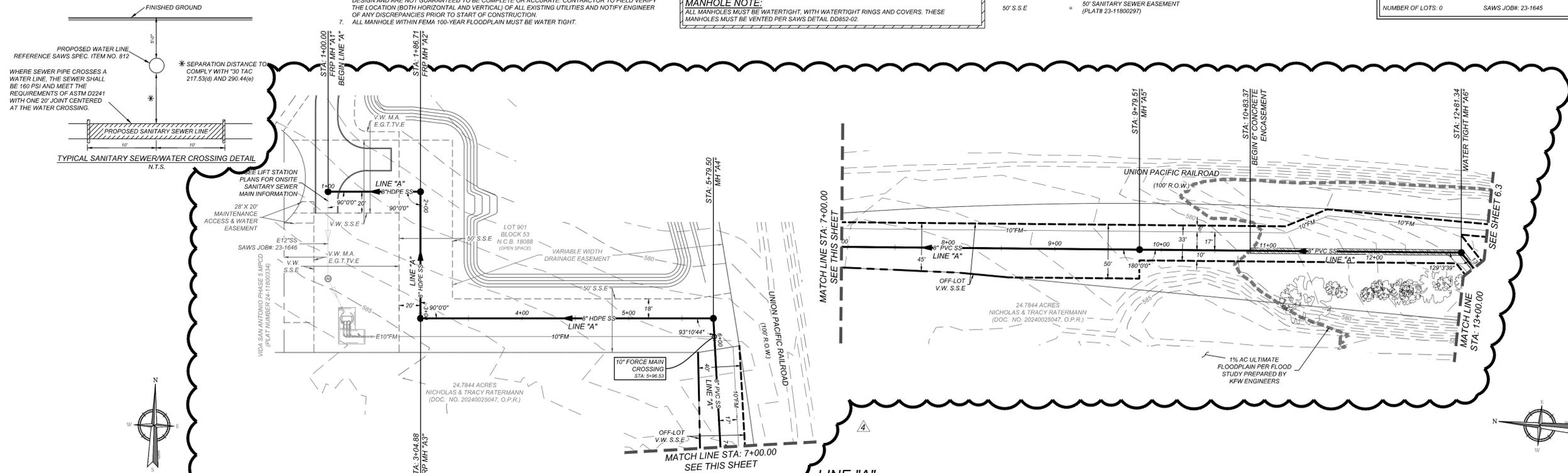
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Formerly known as **KFW**



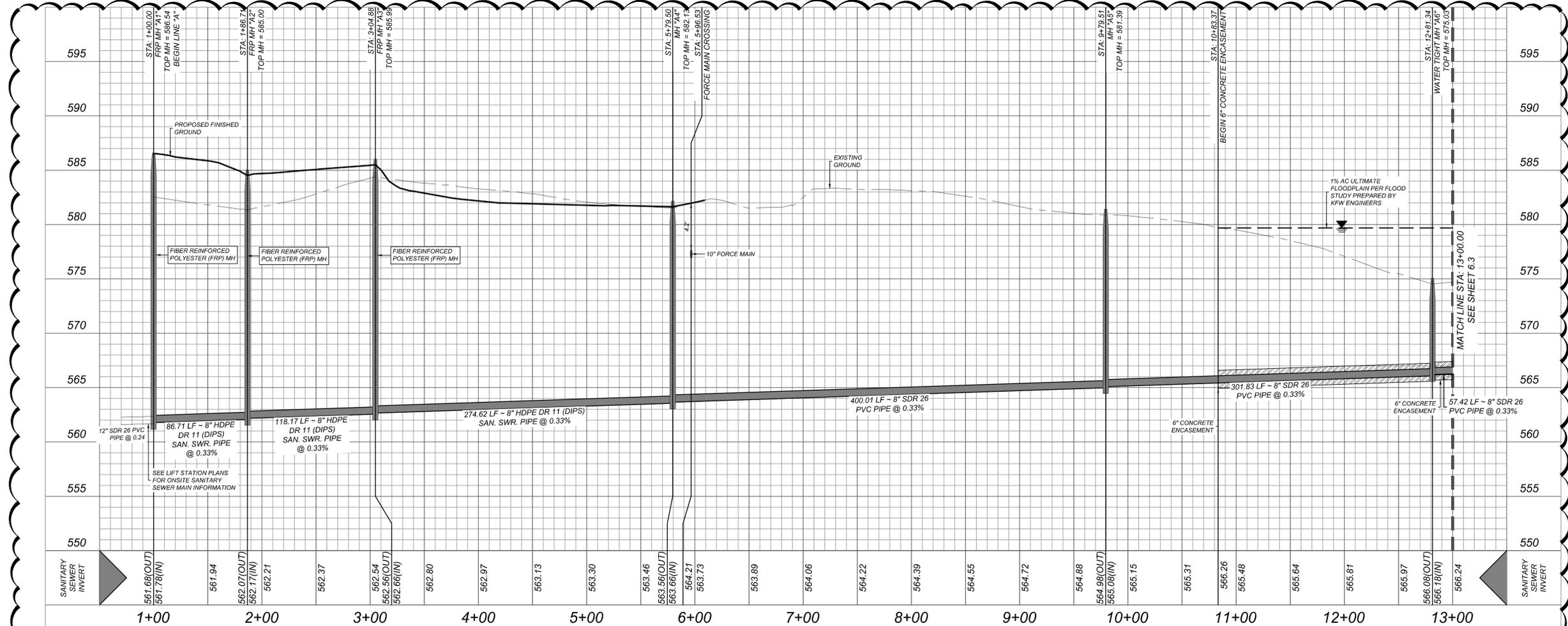
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 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION
1	02/27/24	SC	MPAITE REMOVED - TOTAL LF OF PIPE REVISION
2	07/18/23	JAR	REVISION SANITARY SEWER STATIONING FROM 4+79.80 TO 10+10.00
3	07/18/23	JAR	MOVE SANITARY SEWER MANHOLES FROM 4+79.80 TO 15+35.29
4	07/28/23	SC	REVISION MH #65 - RENUMBERED UPSTREAM
5	08/01/23	JAR	REVISION SANITARY SEWER SLOP FROM 1+00.00 TO 12+00.00



**LINE "A"**  
 STA: 1+00.00 - 13+00.00

HORZ SCALE: 1"=50'  
 VERT SCALE: 1"=5'



FOR  
**VIDA SAN ANTONIO LIFT STATION**  
 PLAT# 23-11800297

SAN ANTONIO  
 BEXAR COUNTY  
 TEXAS

**Colliers**  
 SAN ANTONIO (KFW)  
 3421 Paesanos Parkway  
 San Antonio, TX 78231  
 Phone: 210.979.8444  
 COLLIERS ENGINEERING & DESIGN, INC.  
 1805 S. FARMER  
 78165-1509

SCALE: AS SHOWN	DATE: OCT. 2023	DRAWN BY: EC	CHECKED BY: OE
PROJECT NUMBER: 391-10-19	DRAWING NAME: 5SP3911019_A		

SHEET TITLE:  
**LINE "A" PLAN & PROFILE**  
 (1 OF 3)

SHEET NUMBER:  
 6.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

**TRENCH EXCAVATION SAFETY PROTECTION**

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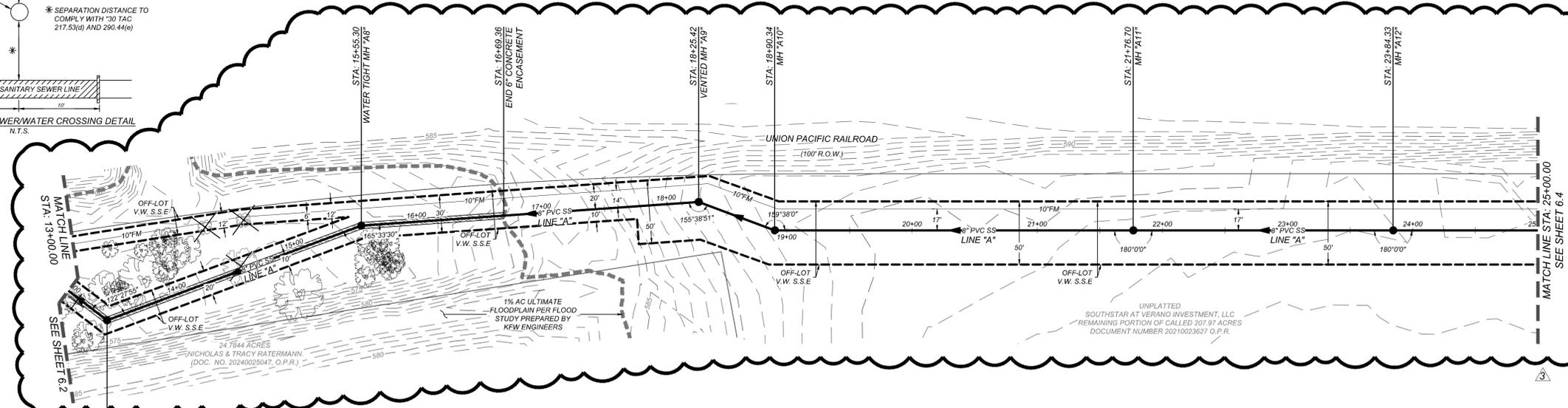
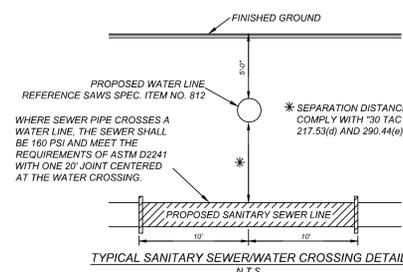
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**LEGEND**

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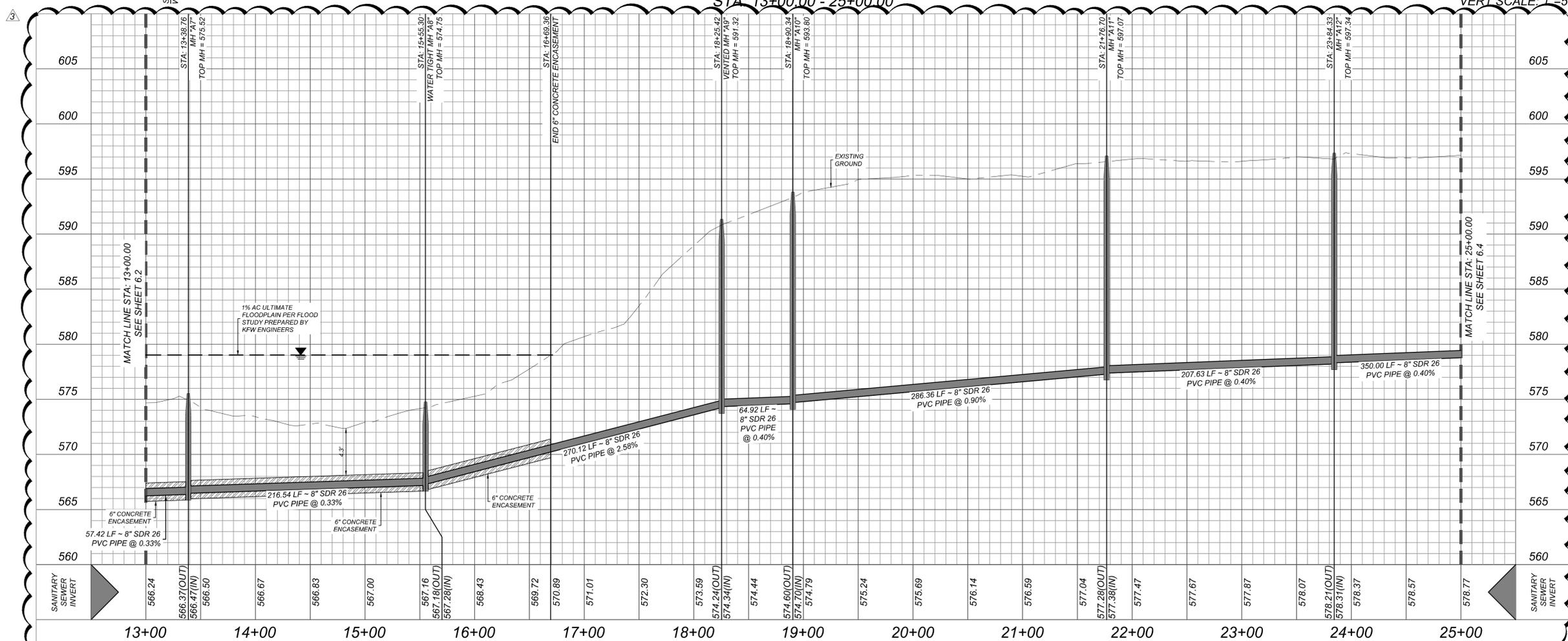
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DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC  
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**LINE "A"**  
**STA: 13+00.00 - 25+00.00**

HORZ SCALE: 1"=50'  
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 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION
1	02/27/24	SC	MH RATE REMOVED - TOTAL LF OF PIPE REVISED
2	07/18/23	JAR	REVISED SANITARY SEWER STATIONING FROM 4+79.80 TO END
3	07/18/23	JAR	MOVE SANITARY SEWER MANHOLES FROM 4+79.80 TO 15+55.29
4	06/17/23	JAR	REVISED SANITARY SEWER SCOP FROM 13+00.00 TO 18+58.42

STATE OF TEXAS  
 OMAR A. ESPINOSA  
 LICENSE NO. 125560  
 PROFESSIONAL ENGINEER  
 5/1/25

FOR  
**VIDA SAN ANTONIO**  
**LIFT STATION**  
**PLAT# 23-11800297**

SAN ANTONIO  
 BEXAR COUNTY  
 TEXAS

**Colliers**  
 Engineering & Design  
 SAN ANTONIO (KFW)  
 3421 Paesanos Parkway  
 San Antonio, TX 78231  
 Phone: 210.979.8444  
 COLLIERS ENGINEERING & DESIGN, INC.  
 TBS Form No. 11-1009  
 TBS Form No. 10196550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	OCT. 2023	EC	OE

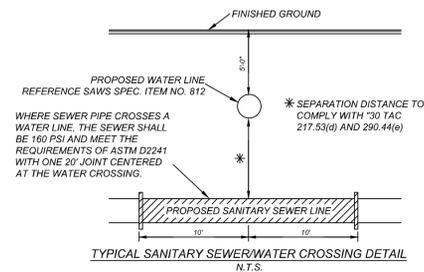
SHEET TITLE:  
**LINE "A" PLAN & PROFILE**  
 (2 OF 3)

SHEET NUMBER:  
**6.3**

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

**TRENCH EXCAVATION SAFETY PROTECTION**

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



**NOTES:**

- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 6.0, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
- REF. SHEET 6.1 FOR BENCHMARK INFORMATION.
- PIPE TYPE DESIGNATIONS:  
-PVC SDR 26  
-HDPE DR 11 (DIPS)
- REF. THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.
- THE EXISTING UTILITIES SHOWN ARE BASED ON THE BEST RECORDS AVAILABLE AT THE TIME OF DESIGN AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR TO FIELD VERIFY THE LOCATION (BOTH HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION.
- ALL MANHOLE WITHIN FEMA 100-YEAR FLOODPLAIN MUST BE WATER TIGHT.

**CAUTION!!**

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

**MANHOLE NOTE:**

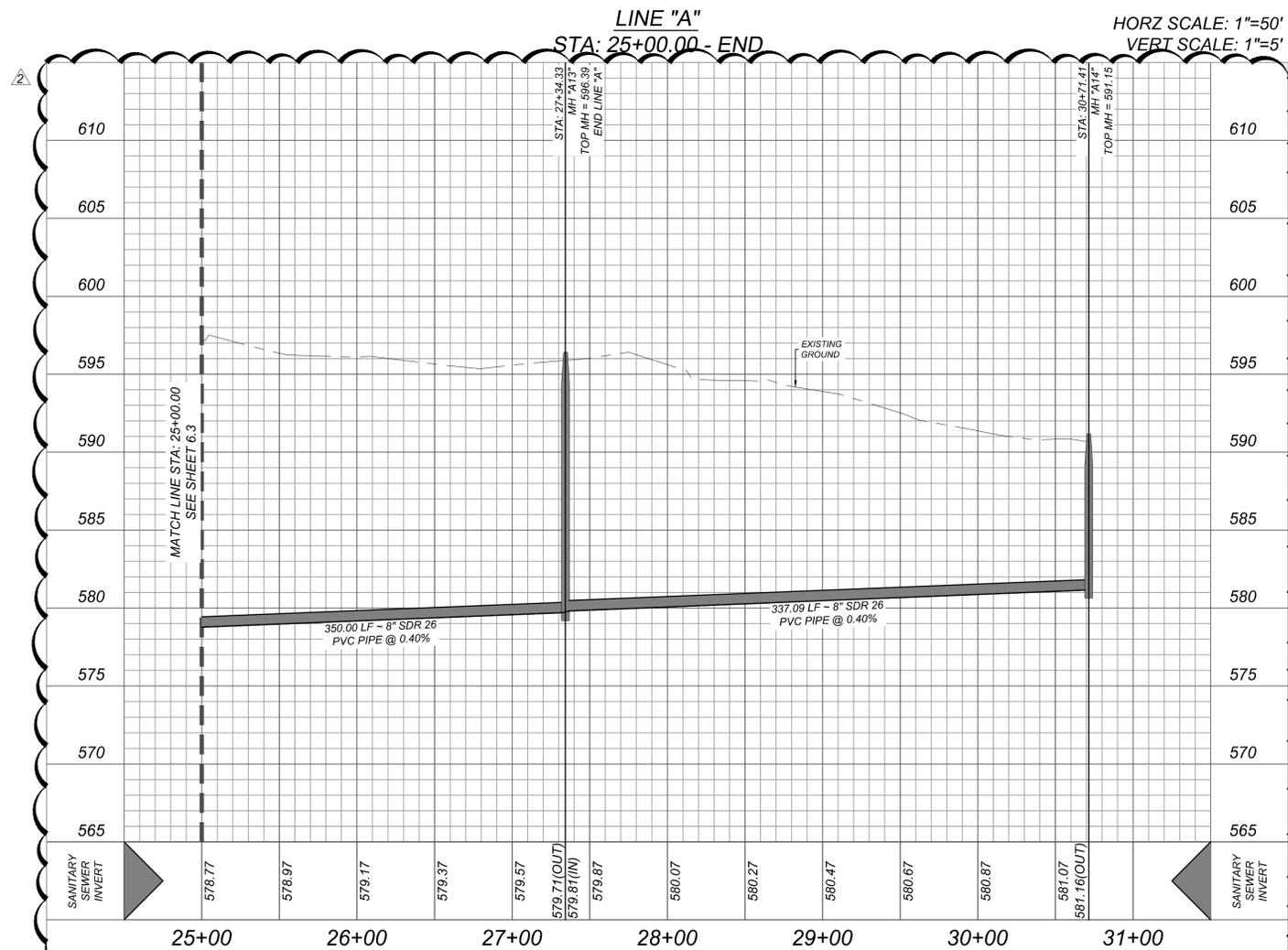
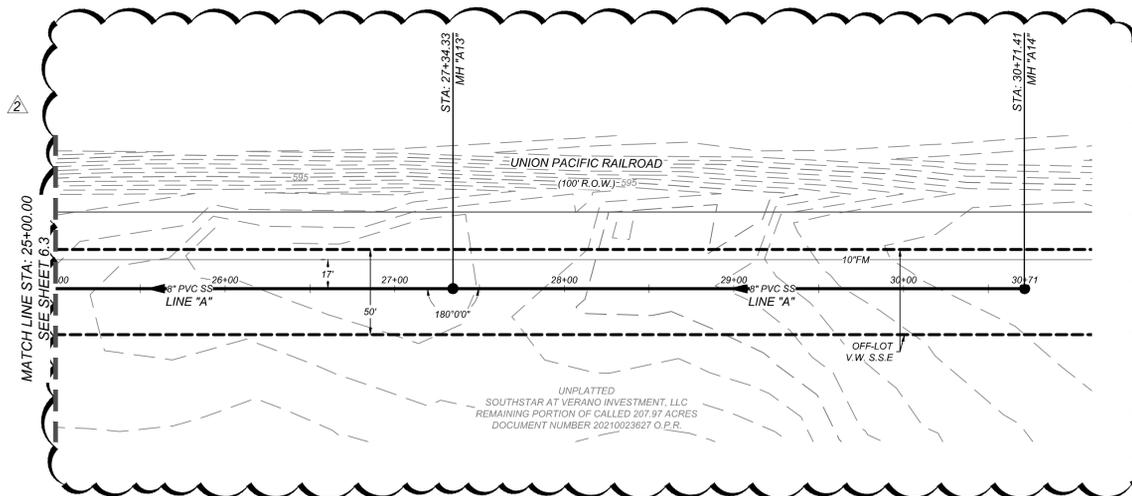
ALL MANHOLES MUST BE WATER TIGHT, WITH WATER TIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

**LEGEND**

- V.W. M.A. E.G.T.V.E. = VARIABLE WIDTH MAINTENANCE ACCESS ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT (PLAT# 23-11800297)
- V.W. M.A. W.E. = VARIABLE WIDTH MAINTENANCE ACCESS & WATER EASEMENT (PLAT# 23-11800297)
- V.W. S.S.E. = VARIABLE WIDTH SANITARY SEWER EASEMENT (PLAT# 23-11800297)
- 50' S.S.E. = 50' SANITARY SEWER EASEMENT (PLAT# 23-11800297)

**LOWER - WEST SEWERSHED - DOS RIOS \ LEON CREEK W.R.C.**

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC  
 DEVELOPER'S ADDRESS: 2055 CENTRAL PLAZA, SUITE 110  
 CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78130  
 PHONER: SAWS BLOCK MAP#: 154536 TOTAL ACREAGE: 3.000 ACRES  
 FAX#: TOTAL EDUS: 0  
 SAWS JOB#: 23-1645 PLAT NO.: 23-11800297



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 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DESCRIPTION
1	02/27/24	MP RATE REMOVED - TOTAL LF OF PIPE REVISED
2	07/18/23	REVISED SANITARY SEWER STATIONING FROM 4+79.80 TO 10' END
3	07/18/23	MOVE SANITARY SEWER MANHOLES FROM 4+79.80 TO 15+35.29

STATE OF TEXAS  
 OMAR A. ESPINOSA  
 LICENSED PROFESSIONAL ENGINEER  
 125560  
 2/4/25

FOR  
 VIDA SAN ANTONIO  
 LIFT STATION  
 PLAT# 23-11800297

SAN ANTONIO  
 BEXAR COUNTY  
 TEXAS

**Colliers**  
 Engineering & Design  
 SAN ANTONIO (KFW)  
 3421 Paesanos Parkway  
 San Antonio, TX 78231  
 Phone: 210.979.8444  
 COLLIERS ENGINEERING & DESIGN, INC.  
 TBE# 1000000000  
 TBE#S Form# 10196550

SCALE: AS SHOWN	DATE: OCT. 2023	DRAWN BY: EC	CHECKED BY: OE
PROJECT NUMBER: 391-10-19	DRAWING NAME: 55PP3911019_A		

SHEET TITLE:  
 LINE "A" PLAN & PROFILE  
 (3 OF 3)

SHEET NUMBER:  
 6.4







**TRENCH EXCAVATION SAFETY PROTECTION**  
 CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS' TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**NOTES:**

- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE TO MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM), REFERENCE SHEET 6.0, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
- REF. SHEET 6.6 FOR BENCHMARK INFORMATION.
- PIPE TYPE DESIGNATIONS ARE SDR 26.
- REF. THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.
- THE EXISTING UTILITIES SHOWN ARE BASED ON THE BEST RECORDS AVAILABLE AT THE TIME OF DESIGN AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR TO FIELD VERIFY THE LOCATION (BOTH HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION.
- ALL MANHOLE WITHIN FEMA 100-YEAR FLOODPLAIN MUST BE WATER TIGHT.
- 10" PIPES SHALL BE HDPE FM, A MINIMUM OF DR 13.5 (DIPS), 160-PSI.

**CAUTION!!**

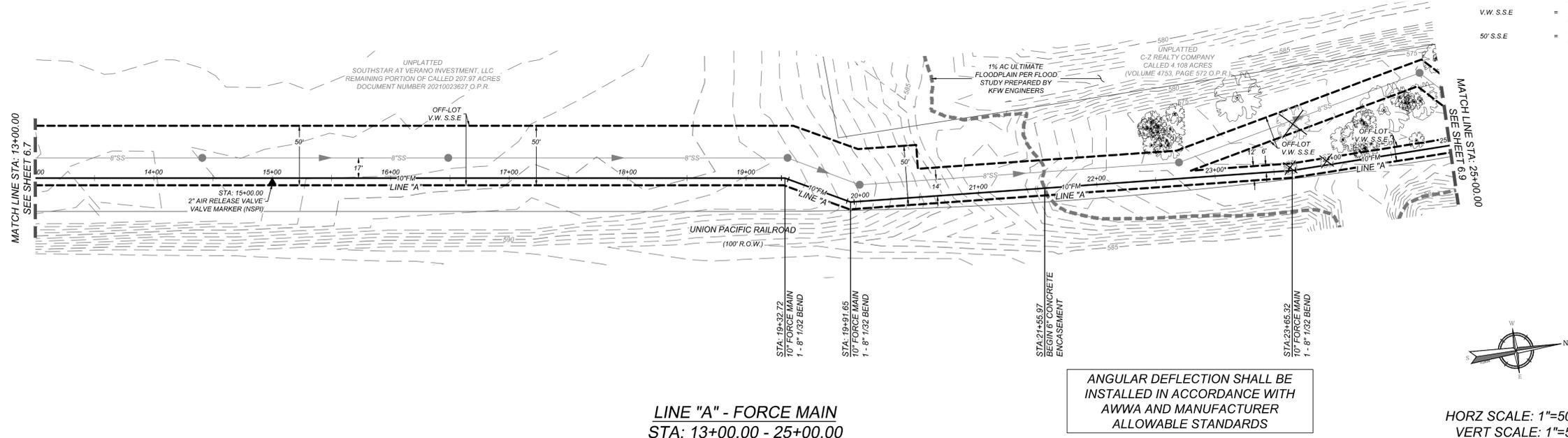
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**MANHOLE NOTE:**

ALL MANHOLES MUST BE WATER TIGHT, WITH WATER TIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

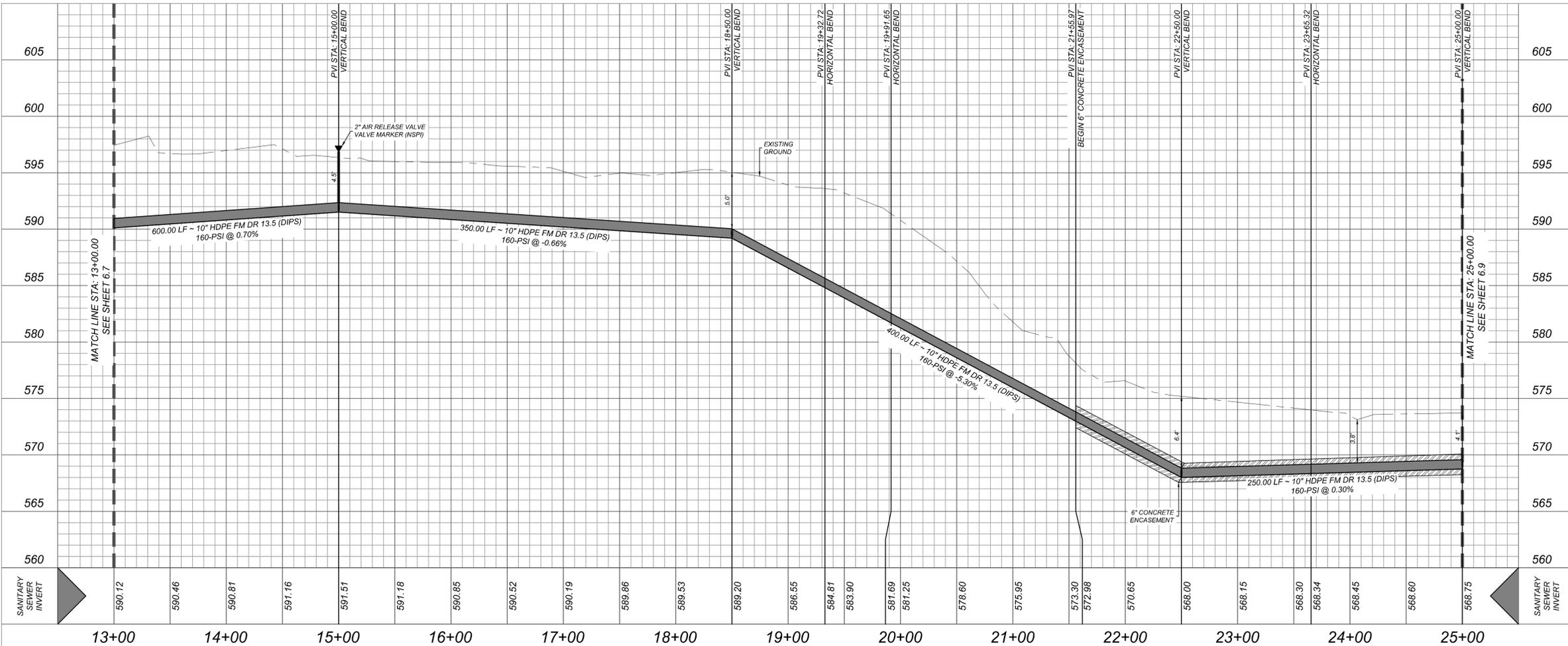
**LEGEND**

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- V.W. S.S.E = VARIABLE WIDTH SANITARY SEWER EASEMENT (PLAT# 23-11800297)
- 50' S.S.E = 50' SANITARY SEWER EASEMENT (PLAT# 23-11800297)



**LINE "A" - FORCE MAIN  
 STA: 13+00.00 - 25+00.00**

ANGULAR DEFLECTION SHALL BE INSTALLED IN ACCORDANCE WITH AWWA AND MANUFACTURER ALLOWABLE STANDARDS



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 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS  
 OMAR A. ESPINOSA  
 125560  
 LICENSED PROFESSIONAL ENGINEER  
 2/4/25

FOR  
**VIDA ANTONIO  
 LIFT STATION  
 PLAT# 23-11800297**  
 SAN ANTONIO  
 BEXAR COUNTY  
 TEXAS

**Colliers** SAN ANTONIO (KFW)  
 3421 Paesanos Parkway  
 San Antonio, TX 78231  
 Phone: 210.979.8444  
 COLLIERS ENGINEERING & DESIGN, INC.  
 TBE Form 1-1003  
 TBE'S Form: 10196550

SCALE: AS SHOWN DATE: OCT. 2023 DRAWN BY: EC CHECKED BY: OE  
 PROJECT NUMBER: 391-10-19 DRAWING NUMBER: SSP3911019\_A-FM

SHEET TITLE:  
**LINE "A" - FORCE MAIN  
 PLAN & PROFILE (2 OF 3)**

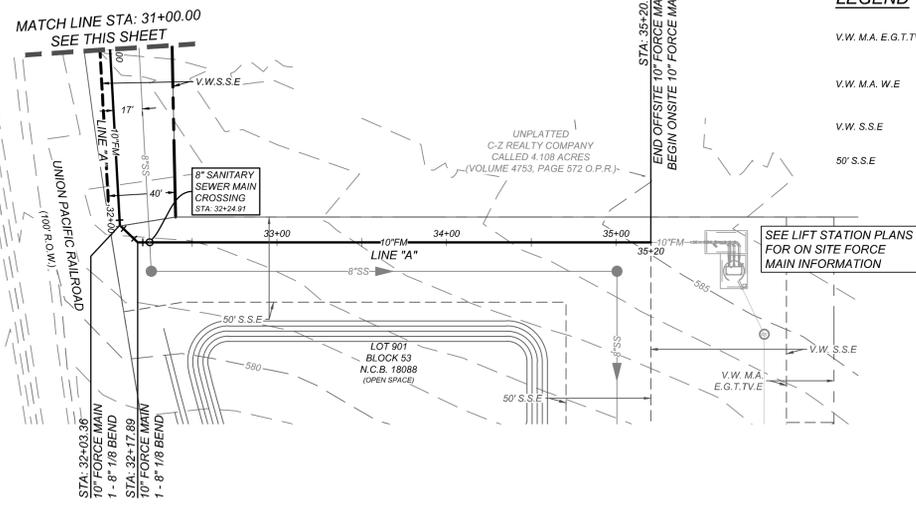
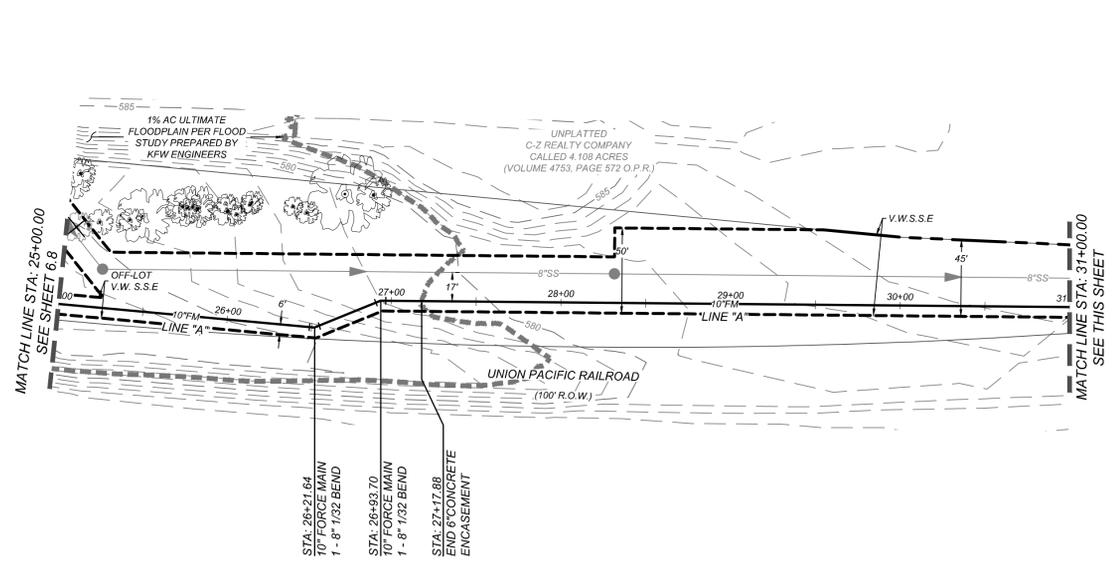
SHEET NUMBER:  
 6.8

**TRENCH EXCAVATION SAFETY PROTECTION**  
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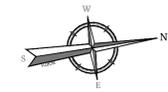
- NOTES:**
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  - REF. SHEET 6.1 FOR BENCHMARK INFORMATION.
  - PIPE TYPE DESIGNATIONS ARE SDR 26.
  - REF. THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
  - ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.
  - THE EXISTING UTILITIES SHOWN ARE BASED ON THE BEST RECORDS AVAILABLE AT THE TIME OF DESIGN AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR TO FIELD VERIFY THE LOCATION (BOTH HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION.
  - ALL MANHOLE WITHIN FEMA 100-YEAR FLOODPLAIN MUST BE WATER TIGHT.
  - 10" PIPES SHALL BE HDPE FM, A MINIMUM OF DR 13.5 (DIPS), 160-PSI.

**CAUTION!!**  
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**MANHOLE NOTE:**  
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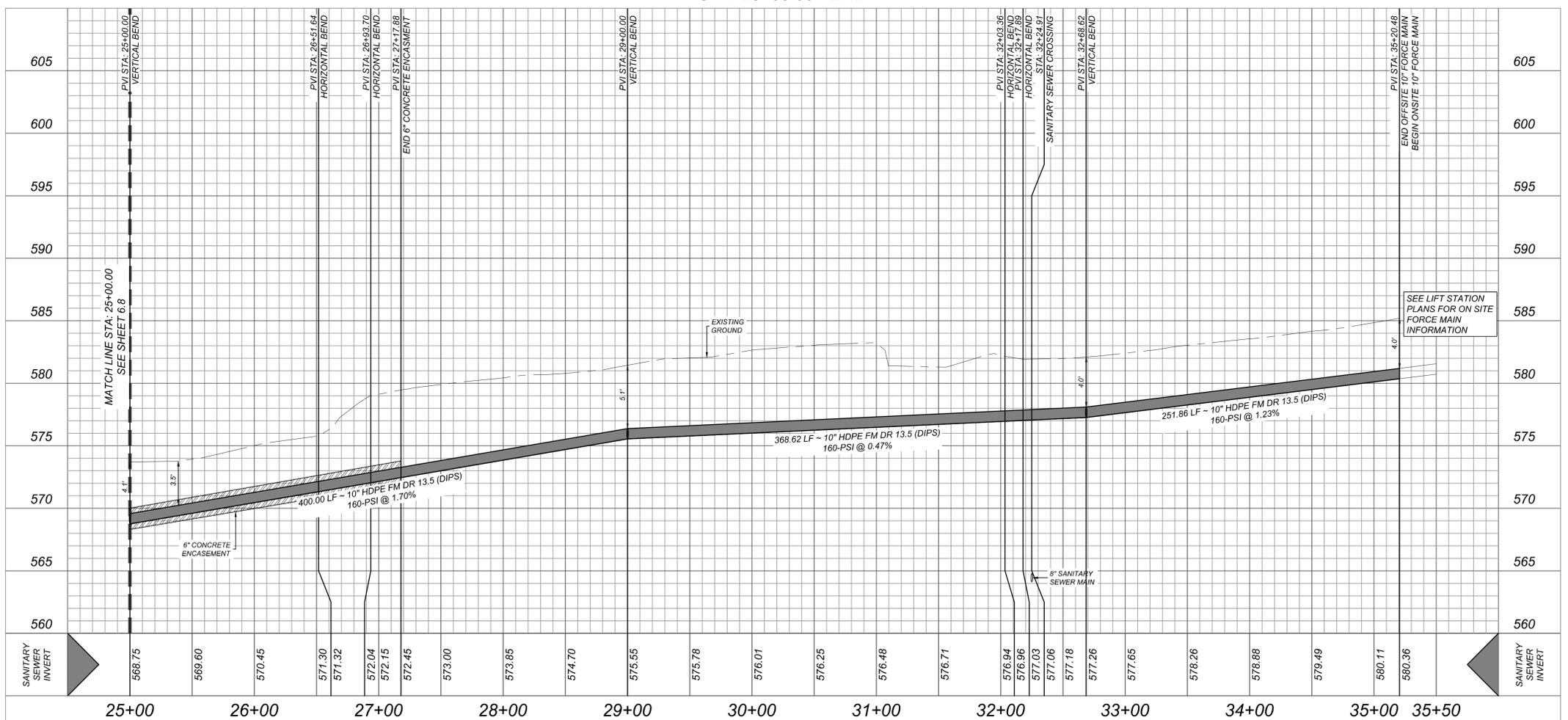
- LEGEND**
- V.W.M.A. E.G.T.V.E. = VARIABLE WIDTH MAINTENANCE ACCESS ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT (PLAT# 23-11800297)
  - V.W.M.A. W.E. = VARIABLE WIDTH MAINTENANCE ACCESS & WATER EASEMENT (PLAT# 23-11800297)
  - V.W.S.S.E. = VARIABLE WIDTH SANITARY SEWER EASEMENT (PLAT# 23-11800297)
  - 50' S.S.E. = 50' SANITARY SEWER EASEMENT (PLAT# 23-11800297)



ANGULAR DEFLECTION SHALL BE INSTALLED IN ACCORDANCE WITH AWWA AND MANUFACTURER ALLOWABLE STANDARDS

**LINE "A" - FORCE MAIN  
 STA: 25+00.00 - END**

HORZ SCALE: 1"=50'  
 VERT SCALE: 1"=5'



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REV	DATE	DRAWN BY	DESCRIPTION

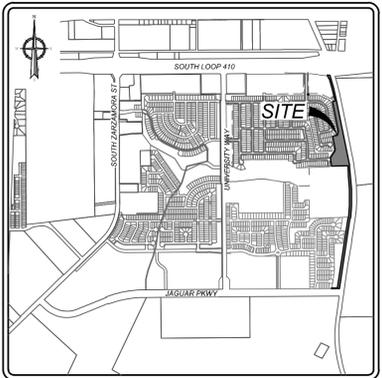
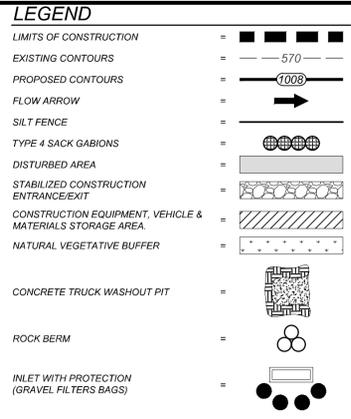
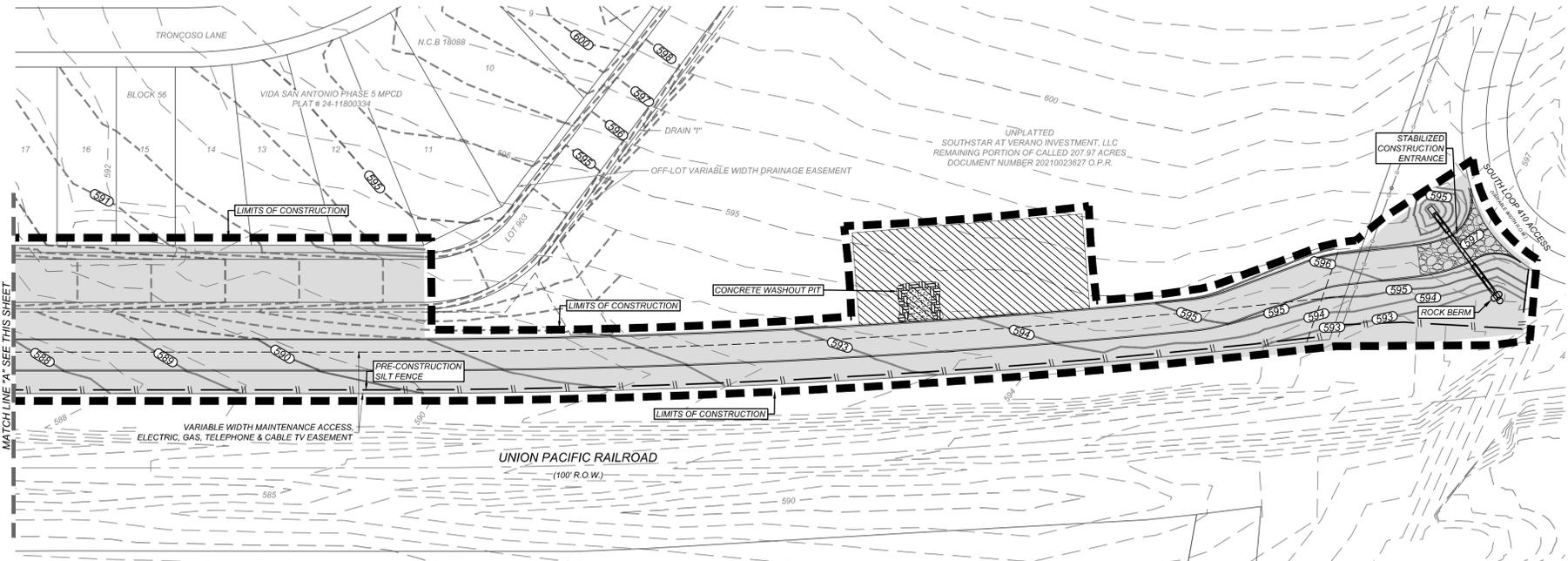
STATE OF TEXAS  
**OMAR A. ESPINOSA**  
 125560  
 LICENSED PROFESSIONAL ENGINEER  
 2/4/25

FOR  
**VIDA SAN ANTONIO  
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 PLAT# 23-11800297

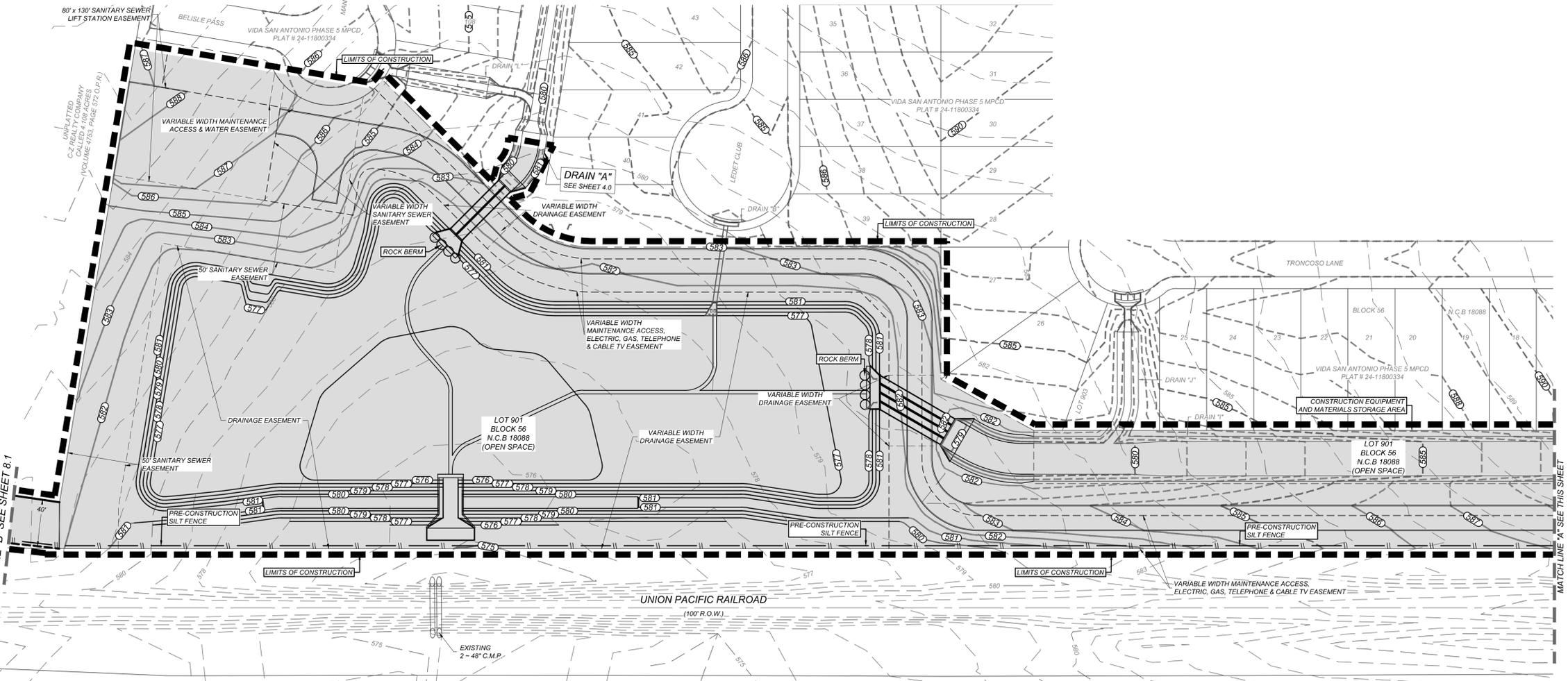
SAN ANTONIO  
 BEXAR COUNTY  
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 3421 Paesanos Parkway  
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 Phone: 210.979.8444  
 COLLIERS ENGINEERING & DESIGN, INC.  
 TBE Form 11-1003  
 TBE'S Form: 10196550

SCALE: AS SHOWN DATE: OCT. 2023 DRAWN BY: EC CHECKED BY: OE  
 PROJECT NUMBER: 391-10-19 DRAWING NAME: 55PP3911019\_A-FM  
 SHEET TITLE: LINE "A" - FORCE MAIN PLAN & PROFILE (3 OF 3)  
 SHEET NUMBER: 6.9



LOCATION MAP  
N.T.S.



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REV	DATE	DESCRIPTION
1	08/14/24	SC

STATE OF TEXAS  
OMAR A. ESPINOSA  
125560  
LICENSED PROFESSIONAL ENGINEER

*[Signature]*  
2/4/25

**VIDA SAN ANTONIO LIFT STATION**  
PLAT# 23-11800297

SAN ANTONIO  
BEXAR COUNTY  
TEXAS

**Colliers**  
Engineering & Design

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San Antonio, TX 78231  
Phone: 210.979.8444  
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TBE Form 1-190  
TBE'S Form: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	OCT. 2023	EC	OE

PROJECT NUMBER: 391-10-19  
DRAWING NUMBER: SWP3911015

SHEET TITLE:  
**STORMWATER POLLUTION PREVENTION PLAN (1 OF 2)**

SHEET NUMBER:  
8.0





