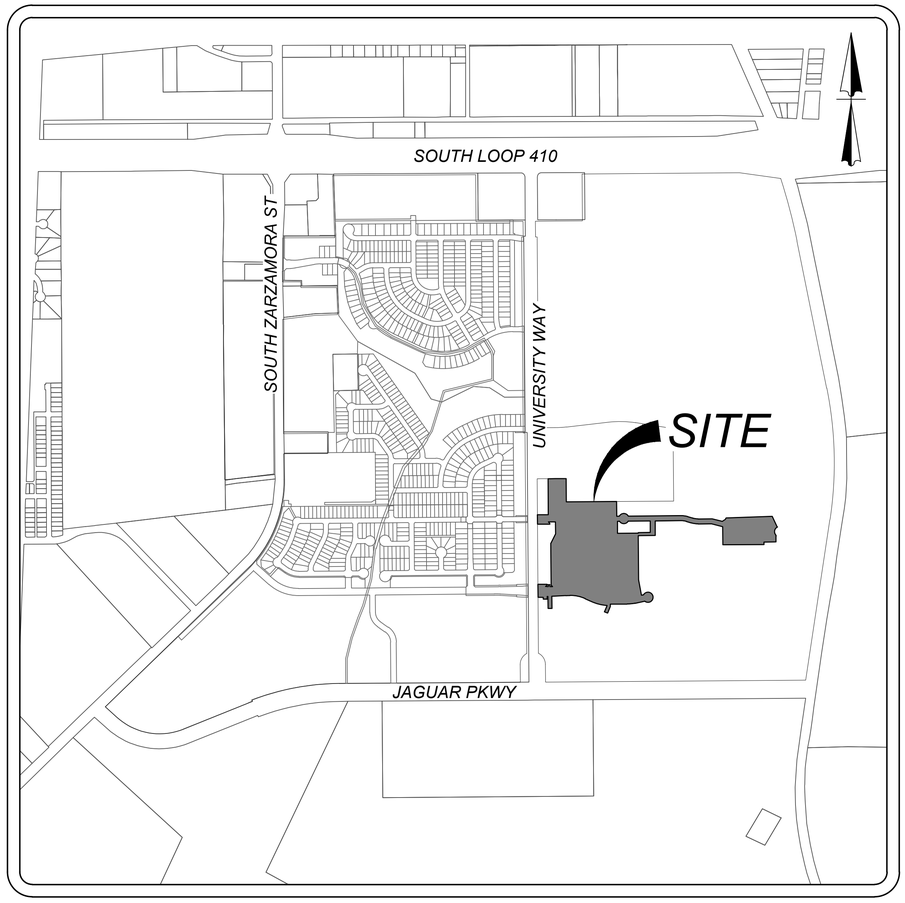
VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

STREET, DRAINAGE, WATER, SANITARY SEWER & UTILITY IMPROVEMENTS



LOCATION MAP

N.T.S.

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OWNER/DEVELOPER:
SOUTHSTAR AT VERANO, LLC
2055 CENTRAL PLAZA, SUITE 110
NEW BRAUNFELS, TEXAS 78130

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KFW ENGINEERS + SURVEYING
3421 Paesanos Pkwy., Suite 200, San Antonio, TX 78232
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

PLAT NO.22-11800788

SHEET 0.0

JOB NO.: 391-10-14

Date: Feb 02, 2024, 2:26pm User ID: akuera
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MATCH LINE "A" SEE SHEET 1.1

UNPLATTED MAGRAVEDUNY, LLC CALLED 5.769 ACRES (VOLUMR 18306, PAGE 1672 O.P.R.)

UNPLATTED SOUTHSTAR AT VERANO INVESTMENT, LLC REMAINING PORTION OF CALLED 207.97 ACRES (DOCUMENT NUMBER 20210023627 O.P.R.)

OFF-LOT 10' E.G.T.TV.E

LOT 901 BLOCK 38 N.C.B. 18088 OPEN SPACE

2 - 4" CONDUITS FOR PRIVATE USE

10' SANITARY SEWER EASEMENT

REGINA ISLAND (50' R.O.W.)

BENITEZ WAY (50' R.O.W.)

LOT 901 BLOCK 32 N.C.B. 18088 OPEN SPACE

SEWER / WATER CROSSING REFERENCE THIS SHEET FOR DETAIL

DRAIN "E" SEE SHEET 4.5 - 4.7

MATCH LINE "B" SEE SHEET 1.1

OFF-LOT TEMPORARY TURNAROUND, ELECTRIC, GAS, TELEPHONE, CABLE TV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT-OF-WAY)

MILAS PLACE (50' R.O.W.)

DRAIN "D" SEE SHEET 4.3 - 4.4

FLATO LOCK (50' R.O.W.)

3 - 6" CONDUITS 2 - 4" CONDUITS

LOT 902

SOUPE LAND (50' R.O.W.)

DRAIN "B" SEE SHEET 4.1

OFF-LOT 16' SANITARY SEWER EASEMENT

LEDET GREEN (VARIABLE WIDTH R.O.W. - MIN. 70')

MIRA CAMP (50' R.O.W.)

LAIMA ANNEX (50' R.O.W.)

AMADA PATH (50' R.O.W.)

DRAIN "F" SEE SHEET 4.1

3 - 6" CONDUITS 2 - 4" CONDUITS

OFF-LOT 39.5' DRAIN EASEMENT

LOT 901 BLOCK 31 N.C.B. 18088 OPEN SPACE

MATCH LINE "C" SEE THIS SHEET

UNPLATTED SOUTHSTAR AT VERANO INVESTMENT, LLC REMAINING PORTION OF CALLED 207.97 ACRES (DOCUMENT NUMBER 20210023627 O.P.R.)

UNPLATTED CLXV VIDA LAND LLC 8.00 ACRES (DOCUMENT NUMBER 20210181332 O.P.R.)

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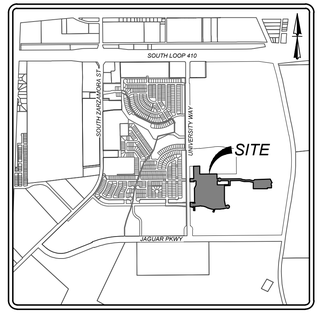
OFF-LOT 34' DRAIN EASEMENT

OFF-LOT 14' E.G.T.TV.E

OFF-LOT VARIABLE WIDTH E.G.T.TV.E

LEGEND

PROPOSED WATER MAIN	W
PROPOSED WATER SERVICE & METER BOX	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	W
PROPOSED FIRE HYDRANT	
PROPOSED WATER VALVE	
PROPOSED 100 WATT STREETLIGHT	
PROPOSED 250 WATT STREETLIGHT	
PROPOSED SANITARY SEWER MAIN	SS
PROPOSED SANITARY SEWER MANHOLE	SS
PROPOSED SANITARY SEWER LATERAL	
ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	V.W.C.V.E
LANDSCAPE EASEMENT	LS.E
EXISTING WATER MAIN	EW
EXISTING FIRE HYDRANT	
EXISTING WATER VALVE	
EXISTING SANITARY SEWER MAIN	ESS
EXISTING SANITARY SEWER MANHOLE	ESS
EXISTING OVERHEAD ELECTRIC W/POWER POLE	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	OHE
EXISTING STREET LIGHT	



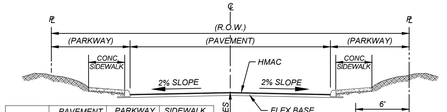
LOCATION MAP

N.T.S.

SCALE : 1"=50'

0' 50' 150'

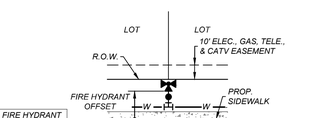
100'



TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	28'	11'	4'
70' R.O.W.	44'	13'	6'

TYPICAL STREET SECTION

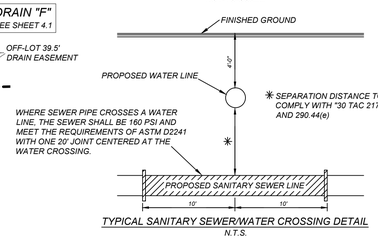
N.T.S.



SIDEWALK WIDTH	FIRE HYDRANT OFFSET
4'	5.0' MIN
6'	7.0' MIN

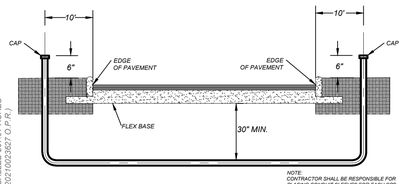
TYPICAL FIRE HYDRANT DETAIL

NOT-TO-SCALE



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

N.T.S.



TYPICAL CONDUIT DETAIL

N.T.S.

NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPERATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.

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.

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.

DRY UTILITY CONDUIT NOTE:

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

RESIDENTIAL LOTS = 92

Date: Feb 02, 2024, 2:27pm User ID: oheras
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KFW ENGINEERS + SURVEYING
Texas Joined Colleges Engineering & Design
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Phone #: (210) 979-8444 • Fax #: (210) 979-8441
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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

OVERALL UTILITY PLAN (1 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

DRAWN:EB CHECKED:OE

SHEET NUMBER:

1.0

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TRENCH EXCAVATION SAFETY PROTECTION

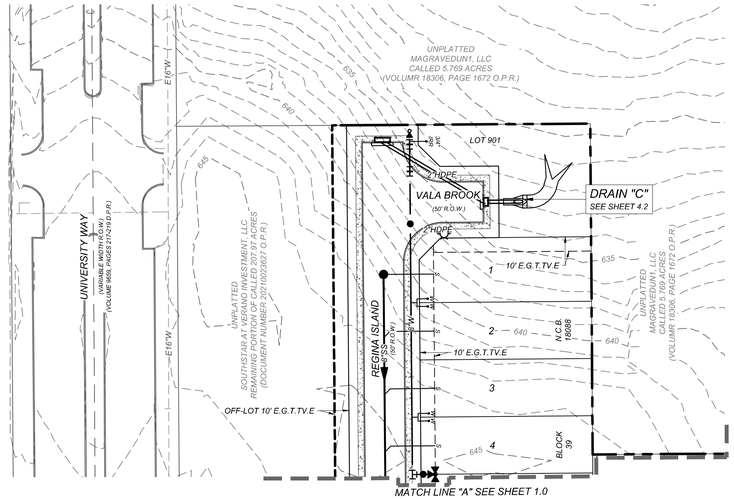
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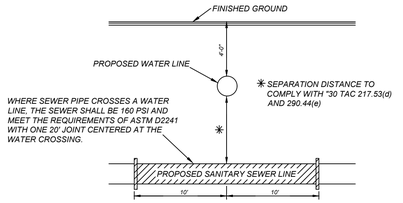
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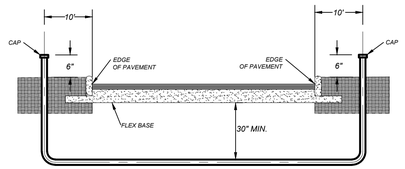
DRY UTILITY CONDUIT NOTE:

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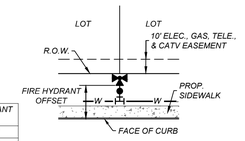


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



TYPICAL CONDUIT DETAIL
N.T.S.

NOTE
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF CONDUIT IS NOT INSTALLED. CONDUIT SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPERATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.

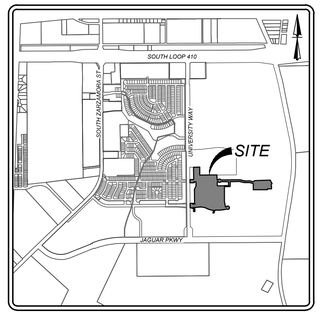


SIDEWALK WIDTH	FIRE HYDRANT OFFSET
4'	5.0' MIN
6'	7.0' MIN

TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE

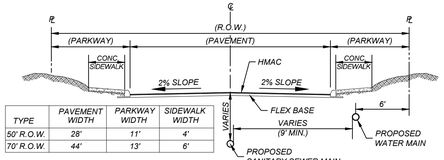
LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100 WATT STREETLIGHT	=	
PROPOSED 250 WATT STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	SS
PROPOSED SANITARY SEWER LATERAL	=	
ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	*E.G.T.TV.E*
VEHICULAR NON-ACCESS EASEMENT	=	*V.N.A.E*
VARIABLE WIDTH CLEAR VISION EASEMENT	=	*V.W.C.V.E*
LANDSCAPE EASEMENT	=	*LS.E*
EXISTING WATER MAIN	=	EW
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	ESS
EXISTING SANITARY SEWER MANHOLE	=	ESS
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE
EXISTING STREET LIGHT	=	



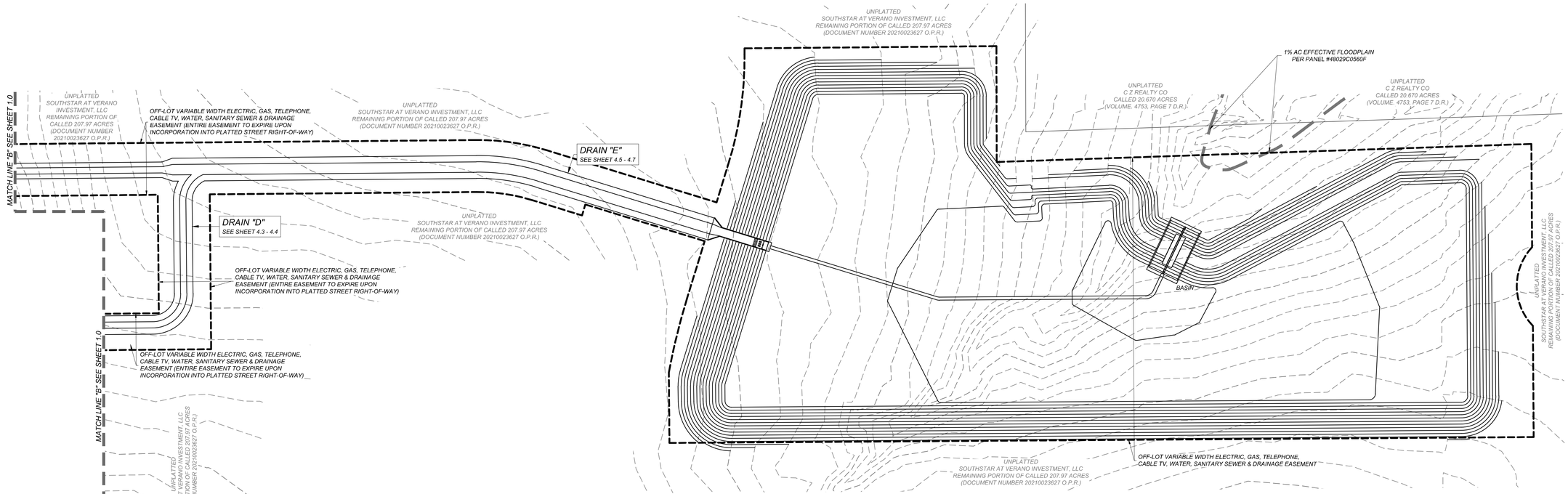
LOCATION MAP
N.T.S.

SCALE : 1"=50'
0' 50' 150' 100'



TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	28'	11'	4'
70' R.O.W.	44'	13'	6'

TYPICAL STREET SECTION
N.T.S.



RESIDENTIAL LOTS = 92

KFW
ENGINEERS + SURVEYING
Texas Joined Colleges Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10124500

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

OVERALL UTILITY PLAN (2 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

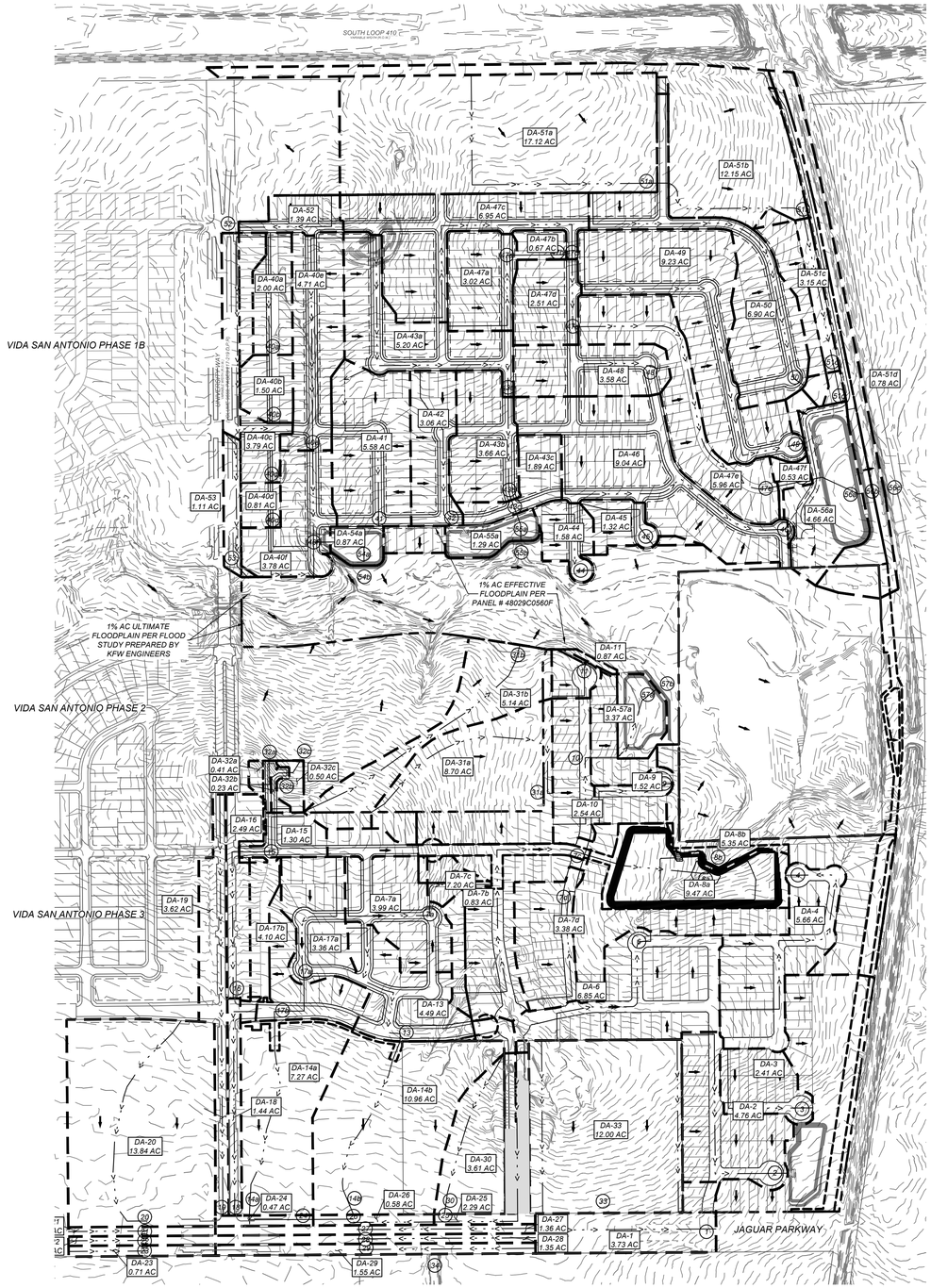
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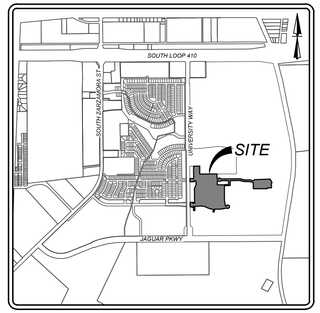
LEGEND

- ① STUDY POINT
- DRAINAGE AREA BOUNDARY
- 802 EXISTING CONTOURS
- FLOW ARROW
- PROPOSED UNIT

SCALE : 1"=200'

0' 200' 600'

400'



LOCATION MAP

N.T.S.

RESIDENTIAL LOTS = 92

KFW ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

MASTER DRAINAGE PLAN (1 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

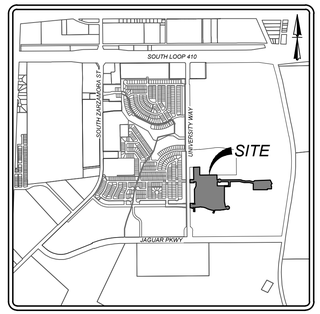
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LOCATION MAP

N.T.S.

Ultimate Conditions													
STUDY POINT	AREA	(Acres)	C	T_{ovl} (min)	T_{sc} (min)	T_{ch} (min)	T_{tot} (min)	I_5 (in/hr)	I_{25} (in/hr)	I_{100} (in/hr)	Q_5 (ft^3/s)	Q_{25} (ft^3/s)	Q_{100} (ft^3/s)
1	DA-1	3.73	0.94	10.00	1.00	2.00	13	5.61	7.82	9.76	19.67	27.42	34.22
2	DA-2	5.12	0.77	10.00	1.00	3.00	14	5.42	7.53	9.39	21.37	29.69	37.02
3	DA-3	2.41	0.77	10.00	2.00	1.00	13	5.61	7.82	9.76	10.41	14.51	18.11
4	DA-4	0.85	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	3.80	5.31	6.64
5	DA-5	5.70	0.77	10.00	2.00	2.00	14	5.42	7.53	9.39	23.79	33.05	41.21
6	DA-6	6.68	0.77	10.00	1.00	2.00	13	5.61	7.82	9.76	28.86	40.22	50.20
7a	DA-7a	3.99	0.77	8.00	2.00	1.00	11	6.02	8.43	10.54	18.50	25.90	32.38
	DA-7b	0.83	0.77										
7b	DA-7a + 7b	4.82	0.77	11.00	0.00	1.00	12	5.81	8.12	10.14	21.56	30.14	37.63
7c	DA-7c	3.88	0.77	10.00	1.00	2.00	13	5.61	7.82	9.76	16.76	23.36	29.16
7d	DA-7d	8.37	0.77	10.00	1.00	4.00	15	5.24	7.24	9.03	33.77	46.66	58.20
	DA-8	4.00	0.77										
8	DA-5+6+7b+7c+7d+8+12	35.92	0.76	15.00	0.00	1.00	16	5.06	6.99	8.71	138.13	190.82	237.78
9	DA-9	1.97	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	8.81	12.32	15.38
10	DA-10	2.58	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	11.54	16.13	20.14
11	DA-11	0.87	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	3.89	5.44	6.79
12	DA-12	2.47	0.77	10.00	2.00	1.00	13	5.61	7.82	9.76	10.67	14.87	18.56
13	DA-13	5.20	0.77	10.00	0.00	4.00	14	5.42	7.53	9.39	21.70	30.15	37.60
	DA-14a	7.27	0.53										
14a	PT.17b + DA-14a	14.73	0.65	14.00	0.00	2.00	16	5.06	6.99	8.71	48.45	66.93	83.39
	DA-14b	10.96	0.53										
14b	PT.13 + DA-14b	16.16	0.61	14.00	0.00	2.00	16	5.06	6.99	8.71	49.88	68.90	85.86
15	DA-15	1.30	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	5.82	8.13	10.15
	DA-16	2.49	0.85										
16	DA-15+DA-16	3.79	0.82	12.00	0.00	2.00	14	5.42	7.53	9.39	16.90	23.47	29.27
17a	DA-17a	3.36	0.77	10.00	2.00	1.00	13	5.61	7.82	9.76	14.51	20.23	25.25
	DA-17b	4.10	0.84										
17b	DA-17a+DA-17b	7.46	0.81	13.00	0.00	1.00	14	5.42	7.53	9.39	32.75	45.50	56.74
18	DA-17+DA-18	1.44	0.97	14.00	0.00	3.00	17	4.91	6.76	8.42	6.86	9.44	11.76
19	DA-19	3.62	0.97	5.00	1.00	5.00	11	6.02	8.43	10.54	21.14	29.60	37.01
20	DA-20	13.84	0.96	5.00	1.00	3.00	9	6.48	9.11	11.38	86.10	121.04	151.20
21	DA-21	0.62	0.96	5.00	1.00	1.00	7	7.05	9.89	12.37	4.20	5.89	7.36
22	DA-22	0.62	0.96	5.00	1.00	1.00	7	7.05	9.89	12.37	4.20	5.89	7.36
23	DA-23	0.71	0.96	5.00	1.00	1.00	7	7.05	9.89	12.37	4.81	6.74	8.43
	DA-24	0.47	0.96										
24	DA-24	15.20	0.66	16.00	0.00	1.00	17	4.91	6.76	8.42	49.26	67.82	84.47
		10.85	0.66	CAPTURED RUNOFF FROM 1 ~ 30' CURB INLET ON GRADE							39.31	48.40	55.54
	A-24aa	4.35	0.66	REMAINING RUNOFF FROM 1 ~ 30' CURB INLET ON GRADE							9.95	19.42	28.93
	DA-25	2.29	0.96										
25	DA-25	10.10	0.63	24.00	0.00	0.00	24	4.12	5.65	7.01	26.22	35.95	44.60
		6.17	0.63	CAPTURED RUNOFF FROM 1 ~ 20' CURB INLET ON GRADE							18.15	21.95	24.89
	A-25aa	3.93	0.63	REMAINING RUNOFF FROM 1 ~ 20' CURB INLET ON GRADE							8.07	14.00	19.71
	DA-26	0.47	0.96										
26	A-24aa+A-25aa+A-26+PT.14b	24.92	0.63	17.00	0.00	0.00	17	4.91	6.76	8.42	77.07	106.11	132.17
27	DA-27	1.36	0.96	5.00	1.00	2.00	8	6.75	9.48	11.85	8.81	12.38	15.47
28	DA-28	1.35	0.96	5.00	1.00	2.00	8	6.75	9.48	11.85	8.75	12.29	15.36
29	DA-29	1.55	0.97	5.00	1.00	2.00	8	6.75	9.48	11.85	10.15	14.25	17.82
30	DA-30	7.81	0.53	20.00	4.00	0.00	24	4.12	5.65	7.01	17.05	23.39	29.02
31a	DA-31	11.86	0.74	20.00	3.00	1.00	24	4.12	5.65	7.01	36.16	49.59	61.52
31b	DA-31	11.86	0.74	20.00	3.00	1.00	24	4.12	5.65	7.01	36.16	49.59	61.52
32a	DA-32a	0.41	0.85	10.00	0.00	0.00	10	6.24	8.76	10.95	2.17	3.05	3.82
32b	DA-32b	0.23	0.85	10.00	0.00	1.00	11	6.02	8.43	10.54	1.18	1.65	2.06
	DA-32c	0.50	0.85										
32c	DA-32a+DA-32b+DA-32c	1.14	0.85	11.00	0.00	0.00	11	6.02	8.43	10.54	5.83	8.17	10.21
33	DA-33	12.00	0.77	5.00	1.00	2.00	8	6.75	9.48	11.85	62.37	87.60	109.49
40a	DA-40a	2.00	0.84	10.00	0.00	1.00	11	6.02	8.43	10.54	10.11	14.16	17.71
		1.12	0.84	CAPTURED RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							6.57	7.96	8.99
	A-40aa	0.88	0.84	REMAINING RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							3.54	6.20	8.72
	DA-40b	1.50	0.85										
40b	PT.40aa + DA-40b	2.38	0.85	11.00	0.00	1.00	12	5.81	8.12	10.14	11.68	16.33	20.39
		1.32	0.85	CAPTURED RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							7.49	9.04	10.22
	A-40bb	1.06	0.85	REMAINING RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							4.19	7.29	10.17
	DA-40c	3.79	0.78										
40c	PT.40bb + DA-40c	4.85	0.91	10.00	1.00	3.00	14	5.42	7.53	9.39	23.92	33.24	41.45
		2.55	0.91	CAPTURED RUNOFF FROM 1 ~ 20' CURB INLET ON GRADE							14.51	17.49	19.76
	A-40cc	2.30	0.91	REMAINING RUNOFF FROM 1 ~ 20' CURB INLET ON GRADE							9.41	15.75	21.69
	DA-40d	0.81	0.88										
40d	PT.40cc + DA-40d	3.11	0.90	14.00	0.00	1.00	15	5.24	7.24	9.03	14.69	20.30	25.32
		2.68	0.90	CAPTURED RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							14.60	17.48	19.70
	A-40dd	0.43	0.90	REMAINING RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							0.09	2.82	5.62
40e	DA-40e	4.71	0.77	10.00	1.00	3.00	14	5.42	7.53	9.39	19.66	27.31	34.05
		2.53	0.77	CAPTURED RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							12.20	14.66	16.52
	A-40ee	2.18	0.77	REMAINING RUNOFF FROM 1 ~ 15' CURB INLET ON GRADE							7.46	12.65	17.53
	DA-40f	3.78	0.79										
40f	PT.40dd+PT.40ee + DA-40d	6.39	0.83	15.00	0.00	2.00	17	4.91	6.76	8.42	26.06	35.87	44.68
41	DA-41	5.58	0.77	10.00	2.00	2.00	14	5.42	7.53	9.39	23.29	32.35	40.35
42	DA-42	3.06	0.77	10.00	2.00	1.00	13	5.61	7.82	9.76	13.22	18.43	23.00
43a	DA-43a	5.20	0.77	10.00	1.00	4.00	15	5.24	7.24	9.03	20.98	28.99	36.16
		2.90	0.77	CAPTURED RUNOFF FROM 2 ~ 15' CURB INLET ON GRADE							13.40	16.14	18.20
	A-43aa	2.30	0.77	REMAINING RUNOFF FROM 2 ~ 15' CURB INLET ON GRADE							7.58	12.85	17.96
	DA-43b	3.66	0.77										
43b	PT.43aa + DA-43b	5.96	0.77	15.00	0.00	1.00	16	5.06	6.99	8.71	23.24	32.10	40.00
		3.09	0.77	CAPTURED RUNOFF FROM 2 ~ 15' CURB INLET ON GRADE							13.92	16.62	18.72
	A-43bb	2.88	0.77	REMAINING RUNOFF FROM 2 ~ 15' CURB INLET ON GRADE							9.32	15.48	21.28
	DA-43c	1.89	0.77										
43c	PT.43a + DA-43c	7.85	0.77	16.00	0.00	0.00	16	5.06	6.99	8.71	30.60	42.28	52.68
44	DA-44	1.58	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	7.07	9.88	12.34
45	DA-45	1.32	0.77	10.00	2.00	1.00	13	5.61	7.82	9.76	5.70	7.95	9.92
46	DA-46	9.04	0.77	10.00	2.00	3.00	15	5.24	7.24	9.03	36.47	50.40	62.86
47a	DA-47a	3.02	0.77	10.00	2.00	1.00	13	5.61	7.82	9.76	13.05	18.18	22.70
	DA-47b	0.67	0.77										
47b	PT.47a + DA-47b	3.69	0.77	13.00	0.00	1.00	14	5.42	7.53	9.39	15.40	21.39	26.68
47c	DA-47c	6.95	0.77	10.00	1.00	3.00	14	5.42	7.53	9.39	29.01	40.30	50.25
		3.39	0.77	CAPTURED RUNOFF FROM 2 ~ 15' CURB INLET ON GRADE							16.40	19.66	22.16
	A-47cc	3.56	0.77	REMAINING RUNOFF FROM 2 ~ 15' CURB INLET ON GRADE							12.61	20.64	28.09
	DA-47d	2.51	0.77										
47d	PT.47a + PT.47b + DA-47c	6.07	0.77	14.00	0.00	1.00	15	5.24	7.24	9.03	24.49	33.83	42.20
	DA-47e	5.96	0.77										
47e	T.47a + PT.47b + DA-47c + DA-4	22.69	0.77	15.00	0.00	4.00	19	4.63	6.37	7.93	80.89	111.29	138.55
	DA-47f	0.53	0.77										
47f	PT.47e + PT.46 + DA-47f	32.26	0.77	19.00	0.00	0.00	19	4.63	6.37	7.93	115.01	158.23	196.98
48	DA-48	3.58	0.77	10.00	1.00	1.00	12	5.81	8.12	10.14	16.02	22.38	27.95
49	DA-49	9.23	0.77	10.00	2.00	4.00	16	5.06	6.99	8.71	35.96	49.68	61.90
50	DA-50	6.90	0.77	10.00	1.00	4.00	15	5.24	7.24	9.03	27.84	38.47	47.98
51a	DA-51a	17.12	0.96	5.00	3.00	2.00	10	6.24	8.76	10.95	102.56	143.97	179.97
	DA-51b	12.15	0.88										
51b	PT51a + DA-51b	29.27	0.93	10.00	0.00	2.00	12	5.81	8.12	10.14	157.61	220.27	275.07
	DA-51c	3.83	0.77										
51c	PT51b + DA-51c	33.10	0.91	12.00	0.00	2.00	14	5.42	7.53	9.39	163.01	226.47	282.42
	DA-51d	0.78	0.77										
51d	PT51c + PT50 + DA-51d	40.78	0.75	14.00	0.00	0.00	14	5.42	7.53	9.39	166.27	231.00	288.06
52	DA-52	1.39	0.77	5.00	1.00	1.00	7	7.05	9.89	12.37	7.55	10.59	13.24
53	DA-53	1.11	0.96	5.00	6.00	0.00	11	6.02	8.43	10.54	6.41	8.98	11.23
	DA-54a	0.87	0.77										
54a	DA-40a+DA-40b+DA-40c	23.04	0.77	17.00	0.00	1.00	18	4.76	6.56	8.16	84.45	116.38	144.76
54b	***SEE STORM WATER MANAGEMENT PLAN - SCS METHOD***										5.00	10.00	15.00
	DA-55a	1.29	0.77										
55a	DA-42+DA-43a+DA-43b+DA-	13.81	0.77	16.00	0.00	0.00	16	5.06	6.99	8.71	53.81	74.33	92.62
55b	***SEE STORM WATER MANAGEMENT PLAN - SCS METHOD***										5.00	10.00	15.00
	DA-56a	1.29	0.77										
56a	DA-46+DA-47a+DA-47b+DA-	48.39	0.77	12.00	0.00	0.00	12	5.81	8.12	10.14	216.48	302.55	377.82
56b	***SEE STORM WATER MANAGEMENT PLAN - SCS METHOD***										5.00	10.00	15.00
	DA-57a	1.29	0.77										
57a	DA-46+DA-47a+DA-47b+DA-	139.26	0.77	12.00	0.00	1.00	13	5.61	7.82	9.76	601.56	838.54	1046.57
57b	***SEE STORM WATER MANAGEMENT PLAN - SCS METHOD***										5.00	10.00	15.00

RESIDENTIAL LOTS = 92

KFW ENGINEERS + SURVEYING
Texas Limited Liability Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

MASTER DRAINAGE PLAN (2 OF 2)

PLAT NO. 22-11800788

JOB NO.:391-10-14

DATE: MAY 2023

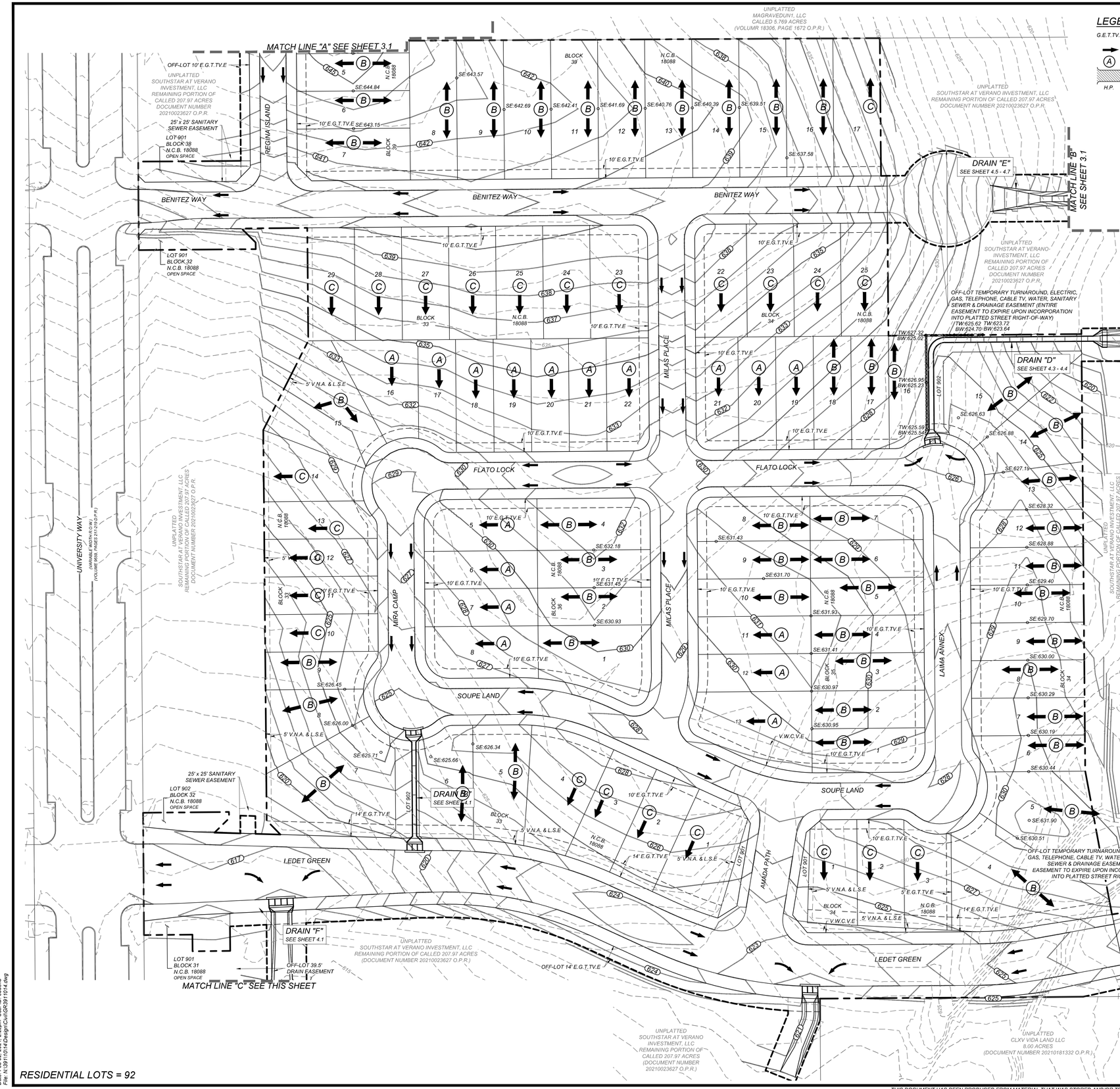
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SHEET NUMBER:

2.1

Date: Feb 02, 2024, 2:16pm User ID: ohuerta
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THIS 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.

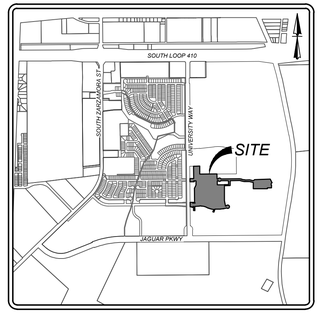


LEGEND

G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
→	=	FLOW ARROW
(A)	=	LOT GRADE TYPE
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT

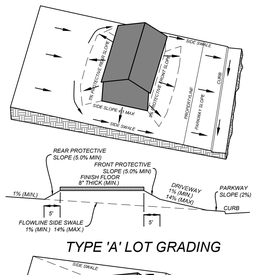
GENERAL NOTES:

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 SWALES.

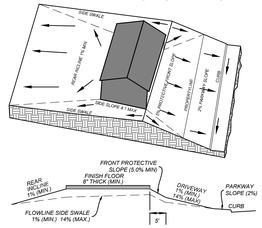


LOCATION MAP
N.T.S.

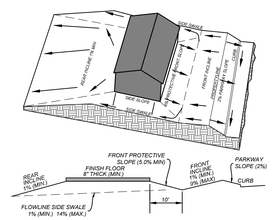
SCALE : 1"=50'
0' 50' 150'
100'



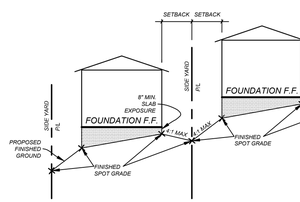
TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING



TYPICAL SIDE YARD GRADING
N.T.S.

KFW
ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 2813 • TBPLS Firm # 10022800

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

OVERALL GRADING PLAN (1 OF 2)

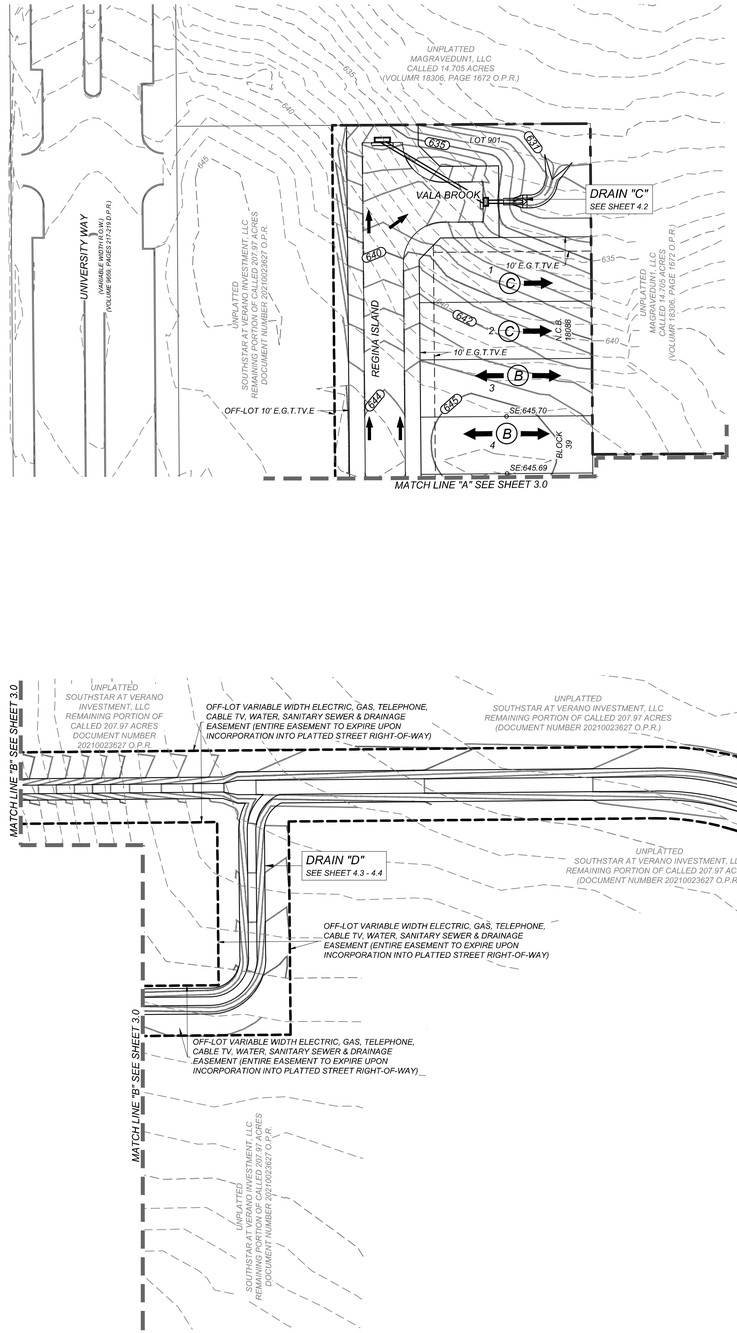
PLAT NO. 22-11800788

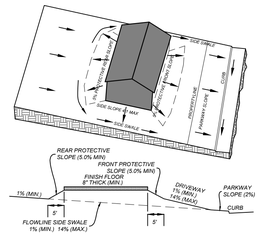
JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER: 3.0

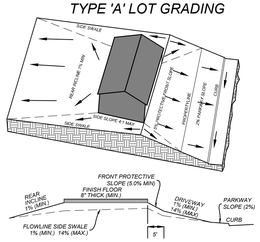
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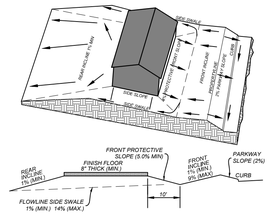




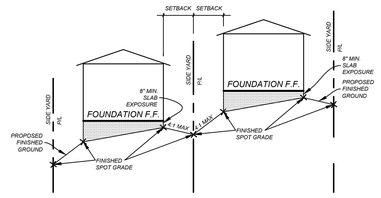
TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING



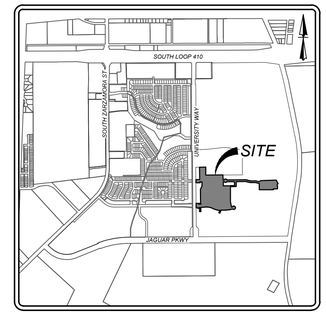
TYPICAL SIDE YARD GRADING
N.T.S.

LEGEND

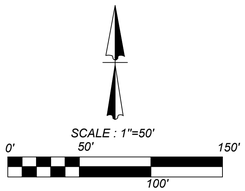
G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
→	=	FLOW ARROW
(A)	=	LOT GRADE TYPE
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT

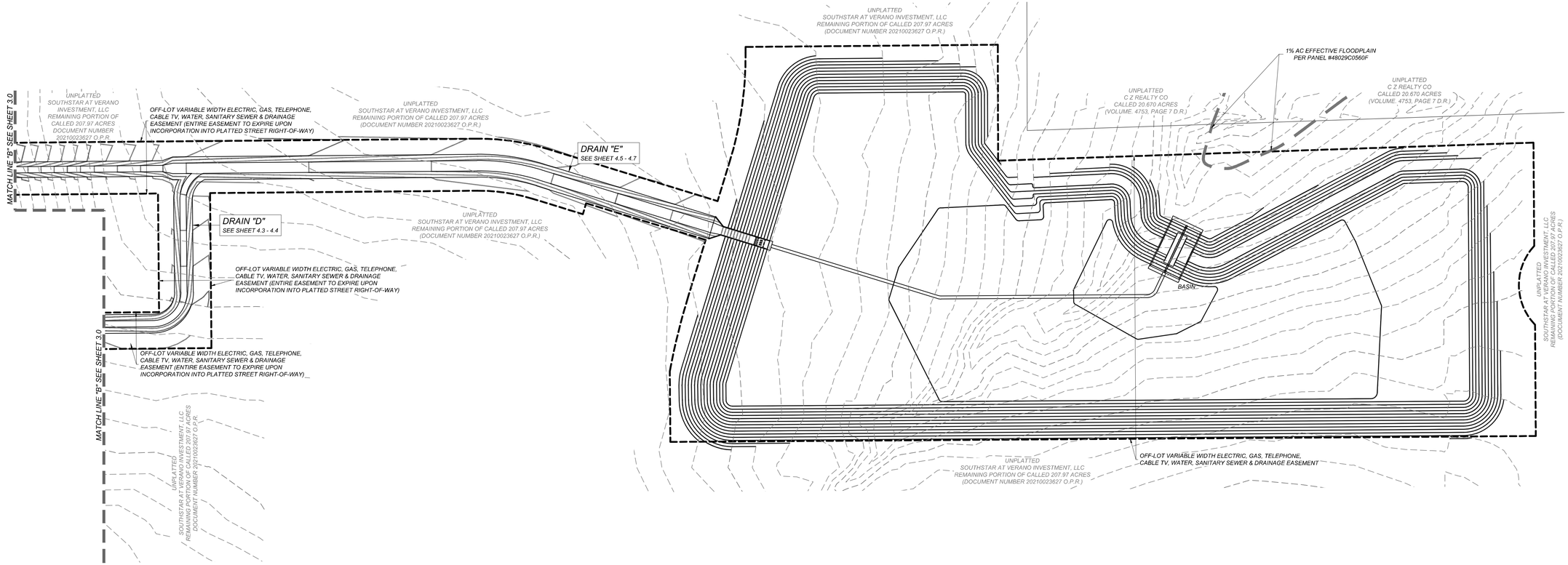
GENERAL NOTES:

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 SWALES.



LOCATION MAP
N.T.S.





RESIDENTIAL LOTS = 92

KFW ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

REVISIONS

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

OVERALL GRADING PLAN (2 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

DRAWN: EB CHECKED: OE

SHEET NUMBER:

3.1

Date: Feb 02, 2024, 2:29pm User ID: dtrevino
File: K:\391\10\01\14\Design\Civil\GRS391101414.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

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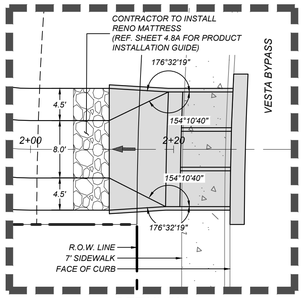
CAUTION!!:

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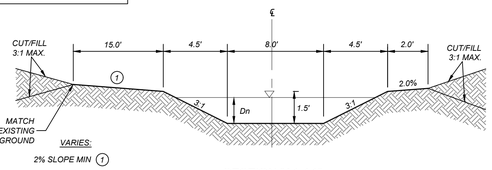
NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

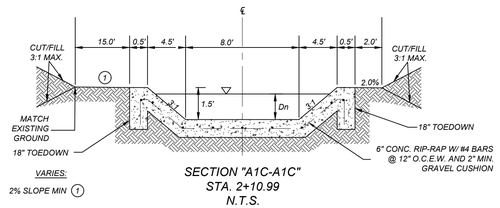
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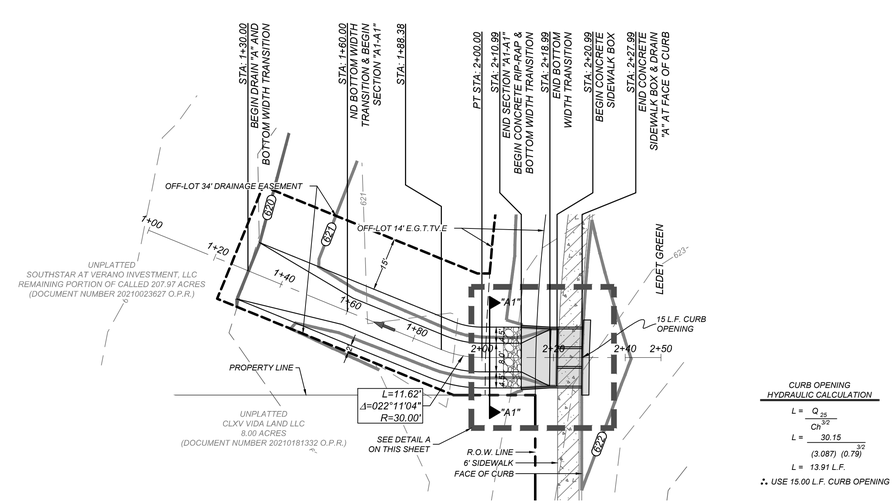
DETAIL "A"
SCALE: 1"=10'



SECTION "A1-A1"
STA. 1+60.00 - STA. 2+10.99
N.T.S.



SECTION "A1C-A1C"
STA. 2+10.99
N.T.S.



CURB OPENING
HYDRAULIC CALCULATION

$$L = \frac{Q_{25}}{Ch^{\frac{3}{2}}}$$

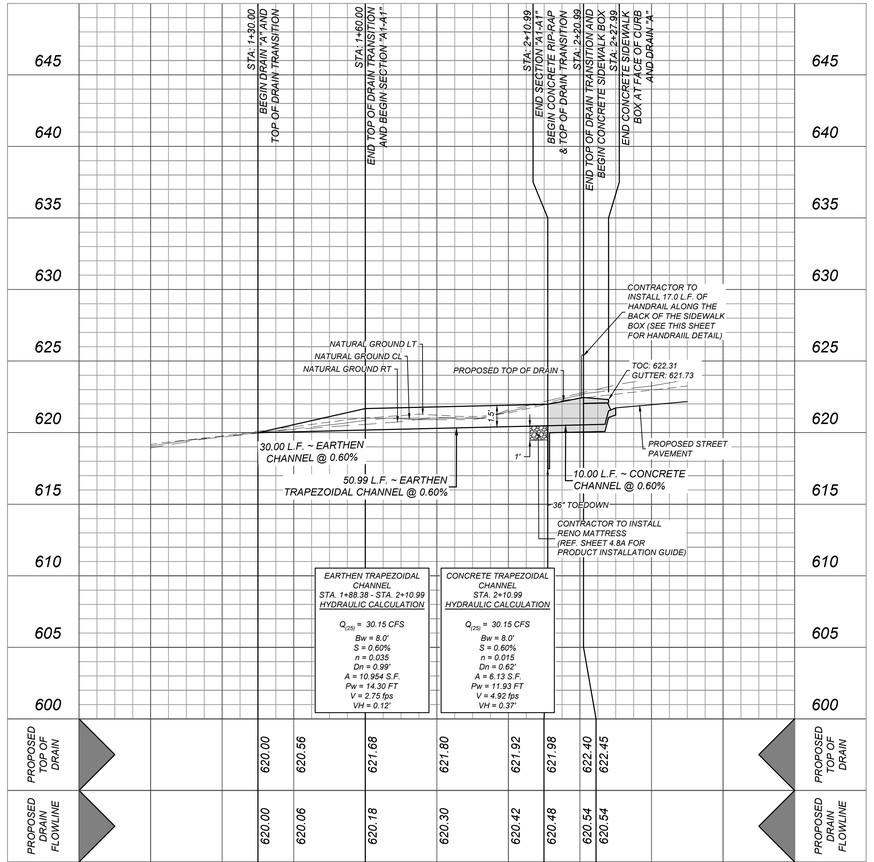
$$L = \frac{30.15}{(3.087)\ (0.79)^{\frac{3}{2}}}$$

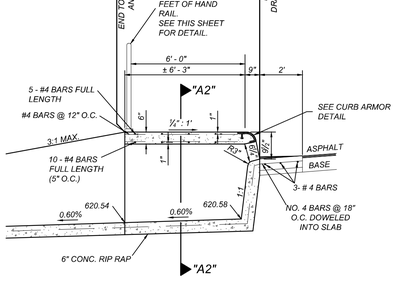
$L = 13.91$ L.F.

∴ USE 15.00 L.F. CURB OPENING

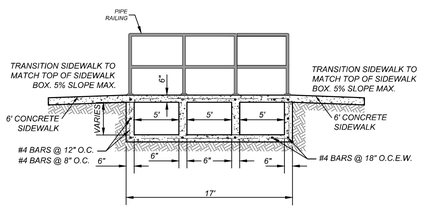
DRAIN "A"
STA: 1+30.00 - END

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'

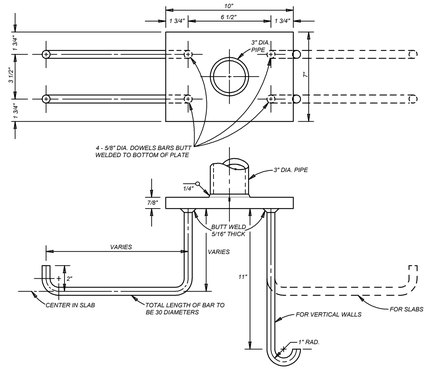




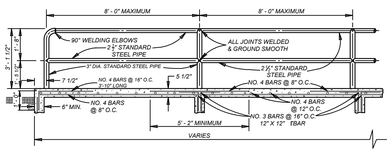
SIDEWALK BOX DETAIL
N.T.S.



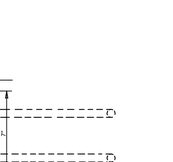
SECTION "A2-A2"
N.T.S.



PIPE ANCHORAGE DETAILS
N.T.S.

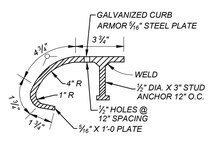


TYPICAL SIDEWALK BRIDGE &
SIDEWALK PIPE RAILING SECTION
N.T.S.



DETAIL OF 90°
WELDING ELBOWS
N.T.S.

* A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.



CURB ARMOR DETAIL
N.T.S.

KFW
ENGINEERS + SURVEYING
Texas Limited Liability Company & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

DRAIN "A" PLAN & PROFILE

PLAT NO.
22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
4.0

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Date: Feb 01, 2024, 1:38pm User ID: omespino
File: N:\391\10\14\design\civil\dgn\DRP\391 1014.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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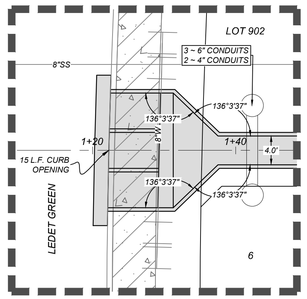
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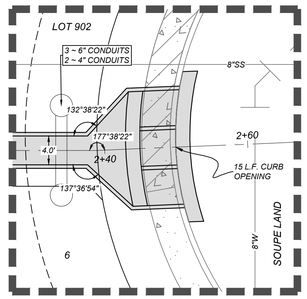
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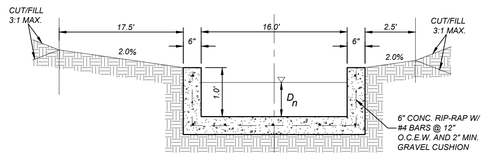
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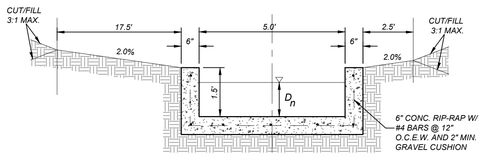
DETAIL "A"
SCALE: 1"=10'



DETAIL "B"
SCALE: 1"=10'



SECTION "B1-B1"
STA: 1+29.29 - STA: 1+31.29
N.T.S.



SECTION "B2-B2"
STA: 1+37.51 - STA: 2+37.60
N.T.S.

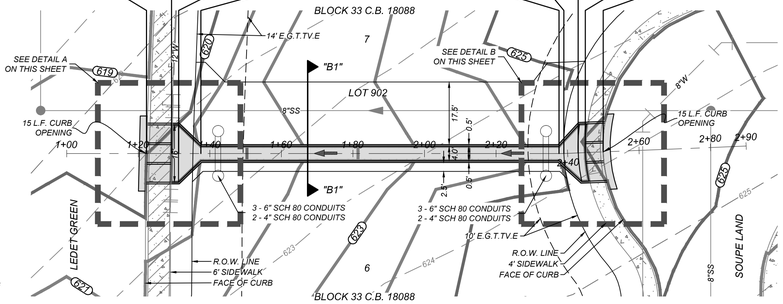
CURB OPENING HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

$L = \frac{20.23}{(3.087)\ (0.79)^{3/2}}$

$L = 9.33$ L.F.

∴ USE 15.00 L.F. CURB OPENING



CURB OPENING HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

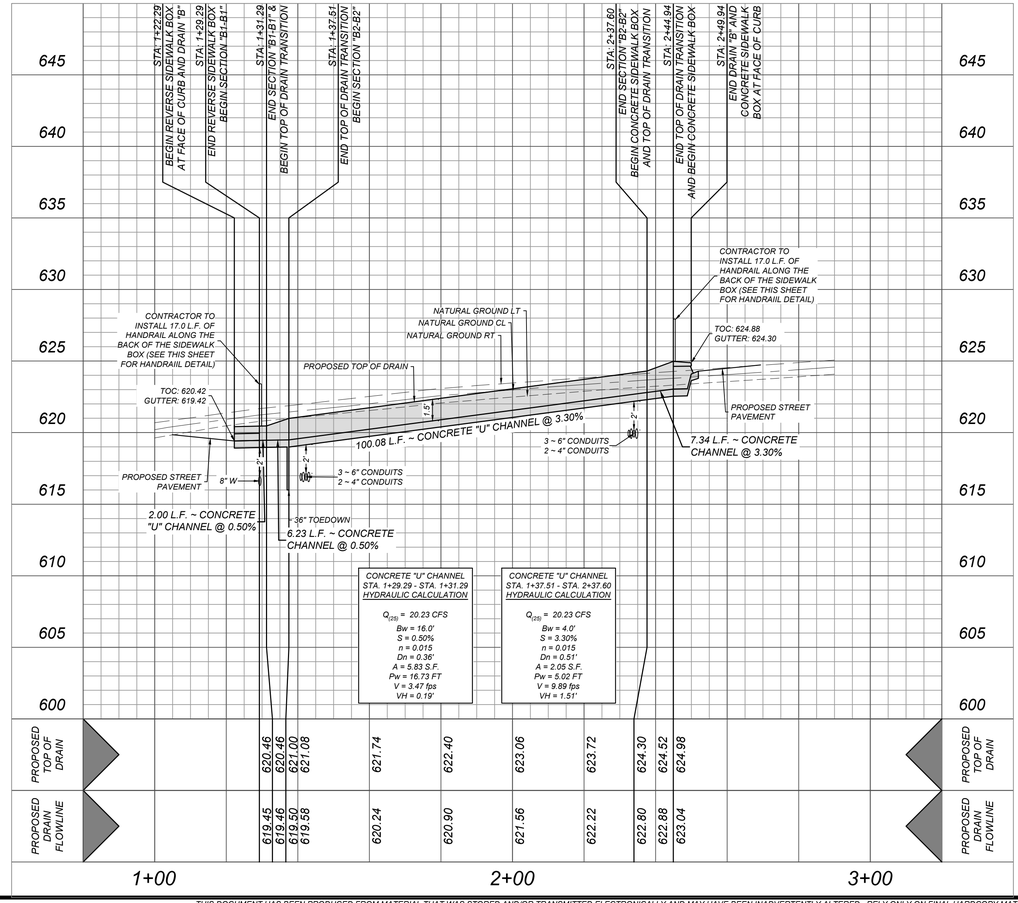
$L = \frac{20.23}{(3.087)\ (0.79)^{3/2}}$

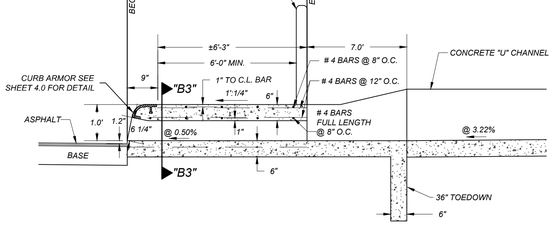
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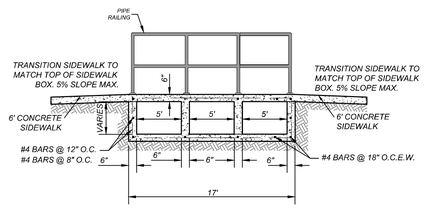
DRAIN "B"
STA: 1+22.29 - END

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'

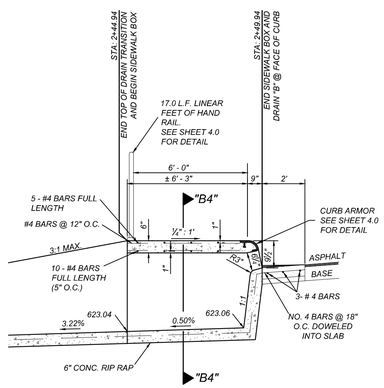




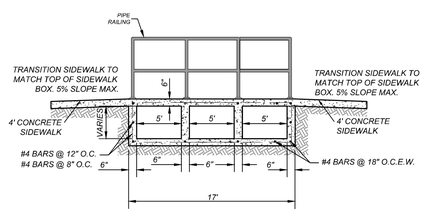
SIDEWALK BOX DETAIL
N.T.S.



SECTION "B3-B3"
N.T.S.



SIDEWALK BOX DETAIL
N.T.S.



SECTION "B4-B4"
N.T.S.

KFW
ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
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Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 2813 • TBPLS Firm # 10022500

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4
BEXAR COUNTY, TEXAS
DRAIN "B" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
4.1

Date: Feb 01, 2024, 1:39pm User ID: omespinosa
File: N:\391\10\14\Design\Civil\Land\DRP\391014.dwg

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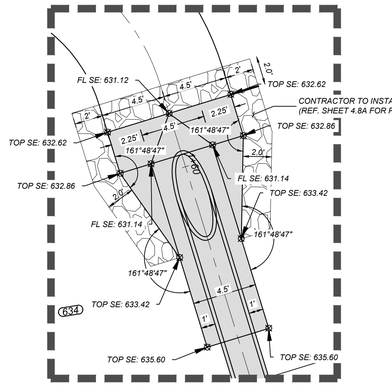
CAUTION!!:

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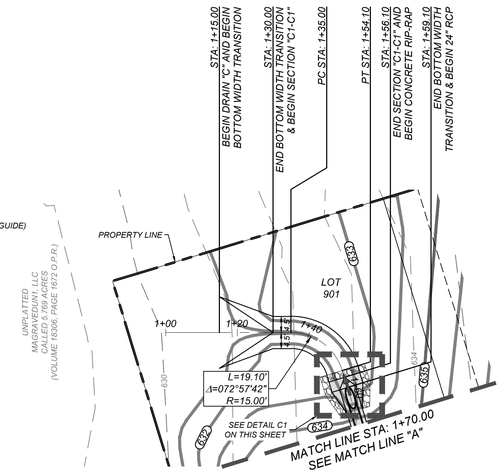
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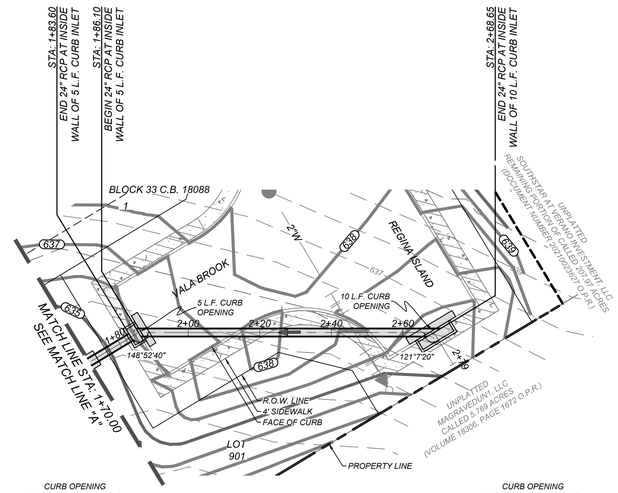
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DETAIL "C1"
SCALE: 1"=5'





CURB OPENING
HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

$L = \frac{8.07}{(3.087)\ (0.79)^{3/2}}$

$L = 3.32$ L.F.

∴ USE 5.00 L.F. CURB OPENING

CURB OPENING
HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

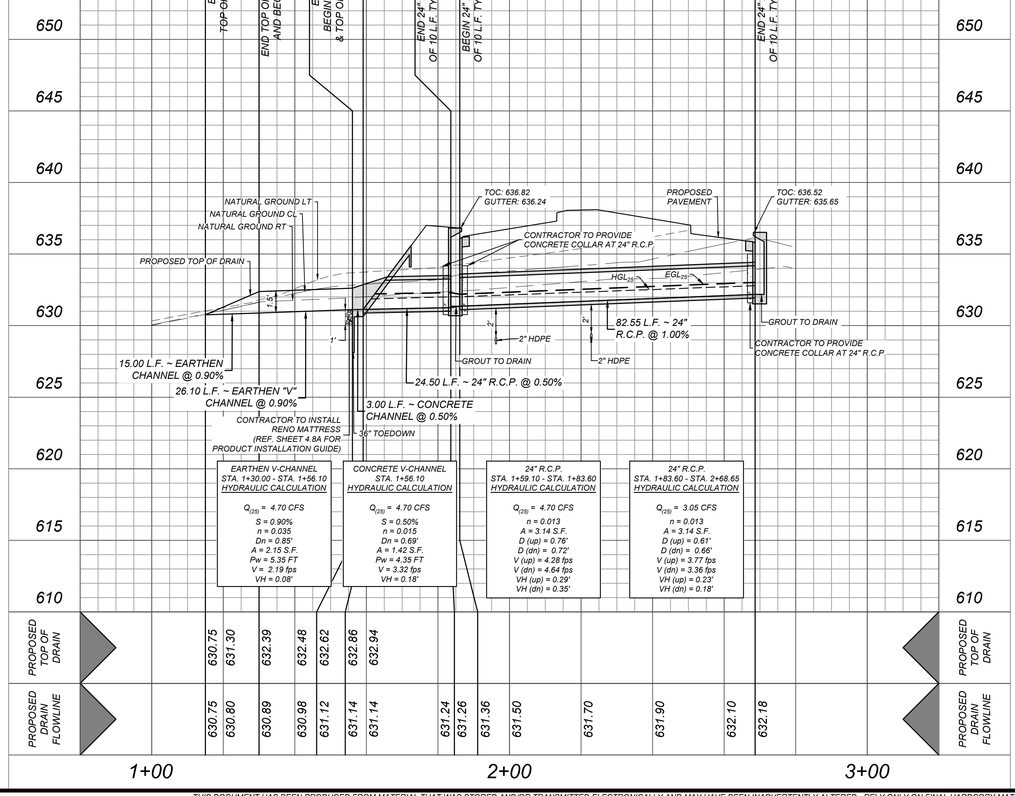
$L = \frac{8.07}{(3.087)\ (0.79)^{3/2}}$

$L = 3.32$ L.F.

∴ USE 10.00 L.F. CURB OPENING

DRAIN "C"
STA: 1+15.00 - END

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



SECTION "C1-C1"
STA. 1+30.00 - STA. 1+56.10
N.T.S.

SECTION "C2-C2"
STA. 1+56.10
N.T.S.

EARTHEN V-CHANNEL
STA. 1+30.00 - STA. 1+56.10
HYDRAULIC CALCULATION

$Q_{(25)} = 4.70$ CFS
S = 0.90%
n = 0.035
Dn = 0.85'
A = 2.15 S.F.
Pw = 5.35 FT
V = 2.19 fps
VH = 0.08'

CONCRETE V-CHANNEL
STA. 1+56.10
HYDRAULIC CALCULATION

$Q_{(25)} = 4.70$ CFS
S = 0.50%
n = 0.015
Dn = 0.69'
A = 1.42 S.F.
Pw = 4.35 FT
V = 3.32 fps
VH = 0.18'

24" R.C.P.
STA. 1+59.10 - STA. 1+83.60
HYDRAULIC CALCULATION

$Q_{(25)} = 4.70$ CFS
n = 0.013
A = 3.14 S.F.
D (up) = 0.76'
D (dn) = 0.72'
V (up) = 4.28 fps
V (dn) = 4.64 fps
VH (up) = 0.29'
VH (dn) = 0.35'

24" R.C.P.
STA. 1+83.60 - STA. 2+68.65
HYDRAULIC CALCULATION

$Q_{(25)} = 3.05$ CFS
n = 0.013
A = 3.14 S.F.
D (up) = 0.61'
D (dn) = 0.66'
V (up) = 3.77 fps
V (dn) = 3.36 fps
VH (up) = 0.23'
VH (dn) = 0.18'

KFW
ENGINEERS + SURVEYING
Texas Limited Liability Company Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4
BEXAR COUNTY, TEXAS
DRAIN "C" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:
4.2

Date: Feb 01, 2024, 2:12pm User ID: gerardo.lla
File: K:\391\01\0144\dwg\Pr...\Vida San Antonio Ph4 PRP391014.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

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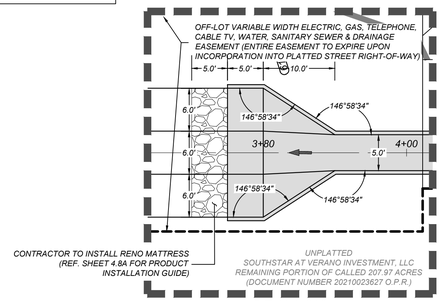
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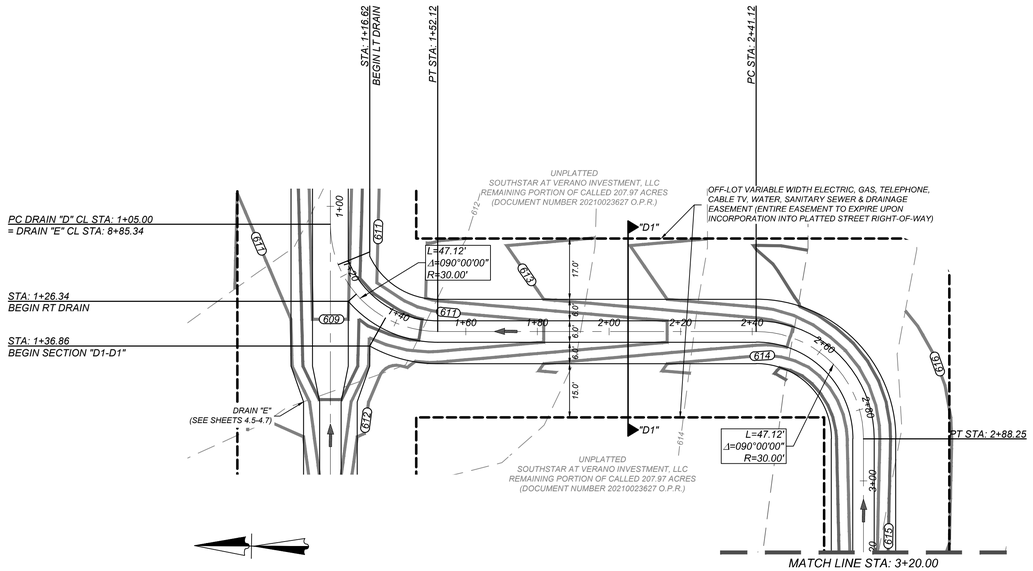
NOTE:

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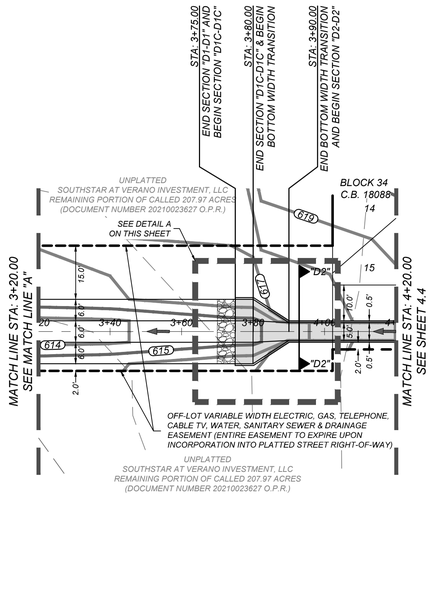
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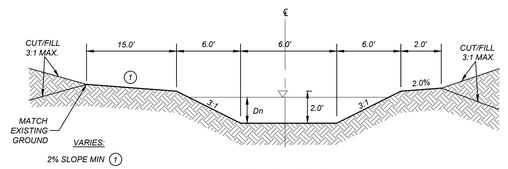
DETAIL "A"
SCALE: 1"=10'



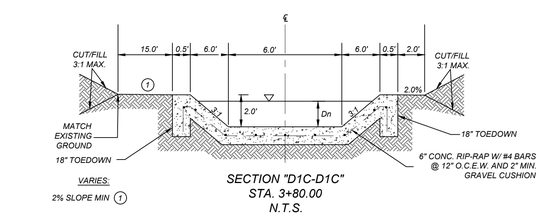
DRAIN "D"
STA: 1+05.00 - 4+20.00



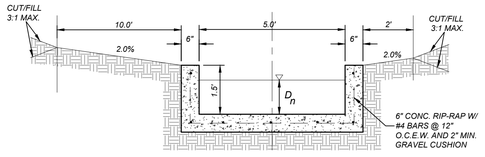
HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



SECTION "D1-D1"
STA. 1+36.86 - STA. 3+80.00
N.T.S.



SECTION "D1C-D1C"
STA. 3+80.00
N.T.S.



SECTION "D2-D2"
STA: 3+90.00 - STA: 6+51.94
N.T.S.

KFW ENGINEERS + SURVEYING
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Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

DRAIN "D" PLAN & PROFILE (1 OF 2)

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
4.3

Date: Feb 01, 2024, 2:08pm User ID: espinosa
File: N:\391\10\14\Design\Civil\Land\DRP\391014.dwg

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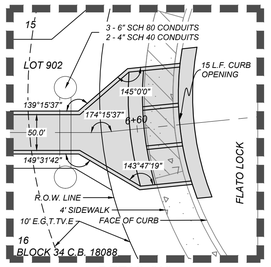
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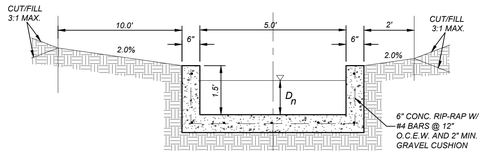
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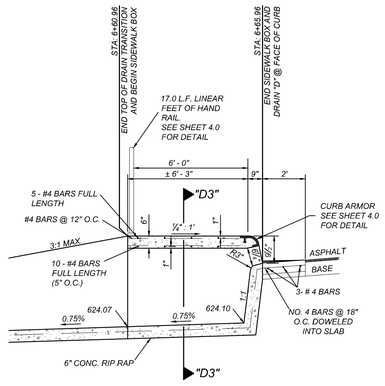
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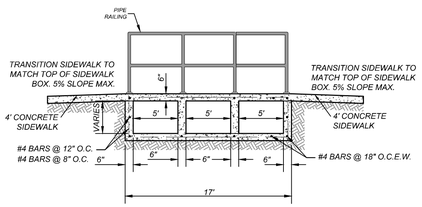
DETAIL "A"
SCALE: 1"=10'



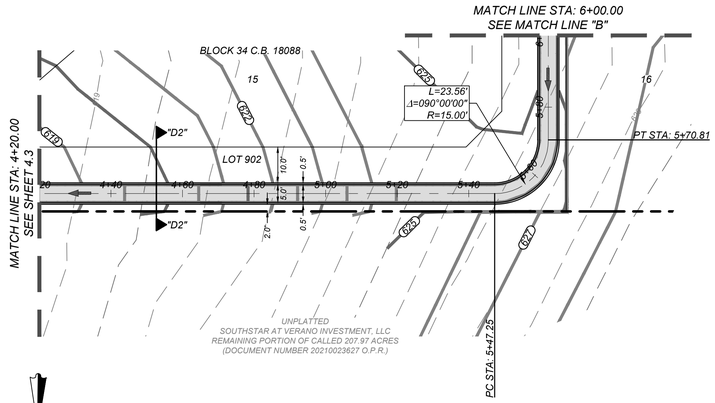
SECTION "D2-D2"
STA: 3+90.00 - STA: 6+51.94
N.T.S.

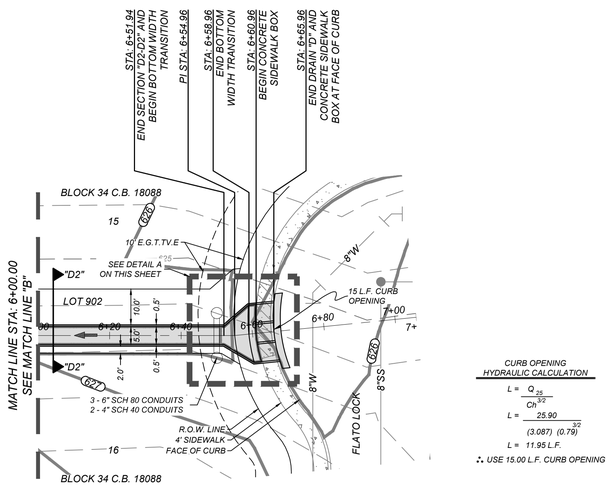


SIDEWALK BOX DETAIL
N.T.S.



SECTION "D3-D3"
N.T.S.





CURB OPENING
HYDRAULIC CALCULATION

$$L = \frac{Q_{25}}{Ch^{\frac{3}{2}}}$$

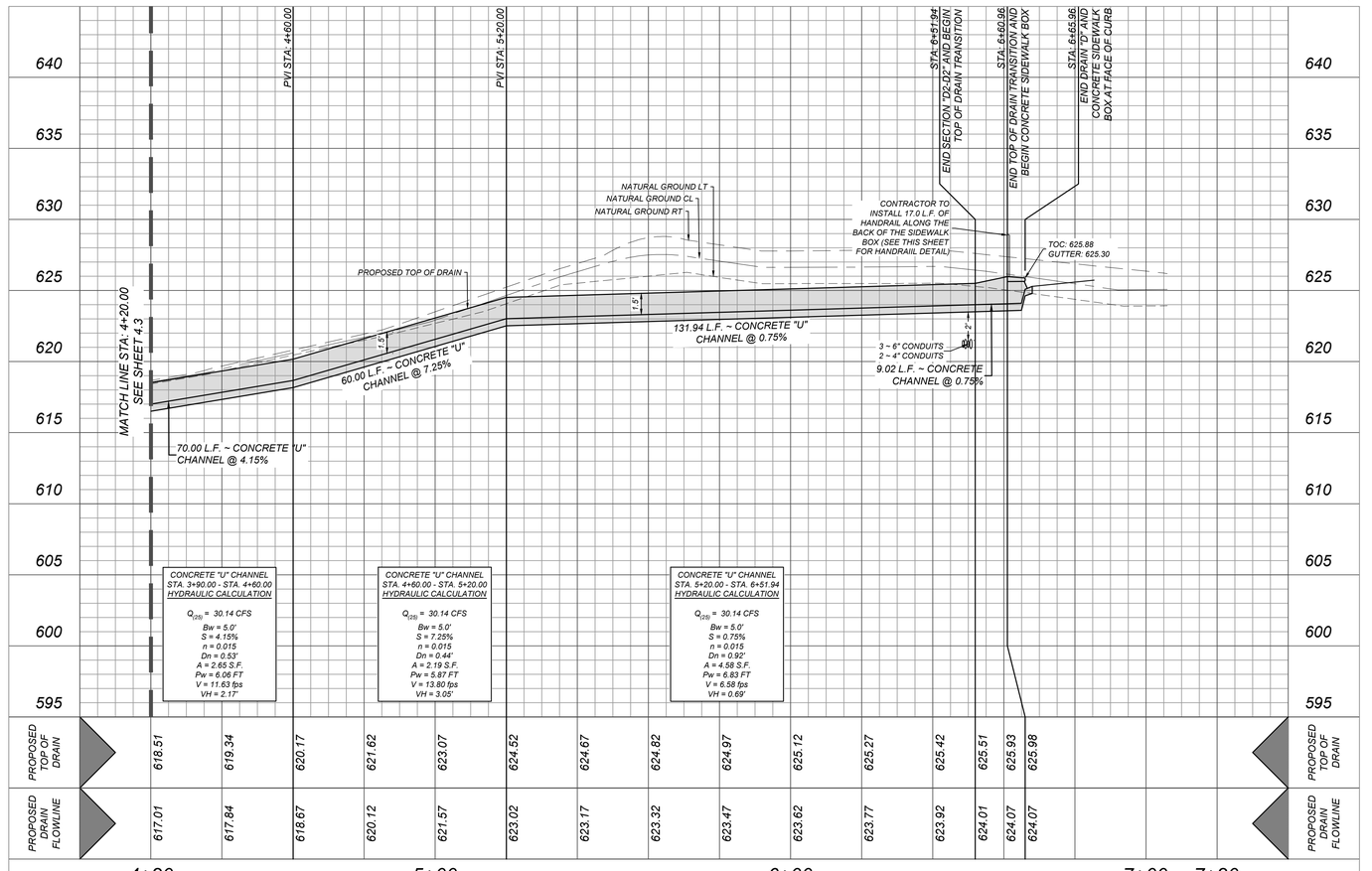
$$L = \frac{25.90}{(3.087)\ (0.79)^{\frac{3}{2}}}$$

$L = 11.95$ L.F.

∴ *USE 15.00 L.F. CURB OPENING*

DRAIN "D"
STA: 4+20.00 - END

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



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ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

DRAIN "D" PLAN & PROFILE (2 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER: 4.4

Date: Feb 01, 2024, 1:50pm User ID: aespinosa
File: N:\391\10\42\design\Civil\dwg\SSP\SS391014.dwg

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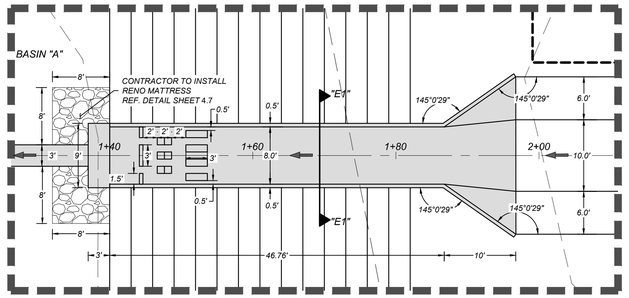
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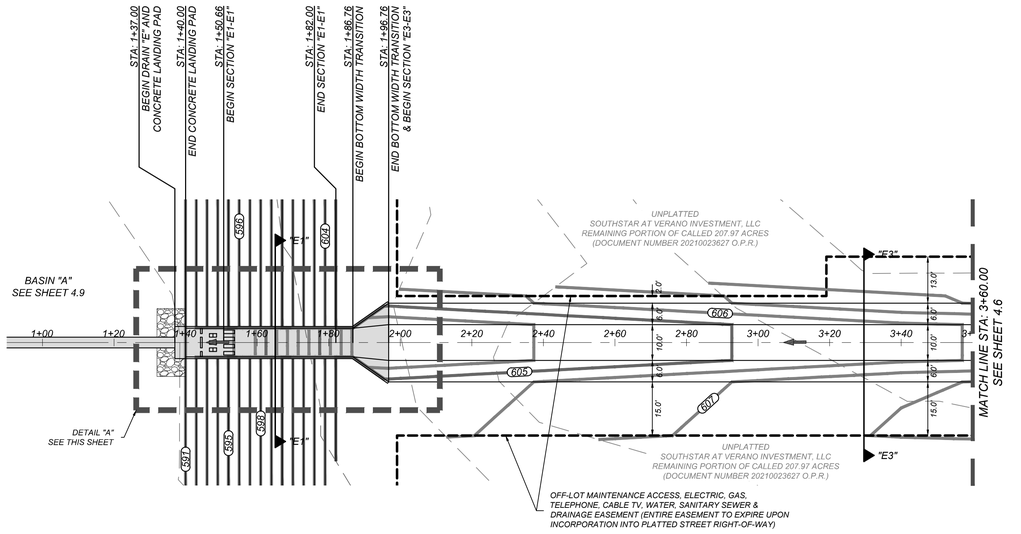
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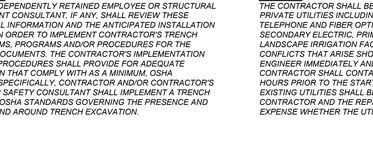


DETAIL "A"
SCALE: 1"=10'

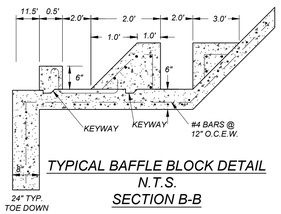


DRAIN "E"
STA: 1+37.00 - 3+60.00

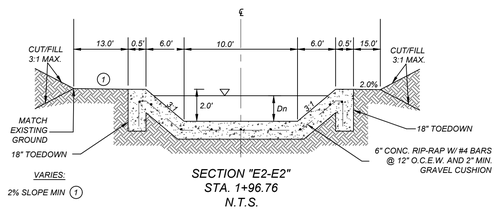
HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



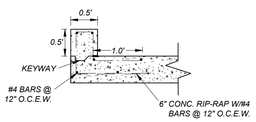
SECTION "E1-E1"
STA: 1+50.66 - STA: 1+82.00
N.T.S.



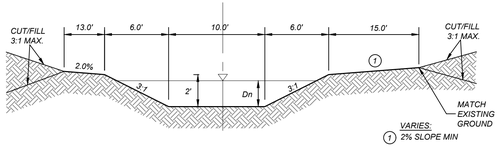
TYPICAL BAFFLE BLOCK DETAIL
N.T.S.
SECTION B-B



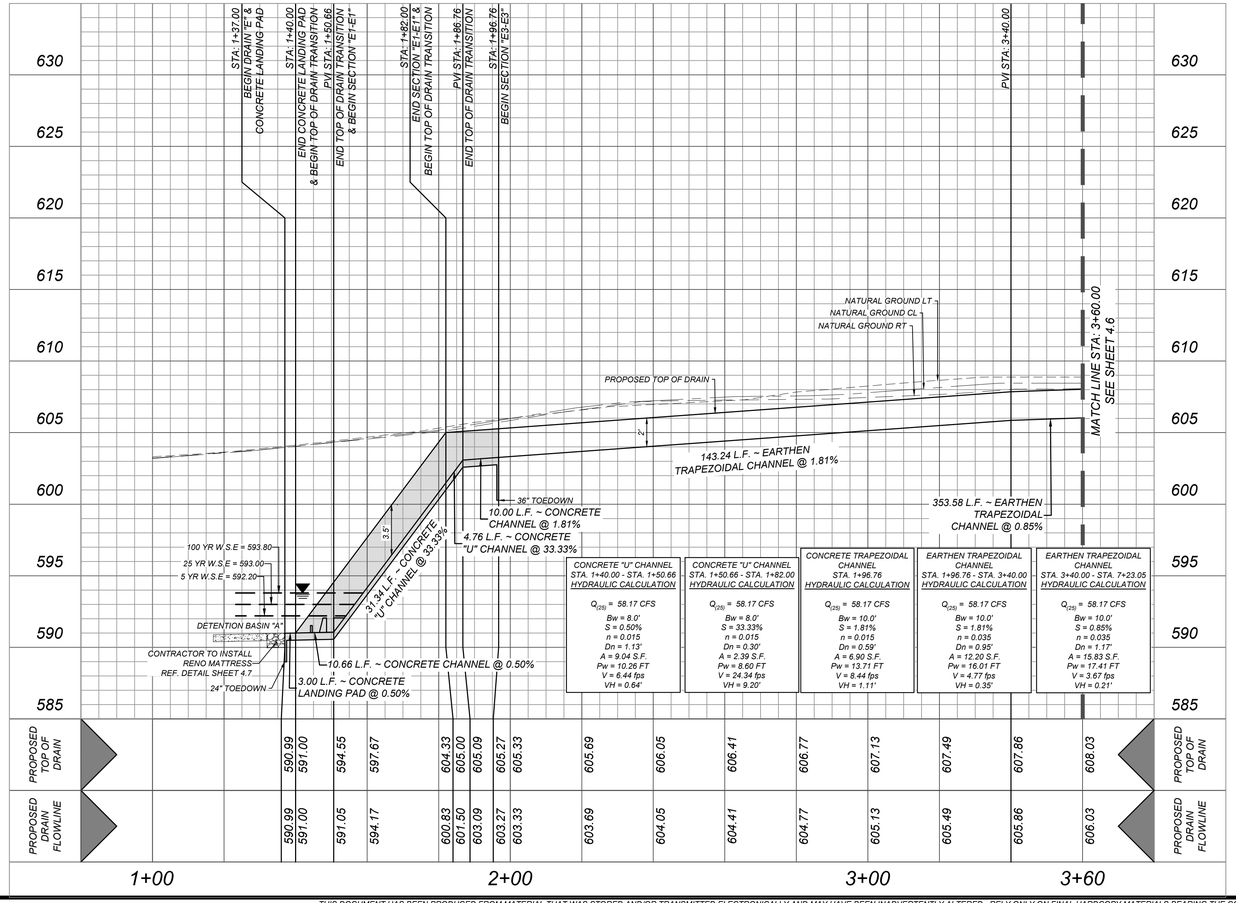
SECTION "E2-E2"
STA. 1+96.76
N.T.S.



TYPICAL END SILL DETAIL
N.T.S.



SECTION "E3-E3"
STA. 1+96.76 - STA. 7+23.05
N.T.S.



KFW ENGINEERS + SURVEYING
Ties formed Cottles Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 2813 • TBPLS Firm # 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

DRAIN "E" PLAN & PROFILE (1 OF 3)

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
4.5

Date: Feb 01, 2024, 2:19pm User ID: omespino
File: N:\391\10\14\Design\Civil\Plans\DRP\391014.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

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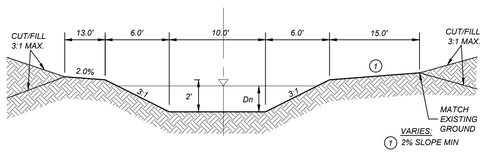
CAUTION!!:

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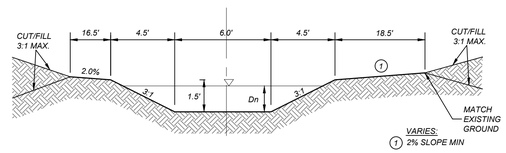
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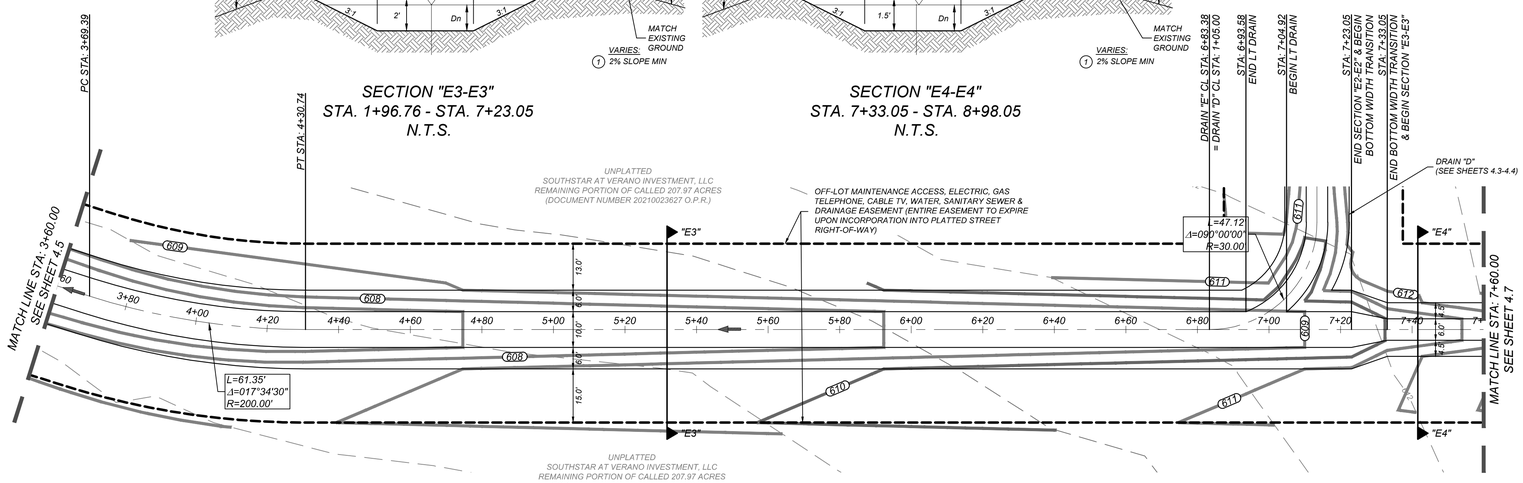
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SECTION "E3-E3"
STA. 1+96.76 - STA. 7+23.05
N.T.S.

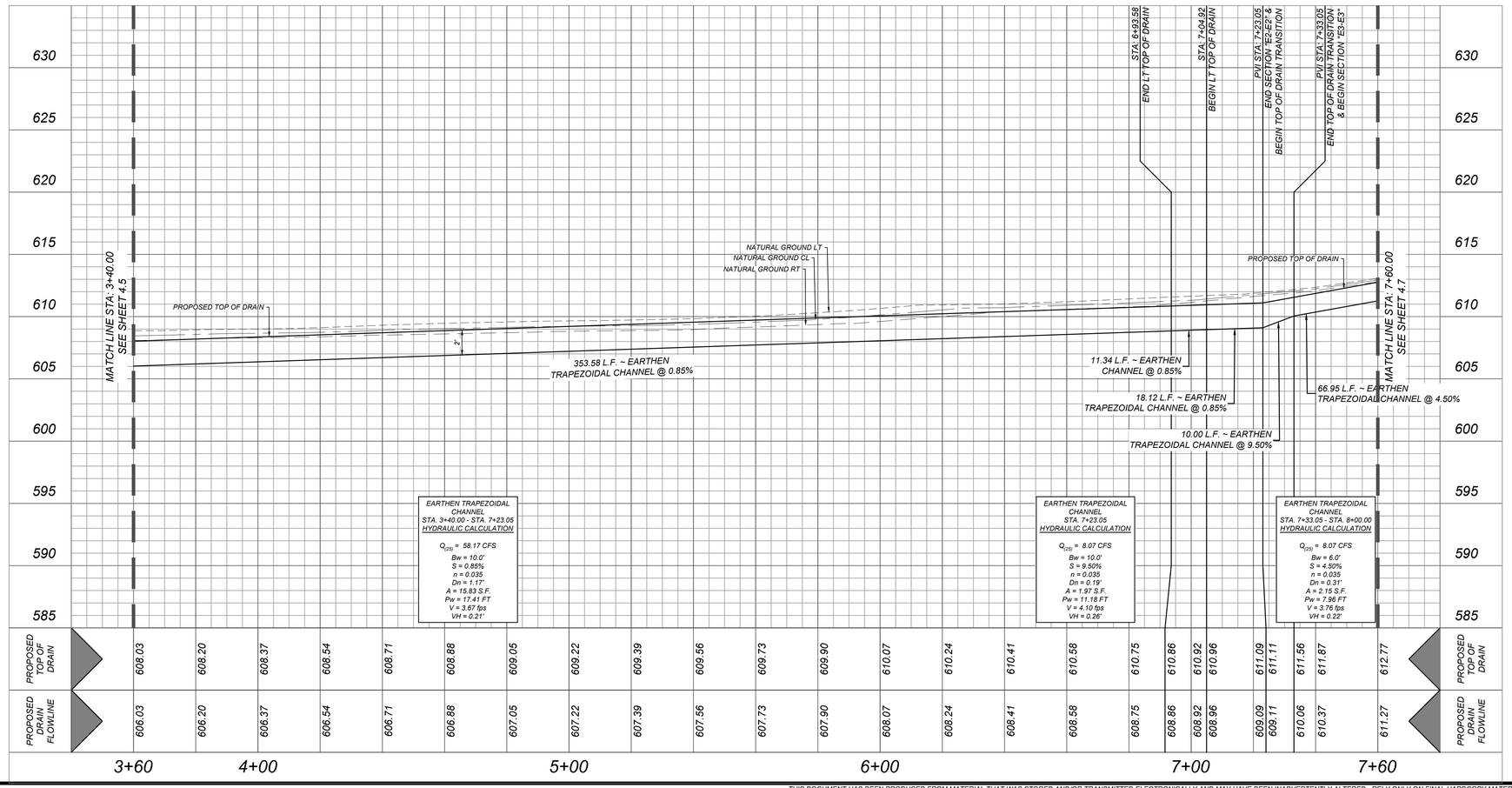


SECTION "E4-E4"
STA. 7+33.05 - STA. 8+98.05
N.T.S.



DRAIN "E"
STA: 3+60.00 - 7+60.00

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



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VIDA SAN ANTONIO PHASE 4
BEXAR COUNTY, TEXAS
DRAIN "E" PLAN & PROFILE (2 OF 3)

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:
4.6

Date: Feb 01, 2024, 2:30pm User ID: jarenzilla
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MACCAFERRI

PRODUCT INSTALLATION GUIDE

Rev: 01, Issue Date 04.01.2005

RENO MATTRESS

Material Delivery
Reno mattresses are manufactured with all components mechanically connected at the production facility with the exception of the lid, which is produced separately from the base. All Reno mattresses are supplied in a collapsed form, either folded and bundled or rolled, for shipping. The bundles are banded together at the factory for shipping and handling. Reno mattress bases and lids may be packed in separate bundles. Lacing wire is shipped in coils. Ring fasteners are shipped in boxes. All Reno mattresses are labeled to show their dimensions and the number of pieces per bundle.

Assembly
The folded units shall be taken out from the bundle and placed on a hard flat surface. Reno mattresses shall be opened, unfolded, and pressed out to their original shape. Front, back and end panels shall be lifted to a vertical position to form an open box shape. End flaps shall be folded and/or overlapped, as appropriate. All edges of the diaphragms and end panels shall be tied or fastened to the front and back of the mattress.
The mattresses should be assembled individually, by erecting the sides, ends and diaphragms, ensuring that all creases are in the correct position and the tops of all sides are level.

Fastening Procedure
Connect the edges of the mattress by using either lacing wire or ring fasteners. When steel ring fasteners are used, the use of either a mechanical or a pneumatic fastening tool is required. Spacing of the rings shall be in accordance with ASTM A975-97 Table 2, Panel to Panel connection, Pull-Apart Resistance. In any case, ring fasteners spacing shall not exceed 6 in (150 mm). Rings shall be installed at the top and the bottom connections of the end and center diaphragms and along all edges. Care should be taken to ensure the steel ring fastener is completely closed after installation (Fig. 3). When this is not possible, fixing rings must be complemented or replaced with lacing wire.
The procedure for using lacing wire consists of cutting a sufficient length of wire, and first looping and/or twisting the lacing wire to the wire mesh. Proceed to lace with alternating double and single loops through every mesh opening approximately every 6 in (150 mm) pulling each loop tight and finally securing the end of the lacing wire to the wire mesh by looping and/or twisting. The use of pliers to aid assembly and wiring of the units using the binding wire supplied with the mattresses is normally recommended.

Foundation Preparation
The foundation on which the Reno mattresses are to be placed shall be level, and graded to the elevations as shown on the project construction drawings. The foundation for Reno mattresses shall be free of surface irregularities, loose material, and vegetation in accordance with the project specifications. Appropriate measures shall be taken for filtering and drainage of the foundation, as per the project specifications (filter cloth, drain works, etc.). Geotextiles required to be installed behind or underneath Reno mattress structures shall comply with the requirements for subsurface drainage applications.

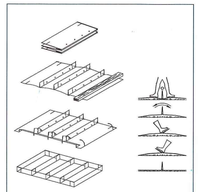


Figure 1

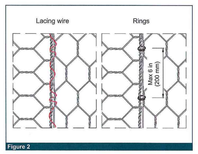


Figure 2

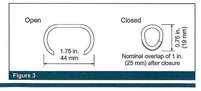


Figure 3

MACCAFERRI

Maccaferri reserves the right to amend product specifications without notice and specifiers are requested to check as to the validity of the specifications they are using.

Installation and Filling
After assembly, the mattresses are placed in their proper location and securely attached to adjacent units. For structural integrity, all adjoining empty units should be connected by means of lacing wire or ring fasteners along all the edges of their contact surfaces, in order to form a monolithic structure. On slopes, the mattress should be laid with the width perpendicular to the slope, except for very small ditches. Mattresses should be placed and securely attached while empty. Where mattresses are to be placed on steep slopes, the unit should be secured by hardwood or steel pegs driven into the ground just below the upper end panel, at 6 ft (2 m) centers or as specified in the project requirements.
Mattresses can conform to bends up to a radius of 60-70 ft. (18 - 21 m) without alteration, and placed to the required curvature for filling. Mattresses may be cut to form curves or bevels.
Rocks for mattresses may be produced by any suitable quarrying method, and by the use of any device that yields the required sizes within the gradation limits chosen.
Rocks shall be hard, angular to round, durable and of such quality that they shall not disintegrate on exposure to water or weathering during the life of the structure.
Reno mattress rocks shall range between 3-6 in (75-150 mm). The range in sizes may allow for a variation of 5% oversize and/ or 5% undersize rock, provided it is not placed on the mattress exposed surface. In all cases, any oversize rock for mattresses shall allow for a placement of a minimum two layers of mixed rock sizes, dependent upon the height/thickness of the mattress. When using PVC coated Reno mattresses, care should be taken when placing the stone to ensure that the PVC coating on the mattress will not be damaged. Some hand placing is necessary to ensure the void ratio is kept to a minimum. If installing on a slope, start at the bottom of the slope. Filling should be done unit by unit, but several units should be ready for filling at any one time. Ensure that the diaphragm tops are accessible for lacing to the mattress lids when required.

Closing
To allow for settlement, level off the fill 1 in (25 mm) above the top of the mesh. In aprons downstream of weirs and similar places where water will fall directly onto the Reno mattresses, install bracing wires vertically between the top and bottom mesh. Make sure the top edges of the diaphragms are exposed. Lay the lid down, pull the edges of the panels to be connected together where necessary using an appropriate tool as a lid closer. The lids shall be tightly laced along all edges, ends and diaphragms in the same manner as described for assembling. Adjacent lids may be securely attached simultaneously. Securely attach the lids to the ends of the mattresses and then securely attach them to the sides, and diaphragms, using alternate double and single loops, or steel wire ring fasteners. Adjacent lids can securely be attached in one operation. In cases where a number of adjacent bases are to be covered at one time, rolls of mesh can be used in place of individual unit size lids.

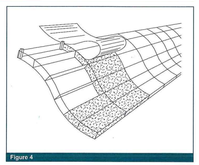


Figure 4

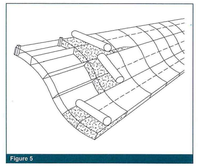


Figure 5

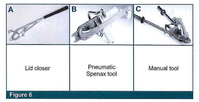


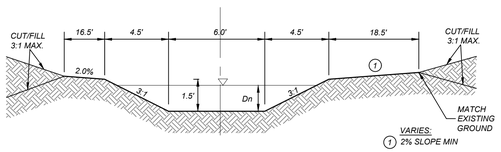
Figure 6

10303 Governor Lane Boulevard
Williamsport, MD 21795-3116
Tel: 301-223-6910
Fax: 301-223-6134

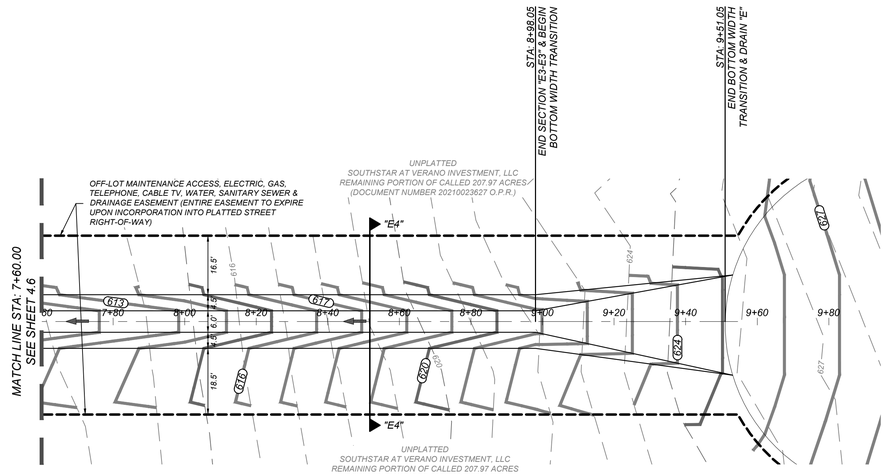
MACCAFERRI INC.
email: hdqtrs@maccaferri-usa.com
website: www.maccaferri.com

3650 Sesport Boulevard
West Sacramento, CA 95691-3400
Tel: 916-371-5805
Fax: 916-371-0764

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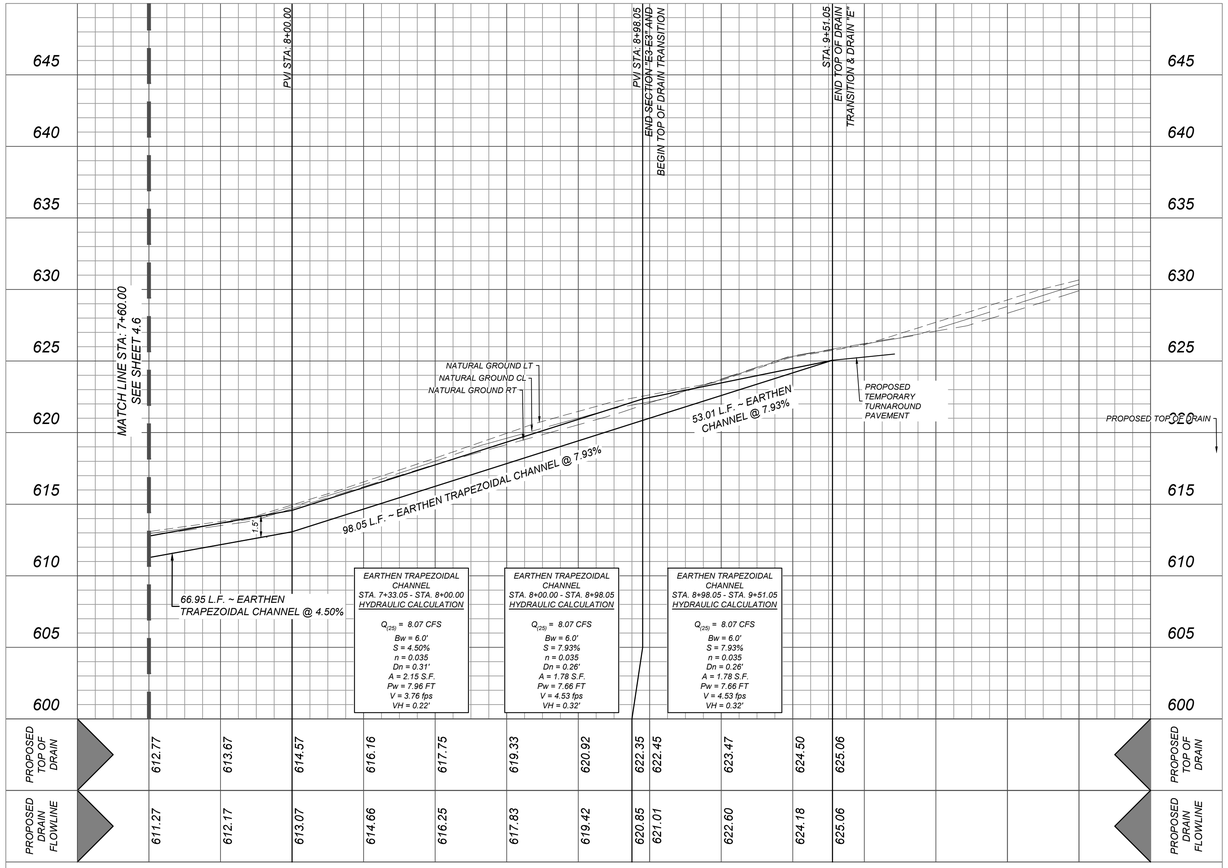


SECTION "E4-E4"
STA. 7+33.05 - STA. 8+98.05
N.T.S.



HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'

DRAIN "E"
STA: 7+60.00 - END



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VIDA SAN ANTONIO PHASE 4
BEXAR COUNTY, TEXAS
DRAIN "E" PLAN & PROFILE (3 OF 3)

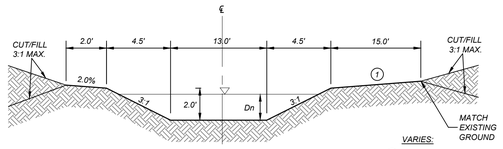
PLAT NO. 22-11800788

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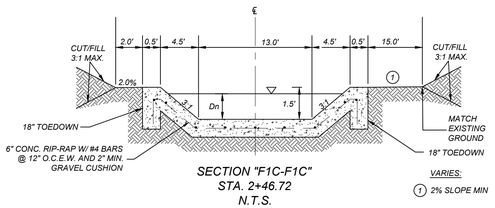
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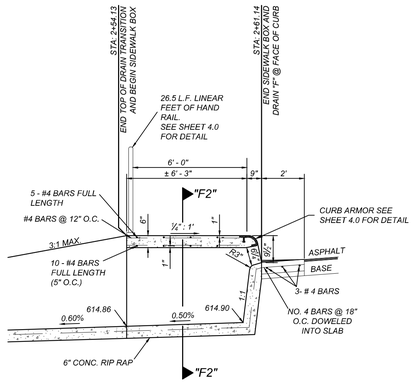
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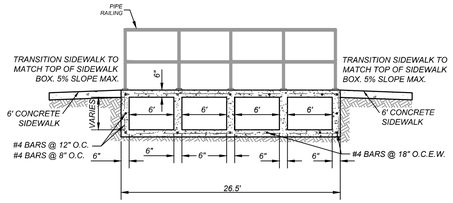
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STA. 2+20.00 - STA. 2+46.72
N.T.S.



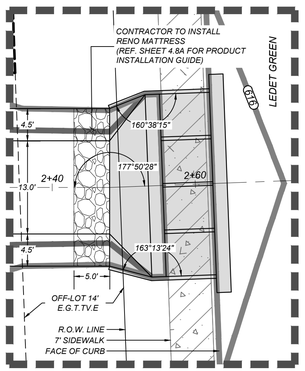
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STA. 2+46.72
N.T.S.



SIDEWALK BOX DETAIL
N.T.S.



SECTION "F2-F2"
N.T.S.



DETAIL "A"
SCALE: 1"=10'

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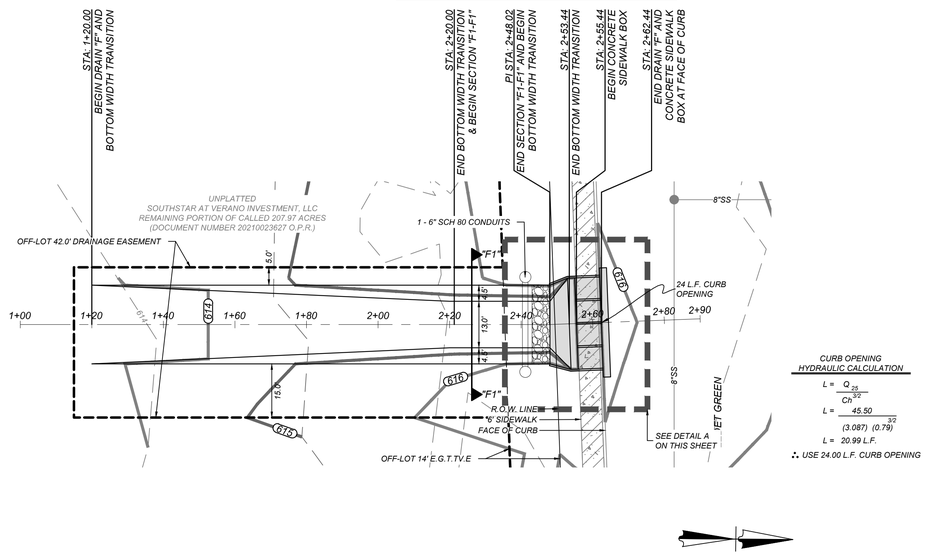
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CURB OPENING HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

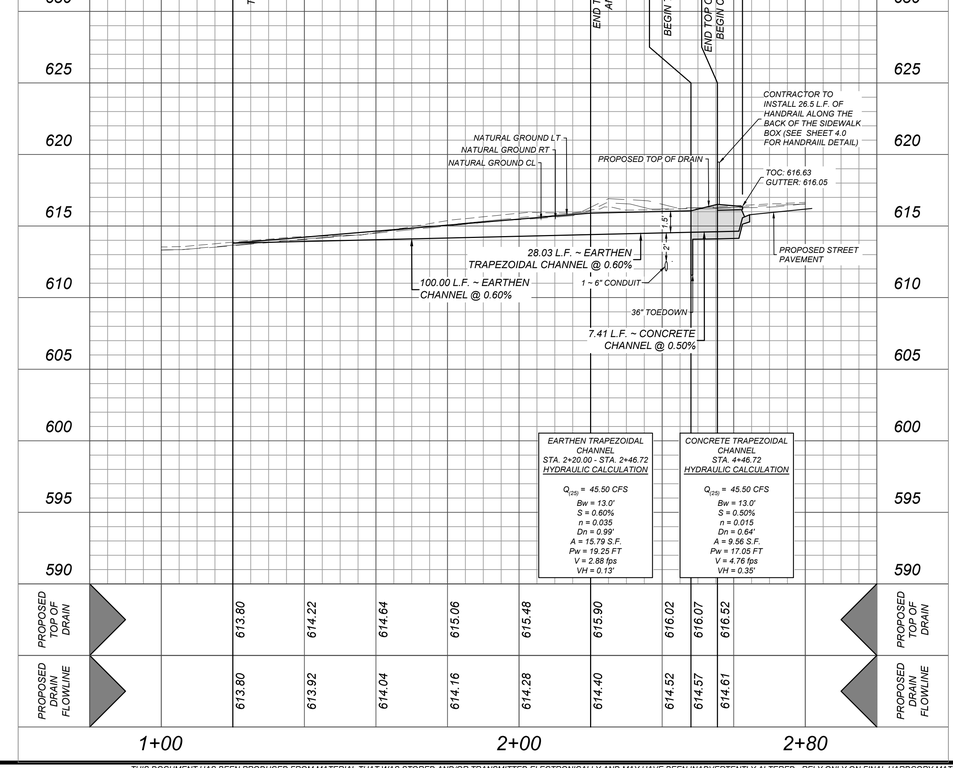
$L = \frac{45.50}{(3.087)\ (0.79)^{3/2}}$

$L = 20.99$ L.F.

∴ USE 24.00 L.F. CURB OPENING

DRAIN "F"
STA: 1+20.00 - END

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



EARTHEN TRAPEZOIDAL CHANNEL
STA. 2+20.00 - STA. 2+46.72
HYDRAULIC CALCULATION

$Q_{(25)} = 45.50$ CFS
Bw = 13.0'
S = 0.60%
n = 0.035
Dn = 0.99'
A = 15.79 S.F.
Pw = 19.25 FT
V = 2.88 fps
VH = 0.13'

CONCRETE TRAPEZOIDAL CHANNEL
STA. 4+46.72
HYDRAULIC CALCULATION

$Q_{(25)} = 45.50$ CFS
Bw = 13.0'
S = 0.50%
n = 0.015
Dn = 0.64'
A = 9.56 S.F.
Pw = 17.05 FT
V = 4.76 fps
VH = 0.35'

KFW ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 2813 • TBPLS Firm # 10022800

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

DRAIN "F" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:
4.8

Date: Feb 01, 2024, 2:11pm User ID: jamorelle
File: K:\391\10\14\Design\Civil\Basic\DRP\391014.dwg

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NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

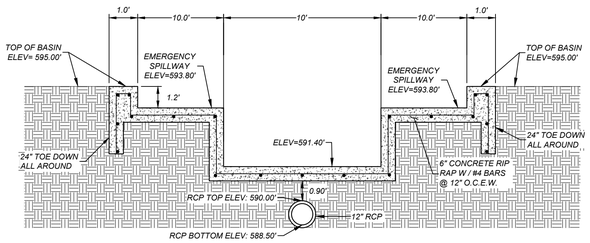
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

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

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SECTION "C-C"
EMERGENCY OVERFLOW WEIR
NOT-TO-SCALE

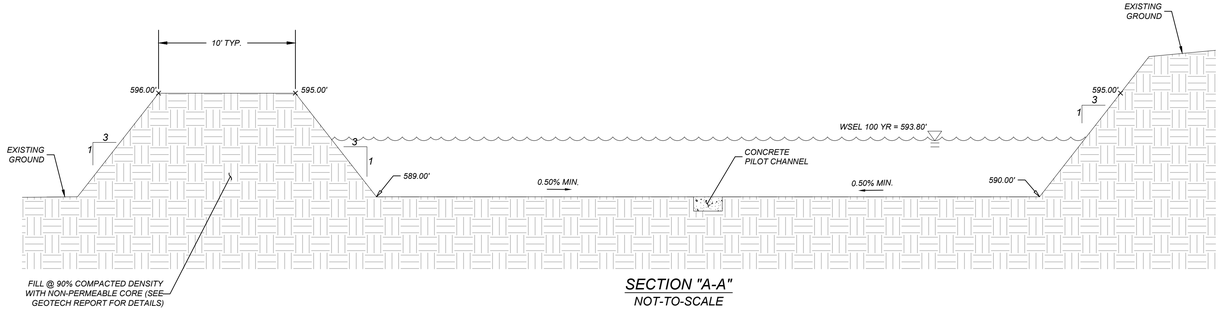
EMERGENCY SPILLWAY CALCULATION

$L = \frac{Q_{100}}{CH^{3/2}}$

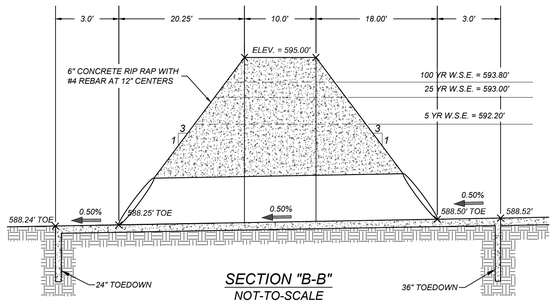
$L = \frac{106.4 \text{ cfs}}{(3.087)(1.2)^{3/2}}$

$L_{REQ} = 26.22$ FEET

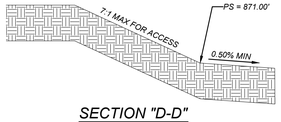
$L_{USED} = 30$ FEET



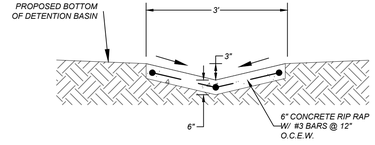
SECTION "A-A"
NOT-TO-SCALE



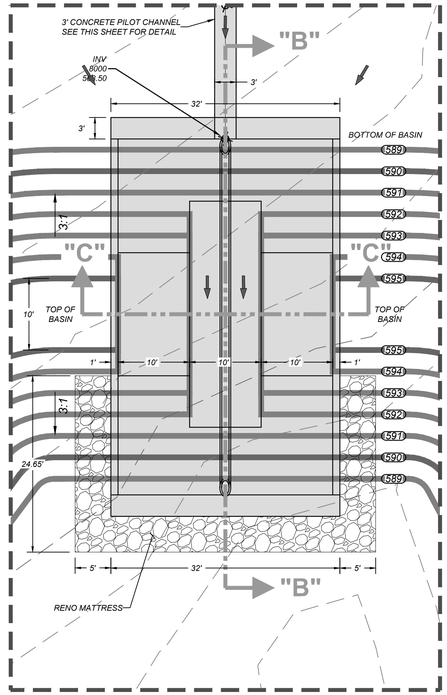
SECTION "B-B"
NOT-TO-SCALE



SECTION "D-D"
NOT-TO-SCALE



TYPICAL PILOT CHANNEL
NOT-TO-SCALE



DETAIL "A"
SCALE: 1" = 10'

CONCRETE CHANNEL OUTFALL

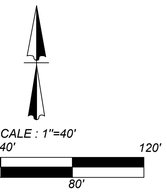
HYDRAULIC CALCULATION
Q(25) = 62.80 CFS
Bw = 30.00'
n = 0.015
Pw = 31.00 FT.
A = 15.00 S.F.
S = 0.50%
Dn = 0.50'
V = 4.19 fps
VH = 0.27'

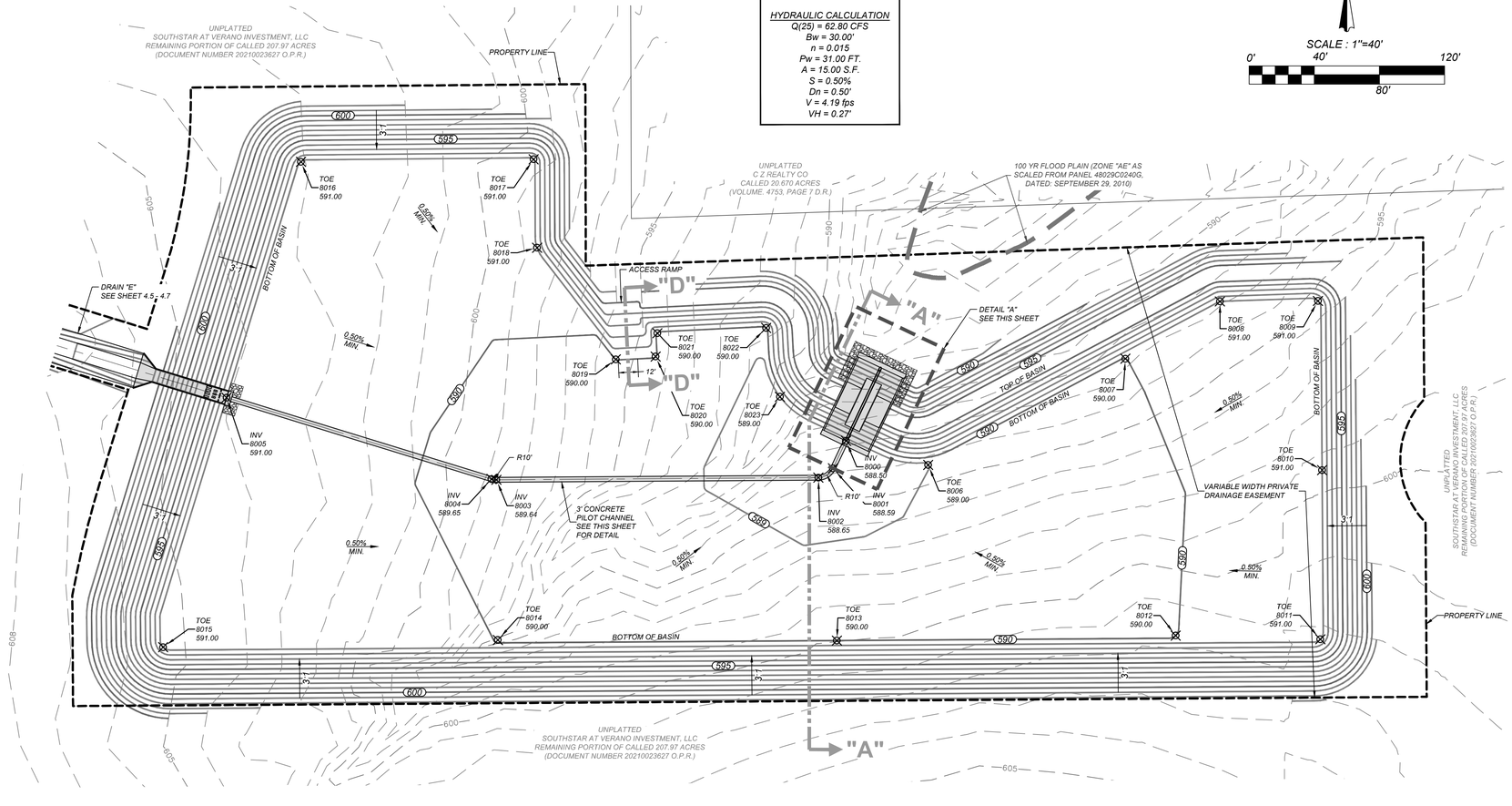
LEGEND

- FLOW ARROW
- 706 — EXISTING CONTOURS
- 707 — PROPOSED CONTOURS
- PROPERTY LINE
- POINT # 707.00 TOE — PROPOSED SPOT ELEVATION (TOE OF SLOPE)
- POINT # 707.00 INV — PROPOSED SPOT ELEVATION (INVERT OF CHANNEL)

PROPOSED DISCHARGE						
Q1	=	6.80		WSEL5	=	591.40
Q5	=	25.5		WSEL5	=	592.20
Q25	=	62.8		WSEL25	=	593.00
Q100	=	106.4		WSEL100	=	593.80

STAGE(FT)	STORAGE (FT^3)	ELEVATION
0	0	588.50
0.50	2,030	589
1.50	41,487	590
2.50	147,745	591
3.50	292,549	592
4.50	443,536	593
5.50	600,737	594
6.50	764,194	595





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Texas Limited Partnership
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TBPE Firm #: 4513 • TBPLS Firm #: 10124500

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

BASIN "A" PLAN

PLAT NO. 22-11800788

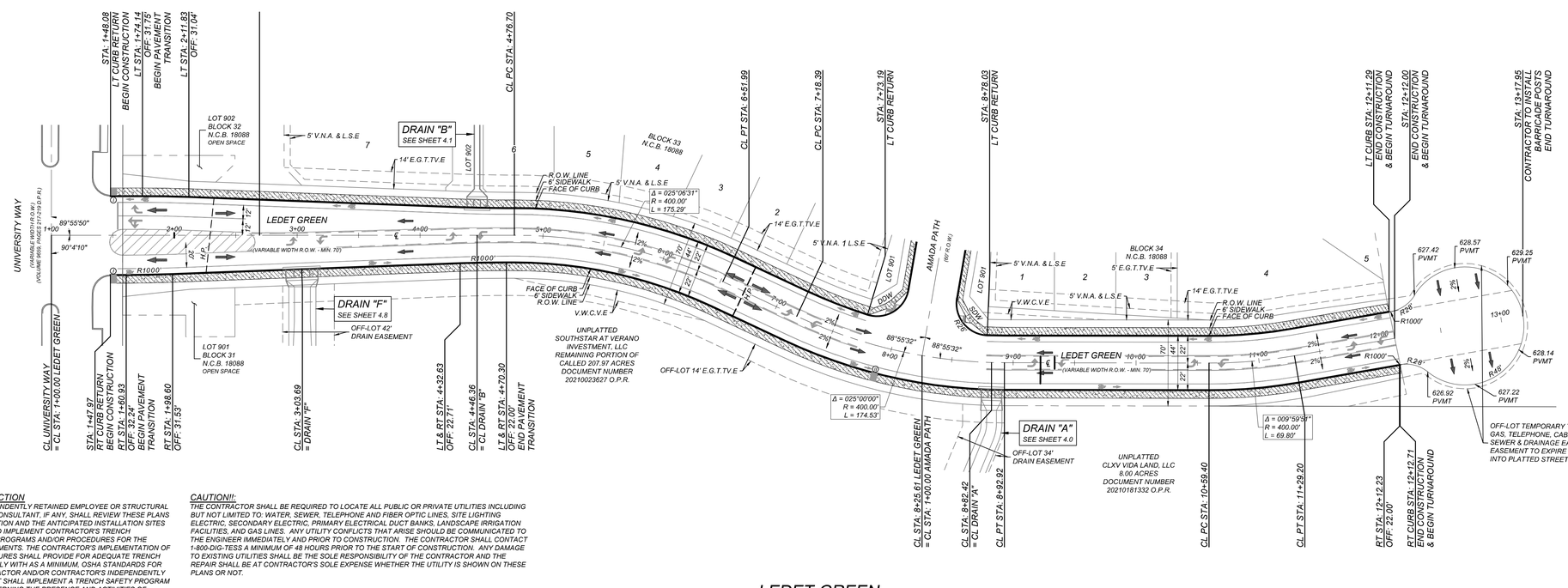
JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:

4.9

Date: Feb 01 2024, 2:23pm User ID: dbuerp
File: K:\391\10\14-Design\Civil\Drainage\Exh\391014.dwg

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LEGEND

R.O.W.	=	RIGHT OF WAY
E.G.T.TV.E.	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
DDW	=	DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
(I)	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.8
(II)	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.8
	=	SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT

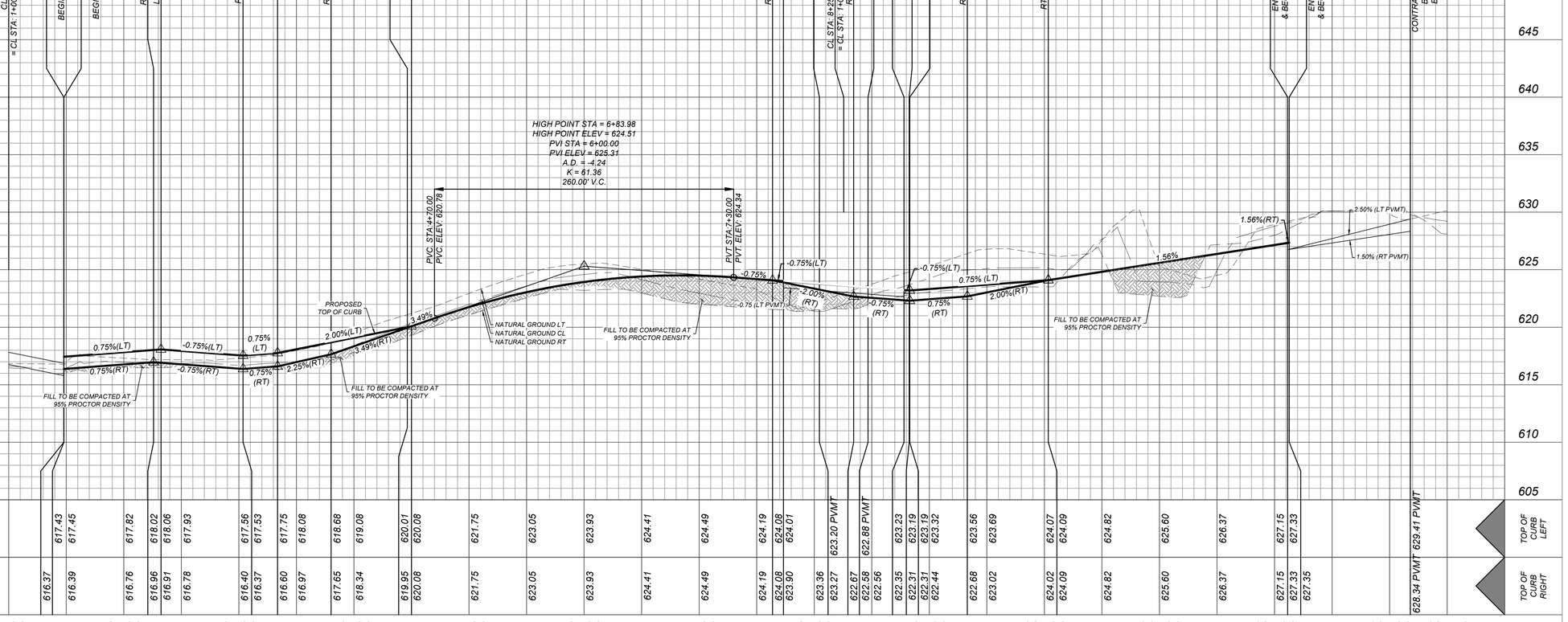
TRENCH EXCAVATION SAFETY PROTECTION

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LEDET GREEN
STA: 1+00.00 - END



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has joined Colliers Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 4553 • TBPLS Firm #: 10122500

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LEDET GREEN PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER: 5.0

Date: Feb 02, 2024, 2:31pm User ID: oespinosa
File: N:\391\10\14\Design\Civil\SHEETS\STP391014_AB.dwg

TRENCH EXCAVATION SAFETY PROTECTION

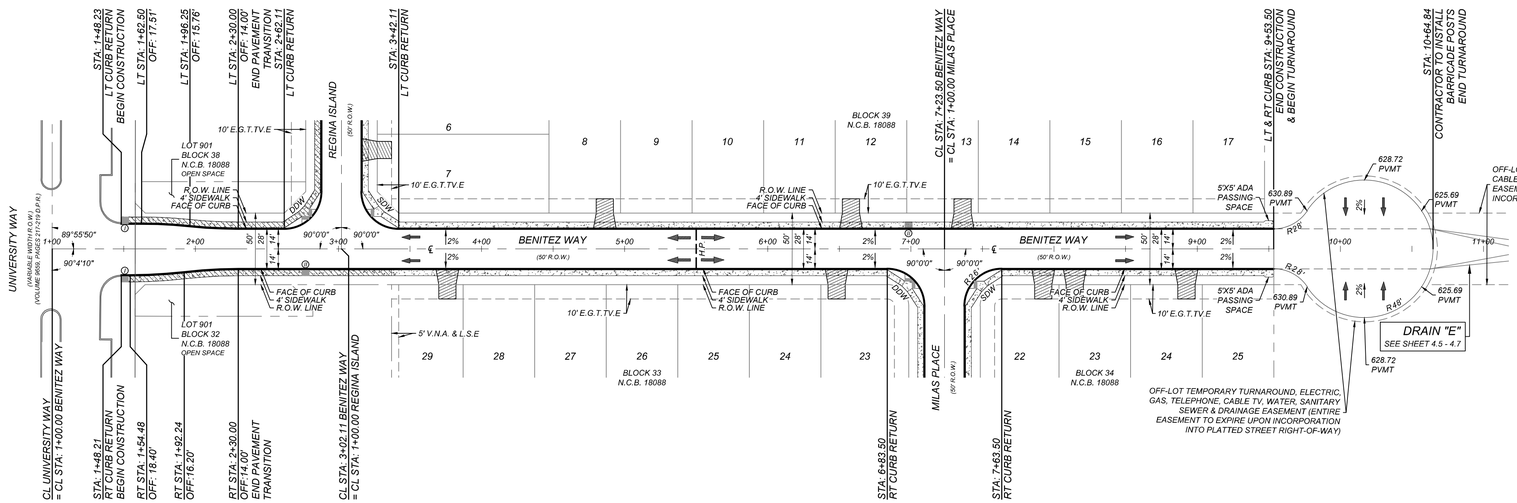
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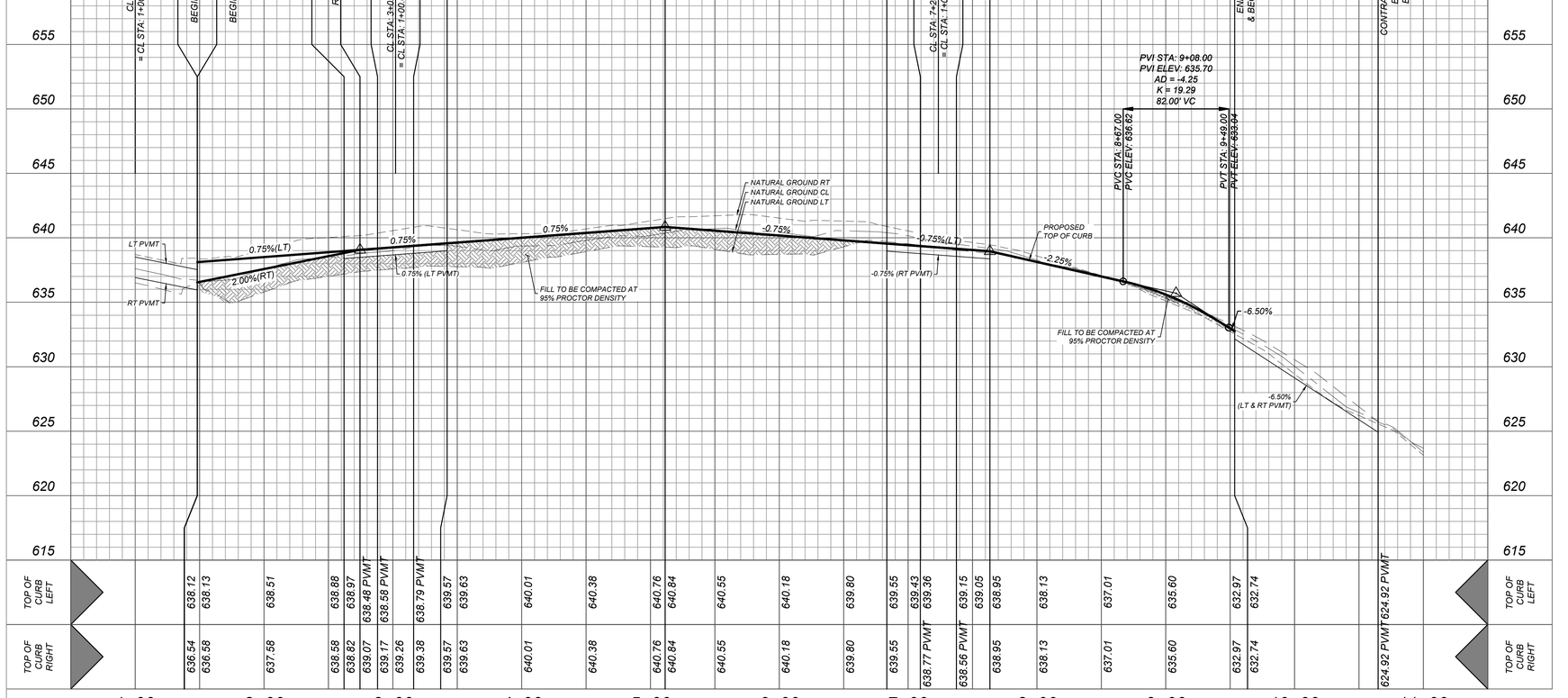
LEGEND

R.O.W.	=	RIGHT OF WAY
E.G.T.TV.E.	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
DDW	=	DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
Ⓘ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.8
Ⓘ Ⓘ	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.8
	=	SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT



BENITEZ WAY
STA: 1+00.00 - END

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



KFW ENGINEERS + SURVEYING
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3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 4053 • TBPLS Firm # 10122500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

BENITEZ WAY PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
5.1

Date: Feb 02, 2024, 2:39pm User ID: dolvera
File: N:\391\10\14\dwg\Civil\SHEETS\STP\391014_AB.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

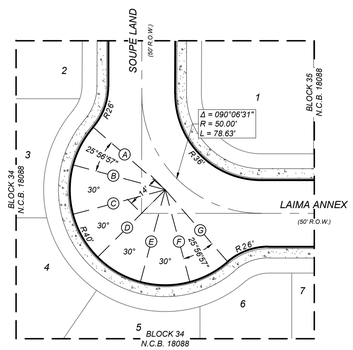
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LEGEND

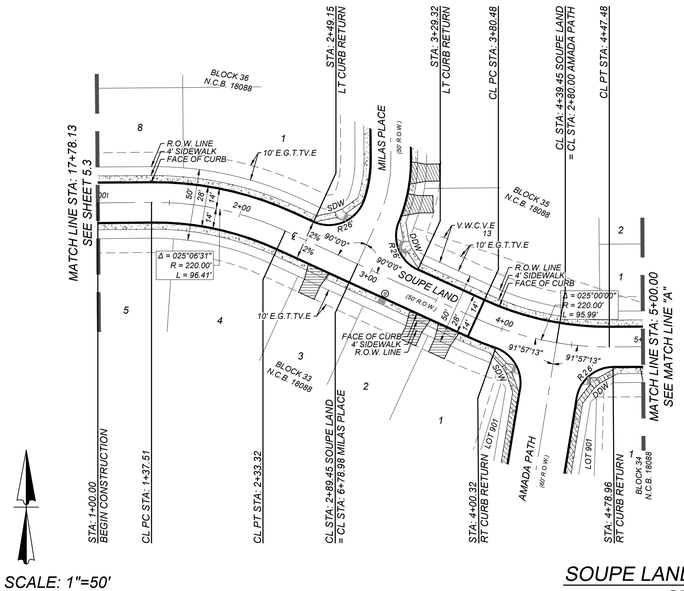
R.O.W.	=	RIGHT OF WAY
E.G.T.TV.E	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
V.W.C.V.E	=	VARIABLE WIDTH CLEAR VISION EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
DDW	=	DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
Ⓘ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.8
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	=	SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
TOC	=	TOP OF CURB

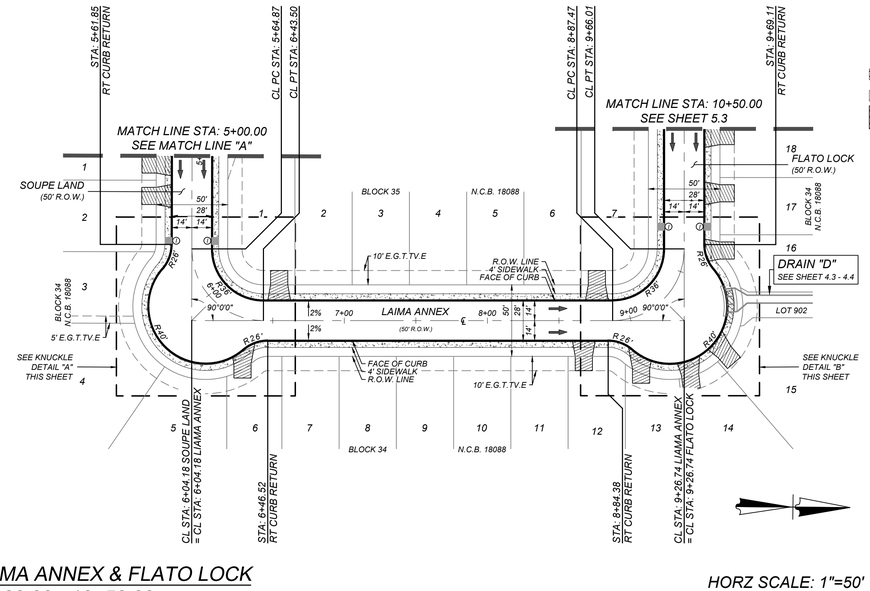


KNUCKLE DETAIL "A"

SCALE: 1" = 30'

KNUCKLESAC ELEVATIONS	
STATION	TOP OF CURB ELEVATIONS
A	628.30
B	628.61
C	628.88
D	629.03
E	629.04
F	628.93
G	628.74

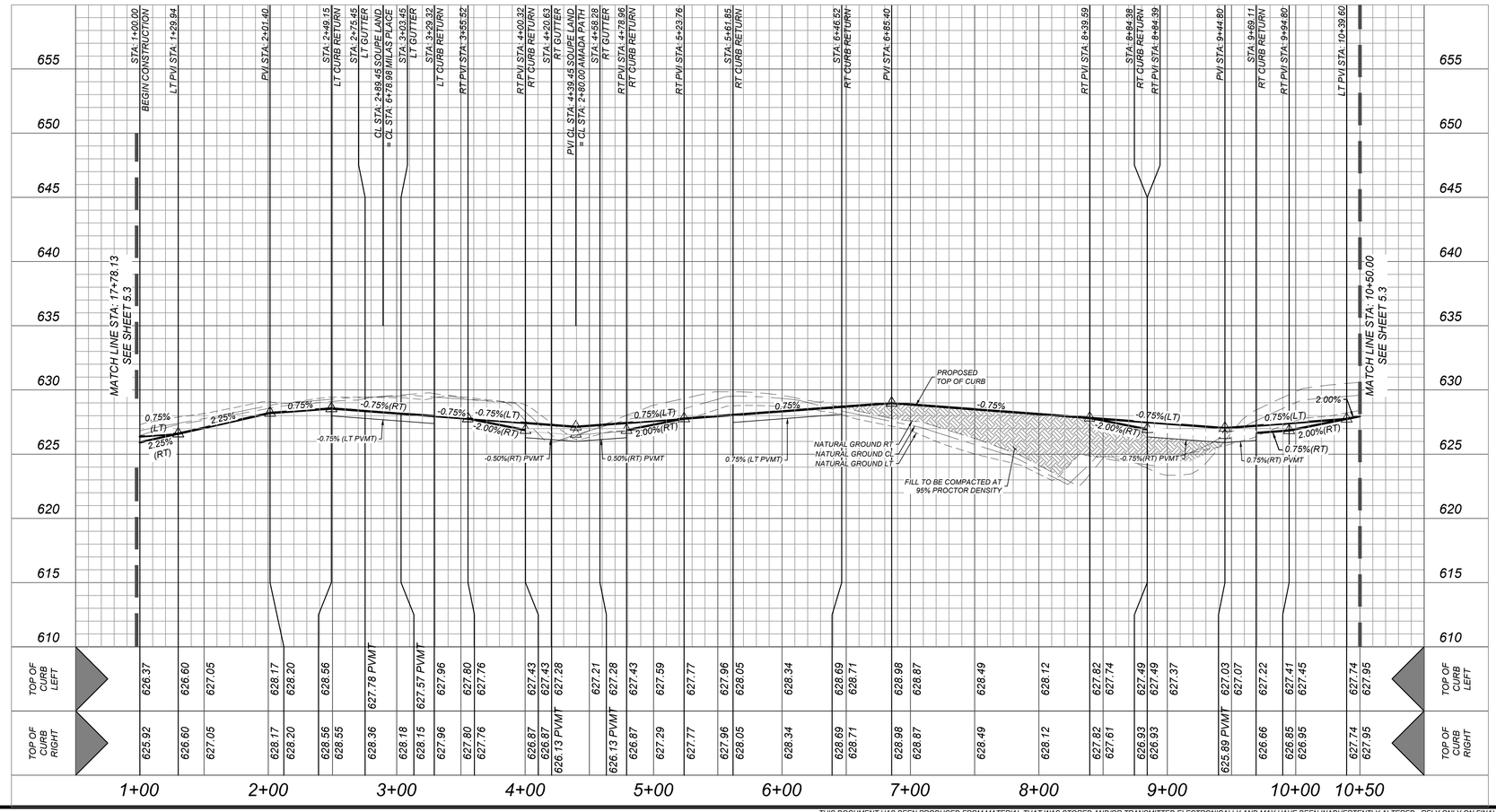


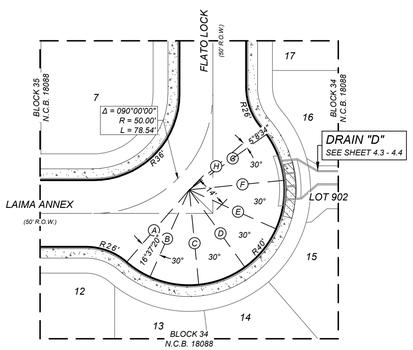


HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'

SOUPE LAND, LAIMA ANNEX & FLATO LOCK
STA: 1+00.00 - 10+50.00

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





KNUCKLE DETAIL "B"

SCALE: 1" = 30'

KNUCKLESAC ELEVATIONS	
STATION	TOP OF CURB ELEVATIONS
A	626.83
B	626.71
C	626.51
D	626.31
E	626.08
F	625.88
G	626.34
H	626.41

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ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

SOUPE LAND, LAIMA ANNEX & FLATO LOCK
PLAN & PROFILE (1 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER: 5.2

Date: Feb 02, 2024, 2:39pm User ID: eluevano
File: N:\391\10\Design\CONSTRUCTION\SHEETS\391914_DE.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

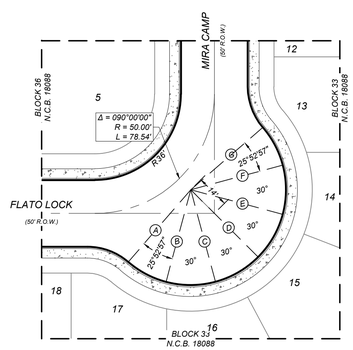
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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.

CAUTION!!:

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LEGEND

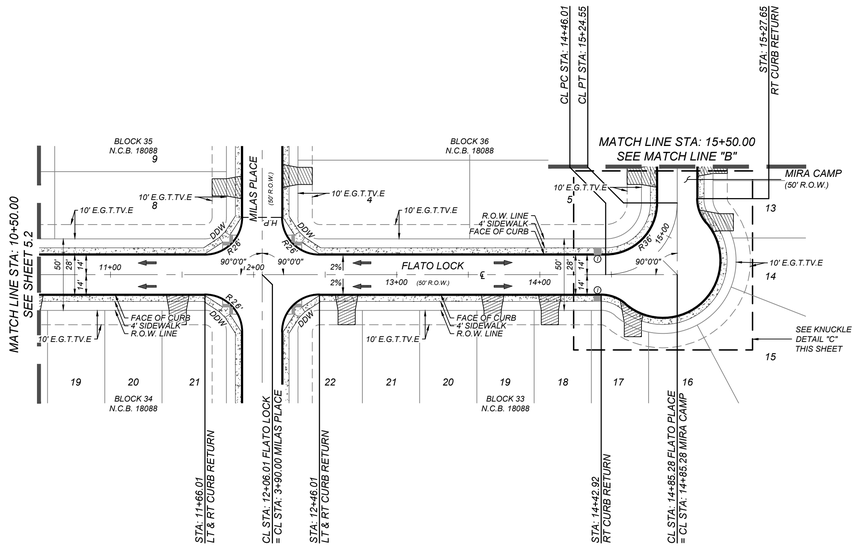
R.O.W.	=	RIGHT OF WAY
E.G.T.TV.E	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
V.W.C.V.E	=	VARIABLE WIDTH CLEAR VISION EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
DDW	=	DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
Ⓘ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.8
Ⓘ Ⓘ	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.8
	=	SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
TOC	=	TOP OF CURB

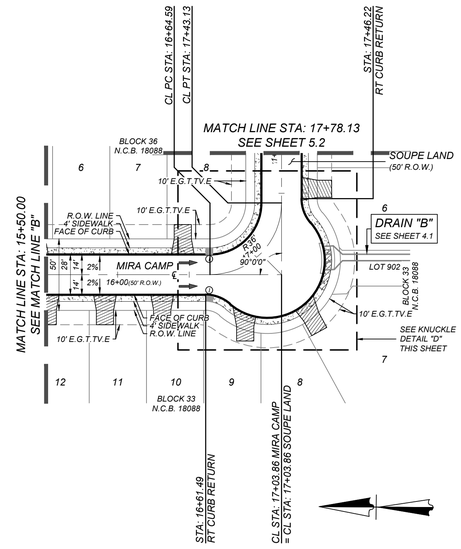


KNUCKLE DETAIL "C"

SCALE: 1" = 30'

KNUCKLESAC ELEVATIONS	
STATION	TOP OF CURB ELEVATIONS
A	630.09
B	630.17
C	630.14
D	630.00
E	629.72
F	629.32
G	628.91

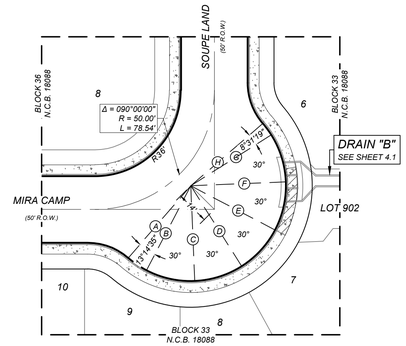




HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'

FLATO LOCK , MIRA CAMP & SOUPE LAND
STA: 10+50.00 - END

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



KNUCKLE DETAIL "D"

SCALE: 1" = 30'

KNUCKLESAC ELEVATIONS	
STATION	TOP OF CURB ELEVATIONS
A	625.88
B	625.99
C	625.62
D	625.22
E	624.99
F	624.76
G	625.22
H	625.35

KFW ENGINEERS + SURVEYING
has joined Collins Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 4053 • TBPLS Firm #: 10124500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

FLATO LOCK , MIRA CAMP & SOUPE LAND PLAN & PROFILE (2 OF 2)

PLAT NO. 22-11800788

JOB NO.:391-10-14

DATE: MAY 2023

DRAWN:EB CHECKED:OE

SHEET NUMBER:

5.3

Date: Feb 02, 2024 - 2:32pm User ID: eluevano
File: N:\391\10\4-Design\Civil\SHEETS\SITP391014_DE.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

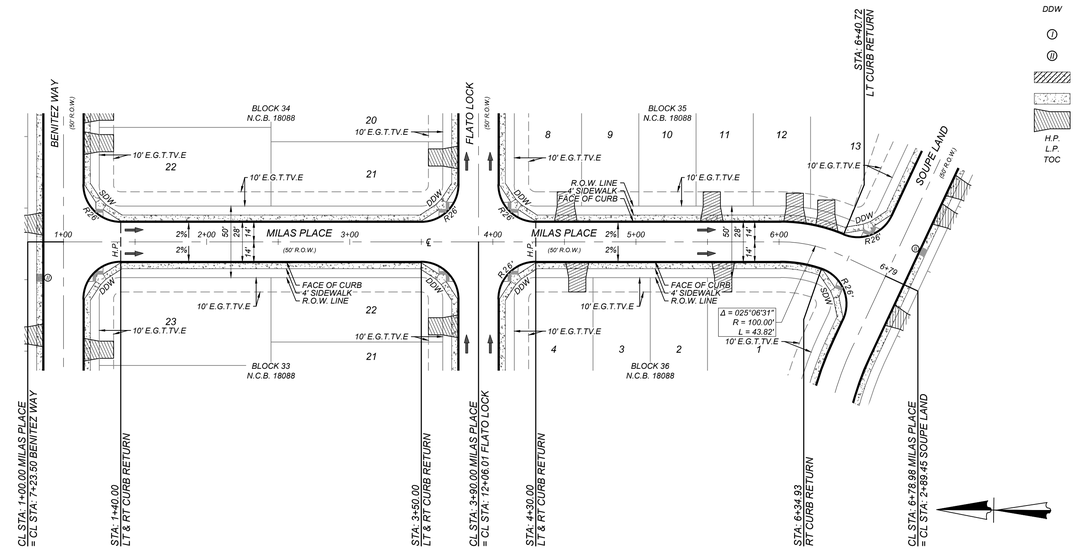
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CAUTION!!:

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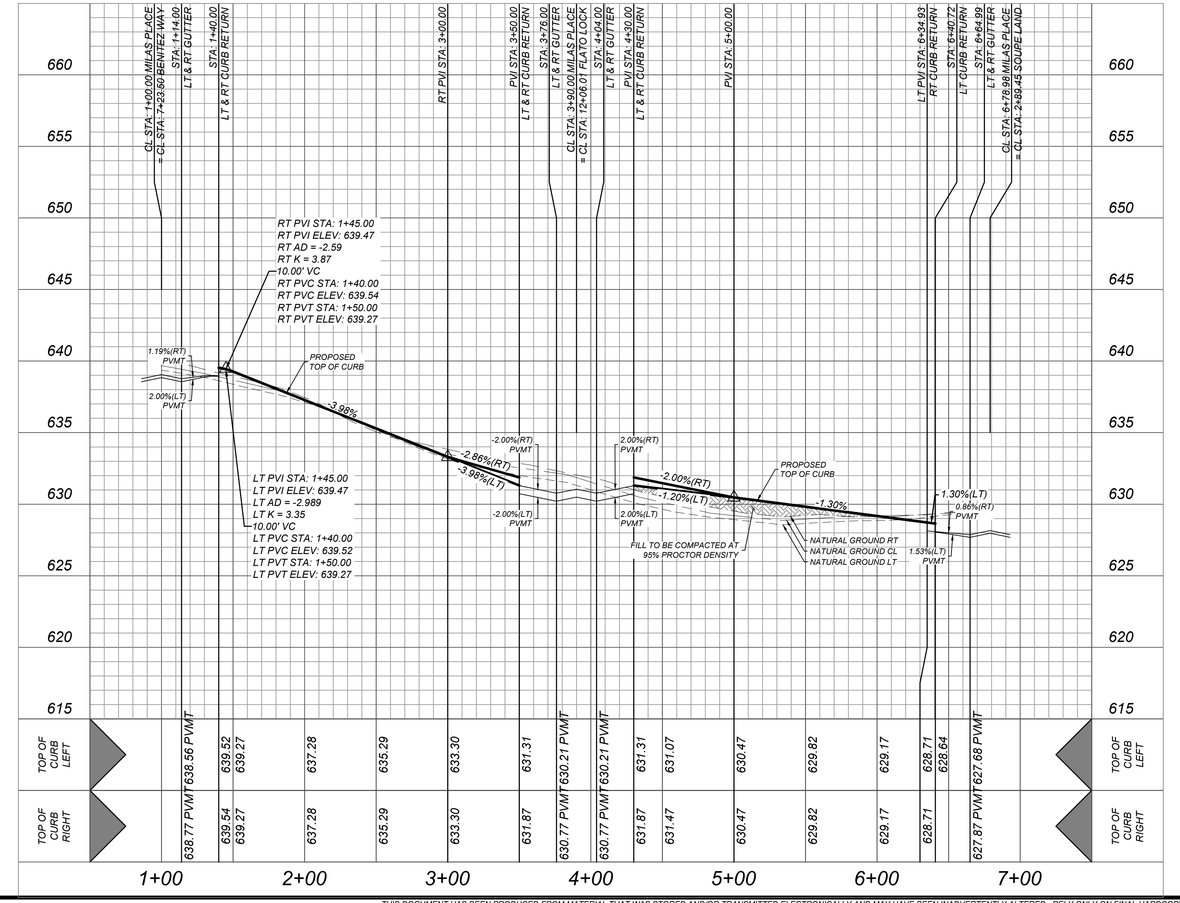
LEGEND

R.O.W.	=	RIGHT OF WAY
E.G.T.TV.E	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
V.W.C.V.E	=	VARIABLE WIDTH CLEAR VISION EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
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Ⓘ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.8
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	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
	=	PROPOSED DRIVEWAY LOCATION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
TOC	=	TOP OF CURB



MILAS PLACE
STA: 1+00.00 - END

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



KFW ENGINEERS + SURVEYING
nas bried Colleen Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 4553 • TBPLS Firm #: 10124500

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

MILAS PLACE PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:

5.4

Date: Feb 02, 2024, 2:32pm User ID: dsheen
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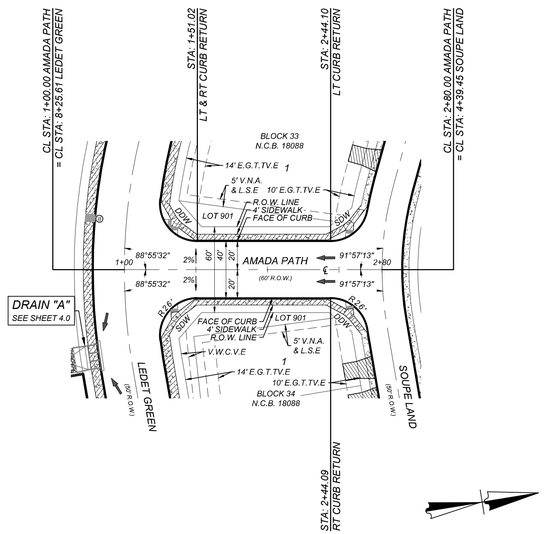
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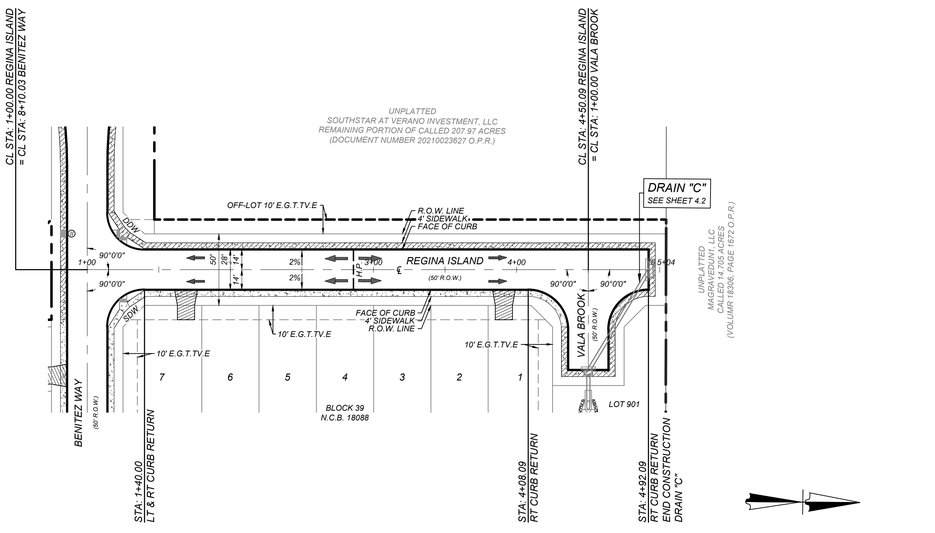
TRENCH EXCAVATION SAFETY PROTECTION

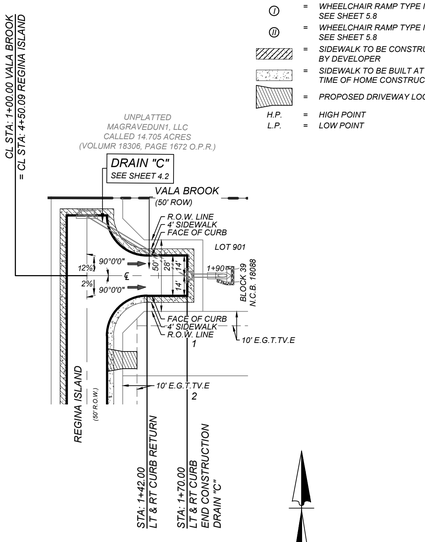
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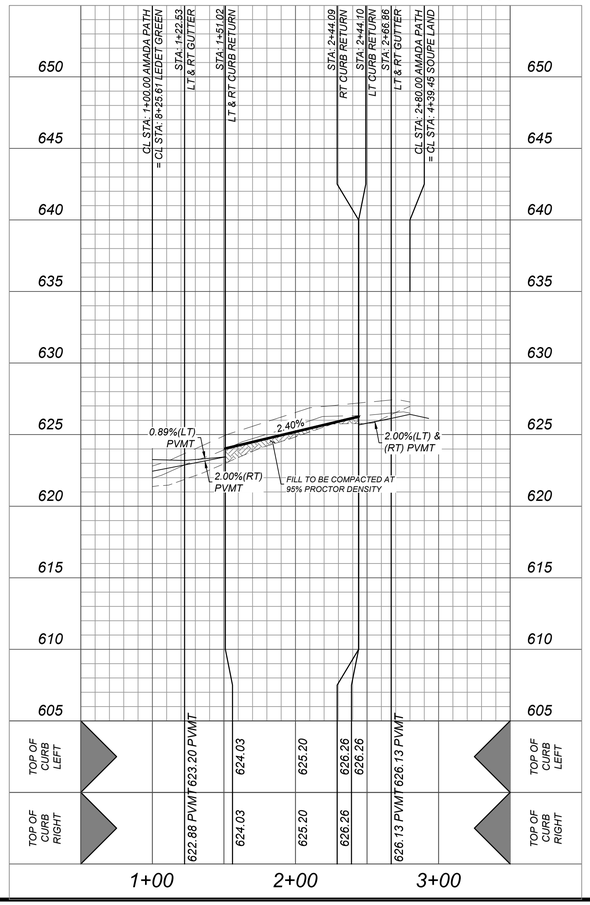


LEGEND

R.O.W.	=	RIGHT OF WAY
E.G.T.TV.E.	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
DDW	=	DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.8
I	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.8
II	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.8
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H.P.	=	HIGH POINT
L.P.	=	LOW POINT

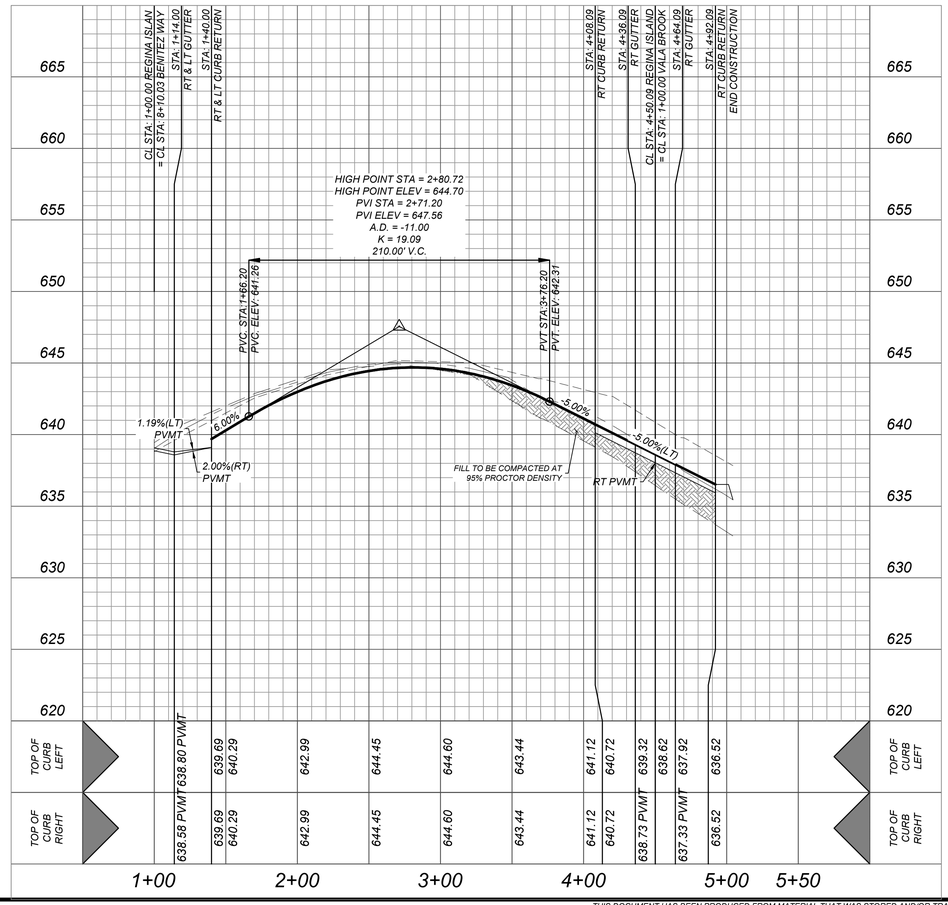
AMADA PATH
STA: 1+00.00 - END

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



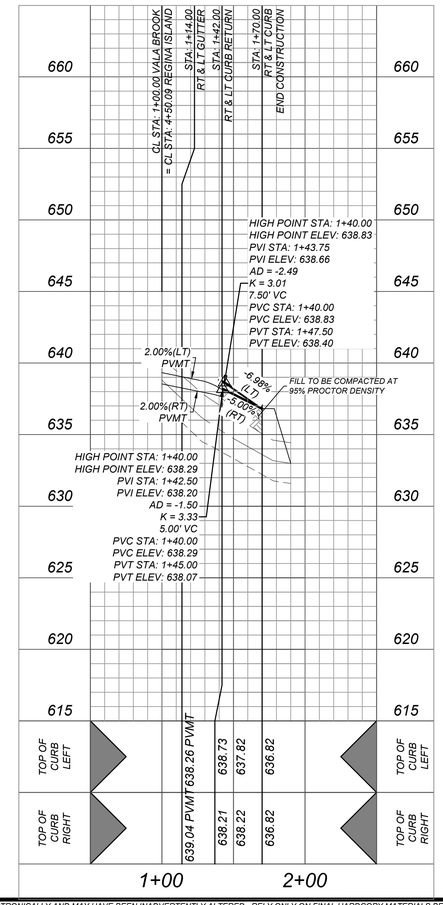
REGINA ISLAND
STA: 1+00.00 - END

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



VALA BROOK
STA: 1+00.00 - END

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



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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

AMADA PATH, REGINA ISLAND & VALA BROOK PLAN & PROFILE

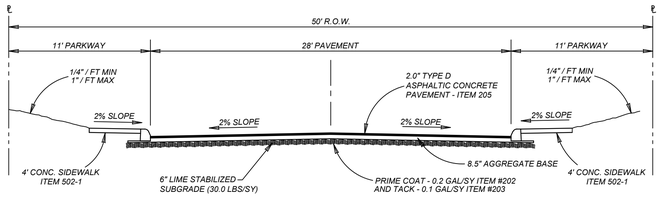
PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER: 5.5

Date: Feb 02, 2024, 2:38pm User ID: ebueno
File: N:\391\10\Design\CONSTRUCTION\PH3\391014_PH4.dwg

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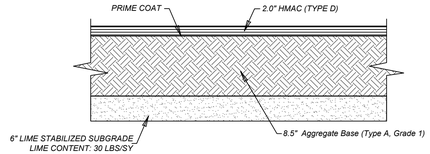


TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE

USE LOCAL "A" STREET SECTION FOR STREETS BELOW:
BENITEZ WAY - STA: 1+00.00 - END
SOUPE COVE, LAIMA ANNEX, FLATO LOCK & MIRA CAMP - STA: 1+00.00 - END
MILAS PLACE - STA: 1+00.00 - END
REGINA ISLAND - STA: 1+00.00 - END

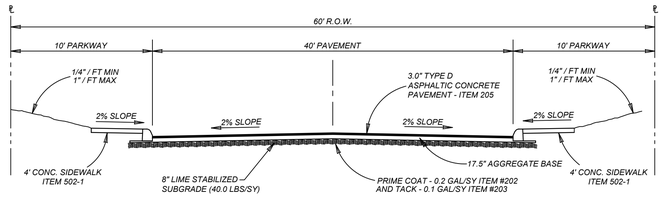
Pavement Section
- 2.0" HMAC Type "D"
- 8.5" Aggregate Base (Type A, Grade 1)
- 6" Lime Stablized Subgrade(30 LBS/SY)
- Total: 16.5"
- Structural No: 2.55
- CBR: 3.0
- REQUIRED IF SUBGRADE PI > 20



ASPHALT PAVEMENT DETAIL

NOT-TO-SCALE

DETAIL FOR ALL LOCAL TYPE A

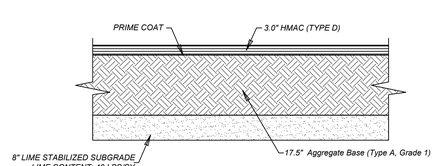


TYPICAL LOCAL "B" STREET SECTION

NOT TO SCALE

USE LOCAL "B" STREET SECTION FOR STREETS BELOW:
AMADA PATH - STA: 1+00.00 - END

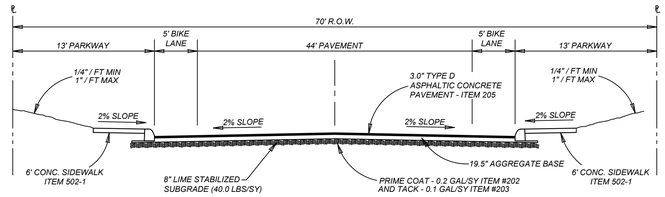
Pavement Section
- 3.0" HMAC Type "D"
- 17.5" Aggregate Base (Type A, Grade 1)
- 8" Lime Stablized Subgrade(40 LBS/SY)
- Total: 28.5"
- Structural No: 4.41
- CBR: 3.0
- REQUIRED IF SUBGRADE PI > 20



ASPHALT PAVEMENT DETAIL

NOT-TO-SCALE

DETAIL FOR ALL LOCAL TYPE B

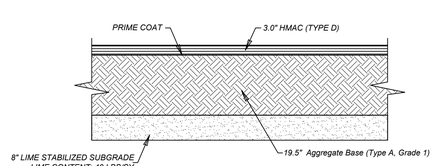


COLLECTOR STREET SECTION

NOT TO SCALE

USE COLLECTOR STREET SECTION FOR STREETS BELOW:
LEDET GREEN - STA: 1+00.00 - END

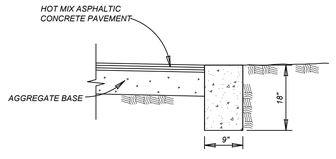
Pavement Section
- 3.0" HMAC Type "D"
- 19.5" Aggregate Base (Type A, Grade 1)
- 8" Lime Stablized Subgrade(40 LBS/SY)
- Total: 30.5"
- Structural No: 4.69
- CBR: 3.0
- REQUIRED IF SUBGRADE PI > 20



ASPHALT PAVEMENT DETAIL

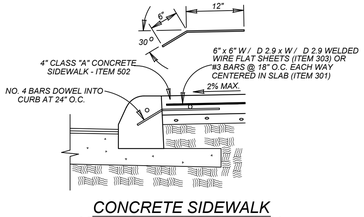
NOT-TO-SCALE

DETAIL FOR ALL COLLECTOR



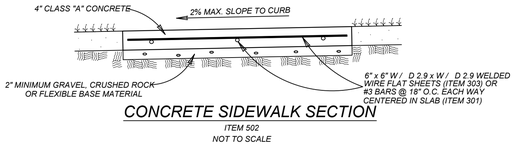
HEADER CURB

ITEM 500 ON SAND OR GRAVEL
NOT TO SCALE



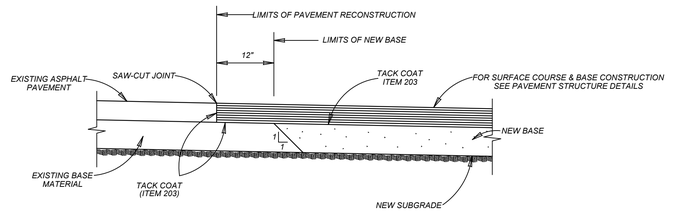
CONCRETE SIDEWALK ABUTTING CURB SECTION

ITEM 502
NOT TO SCALE



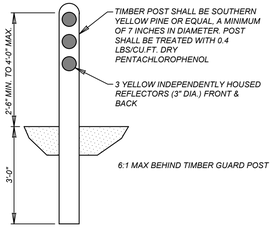
CONCRETE SIDEWALK SECTION

ITEM 502
NOT TO SCALE



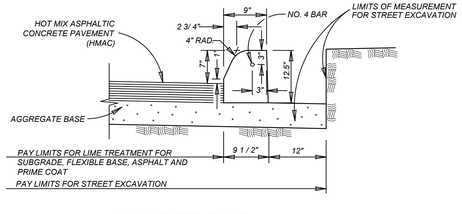
PAVEMENT JUNCTION DETAILS

NOT TO SCALE



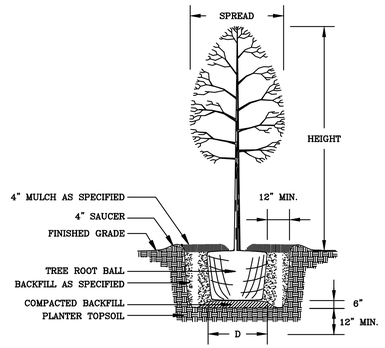
TIMBER GUARD POST DETAIL

NOT-TO-SCALE



CONCRETE CURB

ITEM 500 ON ASPHALT TREATED BASE OR ASPHALTIC CONCRETE BASE
NOT TO SCALE

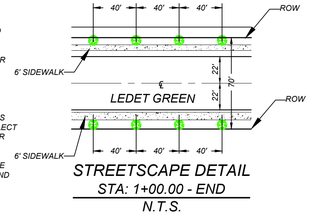


NEW TREE PLANTING DETAIL

N.T.S

STREETSCAPE TREE PLANTING NOTES:

1. SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFORM WITH THE STREETSCAPE PLANTING STANDARDS.
2. DEVELOPER TO PROVIDE IRRIGATION ON PLANTED STREET TREES FOR A MINIMUM OF 3 YEARS.
3. ALL LANDSCAPING SHALL COMPLY WITH THE CLEAR VISION AREAS DEFINED BY THE LATEST VERSION OF AASHTO's "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."
4. TYPES OF TREES AND SPACING ARE BASED ON UNDERGROUND ELECTRIC. IF OVERHEAD ELECTRIC IS REQUIRED BY CPS, PLANS WILL BE REVISED TO REFLECT CHANGES IN SIZE, TYPE AND SPACING OF TREES, PER THE UDC.
5. STREETSCAPE TREES AND LANDSCAPING SHALL BE LOCATED OUTSIDE THE HORIZONTAL CLEAR ZONE AND OUTSIDE CLEAR VISION AREAS.



STREETSCAPE DETAIL

STA: 1+00.00 - END

N.T.S.

NOTES:

1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, L.P., PROJECT NO. S231275 DATED 11/06/23.
2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
4. GEOTECHNICAL ENGINEER TO BE ON SITE TO MAKE FINAL SUBGRADE DETERMINATION. CHANGES TO THIS PAVEMENT DESIGN SHALL BE SUBMITTED TO COSA-DSD PRIOR TO PLACEMENT OF BASE MATERIAL.

GENERAL NOTES:

1. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
2. THE APPLICATION RATE OF LIME SHALL BE DETERMINED BASED ON LABORATORY TESTING AND SHALL BE THE LOWEST PERCENTAGE OF LIME THAT PROVIDES AN UNCONFINED COMPRESSIVE STRENGTH (UCS) AT 7-DAYS OF AT LEAST 160 PSI IN ACCORDANCE WITH ASTM D5102 STANDARD TEST METHODS FOR UNCONFINED COMPRESSIVE STRENGTH OF COMPACTED SOIL-LIME MIXTURES (PROCEDURE B) (IN ADDITION, CURING SHOULD OCCUR FOR 7 DAYS AT 40° AND SPECIMENS SHOULD BE SUBJECT TO 24-HR CAPILLARY SOAK PRIOR TO TESTING.

FOR CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED IN THE FIELD:

1. AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2 - 3) DAYS. MAINTAIN MOISTURE DURING MELLOWING;
2. AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE ¾ INCH SIEVE FROM THE SAMPLE):
   - MINIMUM PASSING 1 ½" SIEVE 100
   - MINIMUM PASSING ¾" SIEVE 85
   - MINIMUM PASSING NO. 4 SIEVE 60
3. SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD). IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
4. COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED)
5. CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
6. VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ± 1.0 INCH.

NOTES:

ANY FILL USED TO RAISE THE SUBGRADE:
- SHOUD NOT CONTAIN ANY DELETERIOUS MATERIAL.
- SHOULD HAVE A CBR VALUE OF 3.0 OR GREATER
- SHOULD NOT HAVE GRAVELS LARGER THAN 3 INCH IN SIZE
- SHOULD HAVE THE "LIME PERCENTAGE/APPLICATION RATE" RE-RUN
- PRIOR TO INSTALLATION
- PSI SHOULD BE LESS THAN 20

KFW ENGINEERS + SURVEYING
Tres Jones Collins Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10124500

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

STREET DETAIL SHEET

PLAT NO. 22-11800788

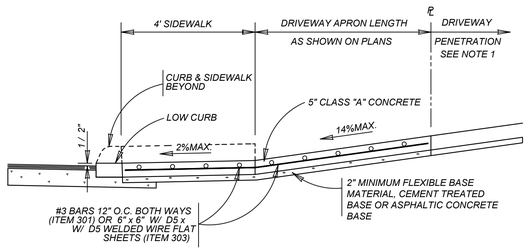
JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:

5.6

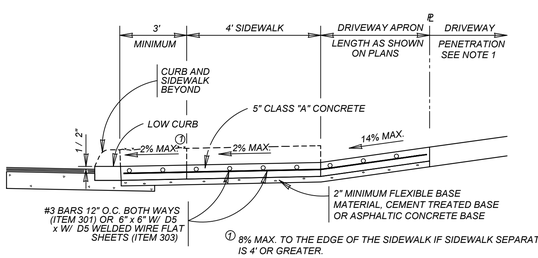
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TYPICAL RESIDENTIAL DRIVEWAY SECTION

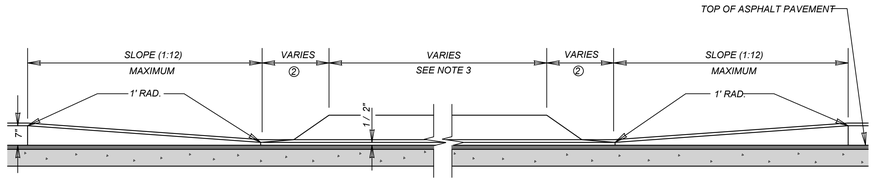
WITH SIDEWALK ABUTTING CURB
ITEM 503.1



① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

TYPICAL RESIDENTIAL DRIVEWAY SECTION

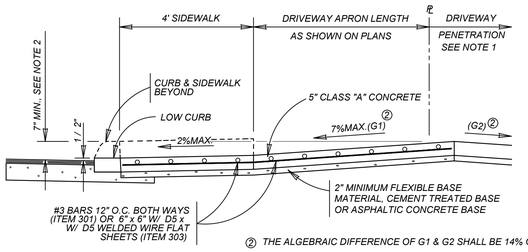
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1



② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

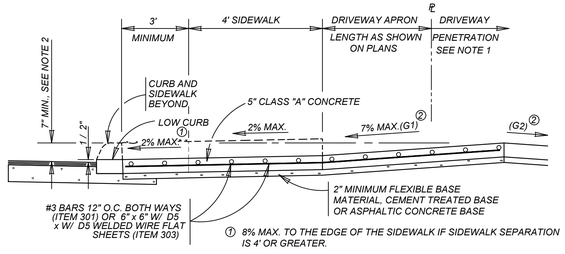
WITH SIDEWALK ABUTTING CURB



② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1

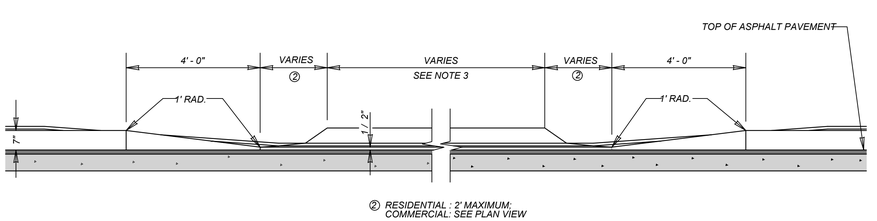


① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 503.1



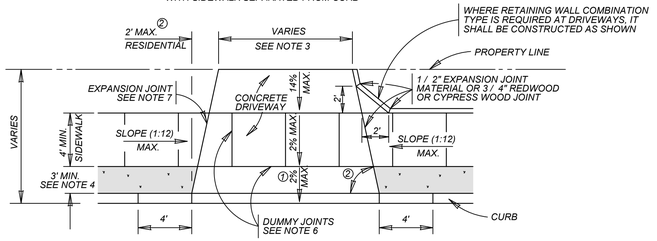
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB

② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

WITH SIDEWALK SEPARATED FROM CURB

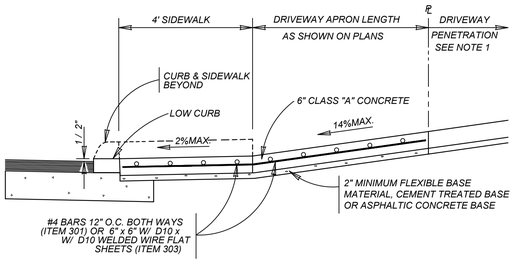


① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② 45° FOR COMMERCIAL DRIVEWAY

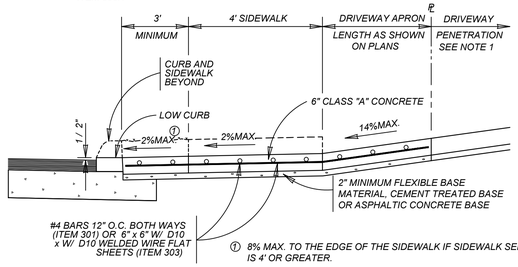
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK SEPARATED FROM CURB



TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB
ITEM 503.2



① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

TYPICAL COMMERCIAL DRIVEWAY SECTION

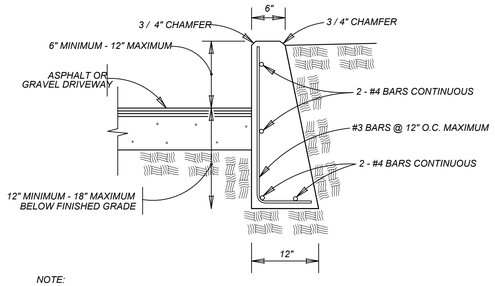
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2

CONCRETE DRIVEWAY NOTES

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
   A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.
   B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
   C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'

4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3 /8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



NOTE:
1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

DRIVEWAY - CONCRETE RETAINING WALL

ON COMPACTED SUBGRADE
ITEM 307.1

MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

% SUBMITTAL	PROJECT NO.:	DATE:
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.
		SHEET NO.: OF

KFW ENGINEERS + SURVEYING
Texas Limited Liability Company & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 9513 • TBPLS Firm # 10022500

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

CONCRETE DRIVEWAY DETAILS

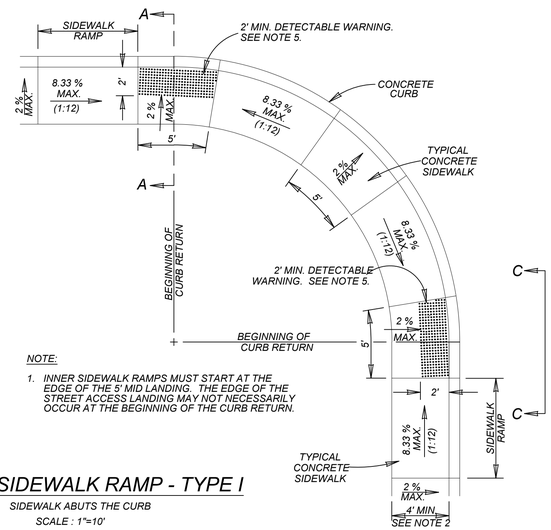
PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER: 5.7

Date: Feb 02, 2024, 2:34pm User ID: ohayes
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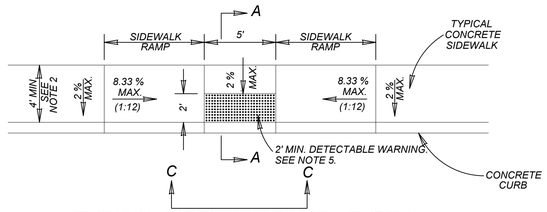
TYPICAL SIDEWALK RAMP - TYPE I

SIDEWALK ABUTS THE CURB

SCALE : 1"=10'

NOTE:

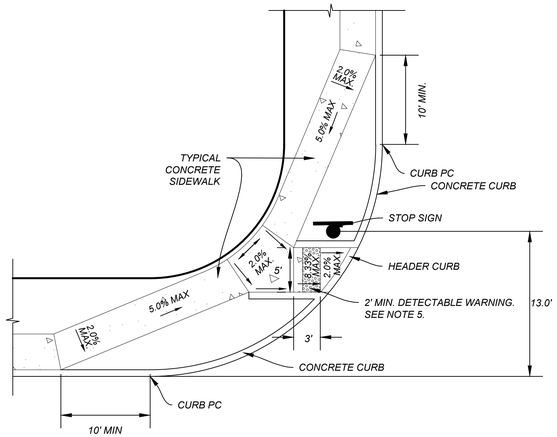
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.



TYPICAL SIDEWALK RAMP - TYPE II

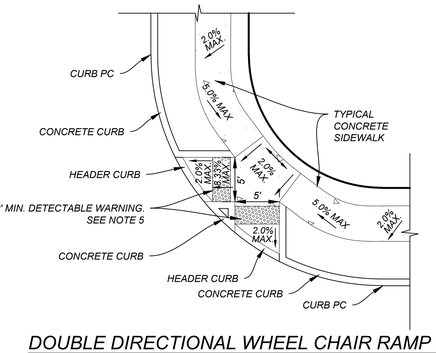
USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB

SCALE : 1"=10'



SINGLE DIRECTIONAL WHEEL CHAIR RAMP (SDWCR)

NOT TO SCALE

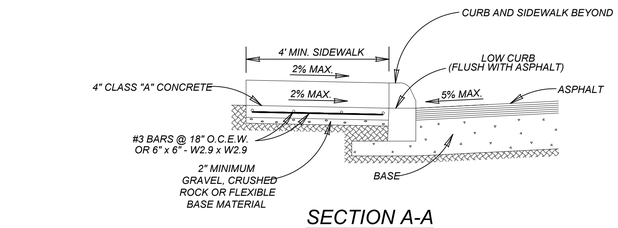


DOUBLE DIRECTIONAL WHEEL CHAIR RAMP (DDWCR)

NOT TO SCALE

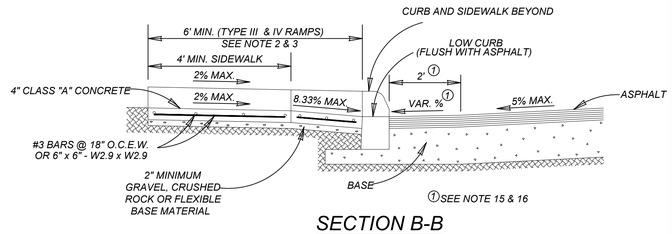
GENERAL NOTES

1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MINIMUM OF 1 FOOT BUFFER. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB-RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP (IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES, ALIGNED IN A GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE PAVERS CONFORMING TO TXDOT STANDARD PED-05, PEDESTRIAN FACILITIES.
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 - CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER" AND / OR "502 - CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33-(-2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



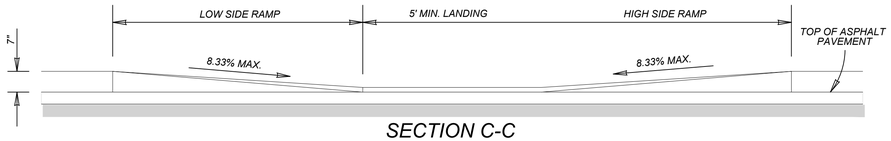
SECTION A-A

SCALE : 1"=4'



SECTION B-B

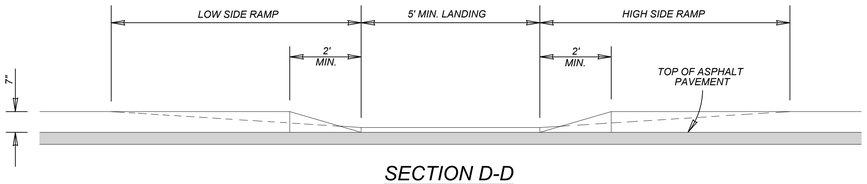
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SECTION C-C

CURB PROFILE WHERE SIDEWALK ABUTS CURB

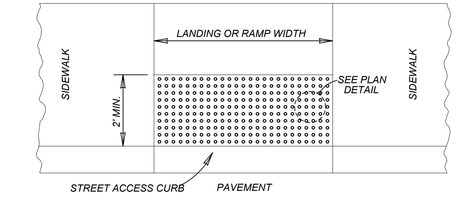
SCALE : 1"=4'



SECTION D-D

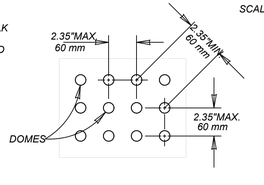
CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE : 1"=4'



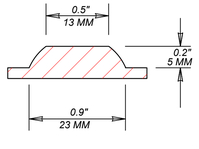
DETECTABLE WARNING SURFACE

SCALE : 1"=4'



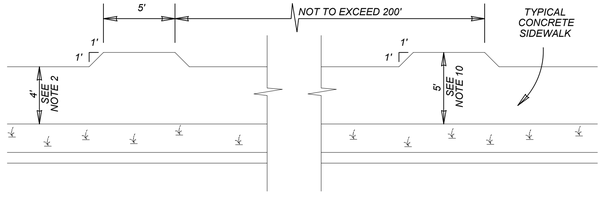
PLAN DETAIL

NO SCALE



DOME SECTION

NO SCALE



SIDEWALK PASSING SPACE

SCALE : 1"=10'

NOTE:

STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS. CONTRACTOR MUST SUBMIT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

% SUBMITTAL	PROJECT NO.:	DATE:
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.
		SHEET NO.: OF

KFW ENGINEERS + SURVEYING
Texas Limited Liability Company & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 9513 • TBPLS Firm # 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

WHEELCHAIR RAMP DETAILS

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

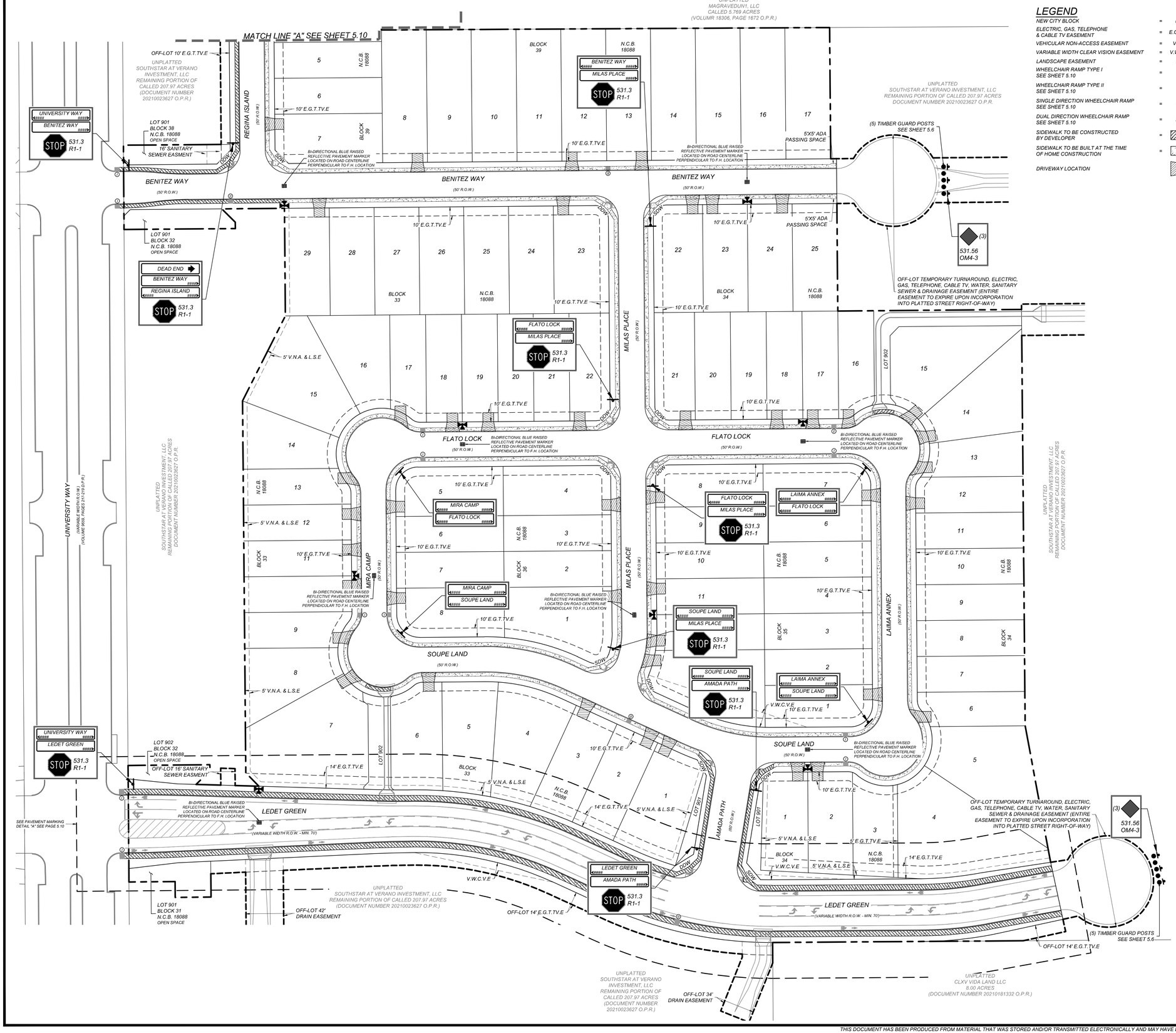
DRAWN: EB CHECKED: OE

SHEET NUMBER:

5.8

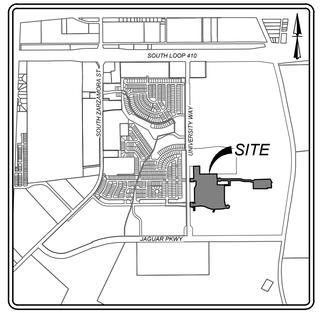
Date: Feb 02, 2024, 2:34pm User ID: ofuyam
File: K:\391\10\14\Design\CAD\STREETS\STD\391014.dwg

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LEGEND

NEW CITY BLOCK	=	N.C.B
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	=	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	=	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	=	V.W.C.V.E
LANDSCAPE EASEMENT	=	L.S.E
WHEELCHAIR RAMP TYPE I SEE SHEET 5.10	=	(I)
WHEELCHAIR RAMP TYPE II SEE SHEET 5.10	=	(II)
SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.10	=	SDW
DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.10	=	DDW
SIDEWALK TO BE CONSTRUCTED BY DEVELOPER	=	
SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION	=	
DRIVEWAY LOCATION		



LOCATION MAP
N.T.S.

SCALE : 1"=50'
0' 50' 150'
100'

SYMBOL		ITEM NUMBER
STOP	R1-1 30 X 30	531.03
STREET NAME #####	STANDARD COSA STREET NAME SIGN STD X 9	531.59
◆	OM4-3 END-OF-ROADWAY MARKER	531.56
DEAD END ⇨	W14-1A 36" x 8"	531.58
▦	TYPE II BLUE PAVEMENT MARKER	537.8

KFW
ENGINEERS + SURVEYING
Texas Joined Civilians Engineering & Design
3421 Passanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

TRAFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN (1 OF 2)

PLAT NO. 22-11800788

JOB NO.391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

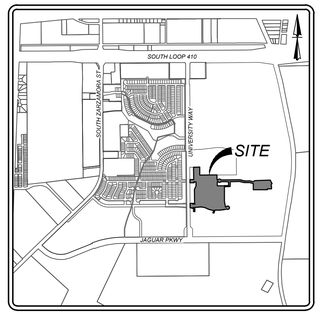
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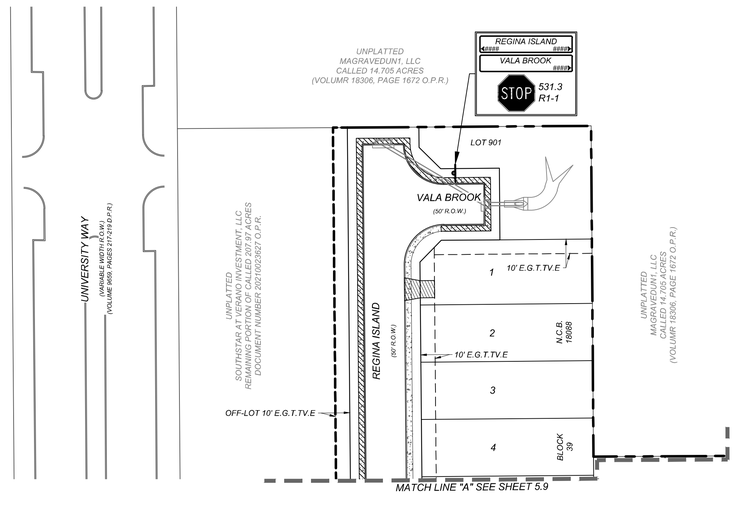
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LEGEND

NEW CITY BLOCK	=	N.C.B
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	=	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	=	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	=	V.W.C.V.E
LANDSCAPE EASEMENT	=	L.S.E
WHEELCHAIR RAMP TYPE I SEE SHEET 5.10	=	(I)
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SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.10	=	SDW
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SIDEWALK TO BE CONSTRUCTED BY DEVELOPER	=	
SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION	=	
DRIVEWAY LOCATION		

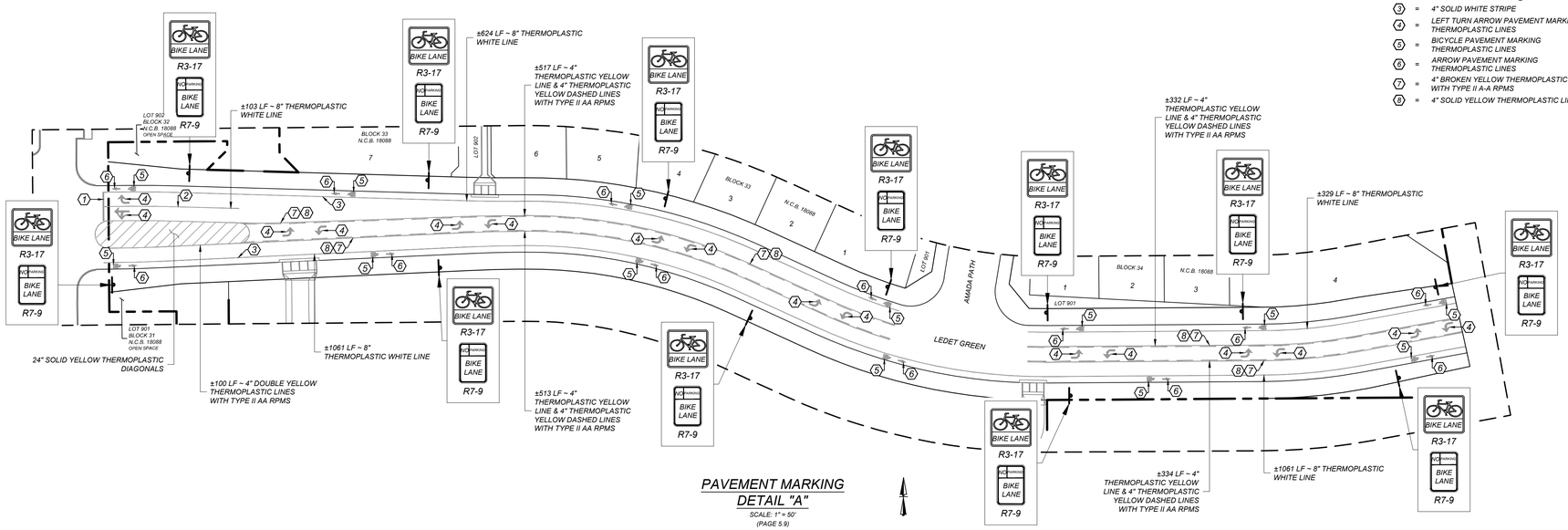


LOCATION MAP
N.T.S.



KEYNOTES:

1. = 24" WHITE STRIPE STOP BAR
2. = 8" SOLID WHITE LINE WITH TYPE I-C REFLECTIVE MARKERS @ 20' O.C.
3. = 4" SOLID WHITE STRIPE
4. = LEFT TURN ARROW PAVEMENT MARKING THERMOPLASTIC LINES
5. = BICYCLE PAVEMENT MARKING THERMOPLASTIC LINES
6. = ARROW PAVEMENT MARKING THERMOPLASTIC LINES
7. = 4" BROKEN YELLOW THERMOPLASTIC LINES WITH TYPE II A-A RPMS
8. = 4" SOLID YELLOW THERMOPLASTIC LINES



PAVEMENT MARKING DETAIL "A"
SCALE: 1" = 50'
(PAGE 5.9)

SYMBOL		ITEM NUMBER
STOP	R1-1 30 X 30	531.03
STREET NAME #####	STANDARD COSA STREET NAME SIGN STD X 9	531.59
	OM4-3 END-OF-ROADWAY MARKER	531.56
DEAD END	W14-1A 36" x 8"	531.58
	TYPE II BLUE PAVEMENT MARKER	537.8

SCALE : 1"=50'
0' 50' 150'
100'

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REVISIONS | ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

TRAFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN (2 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER: 5.10

Date: Feb 02, 2024 - 2:36pm User ID: mtorres
File: N:\391\10\14\Design\Civil\STREETS\391014.dwg

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GENERAL NOTES

1.) THE EXISTING SIGNS LOCATED ON THE JOBSITE ARE THE PROPERTY OF THE CITY OF SAN ANTONIO. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO TRAFFIC OPERATIONS. THE ASSISTANT TRAFFIC SUPERINTENDENT (207-7765) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.

2.) AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS SECTION OF THE PUBLIC WORKS DEPARTMENT (207-7765) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER CITY SIGNS AND POLES.

3.) PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE TRAFFIC ENGINEERING (207-7720) CONSTRUCTION INSPECTION AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.

4.) ALL GROUND MOUNTED SHALL USE HIGH INTENSITY REFLECTIVE SHEETING.

5.) ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.

6.) ALL BLANKS TO BE ALUMINUM ALLOY NO. 5052-H38.

7.) "T" DENOTES THICKNESS OF SIGN BLANKS.

8.) ALL HOLES SHALL BE 3/8 " DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND/OR ROUGH EDGES.

9.) SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL.

10.) ALL SIGN BLANK TO BE ETCHED, DEGREASED, AND HAVE AN ALODINE FINISH PRIOR TO APPLICATION OF LEGENDS.

11.) ALL DETAILS ARE NOT TO SCALE.

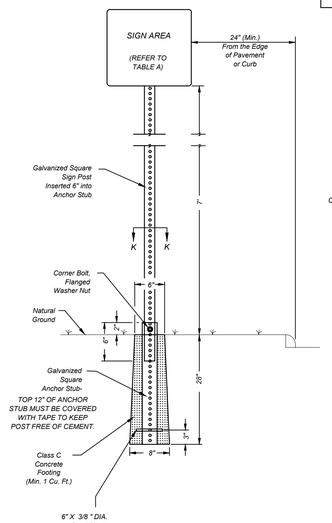
12.) ALL DIMENSIONS ARE IN INCHES.

13.) ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES AND STANDARD HIGHWAY SIGNS (FHWA) LATEST EDITION.

14.) REINSTALLATION OF PREVIOUSLY EXISTING SIGNS, WHERE REQUIRED BY THE CITY TRAFFIC ENGINEER, SHALL BE AT THE CONTRACTOR'S EXPENSE.

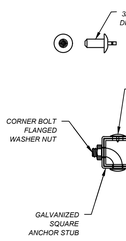
TYPICAL GROUND SIGN INSTALLATION

TYPE "U" MOUNT
PERFORATED SQUARE METAL TUBING (DRIVEABLE)



METAL TUBING	SIGN AREA	
	< 10 SQ. FT.	> 10 SQ. FT.
GALVANIZED SQUARE SIGN POST (Perforated)	1-3/4" x 1-3/4" (14 Guage)	2" x 2" (12 Guage)
GALVANIZED SQUARE ANCHOR STUB (Perforated)	2" X 2" (14 Guage)	2-1/4" x 2-1/4" (14 Guage)

TABLE A



NO.	REVISION	BY:	DATE:
X	XXX	XXX	XXX

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

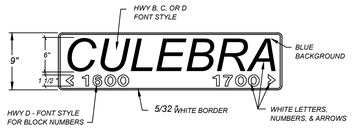
TRAFFIC SIGN STANDARDS

GENERAL NOTES AND GROUND SIGN MOUNTING

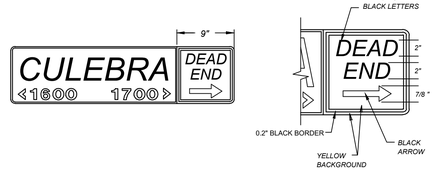
TE-SGN(1)-06

DSND:ENM	APVD: JDF	DATE: 1.30.06		SHT. NO.
DRWN:FG	APVD: ENM	DATE: 2.6.06		1 OF 4
RVSD:	APVD:	DATE:		SCALE: NOT TO SCALE

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E. # 58698 ON 02.06.06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.



9" D3 - STREET NAME SIGN



NEW 9" D3 w/ DEAD END OR NO OUTLET SIGNAGE

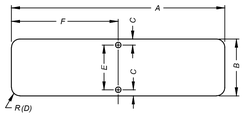
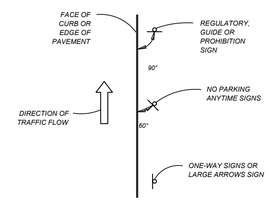


TABLE - D3 SIGNS

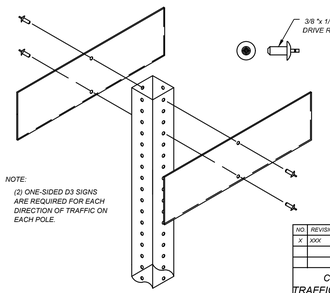
A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	8"	12"	0.125"
30"	9"	1/2"	3/4"	8"	15"	0.125"
36"	9"	1/2"	3/4"	8"	18"	0.125"
42"	9"	1/2"	3/4"	8"	21"	0.125"
48"	9"	1/2"	3/4"	8"	24"	0.125"
54"	9"	1/2"	3/4"	8"	27"	0.125"

NOTE: A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "DEAD END" OR "NO OUTLET" SUPPLEMENT IS REQUIRED.

HEIGHT	9" (228 mm)
LENGTH	24" (600mm) MIN. 54 (1350mm) MAX. 6" (150mm) INCREMENTS OF LENGTH
THICKNESS	0.125" (3mm)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH
SIGN FACE MATERIALS	BLUE FILM OVER HIGH INTENSITY FP-85, SECTION 718 AND L-S-300C
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON BLUE BACKGROUND
LETTER TRACKING	10%



TYPICAL GROUND MOUNTED SIGN PLACEMENT



D3 SIGN TO POLE INSTALLATION

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NO.	REVISION	BY:	DATE:
X	XXX	XXX	XXX

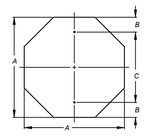
CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TRAFFIC SIGN STANDARDS

D3 STREET NAME SIGN AND SIGN MOUNTING

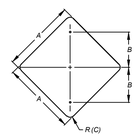
TE-SGN(2)-06

DSND:ENM	APVD: JDF	DATE: 1.30.06		SHT. NO.
DRWN:FG	APVD: ENM	DATE: 2.6.06		2 OF 4
RVSD:	APVD:	DATE:		SCALE: NOT TO SCALE



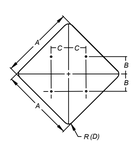
OCTAGONAL

A	B	C	T
24	3	18	0.080
30	3	24	0.080
36	3	30	0.100



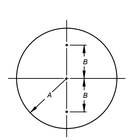
DIAMOND (A)

A	B	C	T
18	9	1 1/2	0.080
24	12	1 1/2	0.080
30	15	1 7/8	0.080
36	18	2 1/4	0.100



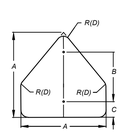
DIAMOND (B)

A	B	C	D	T
48	15	15	3	0.100



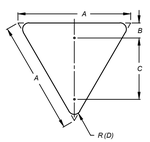
CIRCLE

A	B	T
18	15	0.100



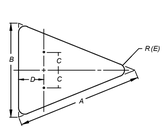
PENTAGON (SCHOOL)

A	B	C	D	T
36	24	2 1/4	0.100	



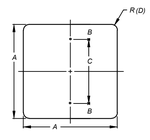
EQUILATERAL TRIANGLE

A	B	C	D	T
36	2	24	2	0.100



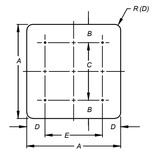
ISOSCELES TRIANGLE

A	B	C	D	E	T
40	30	7 1/2	12	1 7/8	0.100
48	36	9	15	2 1/4	0.100



SQUARE (A)

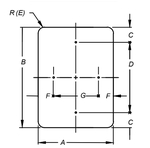
A	B	C	D	T
18	1 1/2	15	1 1/2	0.080
24	3	18	1 1/2	0.080
30	3	24	1 7/8	0.080



SQUARE (B)

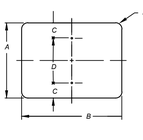
A	B	C	D	E	F	T
48	6	36	9	30	3	0.100

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E. # 58698 ON 02.06.06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.



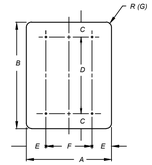
VERTICAL / HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
12	18	1 1/2	15	1 1/2	9	0.080	
12	36	3	30	1 1/2	9	0.080	
18	24	1 1/2	21	1 1/2	15	0.080	
24	30	3	24	1 1/2	3	18	0.080
24	36	3	30	1 1/2	3	18	0.080
24	48	6	36	1 7/8	3	18	0.080
30	36	3	30	1 7/8	3	24	0.080



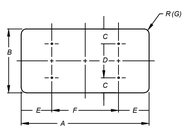
HORIZONTAL RECTANGLE

A	B	C	D	E	T
6	12	1	4	1/4	0.080
6	18	1	4	1/4	0.080
20	36	1 1/2	17	1 1/2	0.080



VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
5	7 3/4	1/2	6 3/4	1/2	4	1/4	0.100
48	60	6	48	9	30	3	0.100



HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
48	24	2	20	2	44	1 7/8	0.100
48	36	3	30	3	42	2 1/4	0.100
60	24	2	20	2	56	1 1/2	0.100
60	36	3	30	3	54	2 1/4	0.100
48	30	3	24	3	42	1 7/8	0.100
60	30	3	24	3	54	1 7/8	0.100

NO.	REVISION	BY:	DATE:
X	XXX	X	X

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

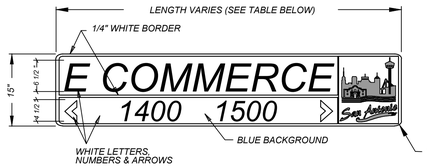
TRAFFIC SIGN STANDARDS

GROUND MOUNTED SIGN SIZES

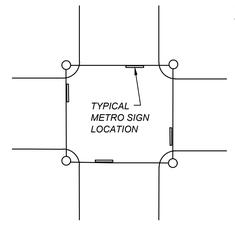
TE-SGN(3)-06

DSND:ENM	APVD: JDF	DATE: 1.30.06		SHT. NO.
DRWN:FG	APVD: ENM	DATE: 2.6.06		3 OF 4
RVSD:	APVD:	DATE:		SCALE: NOT TO SCALE

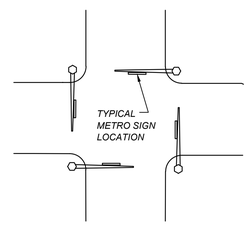
TYPICAL METRO SIGN PLACEMENT



15" METRO - STREET NAME SIGNS

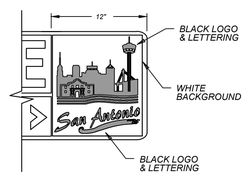


SPAN WIRE INSTALLATION



MAST ARM INSTALLATION

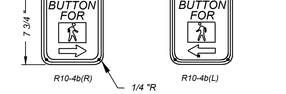
15" METRO w/ CITY SKY LINE



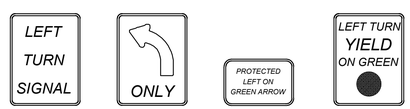
HEIGHT	15" (381 mm)
LENGTH	48" (1200 mm) MIN. 72" (1800 mm) MAX.** 1' (300mm) INCREMENTS OF LENGTH
THICKNESS	0.125" (3mm)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH
SIGN FACE MATERIALS	BLUE FILM OVER DIAMOND GRADE FP-85, SECTION 718 AND L-S-300C
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON BLUE BACKGROUND
LETTER TRACKING	17% (USUAL) 10% (MIN.)

** SIGN PLATE LONGER THAN 72" MUST BE APPROVED BY THE CITY TRAFFIC ENGINEER

* DIAMOND GRADE SHEETING 5052-H38 ALUMINUM SUBSTRATE



PEDESTRIAN PUSHBUTTON SIGNS



LEFT TURN SIGNS

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E. # 58698 ON 02.06.06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

NO.	REVISION	BY:	DATE:
X	XXX	X	X

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

TRAFFIC SIGN STANDARDS

METRO STREET NAME SIGN AND SIGN PLACEMENT

TE-SGN(4)-06

DSND:ENM	APVD: JDF	DATE: 1.30.06		SHT. NO.
DRWN:FG	APVD: ENM	DATE: 2.6.06		4 OF 4
RVSD:	APVD:	DATE:		SCALE: NOT TO SCALE

KFW ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 9513 • TBPLS Firm # 10225300

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4
BEXAR COUNTY, TEXAS
STREET SIGNAGE DETAILS

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
5.11

Date: Feb 02, 2024, 2:36pm User ID: dsimon
File: N:\391\10\14\Design\Civil\STREET SIGS\391014.dwg

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SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10SWG = 10 SWG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2) -

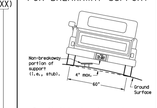
Anchor Type

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
MS = Wedge Anchor Steel - (see SMD(TWT))
MP = Wedge Anchor Plastic - (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation

F = Prefab. "Frido" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
P = Perforated
(12) or (20) = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
MC = 1-1/2 Arfy Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1))

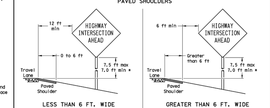
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial meeting of a breakaway support, such as a slipbase, with a rigid object more than 4 inches above a 60-inch chord (i.e., typical space between wheel pads).

SIGN LOCATION

PAVED SHOULDERS



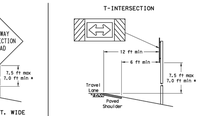
LESS THAN 6 FT. WIDE

When the shoulder is 6 ft. or less in width, the sign shall be placed at least 12 ft. from the edge of the travel lane.

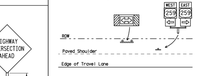
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign shall be placed at least 6 ft. from the edge of the shoulder.

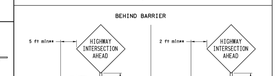
T-INTERSECTION



When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Signs as close to ROW as practical.



BEHIND BARRIER



BEHIND GUARDRAIL

+sign clearance based on distance required for proper guard rail or concrete barrier performance.

BEHIND CONCRETE BARRIER

* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 ft. a dashboard of 5.5 feet above the top of the nearest travel lane, or

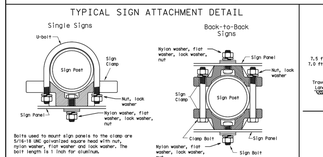
(2) a minimum of 7 ft. a dashboard of 5.5 feet above the grade of the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign slopes, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
http://www.txdot.gov/publications/trafftis.htm

TYPICAL SIGN ATTACHMENT DETAIL



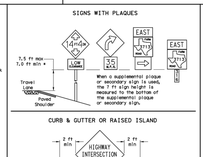
Bolts used to mount sign panels to the clamps are 5/16-18 UNC galvanized square head with nut, galvanized flat washer, and galvanized washer. The bolt length is 1 inch for stainless.

When two slipp clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. These bolt lengths may have to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal steps.

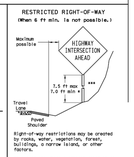
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
3" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
2" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by buildings, walls, vegetation, forest, bridges, ditches, a narrow island, or other features.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

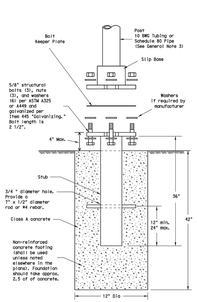
© TxDOT July 2002	No. 1997	Dn. 1997	Ch. 1997	Dn. 1997
9-08 REVISIONS	DIST	COUNTY		HIGHWAY
	7000	Bexar Co.		SHEET No.

264

DATED PLOTTED: 29-JUN-2023 11:39

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TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. https://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

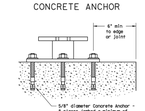
1. Slip base shall be permanently marked to indicate manufacturer, method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 SWG Tubing (3.675" outside diameter)
   0.135" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS or 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness tunnelwall shall be within the range of 0.122" to 0.136".
   Schedule 80 Pipe (2.875" outside diameter)
   Galvanization per ASTM A123 or ASTM A653 G210, for pregalvanized steel tubing (ASTM A653), recoat
   Tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   55,000 PSI minimum yield strength
   65,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness tunnelwall shall be within the range of 0.248" to 0.304".
   Outside diameter tunnelwall shall be within the range of 2.855" to 2.895".
3. See the Traffic Operations Division website for detailed drawings of sign slopes and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/trafftis.htm
4. Slip supports shall not be spliced except where shown. Slip support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. Place concrete in hole and immediately insert anchor bolt assembly. Check for plumb and level. Allow concrete to cure for 4 days before installing sign. Concrete shall be Class A.
3. Push the pipe end of the slip base into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Check for plumb and level. Fill the remainder of the hole with concrete. Finish to a crown.
4. Finish the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the traveltop n.e., edge of the closest lane when slip plate is below the edge of pavement or 7 to 7.5 feet above the ground at points when the slip plate is above the edge of the traveltop. The cut shall be plumb and smooth.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-3) for clearances based on sign types.

CONCRETE ANCHOR



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 55 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per items 445, "Galvanizing," and 449, "Anchor Bolts" for detailed drawings of sign slopes. The website address is: http://www.txdot.gov/publications/trafftis.htm

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end, a heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 55 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Items 445, "Galvanizing," and 449, "Anchor Bolts". Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 2 1/2" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 pst, respectively. Adhesive type anchors shall have bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive type anchors shall have epoxy core plus manufacturer's recommendations. Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 2 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 2100 pst, respectively. Adhesive type anchors shall have bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive type anchors may be used where adequate epoxy core plus per the manufacturer's recommendations.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

© TxDOT July 2002	No. 1997	Dn. 1997	Ch. 1997	Dn. 1997
9-08 REVISIONS	DIST	COUNTY		HIGHWAY
	7000	Bexar Co.		SHEET No.

265

DATED PLOTTED: 29-JUN-2023 11:39

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ONE-WAY Street Name Sign (11" required)
Gap between shoulder and shoulder 4 ± 1
STOP (R1-1) YIELD (R1-2)
See Detail G
Extruded Alum. Windbeam (see SMD-2(11))
FLAGS = 1 - variable length 1/2" + 2 - 32 inch plates 1 - 24 inch plate 1 - 32 inch plate
SM RD SGN ASSM TY XXXXX(11)XX(FLAG)
Aluminum Sign Panel
Top View
Detail A
Nylon washer, 5/16" x 1 3/4" hex bolt with nut, lock washer, 2 flat washers per ASTM A307 galvanized per Item 445, "Galvanizing."
Sign Clamps - Specific or Universal
Wing Channel
5/16" x 3 3/4" hex bolt with nut, lock washer and flat washer per ASTM A307 galvanized per Item 445, "Galvanizing."
Top View
Detail B
SM RD SGN ASSM TY XXXXX(11)XX
Drill 7/16" hole (through other assembly) and install bolt, nut, 2 flat washers and lock washer.
3/8" x 3 1/2" heavy hex bolt with nut, lock washer and 2 flat washers per ASTM A307 galvanized per Item 445, "Galvanizing."
Extender
1 1/2"
U-Bracket
Detail F
Splices shall only be allowed behind the sign substrate.
GENERAL NOTES:
1. SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA
   12 SWG | 1 | 12 SF
   10 SWG | 1 | 30 SF
   Sch 80 | 1 | 32 SF
   Sch 80 | 2 | 64 SF
2. The Engineer may require that a Schedule 80 post be used in place of a 10 SWG where a sign height is abnormally high due to a fill slope.
3. Slip supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified on the plans.
5. Signs that require specific supports due to reasons other than those listed above shall be designed to the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat sheet aluminum, the following shall be used for signs 15 feet in height. Stringers are used for signs of greater height.
7. Where triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel, so that they can function properly independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be 1-1/2 inch Arfy Wing Channel.
9. Extruded slide, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel by more than the dimension shown, when the back of the sign is viewed from the front. Repair galvanizing coating on cut support ends per Item 445, "Galvanizing."
10. Triangular base plate shall be oriented vertically. Orientation for other sign shapes shall be determined. Maximum allowable deviation per Note 11.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

Aluminum Sign Panel
Wing Channel
Side View
Detail C
Nylon washer, 5/16" x 1 3/4" hex bolt with nut, lock washer, 2 flat washers per ASTM A307 galvanized per Item 445, "Galvanizing."
T-Bracket
1/2" x 4" heavy hex bolt, nut, lock washer and 2 flat washers per ASTM A307 galvanized per Item 445, "Galvanizing."
Post
Detail E
SIDE VIEW
TOP VIEW
Extruded Aluminum Windbeam (see SMD-2(11))
3/8" x 3 1/2" square head bolt, nut, flat washer and lock washer per ASTM A307 galvanized per Item 445, "Galvanizing." (Bolt length depending on clamp type and pipe diameter.)
Sign Clamps (Specific or Universal)
Detail D
FRICTION CAP DETAIL
0.25" Skirt Variation Depth
Pipe O.D. +.025"/-.010"
1" min. 1.75" max
Rolled Crimp to engage pipe O.D.
Pipe O.D. +.025"/-.010"
Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The aluminum sheet metal thickness shall be 24 gauge for all cap sizes.
The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a uniform friction fit and have no tendency to rock when seated on the pipe.
The rim edges shall be free of burrs and sharp protection against entrance of rainwater. They shall be free of sharp grooves or indentations and show no evidence of metal fracture.
Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN A.
All dimensions are in english unless detailed otherwise.
SM RD SGN ASSM TY XXXXX(11)XX(T)
(+ - See Note 12)
SM RD SGN ASSM TY XXXXX(11)XX(U)
SM RD SGN ASSM TY XXXXX(11)XX(P)
SM RD SGN ASSM TY SM011(11)XX(EXT)
SM RD SGN ASSM TY XXXXX(11)XX(U-EXT)
SM RD SGN ASSM TY XXXXX(11)XX(U-MC)
(See Note 11)
SM RD SGN ASSM TY XXXXX(11)XX(U-MC)
SM RD SGN ASSM TY XXXXX(11)XX(T-MC)
(+ - See General Note 6)
SM RD SGN ASSM TY XXXXX(11)XX(T)
(+ - See General Note 6)
0.25 H
W(min)=8FT
0.2W
0.6W
0.2W

REQUIRED SUPPORT	
SIGN DESCRIPTION	SUPPORT
48-inch STOP sign (R1-1)	TY 10SWG(11)(T) TY 10SWG(11)(P-BM)
60-inch YIELD sign (R1-2)	TY 10SWG(11)(T) TY 10SWG(11)(P-BM)
48x18-inch ONE-WAY sign (R6-1)	TY 10SWG(11)(T) TY 10SWG(11)(P-BM)
36x48, 48x36, and 48x48-inch signs	TY SB011(11)(T)
48x60-inch signs	TY SB011(11)(T)
48x48-inch signs (diamond or square)	TY 10SWG(11)(T)
48x60-inch signs	TY SB011(11)(T)
48-inch Advance School X-ing sign (S1-1)	TY 10SWG(11)(T)
48-inch School X-ing sign (S2-1)	TY 10SWG(11)(T)
Large Arrow sign (W1-6 & W1-7)	TY 10SWG(11)(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST

SMD(TWT)-08

© TxDOT July 2002	No. 1997	Dn. 1997	Ch. 1997	Dn. 1997
9-08 REVISIONS	DIST	COUNTY		HIGHWAY
	7000	Bexar Co.		SHEET No.

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DATED PLOTTED: 29-JUN-2023 11:39

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Wing Channel
Nylon washer, 5/16" x 1 3/4" hex bolt with nut, lock washer, 2 flat washers per ASTM A307 galvanized per Item 445, "Galvanizing."
Side View
Sign Panel
Detail B
Drill 7/16" hole (through other assembly) and install bolt, nut, 2 flat washers and lock washer.
3/8" x 4" heavy hex bolt with nut, lock washer and 2 flat washers per ASTM A307 galvanized per Item 445, "Galvanizing."
1 1/2"
Extender
T-bracket
Detail C
Splices shall only be allowed behind the sign substrate.
GENERAL NOTES:
1. SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA
   12 SWG | 1 | 12 SF
   10 SWG | 1 | 30 SF
   Sch 80 | 1 | 32 SF
   Sch 80 | 2 | 64 SF
2. The Engineer may require that a Schedule 80 post be used in place of a 10 SWG where a sign height is abnormally high due to a fill slope.
3. Slip supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified on the plans.
5. Signs that require specific supports due to reasons other than those listed above shall be designed to the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat sheet aluminum, the following shall be used for signs 15 feet in height. Stringers are used for signs of greater height.
7. Where triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel, so that they can function properly independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be 1-1/2 inch Arfy Wing Channel.
9. Extruded slide, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel by more than the dimension shown, when the back of the sign is viewed from the front. Repair galvanizing coating on cut support ends per Item 445, "Galvanizing."
10. Triangular base plate shall be oriented vertically. Orientation for other sign shapes shall be determined. Maximum allowable deviation per Note 11.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT	
SIGN DESCRIPTION	SUPPORT
48-inch STOP sign (R1-1)	TY 10SWG(11)(T) TY 10SWG(11)(P-BM)
60-inch YIELD sign (R1-2)	TY 10SWG(11)(T) TY 10SWG(11)(P-BM)
48x18-inch ONE-WAY sign (R6-1)	TY 10SWG(11)(T) TY 10SWG(11)(P-BM)
36x48, 48x36, and 48x48-inch signs	TY SB011(11)(T)
48x60-inch signs	TY SB011(11)(T)
48x48-inch signs (diamond or square)	TY 10SWG(11)(T)
48x60-inch signs	TY SB011(11)(T)
48-inch Advance School X-ing sign (S1-1)	TY 10SWG(11)(T)
48-inch School X-ing sign (S2-1)	TY 10SWG(11)(T)
Large Arrow sign (W1-6 & W1-7)	TY 10SWG(11)(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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DATED PLOTTED: 29-JUN-2023 11:39

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Wedge Anchor Steel System
Tubular socket should be flush to or above ground (for optimal roadability).
Post (See General Note 4)
Wedge
3" (approx.)
Cross A Concrete
Tubular Socket
Non-reinforced Concrete Footing (shall be used unless noted elsewhere in the plans). Foundation should have approx. 0.3 cy of concrete.
27"
30"
12" Dia
SM RD SGN ASSM TY TWT(10)X(S)
Wedge Anchor High Density Polyethylene (HDPE) System
Post (See General Note 4)
Wedge
3" (approx.)
Cross A Concrete
Anchor
17"
30"
Non-reinforced Concrete Footing (shall be used unless noted elsewhere in the plans). Foundation should have approx. 0.3 cy of concrete.
12" Dia
SM RD SGN ASSM TY TWT(10)X(P)
Universal Anchor System with Thin-Walled Tubing Post
Post (See General Note 4)
1/4 x 2 7/8" Slots 14 Equally Spaced
1/2" x 7 1/2" steel rod bolts as "J-Hook" for the sign post and prevents sign from turning in the foundation.
1 1/2" Diameter Schedule 40 Stub Pipe (3" Nominal)
Cross A Concrete
Stub pipe
Non-reinforced Concrete Footing (shall be used unless noted elsewhere in the plans). Foundation should have approx. 0.3 cy of concrete.
10"
14"
30"
12" Dia
Compression Ring
2.375" Diameter 0.065 Thin Wall (2" Nominal)
Plastic Insert
1 1/2" Diameter Schedule 40 Stub Pipe (3" Nominal)
View A-A
Friction Cap or Plug, See detail on SMD (SLIP-2)
SM RD SGN ASSM TY TWT(10)A(P)
5/8" diameter Concrete Anchor - 4 slopes (embed a min. of 6" for expansion or adhesive type.
6" min. top edge or joint
Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 55 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Items 445, "Galvanizing," and 449, "Anchor Bolts". Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 2 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 pst, respectively. Adhesive type anchors shall have bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive type anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.
Plastic Insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. Insert is placed in the post at the ground and cover the tubing from just above the top or the stub pipe to the bottom of the slip post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.
3/4" dia.
Coupler
3 1/2"
Pipe Stub
1/2"
Base Plate
SM RD SGN ASSM TY TWT(10)B(P)
Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post
See Detail A
0.25 H
W(min)=10FT
0.2W
0.6W
0.2W
T-Bracket
1/2" x 4" heavy hex bolt, nut, 2 flatwashers per ASTM A307 galvanized per Item 445, "Galvanizing."
Post
5/16" hole may need to be drilled through post to accommodate bolt.
Detail A
NOTE
The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.
GENERAL NOTES:
1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post (TWT) are designed for use with 10 SWG tubing only.
2. The tubular sealed, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer, method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts 113 SWG Tubing, clamps, nuts and bolts, all components shall be galvanized after fabrication. Galvanization may be omitted from the material Producer List web page. The website address is:
   http://www.txdot.gov/business/producer_list.htm
4. Tubing used as post with this system shall conform to the following specifications:
   113 SWG Tubing (3.175" outside diameter) (TWT)
   0.095" nominal wall thickness
   Seamless or electric-resistance welded steel tubing
   Steel shall be HSLAS or 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness tunnelwall shall be within the range of .083" to .099"
   Outside diameter tunnelwall shall be within the range of 3.369" to 3.381"
   Galvanization per ASTM 123 and ASTM A653 G210, for pregalvanized steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Slip blanks shall be the sizes and shapes shown on the plans.
6. Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp 3 inches above bottom of sign when possible.
7. Slip supports shall not be spliced except where shown. Slip support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign slopes and Wedge Anchor System components. The website address is:
   http://www.txdot.gov/publications/trafftis.htm
WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURES
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be free from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, mortar driven concrete mixer. For depth processes less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A. Concrete shall be placed in the hole and rodded until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximately 1/4 " above finished ground.
4. Fill the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer.
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign plate with roadway.
7. Set the wedge. Use a hammer to ensure post. This will leave approximately 3 inches of the wedge exposed.
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be free from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post to hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. Base plate shall be above the concrete footing.
4. Attach the sign to the sign post.
5. Insert the sign post into base of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when properly installed.
8. Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST

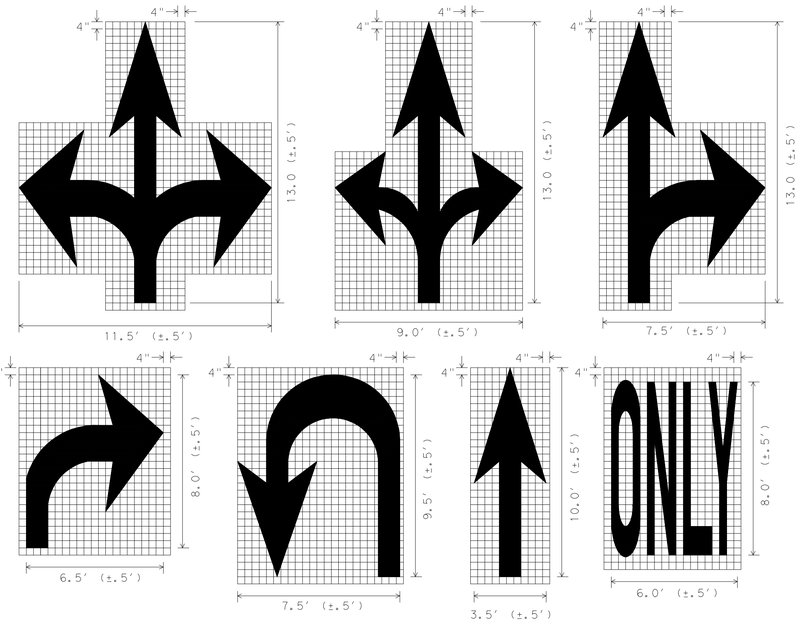
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Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post
3" O.D. Fiberglass Reinforced Plastic (FRP) Pipe
Cross A Concrete
Stub pipe
Non-reinforced Concrete Footing (shall be used unless noted elsewhere in the plans). Foundation should have approx. 0.3 cy of concrete.
10"
14"
30"
12" Dia
Compression Ring
Fiberglass Reinforced Plastic (FRP

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GENERAL NOTES:

1. Minimum 8 foot white markings should be used, unless otherwise noted. If message consists of more than one word, it should be placed with first word nearest the driver.
2. These details are standard size for normal installations; sizes may be reduced approximately one-third for low speed urban conditions; larger sizes may be needed for freeways, above average speed conditions or other critical locations.
3. The longitudinal space between markings should be at least four times the height of the markings, on low speed roads, but should not exceed ten times the height under any condition.
4. Markings considered appropriate for use when warranted include the following:
   - A. Regulatory: STOP; RIGHT (LEFT) TURN ONLY; 25 MPH; SYMBOL ARROWS
   - B. Warning: STOP AHEAD; SIGNAL AHEAD; SCHOOL; SCHOOL X-ING; PED X-ING; R X R (see RCPM standard)
   - C. Guide: US XXX; ROUTE XXX; STATE XXX; Other words or symbols may be necessary under certain conditions
5. Uncontrolled use of pavement markings can result in driver confusion. Word and symbol markings should be no more than three lines.
6. The word "STOP" shall not be used on the pavement unless accompanied by a Stop line and Stop sign. The word "STOP" shall not be placed on the pavement in advance to a stop line, unless every vehicle is required to stop at all times.
7. Pavement markings should generally be no more than one lane in width, with School messages being the exception. For details of School and School crossing pavement markings, refer to Part VII of the "Texas Manual on Uniform Traffic Control Devices".
8. Spacing between letters should be approximately 4 inches. The width of letters may vary depending on the width of the travel lanes.
9. Lane-Use arrow markings may be used to convey either guidance or mandatory messages. Arrows used to convey a mandatory movement must be accompanied by standard signs and the pavement marking word "ONLY".
10. Pavement markings are to be located as specified elsewhere in the plans.

SPACING BETWEEN LINES OF PAVEMENT MARKINGS	
MPH	SPACING
≤45	MINIMUM 4 TIMES THE LETTER HEIGHT
>45	MINIMUM - 4 TIMES THE LETTER HEIGHT; MAXIMUM - 10 TIMES THE LETTER HEIGHT

Texas Department of Transportation
Traffic Operations Division

STANDARD PAVEMENT MARKINGS (ARROWS)

PM(6)-01

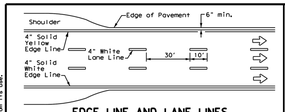
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CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.
REVISIONS			

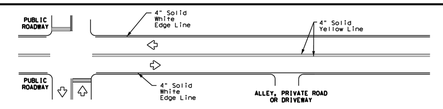
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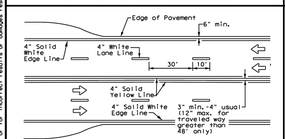
EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



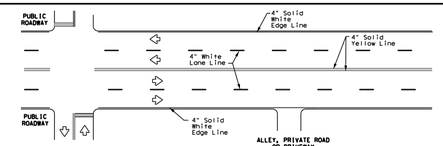
TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



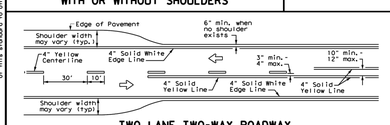
GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline of a two lane roadway.

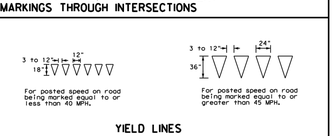
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

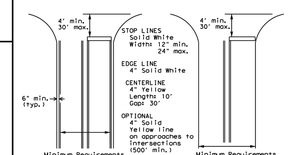


YIELD LINES

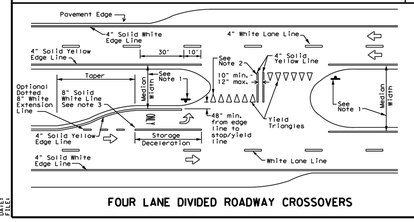


GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Highways



FOUR LANE DIVIDED ROADWAY CROSSOVERS



NOTES

1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield traingles shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

Texas Department of Transportation — Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-20

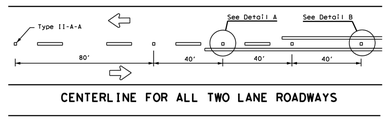
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REVISIONS	9-92 2-98	DIST	COUNTY		SHEET NO.
	5-00 2-12				
	8-00 6-20				

USER-F

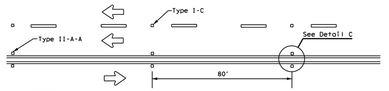
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

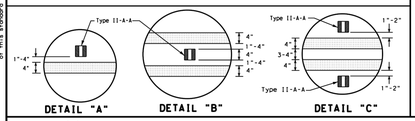
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

CENTERLINE FOR ALL TWO LANE ROADWAYS

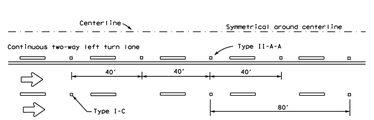


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS



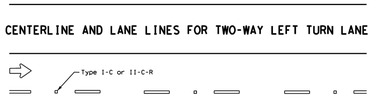


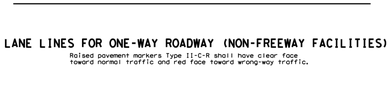
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.





REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

4" EDGE LINE, CENTER LINE OR LANE LINE

OPTIONAL 6" EDGE LINE, CENTER LINE OR LANE LINE

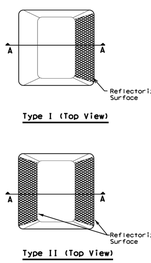
A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTE

Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



RAISED PAVEMENT MARKERS

GENERAL NOTES

1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

Texas Department of Transportation — Traffic Safety Division Standard

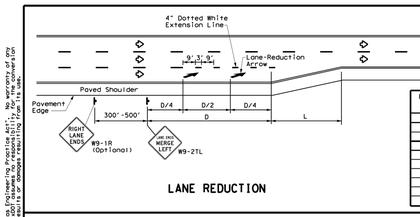
POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS

PM(2)-20

FILE:	pm2-20.dgn	DN:	CK:	DW:	CK:
©TxDOT	April 1997	CONT	SECT	JOB	HIGHWAY
REVISIONS	4-98 2-10	DIST	COUNTY		SHEET NO.
	5-00 2-12				
	8-00 6-20				

22E

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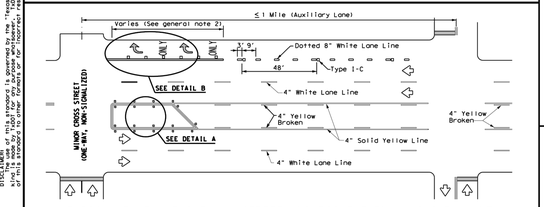


LANE REDUCTION

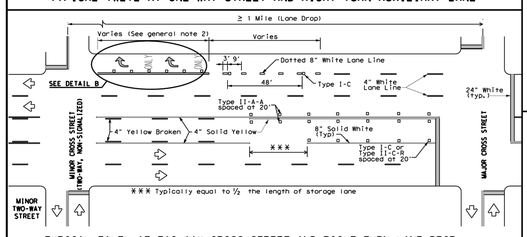
Posted Speed	D (ft)	L (ft)
30 MPH	460	L=WS²/60
35 MPH	565	
40 MPH	670	
45 MPH	775	
50 MPH	885	L=WS
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional W9-1R "RIGHT LANE ENDS" sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.



TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP

TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

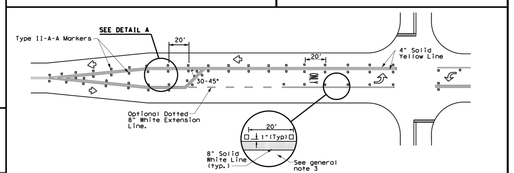
GENERAL NOTES

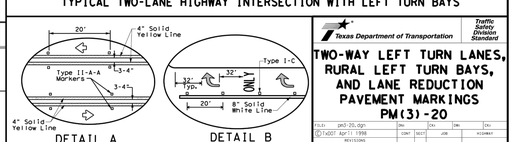
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS





Texas Department of Transportation — Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

PM(3)-20

FILE:	pm3-20.dgn	DN:	CK:	DW:	CK:
©TxDOT	April 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	5-00 2-12	DIST	COUNTY		SHEET NO.
	8-00 6-20				
	5-03 6-20				

USER-F

Date: Feb 02, 2024, 2:38pm User ID: dsharon
File: N:\391\01\42\design\civil\STREETS\TSS311014.dwg

KFW ENGINEERS + SURVEYING
Texas Limited Liability Company
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

THIS DOCUMENT IS RELEASED BY AUTHORITY OF OMAR A. ESPINOSA, P.E. # 125560 FOR BID SET ONLY AND NOT TO BE USED FOR CONSTRUCTION.

VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

STREET SIGNAGE DETAILS

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:

5.13

THIS 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

VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

SANITARY SEWER IMPROVEMENTS

SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
January 2022

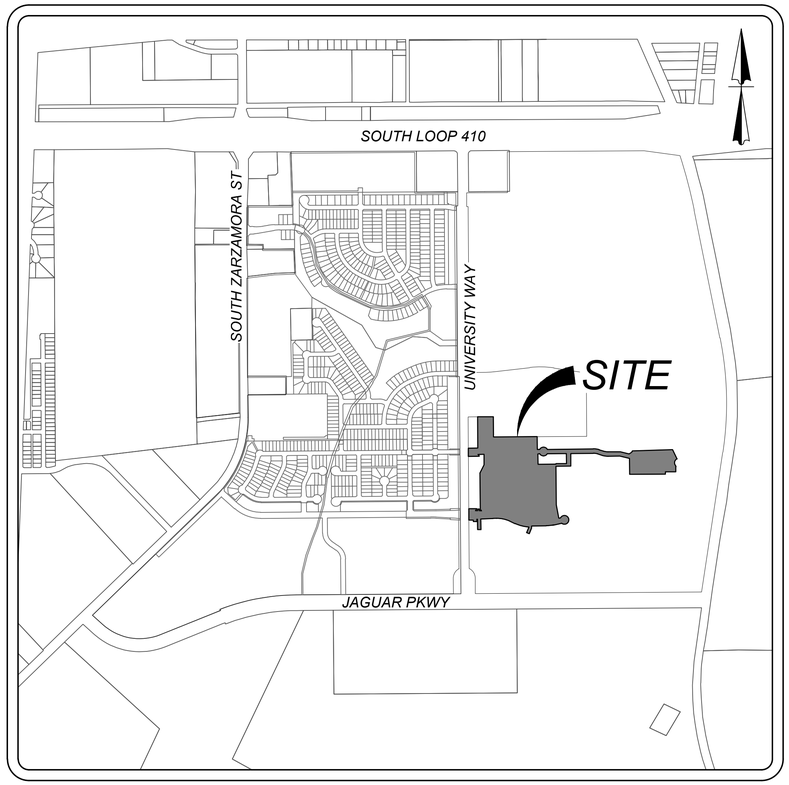
General Section

1. 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" (UECM).
2. 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.
3. 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.
4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (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.
5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field 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.
6. 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. The 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
7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
8. 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.
9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction 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.
12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements 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.
13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

Sewer Notes

1. 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.

   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 Federal, State or Local Agencies. No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.
2. 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".
3. 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.
4. 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 pressure rated PVC at the proposed water crossing.
5. 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)
6. 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 regardless of size.
7. 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.
8. All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.



LOCATION MAP

N.T.S.

INDEX

DESCRIPTION	SHEET NO.
SANITARY SEWER COVER SHEET	6.0
OVERALL SANITARY SEWER PLAN (1 OF 2)	6.1
OVERALL SANITARY SEWER PLAN (2 OF 2)	6.2
LINE "A" PLAN & PROFILE (1 OF 2)	6.3
LINE "A" PLAN & PROFILE (2 OF 2)	6.4
LINE "B" PLAN & PROFILE	6.5
LINE "C" PLAN & PROFILE	6.6
LINE "D" PLAN & PROFILE	6.7
LINE "E", "F" & "G" PLAN & PROFILE	6.8

OWNER/DEVELOPER:
SOUTHSTAR AT VERANO, LLC
2055 CENTRAL PLAZA, SUITE 110
NEW BRAUNFELS, TEXAS 78130

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KFW
ENGINEERS + SURVEYING
3921 Paesanos Pkwy., Suite 200, San Antonio, TX 78232
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

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: 24.78 ACRES
SAWS BLOCK MAP#: 154536 TOTAL EDU'S: 92
TOTAL LINEAR FOOTAGE OF PIPE: 3,845 LF – 8" SDR 26 PLAT NO.: 22-11800788
NUMBER OF LOTS: 92 SAWS JOB#: 23-1634

PLAT NO.22-11800788

SHEET 6.0

JOB NO.: 391-10-14

Date: Feb 02, 2024, 2:26pm User ID: ahayes
File: N:\391\10\14\Design\Civil\SEWER\CIVDS391014.dwg

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MATCH LINE "A" SEE SHEET 6.2

UNPLATTED MAGRAVEDUN1, LLC CALLED 5.769 ACRES (VOLUMR 18306, PAGE 1672 O.P.R.)

UNPLATTED SOUTHSTAR AT VERANO INVESTMENT, LLC REMAINING PORTION OF CALLED 207.97 ACRES (DOCUMENT NUMBER 20210023627 O.P.R.)

OFF-LOT 10' E.G.T.TV.E

STA: 1+35.00 MH "G1" END LINE "G"

E16"W (OSP-12744)

REGINA ISLAND LINE "E" (SAWS JOB NO. 23-1165)

LOT 901 BLOCK 38 N.C.B. 18088 OPEN SPACE

2 - 4" CONDUITS FOR PRIVATE USE

16' SANITARY SEWER EASEMENT

CONTRACTOR TO REPAIR PAVEMENT

E8"SS

STA: 1+00.00 CONTRACTOR TO TIE INTO EXISTING MANHOLE SAWS JOB NO. 08-1621 BEGIN LINE "D"

LOT 901 BLOCK 32 N.C.B. 18088 OPEN SPACE

STA: 2+13.23 LINE "D" = STA: 1+00.00 LINE "G" MH "D1" BEGIN LINE "G"

BENITEZ WAY

8"SS LINE "D"

8"W (SAWS JOB NO. 23-1165)

STA: 2+56.23 LINE "D" = STA: 1+00.00 LINE "E" MH "D2" BEGIN LINE "E"

8" WATER CROSSING STA: 2+75.23 REF. WATER CROSSING DETAIL THIS SHEET

10' E.G.T.TV.E

STA: 6+79.70 MH "B3"

DRAIN "E" SEE SHEET 4.5 - 4.7

BENITEZ WAY 8"SS LINE "B"

STA: 6+25.00 MH "D3" END LINE "D"

STA: 8+80.00 MH "B4" END LINE "B"

8" WATER CROSSING STA: 6+60.70 REF. WATER CROSSING DETAIL THIS SHEET

OFF-LOT TEMPORARY TURNAROUND, ELECTRIC, GAS, TELEPHONE, CABLE TV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT-OF-WAY)

DRAIN "D" SEE SHEET 4.3 - 4.4

MILAS PLACE 8"SS LINE "B"

5' V.N.A. & L.S.E.

8" WATER CROSSING STA: 6+08.70 REF. WATER CROSSING DETAIL THIS SHEET

3 - 6" CONDUITS 2 - 4" CONDUITS

FLATO LOCK 8"SS LINE "C"

STA: 3+40.03 MH "C1"

STA: 5+80.00 MH "C2" END LINE "C"

STA: 3+80.00 MH "B2"

STA: 17+65.00 MH "A9" END LINE "A"

STA: 15+24.44 MH "A8"

FLATO LOCK 8"SS LINE "A"

LOT 902 BLOCK 32 N.C.B. 18088 OPEN SPACE

OFF-LOT 16' SANITARY SEWER EASEMENT

STA: 1+60.00 MH "F1" END LINE "F"

12" WATER CROSSING STA: 1+43.13 REF. WATER CROSSING DETAIL THIS SHEET

14' E.G.T.TV.E

12"W (SAWS JOB NO. 23-1165)

LEDET GREEN

STA: 1+00.00 CONTRACTOR TO TIE INTO EXISTING MANHOLE SAWS JOB NO. 08-1621 BEGIN LINE "A"

STA: 2+25.03 LINE "A" = STA: 1+00.00 LINE "F" MH "A1" BEGIN LINE "F"

STA: 3+90.03 MH "A2"

2 - 4" CONDUITS

LOT 901 BLOCK 31 N.C.B. 18088 OPEN SPACE

DRAIN "F" SEE SHEET 4.1

3 - 6" CONDUITS 2 - 4" CONDUITS

OFF-LOT 39.5' DRAIN EASEMENT

UNPLATTED SOUTHSTAR AT VERANO INVESTMENT, LLC REMAINING PORTION OF CALLED 207.97 ACRES (DOCUMENT NUMBER 20210023627 O.P.R.)

MIRA CAMP 8"SS LINE "C"

STA: 7+48.79 MH "A4"

STA: 5+77.29 LINE "A" = STA: 1+00.00 LINE "C" MH "A3" BEGIN LINE "C"

SOUPE LAND 8"SS LINE "A"

8" WATER CROSSING STA: 5+61.29 REF. WATER CROSSING DETAIL THIS SHEET

DRAIN "B" SEE SHEET 4.1

12" WATER CROSSING STA: 4+26.94 REF. WATER CROSSING DETAIL THIS SHEET

STA: 8+53.31 LINE "A" = STA: 1+00.00 LINE "B" MH "A5" BEGIN LINE "B"

STA: 1+56.27 MH "B1"

8" WATER CROSSING STA: 8+72.31 REF. WATER CROSSING DETAIL THIS SHEET

V.W.C.V.E

STA: 9+93.12 MH "A6"

LAIMA ANNEX 8"SS LINE "A"

AMADA PATH

LOT 901

LOT 902

OFF-LOT TEMPORARY TURNAROUND, ELECTRIC, GAS, TELEPHONE, CABLE TV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT-OF-WAY)

STA: 11+80.38 MH "A7"

2 - 4" CONDUITS

LEDET GREEN

UNPLATTED SOUTHSTAR AT VERANO INVESTMENT, LLC REMAINING PORTION OF CALLED 207.97 ACRES (DOCUMENT NUMBER 20210023627 O.P.R.)

UNPLATTED CLXV VIDA LAND LLC 8.00 ACRES (DOCUMENT NUMBER 20210181332 O.P.R.)

DRAIN "A" SEE SHEET 4.0

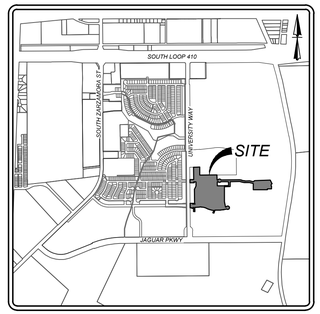
OFF-LOT 34' DRAIN EASEMENT

OFF-LOT 14' E.G.T.TV.E

UNIVERSITY WAY (VARIABLE WIDTH) (VOLUME 9659, PAGES 217-219 O.P.R.)

LEGEND

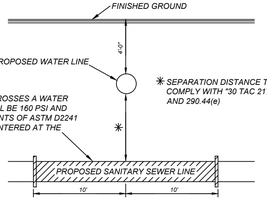
PROPOSED WATER MAIN	=	W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	SS
PROPOSED SANITARY SEWER LATERAL	=	
ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	=	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	=	V.W.C.V.E
LANDSCAPE EASEMENT	=	LS.E
EXISTING WATER MAIN	=	EW
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	ESS
EXISTING SANITARY SEWER MANHOLE	=	ESS



LOCATION MAP
N.T.S.

SCALE : 1"=50'
0' 50' 150'
100'

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 6.2, 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 ARE SDR 26.
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.



WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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 DD852-02.

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: 24.78 ACRES
SAWS BLOCK MAP#: 154535 TOTAL EDU'S: 92
TOTAL LINEAR FOOTAGE OF PIPE: 3,845 LF ~ 8" SDR 26 PLAT NO.: 22-11800788
NUMBER OF LOTS: 92 SAWS JOB#: 23-1634

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.

RESIDENTIAL LOTS = 92

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.

KFW
ENGINEERS + SURVEYING
Texas Joined Civilians Engineering & Design
3421 Passanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

OVERALL SANITARY SEWER PLAN (1 OF 2)

PLAT NO. 22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
6.1

THIS 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

Date: Feb 02, 2024, 2:27pm User ID: oespinosa
File#: N:\391\10\14\Design\CAD\SEWER\OS391014.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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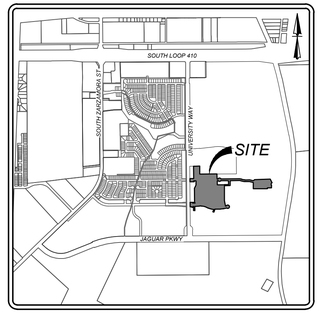
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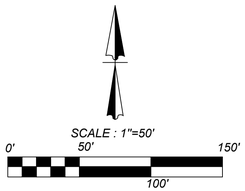
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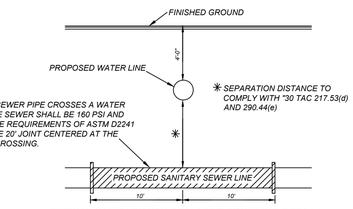
LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	SS
PROPOSED SANITARY SEWER LATERAL	=	
ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	=	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	=	V.W.C.V.E
LANDSCAPE EASEMENT	=	LS.E
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EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	ESS
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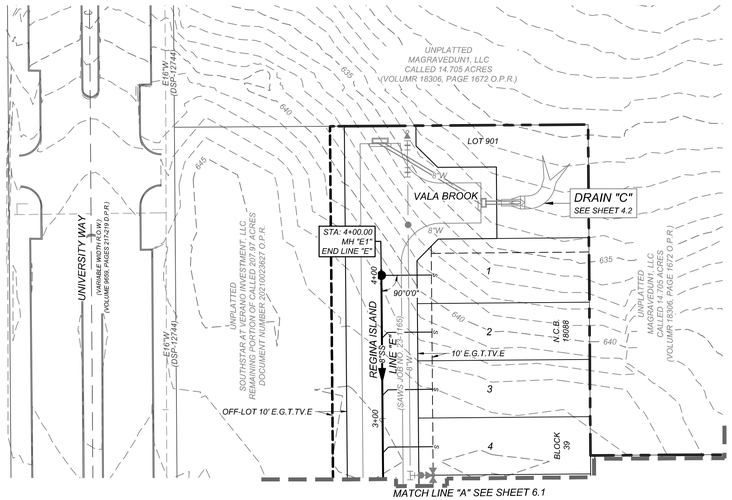


LOCATION MAP
N.T.S.





TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



MATCH LINE "A" SEE SHEET 6.1

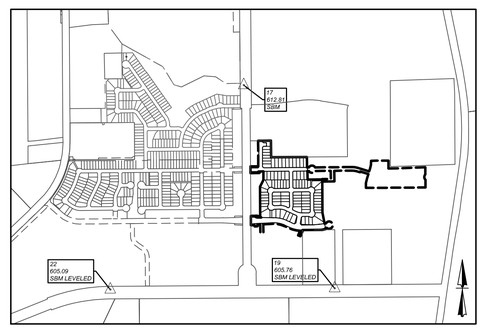
BENCHMARKS

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:2118419.82
ELEV: 605.09

✶ CONTRACTOR TO RUN LEVEL LOOP THROUGH BM'S PROVIDED TO CONFIRM BEFORE CONSTRUCTION. CONTACT ENGINEER/SURVEYOR IMMEDIATELY IF ELEVATIONS DO NOT MATCH THOSE SHOWN.



BENCHMARK MAP
SCALE: NOT-TO-SCALE

RESIDENTIAL LOTS = 92

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: 24.78 ACRES	
SAWS BLOCK MAP#: 154536		TOTAL EDU'S: 92	
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NUMBER OF LOTS: 92	SAWS JOB#: 23-1634		

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TBPE Firm #: 9513 • TBPLS Firm #: 10124500

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

OVERALL SANITARY SEWER PLAN (2 OF 2)

PLAT NO. 22-11800788

JOB NO.391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:

6.2

Date: Feb 02, 2024, 2:27pm User ID: ohenin
File: N:\391\10\14\Design\Civil\SEWER\DS391 10 14.dwg

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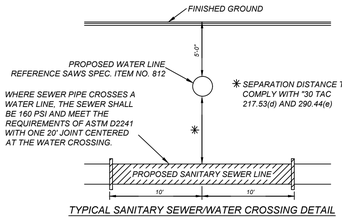
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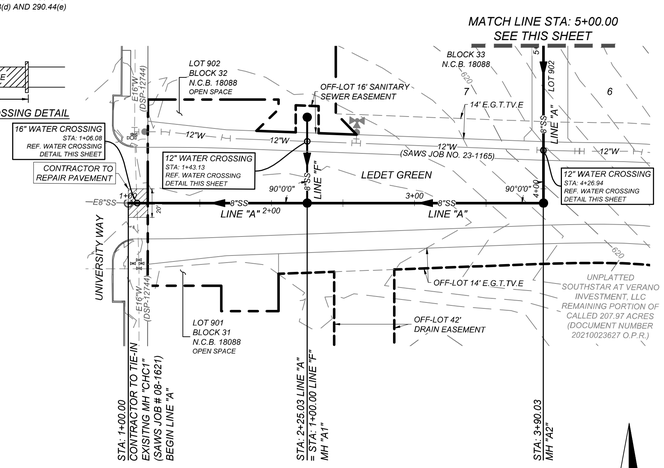
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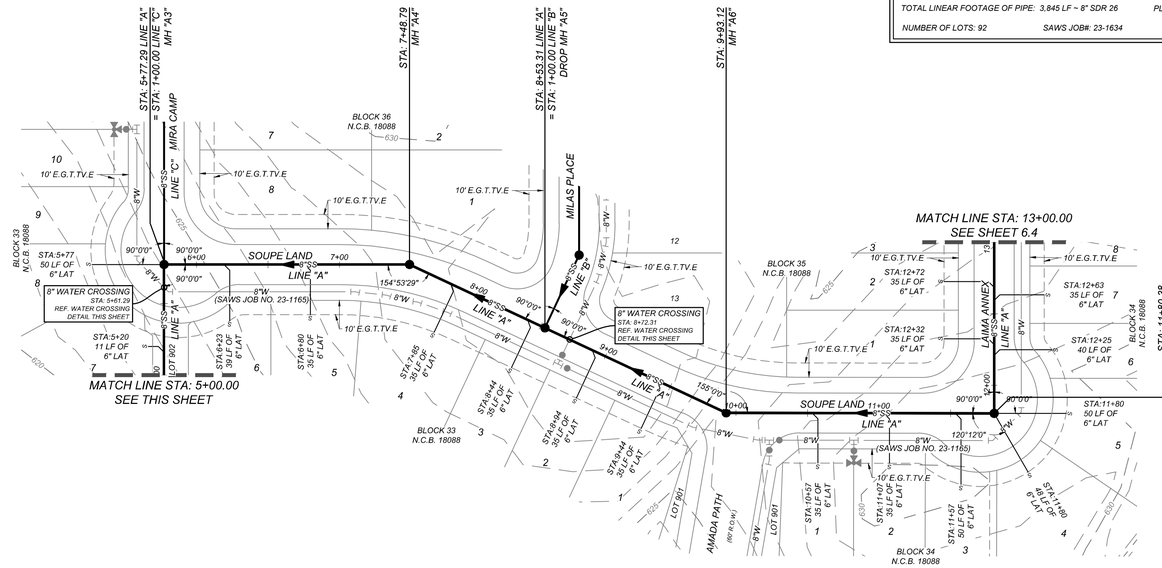
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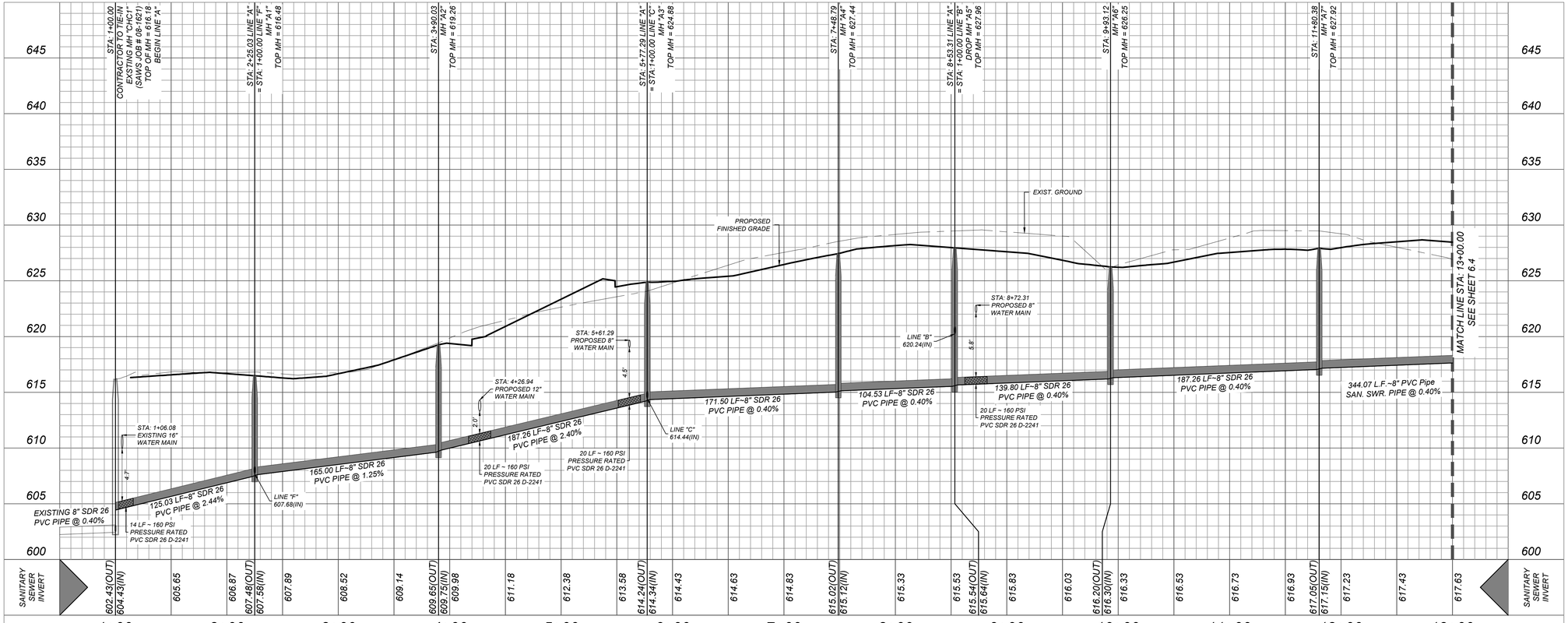
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.





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

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



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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LINE "A" PLAN & PROFILE (1 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

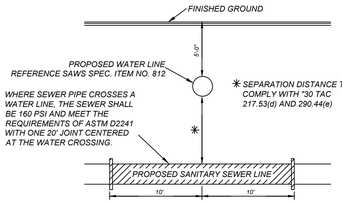
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Date: Feb 09, 2024, 2:20pm User ID: ohanson
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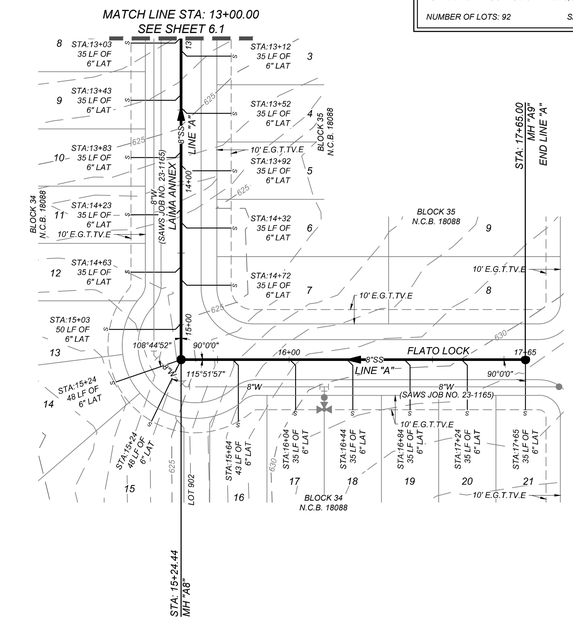
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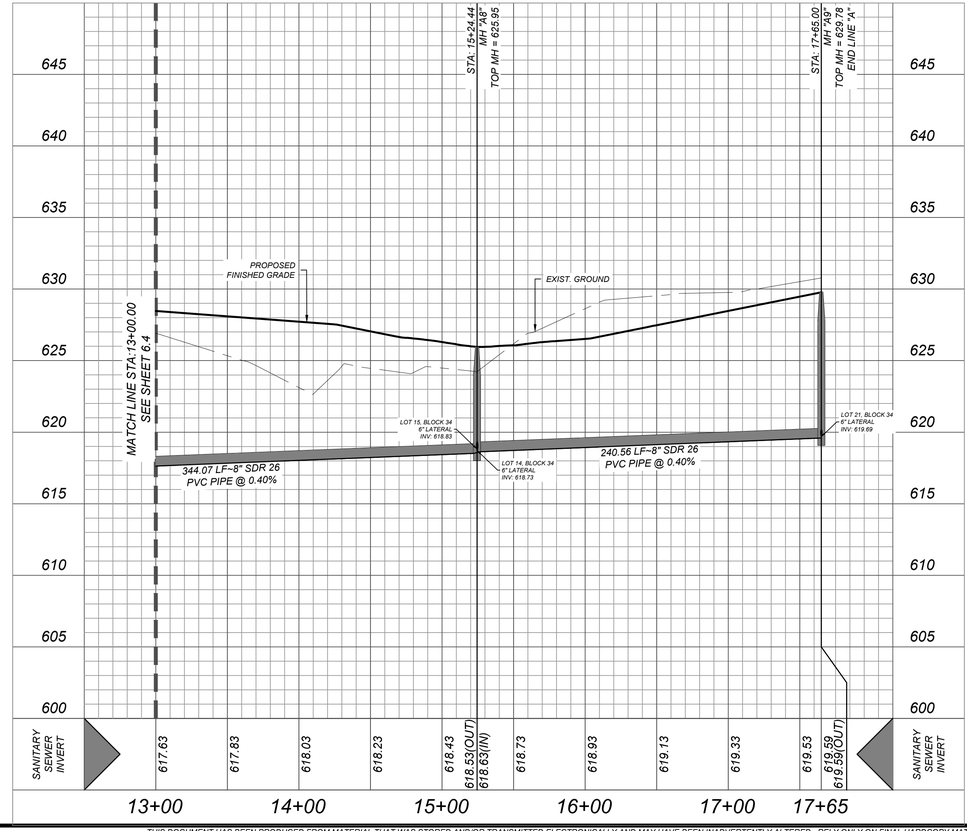
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LINE "A"
STA: 13+00.00 - END

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



KFW ENGINEERS + SURVEYING
Texas Joined Civilians Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LINE "A" PLAN & PROFILE (2 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

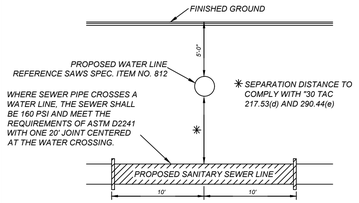
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Date: Feb 02, 2024, 2:20pm User ID: ohanes
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TRENCH EXCAVATION SAFETY PROTECTION

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TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

NOTES:

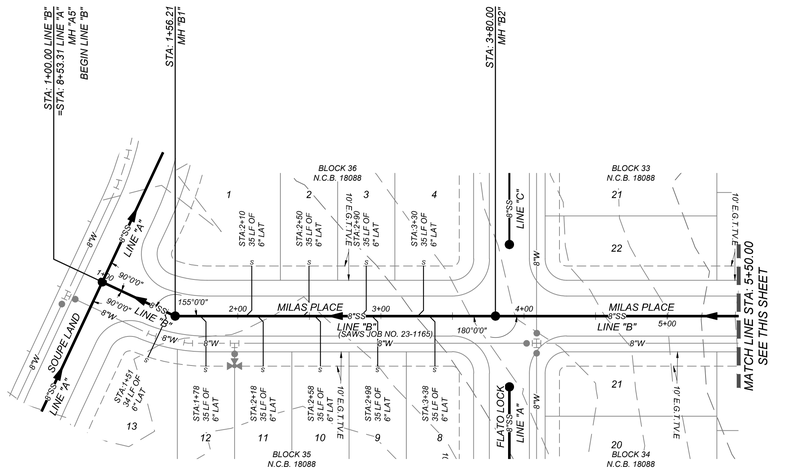
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2. REF. SHEET 6.2 FOR BENCHMARK INFORMATION.
3. PIPE TYPE DESIGNATIONS ARE SDR 26.
4. REF. THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
5. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.

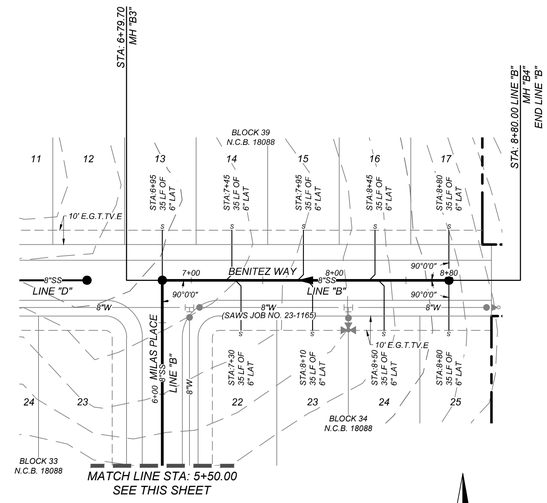
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MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

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

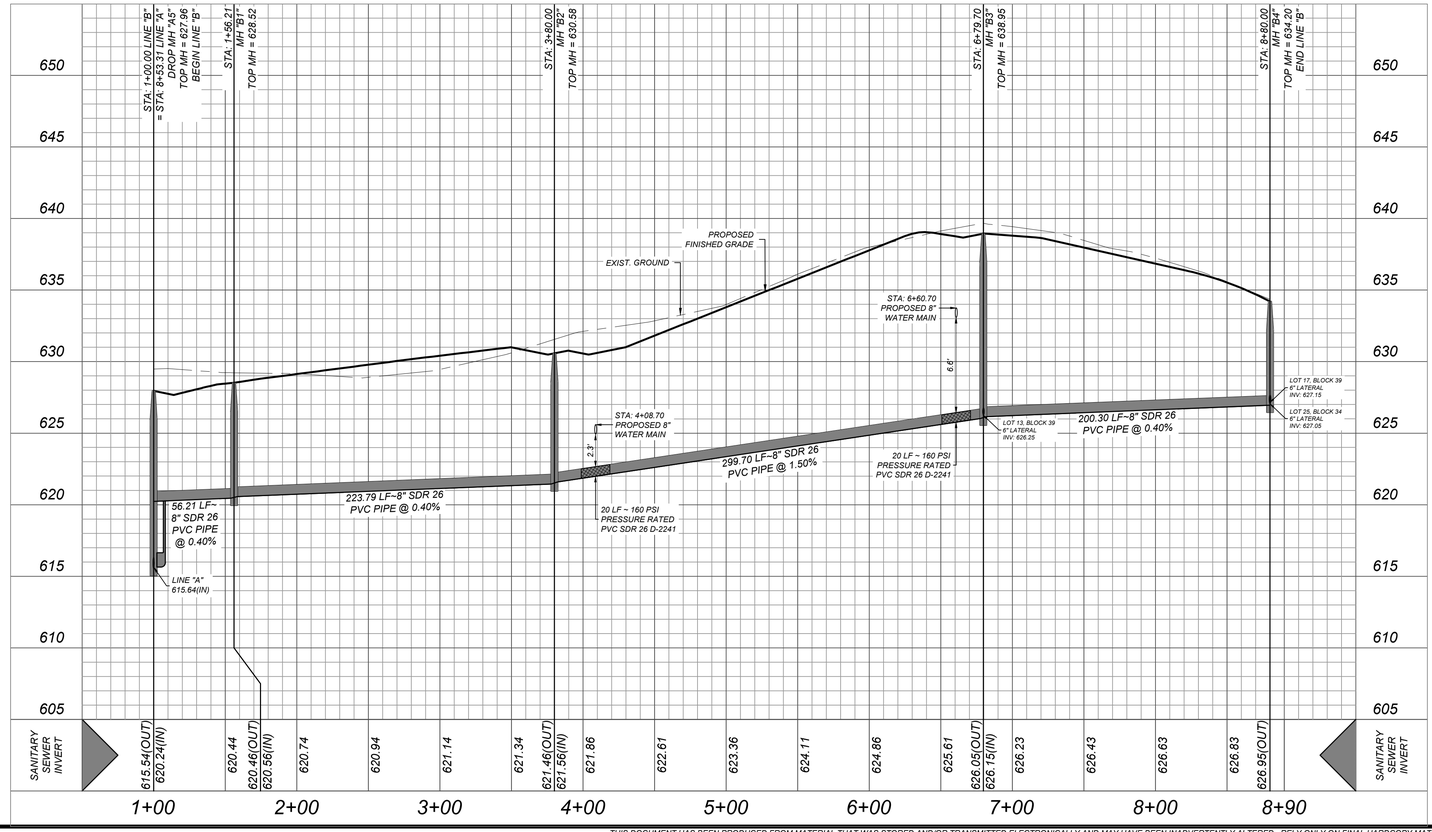
DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC		
DEVELOPER'S ADDRESS: 2055 CENTRAL PLAZA, SUITE 110		
CITY: NEW BRAUNFELS	STATE: TEXAS	ZIP: 78130
PHONE#:	FAX#:	TOTAL ACREAGE: 24.78 ACRES
SAWS BLOCK MAP#: 154536		TOTAL EDU'S: 92
TOTAL LINEAR FOOTAGE OF PIPE: 3,845 LF ~ 8" SDR 26		PLAT NO.: 22-11800788
NUMBER OF LOTS: 92	SAWS JOB#: 23-1634	





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

LINE "B"
STA: 1+00.00 - END



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ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LINE "B" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

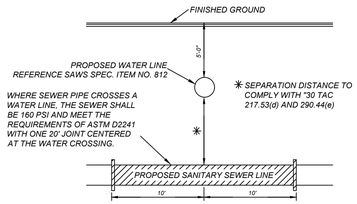
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TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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CAUTION!!:

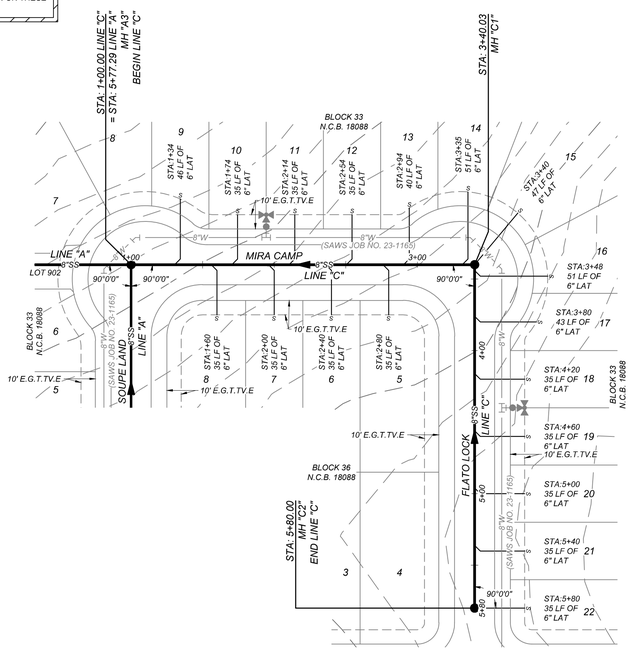
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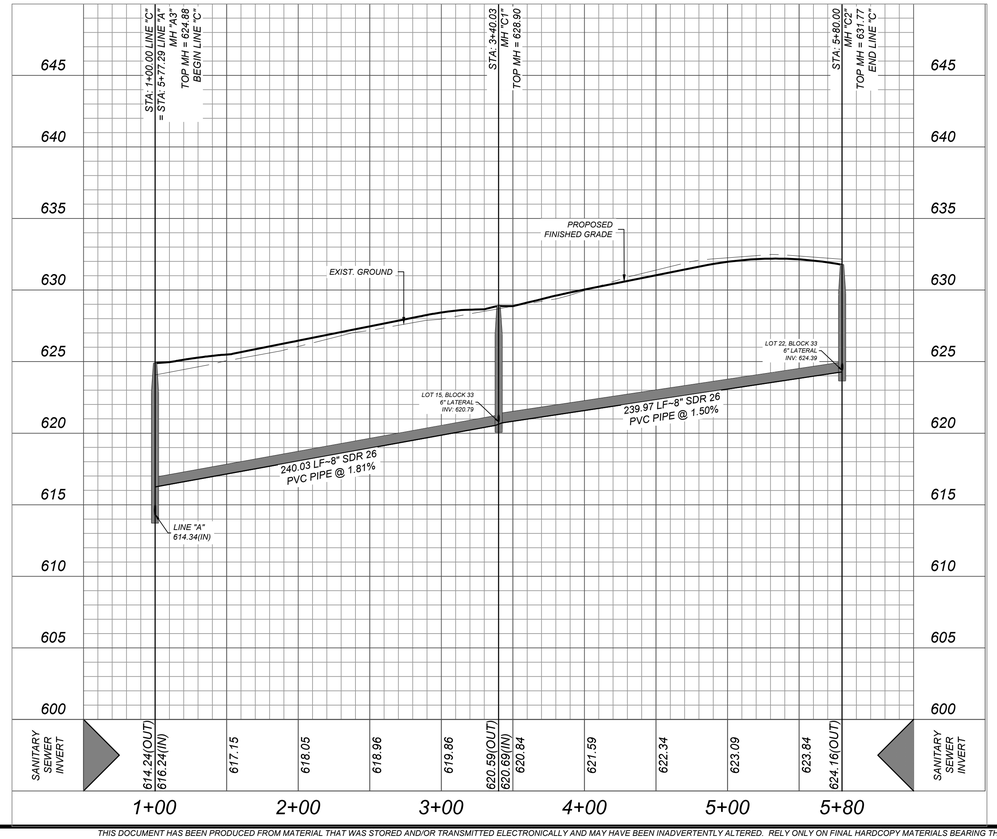
LOWER - WEST SEWERSHED - DOS RIOS \ LEON CREEK W.R.C.

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: 24.78 ACRES
SAWS BLOCK MAP#: 154536 TOTAL EDU'S: 92
TOTAL LINEAR FOOTAGE OF PIPE: 3,845 LF ~ 8" SDR 26 PLAT NO.: 22-11800788
NUMBER OF LOTS: 92 SAWS JOB#: 23-1634



LINE "C"
STA: 1+00.00 - END

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



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Phone #: (210) 979-8444 • Fax #: (210) 979-8441
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ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LINE "C" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:

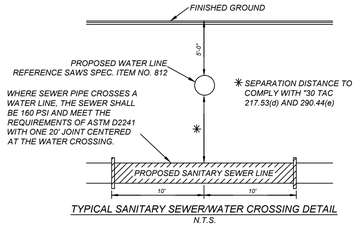
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TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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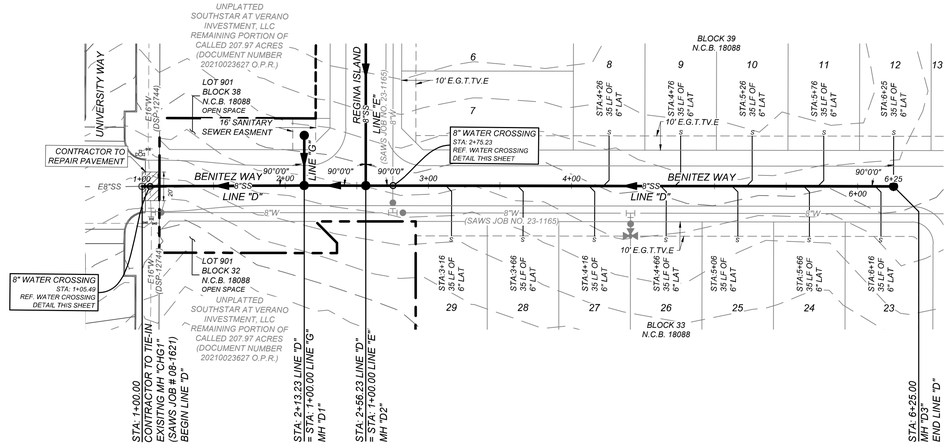
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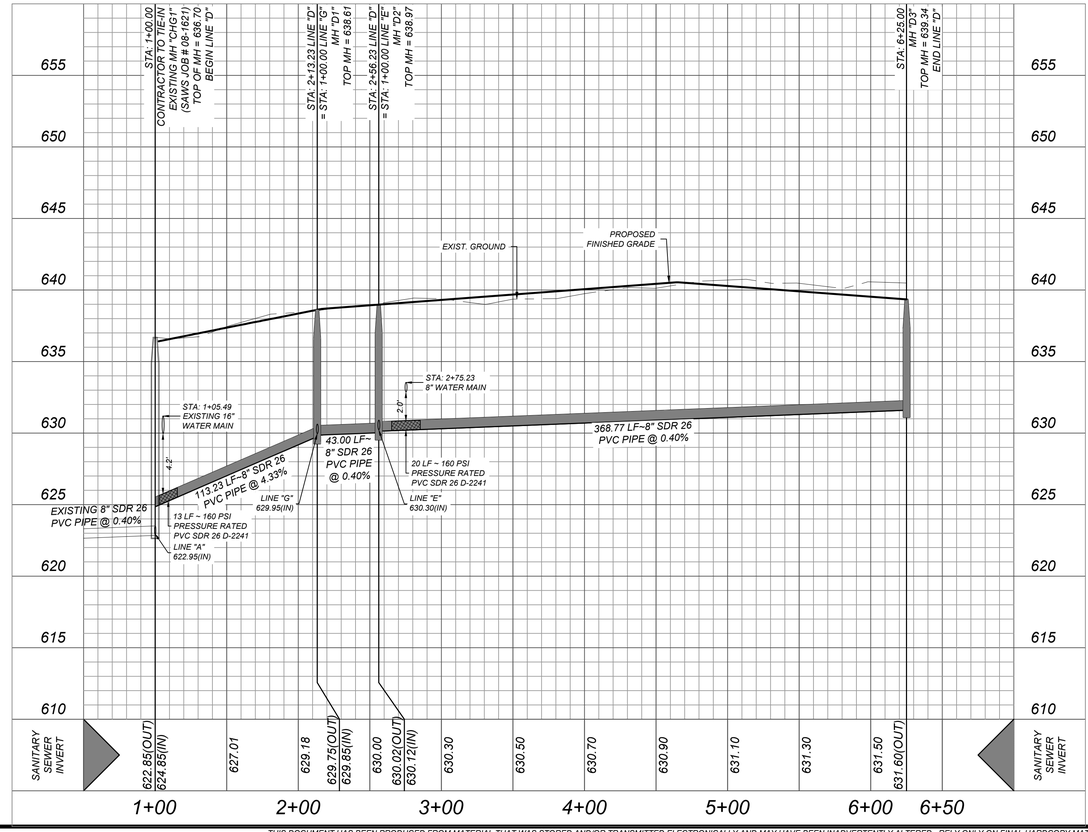
LOWER - WEST SEWERSHED - DOS RIOS \ LEON CREEK W.R.C.

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DEVELOPER'S ADDRESS: 2055 CENTRAL PLAZA, SUITE 110		
CITY: NEW BRAUNFELS	STATE: TEXAS	ZIP: 78130
PHONE#:	FAX#:	TOTAL ACREAGE: 24.78 ACRES
SAWS BLOCK MAP#: 154536		TOTAL EDU'S: 92
TOTAL LINEAR FOOTAGE OF PIPE: 3,845 LF ~ 8" SDR 26		PLAT NO.: 22-11800788
NUMBER OF LOTS: 92	SAWS JOB#: 23-1634	



LINE "D"
STA: 1+00.00 - END

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



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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LINE "D" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:
6.7

Date: Feb 02, 2024, 2:34pm User ID: Alvaro
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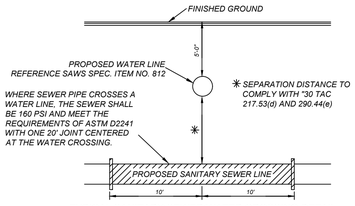
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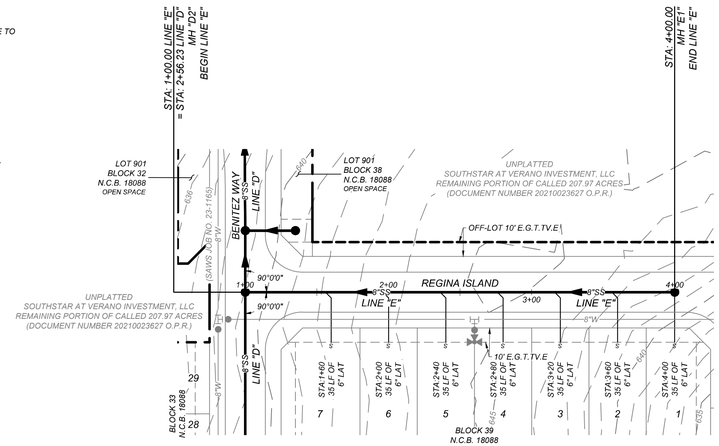
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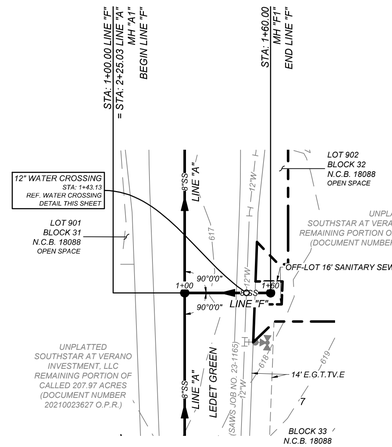


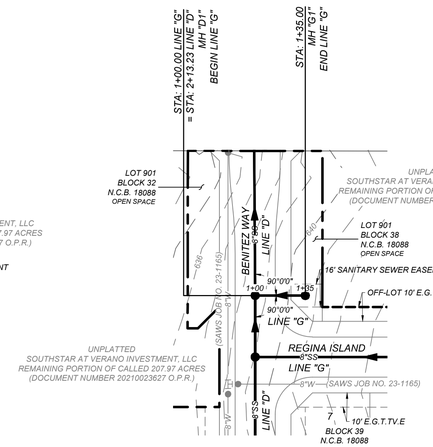
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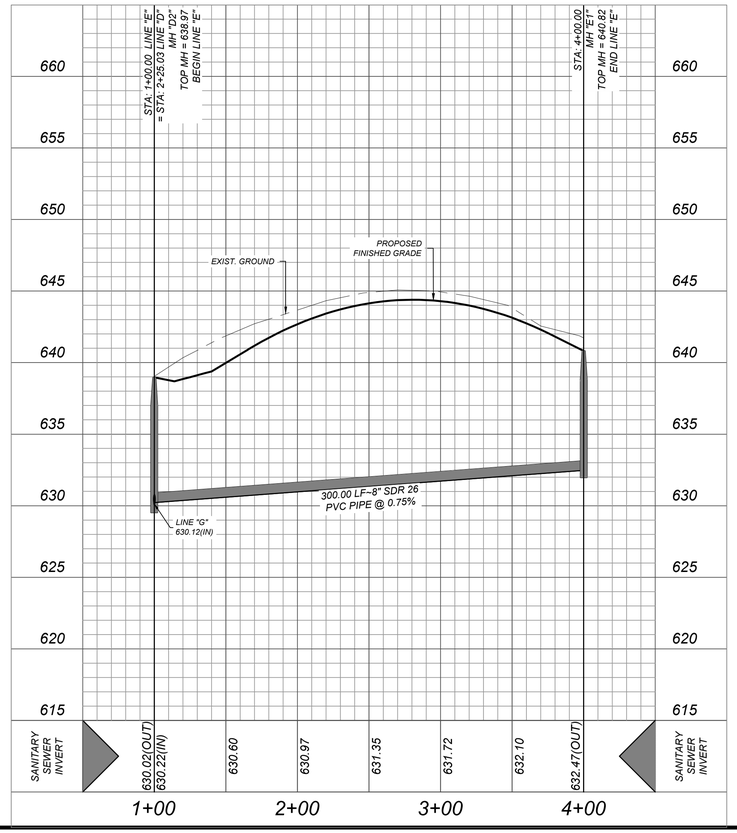




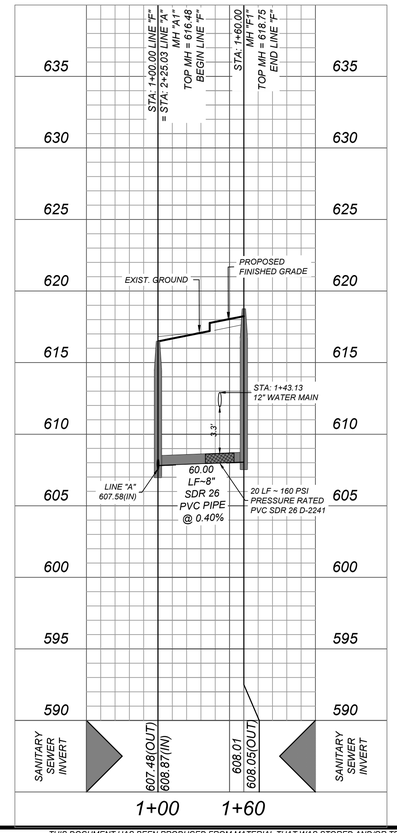


HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'

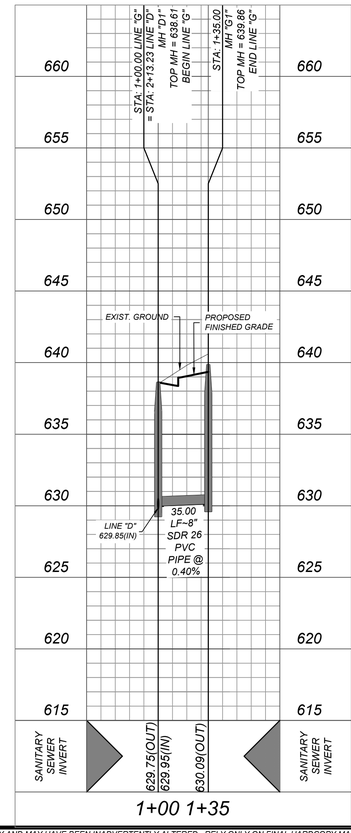
LINE "E"
STA: 1+00.00 - END



LINE "F"
STA: 1+00.00 - END



LINE "G"
STA: 1+00.00 - END



KFW ENGINEERS + SURVEYING
Tres Ismed Colleen Engineering & Design
3421 Passanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 2813 • TBPLS Firm # 10022500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

LINE "E", "F" & "G" PLAN & PROFILE

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

DRAWN:EB CHECKED:OE

SHEET NUMBER:

6.8

Date: Feb 02, 2024, 2:30pm User ID: rduran
File: N:\391\01\02\sign\cad\SEWERS\SP391014_EFG.dwg

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

WATER IMPROVEMENTS

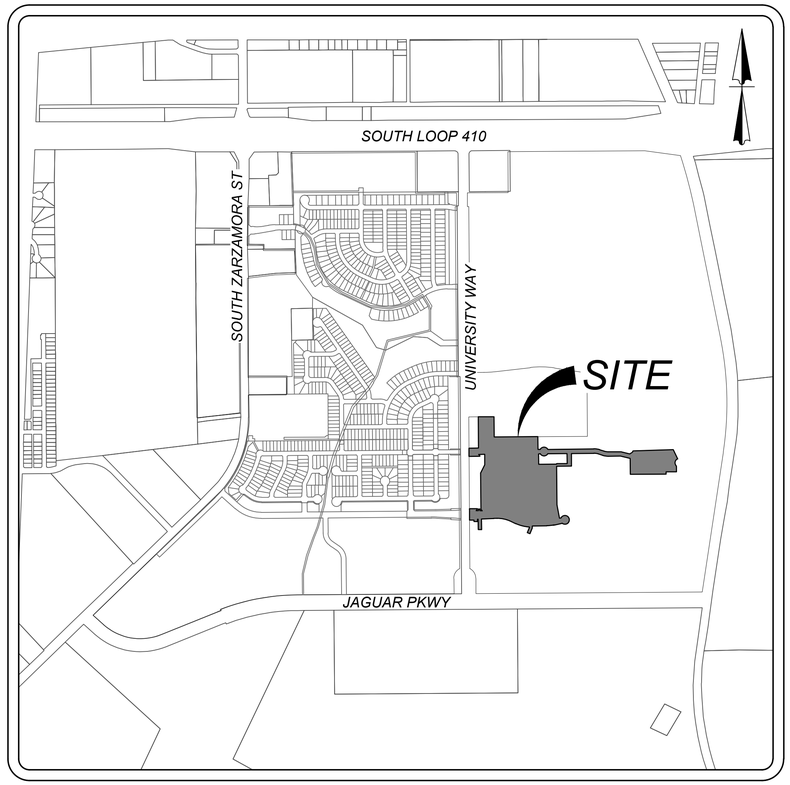
SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
January 2022

General Section

1. *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" (UECM).*
2. *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.*
3. *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.*
4. *The Contractor is to make arrangements with the SAWS Construction Inspection Division at (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.*
5. *Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field 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.*
6. *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. The 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*
7. *The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.*
8. *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.*
9. *The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.*
10. *The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.*
11. *Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction 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.
12. *Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements 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.*
13. *A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.*

Water Section

1. *Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with the SAWS Construction Inspection Division 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.*
   - *For water mains 12" or higher: SAWS Emergency Operations Center (210) 233-2014*
2. *Asbestos Cement (AC) pipe, also known as transite pipe which is known to contain asbestos containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Such work is to be made under Special Specification Item No. 3000, "Special Specification for Handling Asbestos Cement Pipe".*
3. *Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a cap/plug. (NSPI)*
4. *Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, plugs, caps, tees, crosses, valves, and bends, in accordance with the Standard Drawings DD-839 Series and Item No. 839, in the SAWS Standard Specifications for Construction.*
5. *All valves shall read "open right".*
6. *PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of 605 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 605 feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if "PRV is/are required for such lot(s), only single service connections shall be allowed. "Note: A pressure regulator is also known as a pressure reducing valve (PRV).*
7. *Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item No. 847.3): Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.*
8. *Backflow Prevention Devices:*
   - *All irrigation services within residential areas are required to have backflow prevention devices.*
   - *All commercial backflow prevention devices must be approved by SAWS prior to installation.*
9. *Final connection to the existing water main shall not be made until the water main has been pressure tested, chlorinated, and SAWS has released the main for tie-in and use.*
10. *Division Valves: Division Valves shown on plans or not shown on plans but found in the field shall only be operated by SAWS Distribution and Collection staff and only with prior written approval of the SAWS Director of Production and Operations and proper coordination with all SAWS departments. Contractor shall provide written notification to the inspector a minimum of two weeks in advance to start the coordination process and will be informed by the Inspector when the division valve will be operated by the SAWS Distribution and Collection staff. The Division Valve can only be operated by SAWS Distribution and Collection staff member not the inspector or the contractor. Operation of a Division Valve without the express prior written approval of the SAWS Distribution and Collection staff will constitute a material breach of any written SAWS contract or permit in addition to subjecting the Contractor to liability for any and all fines, fees, or other damages, direct or consequential, that may arise from or be caused by the operation of the valve without prior written permission. Please be informed that the approval of the operation or opening or closing of a division valve can take several weeks for approval. Division Valves will also have a valve lid labeled Division Valve and a locking mechanism installed with a key. The lock and key mechanism will be paid for by the contractor but will be installed by SAWS Distribution and Collection staff.*



LOCATION MAP

N.T.S.

INDEX

DESCRIPTION	SHEET NO.
WATER DISTRIBUTION COVER SHEET	7.0
WATER DISTRIBUTION PLAN (1 OF 2)	7.1
WATER DISTRIBUTION PLAN (2 OF 2)	7.2

OWNER/DEVELOPER:
SOUTHSTAR AT VERANO, LLC
2055 CENTRAL PLAZA, SUITE 110
NEW BRAUNFELS, TEXAS 78130

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KFW
ENGINEERS + SURVEYING
3921 Paesanos Pkwy., Suite 200, San Antonio, TX 78232
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

SAWS PRESSURE ZONE 790

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: 24.78 ACRES
SAWS BLOCK MAP#: 148538		TOTAL EDU'S: 96.5
TOTAL LINEAR FOOTAGE OF PIPE:	3,810 LF ~ 8" C-900 & 1,087 LF ~ 12" C-900	PLAT NO.: 22-11800788
NUMBER OF LOTS: 92	SAWS JOB#: 23-1165	

PLAT NO.22-11800788

SHEET 7.0

JOB NO.: 391-10-14

VIDA SAN ANTONIO PHASE 4

Date: Tue, 02, 2024, 2:18pm User ID: ahuerta
File: I:\391\01\04\Design\Civil\ATECH\391014.dwg

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MATCH LINE "A" SEE SHEET 7.2

MATCH LINE "B" SEE SHEET 7.2

UNPLATTED
MAGRAVEDUNY, LLC
CALLED 5.769 ACRES
(VOLUMR 18306, PAGE 1672 O.P.R.)

UNPLATTED
SOUTHSTAR AT VERANO
INVESTMENT, LLC
REMAINING PORTION OF
CALLED 207.97 ACRES
(DOCUMENT NUMBER
20210023627 O.P.R.)

OFF-LOT 10' E.G.T.TV.E

2 - 4" CONDUITS
FOR PRIVATE USE

7.7'

LOT 901
BLOCK 38
N.C.B. 18088
OPEN SPACE

TEMPORARY
SEWER EASEMENT

E16"W
(DSP-12744)

REGINA ISLAND
8"SS
(50' R.O.W.)

179 LF ~ 8" C-900 PVC

SEWER / WATER CROSSING
REFERENCE SAWS SPEC. ITEM NO. 812

BENITEZ WAY
8"SS
(50' R.O.W.)

1 - 16" x 8" ANCHOR TEE, M.J.
1 - 8" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE

CONTRACTOR TO TIE NEW 8" PVC
MAIN TO EXISTING 16" PVC PIPE
AFTER CHLORINATION
AND ACCEPTANCE BY S.A.W.S.
(DSP-12744)

E8"SS

3/4"
IRR

LOT 901
BLOCK 32
N.C.B. 18088
OPEN SPACE

1 - 8" x 8" ANCHOR TEE, M.J.
2 - 8" GATE VALVE, M.J.
2 - 6" VALVE BOX, COMPLETE

169 LF ~ 8" C-900 PVC

166 LF ~ 8" C-900 PVC

255 LF ~ 8" C-900 PVC

111 LF ~ 8" C-900 PVC

105 LF ~ 8" C-900 PVC

10' E.G.T.TV.E

1 - 8" x 8" ANCHOR TEE, M.J.
2 - 8" GATE VALVE, M.J.
2 - 6" VALVE BOX, COMPLETE

1 - 8" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE
1 - 8" x 2" ECCENTRIC REDUCER
1 - 2" BLOWOFF (PERM.)
SEE SAWS STD. DETAIL DD-844-02

DRAIN "E"
SEE SHEET 4.5 - 4.7

1 - 8" x 6" ANCHOR TEE, M.J.
1 - 6" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE
1 - 6"½ ANCHOR BEND, M.J.
1 - STANDARD FIRE HYDRANT
6" DI PIPE, CUT AS REQUIRED
SEE S.A.W.S. STD. DETAIL DD-834-01

BLOCK
33

N.C.B.
18088

BLOCK
34

N.C.B.
18088

MILAS PLACE
8"SS
(50' R.O.W.)

252 LF ~ 8" C-900 PVC

5' V.N.A. & L.S.E.

10' E.G.T.TV.E

SEWER / WATER CROSSING
REFERENCE SAWS SPEC. ITEM NO. 812

1 - 8" x 6" CROSS, M.J.
3 - 6" GATE VALVE, M.J.
3 - 6" VALVE BOX, COMPLETE

1 - 8" 1/8 BEND, M.J.

31 LF ~ 8" C-900 PVC

97 LF ~ 8" C-900 PVC

209 LF ~ 8" C-900 PVC

171 LF ~ 8" C-900 PVC

FLATO LOCK
8"SS
(50' R.O.W.)

6' TYP.

1 - 6" 1/8 BEND, M.J.

14

3 - 6" CONDUITS
2 - 4" CONDUITS

OFF-LOT TEMPORARY TURNAROUND, ELECTRIC, GAS, TELEPHONE, CABLE TV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT-OF-WAY)

DRAIN "D"
SEE SHEET 4.3 - 4.4

1 - 8" x 6" ANCHOR TEE, M.J.
1 - 6" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE
1 - 6"½ ANCHOR BEND, M.J.
1 - STANDARD FIRE HYDRANT
6" DI PIPE, CUT AS REQUIRED
SEE S.A.W.S. STD. DETAIL DD-834-01

LOT
10' ELEC., GAS, TELE., & CATV EASEMENT
R.O.W.
FIRE HYDRANT OFFSET
PROP. SIDEWALK
FACE OF CURB

SIDEWALK WIDTH	FIRE HYDRANT OFFSET
4'	5.0' MIN
6'	7.0' MIN

TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE

UNIVERSITY WAY
(VARIABLE WIDTH R.O.W.)
(VOLUME 9658, PAGES 217-219 O.P.R.)

UNPLATTED
SOUTHSTAR AT VERANO INVESTMENT, LLC
REMAINING PORTION OF CALLED 207.97 ACRES
(DOCUMENT NUMBER 20210023627 O.P.R.)

MIRA CAMP
(50' R.O.W.)

144 LF ~ 8" C-900 PVC

90 LF ~ 8" C-900 PVC

211 LF ~ 8" C-900 PVC

1 - 8" x 6" ANCHOR TEE, M.J.
1 - 6" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE
1 - 6"½ ANCHOR BEND, M.J.
1 - STANDARD FIRE HYDRANT
6" DI PIPE, CUT AS REQUIRED
SEE S.A.W.S. STD. DETAIL DD-834-01

1 - 8" 1/2 BEND, M.J.

22 LF ~ 8" C-900 PVC

SOUPE LAND
8"SS
(50' R.O.W.)

131 LF ~ 8" C-900 PVC

1 - 12" x 6" ANCHOR TEE, M.J.
1 - 6" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE
1 - 6"½ ANCHOR BEND, M.J.
1 - STANDARD FIRE HYDRANT
6" DI PIPE, CUT AS REQUIRED
SEE S.A.W.S. STD. DETAIL DD-834-01

DRAIN "B"
SEE SHEET 4.1

3 - 6" CONDUITS
2 - 4" CONDUITS

SEWER / WATER CROSSING
REFERENCE THIS SHEET FOR DETAIL

1 - 16" x 12" ANCHOR TEE, M.J.
1 - 12" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE

CONTRACTOR TO TIE NEW 12" PVC MAIN TO EXISTING 16" PVC PIPE AFTER CHLORINATION AND ACCEPTANCE BY S.A.W.S. (DSP-12744)

INSTALL FOR CHLORINATION INJECTION
1 - 8" SOLID SLEEVE, MJ
1 - 2" BLOWOFF (TEMP.) ASSEMBLY
SEE SAWS STD. DETAIL DD-844-01

2 - 1" CORPORATION STOP, C.C. x I.P.
2 - 1" COPPER TUBING, CUT AS REQUIRED
2 - 1"½" THD. SOLID CAPS, THR.
2 - 1" COMP. x 1"½" COUPLING, CURB STOP
CONTRACTOR SHALL PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN

9.0'

LOT 902
BLOCK 32
N.C.B. 18088
OPEN SPACE

OFF-LOT 16' SANITARY SEWER EASEMENT

LOT 902

14' E.G.T.TV.E

43 LF ~ 12" C-900 PVC

91 LF ~ 12" C-900 PVC

128 LF ~ 12" C-900 PVC

39 LF ~ 12" C-900 PVC

47 LF ~ 12" C-900 PVC

110 LF ~ 12" C-900 PVC

1 - 12" 1/2 BEND, M.J.

1 - 12" 1/32 BEND, M.J.

22 LF ~ 12" C-900 PVC

LEDET GREEN
8"SS
(VARIABLE WIDTH R.O.W. - MIN. 70')

REF. DETAIL "A" THIS SHEET

5' V.N.A. & L.S.E.

5' E.G.T.TV.E

2 - 4" CONDUITS

LOT 901

AMADA PATH
(60' R.O.W.)

104 LF ~ 8" C-900 PVC

1 - 8" 1/8 BEND, M.J.

14 LF ~ 8" C-900 PVC

1 - 8" x 6" ANCHOR TEE, M.J.
1 - 6" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE
1 - 6"½ ANCHOR BEND, M.J.
1 - STANDARD FIRE HYDRANT
6" DI PIPE, CUT AS REQUIRED
SEE S.A.W.S. STD. DETAIL DD-834-01

1 - 12" x 2" ECCENTRIC REDUCER
1 - 2" BLOWOFF (PERM.)
SEE SAWS STD. DETAIL DD-844-02

OFF-LOT TEMPORARY TURNAROUND, ELECTRIC, GAS, TELEPHONE, CABLE TV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT-OF-WAY)

BLOCK
34

N.C.B.
18088

V.W.C.V.E.

5' V.N.A. & L.S.E.

14' E.G.T.TV.E

1 - 8" 1/8 BEND, M.J.

14 LF ~ 8" C-900 PVC

41 LF ~ 12" C-900 PVC

1 - 12" 1/32 BEND, M.J.

23 LF ~ 12" C-900 PVC

1 - 12" x 8" ANCHOR TEE, M.J.
1 - 12" GATE VALVE, M.J.
1 - 8" GATE VALVE, M.J.
1 - 6" VALVE BOX, COMPLETE

17 LF ~ 12" C-900 PVC

OFF-LOT 34'
DRAIN EASEMENT

DRAIN "A"
SEE SHEET 4.0

203 LF ~ 12" C-900 PVC

32 LF ~ 12" C-900 PVC

85 LF ~ 12" C-900 PVC

22 LF ~ 12" C-900 PVC

OFF-LOT 14' E.G.T.TV.E

UNPLATTED
SOUTHSTAR AT VERANO INVESTMENT, LLC
REMAINING PORTION OF CALLED 207.97 ACRES
(DOCUMENT NUMBER 20210023627 O.P.R.)

UNPLATTED
CLXV VIDA LAND LLC
8.00 ACRES
(DOCUMENT NUMBER 20210181332 O.P.R.)

OFF-LOT 42'
DRAIN EASEMENT

UNPLATTED
SOUTHSTAR AT VERANO INVESTMENT, LLC
REMAINING PORTION OF CALLED 207.97 ACRES
(DOCUMENT NUMBER 20210023627 O.P.R.)

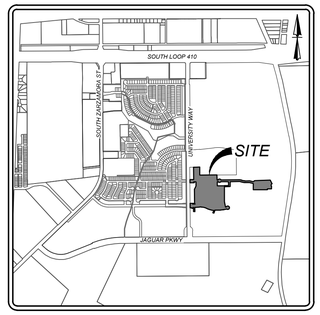
E16"W
(DSP-12744)

LOT 901
BLOCK 31
N.C.B. 18088
OPEN SPACE

2 - 4" CONDUITS

LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	SS
ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	=	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	=	V.W.C.V.E
LANDSCAPE EASEMENT	=	LS.E
EXISTING WATER MAIN	=	EW
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	ESS
EXISTING SANITARY SEWER MANHOLE	=	ESS
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	

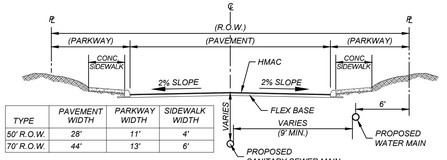


LOCATION MAP
N.T.S.

JOINT RESTRAINT NOTE:
CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

WATER PLAN NOTES:
1. ALL VALVES SHALL READ "OPEN RIGHT"
2. ALL PVC PIPE TO BE C-900 CLASS 235 (DR 18)
3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.

SCALE : 1"=50'
0' 50' 150'
100'

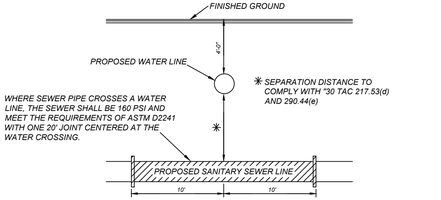


TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	28'	11'	4'
70' R.O.W.	44'	13'	6'

TYPICAL STREET SECTION
N.T.S.



DETAIL "A"
DRAIN "B" CROSSING
N.T.S.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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.

PRESSURE REDUCING VALVE (PRV) NOTE:
CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 605 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 605 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF *PRV IS / ARE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. WATER SERVICES WHERE PRV'S REQUIRED ARE DESIGNATED BY AN ASTERISK (*).

*NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE(PRV)

SAWS PRESSURE ZONE 790

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: 24.78 ACRES	
SAWS BLOCK MAP#: 148538		TOTAL EDU'S: 96.5	
TOTAL LINEAR FOOTAGE OF PIPE:	3,810 LF ~ 8" C-900 & 1,087 LF ~ 12" C-900	PLAT NO.: 22-11800788	
NUMBER OF LOTS: 92	SAWS JOB#: 23-1165		

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.

RESIDENTIAL LOTS = 92

FIRE FLOW NOTE:
IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,000 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

SAWS STANDARD NOTE:
ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS

SAWS NOTE:
SAWS REQUIRES GCPs AND COUNTER PERMIT TO USE LEAD FREE (<0.25% LEAD) FIRE HYDRANTS.

KFW
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TBPE Firm #: 9513 • TBPLS Firm #: 10022500

ISSUE DATE

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

WATER DISTRIBUTION PLAN (1 OF 2)

PLAT NO.
22-11800788

JOB NO.:391-10-14
DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:
7.1

Date: Feb 02, 2024, 2:19pm User:ID_vtueno
File: N:\391\10\14\Design\CIVIL\WATER\ROW391014.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

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FIRE FLOW NOTE:

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PRESSURE REDUCING VALVE (PRV) NOTE:

*CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 605 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 605 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF "PRV IS / ARE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. WATER SERVICES WHERE PRV'S REQUIRED ARE DESIGNATED BY AN ASTERISK (*).*

**NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE(PRV)*

JOINT RESTRAINT NOTE:

CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

WATER PLAN NOTES:

1. ALL VALVES SHALL READ "OPEN RIGHT"
2. ALL PVC PIPE TO BE C-900 CLASS 235 (DR 18)
3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.

SAWS STANDARD NOTE:

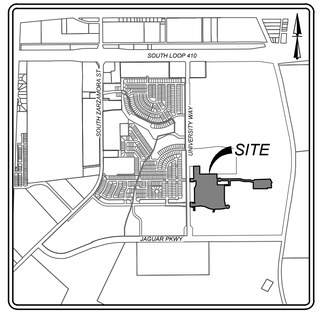
ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS

SAWS NOTE:

"SAWS REQUIRES GCPs AND COUNTER PERMIT TO USE LEAD FREE (<0.25% LEAD) FIRE HYDRANTS."

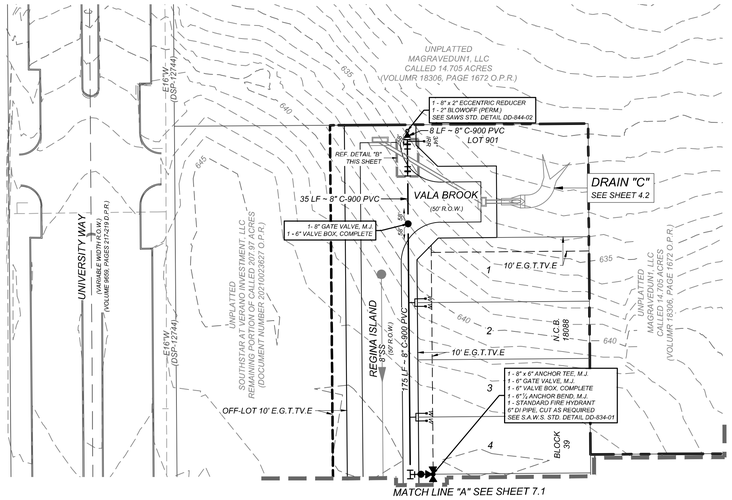
LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W M
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	W M
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	SS
ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E.G.T.TV.E
VEHICULAR NON-ACCESS EASEMENT	=	V.N.A.E
VARIABLE WIDTH CLEAR VISION EASEMENT	=	V.W.C.V.E
LANDSCAPE EASEMENT	=	LS.E
EXISTING WATER MAIN	=	EW
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	ESS
EXISTING SANITARY SEWER MANHOLE	=	ESS
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	

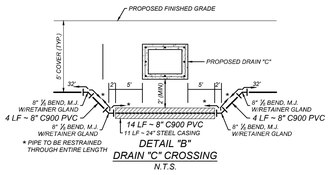


LOCATION MAP

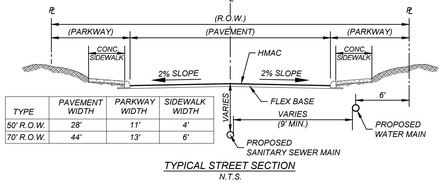
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MATCH LINE "A" SEE SHEET 7.1

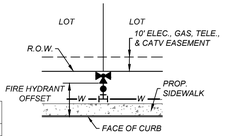


DETAIL "B"
DRAIN "C" CROSSING
N.T.S.



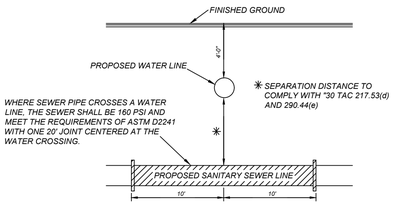
TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	28'	11'	4'
70' R.O.W.	44'	13'	6'

TYPICAL STREET SECTION
N.T.S.



SIDEWALK WIDTH	FIRE HYDRANT OFFSET
4'	5.0' MIN
6'	7.0' MIN

TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

CAUTION!!:

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SAWS PRESSURE ZONE 790

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: 24.78 ACRES
SAWS BLOCK MAP#: 148538		TOTAL EDU'S: 96.5
TOTAL LINEAR FOOTAGE OF PIPE:	3,810 LF ~ 8" C-900 & 1,087 LF ~ 12" C-900	PLAT NO.: 22-11800788
NUMBER OF LOTS: 92	SAWS JOB#: 23-1165	

RESIDENTIAL LOTS = 92

KFW
ENGINEERS + SURVEYING
Texas Joined Civilians Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10124500

ISSUE DATE

REVISIONS

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

WATER DISTRIBUTION PLAN (2 OF 2)

PLAT NO. 22-11800788

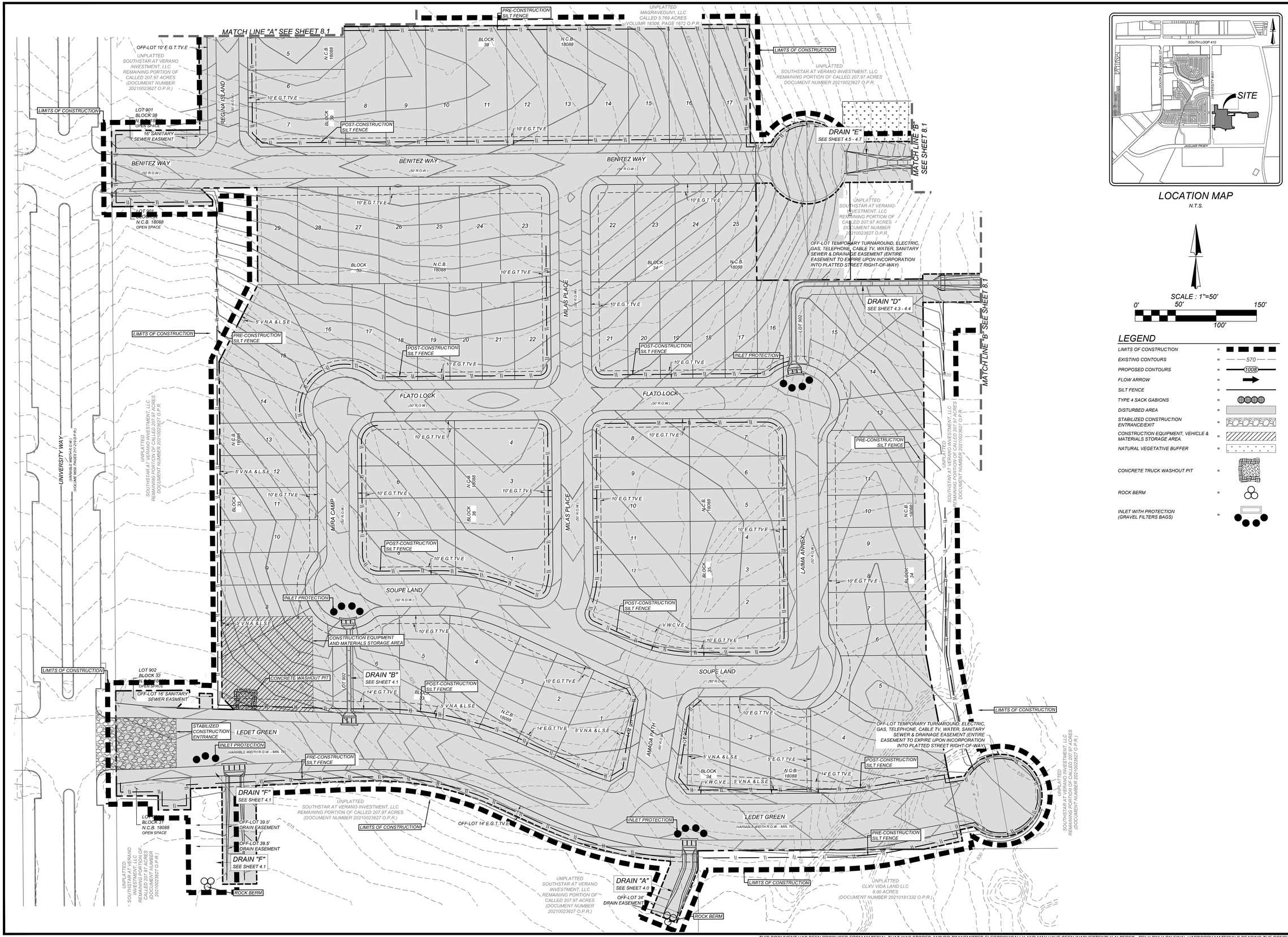
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DATE: MAY 2023
DRAWN:EB CHECKED:OE

SHEET NUMBER:

7.2

Date: Feb 07, 2024, 2:18pm User ID: ohanna
File: N:\391\01\4Design\Civil\WATER\0391101f4.dwg

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LOCATION MAP

N.T.S.

SCALE : 1"=50'

0' 50' 150'

100'

LEGEND

LIMITS OF CONSTRUCTION	=
EXISTING CONTOURS	= 570
PROPOSED CONTOURS	= 1008
FLOW ARROW	=
SILT FENCE	=
TYPE 4 SACK GABIONS	=
DISTURBED AREA	=
STABILIZED CONSTRUCTION ENTRANCE/EXIT.	=
CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.	=
NATURAL VEGETATIVE BUFFER	=
CONCRETE TRUCK WASHOUT PIT	=
ROCK BERM	=
INLET WITH PROTECTION (GRAVEL FILTERS BAGS)	=

KFW
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Texas Limited Liabilities Engineering & Design
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Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 2813 • TBPLS Firm # 10022800

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

STORMWATER POLLUTION PREVENTION PLAN (1 OF 2)

PLAT NO. 22-11800788

JOB NO. 391-10-14

DATE: MAY 2023

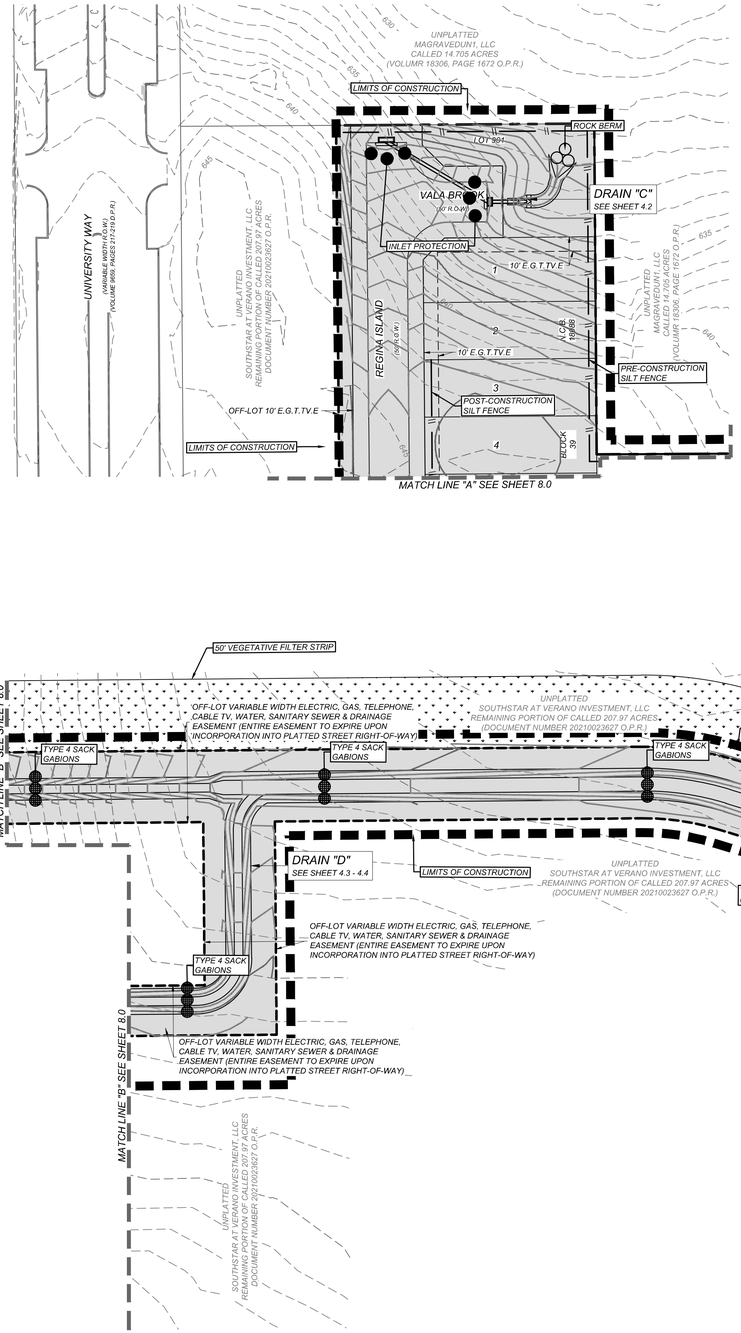
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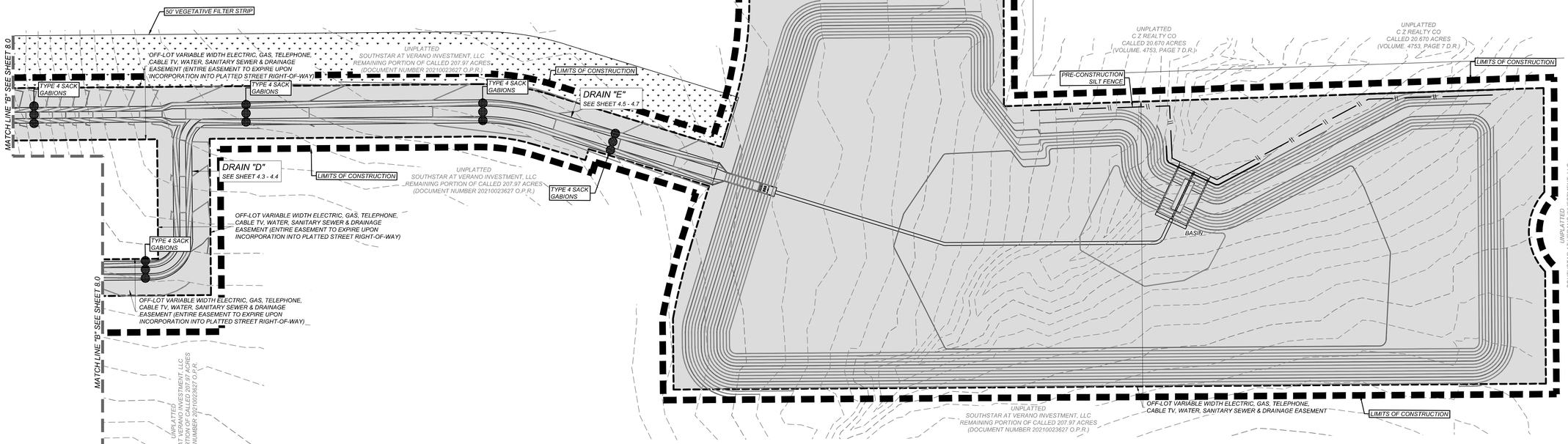
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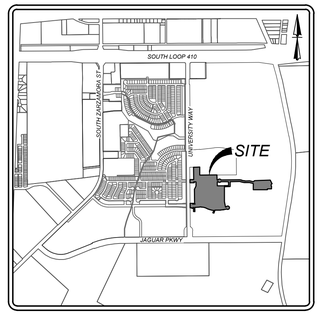
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LEGEND

LIMITS OF CONSTRUCTION	=
EXISTING CONTOURS	= 570
PROPOSED CONTOURS	= 1008
FLOW ARROW	=
SILT FENCE	=
TYPE 4 SACK GABIONS	=
DISTURBED AREA	=
STABILIZED CONSTRUCTION ENTRANCE/EXIT	=
CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.	=
NATURAL VEGETATIVE BUFFER	=
CONCRETE TRUCK WASHOUT PIT	=
ROCK BERM	=
INLET WITH PROTECTION (GRAVEL FILTERS BAGS)	=



LOCATION MAP
N.T.S.

SCALE : 1"=50'
0' 50' 150'
100'

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VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

STORMWATER POLLUTION PREVENTION PLAN (2 OF 2)

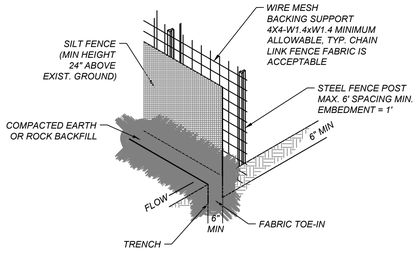
PLAT NO. 22-11800788

JOB NO. 391-10-14
DATE: MAY 2023
DRAWN: EB CHECKED: OE

SHEET NUMBER:
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ISOMETRIC PLAN VIEW

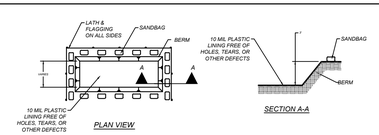
Materials:

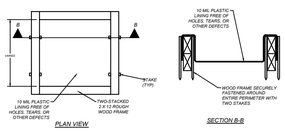
(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:
(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1- foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/l 00 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down- slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede stone flow or drainage.

Inspection and Maintenance Guidelines:
(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE





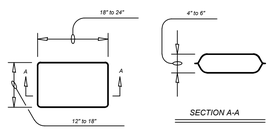
TYPE "BELOW GRADE"

TYPE "ABOVE GRADE"

GENERAL NOTES:

- *DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.*
- *WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.*
- *WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.*

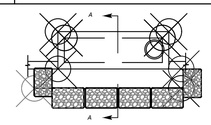
CONCRETE TRUCK WASHOUT PIT



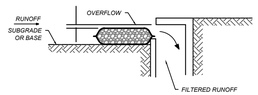
GENERAL NOTES:

- *THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4 OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.*
- *THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).*

GRAVEL FILTER BAG DETAIL



PLAN VIEW

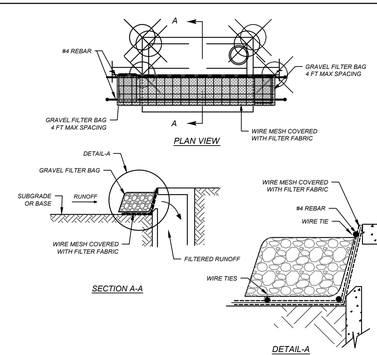


SECTION A-A

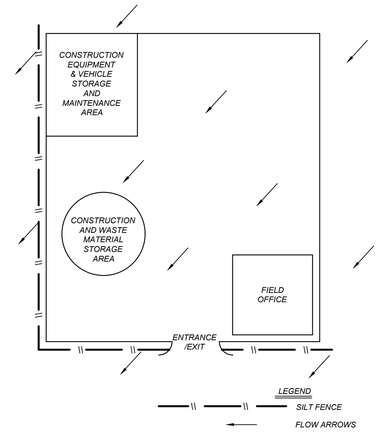
GENERAL NOTES:

- *ALL STORM DRAINAGE SYSTEMS INLETS SHOULD FILTER RUNOFF BEFORE THE WATER IS DISCHARGED INTO STREAMS OR ONTO ADJACENT PROPERTIES, UNLESS TREATMENT IS PROVIDED ELSEWHERE.*
- *IF NO ADDITIONAL DOWNSTREAM TREATMENT EXISTS, THE MAXIMUM DRAINAGE AREA TRIBUTARY TO AN AREA DRAIN INSTALLED WITH A GRAVEL FILTER SHOULD BE ONE ACRE.*
- *ALL CURB INLET GRAVEL FILTERS SHOULD BE INSPECTED AND REPAIRED AFTER EACH RUNOFF EVENT. SEDIMENT SHOULD BE REMOVED WHEN MATERIAL IS WITHIN THREE INCHES OF THE TOP OF THE CONCRETE BLOCKS. PERIODICALLY, THE GRAVEL SHOULD BE RAKED TO INCREASE INFILTRATION AND FILTERING OF RUNOFF WATERS.*

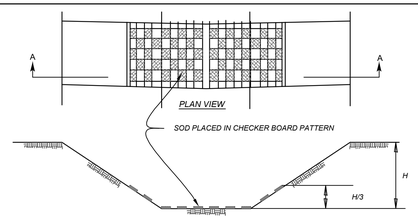
CURB INLET PROTECTION GRAVEL FILTER BAGS



CURB INLET PROTECTION (ALTERNATE)

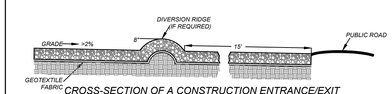


TYPICAL CONSTRUCTION STAGING AREA



- *CHANNEL TO BE STABILIZED WITH SOD PLACED IN A CHECKER BOARD PATTERN TON THE CHANNEL BOTTOM AND ON THE SIDES UP TO 1/3 THE DEPTH OF CHANNEL.*

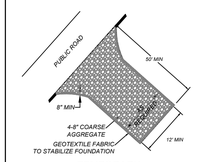
CHANNEL LINING



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

Materials:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
(2) The aggregate should be placed with a minimum thickness of 8 inches.
(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

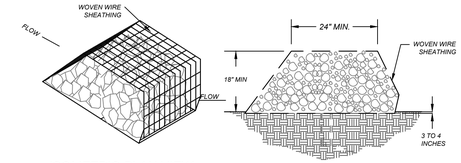


TEMPORARY CONSTRUCTION ENTRANCE/EXIT

Installation: (North Carolina, 1993)
(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
(3) The construction entrance should be at least 50 feet long.
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
(8) Install pipe under pad as needed to maintain proper public road drainage.

Inspection and Maintenance Guidelines:
(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

STABILIZED CONSTRUCTION ENTRANCE / EXIT



ISOMETRIC PLAN VIEW

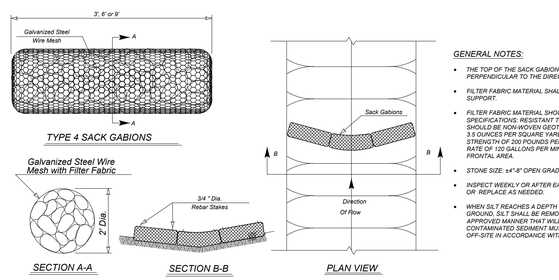
CROSS SECTION

Materials:
(1) The berm structure should be. secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:
(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
(3) Place the rock along the sheathing as shown in the diagram Figure 1-28), to a height not less than 18".
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, ain the berm retains its shape when walked upon.
(5) Berm should be built along the contour at zero percent grade or as near as possible.
(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

Inspection and Maintenance Guidelines:
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

ROCK BERM



- *THE TOP OF THE SACK GABIONS SHOULD BE LEVEL AND ORIENTED PERPENDICULAR TO THE DIRECTION OF FLOW.*
- *FILTER FABRIC MATERIAL SHALL BE FASTENED TO WOVEN WIRE SUPPORT.*
- *FILTER FABRIC MATERIAL SHOULD MEET THE FOLLOWING SPECIFICATIONS: RESISTANT TO ULTRAVIOLET LIGHT. FABRIC SHOULD BE NON-WOVEN GEOTEXTILE WITH MINIMUM WEIGHT OF 3.5 OUNCES PER SQUARE YARD, MINIMUM MULLEN BURST STRENGTH OF 200 POUNDS PER SQUARE INCH AND A FLOW THRU RATE OF 120 GALLONS PER MINUTE PER SQUARE FOOT OF FRONTAL AREA.*
- *STONE SIZE: s+/-6" OPEN GRADED CRUSHED LIMESTONE.*
- *INSPECT WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACE AS NEEDED.*
- *WHEN SILT REACHES A DEPTH OF 50% OR MORE ABOVE NATURAL GROUND, SILT SHALL BE REMOVED AND DISPOSED IN AN APPROVED MAINER THAT WILL NOT CONTRIBUTE TO RESILTATION. CONTAMINATED SEDIMENT MUST BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.*

TYPE 4 SACK GABIONS

KFW
ENGINEERS + SURVEYING
Texas Limited Liabilities Engineering & Design
3421 Paesanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm # 9513 • TBPLS Firm # 10122500

ISSUE DATE

REVISIONS

THIS DOCUMENT IS RELEASED BY AUTHORITY OF OMAR A. ESPINOSA, P.E. # 125560 FOR BID SET ONLY AND NOT TO BE USED FOR CONSTRUCTION.

VIDA SAN ANTONIO PHASE 4

BEXAR COUNTY, TEXAS

STORMWATER POLLUTION PREVENTION PLAN DETAILS

PLAT NO. 22-11800788

JOB NO.391-10-14

DATE: MAY 2023

DRAWN:EB CHECKED:OE

SHEET NUMBER:

8.2

Date: Feb 02, 2024, 2:40pm User ID: aburns
File: N:\391\01\4D-Design\Civil\SWPPP\391-01-14.dwg

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