

GENERAL INFORMATION

GENERAL NOTES

1.

ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.

2.

NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.

3.

THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE. 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).

4.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS, IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC. THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.

5.

IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

6.

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

7.

CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.

8.

CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

9.

CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION.

SAN ANTONIO WATER SYSTEM (SAWS)

232-2010

BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET)

354-6338 / 357-5741

COSA DRAINAGE

207-8048

COSA SIGNAL OPERATIONS

207-7720 / 207-7765

TEXAS STATE WIDE ONE CALL LOCATOR

1-800-344-8377

CITY PUBLIC SERVICE ENERGY - TIME WARNER - AT&T - MCI

10.

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.

11.

ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.

12.

THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

13.

THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.

14.

IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 207-7306 OR 207-3327 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY. IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT. IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.

15.

IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.

16.

CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE.

17.

CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST CONTACT VIA FOURTEEN DAYS PRIOR, FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS: (210) 362-2155 OR (210) 362-2096). THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CONTRACTOR IS REQUIRED TO WORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

TREE PROTECTION AND PRESERVATION GENERAL NOTES

1.

NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.

2.

TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE. (NO SEPARATE PAY ITEM).

3.

THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.

4.

ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.

5.

ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).

6.

EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.

7.

NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.

8.

SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.

9.

NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.

10.

TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.

11.

NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.

12.

ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND / OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM).

13.

TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOULAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.

14.

ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-0278).

15.

TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.

16.

TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND SPECIES.

ACCESSIBILITY REQUIREMENTS

1.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.

2.

WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.

3.

PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED, SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.

4.

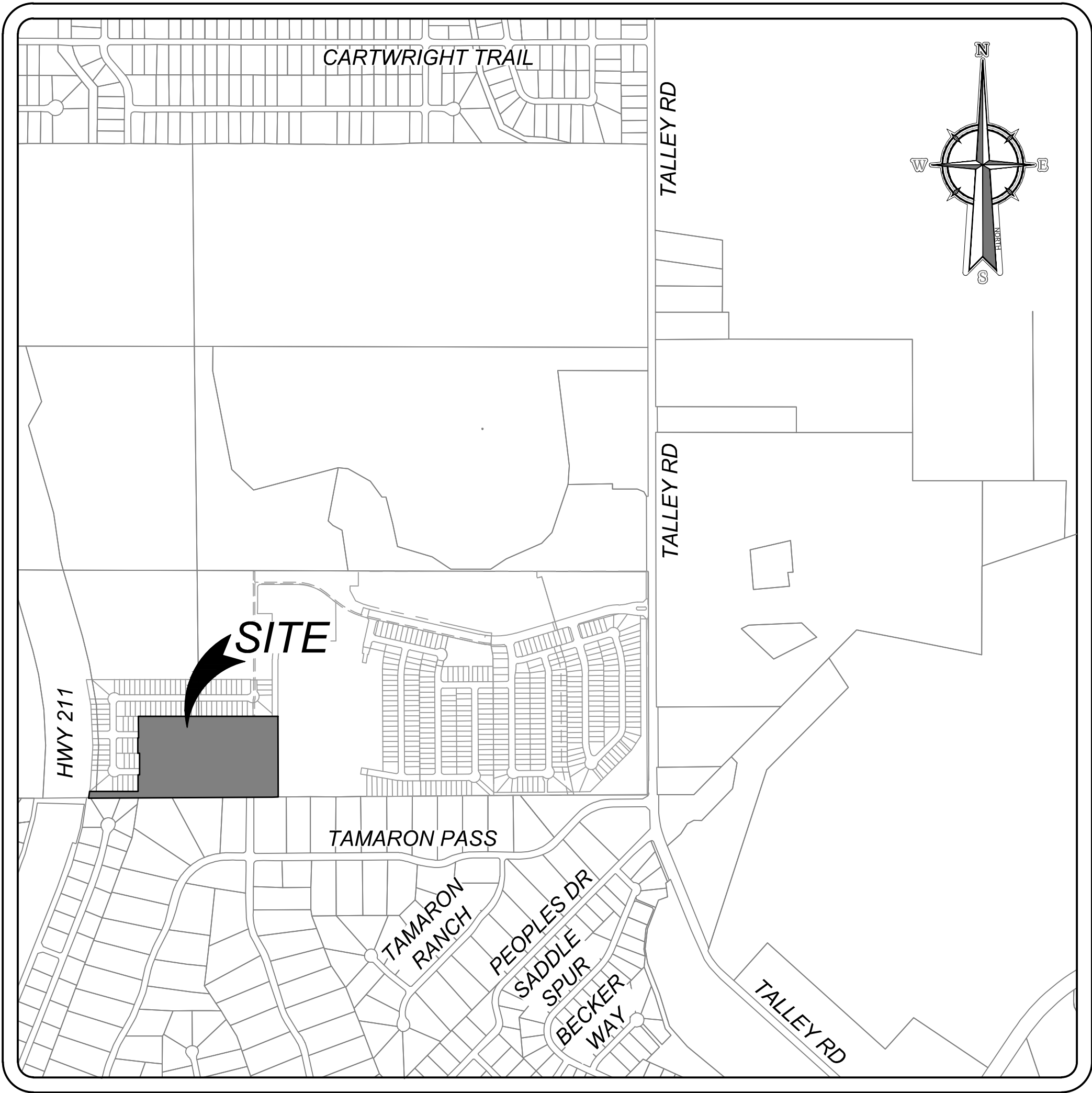
FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED AT NO SEPARATE COST TO THE CITY.

RESIDENTIAL LOTS = 79

MORGAN HEIGHTS PHASE 6

BEXAR COUNTY, TEXAS

STREET, DRAINAGE, WATER, SANITARY SEWER, AND UTILITY IMPROVEMENTS



LOCATION MAP

N.T.S.

OWNER/DEVELOPER  
TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC.  
5210 THOUSAND OAKS, SUITE 1318  
SAN ANTONIO, TEXAS 78233

INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	0.0
OVERALL UTILITY PLAN	1.0
MASTER DRAINAGE PLAN (1 OF 2)	2.0
MASTER DRAINAGE PLAN (2 OF 2)	2.1
OVERALL GRADING PLAN	3.0
DRAIN "A" PLAN & PROFILE (1 OF 2)	4.0
DRAIN "A" PLAN & PROFILE (2 OF 2)	4.1
DRAIN "B" PLAN & PROFILE (1 OF 4)	4.2
DRAIN "B" PLAN & PROFILE (2 OF 4)	4.3
DRAIN "B" PLAN & PROFILE (3 OF 4)	4.4
DRAIN "B" PLAN & PROFILE (4 OF 4)	4.5
DRAIN "C" PLAN & PROFILE (1 OF 2)	4.6
DRAIN "C" PLAN & PROFILE (2 OF 2)	4.7
DRAIN DETAILS ( 1 OF 2)	4.8
DRAIN DETAILS ( 2 OF 2)	4.9
FROZEN VLG PLAN & PROFILE	5.0
TAZ WAY PLAN & PROFILE	5.1
TAMARON PARK	5.2
STREET DETAIL SHEET	5.3
CONCRETE DRIVEWAY DETAILS	5.4
WHEELCHAIR RAMP DETAILS	5.5
TXDOT PED-18 DETAILS	5.6
TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN	5.7
PAVEMENT MARKING DETAILS	5.8
SIGN MOUNTING DETAILS ( 1 of 2)	5.9
SIGN MOUNTING DETAILS (2 of 2)	5.10
SANITARY SEWER COVER SHEET	6.0
OVERALL SANITARY SEWER PLAN	6.1
LINE "C" PLAN & PROFILE	6.2
LINE "D" PLAN & PROFILE	6.3
LINE "E" PLAN & PROFILE	6.4
WATER DISTRIBUTION COVER SHEET	7.0
WATER DISTRIBUTION PLAN	7.1
STORMWATER POLLUTION PREVENTION PLAN	8.0
STORMWATER POLLUTION PREVENTION DETAILS	8.1

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JEFFREY W. MARTIN

139094

LICENSED PROFESSIONAL ENGINEER

1/24/25

PRELIMINARY

FOR

MORGAN HEIGHTS PHASE 6

PLAT# 23-11800391

Colliers

Engineering & Design

SAN ANTONIO (KFW)

3421 Paesanos Parkway

San Antonio, TX 78231

Phone: 210.979.8444

COLLIERS ENGINEERING & DESIGN, INC.

TXBLS Form: 1-1-009

TBPLS Form: 10194550

SCALE: AS SHOWN

DATE: 07/20/2023

DRAWN BY: SD

CHECKED BY: SC

PROJECT NUMBER: 205-40-06

DRAWING NAME: CV2054006

SHEET TITLE: COVER SHEET

SHEET NUMBER: 0.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

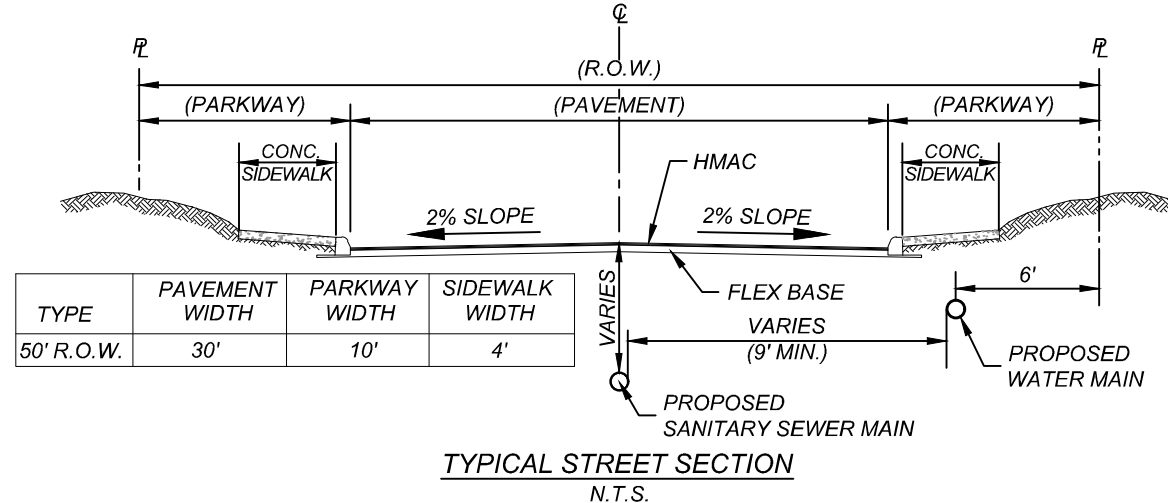
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

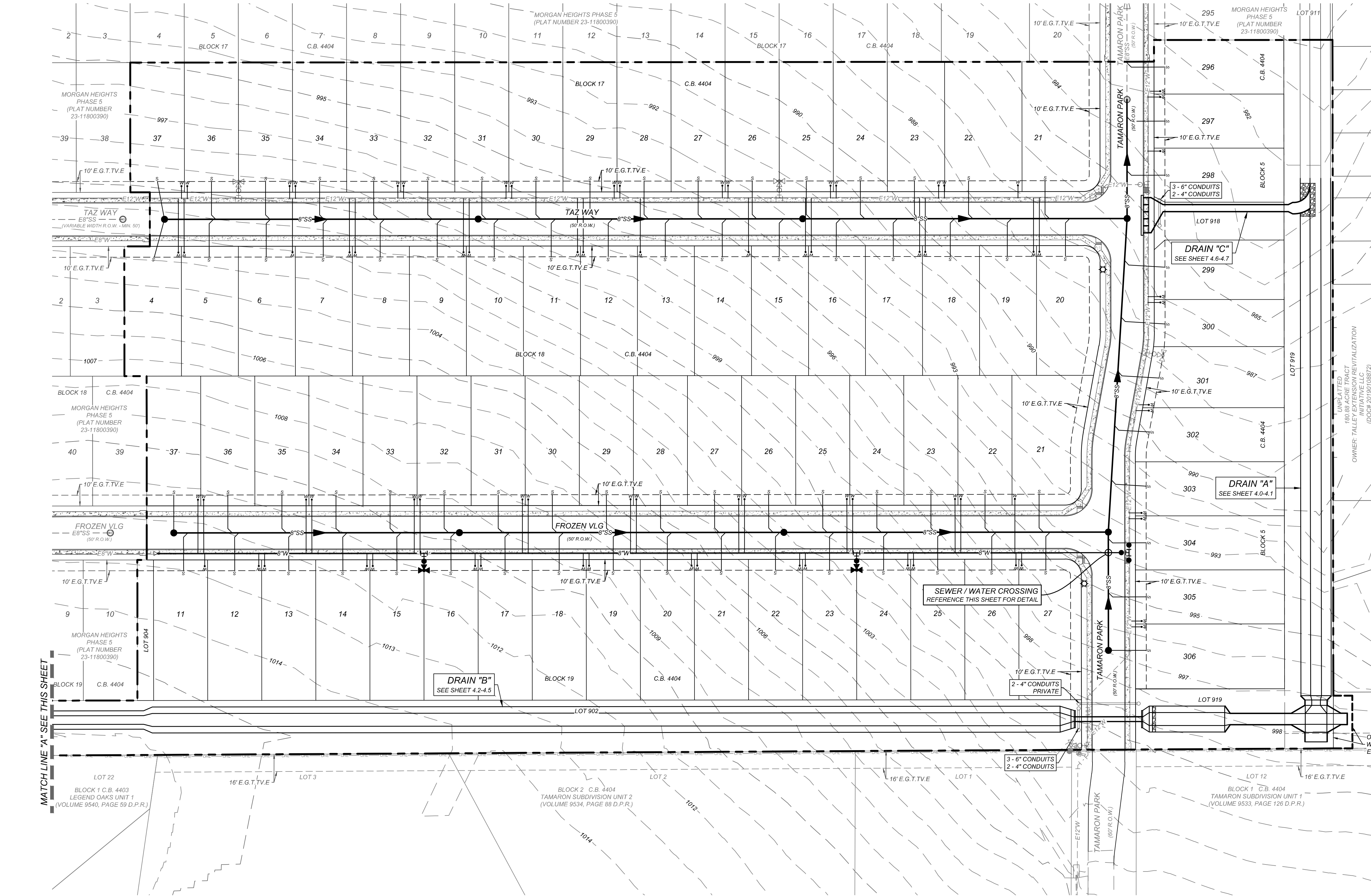
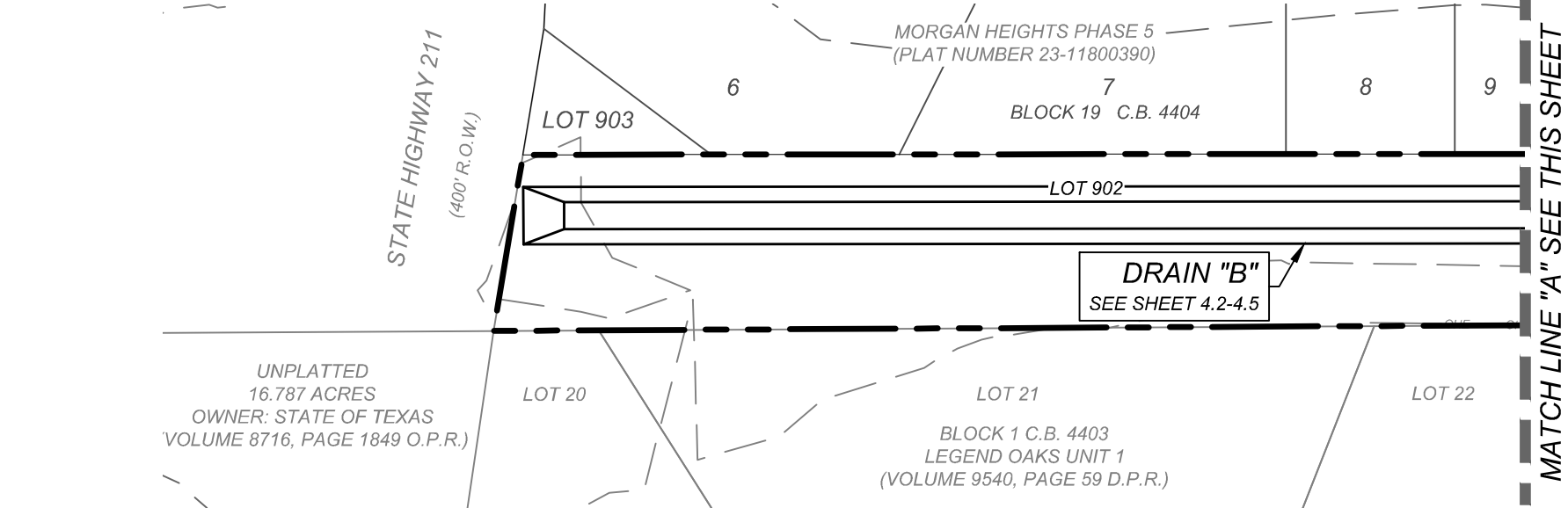
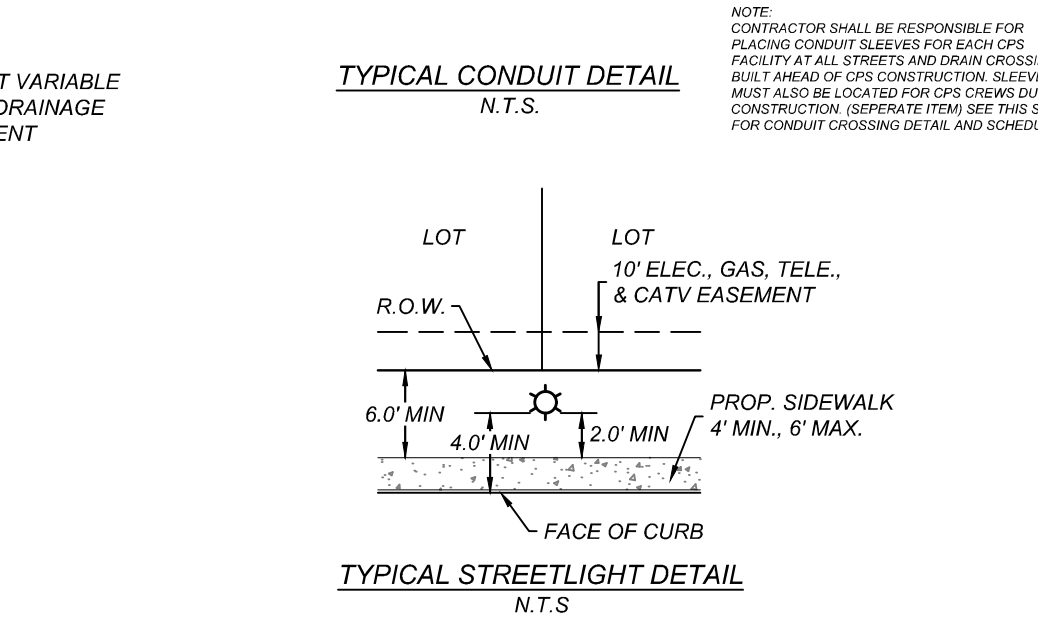
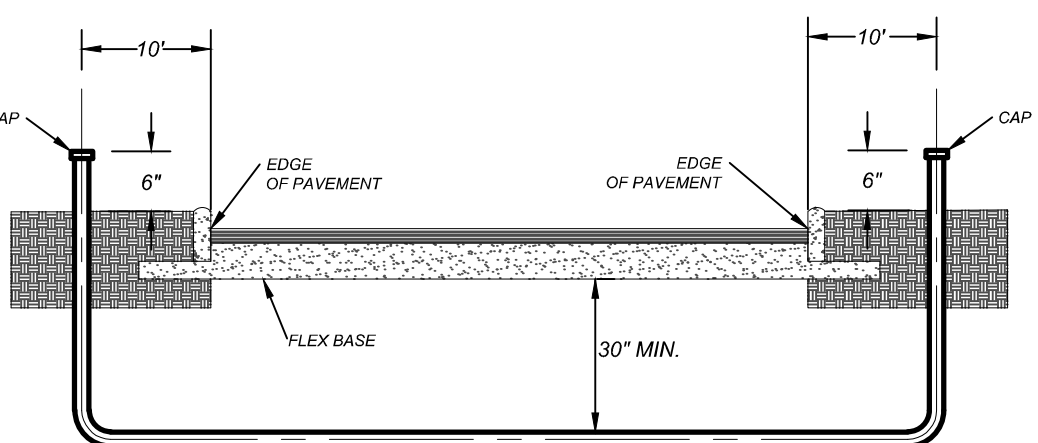
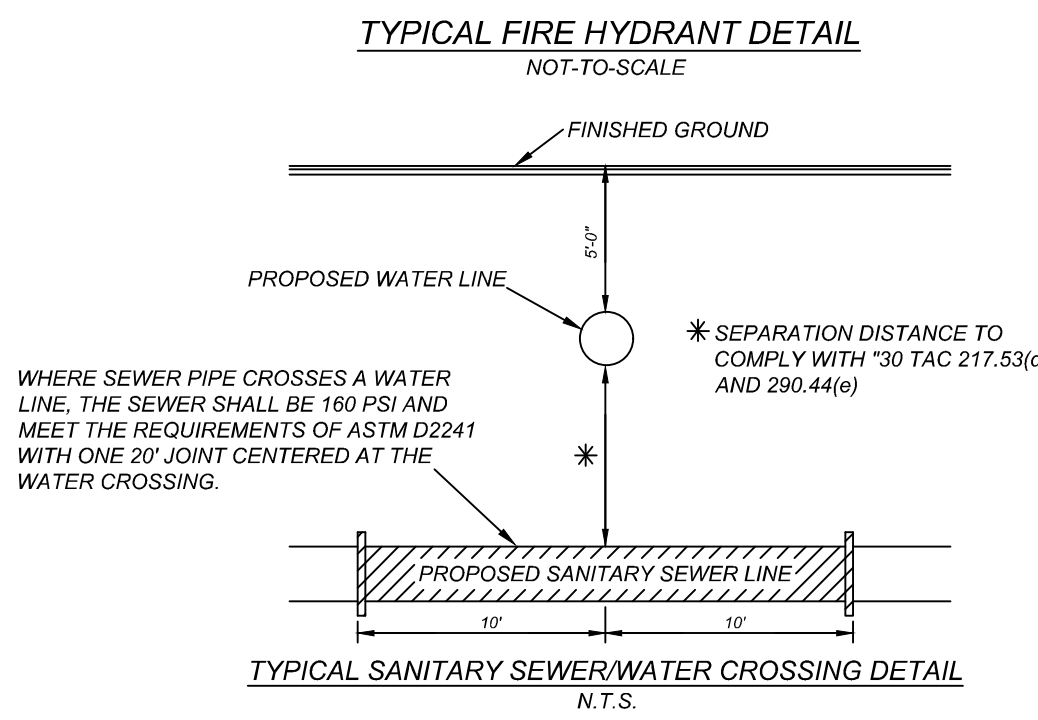
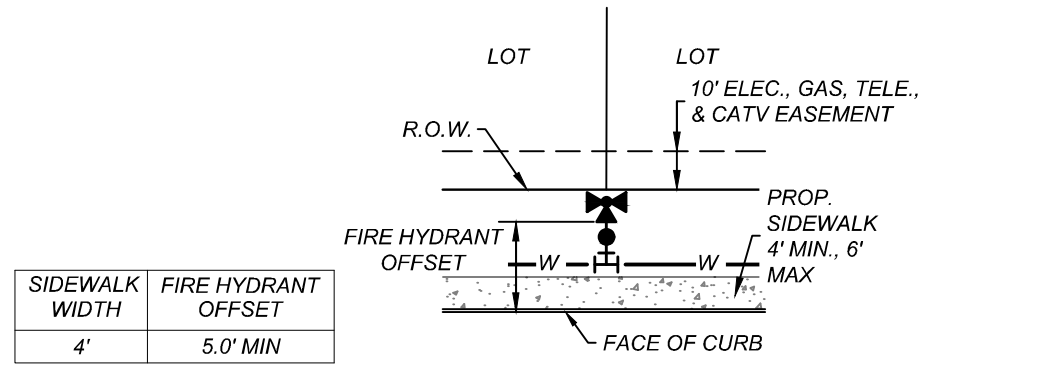
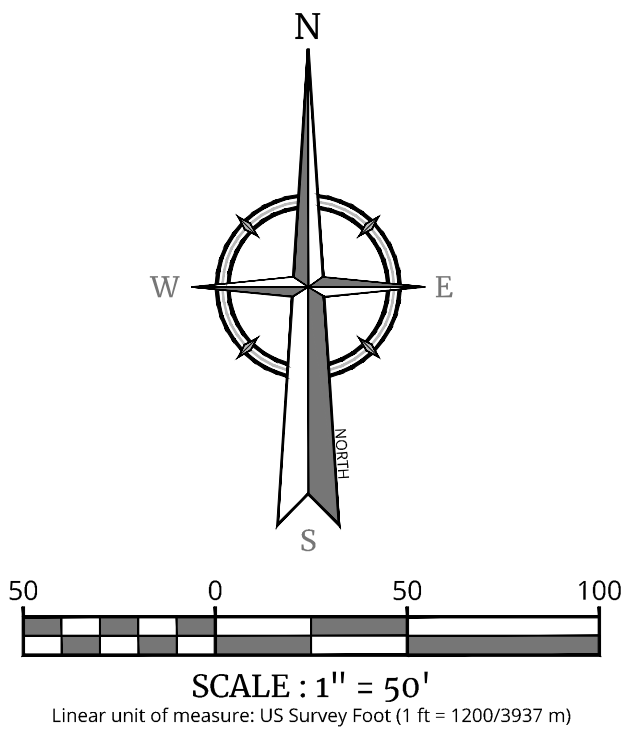
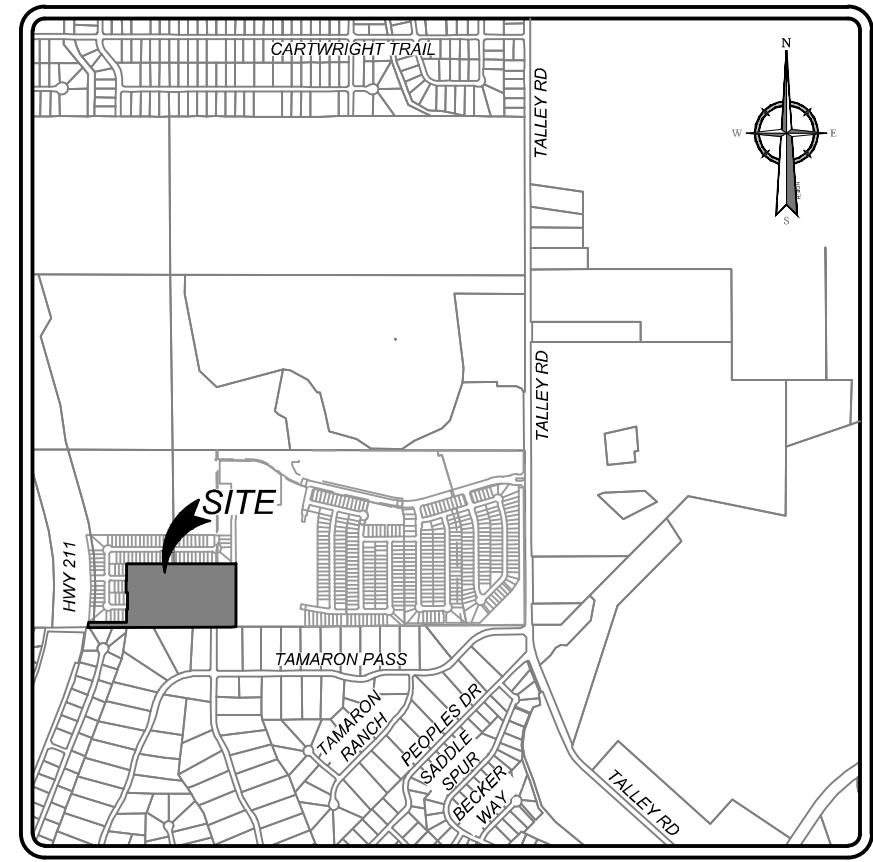
DRY UTILITY CONDUIT NOTE:

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.



LEGEND

- PROPOSED WATER MAIN = ---W---
- PROPOSED WATER SERVICE & METER BOX = ---WS---
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX = ---WS---
- PROPOSED FIRE HYDRANT = ---FH---
- PROPOSED WATER VALVE = ---WV---
- PROPOSED 100 WATT STREETLIGHT = ---SL---
- PROPOSED 250 WATT STREETLIGHT = ---SL---
- PROPOSED SANITARY SEWER MAIN = ---SS---
- PROPOSED SANITARY SEWER MANHOLE = ---SM---
- PROPOSED SANITARY SEWER LATERAL = ---SSL---
- ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT = ---E.G.T.V.E---
- VEHICULAR NON-ACCESS EASEMENT = ---V.N.A.E---
- EXISTING WATER MAIN = ---EW---
- EXISTING FIRE HYDRANT = ---FH---
- EXISTING WATER VALVE = ---WV---
- 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 = ---SL---



### LEGEND

C

### STUDY POINT

□ □ □ □ □ □ □

DRAINAGE AREA BOUNDARY

— — — — — 802 — — — — —

### EXISTING CONTOURS

1

FLOW ARROW

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*PROPOSED UNIT*



Engineering  
& Design

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1/24/25

## PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS



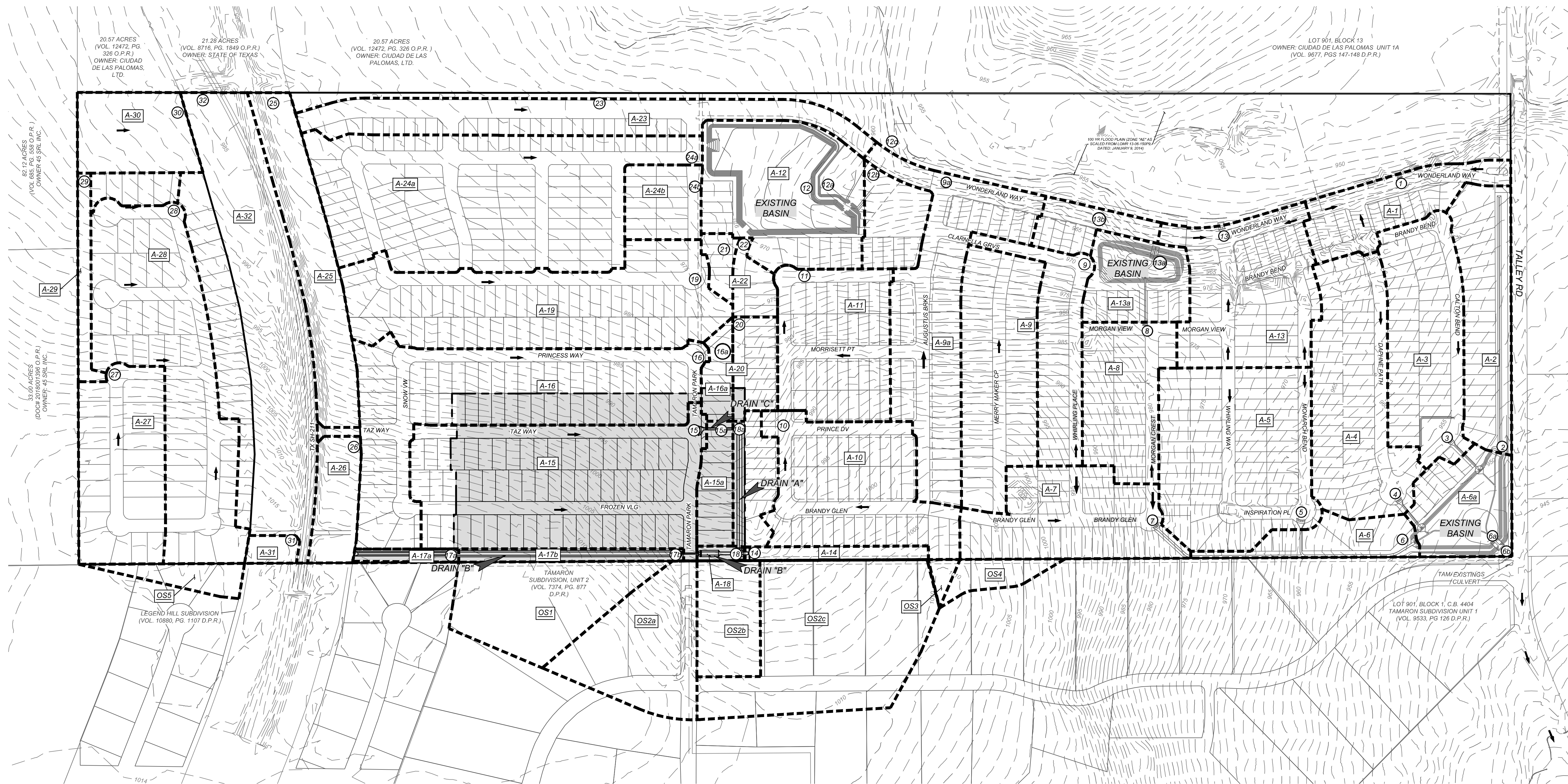
Engineering  
& Design

**SAN ANTONIO (KFW)**  
3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
ALLIERS ENGINEERING & DESIGN, INC.  
TBPE Firm#: F-14509  
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC
PROJECT NUMBER:		DRAWING NAME:	
205-40-06		MD2054006	

SHEET TITLE:  
MASTER DRAINAGE PLAN (1  
OF 2)

SHEET NUMBER: 2.0



**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.**

\\MMD\2054006.dwg,2.1 By: ABHEL MARTIN\A\O

Proposed/Ultimate Conditions:																
Study Point	AREA	(Acres)	C	Tovrl (min)		Tsc (min)	Tch (min)	Ttot (min)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (ft3/s)	Q25 (ft3/s)	Q100 (ft3/s)		
1	A-1	3.26	0.77	10.00		1.00	7.00	18	4.796	6.633	8.241	12.04	16.65	20.69		
2	A-2	4.41	0.77	10.00		2.00	10.00	22	4.329	5.975	7.408	14.70	20.29	25.16		
3	A-3	5.95	0.77	10.00		3.00	9.00	22	4.329	5.975	7.408	19.83	27.38	33.94		
4	A-4	6.96	0.77	10.00		2.00	10.00	22	4.329	5.975	7.408	23.20	32.02	39.70		
5	A-5	8.83	0.77	10.00		2.00	5.00	17	4.941	6.838	8.501	33.59	46.50	57.80		
	A-6	2.01	0.77													
6	PT.5 + PT. 7 + A-6	17.15	0.77	25.00	CARRYOVER FROM PT. 7	0.00	10.00	35	3.413	4.707	5.828	45.07	62.15	76.97		
	A-6a	3.20	0.77													
6a	PT.2 + PT. 3 + PT.4 + PT.6 + A-6a	37.67	0.77	35.00	CARRYOVER FROM PT. 6	0.00	10.00	45	2.960	4.093	5.082	85.86	118.73	147.40		
6b	PT. 6a	38.88	0.77		FROM HYDROGRAPH DETENTION POND "A" CALCULATIONS							56.54	80.38	102.32		
	A-7	5.29	0.77													
7	PT. OS4 + A-7	6.31	0.76	16.00	CARRYOVER FROM PT. OS4	2.00	7.00	25	4.059	5.597	6.934	19.46	26.84	33.25		
8	A-8	4.14	0.77	10.00		3.00	3.00	16	5.101	7.066	8.791	16.26	22.52	28.02		
9a	A-9a	8.52	0.84	10.00		1.00	13.00	24	4.143	5.715	7.081	29.52	40.72	50.45		
9b	A-9b	6.10	0.77	10.00		1.00	6.00	17	4.941	6.838	8.501	23.21	32.12	39.93		
	A-9c-1	0.45	0.96													
9c-1	PT. 9b + A-9c-1	6.55	0.78	17.00	CARRYOVER FROM PT. 9b	0.00	4.00	21	4.432	6.120	7.591	22.73	31.39	38.93		
9c-2	A-9c-2	2.92	0.77	10.00		1.00	7.00	18	4.796	6.633	8.241	10.78	14.91	18.53		
	A-9c	0.16	0.96													
9c	PT.9c-1 + PT. 9c-2 + A-9c	9.63	0.78	21.00	CARRYOVER FROM PT. 9c-1	0.00	1.00	22	4.329	5.975	7.408	32.60	45.00	55.79		
	A-10	6.72	0.77													
10	PT. OS3 + A-10	6.97	0.77	15.00	CARRYOVER FROM PT. OS3	4.00	11.00	30	3.700	5.100	6.314	19.86	27.37	33.89		
11	A-11	6.78	0.77	10.00		3.00	9.00	22	4.329	5.975	7.408	22.60	31.19	38.68		
	A-12	7.05	0.70													
12	PT. 11 + PT. 22 + PT.23 + A-12	95.32	0.71	37.00	CARRYOVER FROM PT. 22	6.00	0.00	43	3.042	4.203	5.214	205.67	284.47	352.91		
12a					SEE MORGAN HEIGHTS PHASE 5 SWMP							125.74	274.78	434.62		
	A-12b	1.86	0.77													
12b	PT. 12a +A-12b	97.18	0.77	44.00		0.00	1.00	45	2.960	4.093	5.082	221.49	306.30	380.25		
12c	PT12b	97.18	0.77	45.00		0.00	0.00	45	2.960	4.093	5.082	221.49	306.30	380.25		
13	A-13	6.65	0.77	10.00		3.00	6.00	19	4.664	6.447	8.005	23.88	33.01	40.99		
	A-13a	2.81	0.77													
13a	PT. 8 + PT. 9+A-13a	15.47	0.77	22.00	CARRYOVER FROM PT. 9	0.00	8.00	30	3.700	5.100	6.314	44.07	60.75	75.21		
13b	A-13b	1.34	0.82	10.00		4.00	0.00	14	5.468	7.600	9.480	6.01	8.35	10.42		
	A-14	0.83	0.53													
14	PT.OS2C + A-14	9.78	0.66	21.00	CARRYOVER FROM PT.OS2C	0.00	0.00	21	4.432	6.120	7.591	28.53	39.39	48.86		
15	A-15	11.85	0.67	14.00		3.00	5.00	22	4.329	5.975	7.408	34.37	47.44	58.82		
	A-15a	1.37	0.67													
15a	PT.15 + DA-15a	13.22	0.67	22.00	CARRYOVER FROM PT. 15	0.00	1.00	23	4.233	5.841	7.239	37.49	51.73	64.12		
	A-16	11.23	0.67													
16	PT.26 + A-16	13.07	0.63	17.00	CARRYOVER FROM PT. 26	0.00	14.00	31	3.638	5.015	6.208	30.12	41.51	51.39		
	A-16a	0.89	0.67													
16a	PT.16 + DA-16a	13.96	0.67	31.00	CARRYOVER FROM PT. 16	0.00	1.00	32	3.579	4.933	6.107	33.47	46.14	57.12		
17a	A-17a	0.44	0.41	14.00		3.00	0.00	17	4.941	6.838	8.501	0.89	1.23	1.53		
	17b	0.95	0.41													
17b	PT.OS1 + PT.OS2A + PT.17A + A-17b	10.99	0.64	22.00	CARRYOVER FROM PT.OS1	0.00	0.00	22	4.329	5.975	7.408	30.31	41.84	51.87		
	A-18	3.28	0.67													
18	PT.OS2B + PT. 14 + PT.17b + A-18	26.48	0.65	22.00	CARRYOVER FROM PT.17b	0.00	3.00	25	4.059	5.597	6.934	70.07	96.63	119.70		
	A-18a	1.65	0.67													
18a	PT.10 + PT.15a + PT.18 +DA-18a	48.32	0.67	25.00	CARRYOVER FROM PT. 18	0.00	5.00	30	3.700	5.100	6.314	119.79	165.11	204.41		
19	A-19	10.34	0.77	14.00		3.00	7.00	24	4.143	5.715	7.081	32.99	45.50	56.38		
	A-20	1.40	0.67													
20	PT.16a + PT.18a + DA-20	63.68	0.67	30.00	CARRYOVER FROM PT. 18a	0.00	4.00	34	3.466	4.779	5.918	147.90	203.91	252.48		
	A-21	0.59	0.77													
21	PT.19 + DA-21	10.93	0.77	24.00	CARRYOVER FROM PT. 19	0.00	2.00	26	3.979	5.487	6.795	33.49	46.18	57.19		
	A-22	0.85	0.77													
22	PT.20 + PT.21 + DA-22	75.46	0.69	34.00	CARRYOVER FROM PT. 20	0.00	3.00	37	3.312	4.569	5.660	171.37	236.38	292.81		
23	A-23	6.03	0.96	17.00		9.00	0.00	26	3.979	5.487	6.795	23.03	31.76	39.34		
24a	A-24a	14.26	0.77	14.00		4.00	11.00	29	3.765	5.189	6.425	41.34	56.98	70.55		
24b	A-24b	1.89	0.77	14.00		2.00	0.00	16	5.101	7.066	8.791	7.42	10.28	12.79		
25	A-25	4.66	0.41	14.00		3.00	5.00	22	4.329	5.975	7.408	8.27	11.42	14.15		
26	A-26	1.84	0.41	14.00		3.00	0.00	17	4.941	6.838	8.501	3.73	5.16	6.41		
27	A-27	5.53	0.67	14.00		6.00	0.00	20	4.543	6.277	7.789	16.83	23.26	28.86		
28	A-28	10.38	0.67	14.00		4.00	3.00	21	4.432	6.120	7.591	30.82	42.56	52.79		
	A-29	0.96	0.41													
29	PT.27 + A-29	6.49	0.63	20.00	CARRYOVER FROM PT. 27	0.00	2.00	22	4.329	5.975	7.408	17.74	24.49	30.36		
	A-30	3.04	0.67													
30	PT.28 + PT.29 + A-30	19.91	0.66	22.00		0.00	2.00	24	4.143	5.715	7.081	54.23	74.81	92.69		
	A-31	0.47	0.41													
31	PT.OS5 + A-31	1.49	0.59	14.00	CARRYOVER FROM PT. 9	1.00	0.00	15	5.280	7.320	9.115	4.63	6.41	7.99		
	A-32	12.55	0.77													
32	PT.30 + PT.31+ A-32	33.95	0.70	24.00	CARRYOVER FROM PT. 30	0.00	1.00	25	4.059	5.597	6.934	95.91	132.26	163.84		
OS-1	A-OS1	4.79	0.67	17.00		5.00	0.00	22	4.329	5.975	7.408	13.89	19.18	23.78		
OS-2A	A-OS2A	4.81	0.67	9.00		3.00	0.00	12	5.864	8.186	10.238	18.90	26.38	32.99		
OS-2B	A-OS2B	2.43	0.67	14.00		3.00	0.00	17	4.941	6.838	8.501	8.04	11.13	13.84		
OS-2C	A-OS2C	8.95	0.67	10.00		11.00	0.00	21	4.432	6.120	7.591	26.58	36.70	45.52		
OS-3	A-OS3	0.25	0.67	14.00		1.00	0.00	15	5.280	7.320	9.115	0.88	1.23	1.53		
OS-4	A-OS4	0.91	0.67	14.00		2.00	0.00	16	5.101	7.066	8.791	3.11	4.31	5.36		
OS-5	A-OS5	1.02	0.67	14.00		3.00	0.00	17	4.941	6.838	8.501	3.38	4.67	5.81		



Engineering & Design

www.colliersengineering.com

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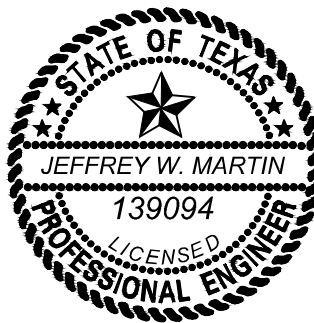
Formerly known as



PROTECT YOURSELF  
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

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

REV. DATE. DRAWN BY. DESCRIPTION.



*Jeffrey W. Martin*  
1/24/25

PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS



SAN ANTONIO (KFW)  
3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TDRS Form# 11-1009  
TDRS Form# 10194550

SCALE: AS SHOWN  
DATE: 07/20/2023  
PROJECT NUMBER: 205-40-06  
DRAWING NAME: MD-2054006  
DRAWN BY: SD  
CHECKED BY: SC

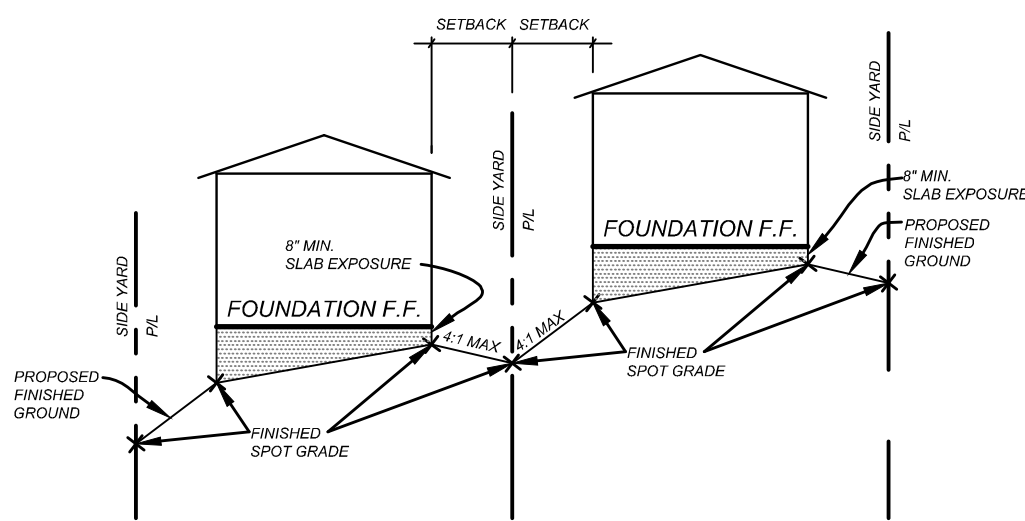
SHEET TITLE:  
MASTER DRAINAGE PLAN (2 OF 2)

SHEET NUMBER:  
2.1

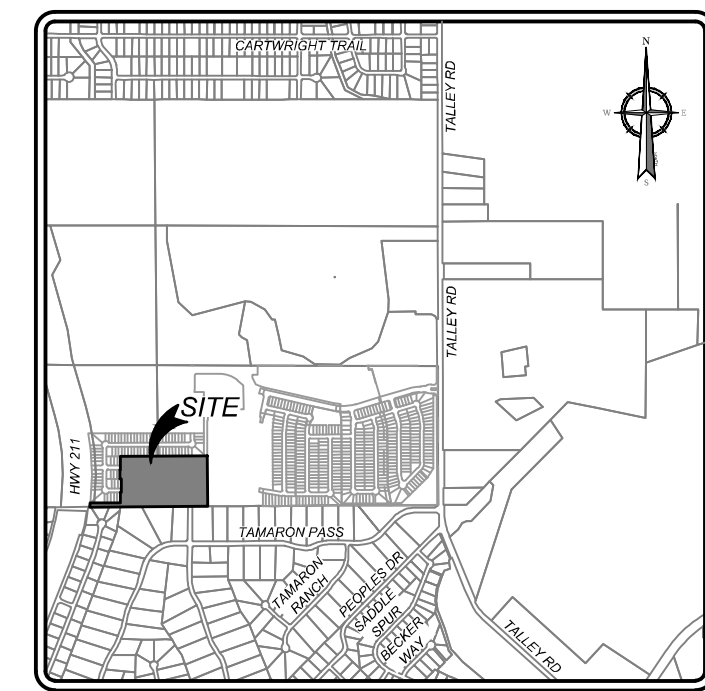
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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 RETAIN 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 DRIVEWAYS AND PROTECTED BY A DRAINAGE DITCH OR DRAINAGE 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 DIMENSIONS 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, DRIVEWAYS, ROADS, AND WATERWAYS.
9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ON ALL SWALES.

COUNTY FINISHED FLOOR ELEVATION - RELATIVE TO FLOOD PLAIN:  
FINISHED FLOOR ELEVATIONS FOR STRUCTURES ON LOTS CONTAINING FLOOD PLAIN OR ADJACENT TO THE FLOOD PLAIN SHALL BE IN COMPLIANCE WITH THE FLOOD PLAIN REGULATION IN EFFECT AT THE TIME OF CONSTRUCTION. CONTACT BEXAR COUNTY PUBLIC WORKS FOR MORE INFORMATION. (F-142(a) & (b)(1))



TYPICAL SIDE YARD GRADING



**Colliers**

## Engineering & Design

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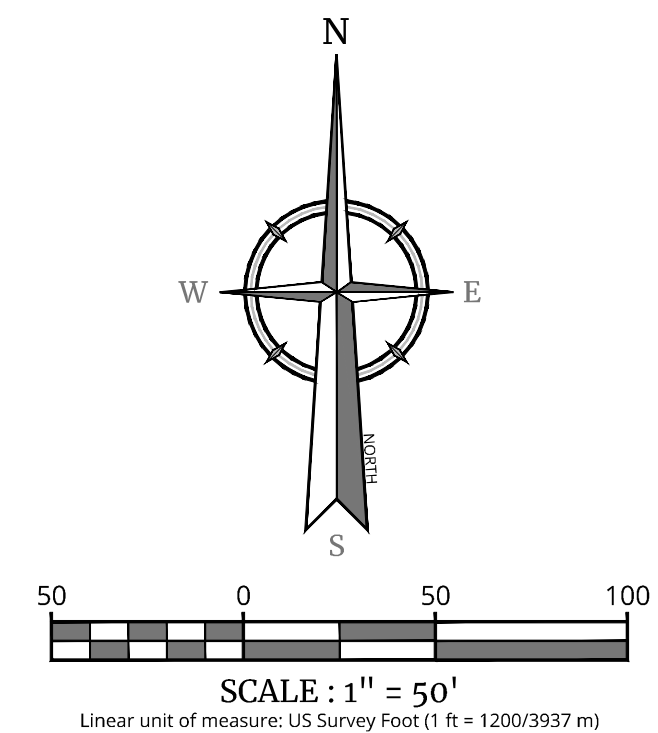
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Formerly Known as **KFW**



**PROTECT YOURSELF**  
ALL STATES REQUIRE NOTIFICATION OF  
EXCAVATORS, DESIGNERS, OR ANY PERSON  
PREPARING TO DISTURB THE EARTH'S  
SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS  
VISIT: [WWW.CALL811.COM](http://WWW.CALL811.COM)

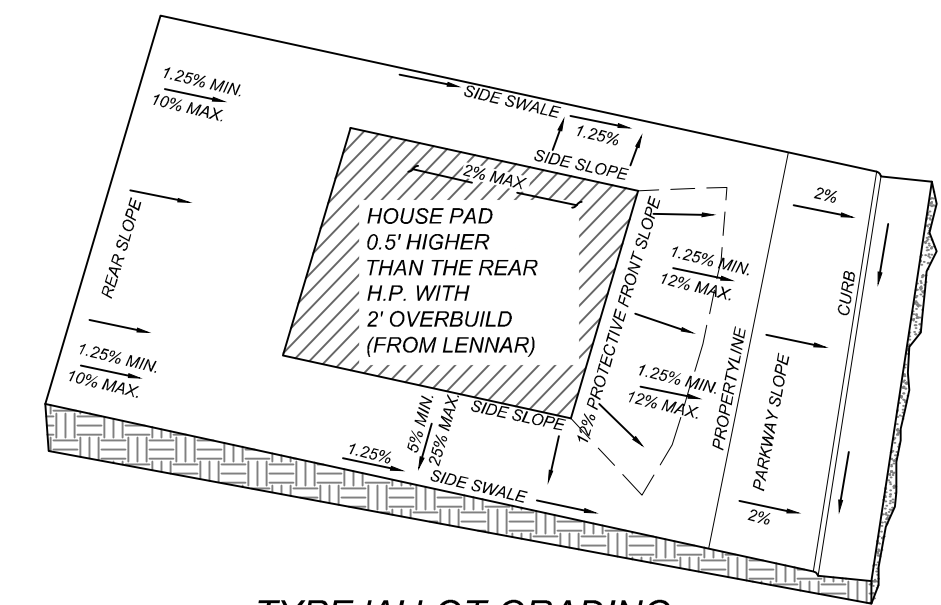


**LEGEND**

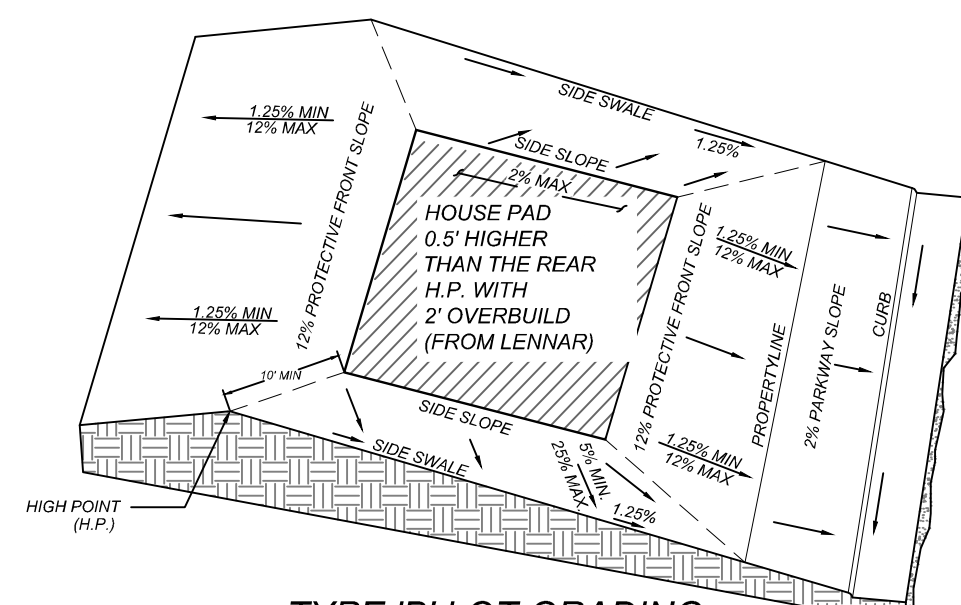
E.G.T.V.E = ELECTRIC, GAS, TELEPHONE,  
CABLE T.V. EASEMENT  
C.B. = COUNTY BLOCK  
V.N.A.E. = VEHICULAR NON-ACCESS  
EASEMENT  
➔ = FLOW ARROW  
Ⓐ = LOT GRADE TYPE

H.P. = HIGH POINT  
F.F. MIN= 598.0' = FINISHED FLOOR MINIMUM ELEVATION AS REQUIRED

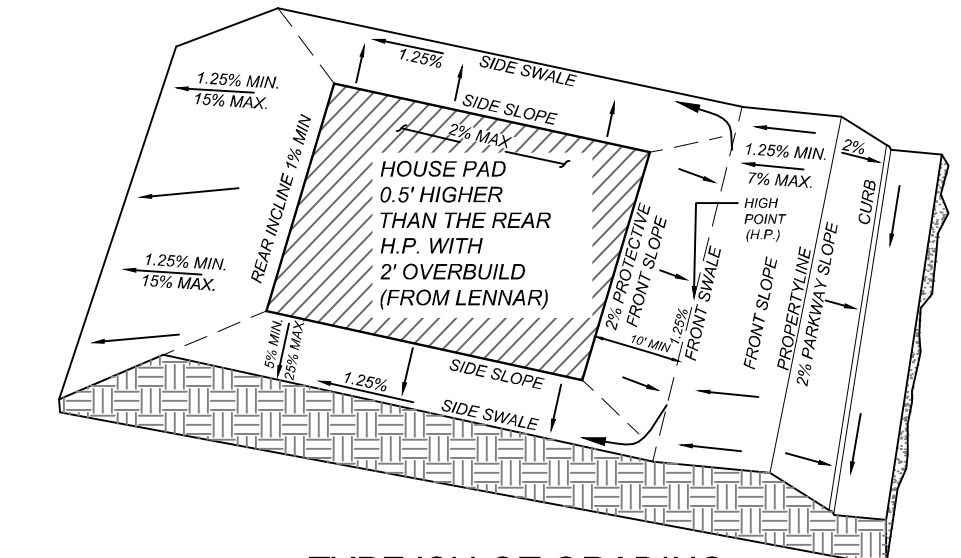
-----735----- = EXISTING CONTOUR  
 ————(735)———— = PROPOSED CONTOUR  
 ————(735)———— = EXISTING CONTOUR  
 + 731.69 = SPOT ELEVATION

$$+ 731.69 = \text{SPOT ELEVATION}$$


TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING

## PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS



Engineering  
& Design

**SAN ANTONIO (KFW)**  
3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBPE Firm#: F-14909  
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC
PROJECT NUMBER:	DRAWING NAME:		
205-40-06	GR2054006		

SHEET TITLE:

OVERALL GRADING PLAN

SHEET NUMBER:

### 3.0

RESIDENTIAL LOTS = 79

**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.**

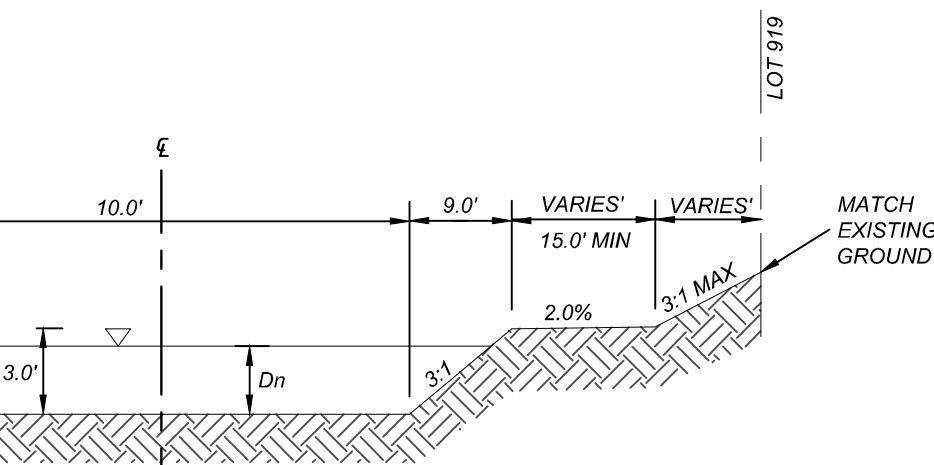


CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORKAREA IN ORDER TO DEVELOP/REVIEW/RECOMMEND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

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 ELECTRICAL, SECONDARY ELECTRIC, PRIMARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONDITIONS THAT ARISE SHOULD BE COMMUNICATED TO THE OWNER 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.

PLEASE SEE SHEET 4.8 FOR TABLE 9.3.8.1 - RETARDATION CLASS FOR LINING MATERIALS AND TABLE 9.3.8.2 - PERMISSIBLE SHEAR STRESSES FOR VARIOUS LININGS

AREA'S EXCEEDING CITY OF SAN ANTONIO PERMISSIBLE  
SHEAR STRESS WILL BE REINFORCED WITH PROPOSED  
TURF REINFORCEMENT MAT (TRM) AS APPROVED BY CITY  
OF SAN ANTONIO STANDARD SPECIFICATIONS UNDER  
CONSTRUCTION ITEM 554.



**SECTION "A2-A2"**  
**STA. 13+42.41 TO STA. 13+47.41**  
**N.T.S.**

PROPERTY LINE

LOT 919

VARIES' 3.1' MAX 15.0' MIN 13.0' MAX 20.0' 13.0' MAX 3.1' MAX VARIES' 2.0' MIN 2.0% 5.1' MAX

2.0% 0.0' MIN, 3.0' MAX 18" TOEDOWN 18" TOEDOWN

MIN. 0.0' 3.0' MAX. 3.0'

$D_n$

6" CONC. RIP-RAP W/ #4 BARS @ 12" O.C.E.W. AND 2" MIN. GRAVEL CUSHION

1 1/4" PER FT. MIN. (15' MIN @ 2%)

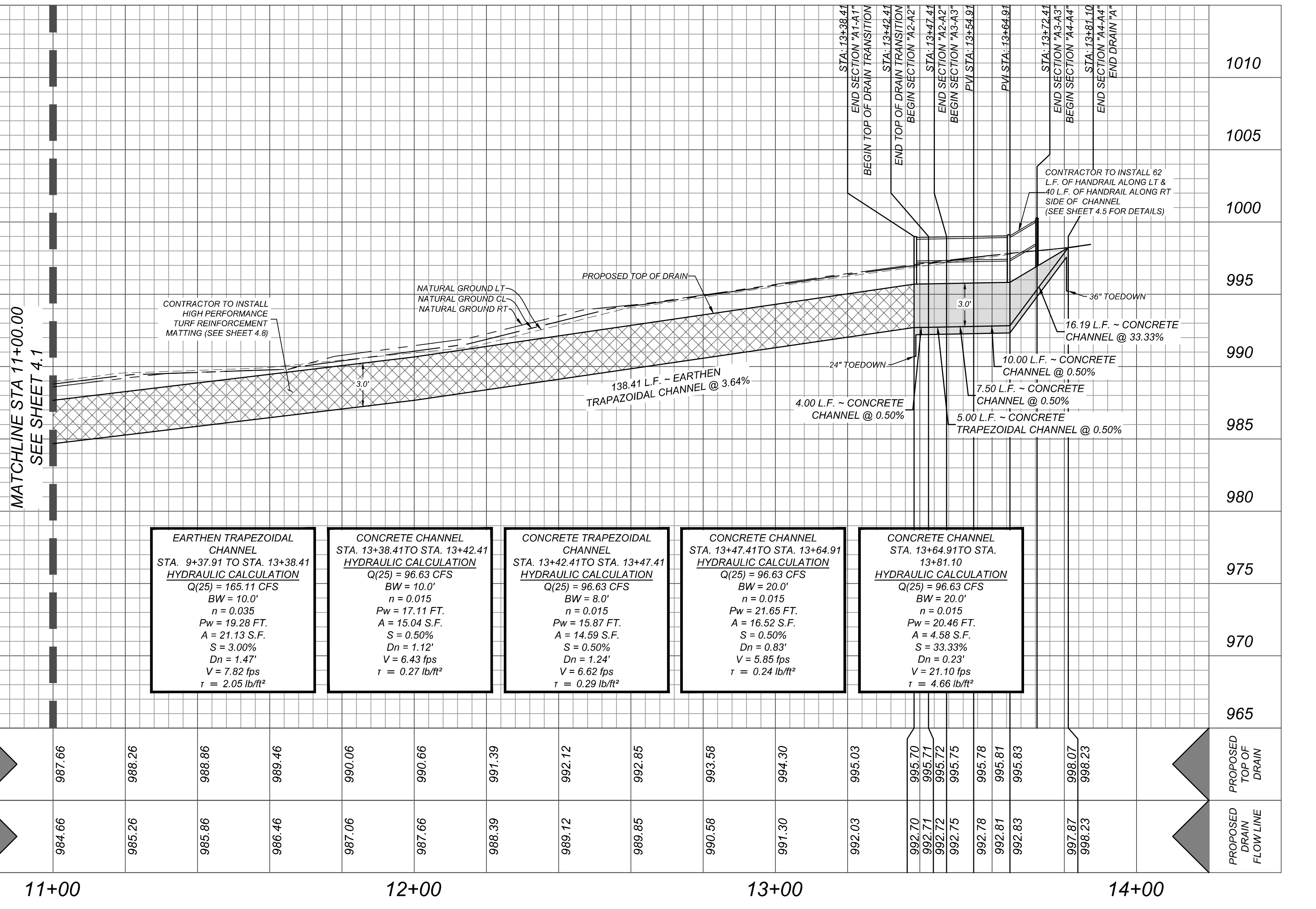
2 GRADE TO NATURAL GROUND 3.1% SLOPE MAX.

3 1/4" PER FT. MIN. (2.0' MIN @ 2%)

SECTION "A4-A4"

STA. 13+72.41 - STA. 13+81.10

N.T.S.



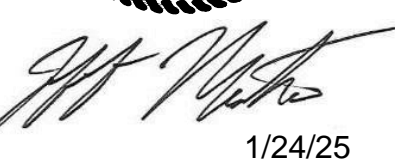
1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
3. AT THE PRE-FINAL INSPECTION, THE ENGINEER MUST ISSUE CERTIFICATION TO THE CITY INSPECTOR THAT THE TURF REINFORCEMENT MAT (TRM) WAS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATION MUST ALSO NOTE THAT THE MATERIAL AND INSTALLATION HAS MET CITY AND MANUFACTURER SPECIFICATIONS.

A BEXAR COUNTY PERMIT MUST BE  
OBTAINED BEFORE WORKING IN BEXAR  
COUNTY R.O.W.

 = EXISTING CONTOUR  
 = PROPOSED CONTOUR  
 = FLOW ARROW  
 = HIGH PERFORMANCE TURF REINFORCEMENT MATTING

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

REV	DATE	DRAWN BY	DESCRIPTION
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
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10	10	10	10
11	11	11	11
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98	98	98	98
99	99	99	99
100	100	100	100



PRELIMINARY

FOR

MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS



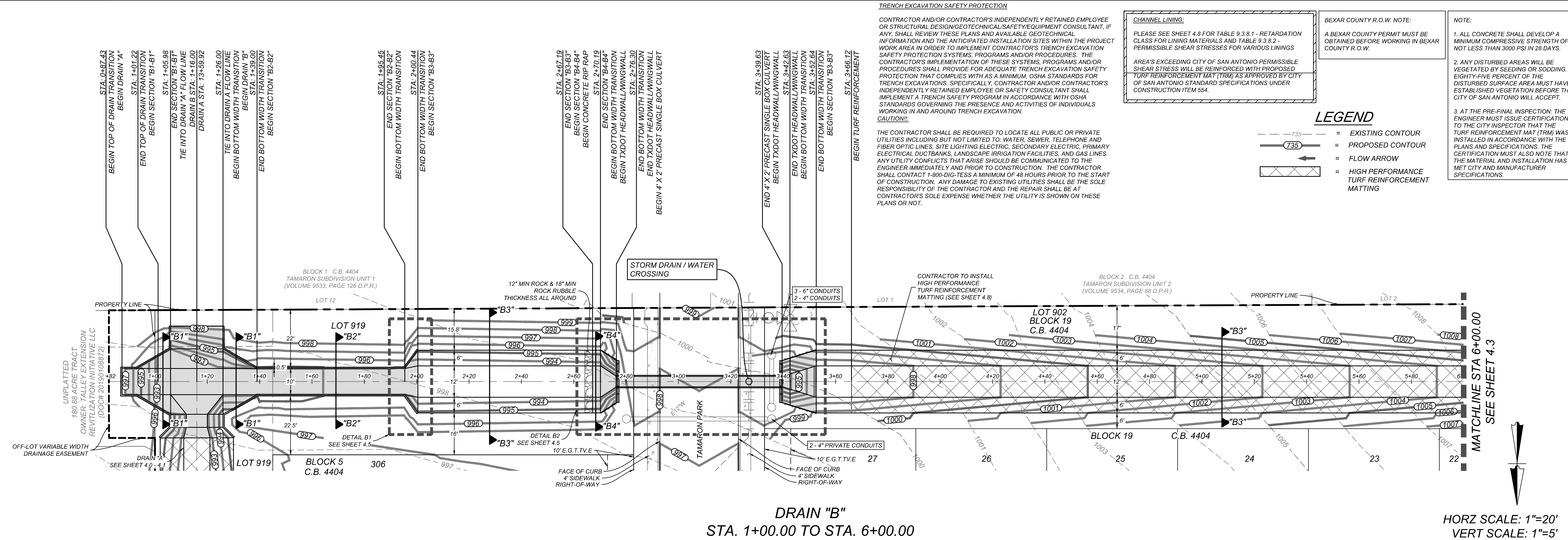
**SAN ANTONIO (KFW)**  
3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN,  
TBPE Firm#: F-14909  
TBPLS Firm#: 10194550

SCALE: AS SHOWN	DATE: 07/20/2023	DRAWN BY: SD	CHECKED BY: SC
PROJECT NUMBER: 205-40-06		DRAWING NAME: DR2054006 - A	

SHEET TITLE:  
DRAIN "A" PLAN & PROFIL  
(2 OF 2)

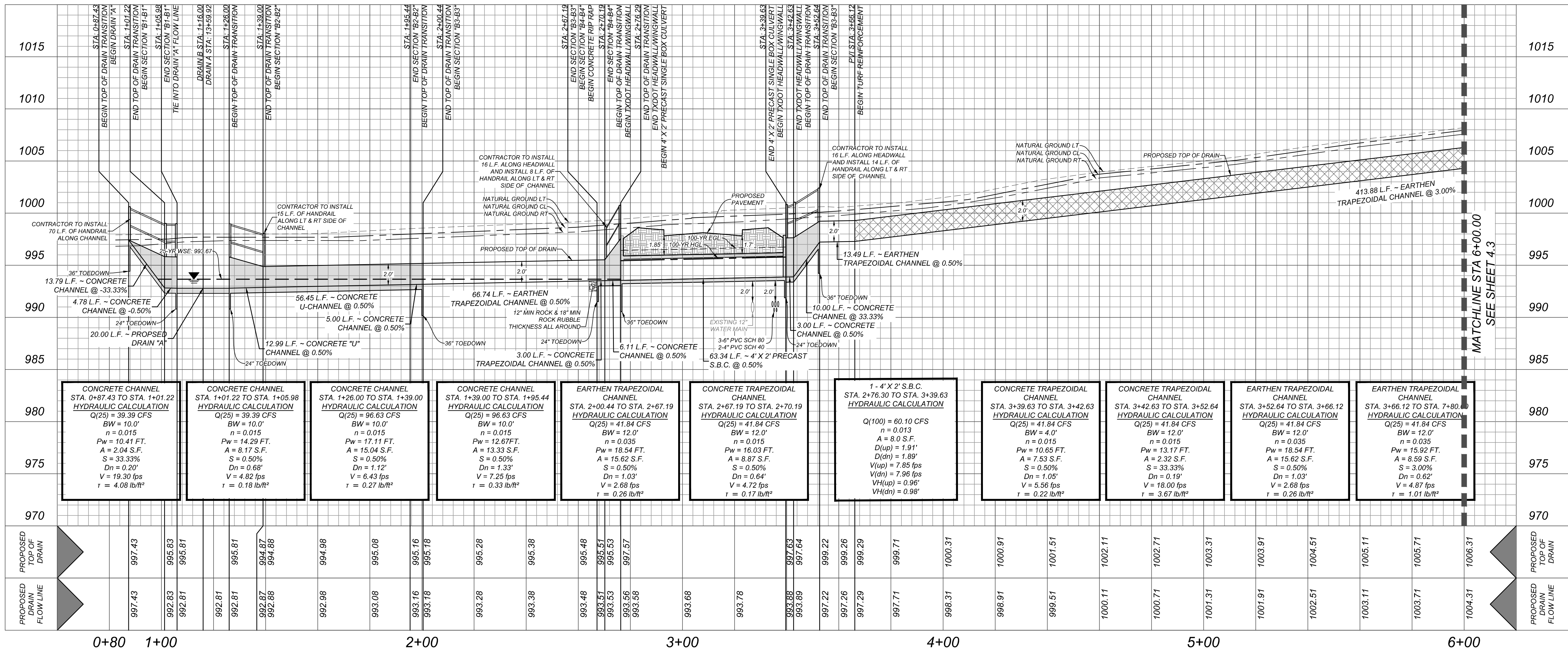
SHEET NUMBER: 4.1

**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION**



DRAIN "B"  
STA. 1+00.00 TO STA. 6+00.00

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



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STATE OF TEXAS  
JEFFREY W. MARTIN  
139094  
LICENSED PROFESSIONAL ENGINEER  
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PRELIMINARY  
FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
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TBL'S FORM: 10194500

SCALE: AS SHOWN DATE: 07/20/2023 DRAWN BY: SD CHECKED BY: SC  
PROJECT NUMBER: 205-40-06 DRAWING NAME: DR2054006-B  
SHEET TITLE: DRAIN "B" PLAN & PROFILE (1 OF 4)  
SHEET NUMBER: 4.2

TRENCH EXCAVATION SAFETY PROTECTION

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

CAUTION!!

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CHANNEL LINING:

PLEASE SEE SHEET 4.8 FOR TABLE 9.3.8.1 - RETARDATION CLASS FOR LINING MATERIALS AND TABLE 9.3.8.2 - PERMISSIBLE SHEAR STRESSES FOR VARIOUS LININGS

AREAS EXCEEDING CITY OF SAN ANTONIO PERMISSIBLE SHEAR STRESS WILL BE REINFORCED WITH PROPOSED TURF REINFORCEMENT MAT (TRM) AS APPROVED BY CITY OF SAN ANTONIO STANDARD SPECIFICATIONS UNDER CONSTRUCTION ITEM 554.

BEXAR COUNTY R.O.W. NOTE:

A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY R.O.W.

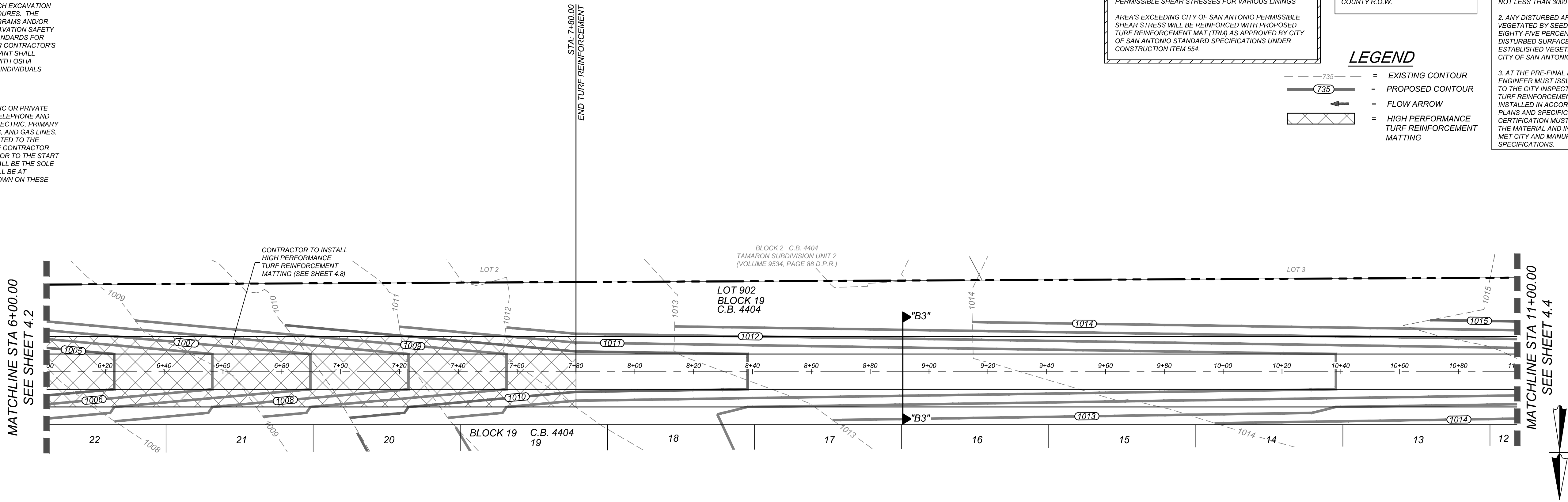
NOTE:

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. AT THE PRE-FINAL INSPECTION, THE ENGINEER MUST ISSUE CERTIFICATION TO THE CITY INSPECTOR THAT THE TURF REINFORCEMENT MAT (TRM) WAS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATION MUST ALSO NOTE THAT THE MATERIAL AND INSTALLATION HAS MET CITY AND MANUFACTURER SPECIFICATIONS.

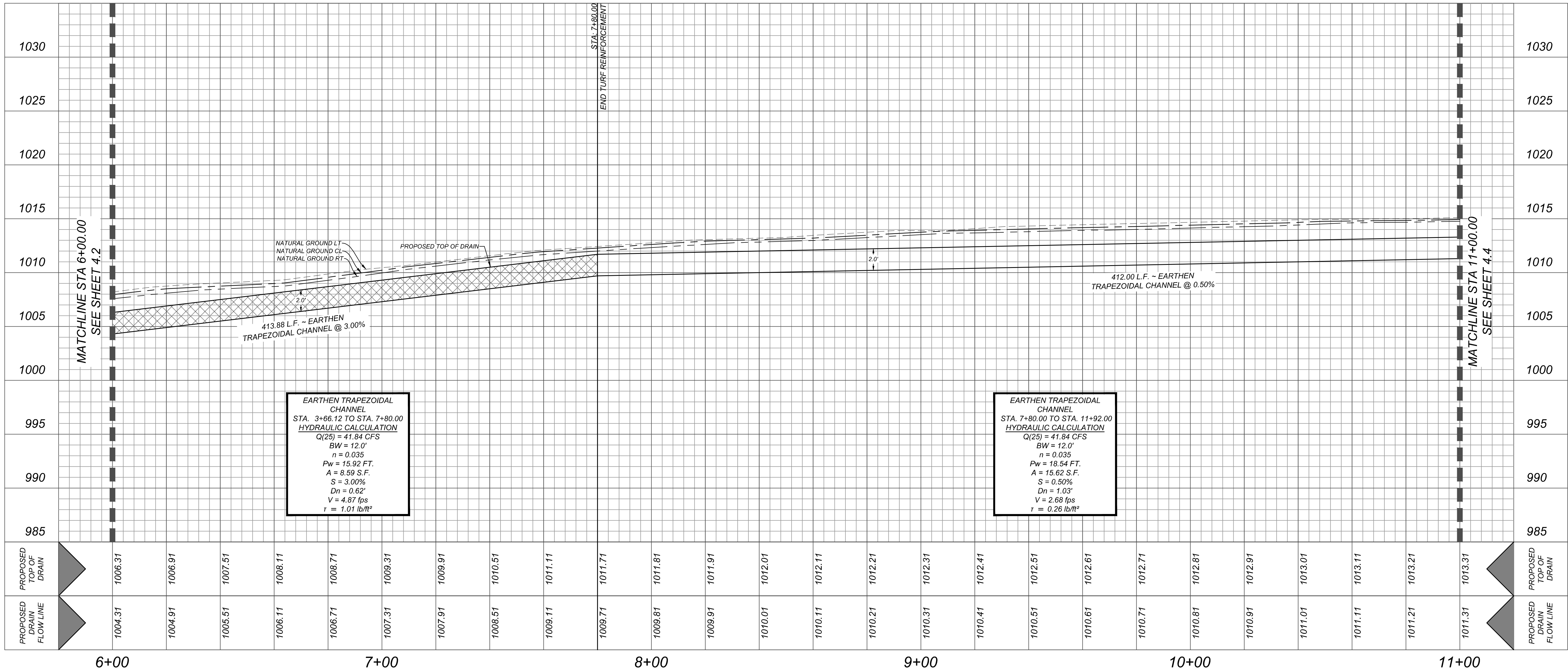
LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- FLOW ARROW
- HIGH PERFORMANCE TURF REINFORCEMENT MATTING



DRAIN "B"  
STA. 6+00.00 TO STA. 11+00.00

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



EARTHEN TRAPEZOIDAL CHANNEL  
STA. 3+66.12 TO STA. 7+80.00  
HYDRAULIC CALCULATION  
Q(25) = 41.84 CFS  
BW = 12.0'  
n = 0.035  
Pw = 15.92 FT.  
A = 8.59 S.F.  
S = 3.00%  
Dn = 0.62'  
V = 4.87 fps  
τ = 1.01 lb/ft²

EARTHEN TRAPEZOIDAL CHANNEL  
STA. 7+80.00 TO STA. 11+92.00  
HYDRAULIC CALCULATION  
Q(25) = 41.84 CFS  
BW = 12.0'  
n = 0.035  
Pw = 18.54 FT.  
A = 15.62 S.F.  
S = 0.50%  
Dn = 1.03'  
V = 2.68 fps  
τ = 0.26 lb/ft²



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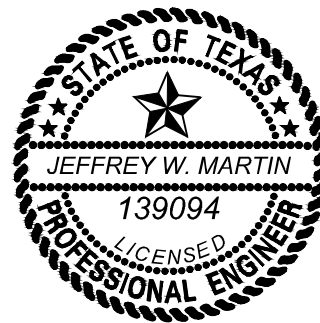
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PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS



Engineering  
& Design

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COLLIERS ENGINEERING & DESIGN, INC.  
TDRS Form: 101-000  
TDRS Form: 101-000

SCALE: AS SHOWN DATE: 07/20/2023 DRAWN BY: SD CHECKED BY: SC  
PROJECT NUMBER: 205-40-06 DRAWING NAME: DR2054006-B

SHEET TITLE:  
DRAIN "B" PLAN & PROFILE  
(2 OF 4)

SHEET NUMBER:

4.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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MATCHLINE STA 11+00.00  
SEE SHEET 4.3

BLOCK 2 C.B. 4404  
TAMARON SUBDIVISION UNIT 2  
(VOLUME 9534, PAGE 88 D.P.R.)

BLOCK 1 C.B. 4403  
LEGEND OAKS UNIT 1  
(VOLUME 9540, PAGE 59 D.P.R.)

MORGAN HEIGHTS PHASE 5  
(PLAT NUMBER 23-11800390)

CHANNEL LINING:  
PLEASE SEE SHEET 4.8 FOR TABLE 9.3.8.1 - RETARDATION CLASS FOR LINING MATERIALS AND TABLE 9.3.8.2 - PERMISSIBLE SHEAR STRESSES FOR VARIOUS LININGS  
AREA'S EXCEEDING CITY OF SAN ANTONIO PERMISSIBLE SHEAR STRESS WILL BE REINFORCED WITH PROPOSED TURF REINFORCEMENT MAT (TRM) AS APPROVED BY CITY OF SAN ANTONIO STANDARD SPECIFICATIONS UNDER CONSTRUCTION ITEM 554.

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. AT THE PRE-FINAL INSPECTION: THE ENGINEER MUST ISSUE CERTIFICATION TO THE CITY INSPECTOR THAT THE TURF REINFORCEMENT MAT (TRM) WAS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATION MUST ALSO NOTE THAT THE MATERIAL AND INSTALLATION HAS MET CITY AND MANUFACTURER SPECIFICATIONS.

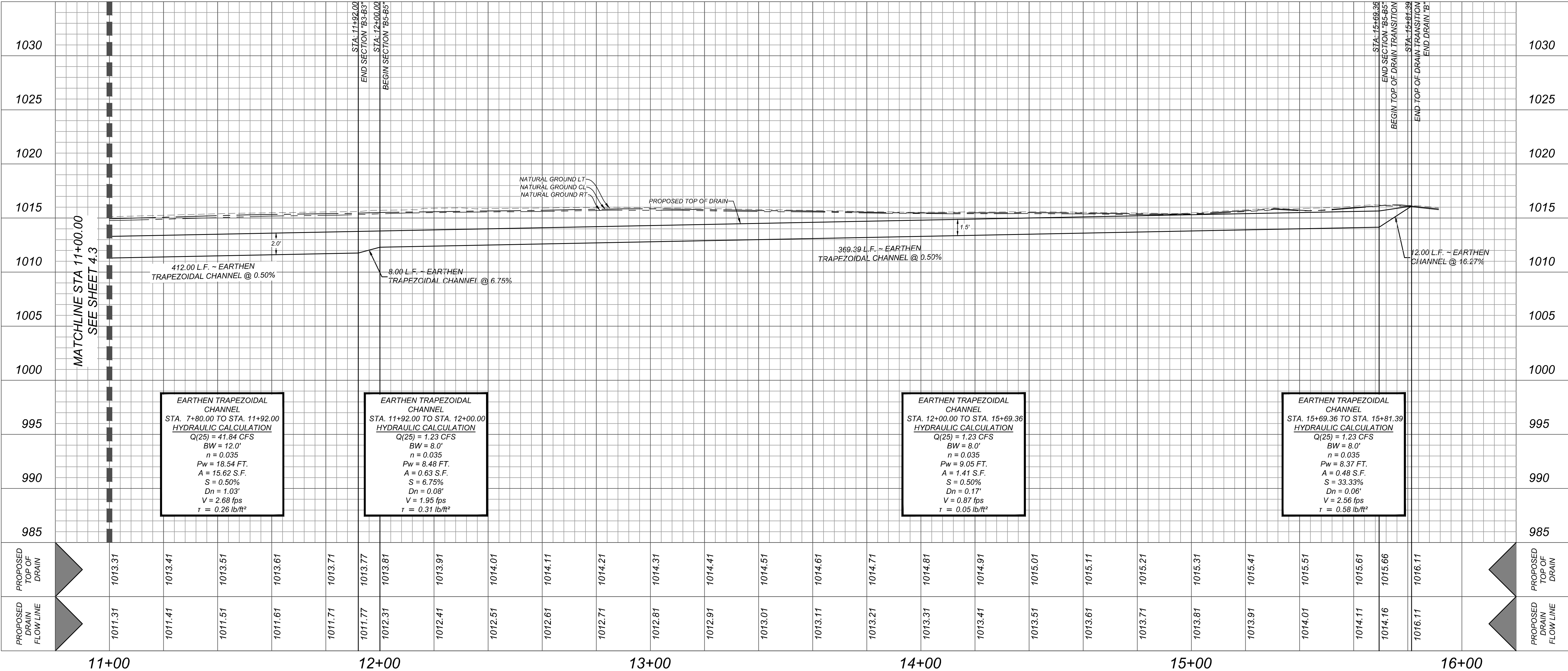
BEXAR COUNTY R.O.W. NOTE:  
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY R.O.W.

LEGEND

- 735--- = EXISTING CONTOUR
- (735)--- = PROPOSED CONTOUR
- >--- = FLOW ARROW
- X--- = HIGH PERFORMANCE TURF REINFORCEMENT MATTING

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

DRAIN "B"  
STA. 11+00.00 TO STA. 16+00.00



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FOR

MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

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TIME PERMIT 11-0003  
TBL'S Permit: 10194550

SCALE: AS SHOWN	DATE: 07/20/2023	DRAWN BY: SD	CHECKED BY: SC
PROJECT NUMBER: 205-40-06	DRAWING NAME: DR2054006 - B		

SHEET TITLE:  
**DRAIN "B" PLAN & PROFILE  
(3 OF 4)**

SHEET NUMBER:  
**4.4**

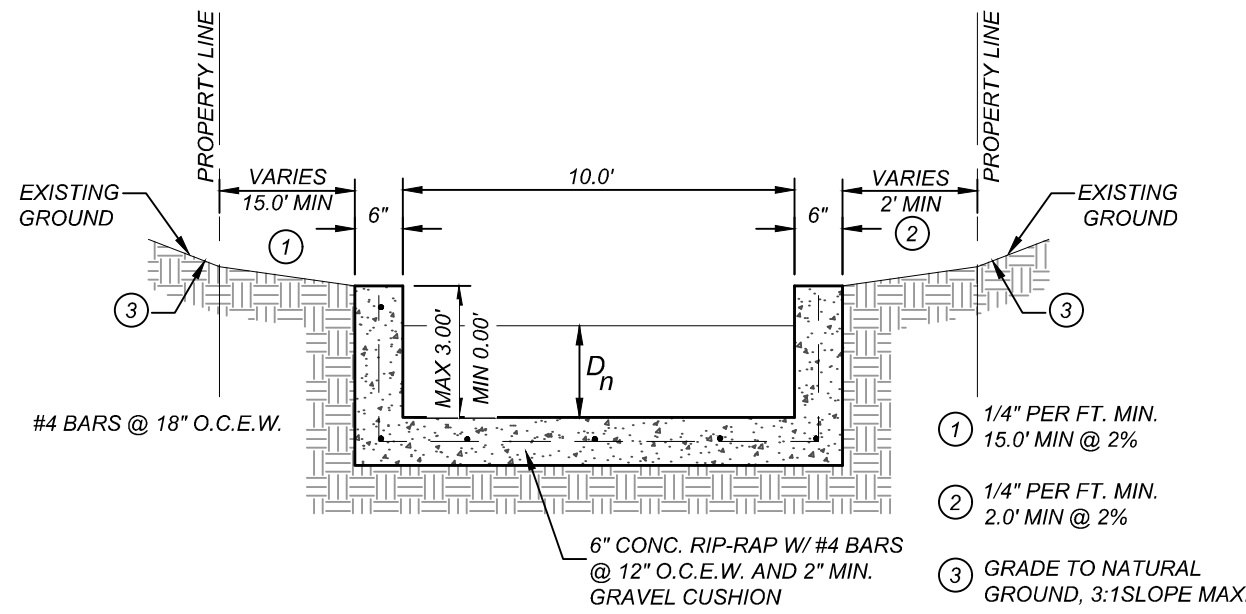
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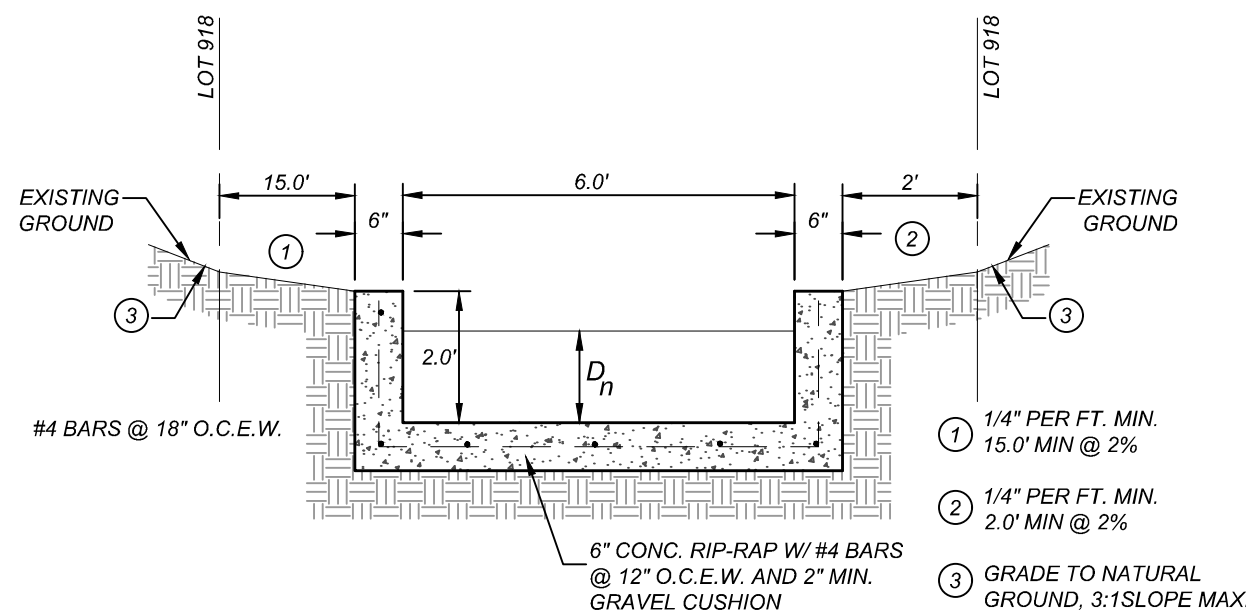
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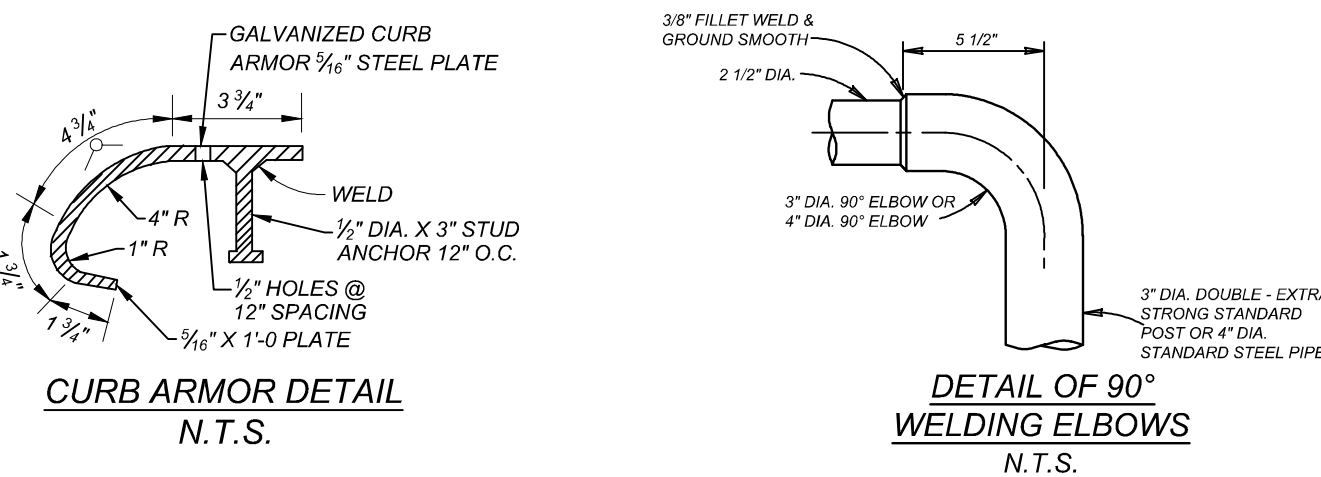
AREA'S EXCEEDING CITY OF SAN ANTONIO PERMISSIBLE SHEAR STRESS WILL BE REINFORCED WITH PROPOSED TURF REINFORCEMENT MAT (TRM) AS APPROVED BY CITY OF SAN ANTONIO STANDARD SPECIFICATIONS UNDER CONSTRUCTION ITEM 554.



SIDEWALK BOX DETAIL  
N.T.S.

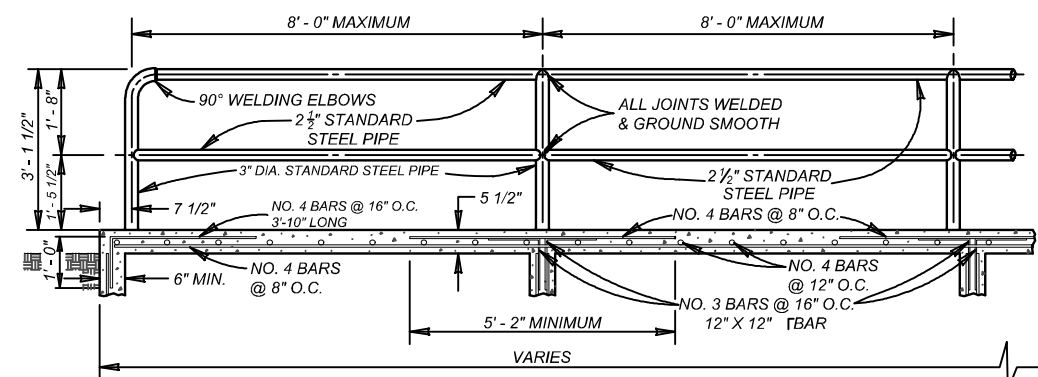


SECTION "C3-C3"  
N.T.S.

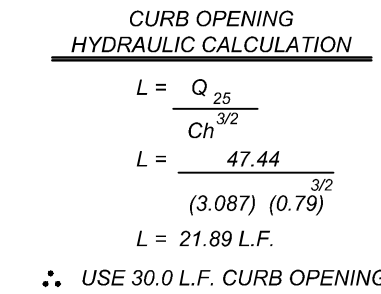


CURB ARMOR DETAIL  
N.T.S.

DETAIL OF 90°  
WELDING ELBOWS  
N.T.S.



PIPE ANCHORAGE DETAILS  
N.T.S.



A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY R.O.W.

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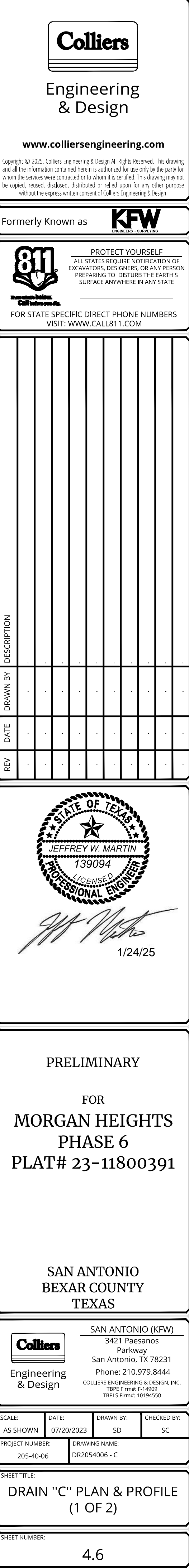
**CURB OPENING**  
**HYDRAULIC CALCULATION**

---

$$L = \frac{Q_{25}}{Ch^{\frac{3}{2}}}$$
$$L = \frac{47.44}{(3.087)^{\frac{3}{2}} (0.79)^{\frac{3}{2}}}$$
$$L = 21.89 \text{ L.F.}$$

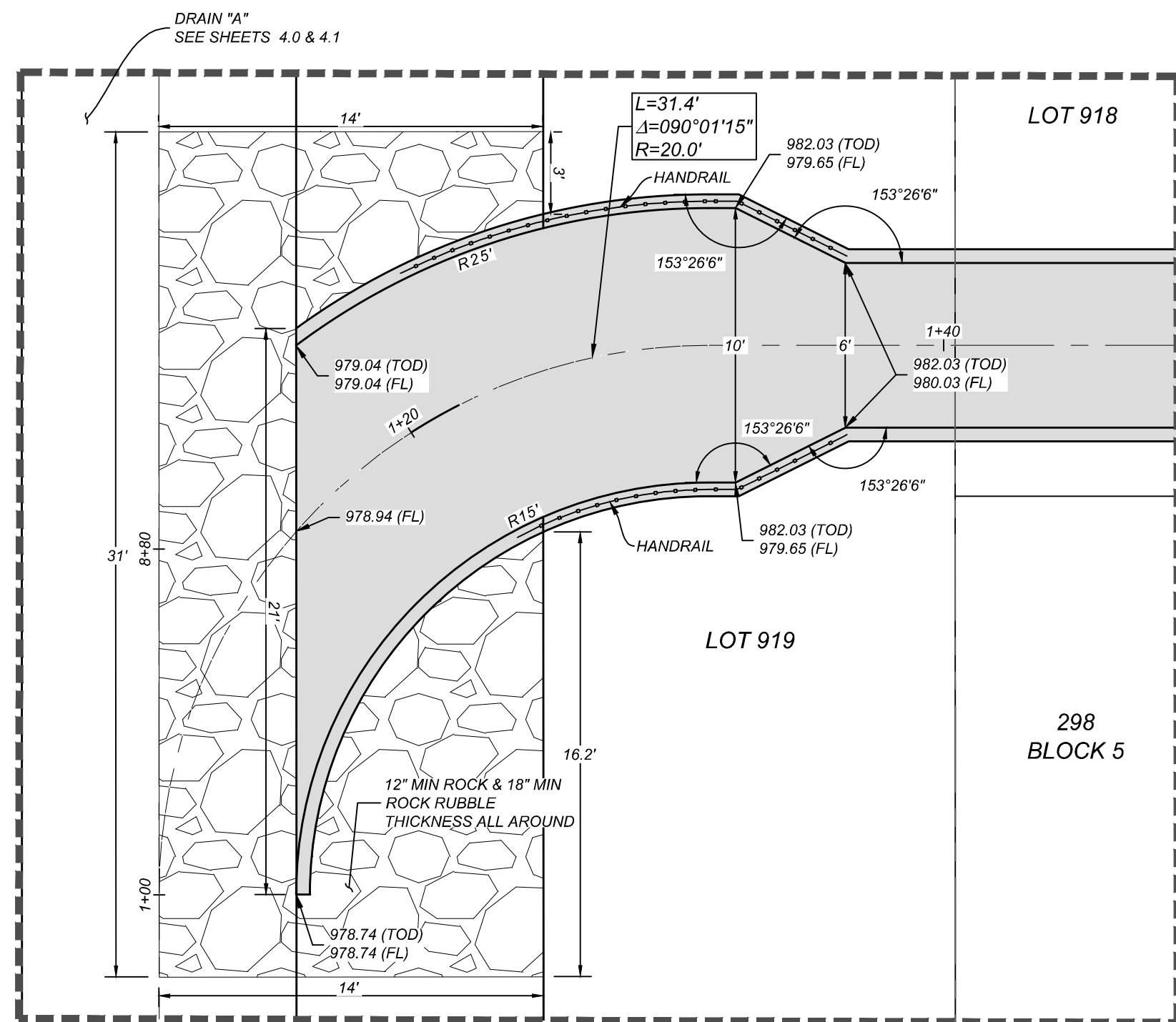
∴ USE 30.0 L.F. CURB OPENING

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

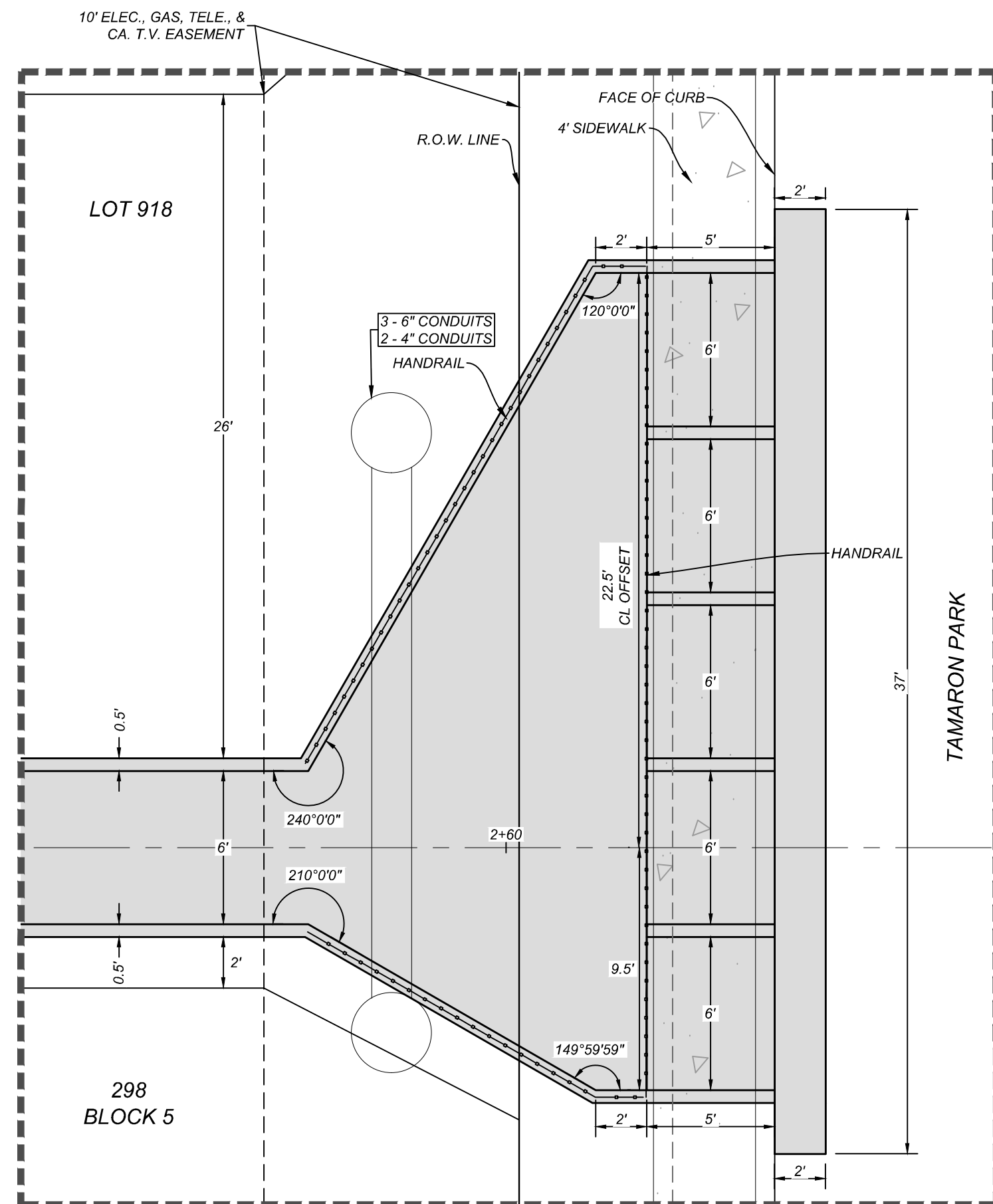


w:\Drains\DR2054006 - C.dwg\4.6 By: ABIEL.MONTALVO

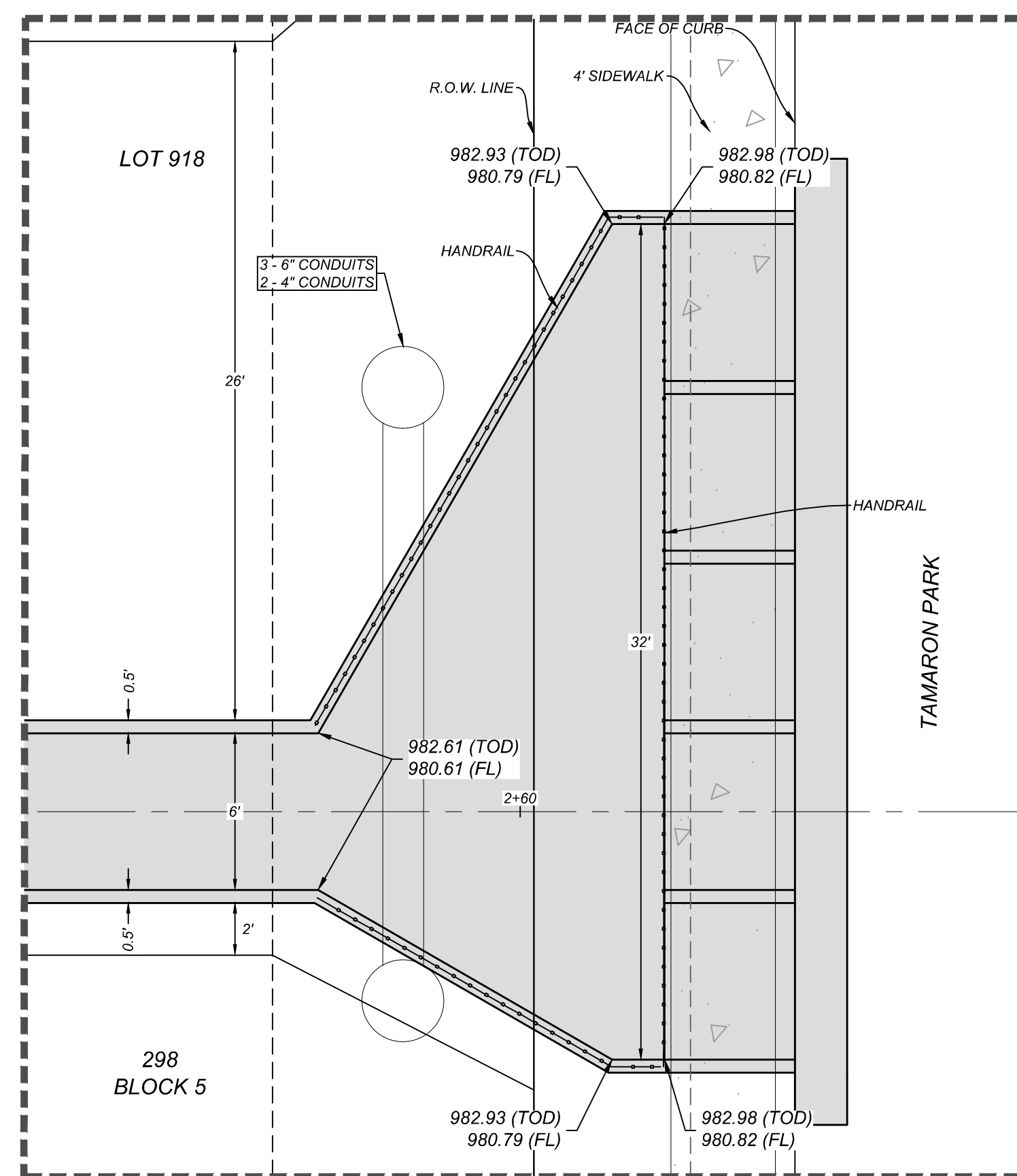
\\dr01m020105005 - C:\p047 By: JHEB MONTEALVO



DETAIL "C1"  
1" = 5'



DETAIL "C2"  
1" = 5'



DETAIL "C3"  
1" = 5'



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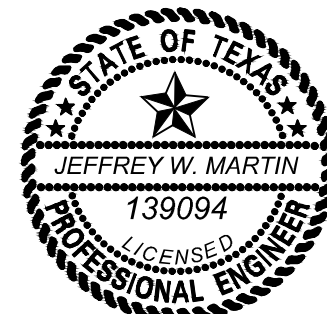
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REV. DATE. DRAWN BY. DESCRIPTION.



*Jeffrey W. Martin*  
1/24/25

PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS



SAN ANTONIO (KFW)  
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Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBD'S Permit: 10194503

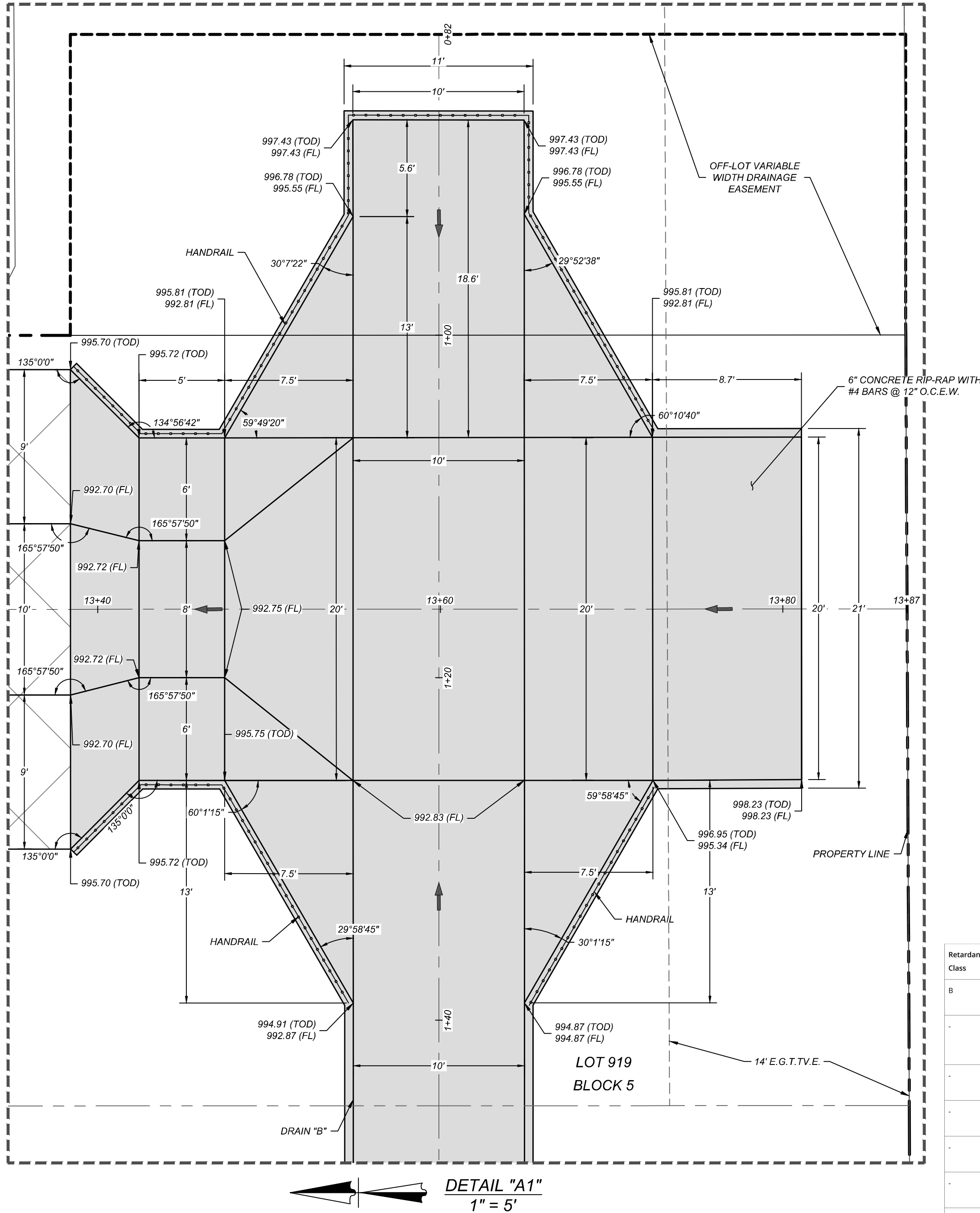
SCALE: AS SHOWN DATE: 07/20/2023 DRAWN BY: SD CHECKED BY: SC  
PROJECT NUMBER: 205-40-06 DRAWING NAME: DR2054006 - C

SHEET TITLE:  
DRAIN "C" PLAN & PROFILE  
(2 OF 2)

SHEET NUMBER:  
4.7

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

\\0400000070254006.dwg:4.8 By: JBEI, LANDLOK



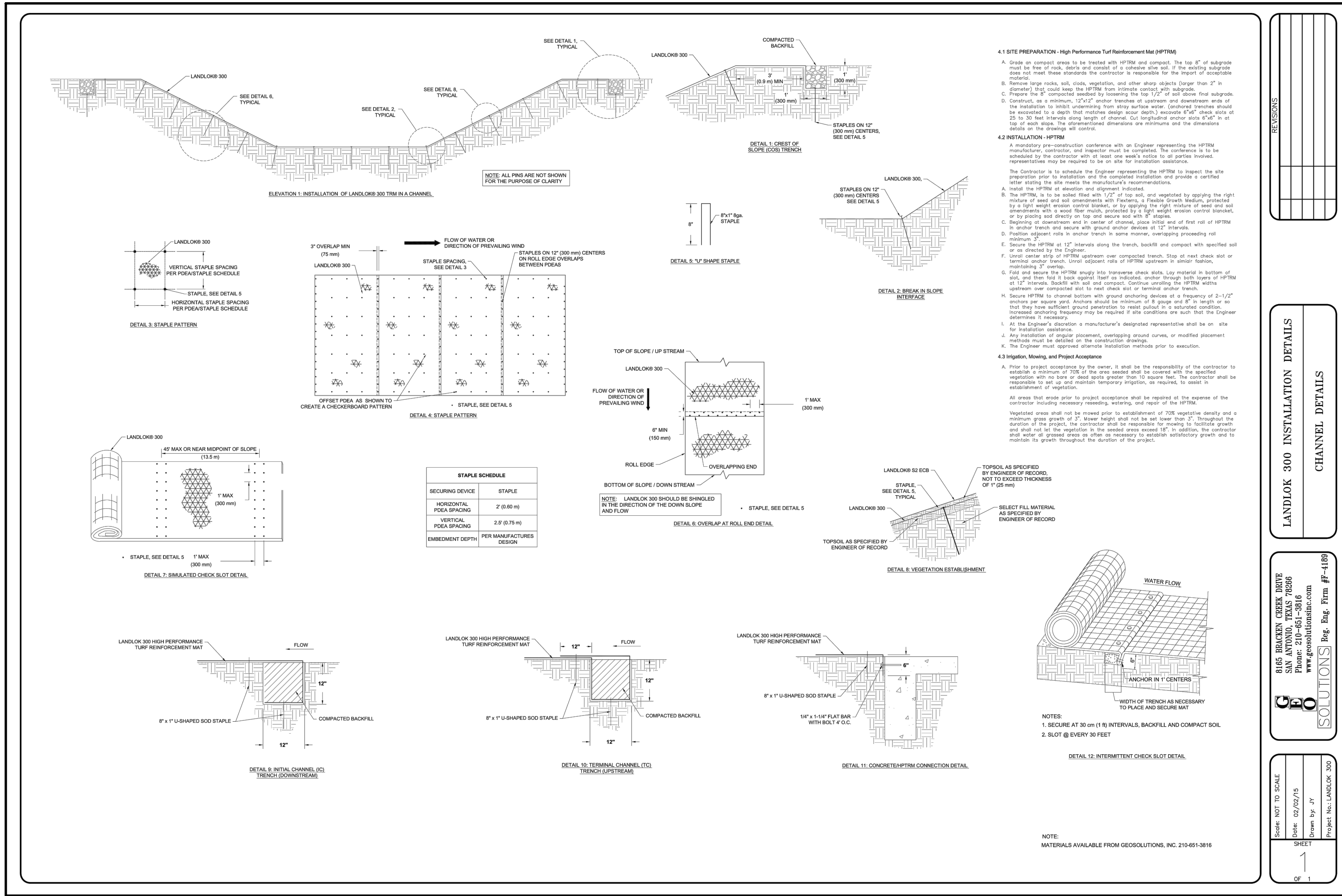
DETAIL "A1"  
1" = 5'

TABLE 9.3.8.1 - RETARDATION CLASS FOR LINING MATERIALS

Retardance Class	Cover	Condition
B	Bermuda grass	Good stand, tall (average 12 in. or 305 mm)
-	Native grass mixture little bluestem, bluegrass, other short and long stem midwest grasses	Good stand, unmowed
-	Lespedeza sericea	Good stand, not woody, tall (average 19 in. or 480 mm)
-	Alfalfa	Good stand, uncut (average 11 in. or 280 mm)
-	Blue gamma	Good stand, uncut (average 13 in. or 330 mm)
-	Craggrass	Fair stand, uncut (10 to 48 in. or 55 to 1220 mm)
C	Bermuda grass	Good stand, mowed (average 6 in. or 150 mm)
-	Common lespedeza	Good stand, uncut (average 11 in. or 280 mm)
-	Grass-legume mixture: summer (orchard grass redtop, Italian ryegrass, and common lespedeza)	Good stand, uncut (6-8 in. or 150- 200 mm)
-	Centipede grass	Very dense cover (average 6 in. or 150 mm)
-	Kentucky bluegrass	Good stand, headed (6-12 in. or 150-305 mm)
D	Bermuda grass	Good stand, cut to 2.5 in. or 65 mm
-	Common lespedeza	Excellent stand, uncut (average 4.5 in. or 115 mm)
-	Buffalo grass	Good stand, uncut (3-6 in. or 75- 150 mm)
-	Grass-legume mixture: fall, spring (orchard grass Italian ryegrass, and common lespedeza	Good Stand, uncut (4-5 in. or 100- 125 mm)
-	Lespedeza sericea	After cutting to 2 in. or 50 mm (very good before cutting)
E	Bermuda grass	Good stand, cut to 1.5 in. or 40 mm
-	Bermuda grass	Burned stubble

TABLE 9.3.8.2 - PERMISSIBLE SHEAR STRESSES FOR VARIOUS LININGS

Protective Cover	$\tau_v$ (lb./sq.ft.)	$\tau_v$ (N/m <sup>2</sup> )
Retardance Class B Vegetation (See the "Retardance Class for Lining Materials" table above)	2.1	101
Retardance Class C Vegetation (See the "Retardance Class for Lining Materials" table above)	1	48
Retardance Class D Vegetation (See the "Retardance Class for Lining Materials" table above)	0.6	29
Retardance Class E Vegetation (See the "Retardance Class for Lining Materials" table above)	0.35	17
Woven Paper	0.15	7
Jute Net	0.45	22
Single Fiberglass	0.6	29
Double Fiberglass	0.85	41
Straw W/Net	1.45	69
Curled Wood Mat	1.55	74
Synthetic Mat	2	96
Gravel, D50 = 1 in. or 25 mm	0.4	19
Gravel, D50 = 2 in. or 50 mm	0.8	38
Rock, D50 = 6 in. or 150 mm	2.5	120
Rock, D50 = 12 in. or 300 mm	5	239
6-in. or 50-mm Gabions	35	1675
4-in. or 100-mm Geoweb	10	479
Soil Cement (8% cement)	>45	>2154
Dycel w/out Grass	>7	>335
Petrarflex w/out Grass	>32	>1532
Armorflex w/out Grass	12-20	574-957
Erikamat w/3-in or 75-mm Asphalt	13-16	622-766
Erikamat w/1-in. or 25 mm Asphalt	<5	<239
Armorflex Class 30 with longitudinal cables, no grass	<5	>1628
Dycel 100, longitudinal cables, cells filled with mortar	<12	<574
Concrete construction blocks, granular filter underlayer	>20	>957
Wedge-shaped blocks with drainage slot	>25	>1197





**LANDLOK®**  
BY PROPEX

**Product Data**  
**LANDLOK 300®**

LANDLOK 300® high performance turf reinforcement mat (HPTM) is a three-dimensional, lofty, woven polypropylene geotextile that is available in green or tan which is specially designed for erosion control applications on steep slopes and vegetated waterways. The matrix is composed of polypropylene monofilament yarns **featuring X3® technology** woven into a uniform configuration of resilient pyramid-like projections. The material exhibits very high interlock and reinforcement capacity with both soil and root systems, demonstrates superior UV resistance, and enhances seedling emergence.

LANDLOK 300® conforms to the property values listed below<sup>1</sup> and is manufactured at a Propex facility having achieved ISO 9001:2000 certification. Propex performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP).

MARV <sup>2</sup>				
PROPERTY	TEST METHOD	ENGLISH	METRIC	
ORIGIN OF MATERIALS				
% U.S. Manufactured Inputs		100%	100%	
% U.S. Manufactured		100%	100%	
PHYSICAL				
Mass/Unit Area	ASTM D-6566	7.5 oz/yd <sup>2</sup>	254.3 g/m <sup>2</sup>	
Thickness	ASTM D-6525	0.25 in	6.35 mm	
Light Penetration (% Passing)	ASTM D-6567	50% (Max)	50%	
Color	Visual	Green or Tan		
MECHANICAL				
Tensile Strength (Grab)	ASTM D-6818	2000 x 1800 lb/ft	29.2 x 26.3 kN/m	
Elongation	ASTM D-6818	50% (max)	50% (max)	
Resiliency	ASTM D-6524	70%	70%	
Flexibility	ASTM D-6575	0.195 in-lb (avg)	10.8 mg-cm (avg)	
ENDURANCE				
UV Resistance				
% Retained 3000 hrs	ASTM D-4355	90%	90%	
PERFORMANCE				
Velocity <sup>3</sup> (Vegetated)	Large Scale	20 ft/sec	6.10 m/sec	
Shear Stress <sup>3</sup> (Vegetated)	Large Scale	12 lb/ft <sup>2</sup>	575 Pa	
Manning's "n" <sup>4</sup> (Unvegetated)	Calculated	0.030	0.030	
Seedling Emergence <sup>4</sup>	ECTC Draft Method #4	-	-	
ROLL SIZES				
		8.5 ft x 106 ft	2.6 m x 32.3 m	

- NOTES:
- The property values listed are effective 04/2011 and are subject to change without notice.
  - MARV indicates minimum average roll value calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any sample taken during quality assurance testing will exceed the value reported.
  - Maximum permissible velocity and shear stress has been obtained through vegetated testing programs featuring specific soil types, vegetation classes, flow conditions, and failure criteria. These conditions may not be relevant to every project nor are they replicated by other manufacturers. Please contact Propex for further information.
  - Calculated as typical values from large-scale flexible channel lining test programs with a flow depth of 6 to 12 inches.



ENGINEERING EARTH  
www.geotextile.com

Propex Operating Company, LLC 6025 Lee Highway, Suite 425 - PO Box 22788 - Chattanooga, TN 37422  
ph 423 899 0444 - ph 800 621 1273 - fax 423 899 7619

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*Jeffrey W. Martin*  
1/24/25

PRELIMINARY

FOR  
**MORGAN HEIGHTS**  
**PHASE 6**  
**PLAT# 23-11800391**

SAN ANTONIO  
BEXAR COUNTY  
TEXAS

**Colliers**  
Engineering  
& Design

SAN ANTONIO (KFW)  
3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TDRS Form: 11-1009  
TDRS Form: 10194550

SCALE: AS SHOWN DATE: 07/20/2023 DRAWN BY: SD CHECKED BY: SC  
PROJECT NUMBER: 205-40-06 DRAWING NAME: DTD12054006

SHEET TITLE:  
**DRAIN DETAILS ( 1 OF 2 )**

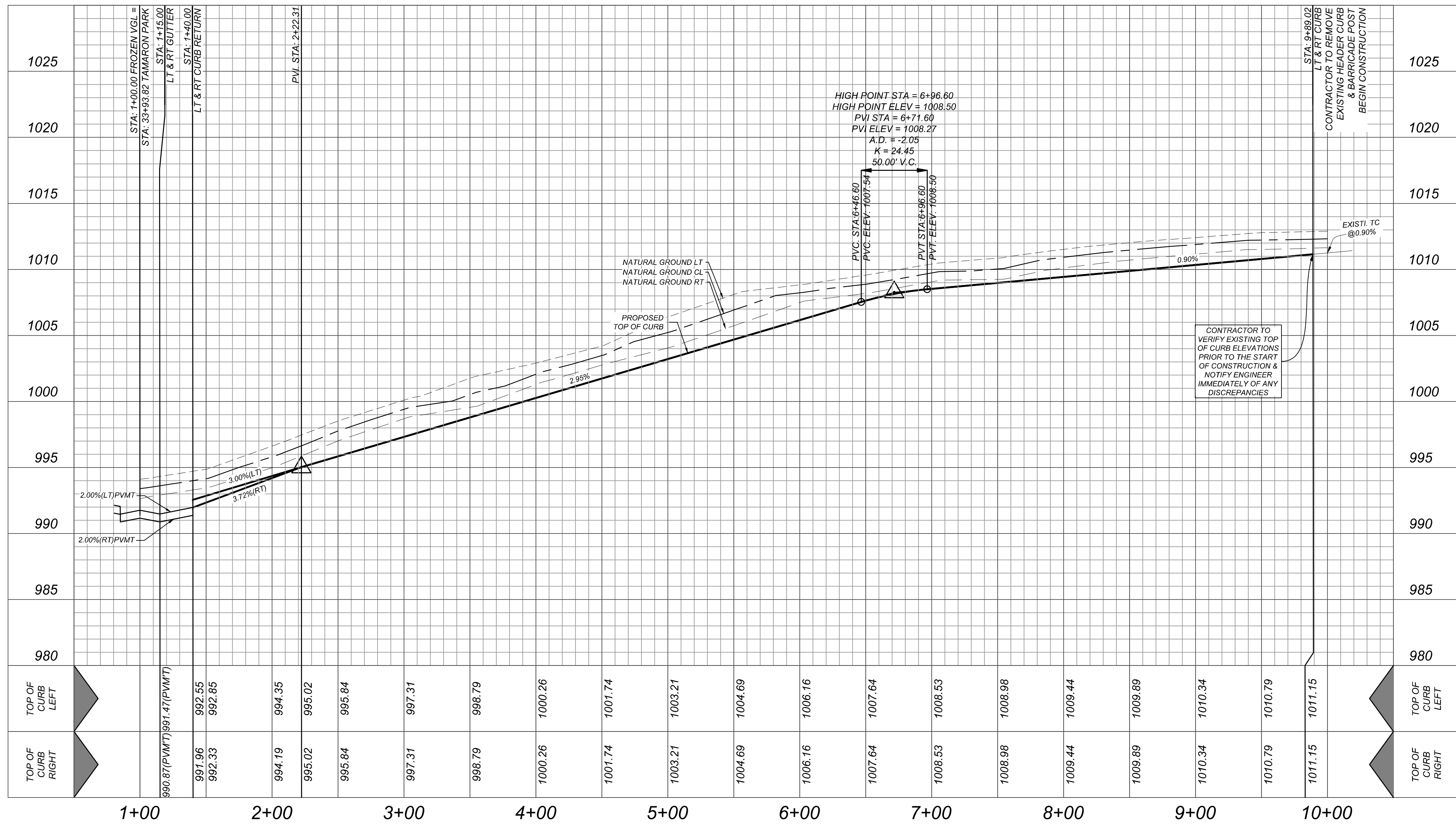
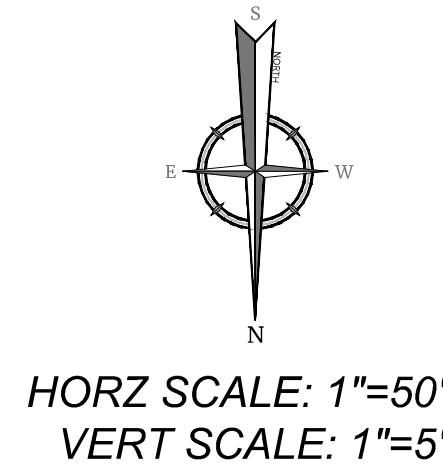
SHEET NUMBER:  
**4.8**

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THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY AT 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.



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1/24/25

## PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

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BEXAR COUNTY  
TEXAS

**Colliers**

**SAN ANTONIO (KFW)**  
3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
HILLIER ENGINEERING & DESIGN, INC.  
TBPE Firm#: F-14909  
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC

SHEET TITLE:

FROZEN VLG  
PLAN & PROFILE

SHEET NUMBER

## 5.0

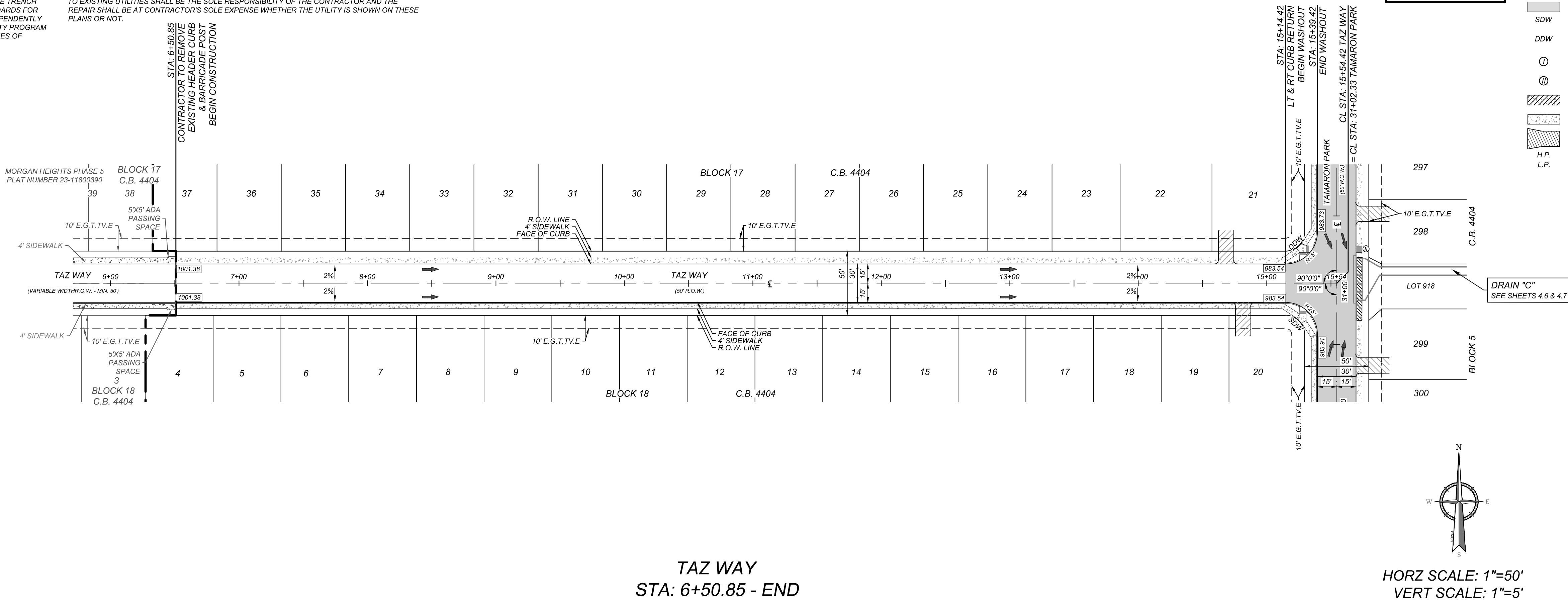
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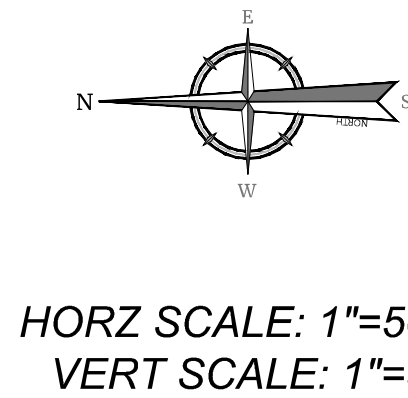
CAUTION!!

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










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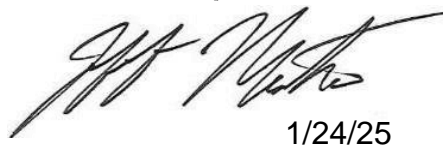
BEXAR COUNTY R.O.W. NOTE  
A BEXAR COUNTY PERMIT  
MUST BE OBTAINED BEFORE  
WORKING IN BEXAR COUNTY  
R.O.W.

R.O.W.	=	RIGHT OF WAY
E.G.T.V.E.	=	ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
	=	WASHOUT CROWN
SDW	=	SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.5
DW	=	DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.5
	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.5
	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.5
	=	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

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FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

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San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBPE Firm#: F-14909  
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC

PROJECT NUMBER: 205-40-06	DRAWING NAME: STPP2054006
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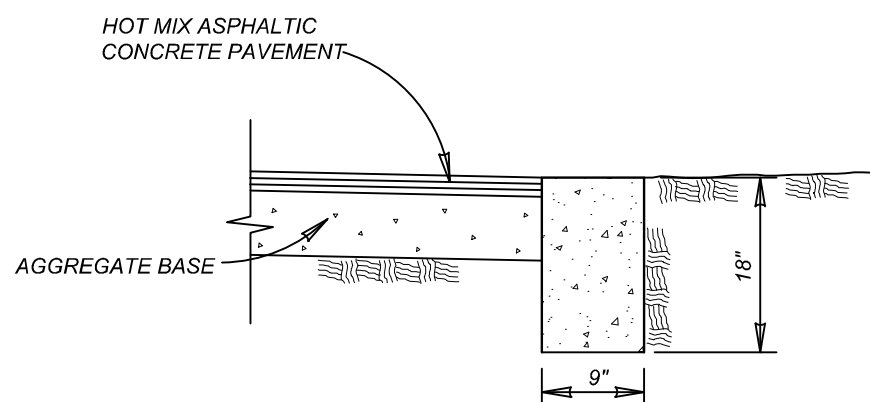
TAMARON PARK

5.2

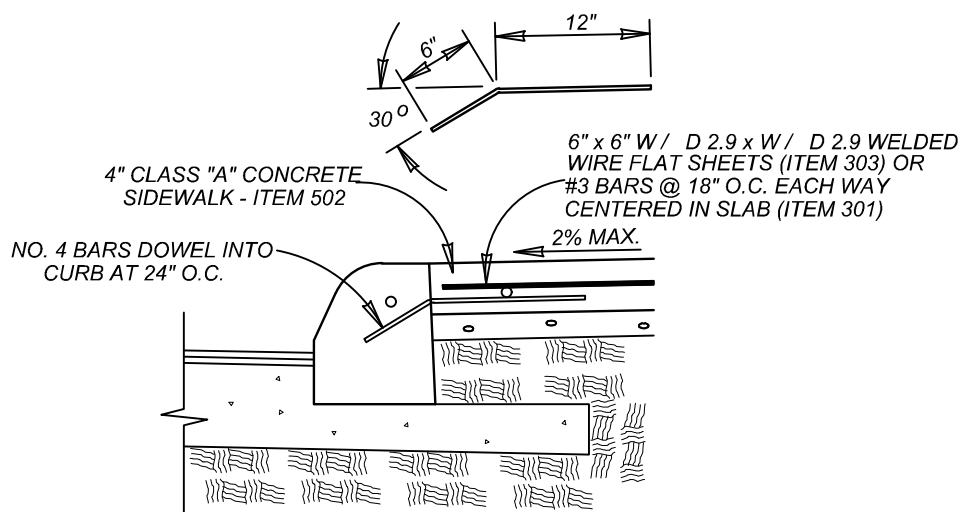
ALL STOPPERS 2 days 2

**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.**

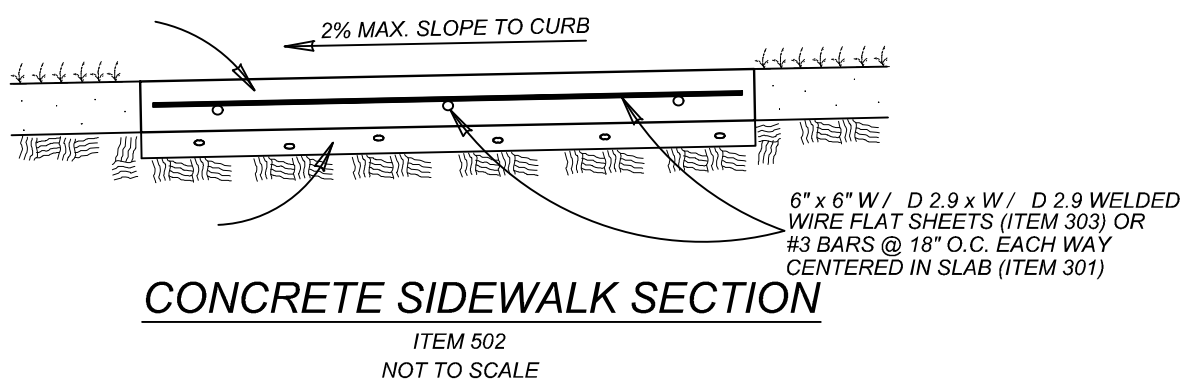
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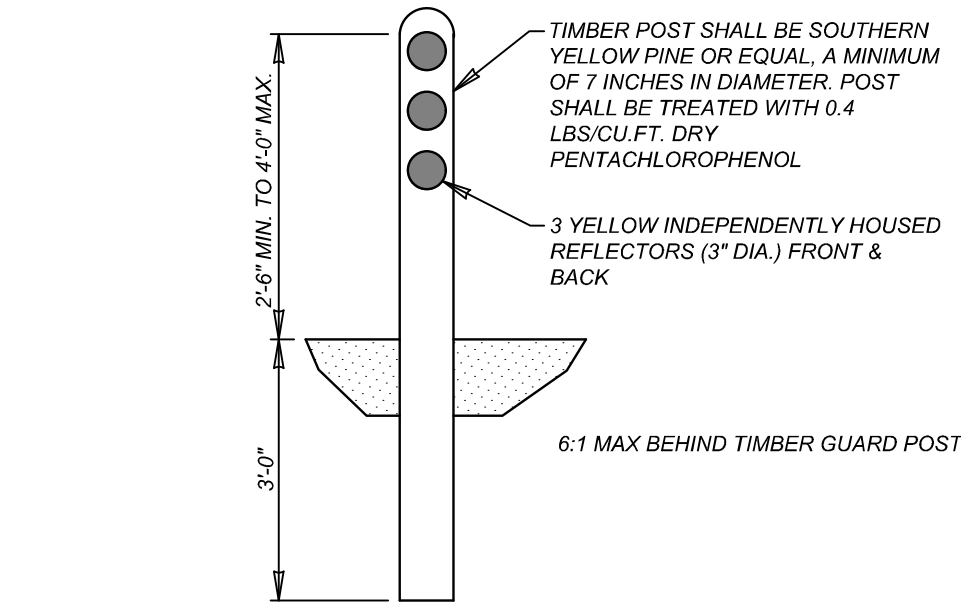
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ITEM 500 ON SAND OR GRAVEL  
NOT TO SCALE



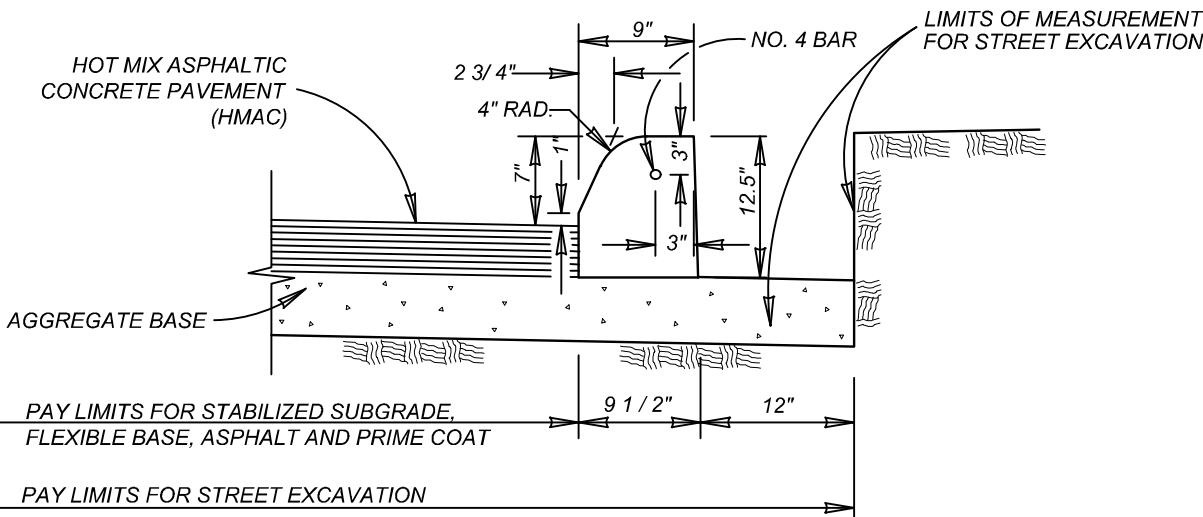
**CONCRETE SIDEWALK ABUTTING CURB SECTION**  
ITEM 502  
NOT TO SCALE



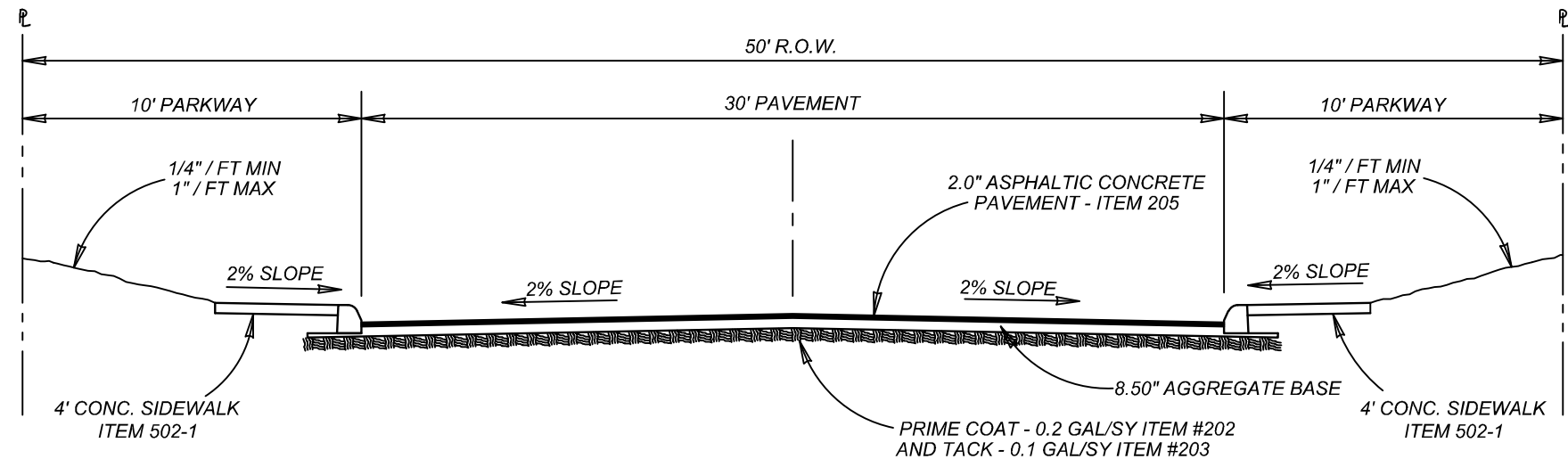
**CONCRETE SIDEWALK SECTION**  
ITEM 502  
NOT TO SCALE



**TIMBER GUARD POST DETAIL**  
NOT TO SCALE



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

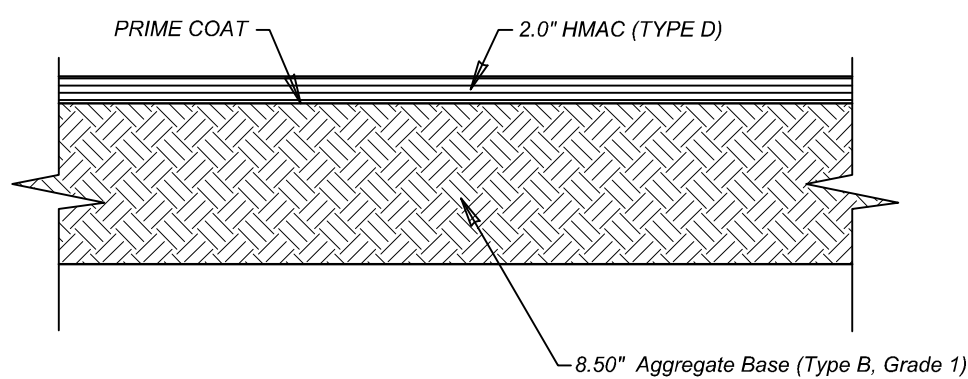


**TYPICAL LOCAL "A" STREET SECTION**  
NOT TO SCALE

USE LOCAL "A" STREET SECTION FOR STREETS BELOW:

TAZ WAY - STA: 5+52.25 TO END  
FROZEN VLG - STA: 9+49.02 TO STA: 11+78.81  
SNOW VW - STA: 11+78.81 TO STA: 17+37.35  
PRINCESS WAY - STA: 17+37.35 TO STA: 28+23.06  
TAMARON PARK - STA: 28+23.06 TO END

**Pavement Section**  
2.0" HMAc Type "D"  
8.50" Aggregate Base (Type B, Grade 1)  
6" LIME STABILIZED SUBGRADE (32 LBS/SY)  
Total: 16.50"  
Structural No: 2.55  
CBR: 3.0

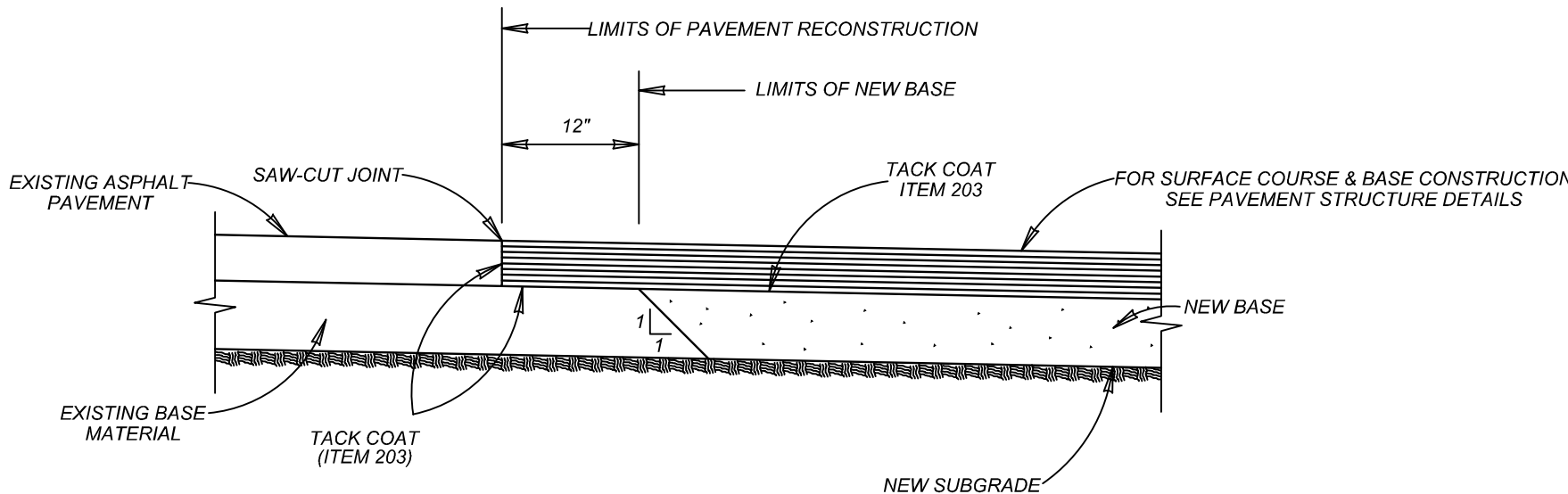


**ASPHALT PAVEMENT DETAIL**  
NOT-TO-SCALE  
**DETAIL FOR ALL LOCAL TYPE A**

- NOTES:
- PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, L.P., PROJECT NO. S231271 DATED NOVEMBER 18, 2023 (SIGNED & SEALED: NOVEMBER 23, 2023)
  - REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
  - CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.

**GENERAL NOTES:**

- THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
- 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.



**PAVEMENT JUNCTION DETAILS**  
NOT TO SCALE

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

- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2 - 3) DAYS. MAINTAIN MOISTURE DURING MELLOWING.
- AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE 1/2 INCH SIEVE FROM THE SAMPLE):

MINIMUM PASSING 1 1/2" SIEVE	100
MINIMUM PASSING 3/4" SIEVE	85
MINIMUM PASSING NO. 4 SIEVE	60
- 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.
- COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED)
- CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- 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:  
• SHOULD 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  
• PI SHOULD BE LESS THAN 55

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*Jeffrey W. Martin*  
1/24/25

PRELIMINARY

FOR  
**MORGAN HEIGHTS**  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS

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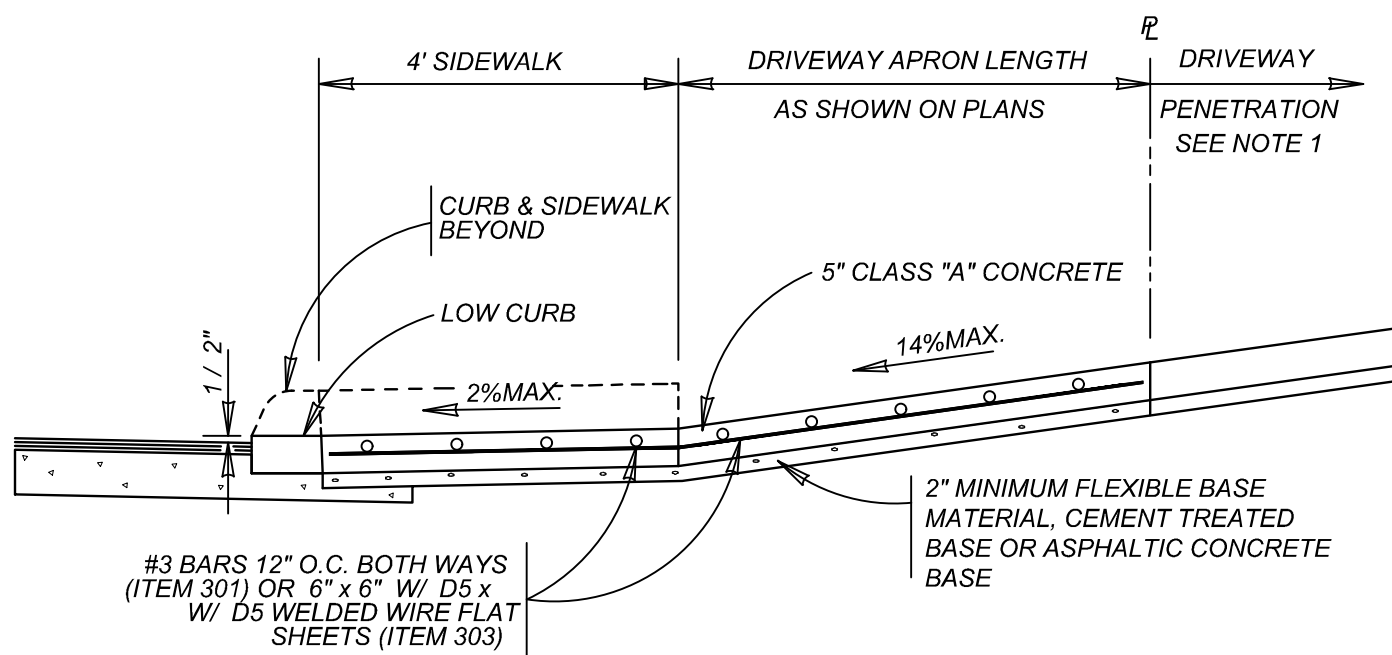
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3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TYPE Form: E-1-003  
TBL'S Form: 10194550

SCALE: AS SHOWN DATE: 07/20/2023 DRAWN BY: SD CHECKED BY: SC  
PROJECT NUMBER: 205-40-06 DRAWING NAME: STD12054006

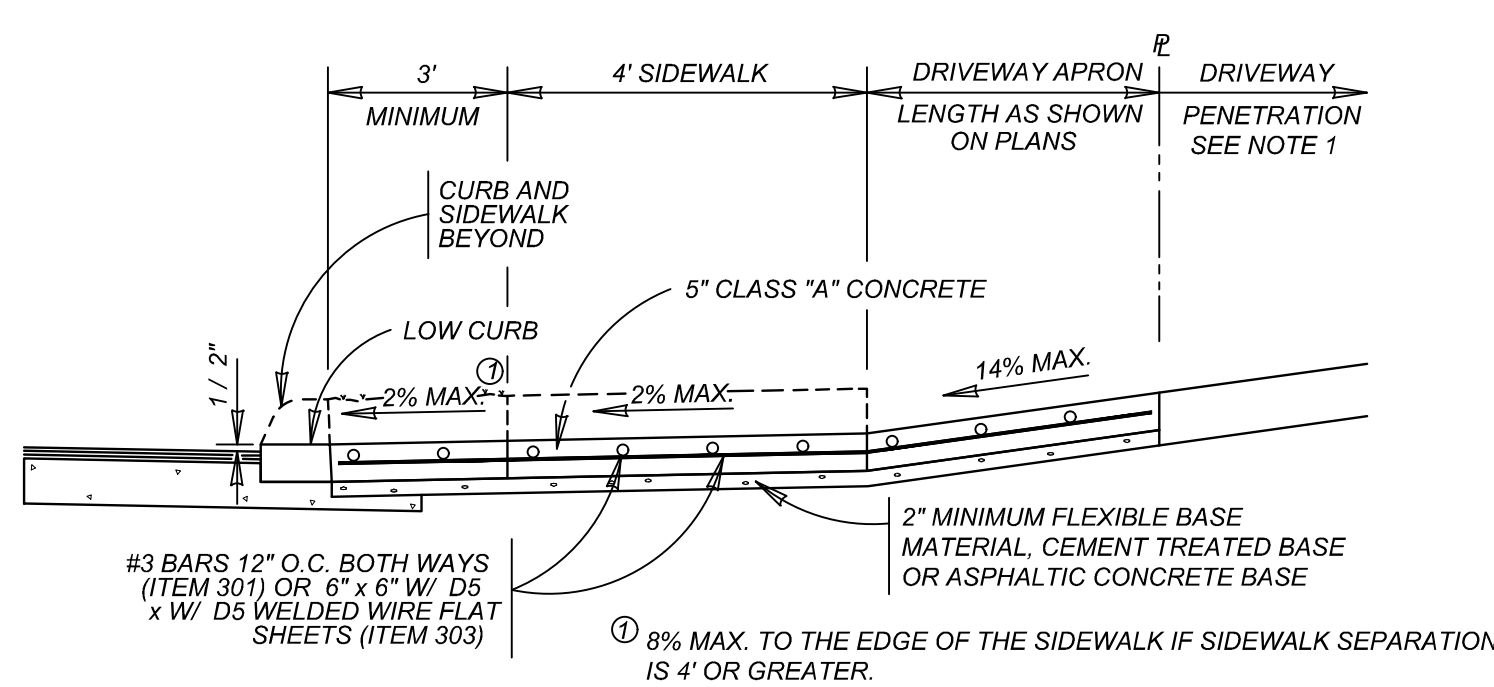
SHEET TITLE:  
**STREET DETAIL SHEET**

SHEET NUMBER:  
**5.3**

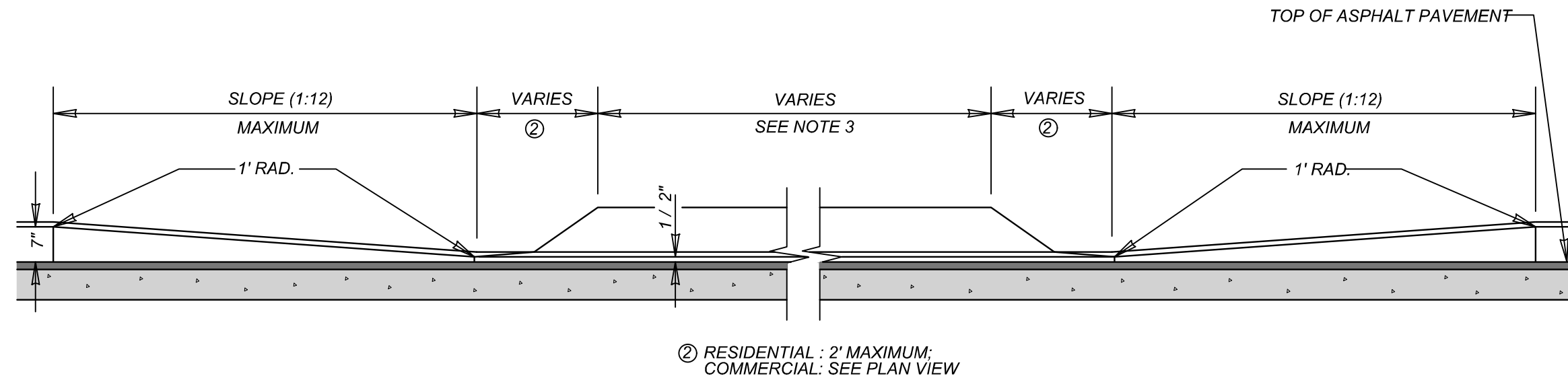
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

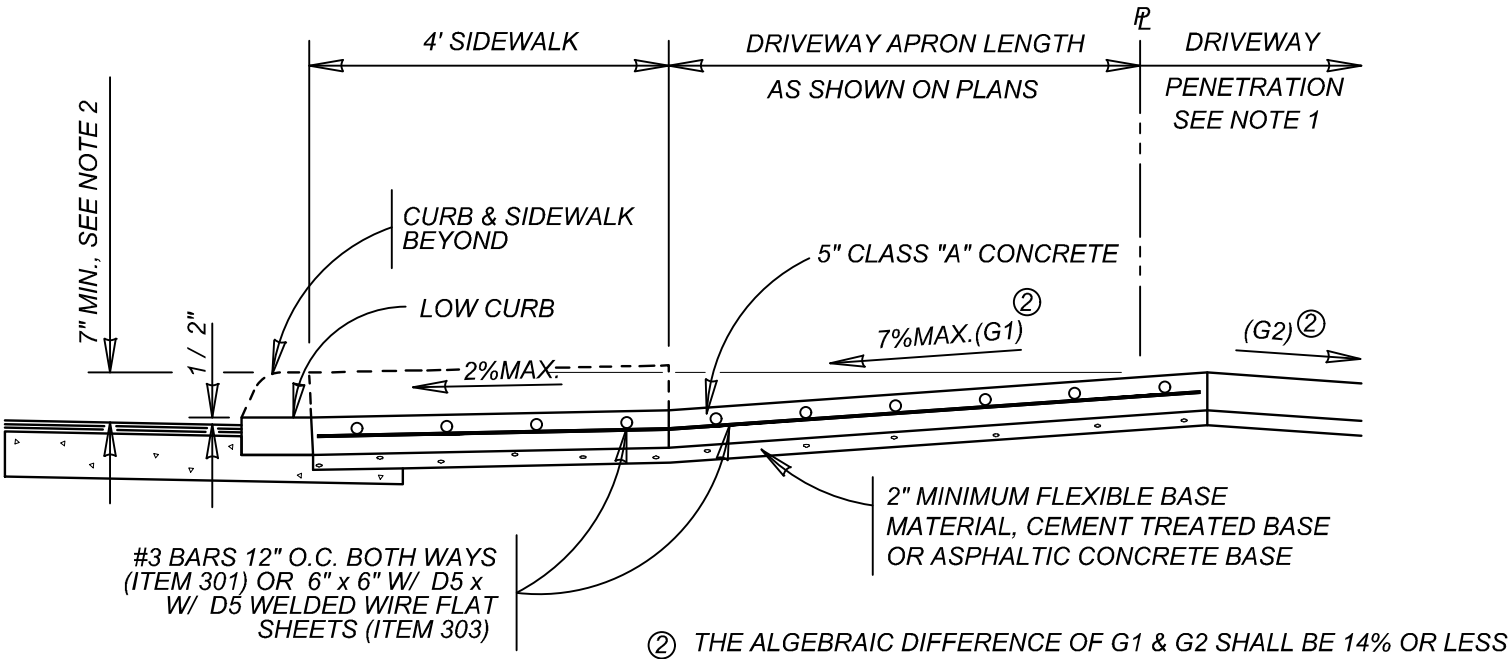
WITH SIDEWALK ABUTTING CURB  
ITEM 503.1

**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

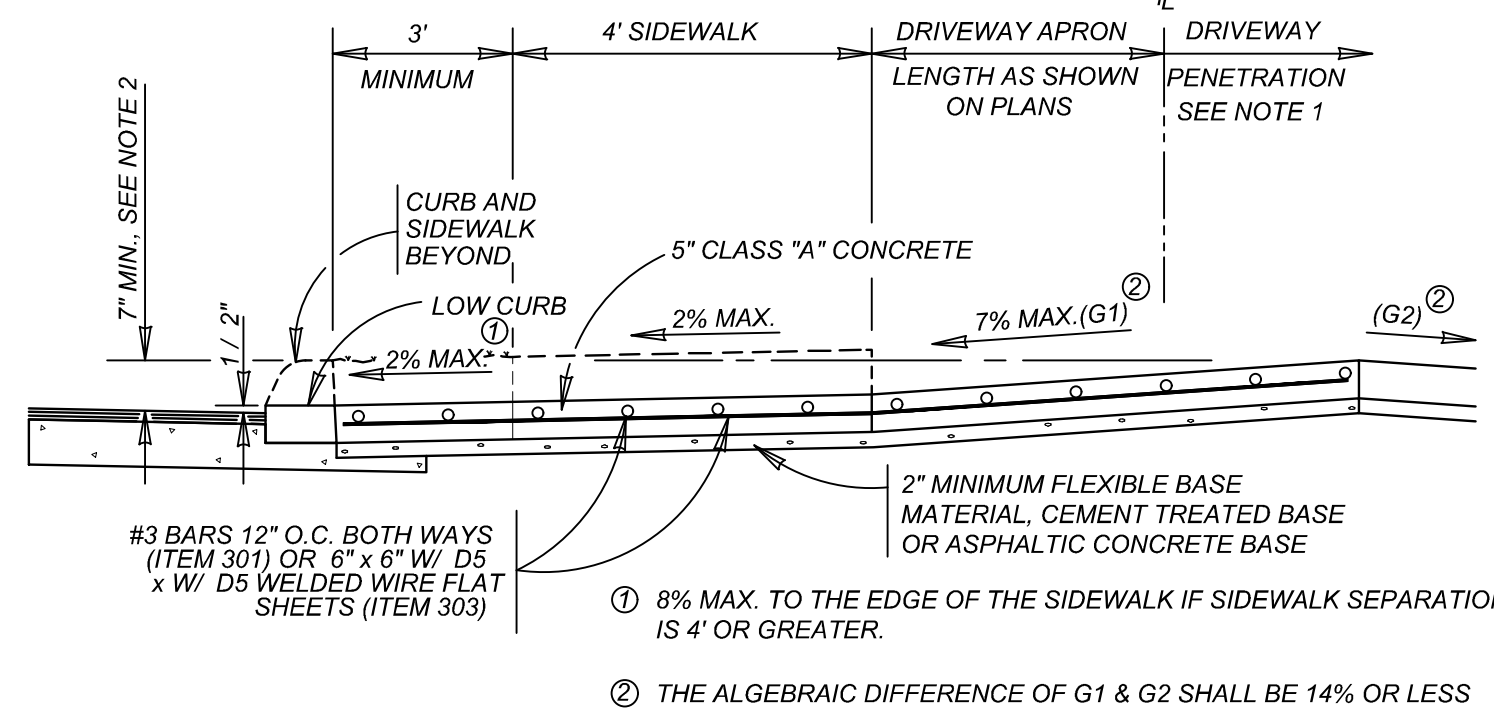
WITH SIDEWALK SEPARATED FROM CURB  
ITEM 503.1

**CURB PROFILE AT DRIVEWAY**

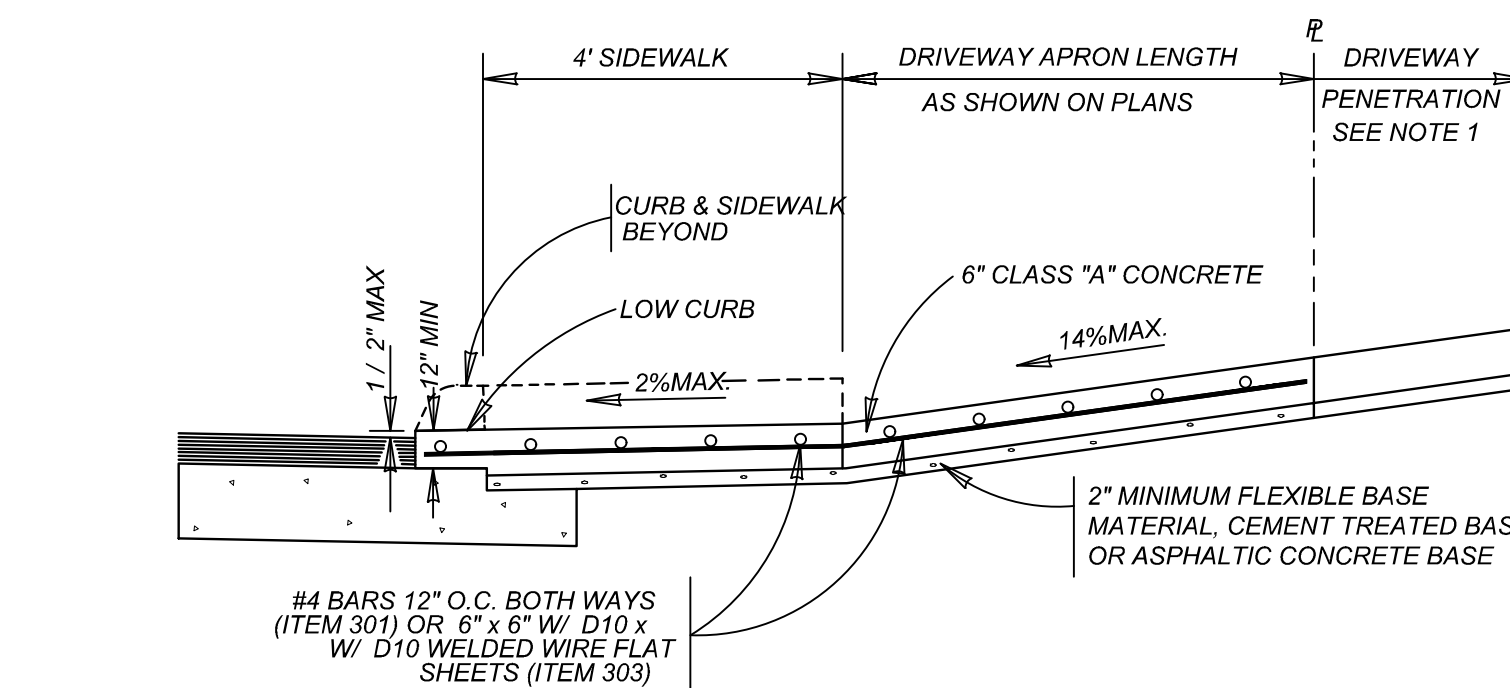
WITH SIDEWALK ABUTTING CURB

**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

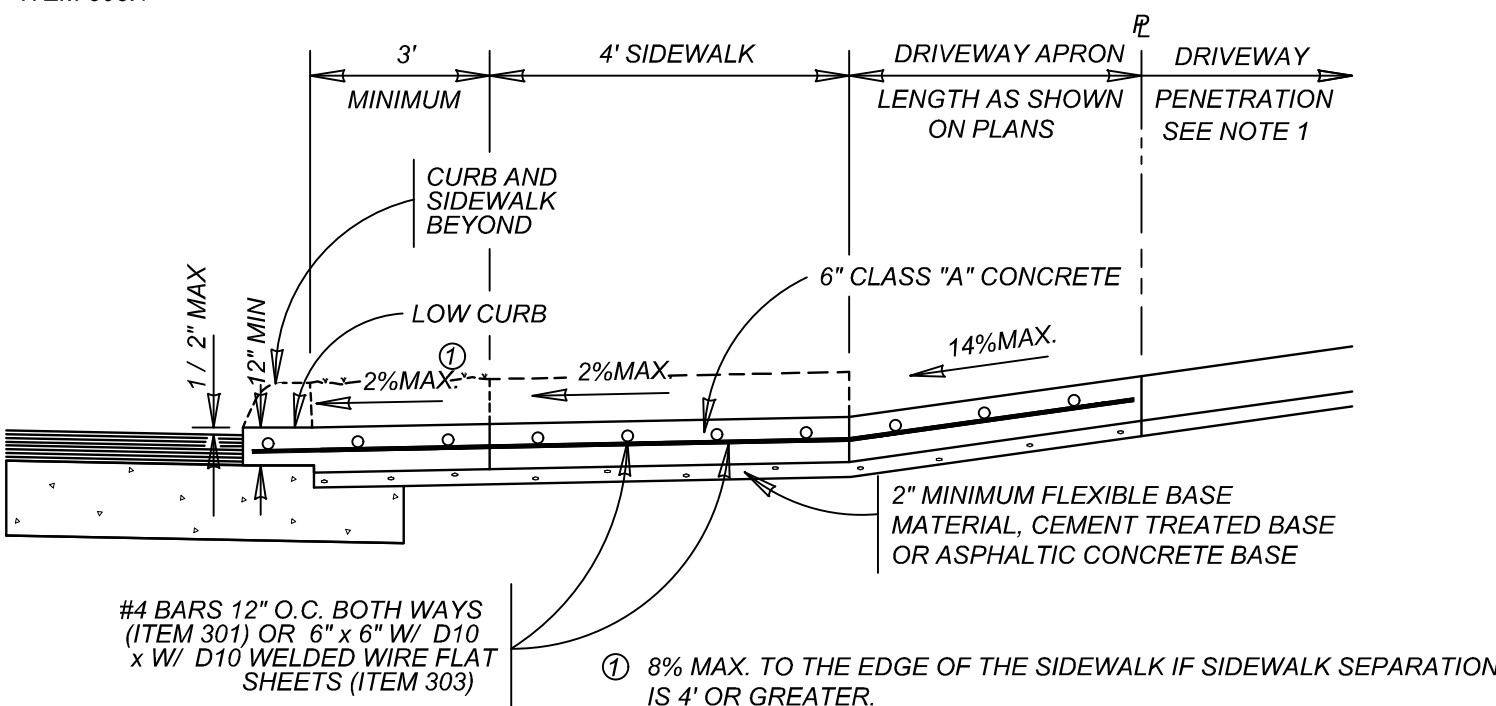
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB  
ITEM 503.1

**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

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

**TYPICAL COMMERCIAL DRIVEWAY SECTION**

WITH SIDEWALK ABUTTING CURB  
ITEM 503.2

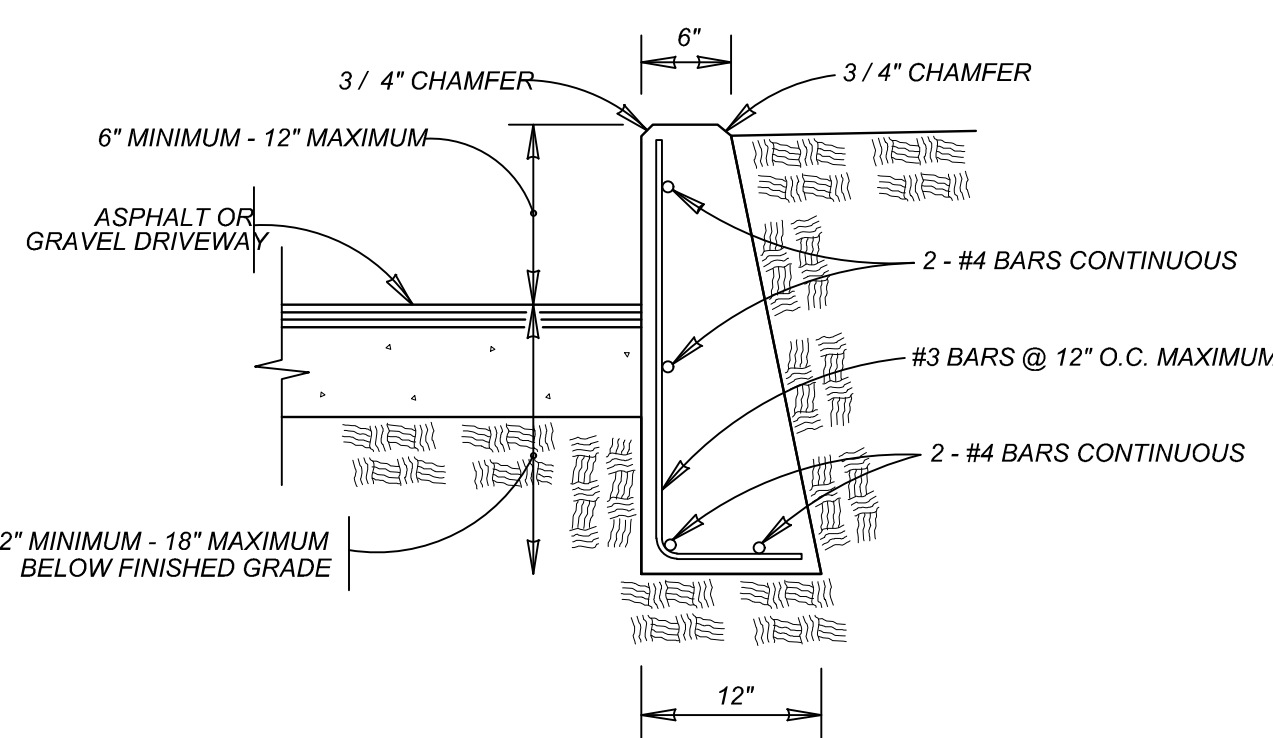
**TYPICAL COMMERCIAL DRIVEWAY SECTION**

WITH SIDEWALK SEPARATED FROM CURB  
ITEM 503.2

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'

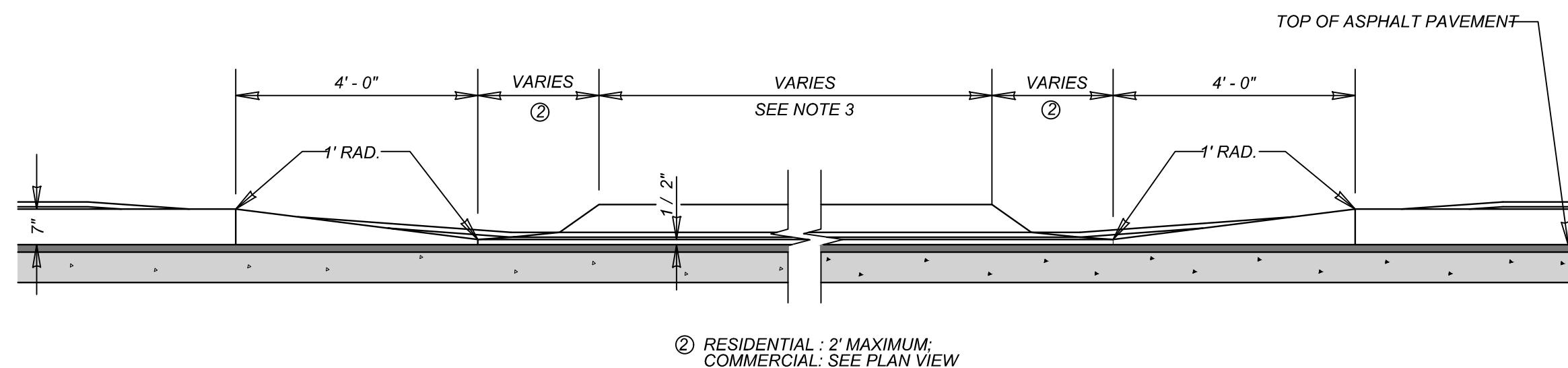
4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE 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.



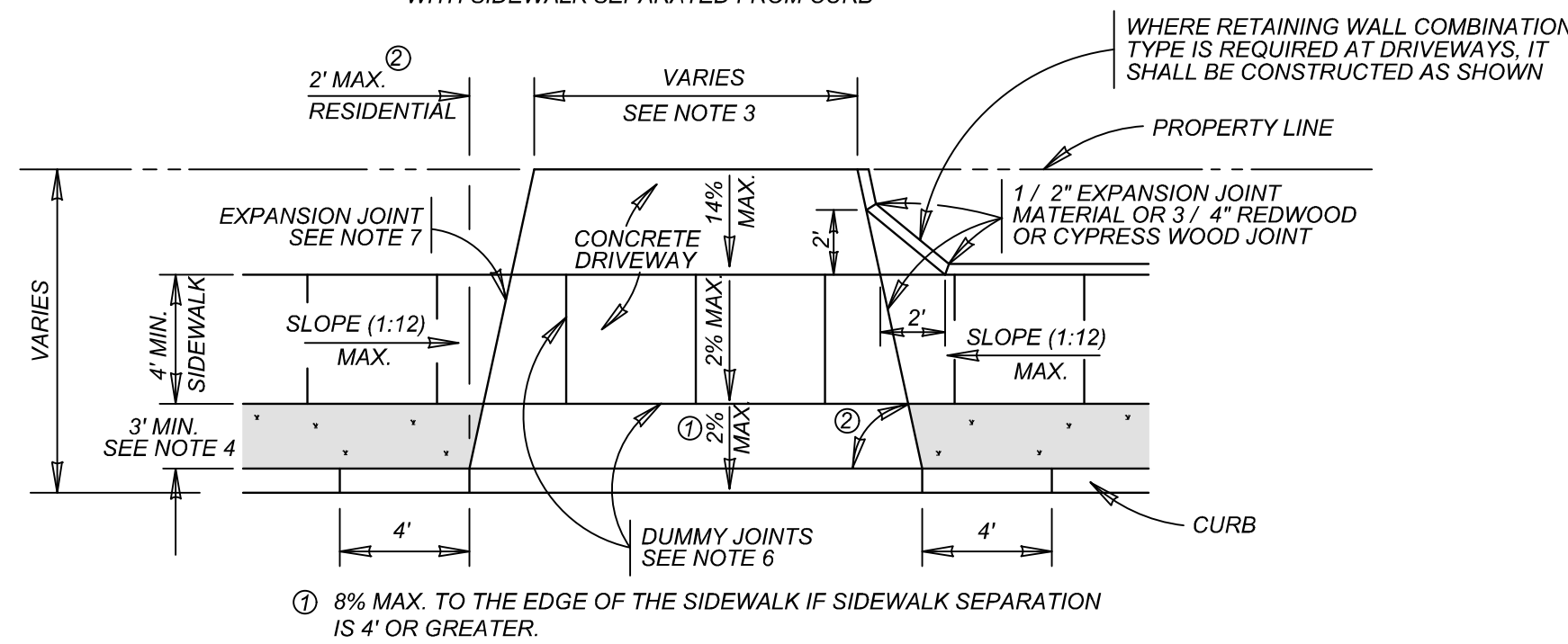
- NOTE:
1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

**DRIVEWAY - CONCRETE RETAINING WALL**

ON COMPACTED SUBGRADE  
ITEM 307.1

**CURB PROFILE AT DRIVEWAY**

WITH SIDEWALK SEPARATED FROM CURB

**TYPICAL DRIVEWAY PLAN VIEW**

WITH SIDEWALK SEPARATED FROM CURB

**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.



1/24/25

**PRELIMINARY**

FOR  
**MORGAN HEIGHTS**  
**PHASE 6**  
**PLAT# 23-11800391**

**SAN ANTONIO**  
**BEXAR COUNTY**  
**TEXAS**



Engineering  
& Design

**SAN ANTONIO (KFW)**  
3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TYPE FPM# 101-0003  
TBP&S FPM# 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC

PROJECT NUMBER:	DRAWING NAME:
205-40-06	STD12054006

SHEET TITLE:
CONCRETE DRIVEWAY DETAILS

SHEET NUMBER:
5.4



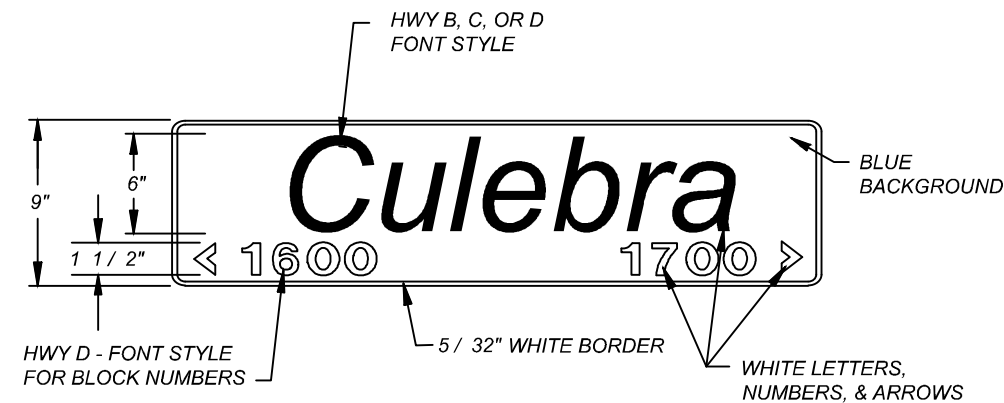


NOTES:  
1) WITHIN THE CITY'S EXTRATERRITORIAL JURISDICTION, STREET NAME SIGNS SHALL BE INSTALLED AT ALL INTERSECTIONS WITHIN AND ABUTTING THE SUBDIVISION. SUCH SIGNS SHALL BE MANUFACTURED AND INSTALLED BY THE SUBDIVIDER IN ACCORDANCE TO SPECIFICATIONS OF, AND SUBJECT TO PLAN REVIEWS AND INSPECTIONS BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

2) REGULATORY AND WARNING TRAFFIC SIGNS SHALL BE INSTALLED WITHIN AND ABUTTING THE SUBDIVISION IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)," AS REQUIRED BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT OR COUNTY'S DEPARTMENT OF PUBLIC WORKS. SUCH SIGNS SHALL BE MANUFACTURED AND INSTALLED BY THE SUBDIVIDER IN ACCORDANCE TO SPECIFICATIONS OF, AND SUBJECT TO PLAN REVIEWS AND INSPECTIONS BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT OR COUNTY'S DEPARTMENT OF PUBLIC WORKS. WARNING AND REGULATORY SIGNS SHALL NOT BE ACCEPTED BY THE CITY UNTIL THE STREET HAS BEEN ACCEPTED FOR MAINTENANCE BY THE CITY.

**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.

**BEXAR COUNTY R.O.W. NOTE:**  
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN THE BEXAR COUNTY RIGHT OF WAY.

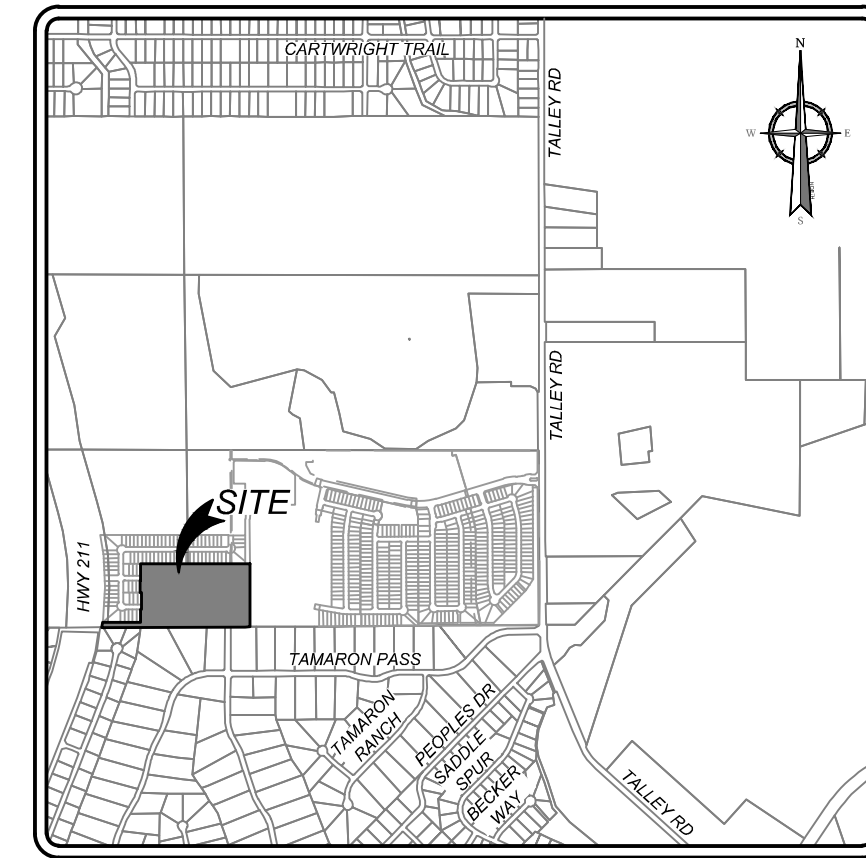


9" STREET NAME SIGN

TYPICAL GROUND MOUNTED SIGN PLACEMENT

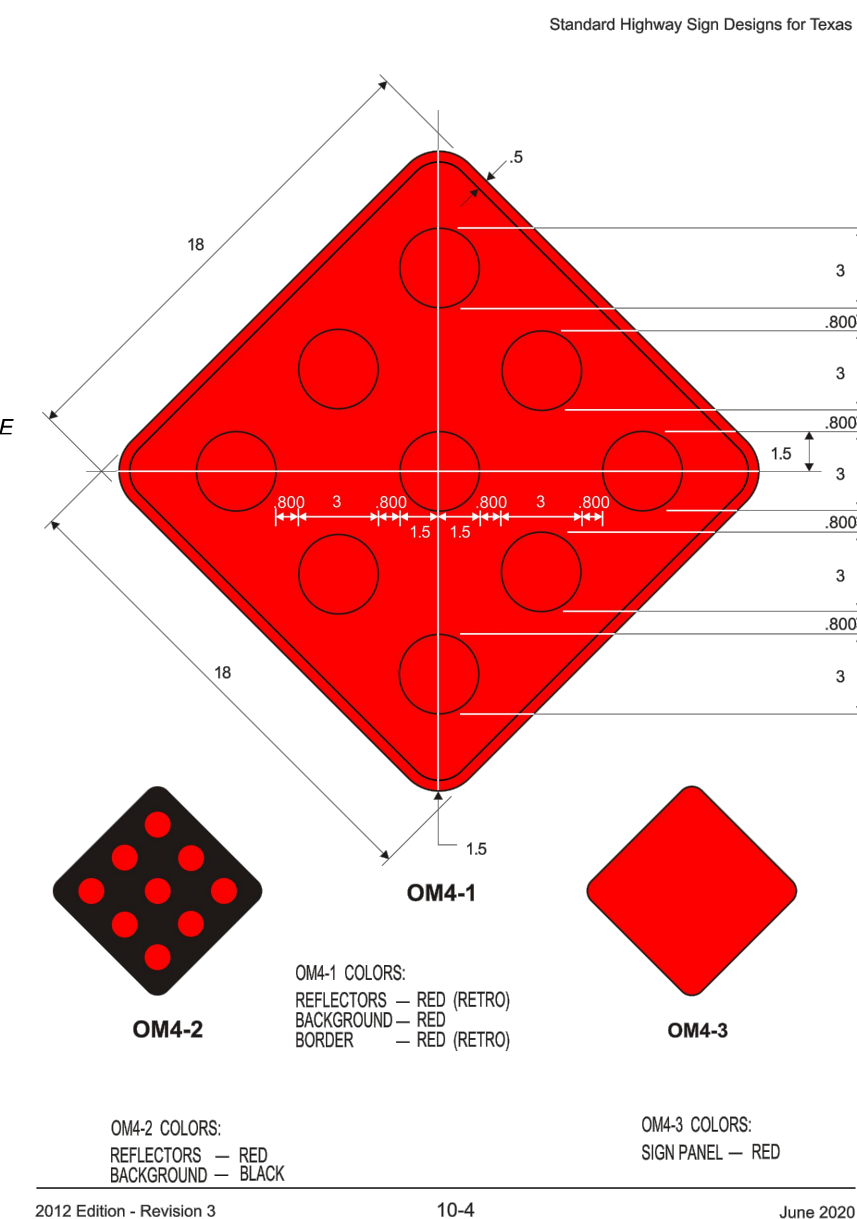
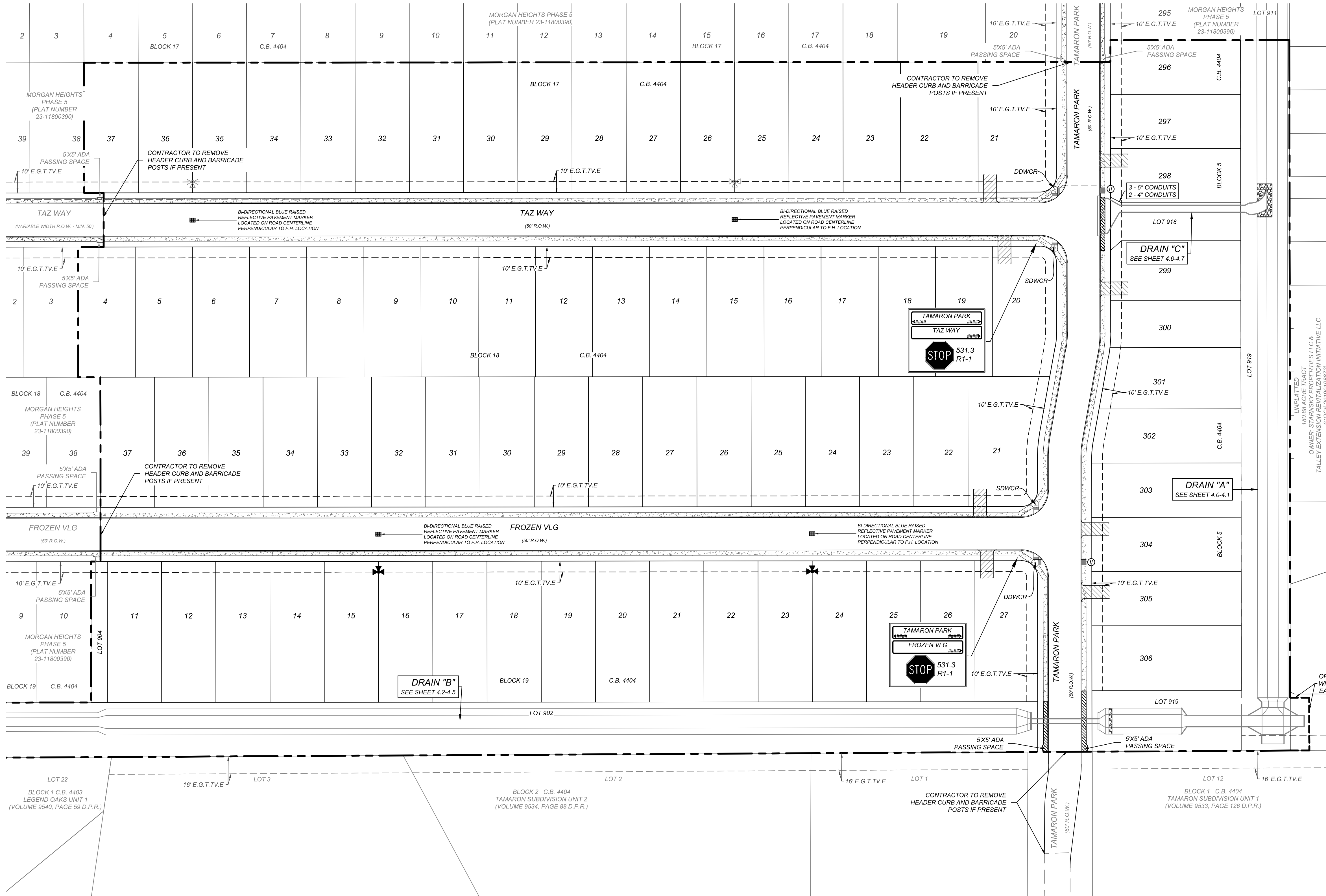
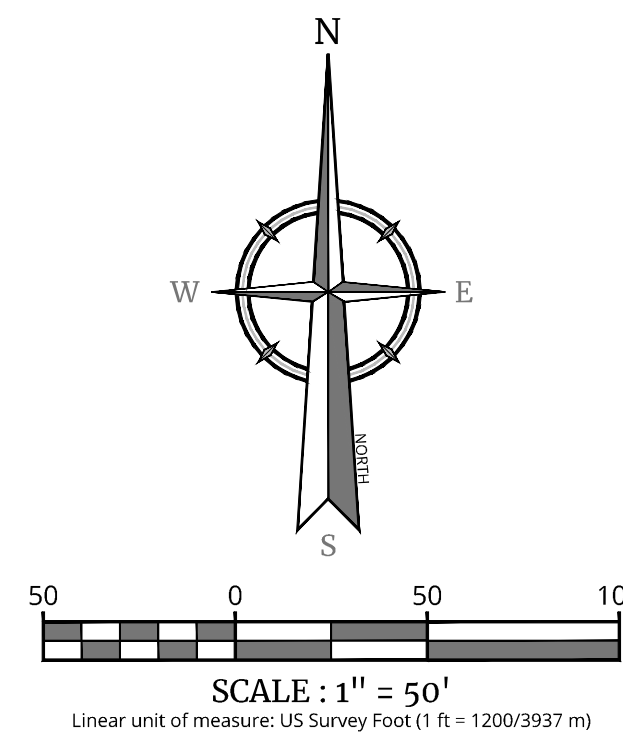
SYMBOL	ITEM NUMBER	
	R1-1 30" X 30"	531.3
	STANDARD COSA STREET NAME SIGN STD X 9	531.57
	TYPE II BLUE PAVEMENT MARKER	537.8

**LEGEND**  
COUNTY BLOCK  
ELECTRIC, GAS, TELEPHONE  
& CABLE TV EASEMENT  
WHEELCHAIR RAMP TYPE I  
SEE SHEET 5.5  
DUAL DIRECTION WHEELCHAIR RAMP  
SEE SHEET 5.5  
SIDEWALK TO BE CONSTRUCTED  
BY DEVELOPER  
SIDEWALK TO BE BUILT AT THE TIME  
OF HOME CONSTRUCTION  
DRIVEWAY LOCATION



LOCATION MAP

N.T.S.



**\*\*Capital = 6"**  
Lower case = 4  $\frac{1}{2}$ "

LENGTH 2'-0" MIN. 4'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE LETTERS, NUMBERS & ARROWS

WHITE BORDER

**9' GROUND MOUNT STREET NAME SIGNS**

**\*\*Capital = 6"**  
Lower case = 4  $\frac{1}{2}$ "

LENGTH 2'-0" MIN. 4'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE LETTERS, NUMBERS & ARROWS

WHITE BORDER

**9' GROUND MOUNT STREET NAME SIGNS  
WITH STREET DESIGNATION**

LENGTH 2'-0" MIN. 6'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE LETTERS, NUMBERS & ARROWS

WHITE BORDER

**18" OVERHEAD STREET NAME SIGNS**

**\*\*Capital = 8"**  
Lower case = 6"

LENGTH 2'-0" MIN. 6'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE LETTERS, NUMBERS & ARROWS

WHITE BORDER

	18" OVERHEAD SIGN	9' GROUND MOUNT SIGNS
HEIGHT	18" (381 mm)	9' (228 mm)
LENGTH	48" (1200 mm) MIN. 72" (1800 mm) MAX. (CROWN AND BASEMENTS 1' LENGTH)	24" (600 mm) MIN. 48" (1200 mm) MAX. (CROWN AND BASEMENTS 1' LENGTH)
THICKNESS	0.125" (3 mm)	
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH	
SIGN FACE MATERIALS	BLUE FILM * OVER DIAMOND GRADE - ASTM Type XI Non-Fluorescent	BLUE FILM * OVER HIGH INTENSITY PRISMATIC- ASTM Type IV
LEGENDS AND SYMBOLS	SERIES D, B OR C IF NAME OTHERWISE EXCEEDS MAXIMUM SIGN LENGTH	
COLOR	WHITE LEDEND ON BLUE BACKGROUND	
LETTER TRACKING	17% (USUAL) 10% (MIN)	10%

\* ACRYLIC ELECTRONIC CUTTABLE FILM

**TYPICAL INSTALLATION**

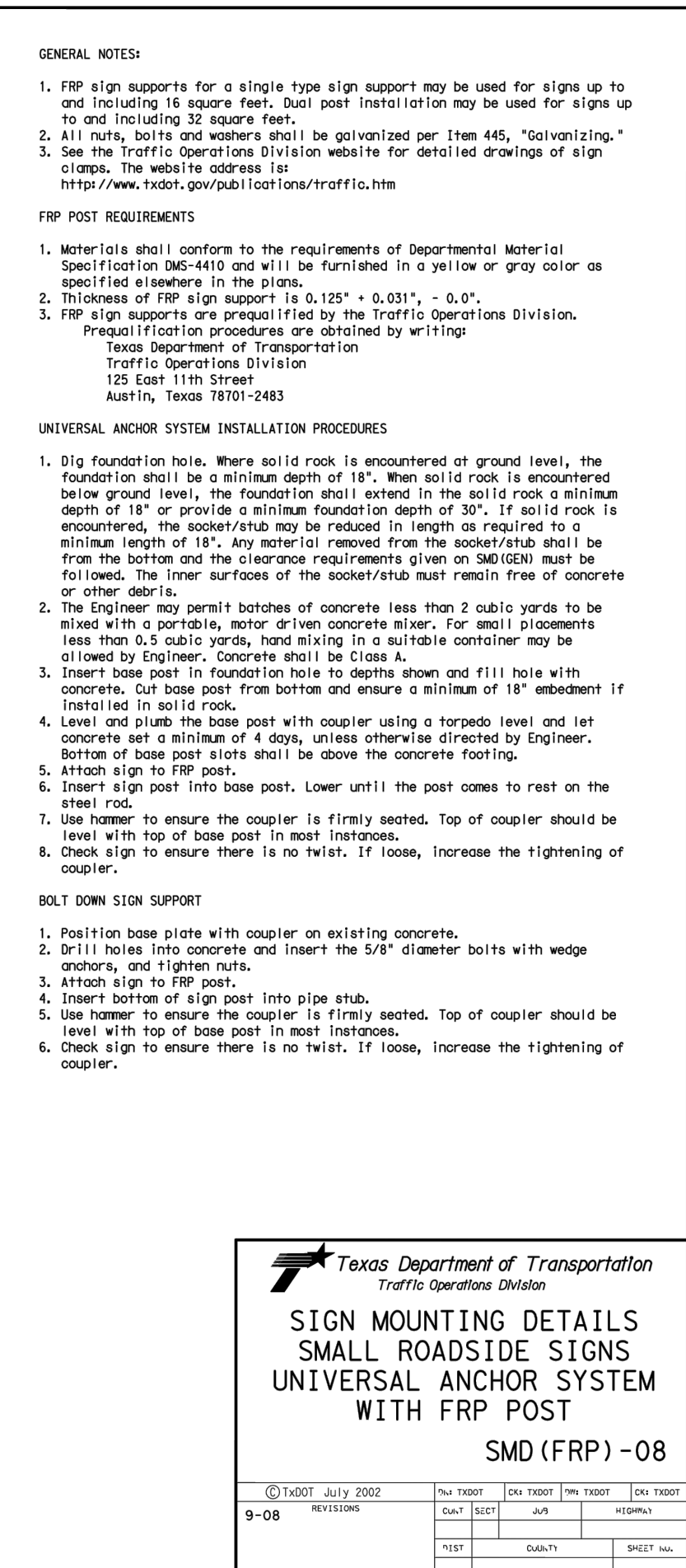
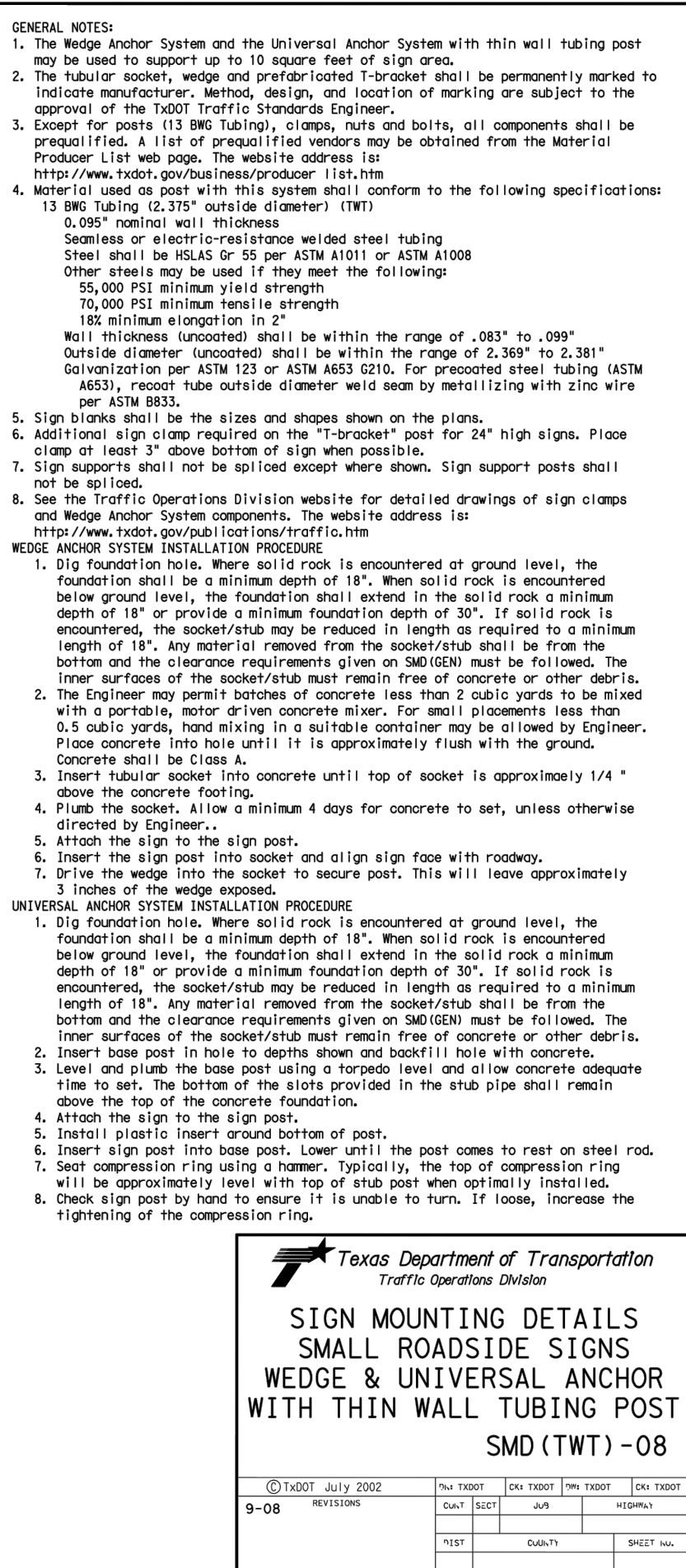
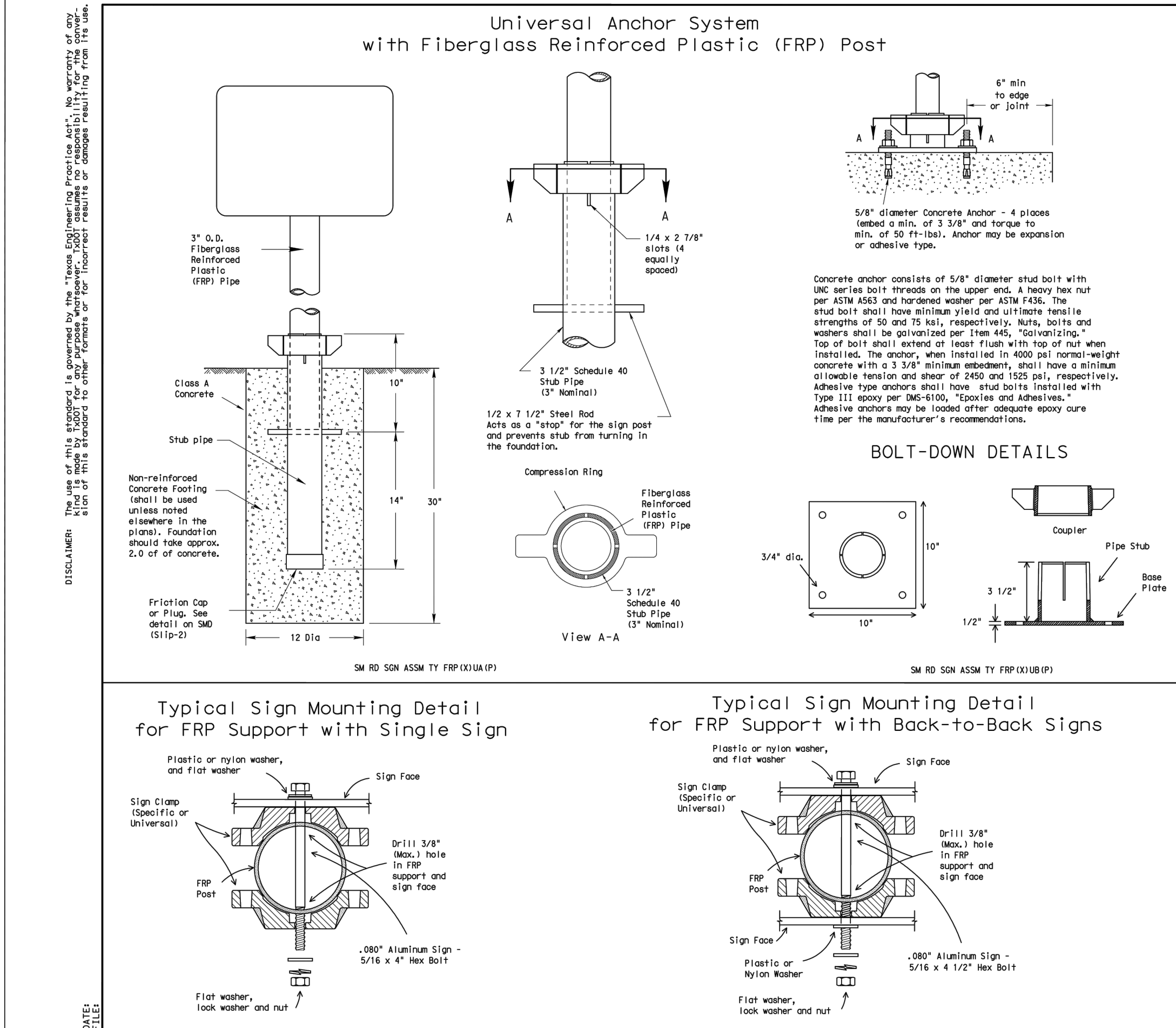
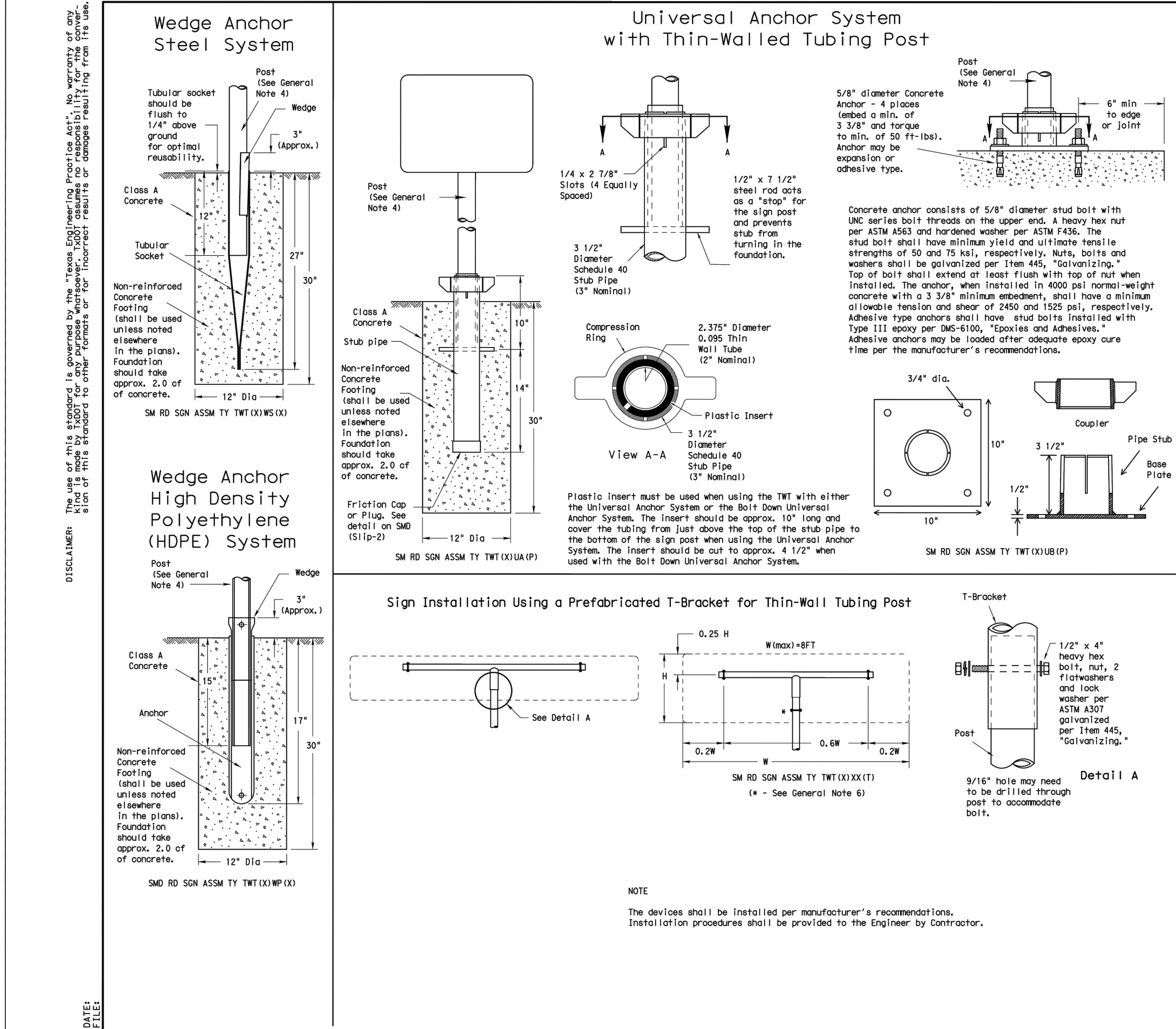
**FAST-ARM INSTALLATION**

SIGN FACE MATERIALS  
SHALL CONFORM TO:

- STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS & BRIDGES ON FEDERAL HIGHWAY PROJECTS - FPD US CUSTOMARY UNITS SECTION 718
- GENERAL SERVICES ADMINISTRATION FEDERAL SPECIFICATIONS L-8-3000
- ASTM D 4956 - 05E1

**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION**





GENERAL INFORMATION

GENERAL SEWER NOTES (REVISED JULY 2017)

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 Waste water 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 I 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](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) 206-6480  
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 [costworkreg@saws.org](mailto:costworkreg@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 [costworkreg@saws.org](mailto:costworkreg@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 cost 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 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 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 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.

MORGAN HEIGHTS PHASE 6

BEXAR COUNTY, TEXAS

SANITARY SEWER IMPROVEMENTS

LOCATION MAP

N.T.S.

OWNER/DEVELOPER  
TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC.  
5210 THOUSAND OAKS, SUITE 1318  
SAN ANTONIO, TEXAS 78233

SEWER - FAR WEST SEWERSHED - MEDIO CREEK W.R.C.			
DEVELOPER'S NAME: TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC			
DEVELOPER'S ADDRESS: 5210 THOUSAND OAKS, SUITE 1318			
CITY: SAN ANTONIO		STATE: TEXAS	ZIP: 78216
PHONE#: (210) 490-1798	FAX#:	TOTAL ACREAGE: 16.66 ACRES	
SAWS BLOCK MAP#: 062600, 064800, 062598, 064598		TOTAL EDUS: 79	
TOTAL LINEAR FOOTAGE OF PIPE: 2,264 LF OF 8" SDR 26 PLAT NO.: 23-11800391			
NUMBER OF LOTS: 79		SAWS JOB#: 23-1668	

DESCRIPTION	SHEET NO.
SANITARY SEWER COVER SHEET	6.0
OVERALL SANITARY SEWER PLAN	6.1
LINE "C" PLAN & PROFILE	6.2
LINE "D" PLAN & PROFILE	6.3
LINE "E" PLAN & PROFILE	6.4

Colliers

Engineering & Design

[www.colliersengineering.com](http://www.colliersengineering.com)

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Formerly known as

811

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: [WWW.CALL811.COM](http://WWW.CALL811.COM)

STATE OF TEXAS

JEFFREY W. MARTIN

139094

LICENSED PROFESSIONAL ENGINEER

1/22/25

PRELIMINARY

FOR

MORGAN HEIGHTS

PHASE 6

PLAT# 23-11800391

Colliers

Engineering & Design

SAN ANTONIO (KFW)

3421 Paessanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBP'S Firm#: 11-1003  
TBP'S Firm#: 10194550

SCALE: AS SHOWN	DATE: 07/20/2023	DRAWN BY: SD	CHECKED BY: SC
PROJECT NUMBER: 205-40-06	DRAWING NAME: CV052054006		

SHEET TITLE:

SANITARY SEWER COVER SHEET

SHEET NUMBER:

6.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

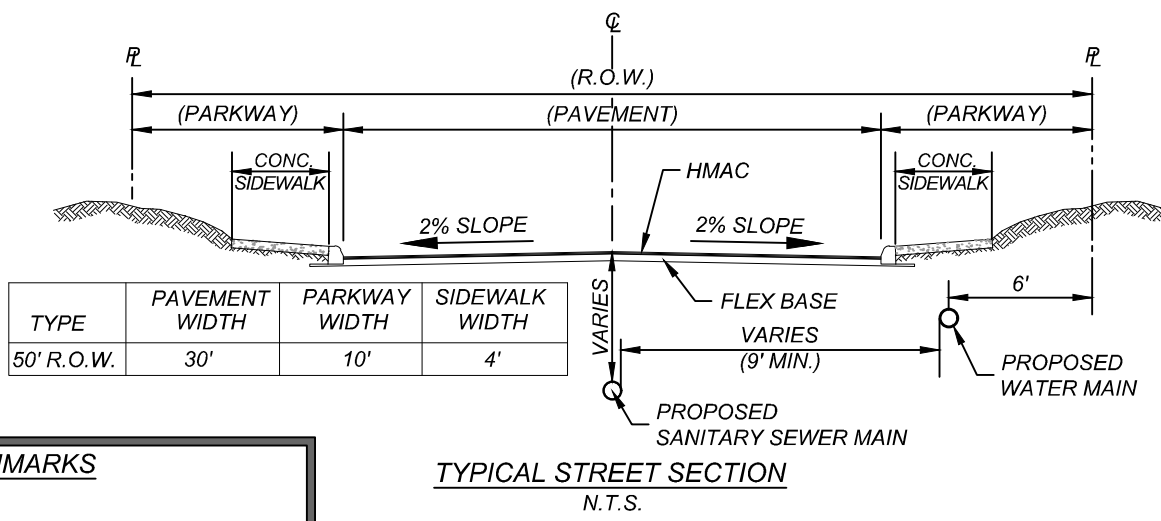
\\ANSWER\CO\2025\06\org\60 By: JHEB MONTANO

TRENCH EXCAVATION SAFETY PROTECTION

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

COMPACTION NOTE:

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



TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	30'	10'	4'

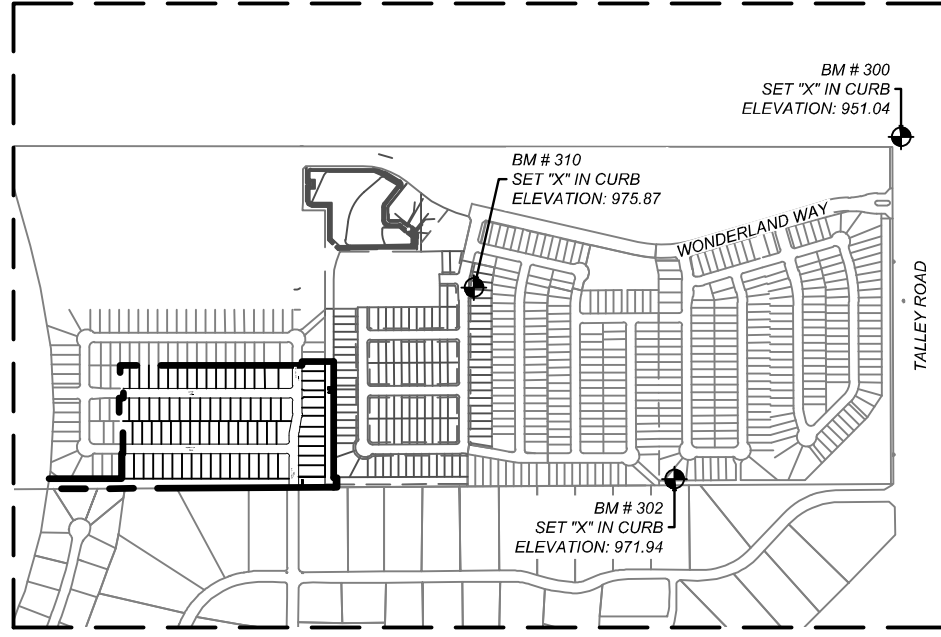
**BENCHMARKS**

BM # 300  
DESC: SET "X" IN CURB ADJACENT TO N:13727341.90  
E:2036249.78  
ELEV: 951.04

BM # 302  
DESC: SET "X" IN CURB ADJACENT TO N:13725558.51  
E:2035068.10  
ELEV: 971.94

BM # 310  
DESC: SET "X" IN CURB ADJACENT TO N:13726555.53  
E:2034025.07  
ELEV: 975.87

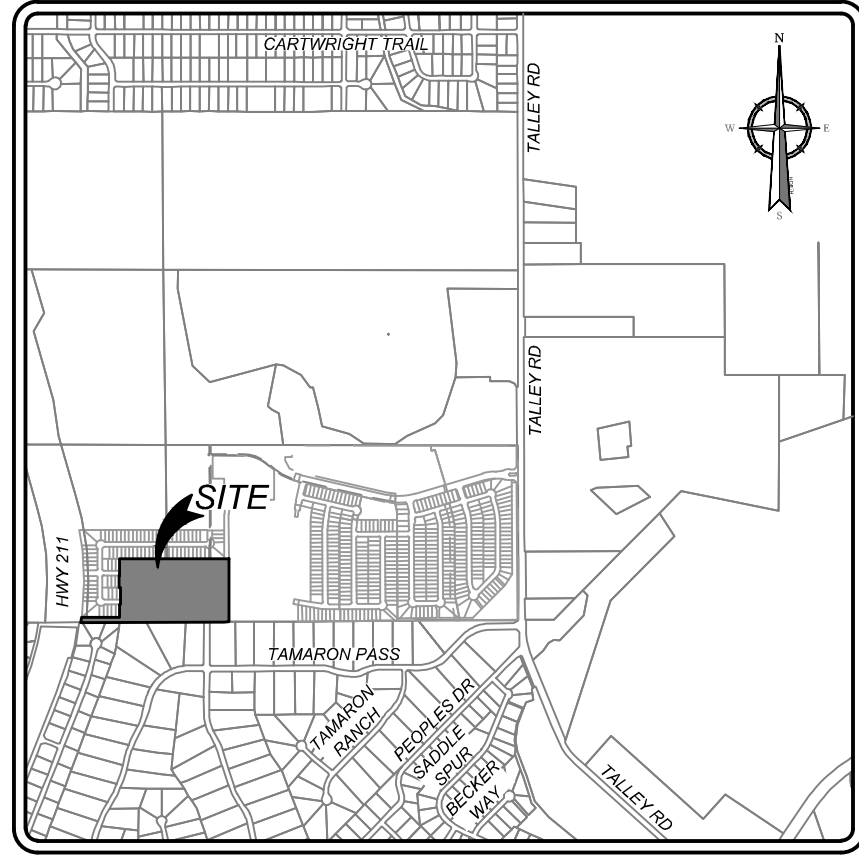
CONTRACTOR TO RUN LEVEL LOOP THROUGH BMS PROVIDED TO CONFIRM BEFORE  
\* CONSTRUCTION CONTACT ENGINEER/SURVEYOR IMMEDIATELY IF ELEVATIONS DO NOT MATCH THOSE SHOWN.



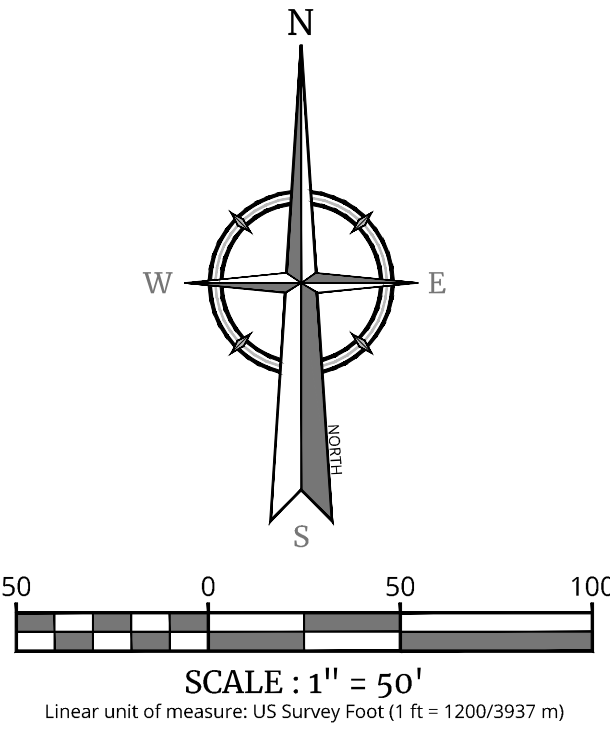
BENCHMARK MAP  
SCALE: NOT-TO-SCALE

LEGEND

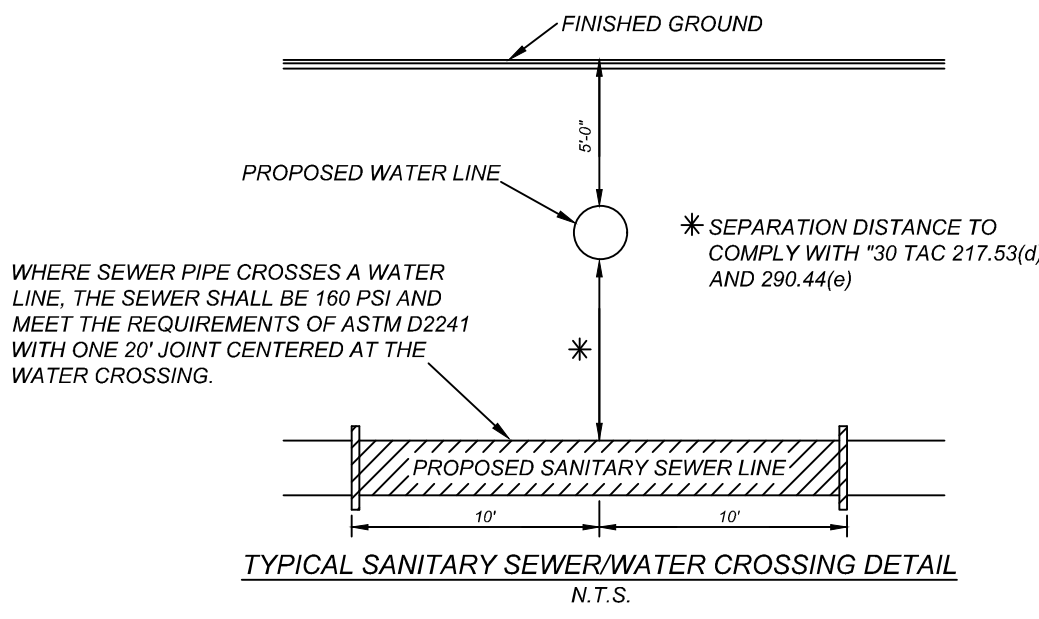
- PROPOSED WATER MAIN
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER LATERAL
- ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT
- VEHICULAR NON-ACCESS EASEMENT
- EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE



LOCATION MAP  
N.T.S.



- NOTE:**
- 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).
  - SEE THIS SHEET FOR BENCHMARK INFORMATION.
  - PIPE TYPE DESIGNATIONS ARE SDR 26.
  - SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
  - ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.
  - ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.

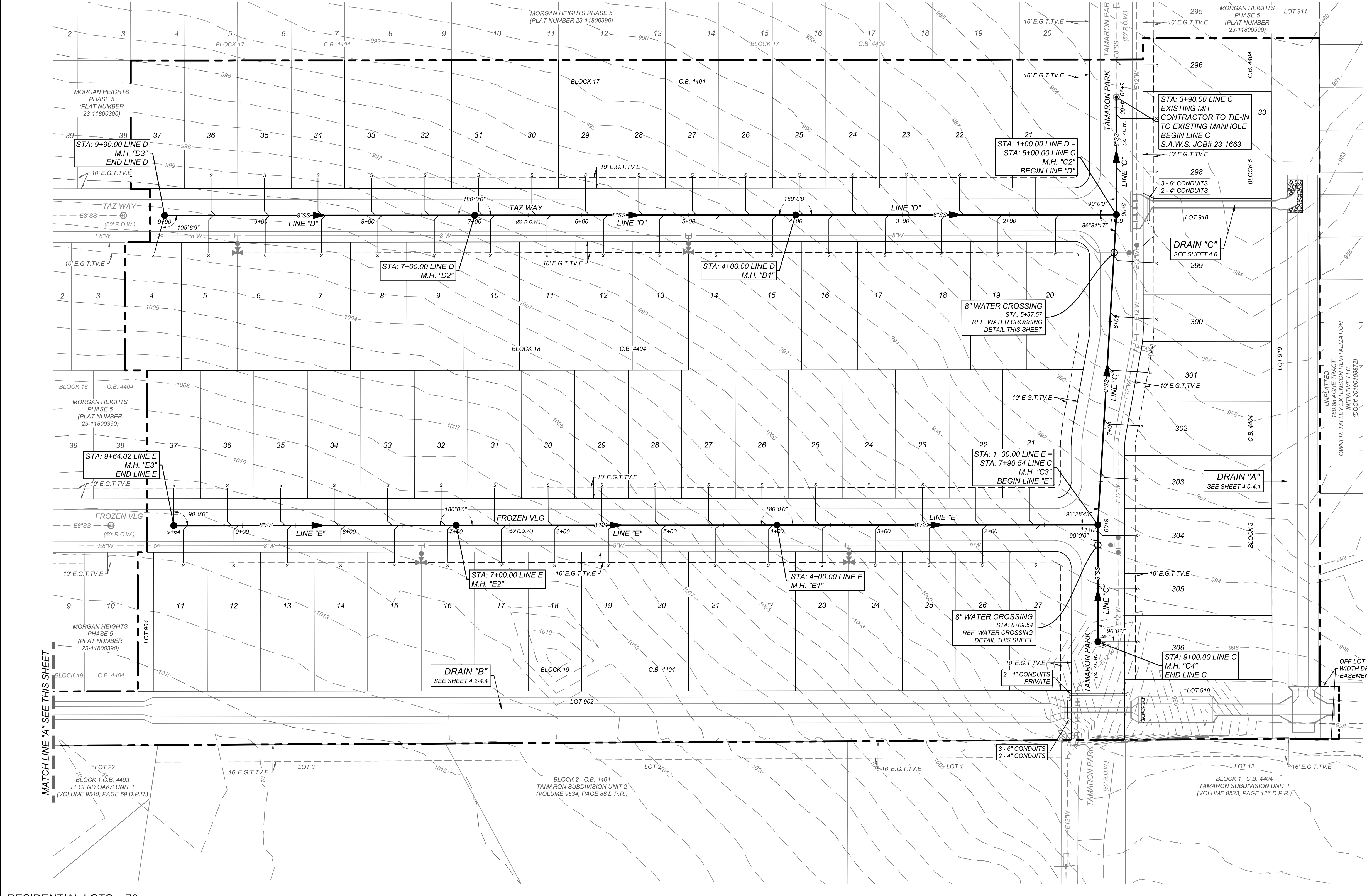


**CAUTION!!**  
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-GET-TEST 24 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 DB82-02.

SEWER - FAR WEST SEWERSHED - MEDIO CREEK W.R.C.

DEVELOPER'S NAME: TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC	DEVELOPER'S ADDRESS: 5210 THOUSAND OAKS, SUITE 1318
CITY: SAN ANTONIO	STATE: TEXAS
PHONE#: (210) 490-1798	FAX#: TOTAL ACREAGE: 16.66 ACRES
SAWS BLOCK MAP#: 062600, 064800, 062598, 064598	TOTAL EDUS: 79
TOTAL LINEAR FOOTAGE OF PIPE: 2,264 LF OF 8" SDR 26	PLAT NO.: 23-11800391
NUMBER OF LOTS: 79	SAWS JOB#: 23-1668



RESIDENTIAL LOTS = 79

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

STATE OF TEXAS  
JEFFREY W. MARTIN  
139094  
LICENSED PROFESSIONAL ENGINEER

1/22/25

PRELIMINARY

FOR

MORGAN HEIGHTS  
PHASE 5  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS

**Colliers**

Engineering & Design

SAN ANTONIO (KFW)  
3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TYPE Form: 11-1000  
TBL'S Form: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC

PROJECT NUMBER:	DRAWING NAME:
205-40-06	052054006

SHEET TITLE:

OVERALL SANITARY SEWER PLAN

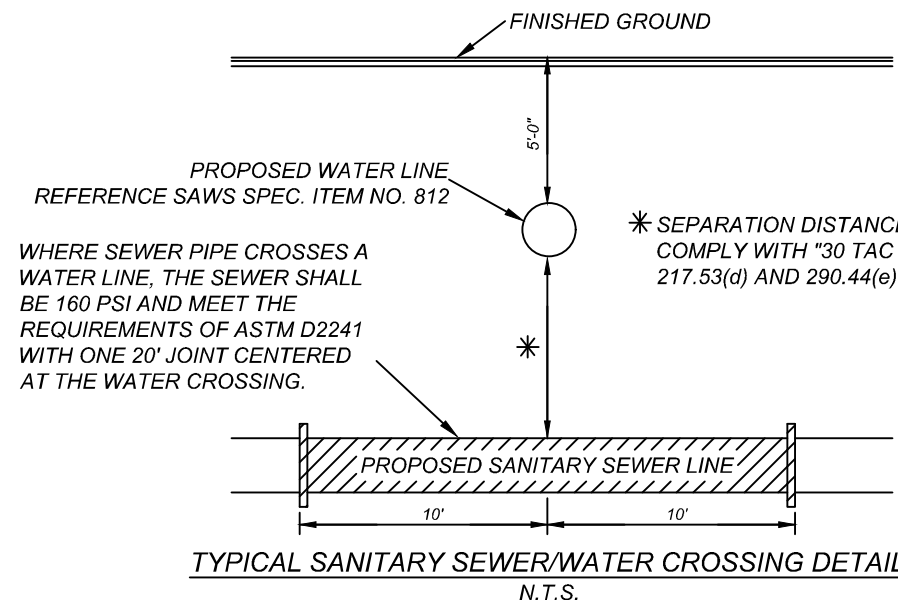
SHEET NUMBER:

6.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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



NOTES:

- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20' JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 6.0, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
- REF. SHEET 6.1 FOR BENCHMARK INFORMATION.
- PIPE TYPE DESIGNATIONS ARE SDR 26.
- REF. THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.

CAUTION!!

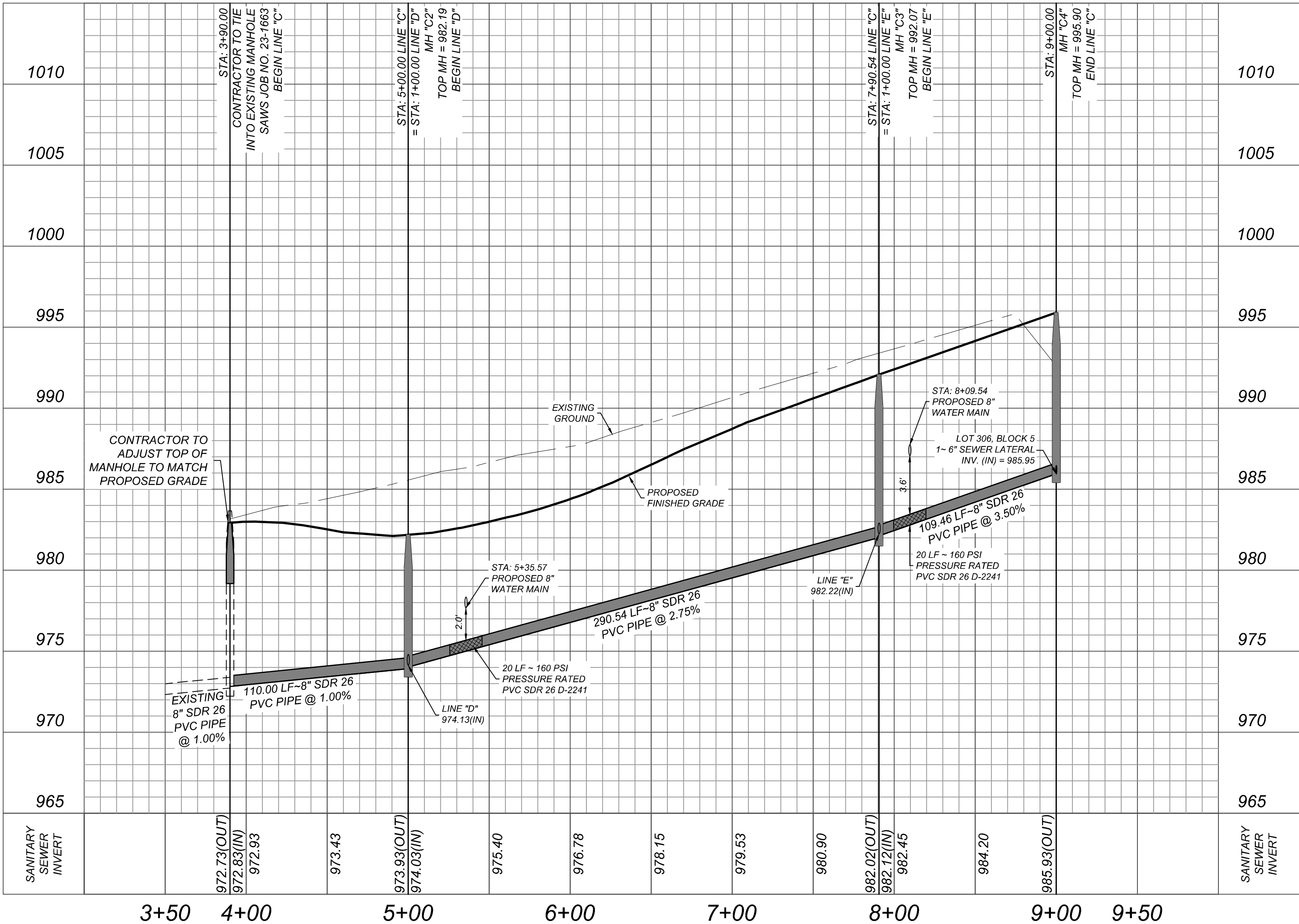
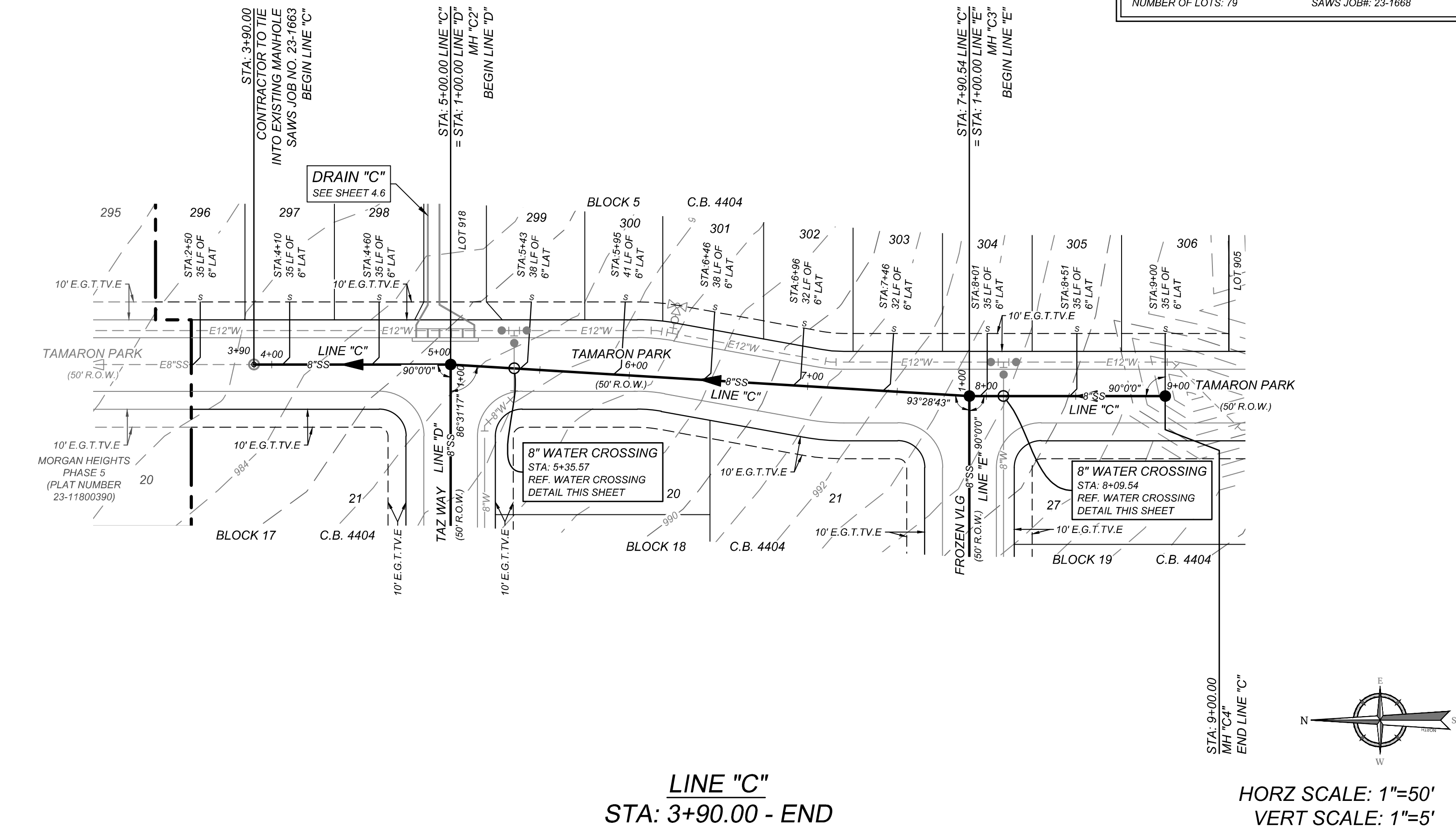
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT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

MANHOLE NOTE:

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

SEWER - FAR WEST SEWERSHED - MEDIO CREEK W.R.C.

DEVELOPER'S NAME: TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC  
DEVELOPER'S ADDRESS: 5210 THOUSAND OAKS, SUITE 1318  
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78216  
PHONE#: (210) 490-1798 FAX#: TOTAL ACREAGE: 16.66 ACRES  
SAWS BLOCK MAP#: 062600, 064600, 062598, 064598 TOTAL EDUS: 79  
TOTAL LINEAR FOOTAGE OF PIPE: 2,284 LF OF 8" SDR 26 PLAT NO.: 23-11800391  
NUMBER OF LOTS: 79 SAWS JOB#: 23-1668



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STATE OF TEXAS  
JEFFREY W. MARTIN  
139094  
LICENSED PROFESSIONAL ENGINEER  
1/22/25

PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
TEXAS

Engineering & Design

SAN ANTONIO (KFW)  
3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
COLLIERS ENGINEERING & DESIGN, INC.  
TBE'S Form# 11-1009  
TBE'S Form# 10194550

SCALE: AS SHOWN	DATE: 07/20/2023	DRAWN BY: SD	CHECKED BY: SC
PROJECT NUMBER: 205-40-06	DRAWING NAME: SSPP205-4006_C		

SHEET TITLE:  
LINE "C" PLAN & PROFILE

SHEET NUMBER:  
6.2

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ENGINEERING/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY ADDITIONAL PLANS AND SPECIFICATIONS FOR CONFORMANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS, AND CODES, AND SHALL BE RESPONSIBLE FOR 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 SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION. CONTRACTOR 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 EXCAVATION SAFETY PROTECTION PROGRAM THAT INCLUDES THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

FINISHED GROUND

6'-0"

PROPOSED WATER LINE  
REFERENCE SAWS SPEC. ITEM NO. 812

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.

\* SEPARATION DISTANCE TO  
COMPLY WITH '30 TAC  
217.53(d) AND 290.44(e)

PROPOSED SANITARY SEWER LINE

10' 10'

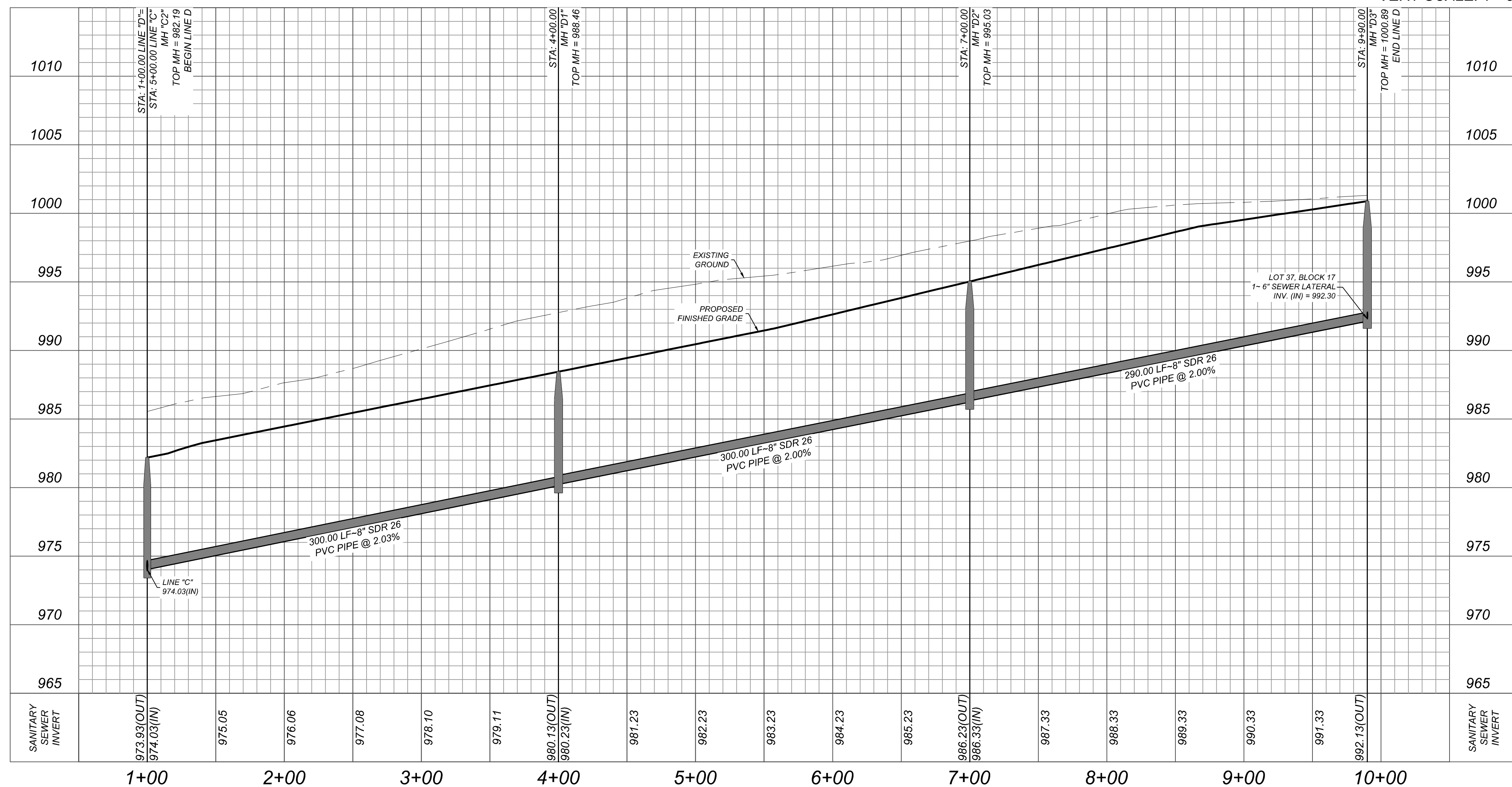
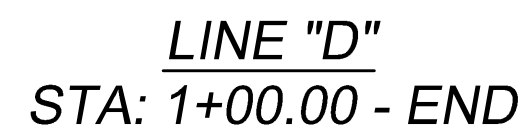
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL  
N.T.S.

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 6.0, SANITARY SEWER MAINS. (S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
2. REF. SHEET 6.1 FOR BENCHMARK INFORMATION.
3. PIPE TYPE DESIGNATIONS ARE SDN 20.
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.

**WARNING:** 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 THE UTILITY AND MAKE SURE THERE IS 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.

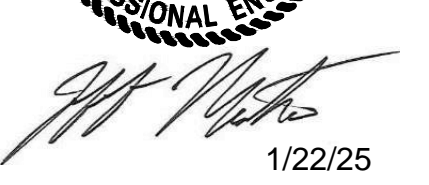
MANHOLE NOTE:  
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE  
MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

DEVELOPER'S NAME: TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC			
DEVELOPER'S ADDRESS: 5210 THOUSAND OAKS, SUITE 1318			
PHONE: (210) 490-1798	FAX:	STATE: TEXAS	ZIP: 76216
TOTAL ACREAGE: 16.66 ACRES			
RAWS BLOCK MAP#: 062600, 064600, 062598, 064598		TOTAL EDU'S: 79	
TOTAL LINEAR FOOTAGE OF PIPE: 2.264 LF OF 8" SDR 26		PLAT NO.: 23-11800391	
NUMBER OF LOTS: 79	SAWS JOB#: 23-1668		



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FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

**Colliers**

Engineering  
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3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444

**COLLIERS ENGINEERING & DESIGN, INC.**  
TBPE Firm#: F-14909  
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC
PROJECT NUMBER:		DRAWING NAME:	
205-40-06		SSPP2054006_D&E	

## LINE "D" PLAN & PROFILE

ET NUMBER: 6.3

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ENGINEERING/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY SUBSEQUENT REVISIONS TO THESE PLANS AND APPROVE THEM FOR CONSTRUCTION OF 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 PLANS. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH EXCAVATION SAFETY PROTECTION SYSTEM, PROGRAM AND/OR PROCEDURE THAT PROVIDES 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 EXCAVATION SAFETY PROTECTION SYSTEM, PROGRAM AND/OR PROCEDURE THAT ENSURES THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

FINISHED GROUND

6'-0"

PROPOSED WATER LINE  
REFERENCE SAWS SPEC. ITEM NO. 812

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.

\* SEPARATION DISTANCE TO  
COMPLY WITH '30 TAC  
217.53(d) AND 290.44(e)

PROPOSED SANITARY SEWER LINE

10' 10'

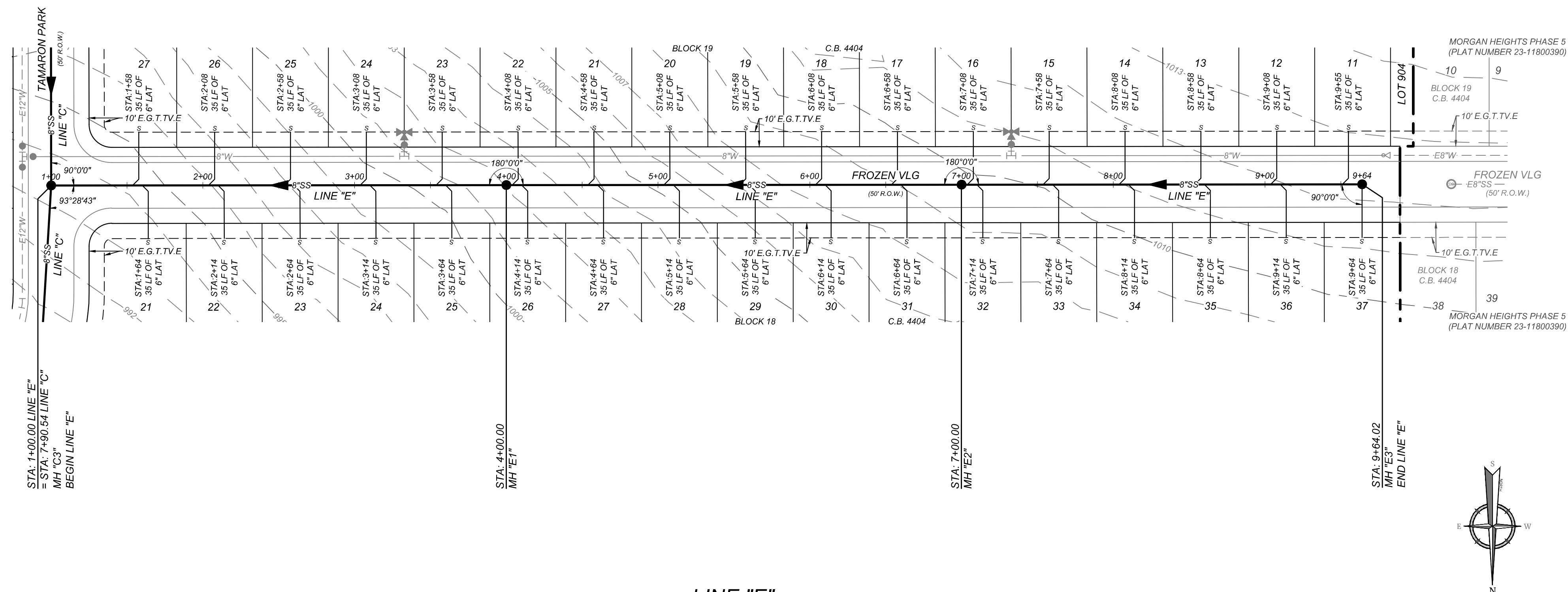
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL  
N.T.S.

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 60, SANITARY SEWER CONSTRUCTION NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
2. REF. SHEET 61 FOR BENCHMARK INFORMATION.
3. PIPE TYPE DESIGNATIONS ARE SOR 26.
4. REF. SHEET 7 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.

**WARNING:** 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 THE UTILITY AND 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.

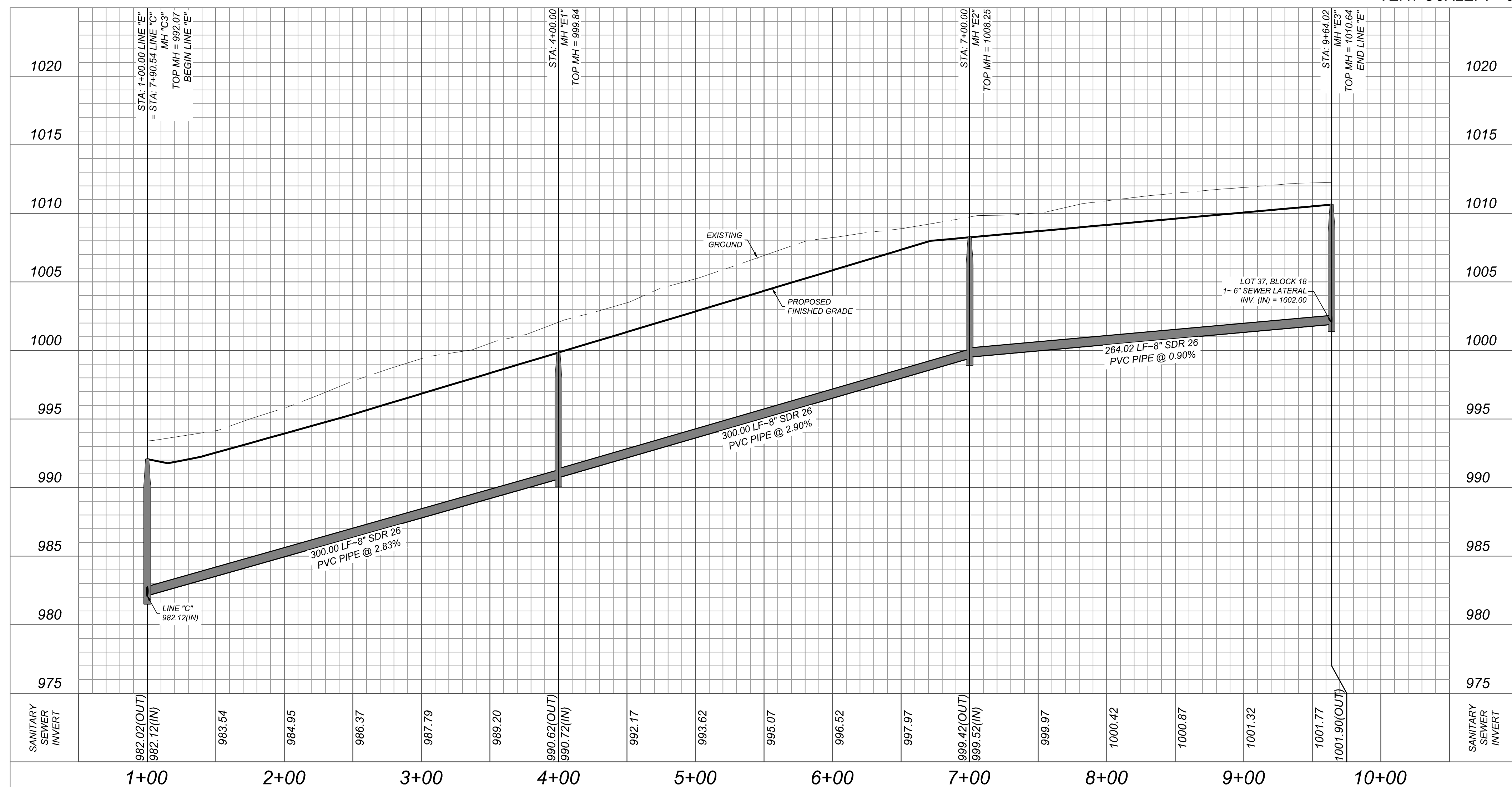
MANHOLE NOTE:  
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE  
MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

DEVELOPER'S NAME: TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC			
DEVELOPER'S ADDRESS: 5210 THOUSAND OAKS, SUITE 1318			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78216	
PHONE: (210) 490-1798	FAX:	TOTAL ACREAGE: 16.66 ACRES	
LAWS BLOCK MAP#: 062600, 064600, 062598, 064598		TOTAL EDU'S: 79	
TOTAL LINEAR FOOTAGE OF PIPE: 2.264 LF OF 8" SDR 26		PLAT NO.: 23-11800391	
NUMBER OF LOTS: 79		SAWS JOB#: 23-1668	



LINE "E"  
STA: 1+00.00 - END

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



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KFW



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surface anywhere in any state  
OR STATE SPECIFIC DIRECT PHONE NUMBERS  
VISIT: [WWW.CALL811.COM](http://WWW.CALL811.COM)

OR STATE SPECIFIC DIRECT PHONE NUMBERS  
VISIT: [WWW.CALL811.COM](http://WWW.CALL811.COM)

REV	DATE	DRAWN BY	DESCRIPTION
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FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

Colliers

**SAN ANTONIO (KFW)**  
3421 Paesanos  
Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
LIERS ENGINEERING & DESIGN, INC.  
TBPE Firm#: F-14909  
TBPIS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC
PROJECT NUMBER:		DRAWING NAME:	
205-40-06		SSPP2054006_D&E	

SHEET TITLE:

LINE "E" PLAN & PROFILE

SHEET NUMBER: 6.4

**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION**

WILSEWERUSSP2054006.D&E.dwg/6.4 By: ABIELMONTALVO

GENERAL INFORMATION

GENERAL WATER NOTES

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 Waste water 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 I 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](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](mailto: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](mailto: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 transit 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. (NSP)

4. Suitable anchorage/trust 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   985   feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below   985   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 lots(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.

SAWS NOTES:

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.

RESIDENTIAL LOTS = 79

MORGAN HEIGHTS PHASE 6

BEXAR COUNTY, TEXAS

WATER IMPROVEMENTS

LOCATION MAP

N.T.S.

OWNER/DEVELOPER

TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC.

5210 THOUSAND OAKS, SUITE 1318

SAN ANTONIO, TEXAS 78233

SAWS PRESSURE ZONE 8 SERVICE AREA: FAR WEST			
DEVELOPER'S NAME: TALLEY EXTENSION REVITALIZATION INITIATIVE, LLC			
DEVELOPER'S ADDRESS: 5210 THOUSAND OAKS, SUITE 1318			
CITY: SAN ANTONIO		STATE: TEXAS	ZIP: 78216
PHONE#: (210) 490-1798	FAX#:	TOTAL ACREAGE: 16.66 ACRES	
SAWS BLOCK MAP#: 062600, 064600, 062598, 064598		TOTAL EDUs: 79	
TOTAL LINEAR FOOTAGE OF PIPE: 897 LF - 8" C-900		PLAT NO.:	23-11800391
NUMBER OF LOTS: 79		SAWS JOB#: 23-XXXX	

INDEX	
DESCRIPTION	SHEET NO.
WATER DISTRIBUTION COVER SHEET	7.0
WATER DISTRIBUTION PLAN	7.1

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Engineering & Design

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STATE OF TEXAS

JEFFREY W. MARTIN

139094

LICENSED PROFESSIONAL ENGINEER

*Jeffrey W. Martin*

1/24/25

PRELIMINARY

FOR

MORGAN HEIGHTS

PHASE 6

PLAT# 23-11800391

Colliers

Engineering & Design

SAN ANTONIO (KFW)

3421 Paesanos Parkway  
San Antonio, TX 78231  
Phone: 210.979.8444  
TBE's Firm #: 1-1009  
TBE's Firm #: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	07/20/2023	SD	SC
PROJECT NUMBER:	DRAWING NAME:		
205-40-06	CVOW2054006		

SHEET TITLE:

WATER DISTRIBUTION COVER SHEET

SHEET NUMBER:

7.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

\\SAWS\IT\CD\2025\05210\_Oaks\DWG\23-11800391.dwg PLOTTED BY: JEFFREY W. MARTIN

**NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION**

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY SUBMITTALS AND APPROVE THEM FOR CONSTRUCTION OF THE TRENCH EXCAVATION AND 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 TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION 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 EXCAVATION SAFETY PROTECTION SYSTEM, PROGRAM AND/OR PROCEDURE, INCLUDING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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.

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.



1. ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.

1. ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO ENSURE THAT STRUCTURAL BMP'S ARE INSTALLED WITHIN THE LIMITS OF THE SITE BOUNDARY.
3. CONTRACTOR MAY INSTALL THE BEST MANAGEMENT PRACTICES IN PHASES THAT COINCIDE WITH THE DISTURBANCE OF UP GRADIENT AREAS. THIS PHASING SHALL BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
4. CONTRACTOR TO VERIFY SUFFICIENT VEGETATION IN AREAS DENOTED AS VEGETATED FILTER STRIP. IF INSUFFICIENT VEGETATION EXISTS, CONTRACTOR SHALL IMPLEMENT A DIFFERENT BEST MANAGEMENT PRACTICE AND WILL SHOW IT ON THIS PLAN WITH NOTATION IN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

1. CONTRACTOR SHOULD LIMIT CONSTRUCTION ACTIVITIES TO ONLY THOSE AREAS SHOWN TO BE DISTURBED ON THIS PLAN. IF ADDITIONAL VEGETATED AREAS ARE DISTURBED, THEY SHOULD BE PROTECTED WITH APPROPRIATE BEST MANAGEMENT PRACTICES UNTIL THE AREAS HAVE BEEN STABILIZED AS PER THE SPECIFICATIONS OF THE SWPPP. THE AREAS OF THIS ADDITIONAL SOIL DISTURBANCE AND THE MEASURES USED SHOULD BE SHOWN ON THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

2. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF BMP'S AS PER THE SPECIFICATIONS OF THE SWPPP. THE CONTRACTOR MAY MODIFY THE CONTROLS AS NECESSARY TO PREVENT SEDIMENT RUNOFF. THESE MODIFICATIONS SHOULD BE SHOWN AND THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

1. ALL DISTURBED AREAS ARE NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMP'S AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).

1. ALL DISTURBED AREAS ARE NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMP'S AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).
2. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN PHASES IF ALL UPGRADE AREAS HAVE BEEN STABILIZED PER SWPPP AND PROJECT SPECIFICATIONS. THIS PHASING SHOULD BE TITLED WITH THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. CONTRACTOR TO ENSURE THEY HAVE MET ALL REQUIREMENTS OF THE SWPPP BEFORE FILING A NOTICE OF TERMINATION (NOT).

1. THIS EXHIBIT IS TO BE USED FOR THE PURPOSES OF STORMWATER POLLUTION PREVENTION ONLY. ALL OTHER CIVIL ENGINEERING INFORMATION SHOULD BE OBTAINED FROM THE APPROPRIATE CONSTRUCTION DOCUMENTS.

2. THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TPDES STORMWATER POLLUTION PREVENTION PLAN REGULATIONS ONLY.
3. ALL OWNERS/OPERATORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE STORMWATER POLLUTION PREVENTION PLAN AND COMPLYING WITH THE REGULATIONS CONTAINED WITHIN IT.

1. CONTACT TIME WARNER TO COORDINATE CABLE TV SERVICE. (210) 244-0500
2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH CPS FOR INSPECTION. (210) 353-2246.
3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH CPS PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.
5. CONTRACTOR TO COORDINATE WITH SAWS TO PLAN WATER AND SANITARY SEWER SERVICES (210) 704-7297
6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

DATE	SIGNATURE	DESCRIPTION

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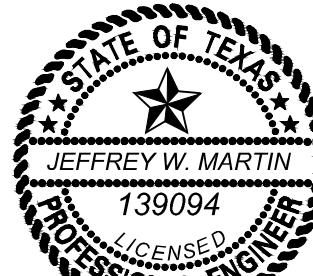
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1/24/25

## PRELIMINARY

FOR  
MORGAN HEIGHTS  
PHASE 6  
PLAT# 23-11800391

SAN ANTONIO  
BEXAR COUNTY  
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Engineering  
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SCALE: AS SHOWN	DATE: 07/20/2023	DRAWN BY: SD	CHECKED BY: SC
PROJECT NUMBER: 205-40-06		DRAWING NAME: SW3P2054006	

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