

MIRO MEADOWS UNIT 2

BEXAR COUNTY, TEXAS

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

Sheet List Table

Sheet Number	Sheet Title
0.0	COVER SHEET
1.0	OVERALL UTILITY PLAN
2.0	PROPOSED & ULTIMATE MASTER DRAINAGE PLAN
3.0	OVERALL GRADING PLAN
4.0	DRAIN C STA. 0+42.02 TO END
4.1	DRAIN D STA. 0+40.00 TO END
4.2	DRAIN E STA. 0+40.00 TO END
4.3	DRAIN F STA. 0+81.76 TO END DRAIN G STA. 0+70.74 TO END
4.4	DRAIN H STA. 0+84.01 TO END
4.5	DRAIN H STA. 5+00.00 TO END
4.6	DRAIN I STA. 0+40.00 TO END
4.7	DRAIN DETAIL SHEET
5.0	MADRAZO MANOR, VARO GLEN PLAN AND PROFILES
5.1	ROLDAN RIDGE, PRADILLA POINT PLAN AND PROFILES
5.2	COTAN GROVE, DALI BEND PLAN AND PROFILES
5.3	EMERGENCY SECONDARY ACCESS PLAN AND PROFILE
5.4	STRET DETAIL SHEET
5.5	WHEELCHAIR RAMP DETAIL SHEET
5.6	CONCRETE DRIVEWAY DETAIL SHEET
5.7	PEDESTRIAN FACILITIES DETAILS
5.8	TRAFFIC SIGNAGE AND SIDEWALK PLAN
5.9	TRAFFIC SIGNAGE DETAILS
5.10	TRAFFIC SIGNAGE NOTES & DETAIL SHEET
6.0	SANITARY SEWER COVER SHEET
6.1	OVERALL SANITARY SEWER PLAN
6.2	SEWER LINE F, G & H PLAN AND PROFILES
6.3	SEWER LINE I, & J PLAN AND PROFILES
6.4	EXISTING SEWER LINE A PLAN AND PROFILES
7.0	WATER IMPROVEMENT COVER SHEET
7.1	OVERALL WATER DISTRIBUTION PLAN
7.2	WATER DETAIL SHEET
8.0	STORM WATER PREVENTION PLAN
8.1	STORM WATER PREVENTION PLAN DETAILS

GENERAL NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
- 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.
- 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).
- 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.
- IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- 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.
- CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
- 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.
- 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)	233-2010
BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET)	354-6538 / 357-5741
COSA DRAINAGE	207-8048
COSA SIGNAL OPERATIONS	207-7720 / 207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-344-6377
CITY PUBLIC SERVICE ENERGY - TIME WARNER - AT&T - MCI	
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM 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.
- 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.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
- 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.
- 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.
- 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.
- 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) 382-2145 OR (210) 382-2086. THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK 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

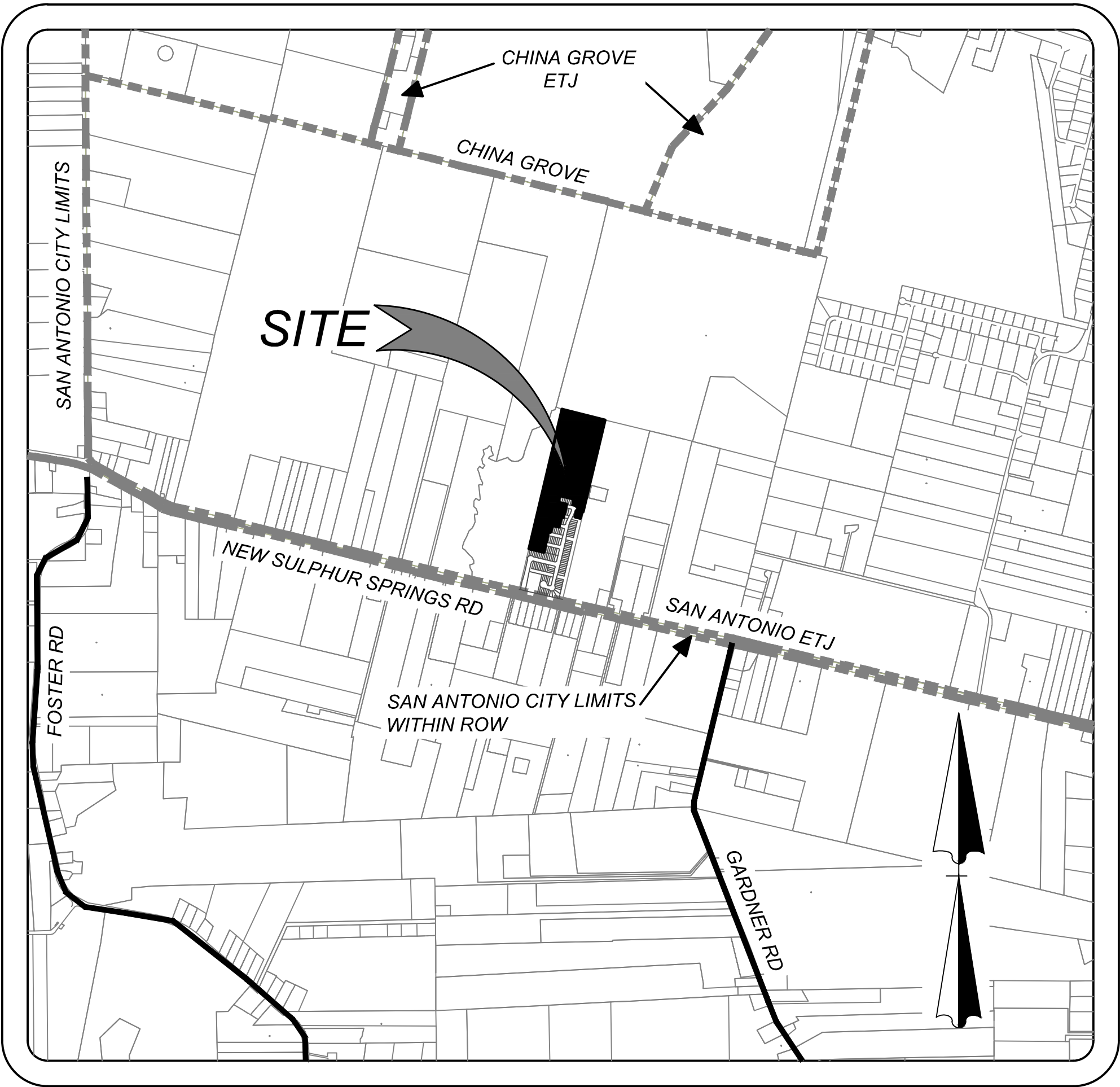
- NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. 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).
- 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.
- ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
- ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
- 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 CLEARLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
- 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.
- NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
- 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.
- NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
- 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).
- TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-0278).
- TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.
- 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

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

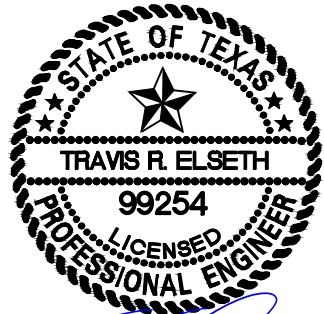
DECEMBER 2009

CITY OF SAN ANTONIO	
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT	
CITY OF SAN ANTONIO	
GENERAL NOTES	
% SUBMITTAL PROJECT NO.:	DATE:
DRWN. BY:	DSGN. BY:
CHWD. BY:	SHEET NO. OF:



LOCATION MAP N.T.S

OWNER/DEVELOPER
LENNAR HOMES OF TEXAS
LAND & CONSTRUCTION LTD.
100 NE LOOP 410, SUITE 1125
SAN ANTONIO, TEXAS 78216

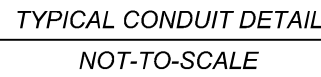


PLAT NO. : 22-11800695

SHEET 0.0

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.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGNING/ENGINEERING/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL TRENCH EXCAVATION 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 IDENTIFICATION OF ALL TRENCH EXCAVATION PROGRAMS AND PROCEDURES SHALL PROVIDE AN 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 THAT SHALL BE ADEQUATE TO PROTECT ALL PERSONNEL FROM THE HAZARDS AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



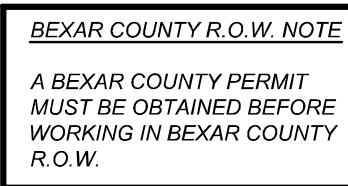
NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING
CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL
STREETS AND DRAIN CROSSING IF BUILT AHEAD OF
CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED
BY CPS CREWS DURING CONSTRUCTION. (SEPARATE ITEM
SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND
SCHEDULE.



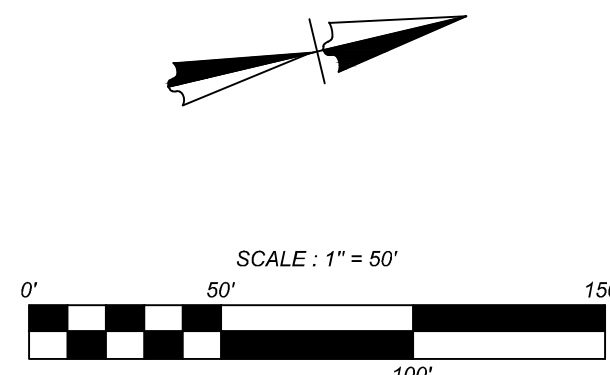
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LOCATION MAP
N.T.S



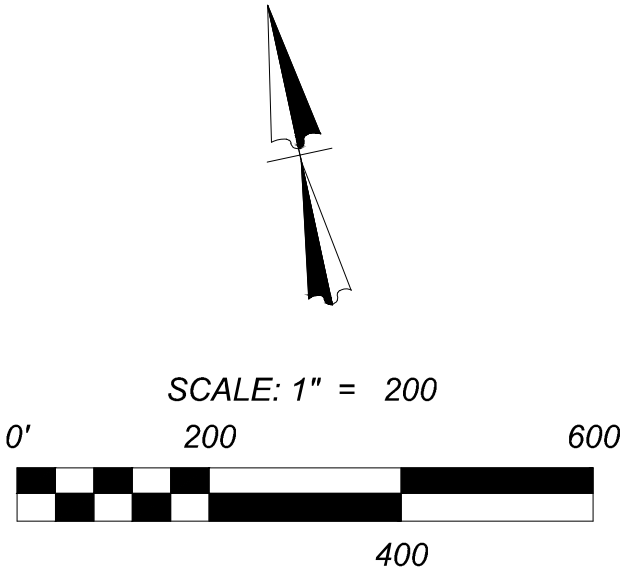
TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE



OVERALL UTILITY PLAN

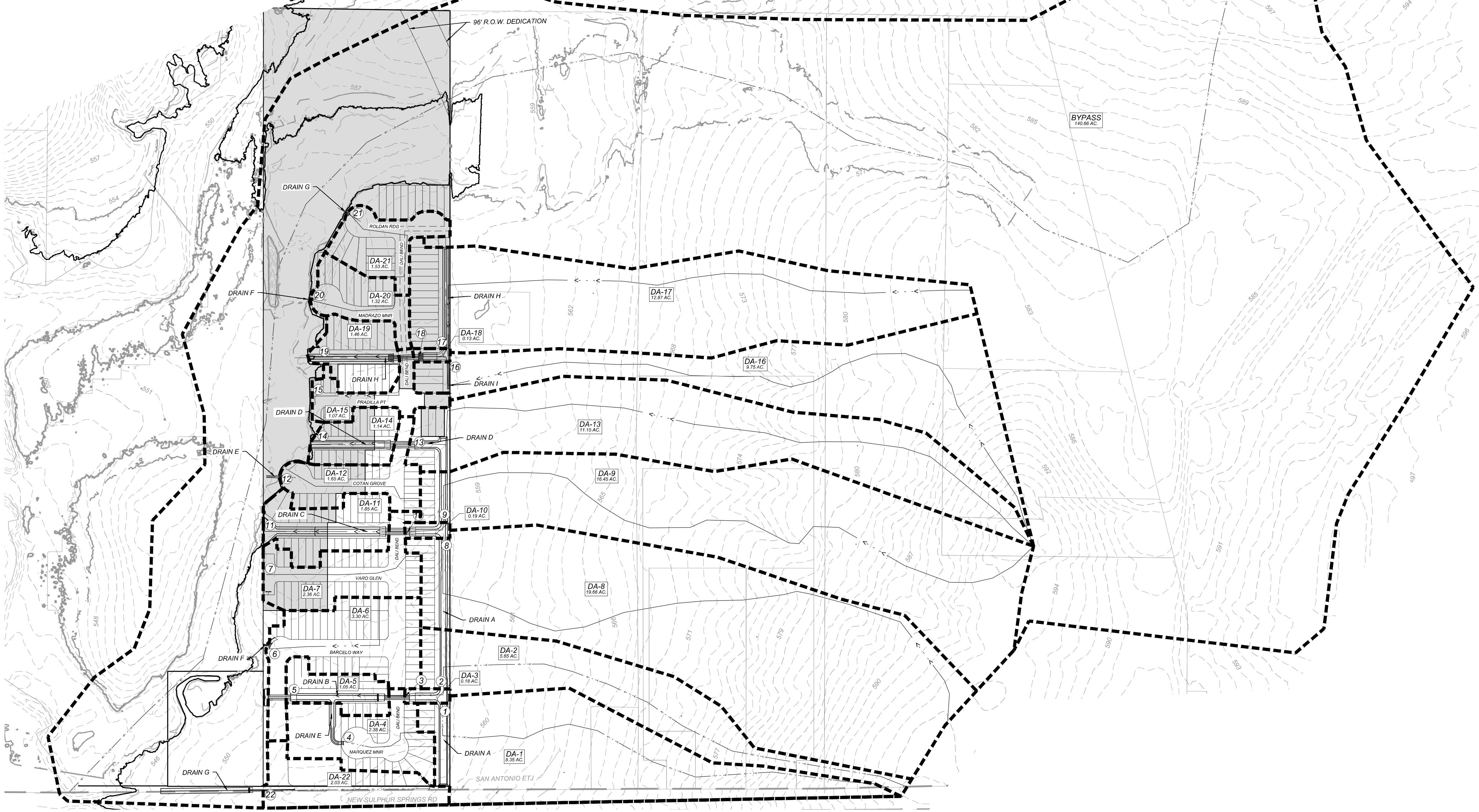
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PROPOSED/ULTIMATE CONDITIONS															
HYDROLOGY SUMMARY - RATIONAL METHOD															
Study Point	Drainage Area	(Acres)	C	Tccarryover (min)	Tovr1 (min)	Tsc (min)	Tch (min)	Ttot (min)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (ft3/s)	Q25 (ft3/s)	Q100 (ft3/s)	
BYPASS	DA-1+DA-2+DA-3+DA-4+DA-5+DA-6+DA-7+DA-8+DA-9+DA-10+DA-11+DA-12+DA-13+DA-14+DA-15+DA-16+DA-17+DA-18+DA-19+DA-20+DA-21	246.18	0.72					SNYDER LAG TIME USED PER COSA UDC, REFERENCE MIRO SNYDER LAG CALCULATOR SPREADSHEET	40.392	3.14	4.30	5.34	555.95	762.68	946.45
1	DA-1	8.35	0.72					SNYDER LAG TIME USED	15.867	5.09	7.02	8.75	30.59	42.21	52.60
2	DA-2	5.65	0.72					SNYDER LAG TIME USED	14.618	5.31	7.35	9.17	21.60	29.90	37.29
3	DA-1+DA-2+DA-3	14.18	0.72	FROM DA-1	15.867		0.425	16.292	5.02	6.92	8.62	51.23	70.67	88.03	
4	DA-4	2.38	0.84			17.04	1.093	0.294	18.422	4.71	6.48	8.06	9.41	12.96	16.12
5	DA-1+DA-2+DA-3+DA-4+DA-5	17.61	0.74	FROM DA-3	16.292		1.133	17.425	4.85	6.68	8.31	63.15	87.00	108.29	
6	DA-6	3.30	0.84			17.04	2.745	0.381	20.161	4.50	6.18	7.68	12.47	17.13	21.29
7	DA-7	2.36	0.84			10.41	2.107	0.683	13.195	5.58	7.76	9.69	11.05	15.39	19.20
8	DA-8	19.66	0.72					SNYDER LAG TIME USED	17.066	4.90	6.75	8.40	69.32	95.53	118.94
9	DA-9	16.45	0.72					SNYDER LAG TIME USED	15.793	5.10	7.04	8.77	60.41	83.38	103.90
10	DA-8+DA-9+DA-10	36.30	0.72	FROM DA-8	17.066		0.436	17.502	4.83	6.66	8.29	126.36	174.07	216.66	
11	DA-8+DA-9+DA-10+DA-11	38.15	0.72	FROM DA-10	17.502		1.361	18.863	4.65	6.40	7.96	127.77	175.79	218.62	
12	DA-12	1.65	0.84			12.81	1.123	0.833	14.762	5.28	7.31	9.11	7.32	10.13	12.63
13	DA-13	11.15	0.72					SNYDER LAG TIME USED	16.298	5.02	6.92	8.62	40.28	55.56	69.21
14	DA-13+DA-14	12.29	0.72	FROM DA-13	16.298		0.950	17.248	4.87	6.71	8.36	43.10	59.39	73.94	
15	DA-15	1.07	0.84			12.07	1.459	0.833	14.361	5.36	7.42	9.26	4.81	6.67	8.32
16	DA-16	9.75	0.72					SNYDER LAG TIME USED	15.643	5.13	7.08	8.82	35.99	49.69	61.92
17	DA-17	12.87	0.72					SNYDER LAG TIME USED	19.689	4.55	6.26	7.78	42.18	57.99	72.09
18	DA-16+DA-17+DA-18	22.75	0.72	FROM DA-17	19.689		0.361	20.050	4.51	6.20	7.70	73.86	101.52	126.18	
19	DA-16+DA-17+DA-18+DA-19	24.21	0.73	FROM DA-18	20.050		0.956	21.006	4.40	6.05	7.52	77.83	106.91	132.83	
20	DA-20	1.32	0.84			17.04	1.012	0.422	18.469	4.70	6.47	8.05	5.21	7.18	8.93
21	DA-21	1.53	0.84			17.04	1.361	0.65	19.046	4.63	6.37	7.92	5.95	8.18	10.18
22	DA-22	2.03	0.84			11.32	0.114	1.597	13.031	5.61	7.81	9.75	9.56	13.32	16.62



LEGEND

- = BOUNDARY
- = PROPOSED DRAINAGE AREAS
- = 1' CONTOURS
- = PROPOSED FLOW PATH
- = CURRENT UNIT OF PLATTING



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS
PROPOSED & ULTIMATE MASTER DRAINAGE PLAN



PLAT NO.
22-11800695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:
2.0

GENERAL:

- 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.
- THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TPO'S STORMWATER POLLUTION PREVENTION PLAN REGULATIONS ONLY.
- ALL OWNERS/OPERATORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE STORMWATER POLLUTION PREVENTION PLAN AND COMPLYING WITH THE REGULATIONS CONTAINED WITHIN IT.
- CPS IS A SECONDARY OPERATOR IN THIS PROJECT. THEY WILL BE INSTALLING THE GAS AND ELECTRIC UTILITIES.

INSTALLATION:

- ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
- CONTRACTOR TO ENSURE THAT STRUCTURAL BMPs ARE INSTALLED WITHIN THE LIMITS OF THE SITE BOUNDARY.
- CONTRACTOR MAY INSTALL THE BEST MANAGEMENT PRACTICES IN PHASES THAT COINCIDE WITH THE DISTURBANCE OF UP GRADIENT AREAS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
- CONTRACTOR TO VERIFY SUFFICIENT VEGETATION IN AREAS DEVOTED 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.

MAINTENANCE AND INSPECTION:

- 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.
- CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF BMPs 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.
- LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

COORDINATION NOTE:

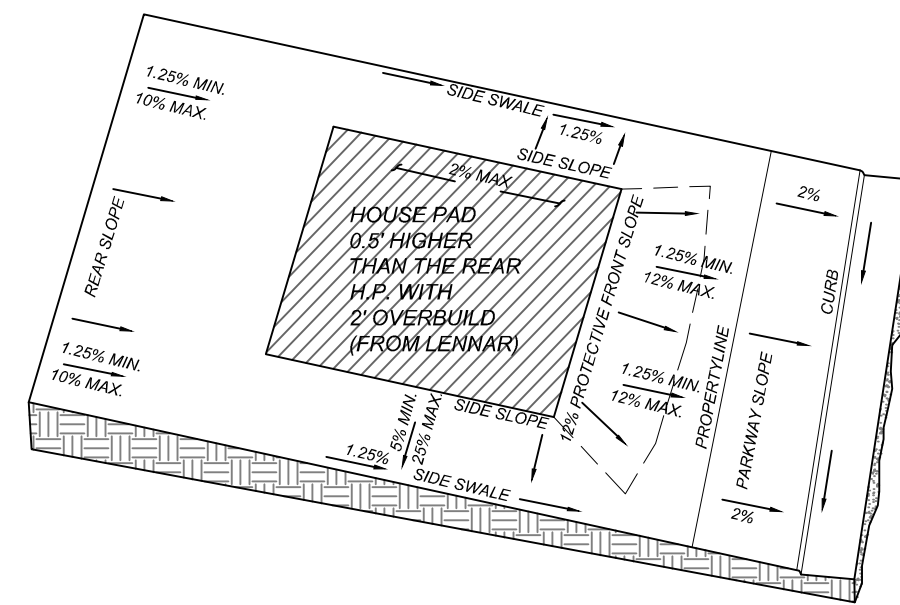
- CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE. (210) 244-0500.
- CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210) 353-2256.
- CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.
- CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210) 353-2256.
- CONTACT SWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER SERVICES. (210) 704-7287.
- CONTACT EAST CENTRAL SPECIAL UTILITY DISTRICT (S. U. D) TO PLAN WATER SERVICES. (210) 649-2383.
- CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

PROJECT COMPLETION:

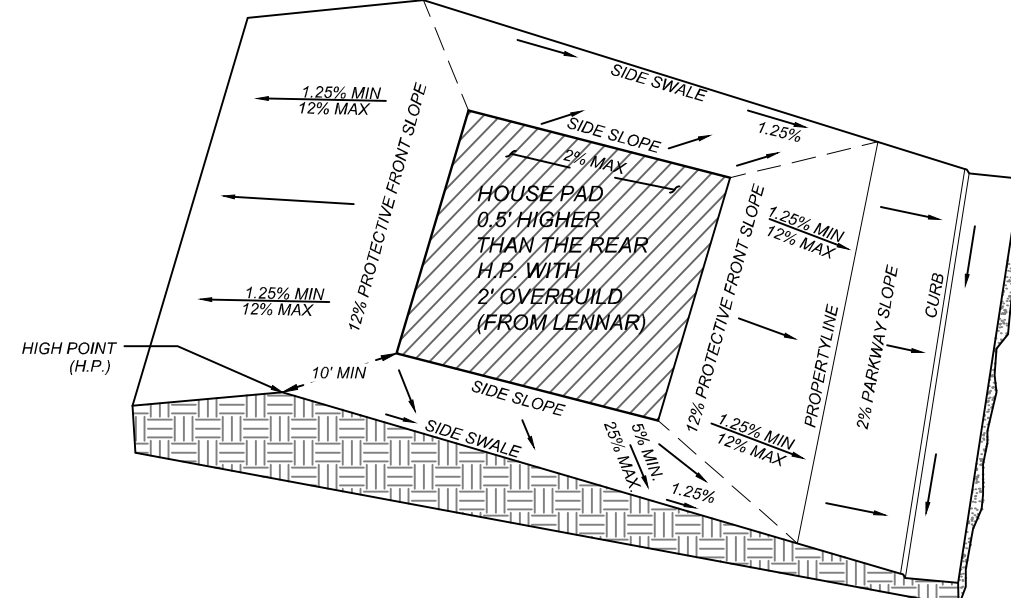
- ALL DISTURBED AREAS ARE NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMPs AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN PHASES IF ALL UPGRADIENT AREAS HAVE BEEN STABILIZED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

LEGEND

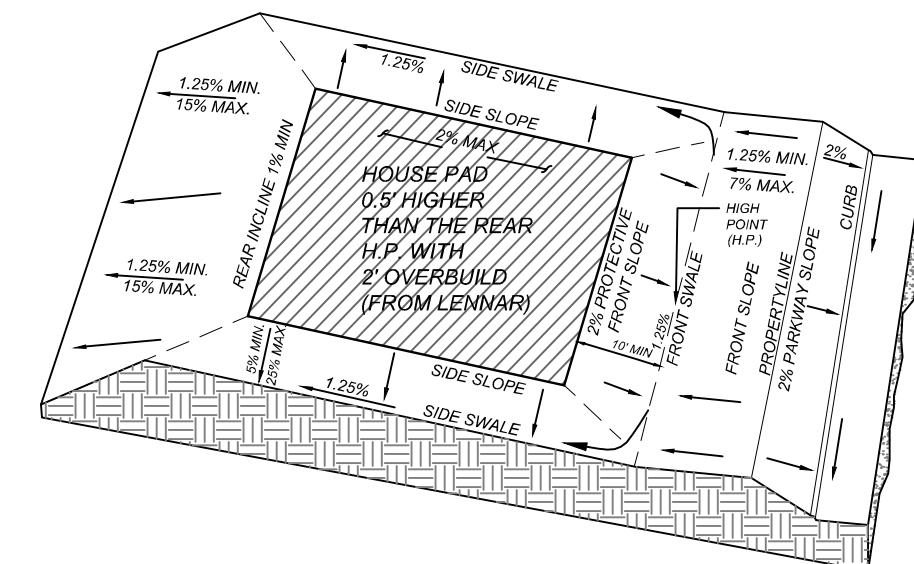
- ELEC. GAS, TELE. & CATV EASEMENT = ELECTRIC, GAS, TELEPHONE, CABLE T.V. EASEMENT
- = FLOW ARROW
- (A) = LOT GRADE TYPE
- FIN. MIN. = 598.0' = FINISHED FLOOR MINIMUM ELEVATION AS REQUIRED PER FLOODPLAIN (SEE NOTE THIS SHEET)
- 735 --- = EXISTING CONTOUR
- 735 --- = PROPOSED CONTOUR
- 735 --- = EXISTING CONTOUR
- + 731.69 = SPOT ELEVATION



TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING

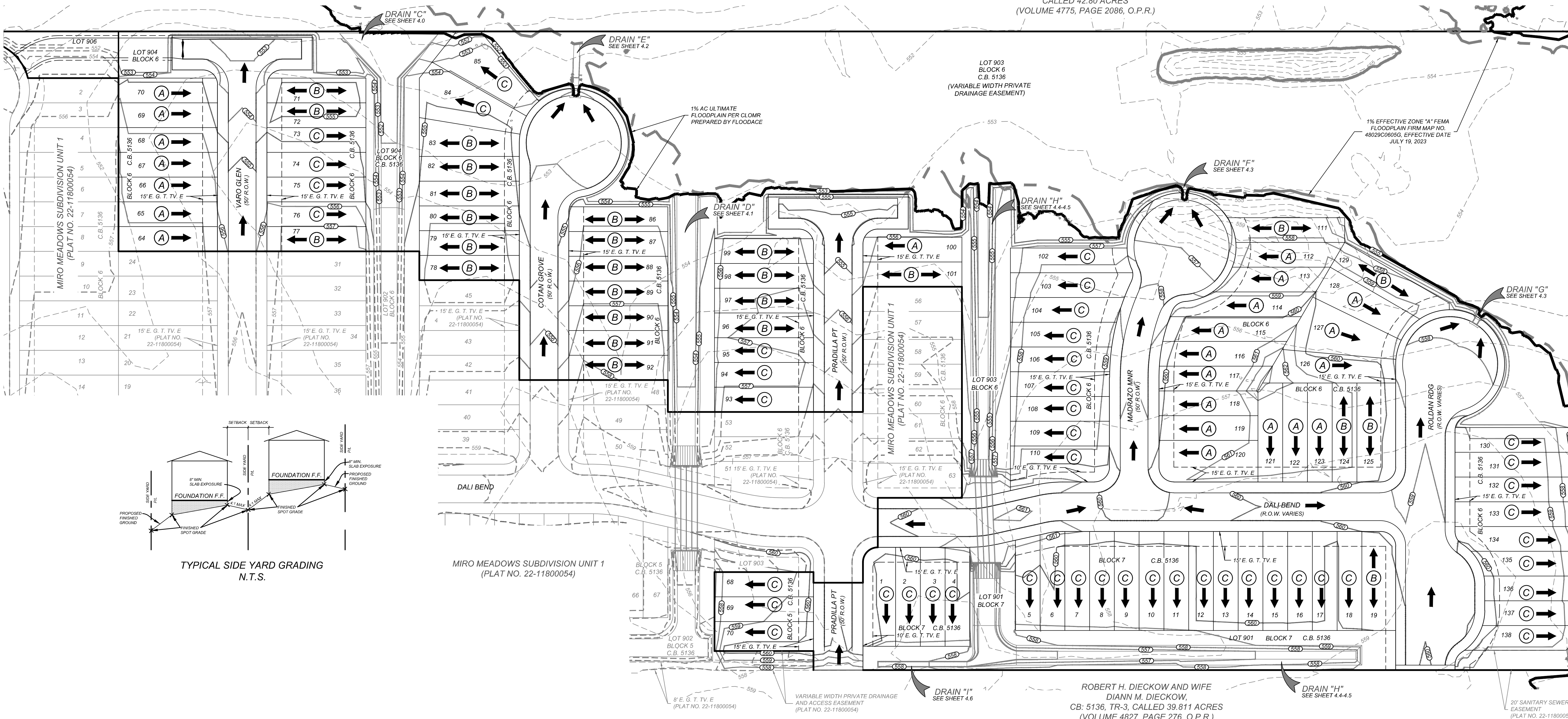
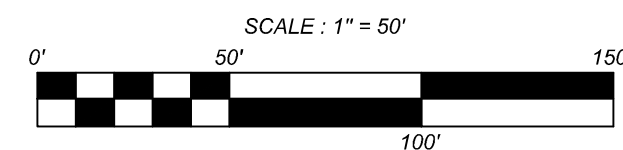


TYPE 'C' LOT GRADING

CLINTON C. BRINKOETER AND WIFE
LILLIAN M. BRINKOETER
CALLED 42.80 ACRES
(VOLUME 4775, PAGE 2086, O.P.R.)



LOCATION MAP
N.T.S.

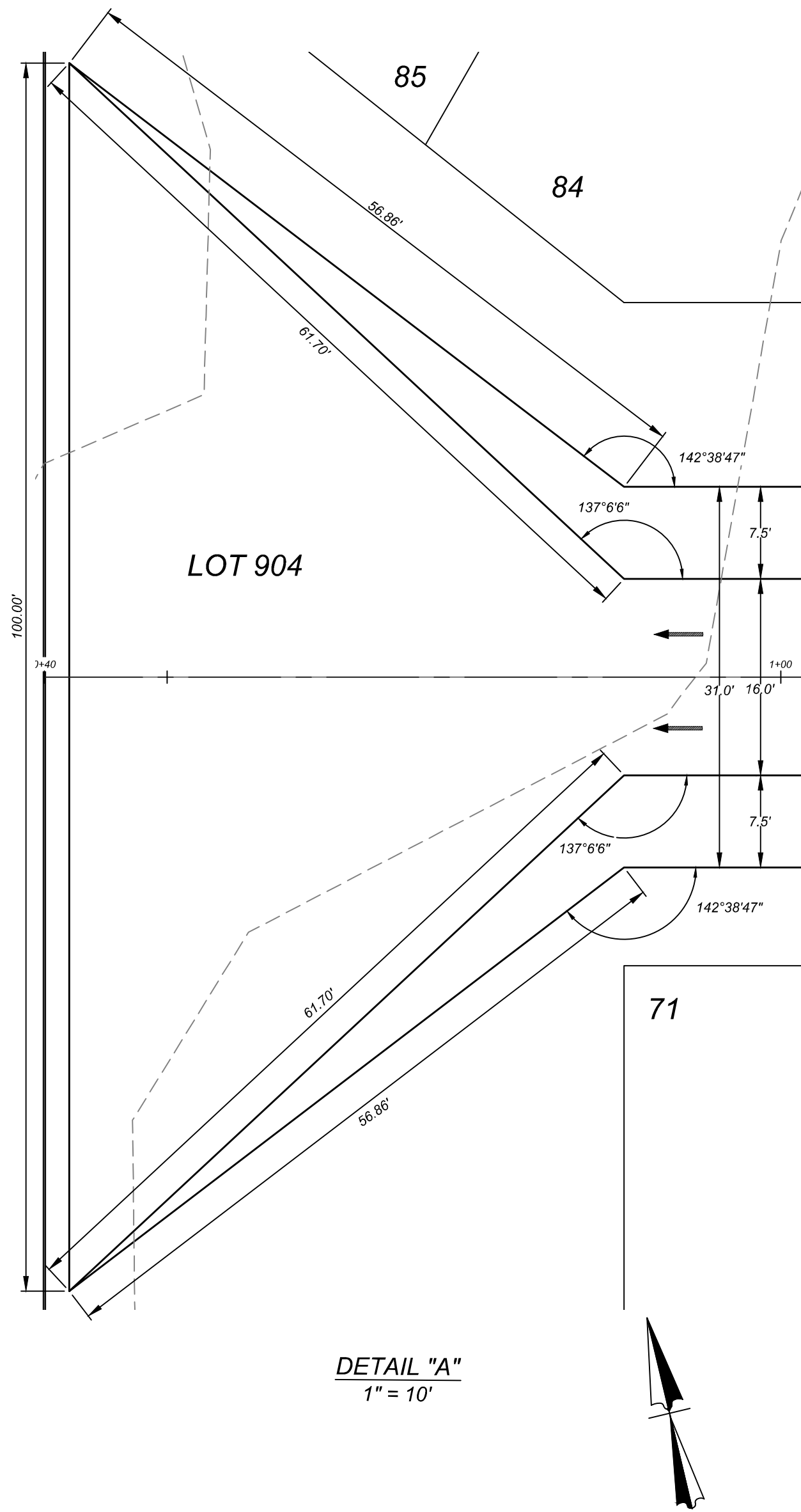
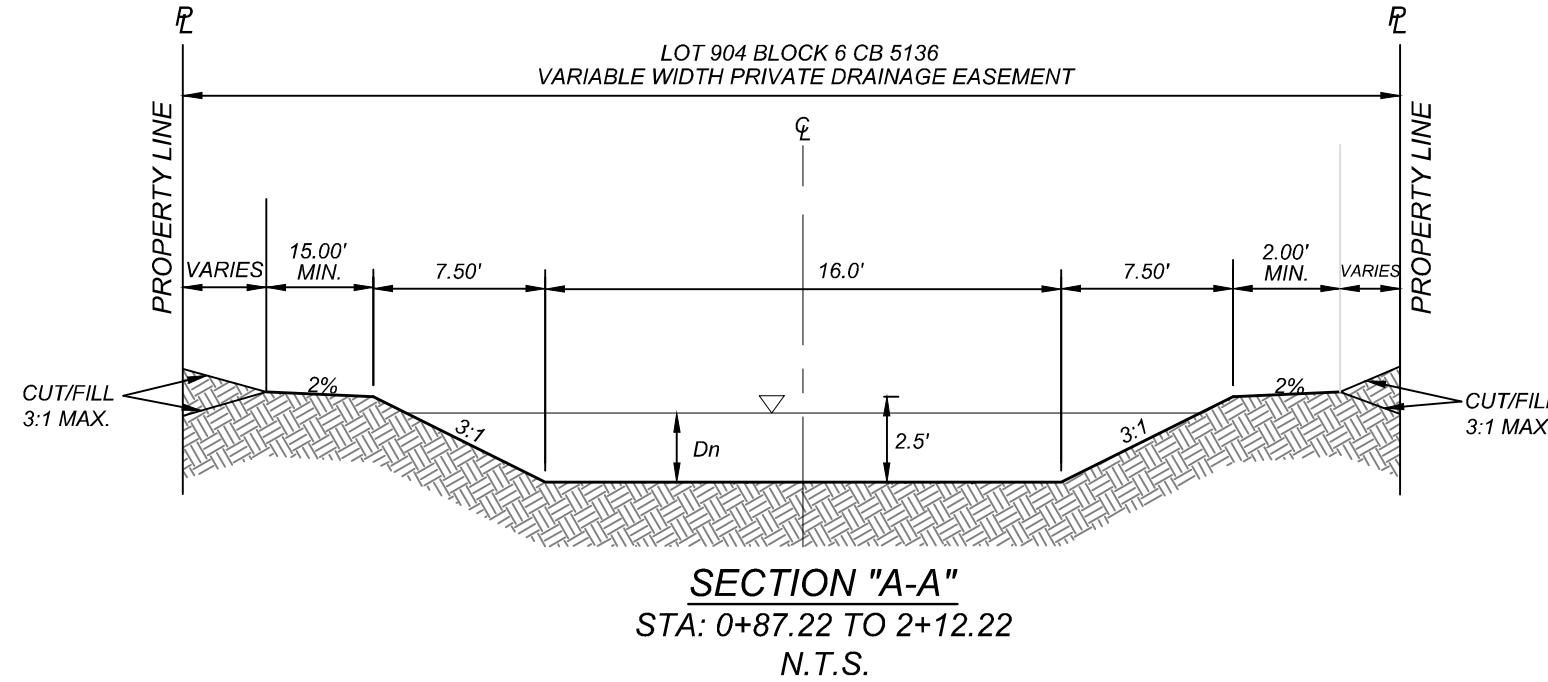


TRENCH EXCAVATION SAFETY PROTECTION

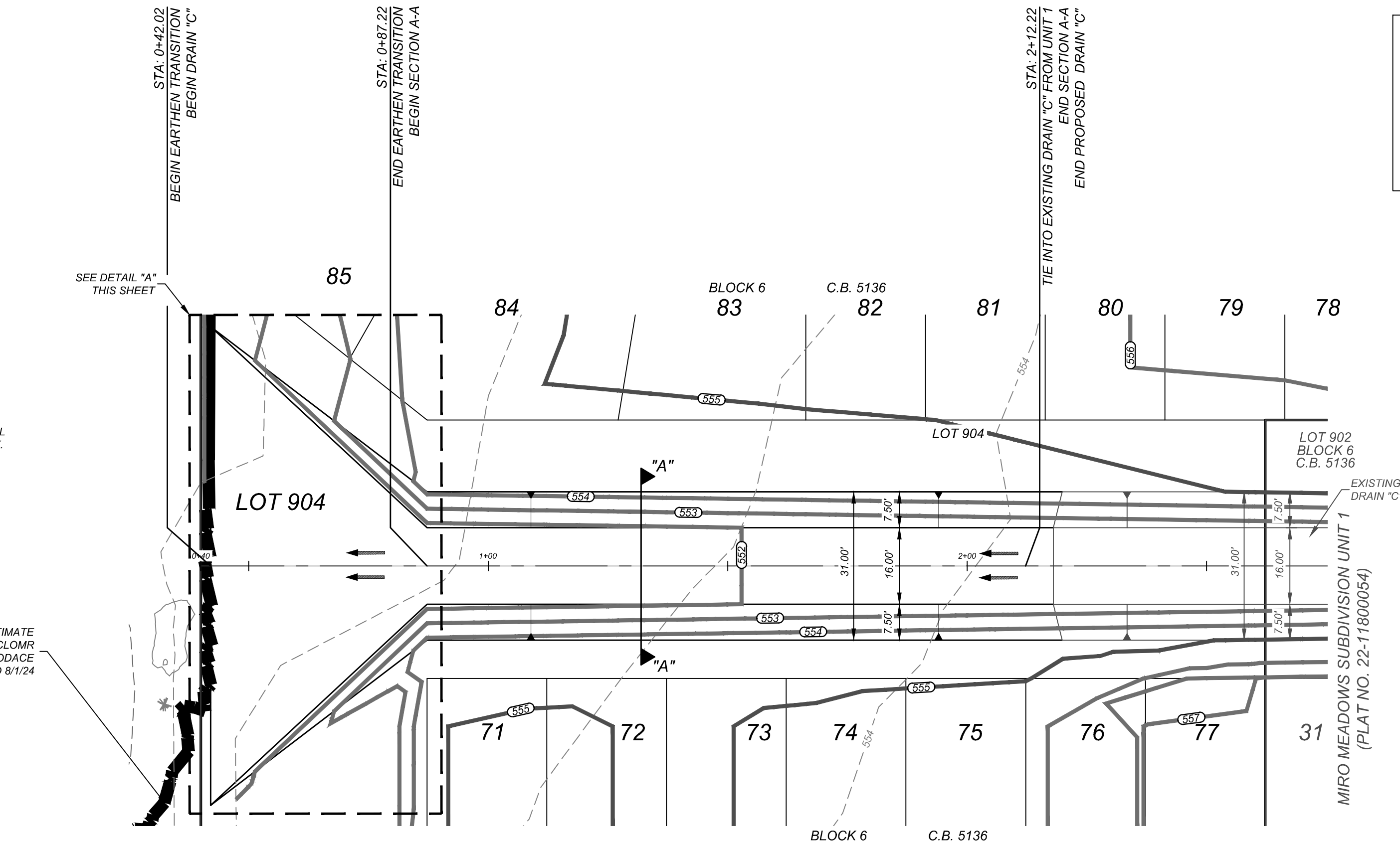
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

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.



1% AC ULTIMATE
FLOODPLAIN PER CLOMR
PREPARED BY FLOODACE
DATED 8/1/24



NOTE:

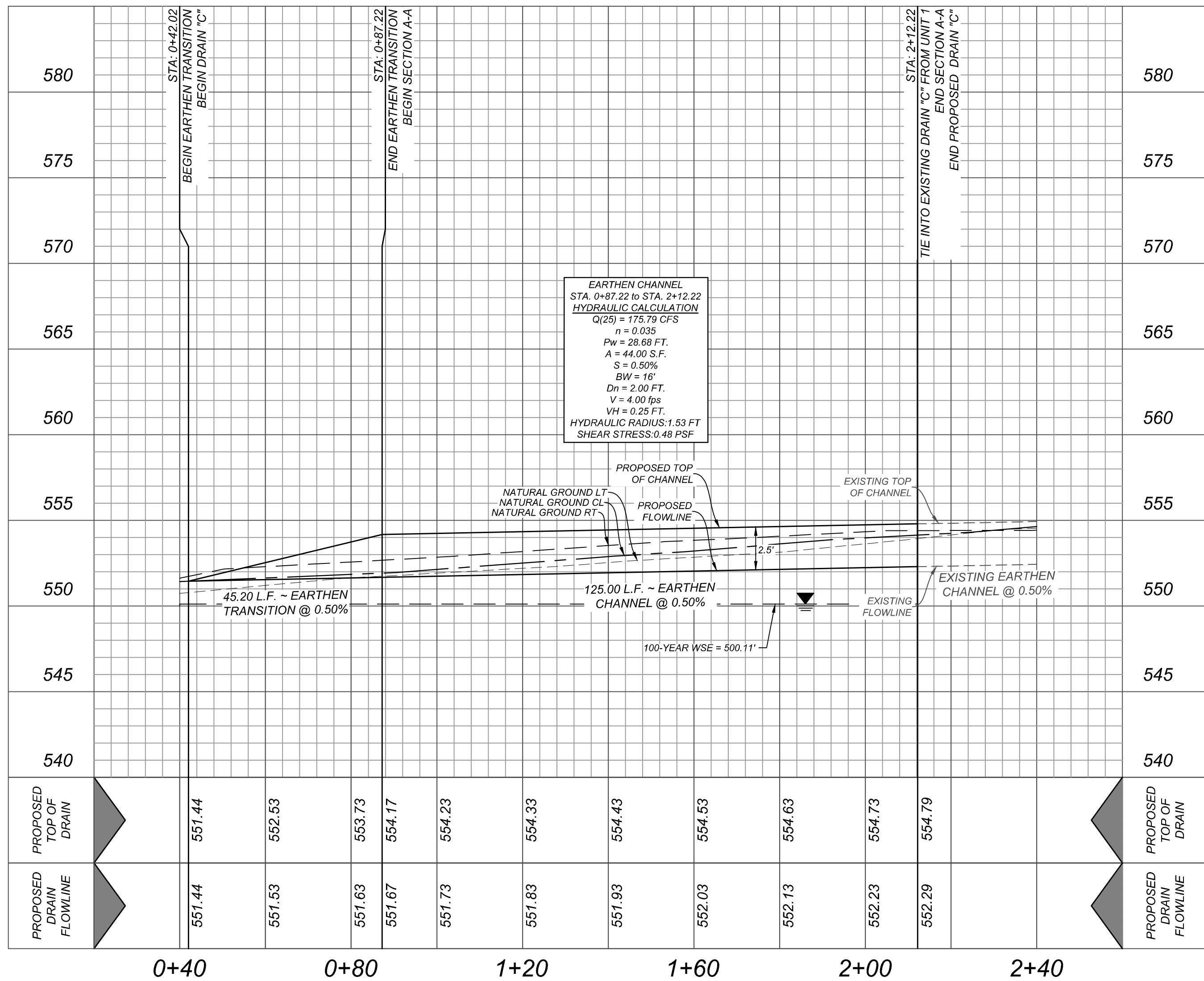
1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

DRAIN "C"

STA: 0+42.02 TO END

HORZ SCALE: 1"=20'

VERT SCALE: 1"=5'



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

DRAIN C STA. 0+42.02 TO END

PLAT NO.
22-11800695

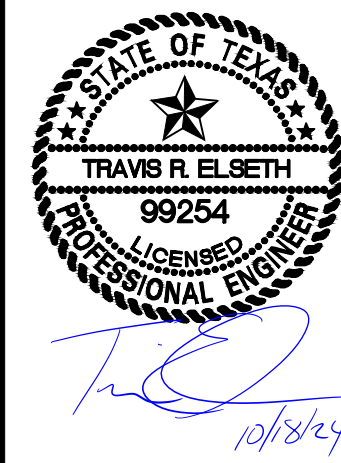
JOB NO. 314-46-03

DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

SHEET NUMBER:

4.0



REVISIONS

ISSUE DATE

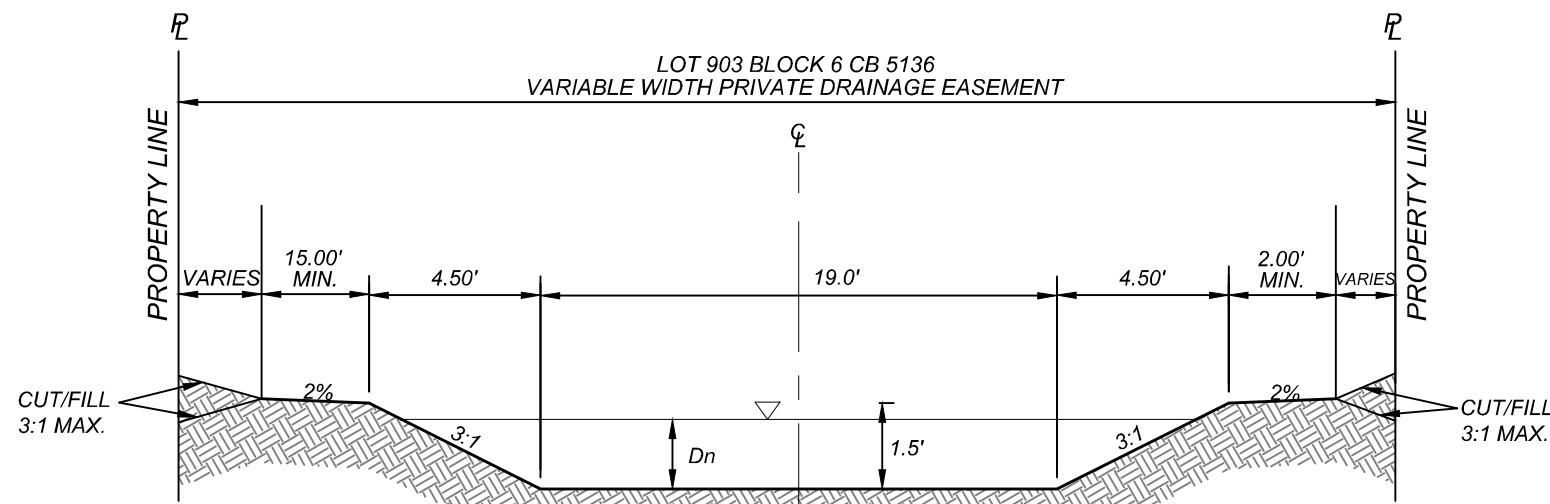
K&W
ENGINEERS + SURVEYING
10000 North Loop West, Suite 1000
Houston, Texas 77057
Phone # (281) 878-8444 • Fax # (281) 878-8441
TBE# Firm #: 9513 • TBE#S Firm #: 1012300

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!!!

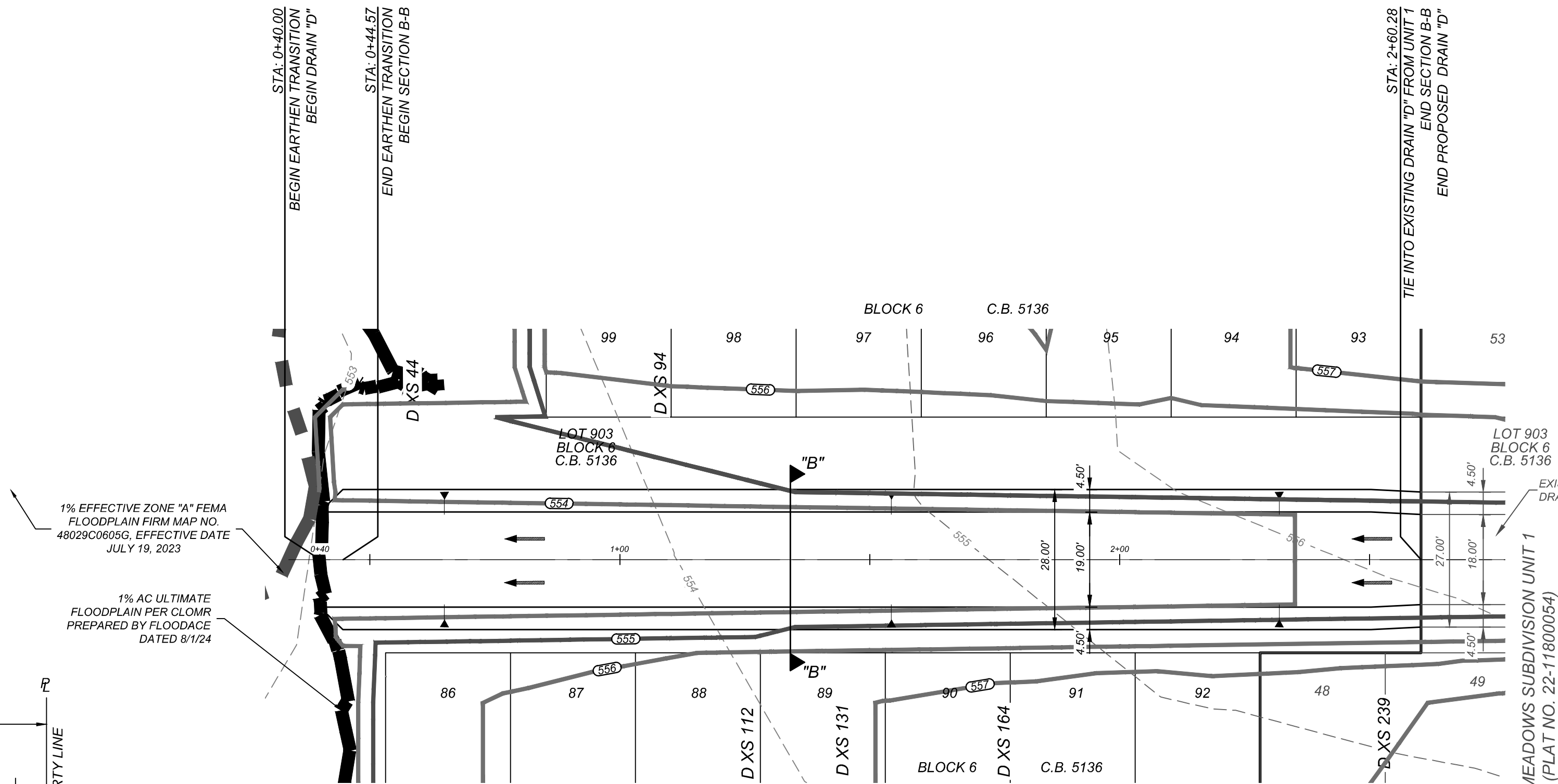
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT 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.



SECTION "B-B"
STA: 0+44.57 TO 2+60.28
N.T.S.

1% EFFECTIVE ZONE "A" FEMA
FLOODPLAIN FIRM MAP NO.
48029C0605G, EFFECTIVE DATE
JULY 19, 2023

1% AC ULTIMATE
FLOODPLAIN PER CLOMR
PREPARED BY FLOODACE
DATED 8/1/24



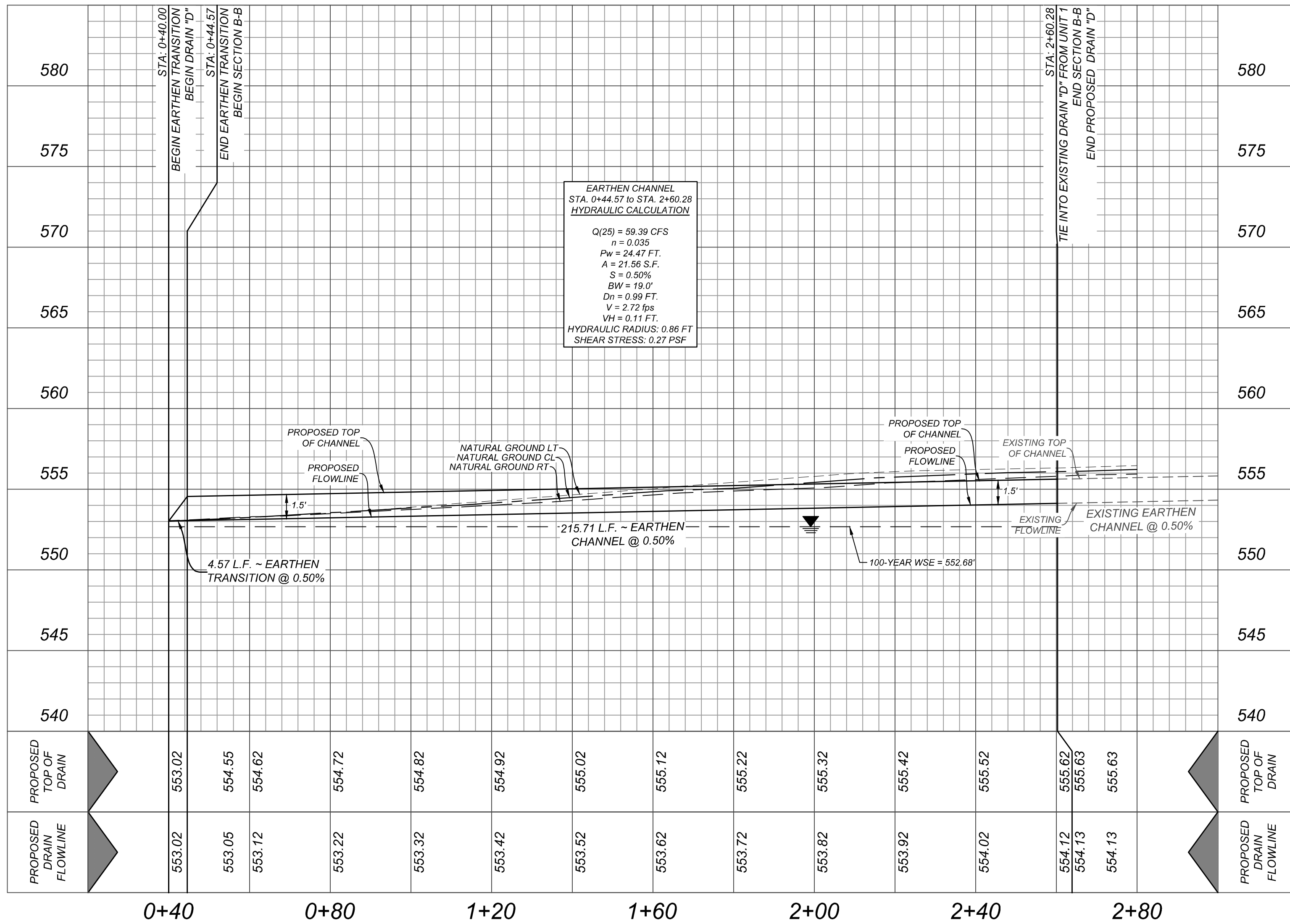
NOTE:

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.

DRAIN "D"
STA: 0+40.00 TO END

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



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

DRAIN D STA. 0+40.00 TO END

PLAT NO.
22-11800695

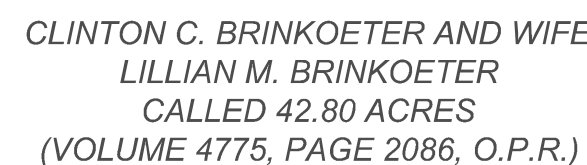
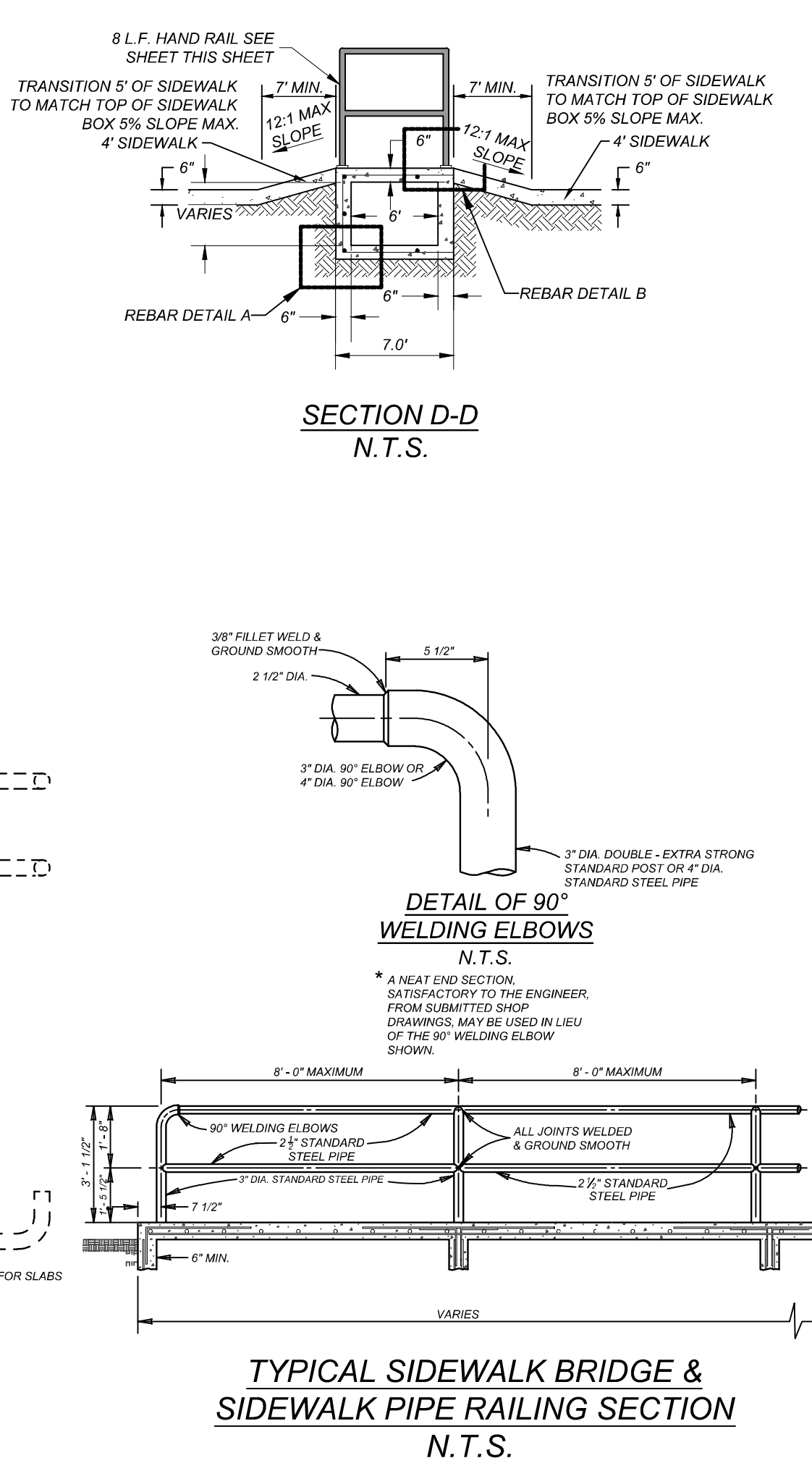
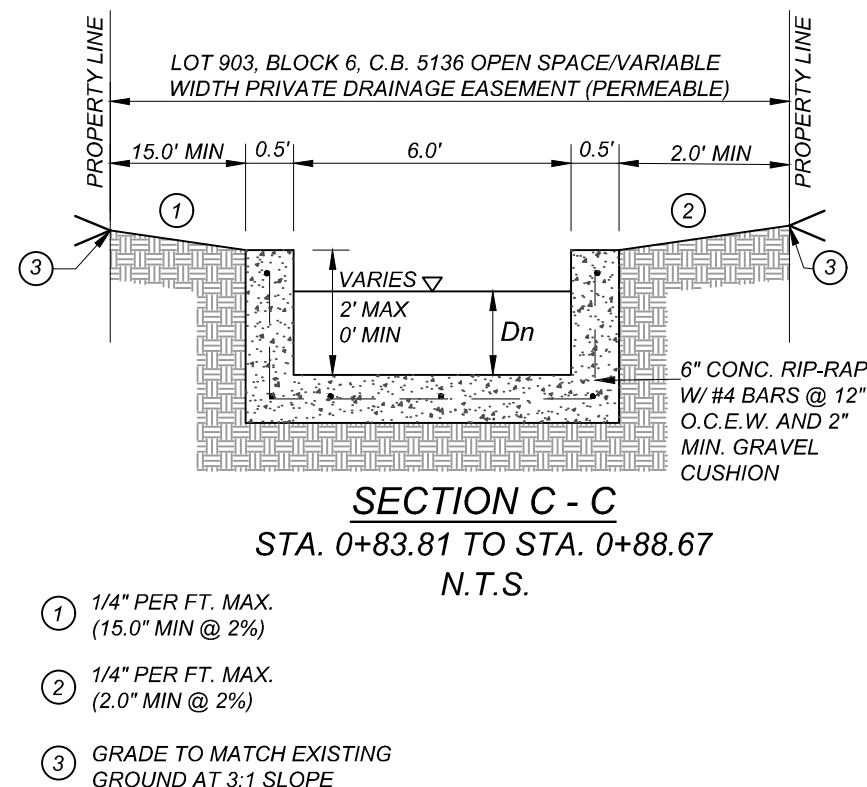
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM

SHEET NUMBER:

4.1

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 AND SHIELDING PROTECTION AND SAFETY PROCEDURES. 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 COMPLY WITH THE TRENCHING AND SHIELDING STANDARDS OF THE 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 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 WHENEVER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



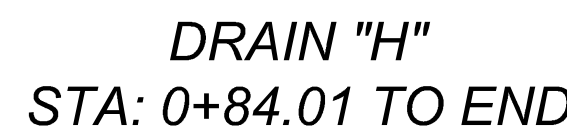
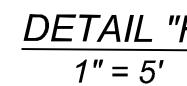
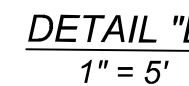
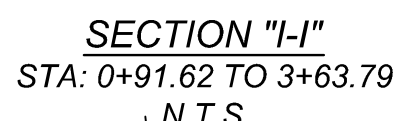
NEW
ENGINEERS + SURVEYING
3421 Passanos Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300



4.2

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 AREA IN ORDER TO DETERMINE THE PRESENCE AND ACTIVITIES OF 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.

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. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID DAMAGE TO ANY UTILITIES THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL UTILITIES TO 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.



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

		Plan: A14_PROP DRAIN H DRAIN H DS RS: 430 Culv Group: Culvert #1 Profile: Q25					
		Q Culv Group (cfs)	101.52	Culv Full Len (ft)			
		# Barrels	3	Culv Vel US (ft/s)	4.9		
		Q Barrel (cfs)	33.84	Culv Vel DS (ft/s)	3.63		
		E.G. US. (ft)	557.24	Culv Inv El Up (ft)	555.24		
		W.S. US. (ft)	557.12	Culv Inv El Dn (ft)	554.8		
		E.G. DS (ft)	556.81	Culv Frctn Ls (ft)	0.12		
		W.S. DS (ft)	556.67	Culv Exit Loss (ft)	0.06		
		Delta EG (ft)	0.43	Culv Entr Loss (ft)	0.25		
		Delta WS (ft)	0.45	Q Weir (cfs)			
		E.G. IC (ft)	557.24	Weir Sta Lft (ft)			
		E.G. OC (ft)	557.18	Weir Sta Rgt (ft)			
		Culvert Control	Inlet	Weir Submerg			
		Culv WS Inlet (ft)	556.62	Weir Max Depth (ft)			
		Culv WS Outlet (ft)	556.67	Weir Avg Depth (ft)			
		Culv Nml Depth (ft)	1.03	Weir Flow Area (sq ft)			
		Culv Crt Depth (ft)	1.12	Min El Weir Flow (ft)	558.86		

STA: 0+84.01
BEGIN EARTHEN CHANNEL
BEGIN TOP TRANSITION
BEGIN DRAIN "H"
END TOP TRANSITION
END SECTION H

STA: 0+91.62
END TOP TRANSITION
END SECTION H

PROPOSED TOP OF CHANNEL
PROPOSED FLOWLINE
2.5'

NATURAL GROUND LT
NATURAL GROUND CL
NATURAL GROUND RT

279.78 L.F. ~ EARTHEN CHANNEL @ 0.50%

REFERENCE HYDRAULIC CALCULATION TABLE ON SHEET 4.6 FOR HYDRAULIC DATA

STA: 3+63.79
END SECTION H
BEGIN 6" CONCRETE RIP RAP

STA: 3+80.79
END 6" CONCRETE RIP RAP @ FACE OF HEADWALL
BEGIN TXDOT HEADWALL
BEGIN 3-5X3 BOX CULVERT

65 L.F. OF PROPOSED HANDRAIL SEE SHEET 4.2
TXDOT HEADWALL ELEV:560.80
25-YR EGL
25-YR HGL
PROPOSED TOP OF PAVEMENT
PROPOSED FILL TO BE COMPACTED PER GEOTECH REPORT
60 L.F. OF PROPOSED HANDRAIL SEE SHEET 4.2
TXDOT HEADWALL ELEV:560.88
2.0'
24" TOEDOWN
17.00 L.F. ~ 6" CONCRETE RIP RAP @ 0.50%
36" TOEDOWN
7.8'
PROPOSED 8" WATER LINE
28 L.F. OF 24" MIN. STEEL CASING
88.01 L.F. ~ 3-5X3 CAST-IN-PLACE MULTI-BOX CULVERT @ 0.50%
PROPOSED 15" SANITARY SEWER

STA: 4+68.80
END 3-5X3 BOX CULVERT @ FACE OF HEADWALL
BEGIN TXDOT HEADWALL
BEGIN 6" CONCRETE RIP RAP
END SECTION H

STA: 4+84.80
END 6" CONCRETE RIP RAP
END SECTION H

MATCHLINE STA: 5+00.00
SEE SHEET 4.5

47.50 L.F. ~ EARTHEN CHANNEL @ 0.50%
36" TOEDOWN
15.50 L.F. ~ 6" CONCRETE RIP RAP @ 0.50%

PROPOSED TOP OF DRAIN

PROPOSED DRAIN FLOWLINE

540

545

550

555

560

565

570

575

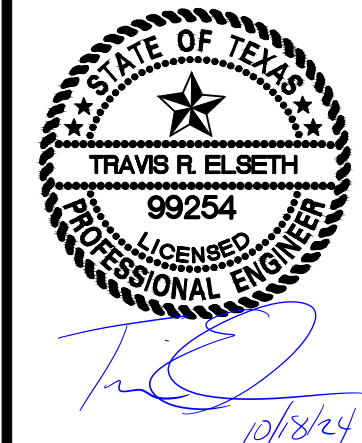
580

0+80	1+20	1+60	2+00	2+40	2+80	3+20	3+60	4+00	4+40	4+80	5+00
553.32	553.32	555.86	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
553.36	553.36	555.86	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
553.40	553.40	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
553.50	553.50	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
553.60	553.60	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
553.70	553.70	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
553.80	553.80	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
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554.00	554.00	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
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555.00	555.00	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
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555.30	555.30	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
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555.50	555.50	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
555.60	555.60	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
555.70	555.70	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
555.80	555.80	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
555.90	555.90	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.00	556.00	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.10	556.10	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.20	556.20	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.30	556.30	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.40	556.40	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.50	556.50	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.60	556.60	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.70	556.70	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.80	556.80	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
556.90	556.90	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.00	557.00	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.10	557.10	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.20	557.20	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.30	557.30	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.40	557.40	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.50	557.50	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.60	557.60	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.70	557.70	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.80	557.80	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
557.90	557.90	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70
558.00	558.00	555.90	555.90	556.00	556.10	556.20	556.30	556.40	556.50	556.60	556.70

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.



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

DRAIN H STA. 0+84.01 TO END

PLAT NO.
22-11800695

JOB NO. 314-46-03

DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

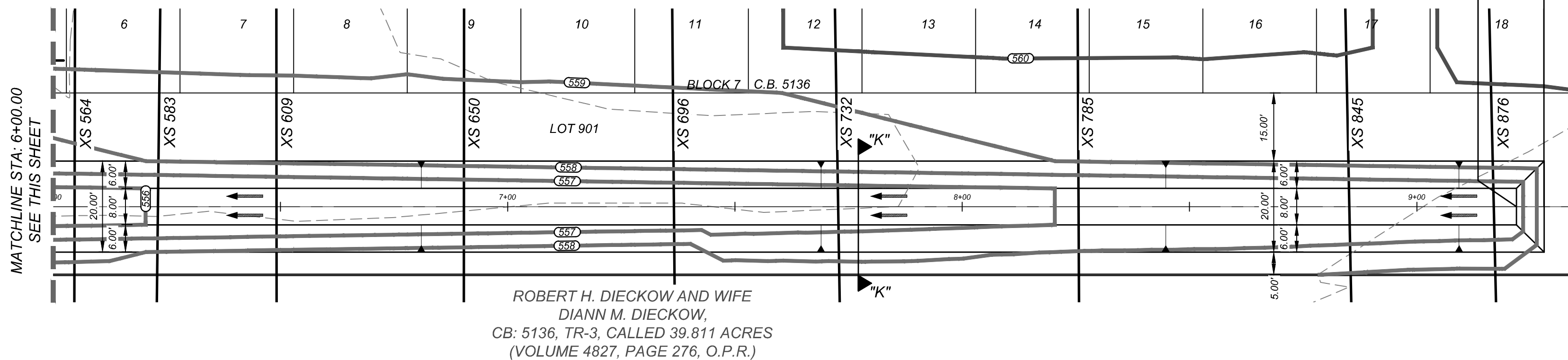
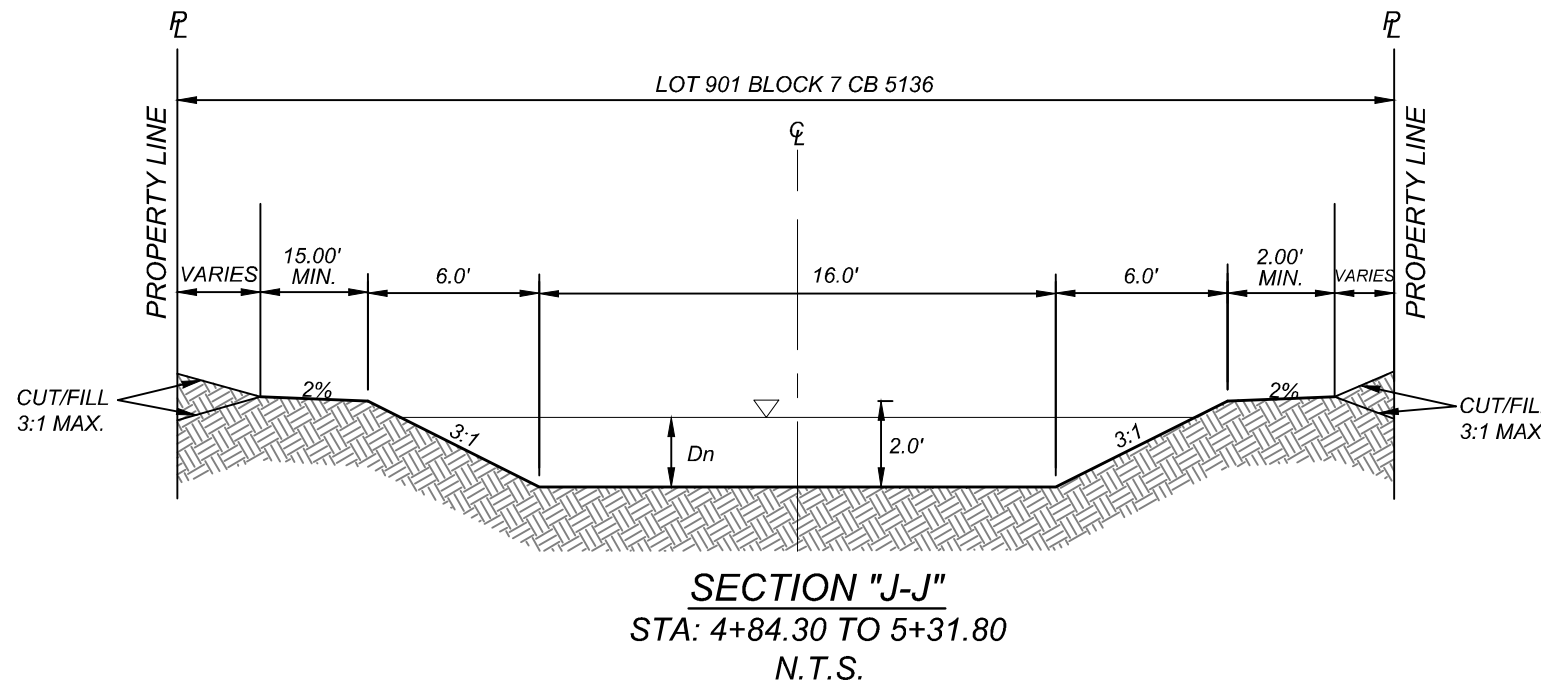
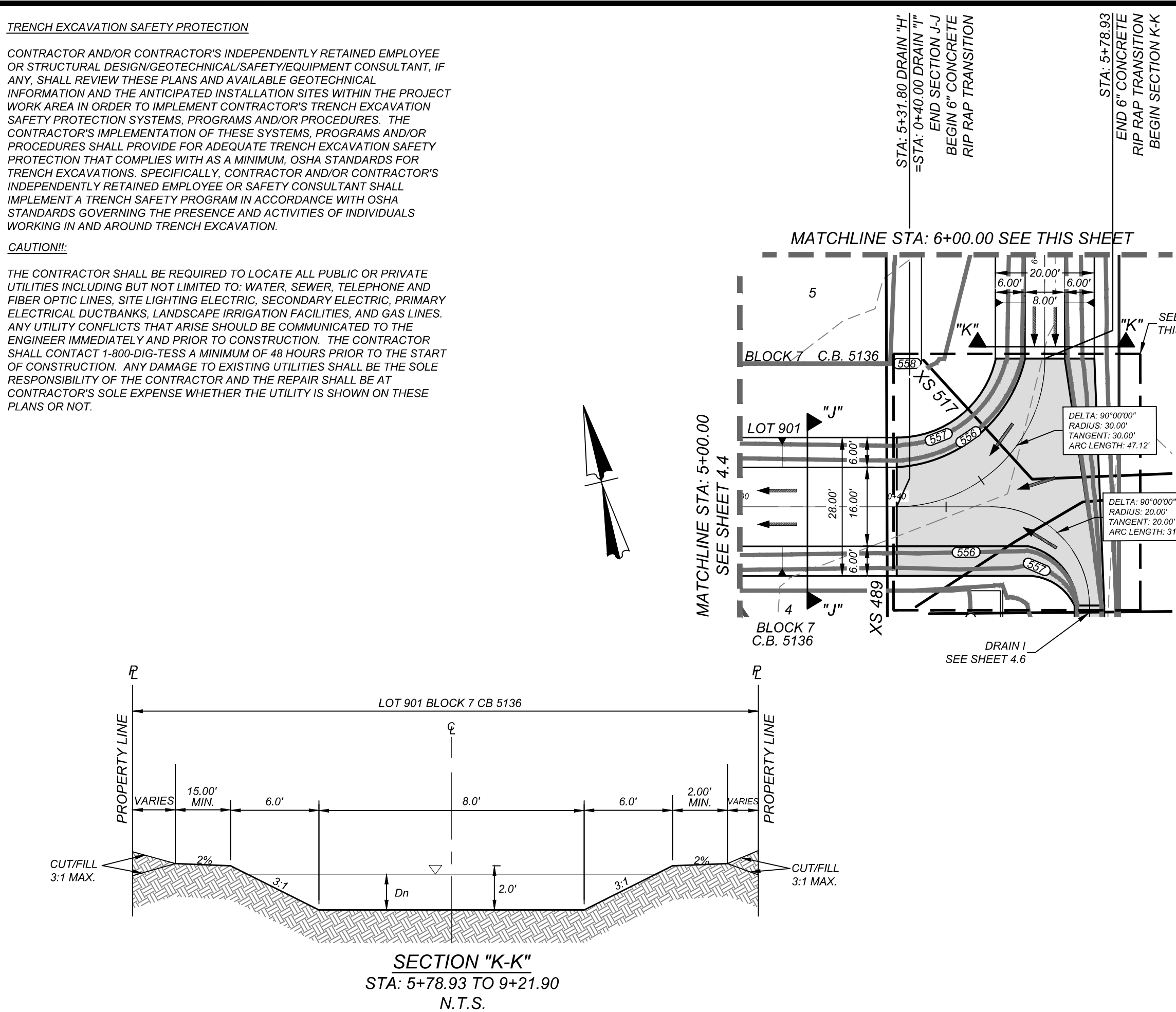
SHEET NUMBER:
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TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND 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.

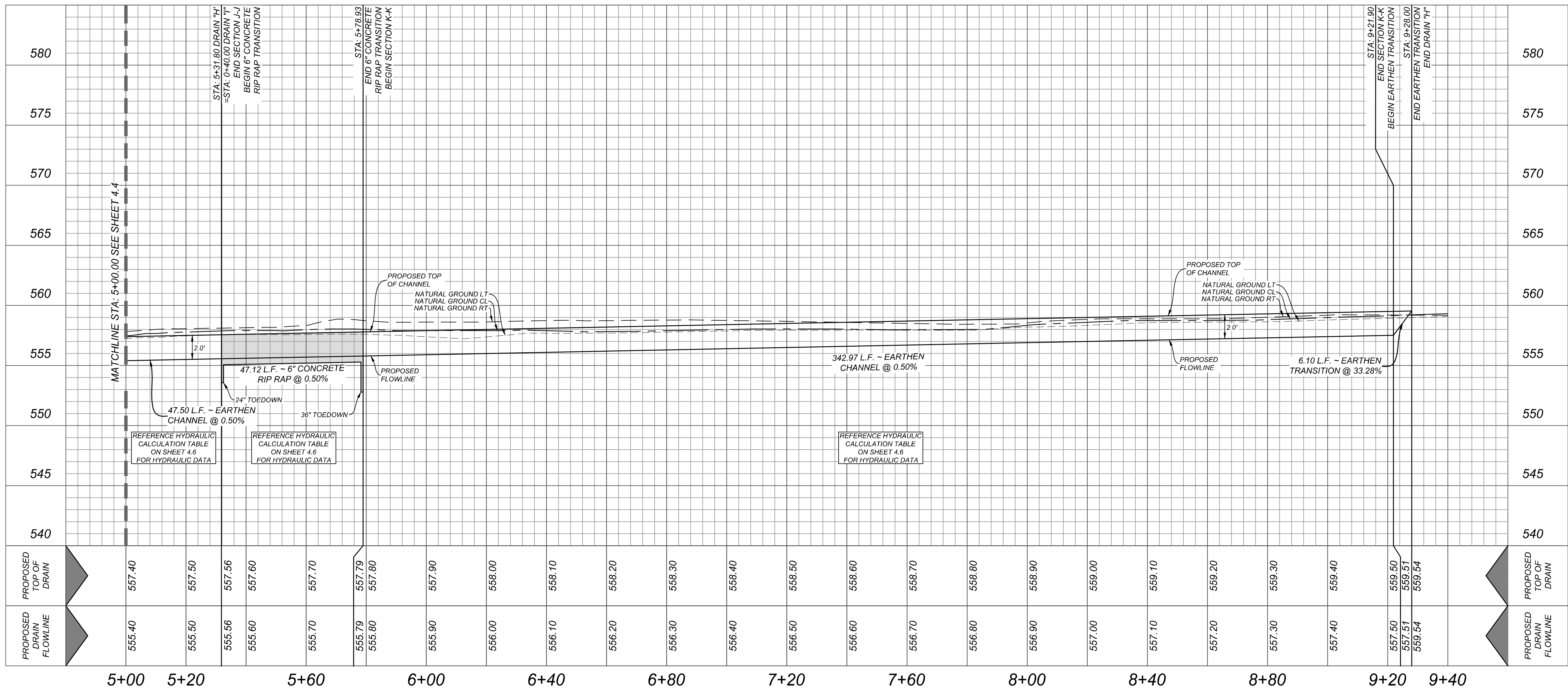
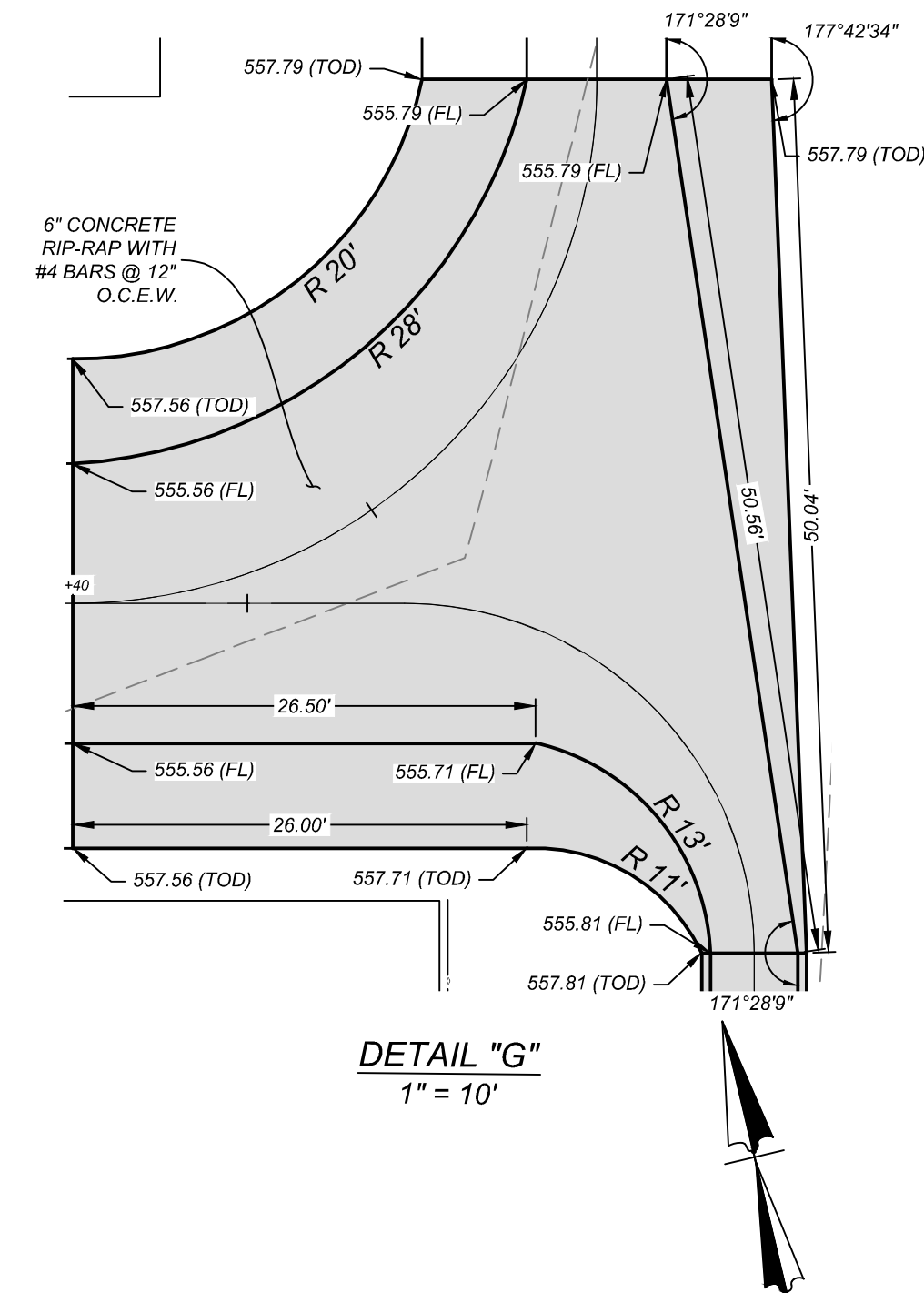
CAUTION!!

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.

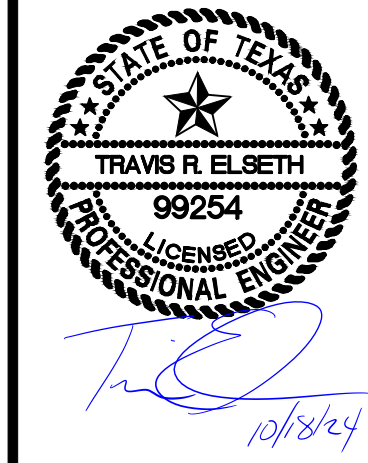


DRAIN "H"
STA: 5+00.00 TO END

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



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.



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS
DRAIN H STA. 5+00.00 TO END

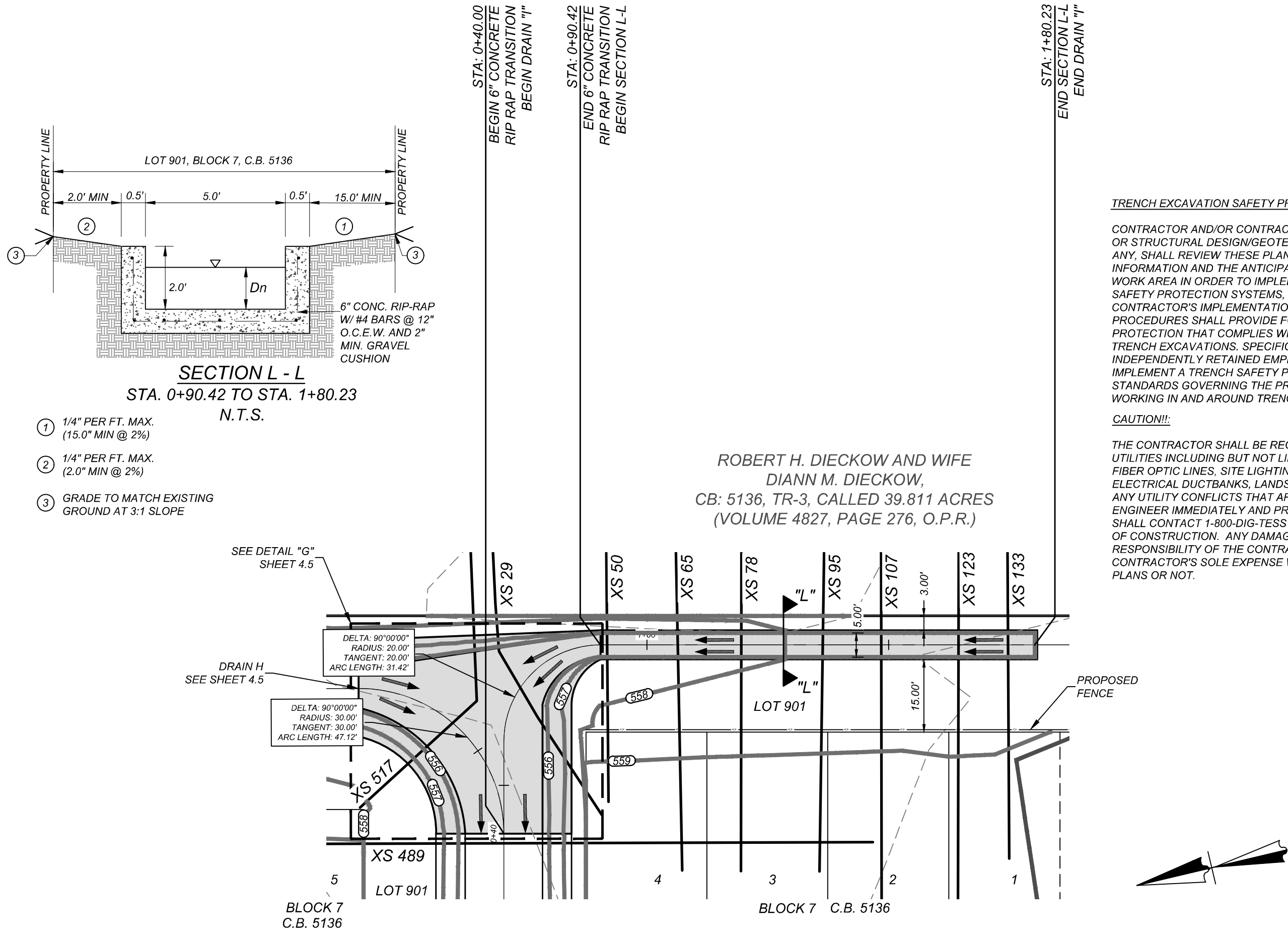
PLAT NO.
22-11800695

JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:

4.5

Date: Oct 18, 2024, 2:24pm User: D:\jmorlin
File: N:\314\46\03\Design\Civil\Drains\SDP3144603.dwg

River	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
DRAIN I	133	Q25	49.69	556.23	557.89	558.48	6.16	8.06	5.63	0.91
DRAIN I	123	Q25	49.69	556.18	557.9	558.43	5.82	8.54	5.82	0.85
DRAIN I	107	Q25	49.69	556.1	557.9	558.36	5.49	9.05	5.98	0.79
DRAIN I	95	Q25	49.69	556.04	557.79	558.33	5.88	8.45	5.89	0.87
DRAIN I	78	Q25	49.69	555.96	557.77	558.26	5.62	8.84	5.95	0.81
DRAIN I	65	Q25	49.69	555.89	557.53	558.21	6.61	7.52	5.59	1.01
DRAIN I	50	Q25	49.69	555.82	557.36	558.03	6.57	7.57	5.71	1.01
DRAIN I	29	Q25	49.69	555.71	557.31	557.33	1.33	37.24	30	0.21
DRAIN H	876	Q25	57.99	557.48	558.88	559.01	2.83	20.48	21.21	0.51
DRAIN H	845	Q25	57.99	557.32	558.73	558.86	2.82	20.55	21.18	0.51
DRAIN H	785	Q25	57.99	557.02	558.47	558.59	2.77	20.9	20.94	0.49
DRAIN H	732	Q25	57.99	556.76	558.27	558.37	2.54	22.83	22.39	0.44
DRAIN H	696	Q25	57.99	556.58	558.06	558.21	3.16	18.35	16.91	0.53
DRAIN H	650	Q25	57.99	556.35	557.81	557.97	3.21	18.07	16.77	0.55
DRAIN H	609	Q25	57.99	556.14	557.57	557.74	3.32	17.45	16.55	0.57
DRAIN H	583	Q25	57.99	556.01	557.37	557.57	3.52	16.45	16.21	0.62
DRAIN H	564	Q25	57.99	555.92	557.17	557.41	3.98	14.58	15.48	0.72
DRAIN H	517	Q25	57.99	555.68	557.3	557.33	1.3	44.46	31.86	0.19
DRAIN H	489	Q25	101.52	555.54	557.16	557.3	3.01	33.72	25.78	0.46
DRAIN H	438	Q25	101.52	555.29	557.14	557.24	2.55	39.84	26.77	0.37
DRAIN H	431	Q25	101.52	555.24	557.12	557.24	2.77	36.69	21.81	0.38
DRAIN H	430		Culvert							
DRAIN H	339	Q25	106.91	554.79	556.67	556.81	3.04	35.19	70.07	0.41
DRAIN H	331	Q25	106.91	554.75	556.57	556.8	3.78	28.27	74.05	0.57
DRAIN H	315	Q25	106.91	554.67	556.56	556.76	3.64	29.38	77.06	0.55
DRAIN H	269	Q25	106.91	554.44	556.32	556.53	3.65	29.32	121.23	0.55
DRAIN H	240	Q25	106.91	554.3	556.18	556.39	3.62	29.54	121.07	0.54
DRAIN H	199	Q25	106.91	554.09	555.98	556.18	3.62	29.54	121.73	0.54
DRAIN H	142	Q25	106.91	553.81	555.71	555.91	3.59	29.79	39.48	0.54
DRAIN H	75	Q25	106.91	553.47	554.81	555.32	5.75	18.59	239.1	1
DRAIN H	27	Q25	106.91	552.41	553.23	553.34	2.58	41.39	161.45	0.9



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TRENCH EXCAVATION SAFETY PROTECTION

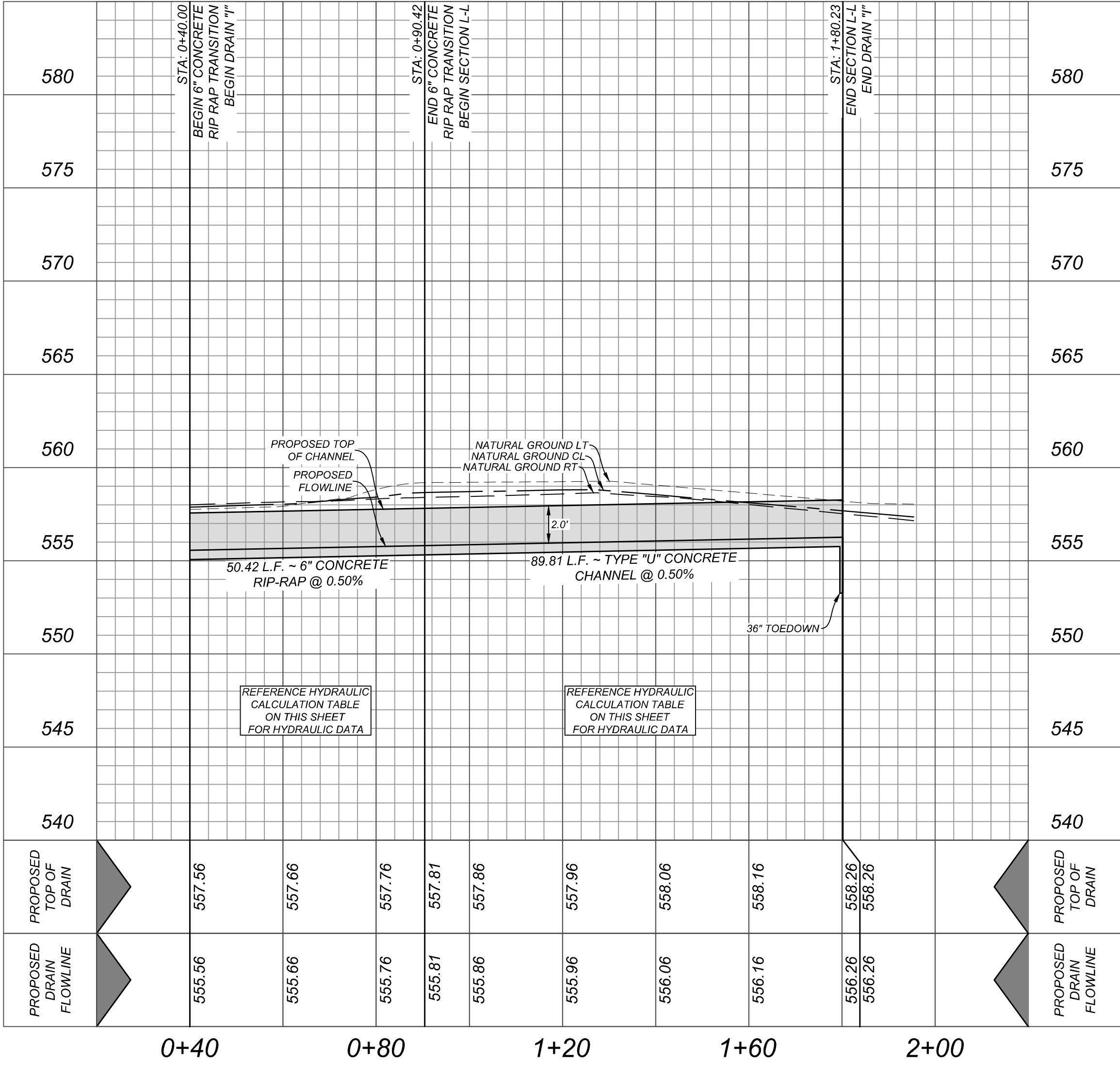
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE, OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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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DRAIN "I"
STA. 0+40.00 TO END

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



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

DRAIN I STA. 0+40.00 TO END

PLAT NO.
22-11800695

JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM

SHEET NUMBER:

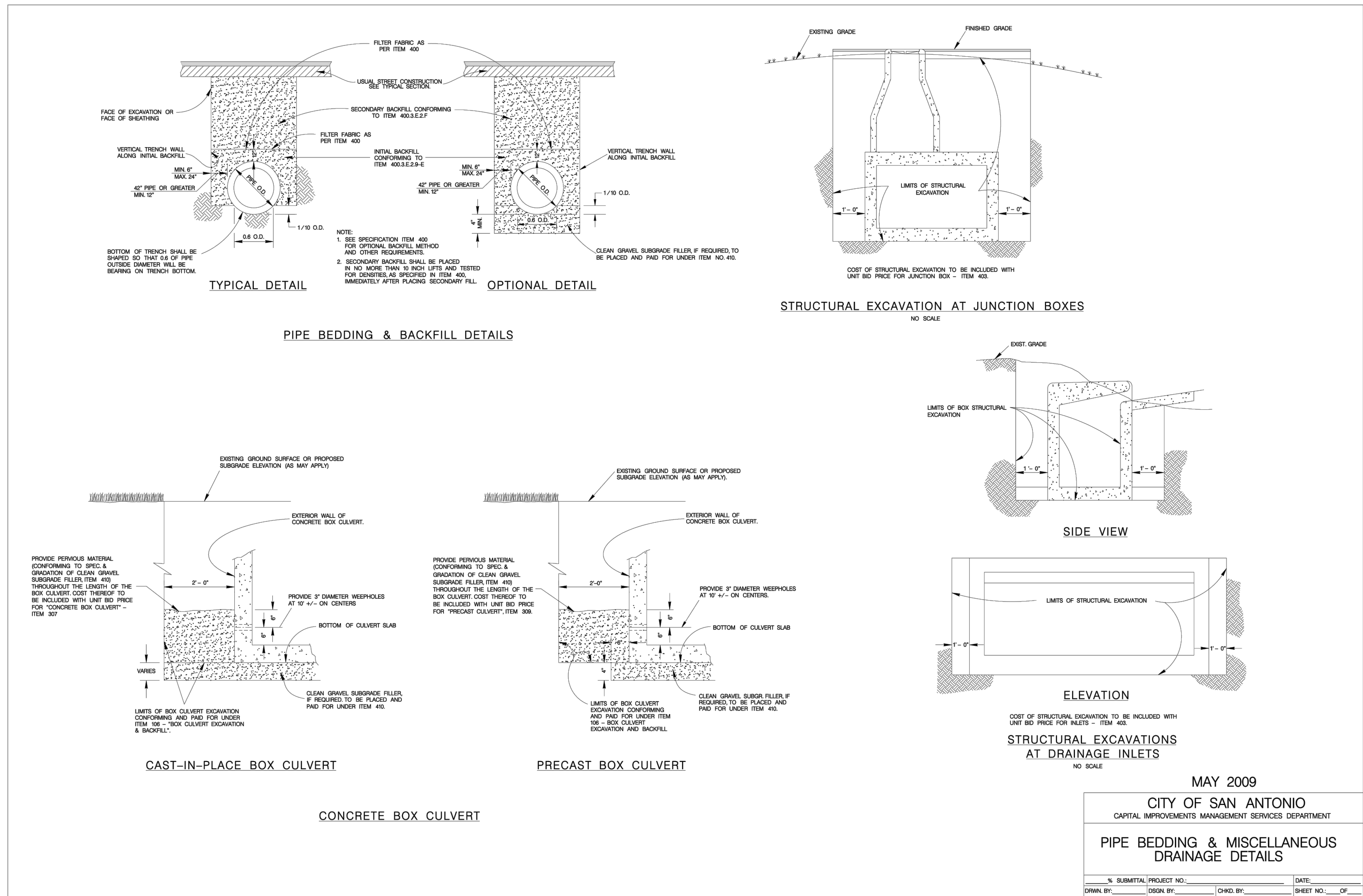
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ISSUE DATE

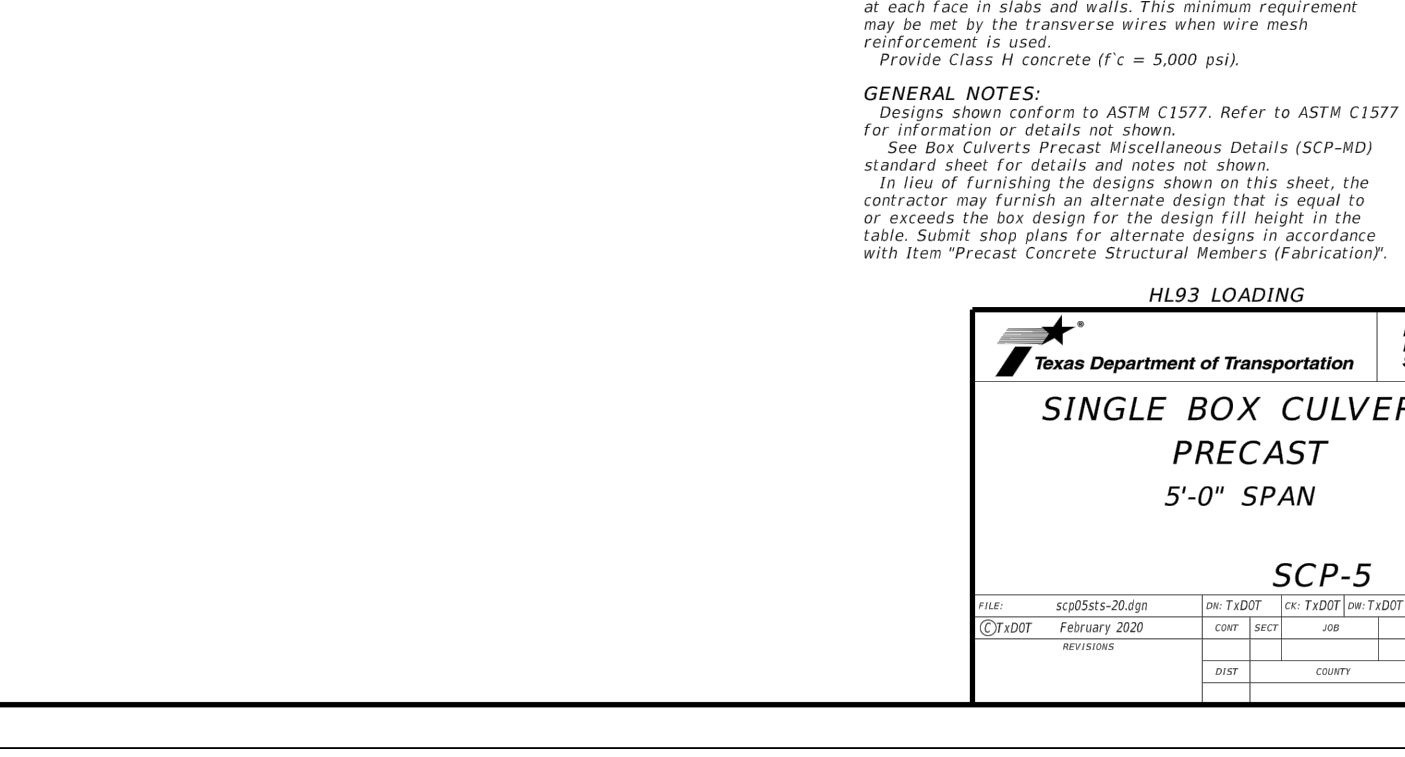
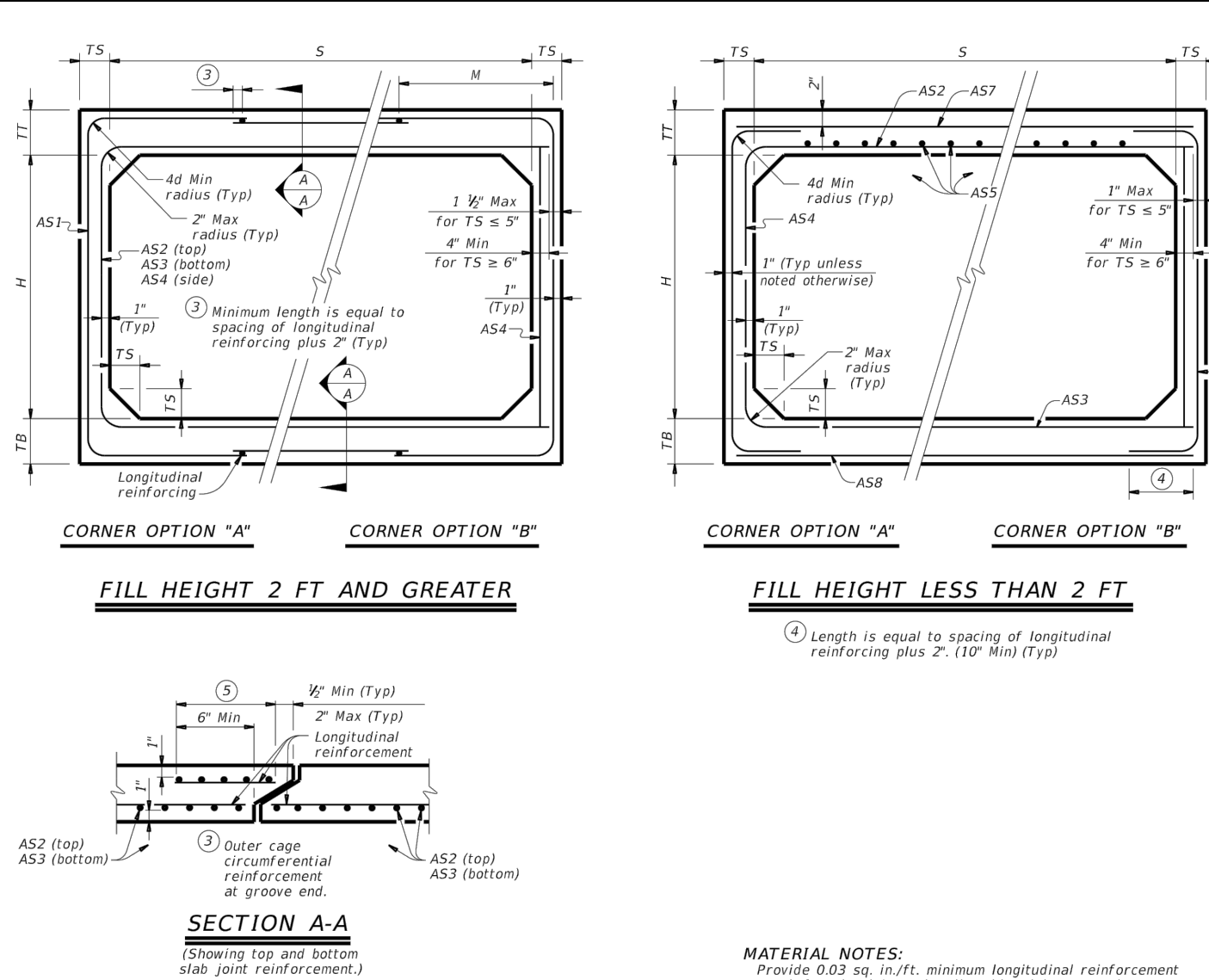
REVISIONS



KIEWIT
ENGINEERS + SURVEYING
10000 North Loop West, Suite 1000
Houston, Texas 77057
Phone # (210) 878-8444 • Fax # (210) 878-8441
TBPE Firm #: 1813 • TBPE S Firm #: 1012300



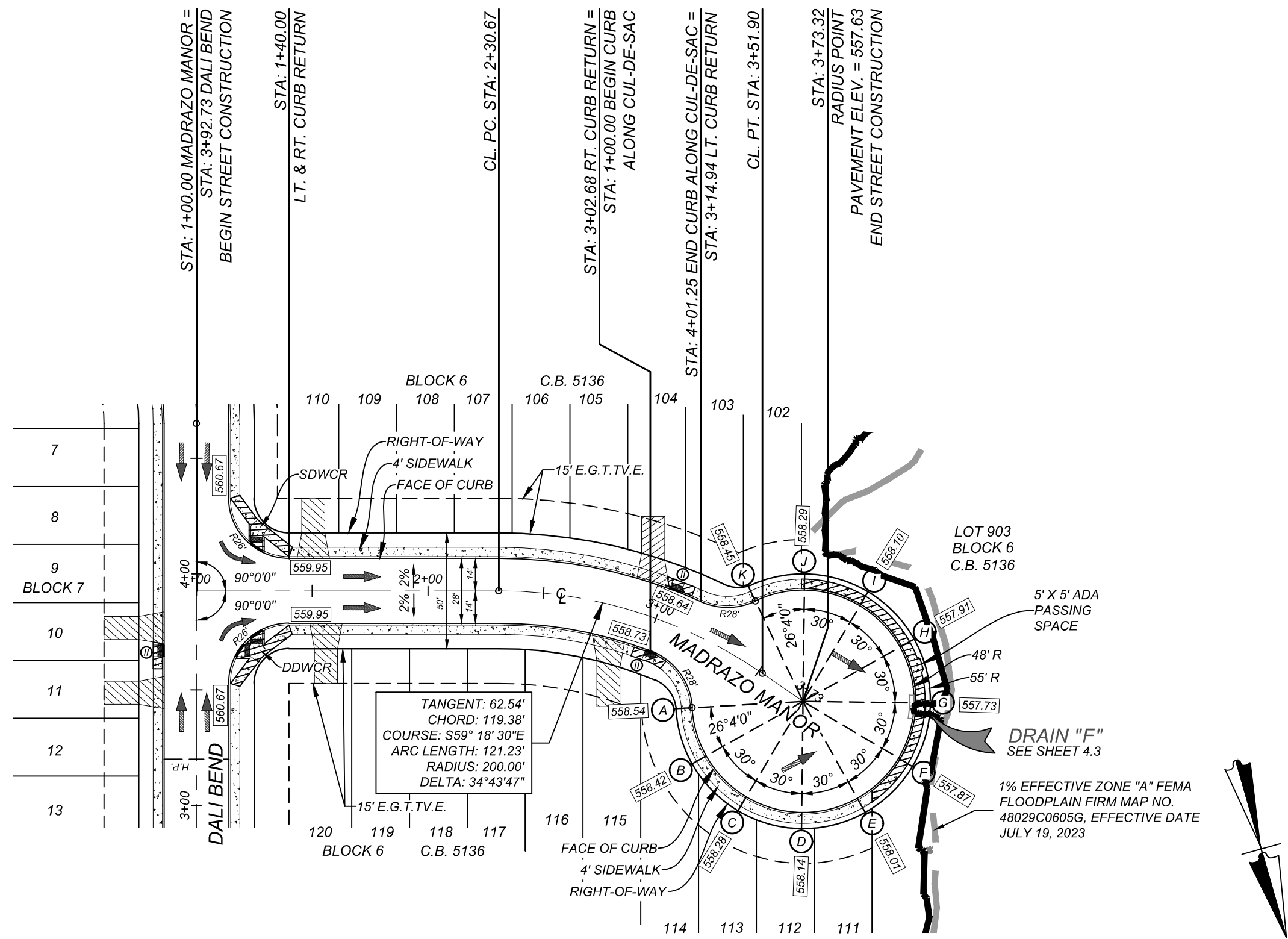
BOX DATA														
SECTION DIMENSIONS					REINFORCING (sq. in. / ft.)								LIFE, (years)	
S	H	TT	TB	TS	Fill Height (ft.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	1	2
5	2	8	7	6	< 2	-	0.19	0.27	0.18	0.14	0.19	0.19	0.17	6.0
5	2	6	6	6	2 < 3	45	0.22	0.20	0.16	0.14	-	-	-	5.7
5	2	6	6	6	3 - 5	44	0.16	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	10	36	0.15	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	15	36	0.20	0.18	0.18	0.14	-	-	-	5.7
5	2	6	6	6	20	36	0.26	0.23	0.24	0.14	-	-	-	5.1
5	2	6	6	6	25	36	0.33	0.29	0.29	0.14	-	-	-	5.1
5	2	6	6	6	30	36	0.39	0.34	0.35	0.14	-	-	-	5.1
5	3	8	7	6	< 2	-	0.19	0.31	0.21	0.14	0.19	0.19	0.17	6.0
5	3	6	6	6	2 < 3	45	0.18	0.24	0.19	0.14	-	-	-	5.7
5	3	6	6	6	3 - 5	36	0.14	0.17	0.16	0.14	-	-	-	5.7
5	3	6	6	6	10	36	0.14	0.16	0.17	0.14	-	-	-	5.7
5	3	6	6	6	15	35	0.16	0.21	0.22	0.14	-	-	-	5.7
5	3	6	6	6	20	35	0.21	0.27	0.28	0.14	-	-	-	5.7
5	3	6	6	6	25	35	0.26	0.34	0.34	0.14	-	-	-	5.7
5	3	6	6	6	30	35	0.31	0.41	0.41	0.14	-	-	-	5.7
5	4	8	7	6	< 2	-	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2
5	4	6	6	6	2 < 3	45	0.16	0.27	0.22	0.14	-	-	-	6.3
5	4	6	6	6	3 - 5	45	0.14	0.19	0.18	0.14	-	-	-	6.3
5	4	6	6	6	10	36	0.14	0.18	0.18	0.14	-	-	-	6.3
5	4	6	6	6	15	35	0.14	0.23	0.24	0.14	-	-	-	6.3
5	4	6	6	6	20	35	0.17	0.30	0.31	0.14	-	-	-	6.3
5	4	6	6	6	25	35	0.21	0.37	0.38	0.14	-	-	-	6.3
5	4	6	6	6	30	35	0.25	0.44	0.45	0.14	-	-	-	6.3
5	5	8	7	6	< 2	-	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8
5	5	6	6	6	2 < 3	45	0.14	0.29	0.24	0.14	-	-	-	6.9
5	5	6	6	6	3 - 5	45	0.14	0.21	0.20	0.14	-	-	-	6.9
5	5	6	6	6	10	45	0.14	0.19	0.20	0.14	-	-	-	6.9
5	5	6	6	6	15	36	0.14	0.24	0.25	0.14	-	-	-	6.9
5	5	6	6	6	20	35	0.15	0.31	0.32	0.14	-	-	-	6.9
5	5	6	6	6	25	35	0.18	0.38	0.39	0.14	-	-	-	6.9
5	5	6	6	6	30	35	0.21	0.46	0.47	0.14	-	-	-	6.9



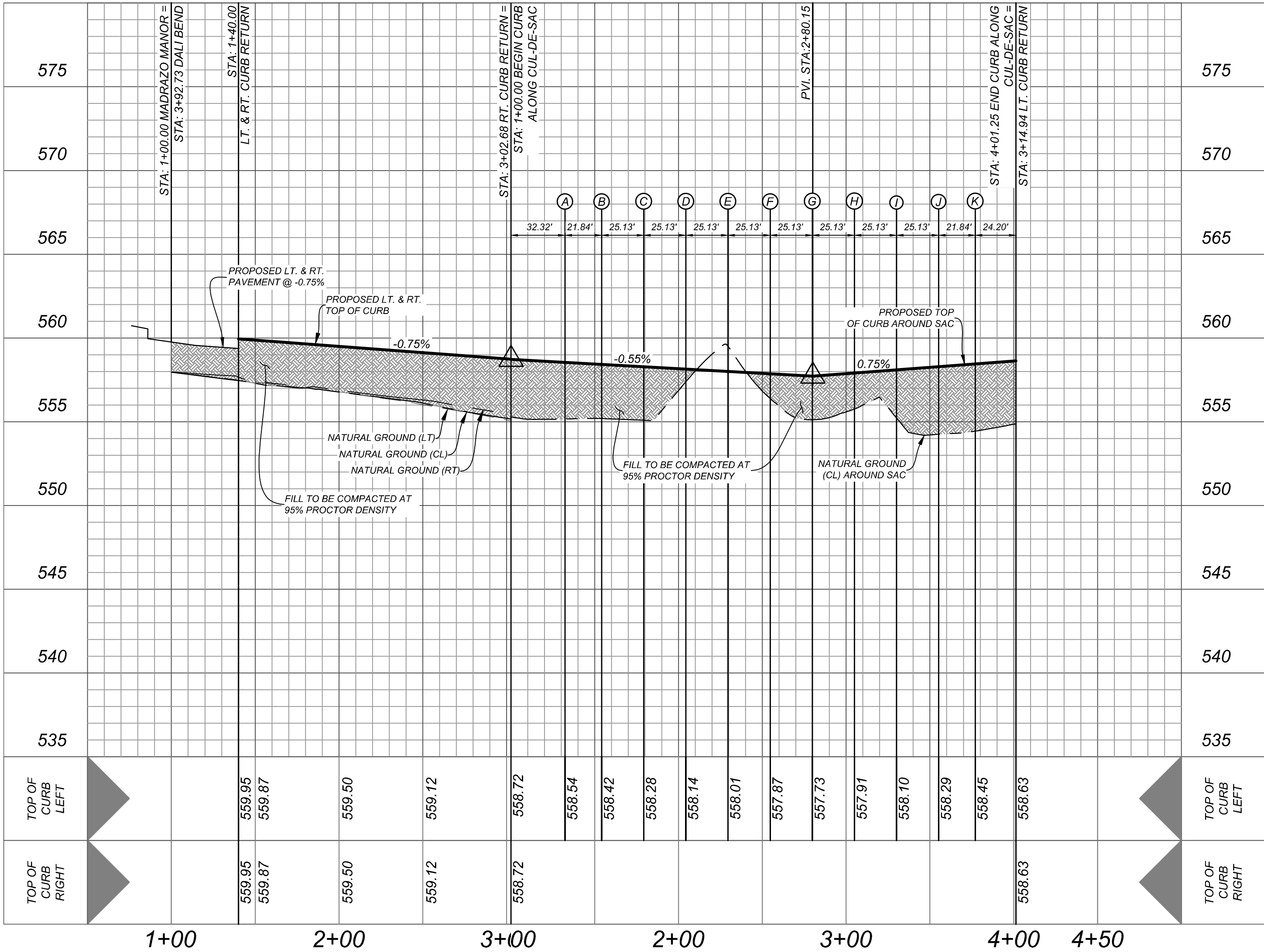
HL93 LOADING														
SECTION DIMENSIONS					REINFORCING (sq. in. / ft.)								LIFE, (years)	
S	H	TT	TB	TS	Fill Height (ft.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	1	2
5	2	8	7	6	< 2	-	0.19	0.27	0.18	0.14	0.19	0.19	0.17	6.0
5	2	6	6	6	2 < 3	45	0.22	0.20	0.16	0.14	-	-	-	5.7
5	2	6	6	6	3 - 5	44	0.16	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	10	36	0.15	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	15	36	0.20	0.18	0.18	0.14	-	-	-	5.7
5	2	6	6	6	20	36	0.26	0.23	0.24	0.14	-	-	-	5.1
5	2	6	6	6	25	36	0.33	0.29	0.29	0.14	-	-	-	5.1
5	2	6	6	6	30	36	0.39	0.34	0.35	0.14	-	-	-	5.1
5	3	8	7	6	< 2	-	0.19	0.31	0.21	0.14	0.19	0.19	0.17	6.0
5	3	6	6	6	2 < 3	45	0.18	0.24	0.19	0.14	-	-	-	5.7
5	3	6	6	6	3 - 5	36	0.14	0.17	0.16	0.14	-	-	-	5.7
5	3	6	6	6	10	36	0.14	0.16	0.17	0.14	-	-	-	5.7
5	3	6	6	6	15	35	0.16	0.21	0.22	0.14	-	-	-	5.7
5	3	6	6	6	20	35	0.21	0.27	0.28	0.14	-	-	-	5.7
5	3	6	6	6	25	35	0.26	0.34	0.34	0.14	-	-	-	5.7
5	3	6	6	6	30	35	0.31	0.41	0.41	0.14	-	-	-	5.7
5	4	8	7	6	< 2	-	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2
5	4	6	6	6	2 < 3	45	0.16	0.27	0.22	0.14	-	-	-	6.3
5	4	6	6	6	3 - 5	45	0.14	0.19	0.18	0.14	-	-	-	6.3
5	4	6	6	6	10	36	0.14	0.18	0.18	0.14	-	-	-	6.3
5	4	6	6	6	15	35	0.14	0.23	0.24	0.14	-	-	-	6.3
5	4	6	6	6	20	35	0.17	0.30	0.31	0.14	-	-	-	6.3
5	4	6	6	6	25	35	0.21	0.37	0.38	0.14	-	-	-	6.3
5	4	6	6	6	30	35	0.25	0.44	0.45	0.14	-	-	-	6.3
5	5	8	7	6	< 2	-	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8
5	5	6	6	6	2 < 3	45	0.14	0.29	0.24	0.14	-	-	-	6.9
5	5	6	6	6	3 - 5	45	0.14	0.21	0.20	0.14	-	-	-	6.9
5	5	6	6	6	10	45	0.14	0.19	0.20	0.14	-	-	-	6.9
5	5	6	6	6	15	36	0.14	0.24	0.25	0.14	-	-	-	6.9
5	5	6	6	6	20	35	0.15	0.31	0.32	0.14	-	-	-	6.9
5	5	6	6	6	25	35	0.18	0.38	0.39	0.14	-	-	-	6.9
5	5	6	6	6	30	35	0.21	0.46	0.47	0.14	-	-	-	6.9

SC-5														
SECTION DIMENSIONS					REINFORCING (sq. in. / ft.)								LIFE, (years)	
S	H	TT	TB	TS	Fill Height (ft.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	1	2
5	2	8	7	6	< 2	-	0.19	0.27	0.18	0.14	0.19	0.19	0.17	6.0
5	2	6	6	6	2 < 3	45	0.22	0.20	0.16	0.14	-	-	-	5.7
5	2	6	6	6	3 - 5	44	0.16	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	10	36	0.15	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	15	36	0.20	0.18	0.18	0.14	-	-	-	5.7
5	2	6	6	6	20	36	0.26	0.23	0.24	0.14	-	-	-	5.1
5	2	6	6	6	25	36	0.33	0.29	0.29	0.14	-	-	-	5.1
5	2	6	6	6	30	36	0.39	0.34	0.35	0.14	-	-	-	5.1
5	3	8	7	6	< 2	-	0.19	0.31	0.21	0.14	0.19	0.19	0.17	6.0
5	3	6	6	6	2 < 3	45	0.18	0.24	0.19	0.14	-	-	-	5.7
5	3	6	6	6	3 - 5	36	0.14	0.17	0.16	0.14	-	-	-	5.7
5	3	6	6	6	10	36	0.14	0.16	0.17	0.14	-	-	-	5.7
5	3	6	6	6	15	35	0.16	0.21	0.22	0.14	-	-	-	5.7
5	3	6	6	6	20	35	0.21	0.27	0.28	0.14	-	-	-	5.7
5	3	6	6	6	25	35	0.26	0.34	0.34	0.14	-	-	-	5.7
5	3	6	6	6	30	35	0.31	0.41	0.41	0.14	-	-	-	5.7
5	4	8	7	6	< 2	-	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2
5	4	6	6	6	2 < 3	45	0.16	0.27	0.22	0.14	-	-	-	6.3
5	4	6	6	6	3 - 5	45	0.14	0.19	0.18	0.14	-	-	-	6.3
5	4	6	6	6	10	45	0.14	0.18	0.20	0.14	-	-	-	6.3
5	4	6	6	6	15	36	0.14	0.24	0.25	0.14	-	-	-	6.3
5	4	6	6	6	20	35	0.15	0.31	0.31	0.14	-	-	-	6.3
5	4	6	6	6	25	35	0.20	0.38	0.38	0.14	-	-	-	6.3
5	4	6	6	6	30	35	0.25	0.45	0.45	0.14	-	-	-	6.3
5	5	8	7	6	< 2	-	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8
5	5	6	6	6	2 < 3	45	0.14	0.29	0.24	0.14	-	-	-	6.9
5	5	6	6	6	3 - 5	45	0.14	0.21	0.20	0.14	-	-	-	6.9
5	5	6	6	6	10	45	0.14	0.19	0.20	0.14	-	-	-	6.9
5	5	6	6	6	15	36	0.14	0.24	0.25	0.14	-	-	-	6.9
5	5	6	6	6	20	35	0.15	0.31	0.31	0.14	-	-	-	6.9
5	5	6	6	6	25	35	0.20	0.38	0.38	0.14	-	-	-	6.9
5	5	6	6	6	30	35	0.25	0.45	0.45	0.14	-	-	-	6.9

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MADRAZO MANOR
STA: 1+00.00 - END



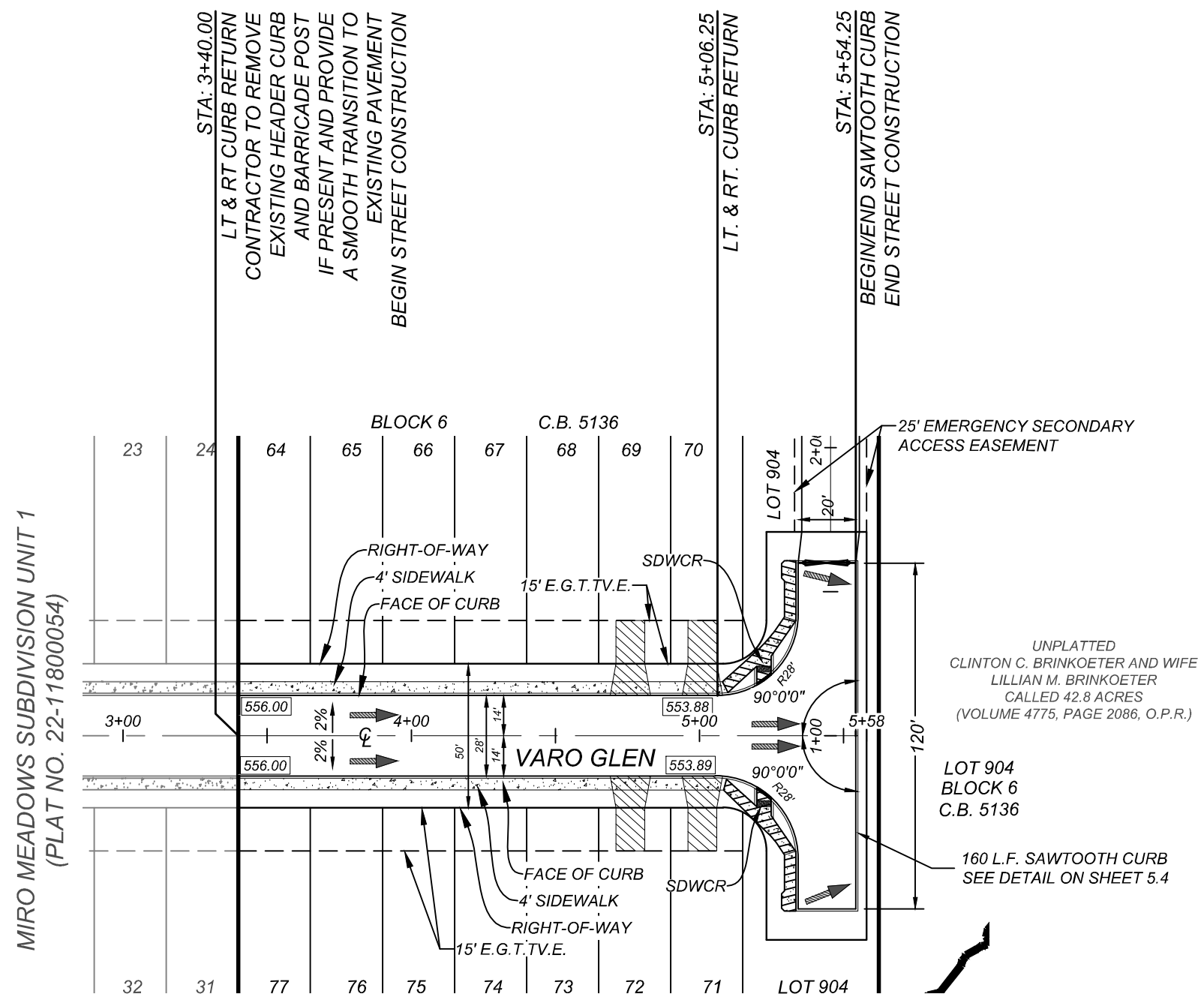
HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'

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

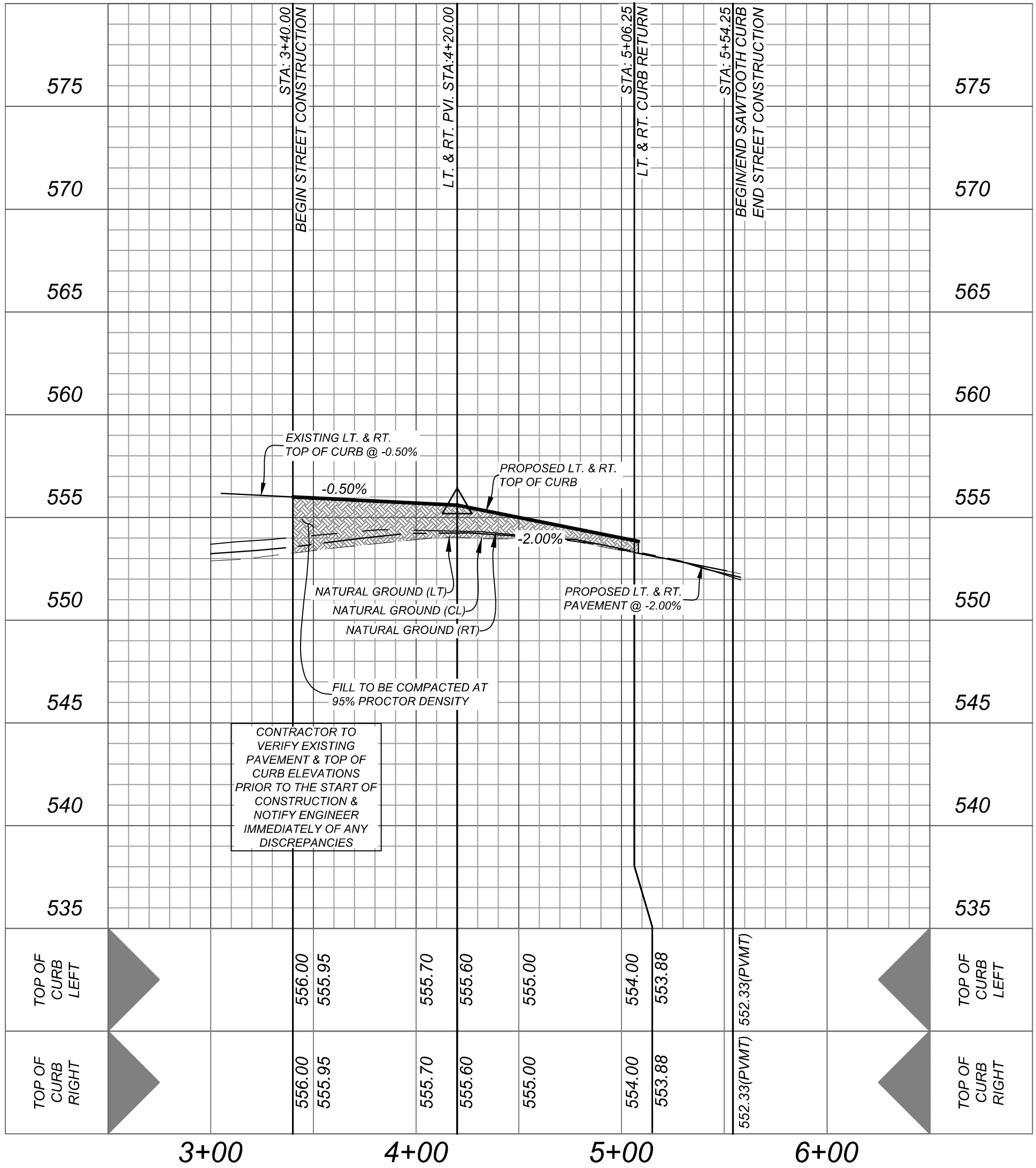
CAUTION:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES
INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE
LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE
IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS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

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

- LEGEND
- FLOW ARROW
 - WASHOUT CROWN
 - E.G.T.V.E. = ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
 - V.N.A.E. = VEHICULAR NON-ACCESS EASEMENT
 - W.C.R. = WHEEL CHAIR RAMPS SEE SHEET 5.5
 - WHEEL CHAIR RAMP TYPE II SEE SHEET 5.5
 - S.D.W.C.R. = SINGLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.5
 - D.D.W.C.R. = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.5
 - SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
 - SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
 - TOP OF CURB ELEVATIONS
 - PROPOSED DRIVEWAY LOCATIONS



VARO GLEN
STA: 3+40.00 - END



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

MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

MADRAZO MANOR, VARO GLEN PLAN AND PROFILES

PLAT NO.
22-11800695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:
5.0



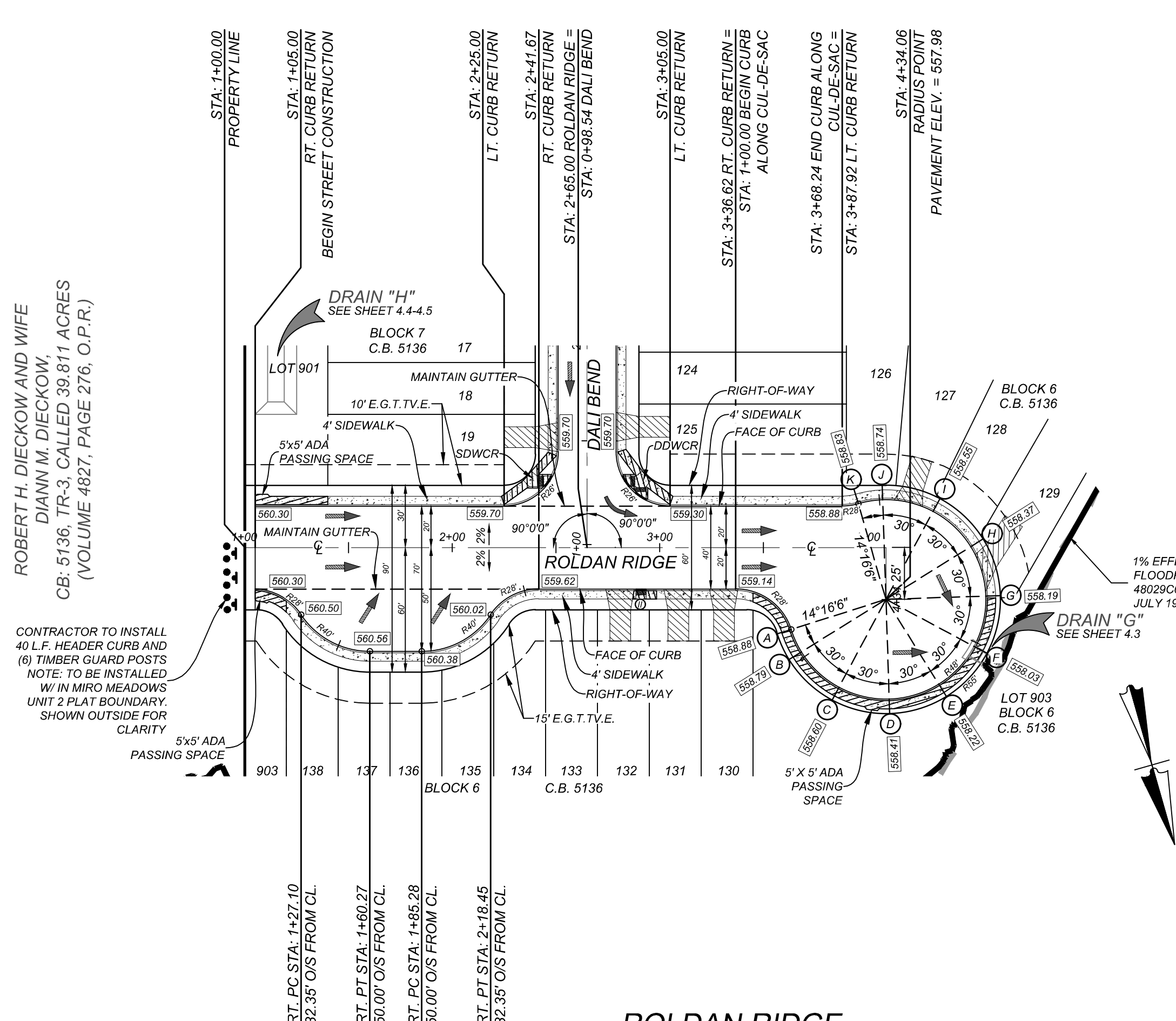
ISSUE DATE

REVISIONS

ENGINEERS + SURVEYING
10251
Phone # (210) 878-4444 • Fax # (210) 878-4441
TBPE Firm #: 9513 • TBPE S Firm #: 1012300

Date: Oct 18, 2024, 2:58pm User ID: jmorfin
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ROBERT H. DIECKOW AND WIFE
DIANN M. DIECKOW,
CB: 5136, TR-3, CALLED 39.811 ACRES
(VOLUME 4827, PAGE 276, O.P.R.)



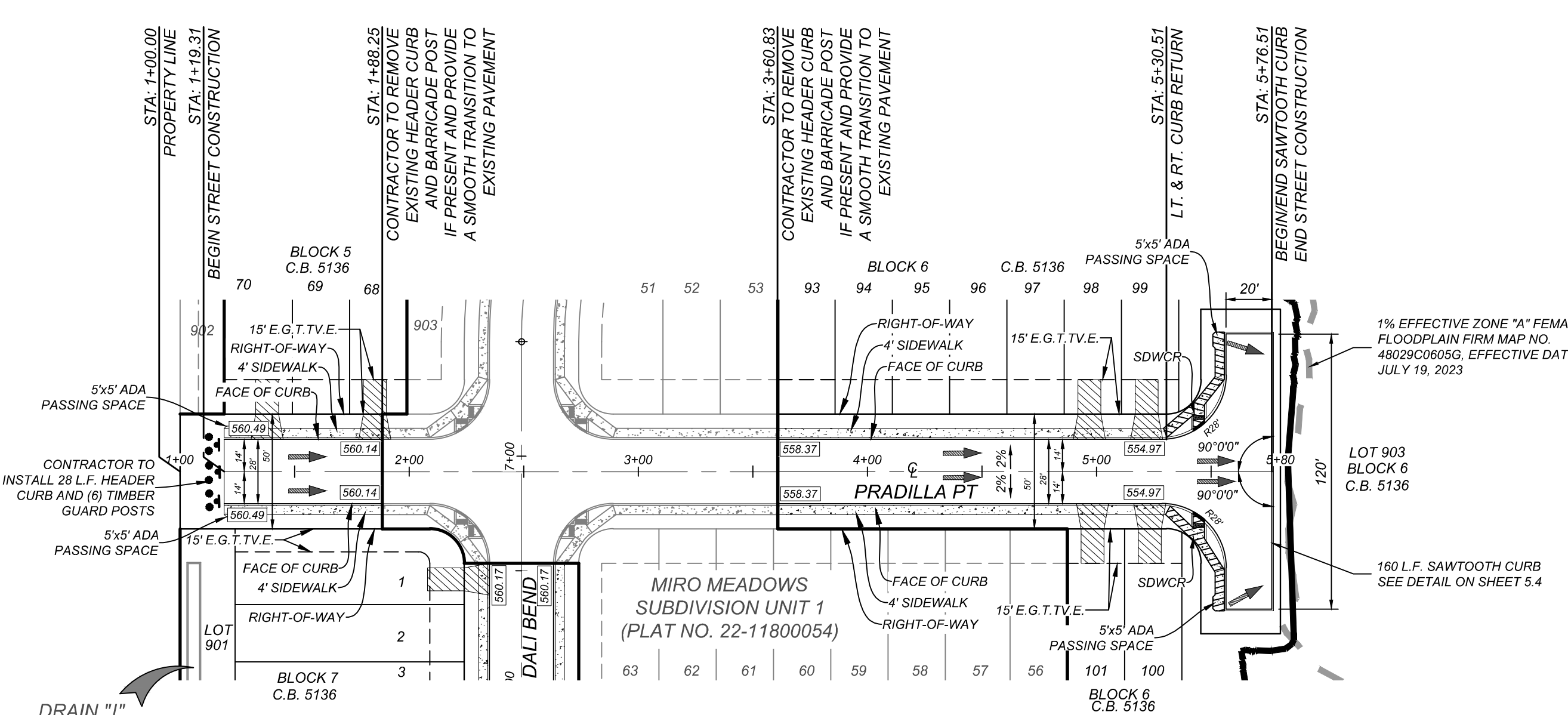
- LEGEND**
- = FLOW ARROW
 - ☐ = WASHOUT CROWN
 - E.G.T.V.E. = ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
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 - W.C.R. = WHEELCHAIR RAMPS SEE SHEET 5.5
 - Ⓢ = WHEELCHAIR RAMP TYPE II SEE SHEET 5.5
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 - D.D.W.C.R. = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.5
 - ▨ = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
 - ▨ = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
 - 732.87 = TOP OF CURB ELEVATIONS
 - ▨ = PROPOSED DRIVEWAY LOCATIONS

ROBERT H. DIECKOW AND WIFE
DIANN M. DIECKOW,
CB: 5136, TR-3, CALLED 39.811 ACRES
(VOLUME 4827, PAGE 276, O.P.R.)

BEXAR COUNTY R.O.W. NOTE
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TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND 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.

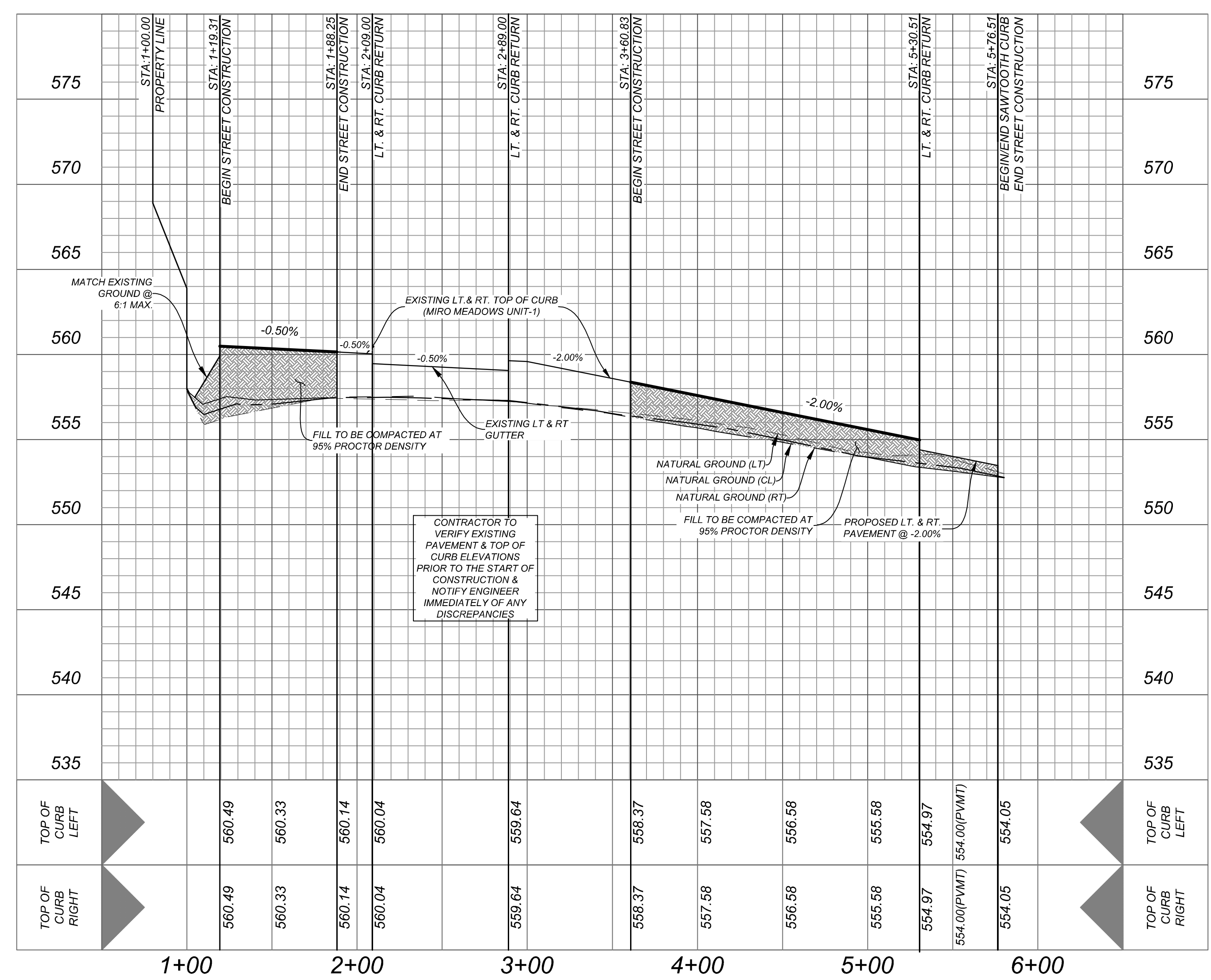
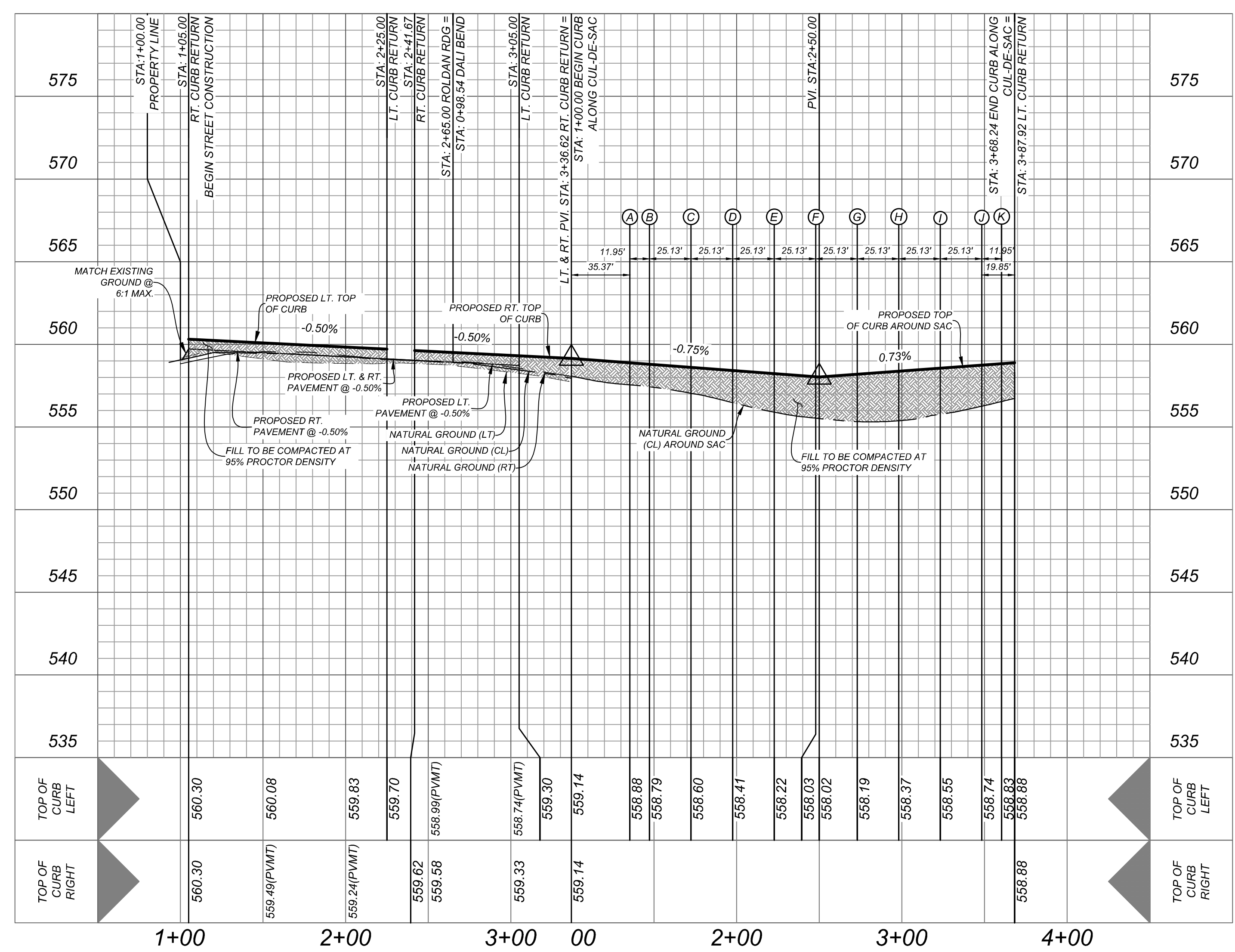


PRADILLA POINT
STA: 1+00.00 - 1+88.25

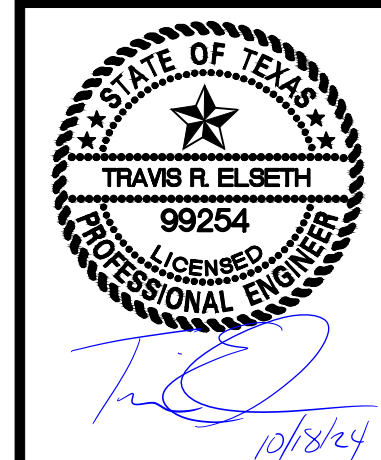
PRADILLA POINT
STA: 3+60.83 - END

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

ROL DAN RIDGE
STA: 1+05.00 - END



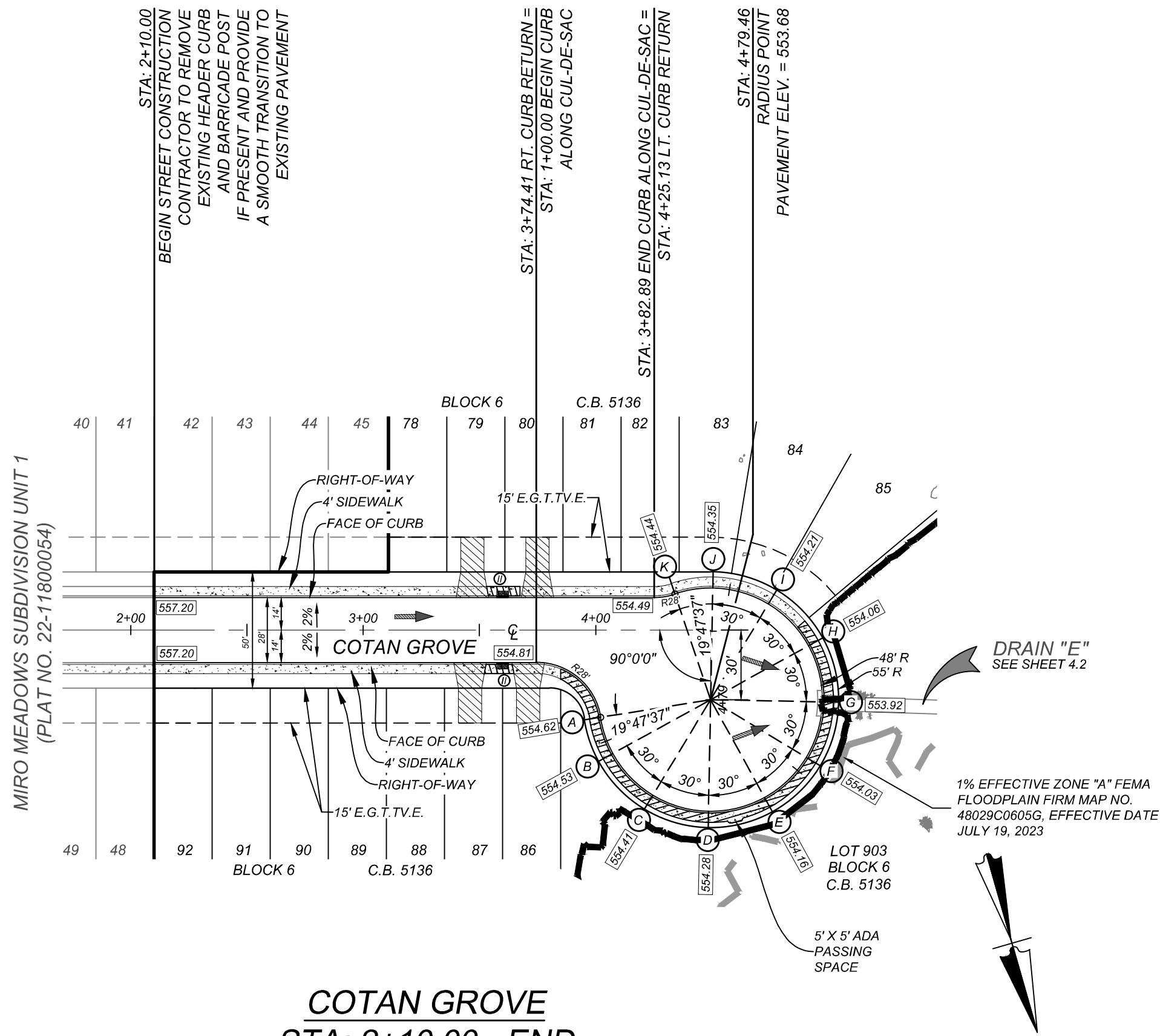
K&W
ENGINEERS + SURVEYING
Phone # (201) 878-8444 • Fax # (201) 878-8441
TBPE Firm #: 9513 • TBPE S Firm #: 1012200



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

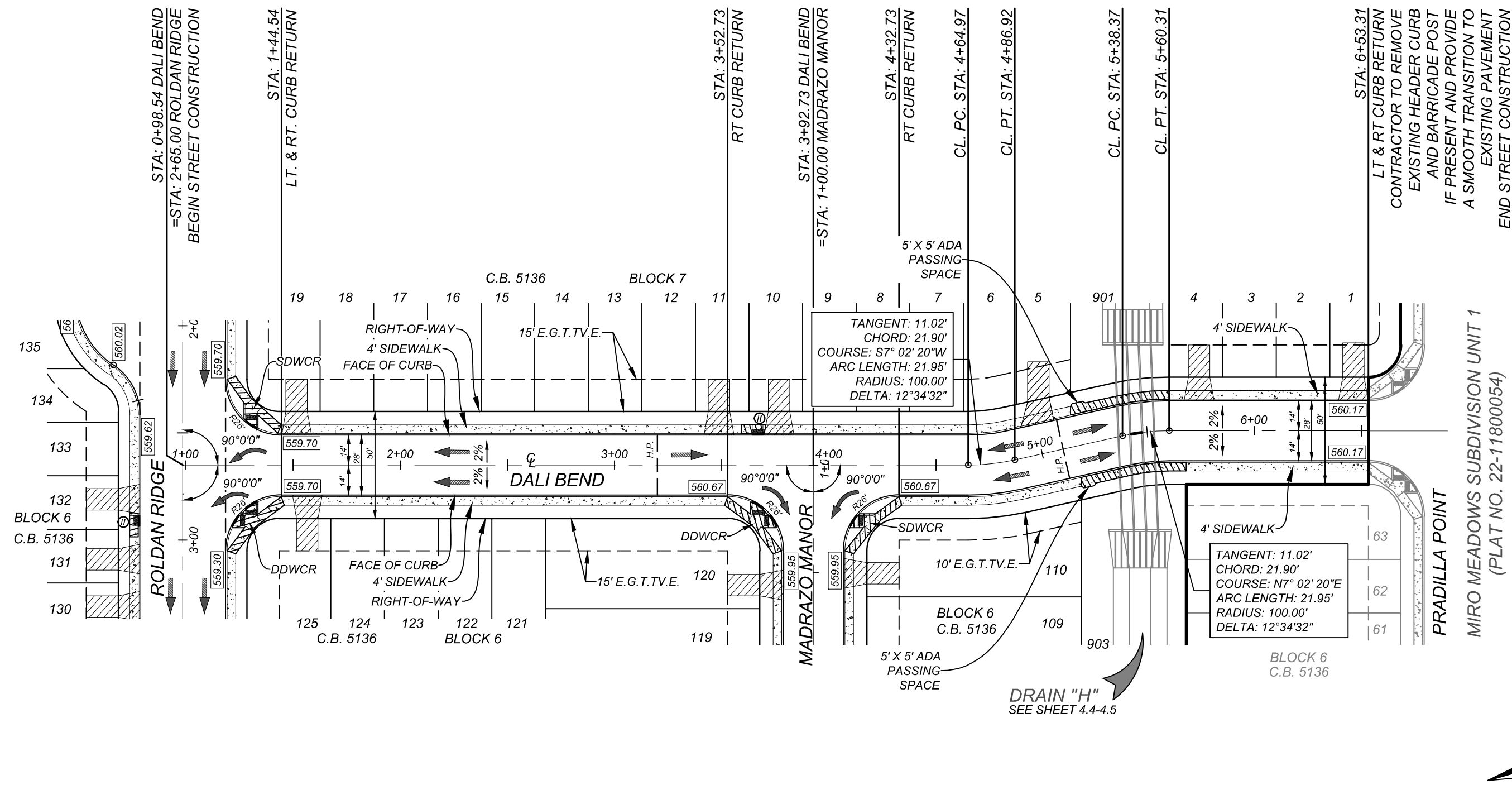
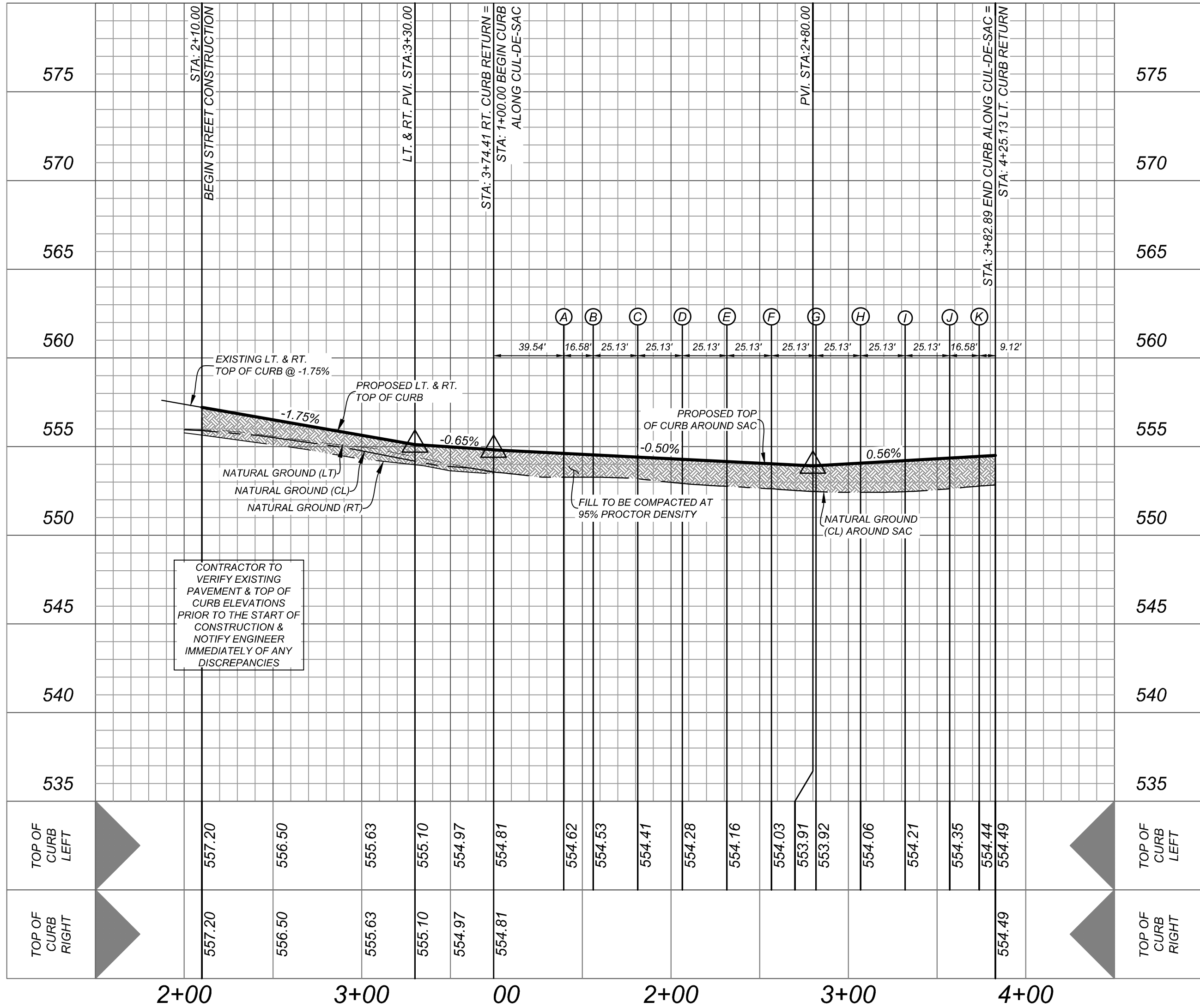
ROL DAN RIDGE, PRADILLA POINT PLAN AND PROFILES

PLAT NO. 22-11800695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER: 5.1



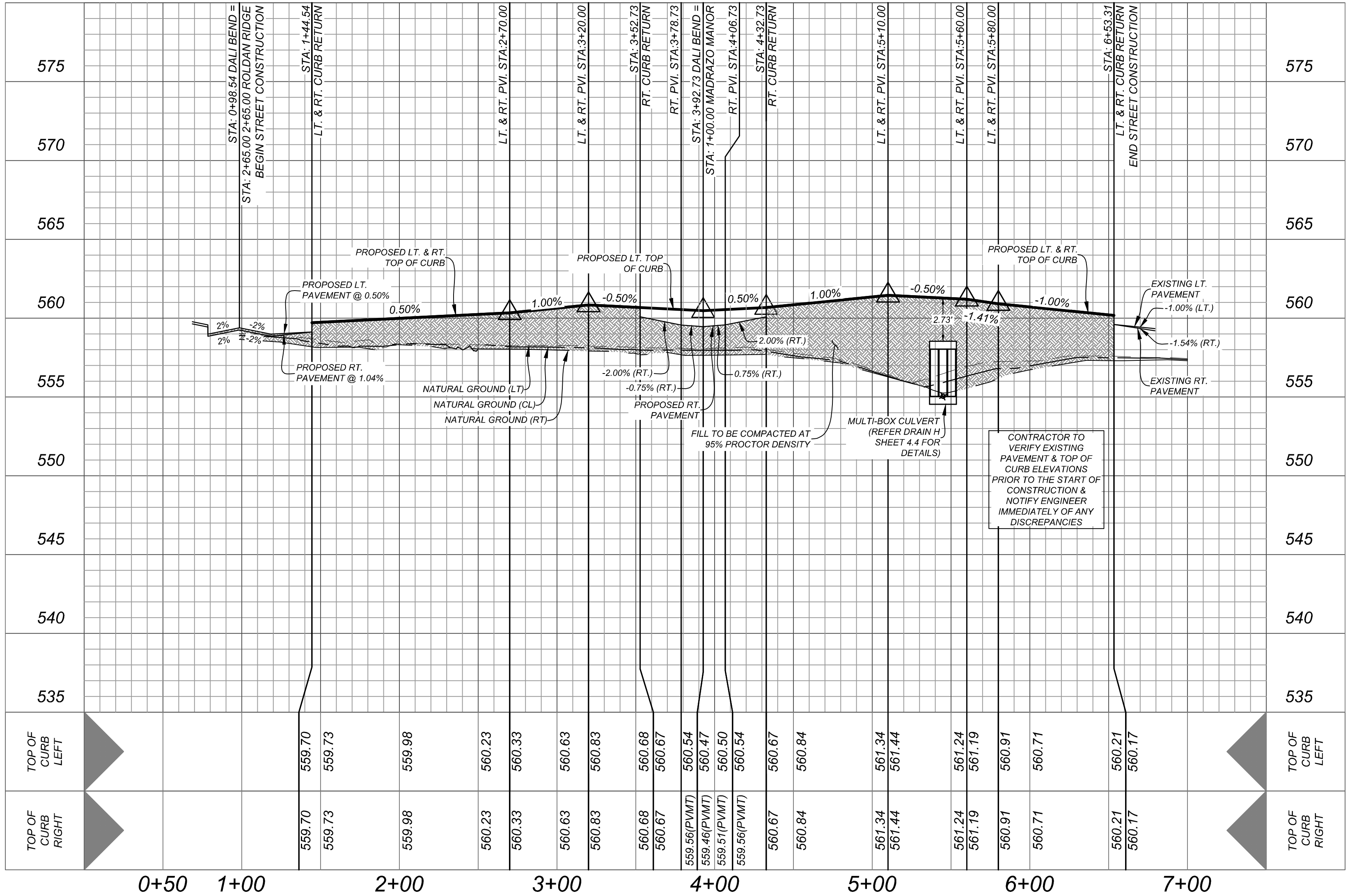
COTAN GROVE
STA: 2+10.00 - END

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



DALI BEND
STA: 0+98.54 - END

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



- LEGEND**
- = FLOW ARROW
 - WASHOUT CROWN
 - E.G.T.V.E. = ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
 - V.N.A.E. = VEHICULAR NON-ACCESS EASEMENT
 - W.C.R. = WHEELCHAIR RAMPS SEE SHEET 5.5
 - Ⓢ = WHEELCHAIR RAMP TYPE II SEE SHEET 5.5
 - S.D.W.C.R. = SINGLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.5
 - D.D.W.C.R. = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.5
 - ▨ = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
 - ▨ = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
 - 732.87 = TOP OF CURB ELEVATIONS
 - ▨ = PROPOSED DRIVEWAY LOCATIONS

BEXAR COUNTY R.O.W. NOTE

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

CAUTION:

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TRENCH EXCAVATION SAFETY PROTECTION

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MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

COTAN GROVE, DALI BEND PLAN AND PROFILES

PLAT NO.
22-11800695

JOB NO: 314-46-03

DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

SHEET NUMBER:

5.2



10/18/24

ISSUE DATE

REVISIONS

K&W
ENGINEERS + SURVEYING
Phone # (210) 878-8444 • Fax # (210) 878-8441
TBPE Firm # 9513 • TBPE S Firm # 1012200

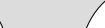





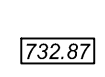
BEXAR COUNTY R.O.W. NOTE
A BEXAR COUNTY PERMIT
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WORKING IN BEXAR COUNTY
R.O.W.

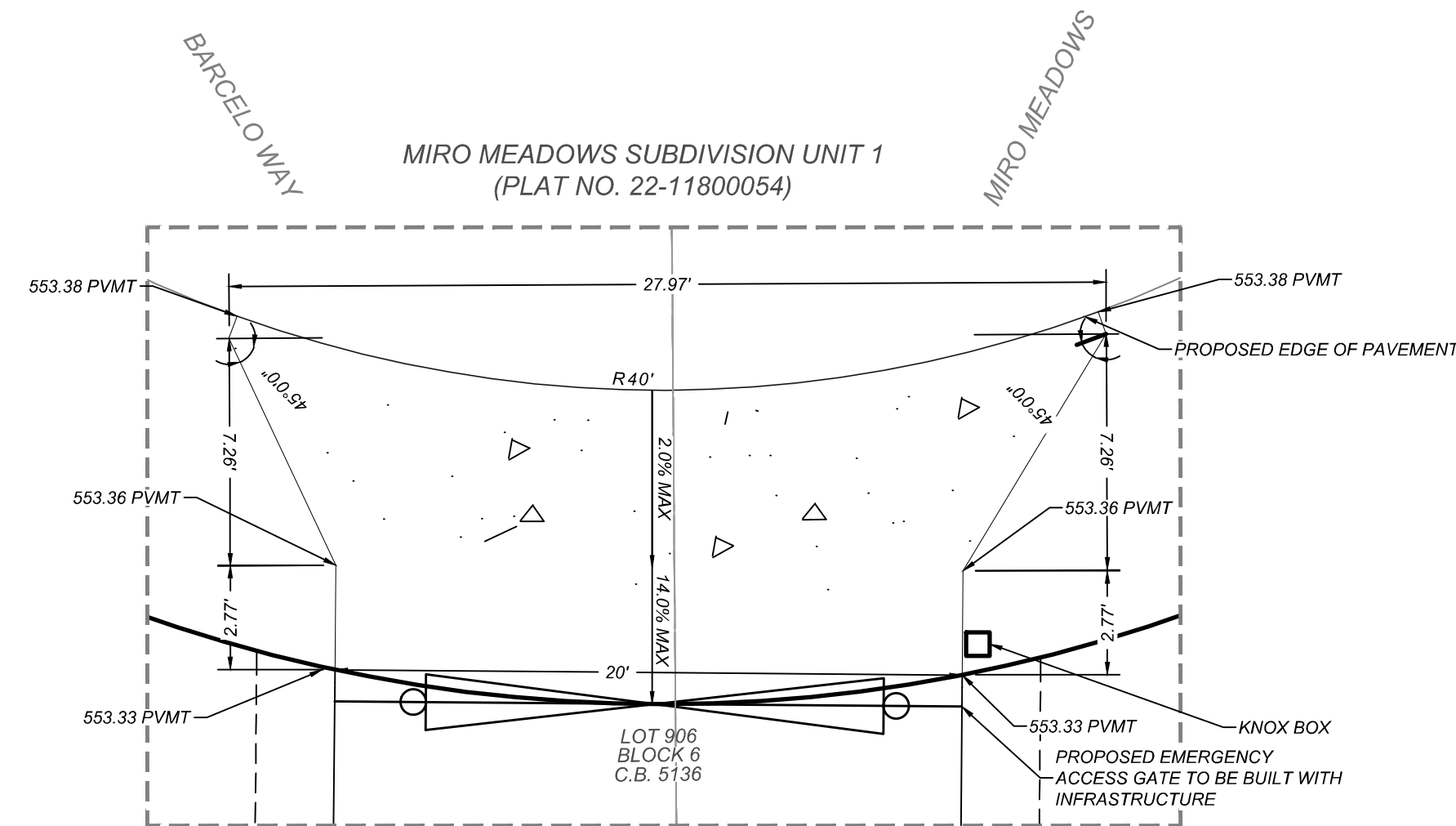
CAUTION:-
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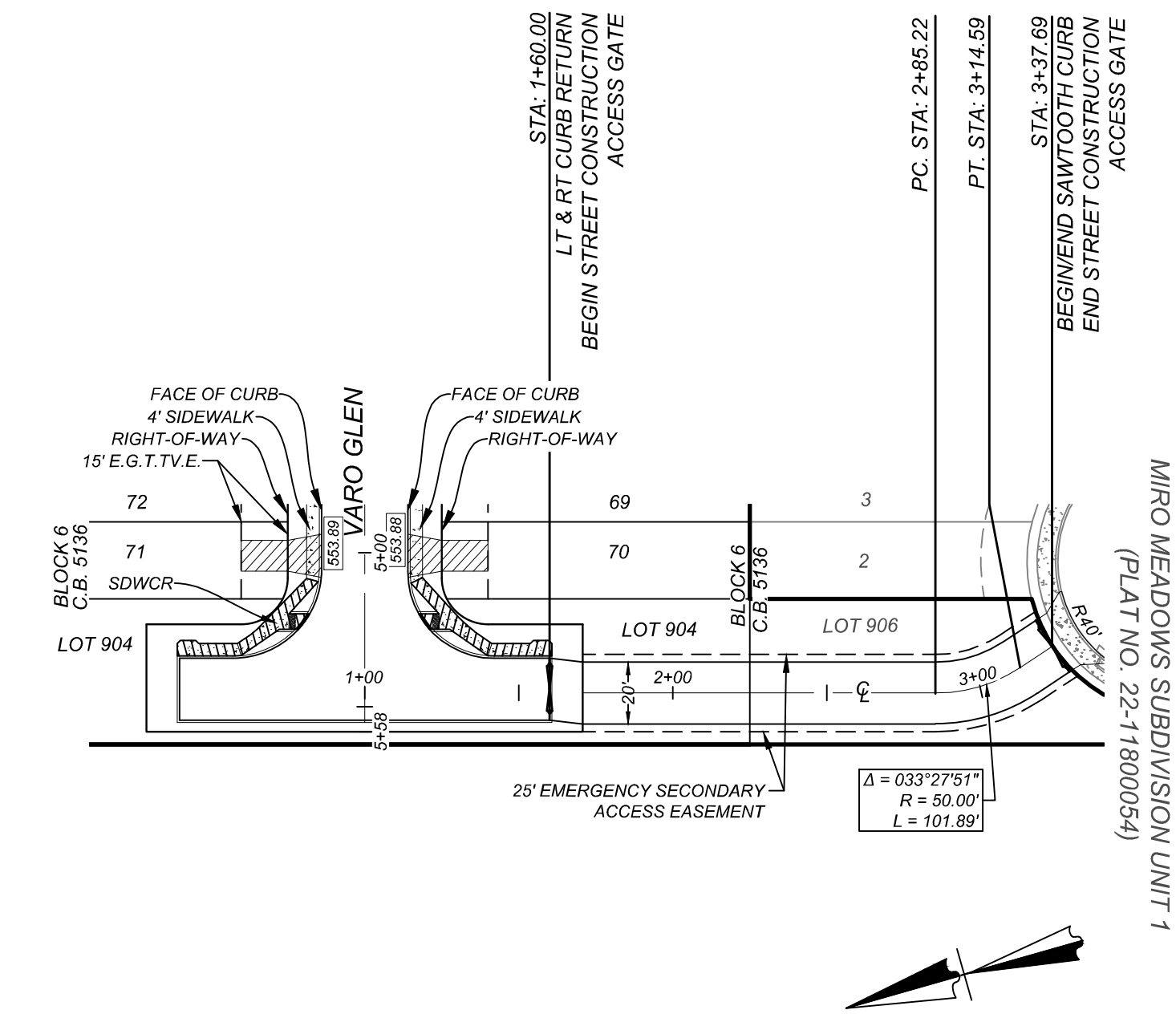
LEGEND

- | | | |
|---|---|--|
|  | = | FLOW ARROW |
|  | = | WASHOUT CROWN |
| E.G.T.V.E. | = | ELECTRIC, GAS, TELEPHONE
& CABLE EASEMENT |
| V.N.A.E. | = | VEHICULAR NON-ACCESS EASEMENT |
| W.C.R. | = | WHEEL CHAIR RAMPS
SEE SHEET 5.5 |
|  | = | WHEEL CHAIR RAMP TYPE II
SEE SHEET 5.5 |
| S.D.W.C.R. | = | SINGLE DIRECTIONAL WHEEL CHAIR RAMP
SEE SHEET 5.5 |
| D.D.W.C.R. | = | DOUBLE DIRECTIONAL WHEEL CHAIR RAMP
SEE SHEET 5.5 |
|  | = | SIDEWALK TO BE CONSTRUCTED
BY DEVELOPER. |
|  | = | SIDEWALK TO BE BUILT AT THE TIME
OF HOME CONSTRUCTION |
|  | = | TOP OF CURB ELEVATIONS |
|  | = | PROPOSED DRIVEWAY LOCATIONS |



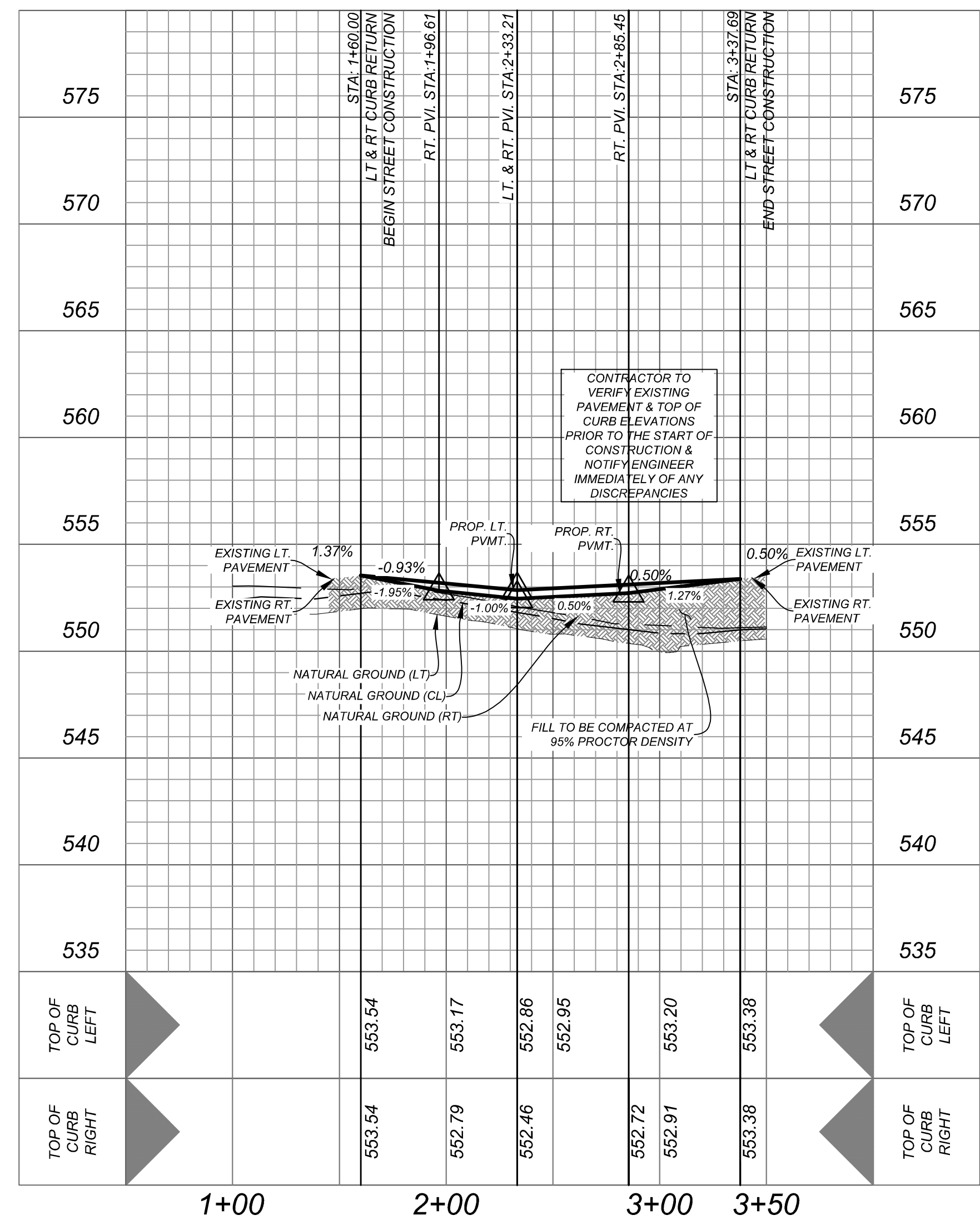
TYPICAL DRIVEWAY DETAIL
SCALE: 1" = 10'

NOTE: COMMERCIAL DRIVEWAY TO BE
CONSTRUCTED WITH INFRASTRUCTURE.

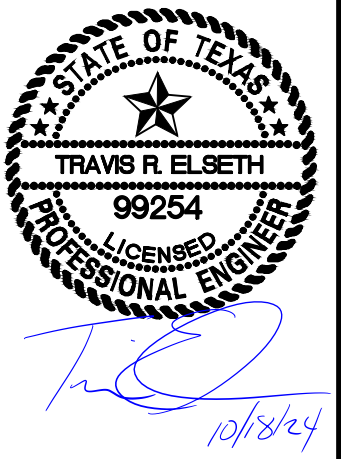


EMERGENCY SECONDARY
ACCESS
STA: 1+00.00 - END

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



ENGINEERS + SURVEYING
3421 Paessanos Pkwy, Suite 200, San Antonio, TX 78205
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

EMERGENCY SECONDARY ACCESS PLAN AND PROFILE

PLAT NO.
22-11800695

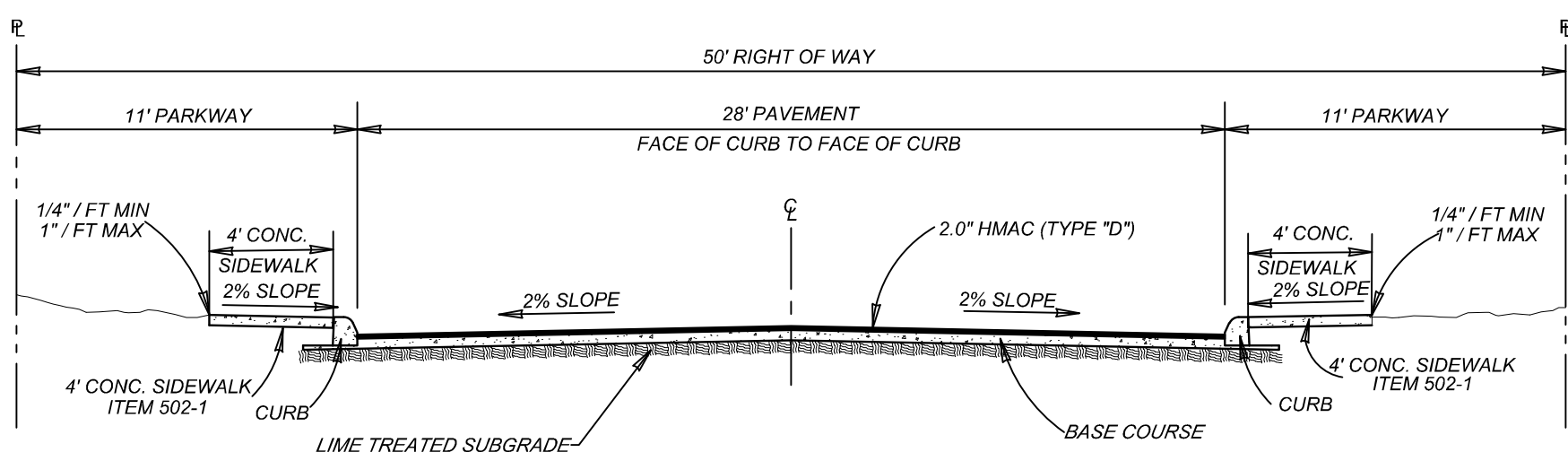
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DATE: MARCH 2024

SHEET NUMBER:

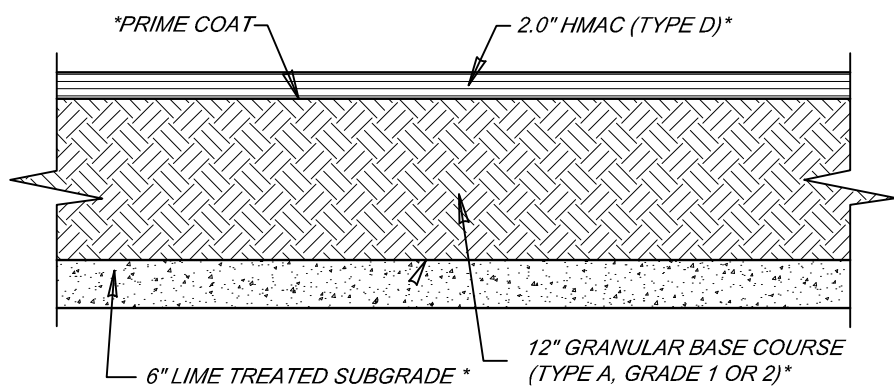
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Date: Oct 14, 2024, 4:26pm User ID: jmorfin
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TYPICAL LOCAL "A" STREET SECTION
NOT TO SCALE

MADRAZO MANOR: STA. 1+00.00 - END
VARO GLEN: STA. 3+40.00 - END
PRADILLA POINT: STA. 1+00.00 STA: 1+88.25
PRADILLA POINT: STA. 3+60.83 - END
COTAN GROVE: STA. 2+10.00 - END
DALI BEND: STA. 0+98.54 - END
EMERGENCY ACCESS: STA. 1+60.00 - END

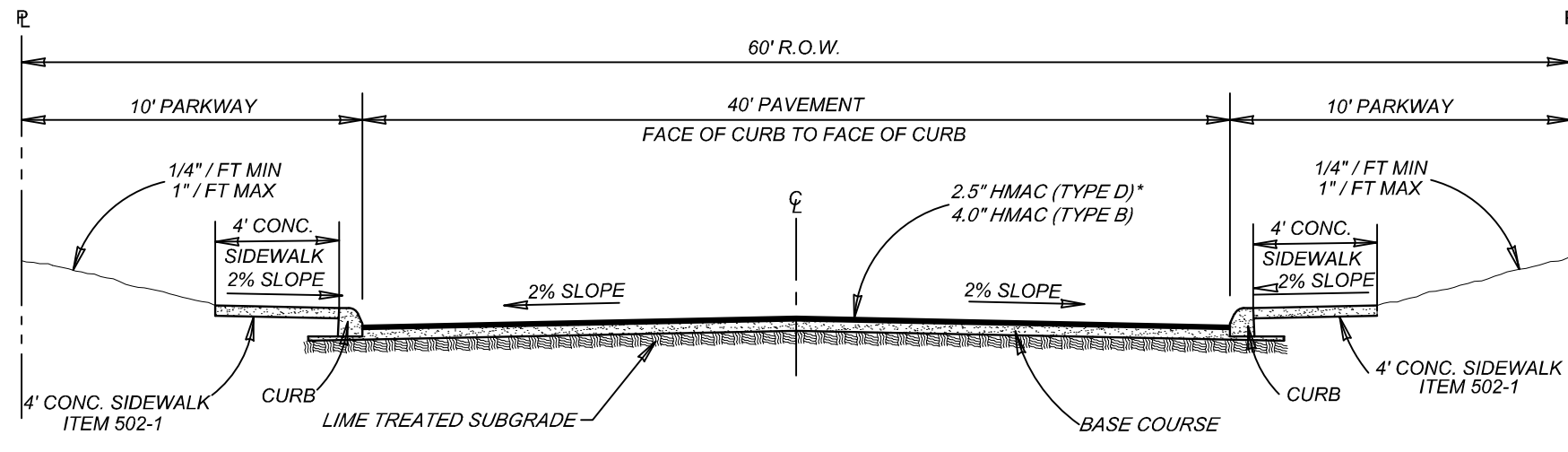


ASPHALT PAVEMENT DETAIL
NOT-TO-SCALE
DETAIL FOR ALL LOCAL TYPE A

FLEXIBLE PAVEMENT SYSTEM

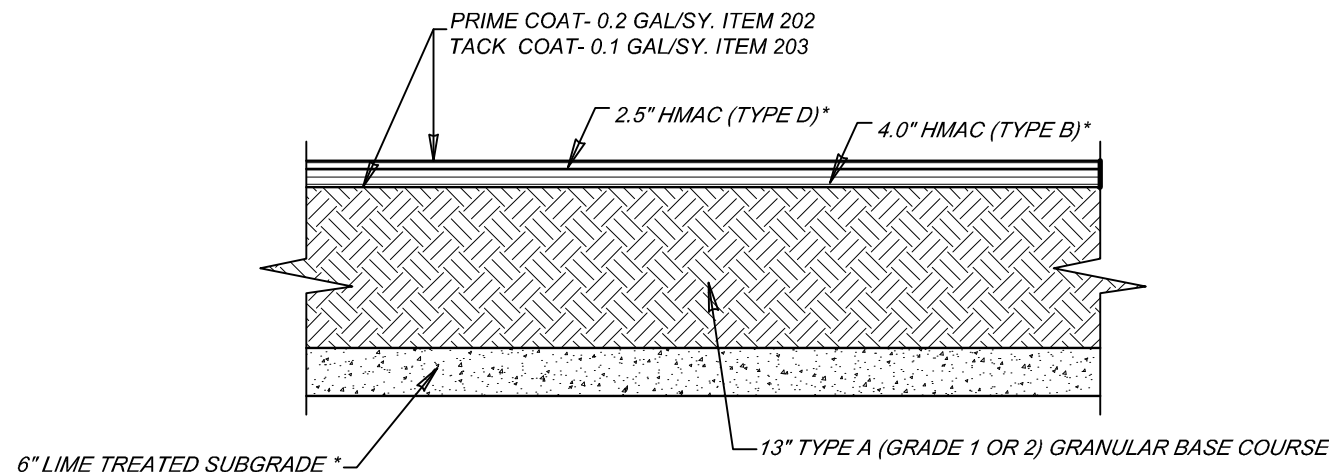
Pavement Section
2.0" HMAC (TYPE "D")
12.0" GRANULAR BASE COURSE (TYPE "A" GRADE 1 OR 2)
6.0" LIME TREATED SUBGRADE (23 LBS/SY)
Total: 20.0"
Structural No: 2.56
C.B.R = 3.0

TTL PROJECT NO. - 00210903116.02



TYPICAL LOCAL "B" STREET SECTION
NOT TO SCALE

ROLDAN RDG: STA. 1+05.00 - END

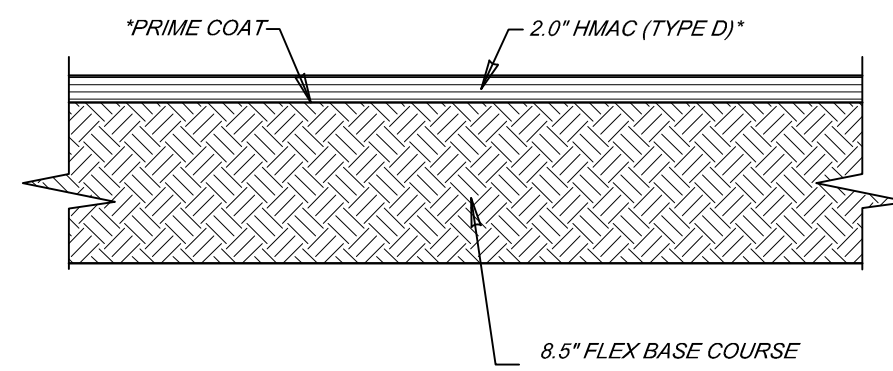


ASPHALT PAVEMENT DETAIL
NOT-TO-SCALE
DETAIL FOR ALL LOCAL TYPE B

FLEXIBLE PAVEMENT SYSTEM

Pavement Section
2.5" HMAC (TYPE "D")
4.0" HMAC (TYPE "B")
13.0" GRANULAR BASE COURSE (TYPE "A" GRADE 1 OR 2)
6.0" LIME TREATED SUBGRADE (23 LBS/SY)
Total: 25.5"
Structural No: 4.44
C.B.R = 3.0

TTL PROJECT NO. - 00210903116.02



ASPHALT PAVEMENT DETAIL
NOT-TO-SCALE
DETAIL FOR EMERGENCY ACCESS

FLEXIBLE PAVEMENT SYSTEM

Pavement Section
2.0" HMAC (TYPE "D")
8.5" FLEX BASE
Total: 10.5"

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 180 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 2.0 OR GREATER.
 - SHOULD NOT HAVE GRAVELS LARGER THAN 3 INCH IN SIZE.
 - SHOULD HAVE THE "LIME PERCENTAGE/APPLICATION RATE" RE-RUN PRIOR TO INSTALLATION.
 - PI SHOULD BE LESS THAN 20

- NOTES:
- PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT "MIRO MEADOWS - LIFT STATION AND PAVEMENT DESIGN NEW SULPHUR SPRINGS ROAD NEAR BLANDFORD ROAD SAN ANTONIO ET AL. BEXAR COUNTY, TEXAS" PREPARED BY TTL, INC., TTL PROJECT NO. - 00210903116.02, DATED DECEMBER 12, 2022.
 - 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.

NOTE:
CONTRACTOR TO REFERENCE GEOTECH REPORT
PREPARED BY TTL, INC.
PROJECT NO. 00210903116.02
DATED DECEMBER 12, 2022.

Hot Mix Asphaltic Concrete Surface: The paving mixture and construction methods shall conform to Item 340, "Hot Mix Asphaltic Concrete, Type D" of the Standard Specifications by TxDOT. The mix should be compacted between 91 and 95 percent of the maximum theoretical density as measured by TEX-227-F. The asphalt cement content by percent of total mixture weight should fall within a tolerance of ±0.3 percent asphalt cement from the specific mix. In addition, the mix should be designed so 75 to 85 percent of the voids in the mineral aggregate (VMA) are filled with asphalt cement. The asphalt cement grades should conform to the table shown below.

Street Classifications	Asphalt Cement Grades		
	Surface Courses	Binder and Level Up Courses	Base Courses
Arterials	PQ 70-22	PQ 70-22	
Collector and Local B Streets	PQ 70-22	PQ 64-22	PQ 64-22
Local A Streets	PQ 64-22	PQ 64-22	

Aggregates known to be prone to stripping should not be used in the hot mix. If such aggregates are used measures should be taken to mitigate this concern. The mix should have at least 70 percent strength retention when tested in accordance with TEX-531-C. Pavement specimens, which shall be either cores or sections of asphaltic pavement, will be tested according to Test Method TEX-207-F. The nuclear-density gauge or other methods which correlate satisfactorily with results obtained from Project pavement specimens may be used when approved by the Engineer. Unless otherwise shown on the plans, the Contractor shall be responsible for obtaining the required pavement specimens at their expense and in a manner and at locations selected by the Engineer.

Asphaltic Base Course – The asphaltic concrete base materials should be plant mixed, hot laid Type A or B Base meeting all the requirements of TxDOT Item 341 of the 2014 Standard Specifications. The asphaltic concrete base course of the pavement section should be constructed in accordance with this item.

Prime Coat - The prime coat should consist of sealing the base with an oil such as MC-30 or AEP asphalt cement. The prime coat should be applied at a rate not to exceed 0.35 gallons per square yard with materials which meet TxDOT Item 300. The prime coat will help to minimize the penetration of rainfall and other moisture that penetrates the base.

Granular Base Material - Base material may be composed of crushed limestone base meeting all of the requirements of 2014 TxDOT Item 247, Type A, Grade 1 or 2; and should have no more than 15 percent of the material passing the No. 200 sieve. The base should be compacted to at least 95 percent of the maximum dry density determined in accordance with test method TEX-110-E at moisture contents ranging between -2 and +3 percentage points of the optimum moisture content.

Lime Treatment - Lime treatment shall be performed only on the dark brown clay subgrade. The subgrade shall be treated with hydrated lime in accordance with TxDOT Item 260. We anticipate that approximately four (4) percent hydrated lime will be required (approximately 23 pounds per square yard). The optimum hydrated lime content should result in a soil-lime mixture with a pH of at least 12.4 when tested in accordance with ASTM C 977, Appendix X1.

The intended performance of roadway pavement is contingent upon following the earthwork recommendations and guidelines outlined in this section. Earthwork activities on the Project should be observed and evaluated by TTL personnel. The evaluation of earthwork should include observation and testing of all fill and backfill soils placed at the Site, and subgrade preparation beneath the streets.

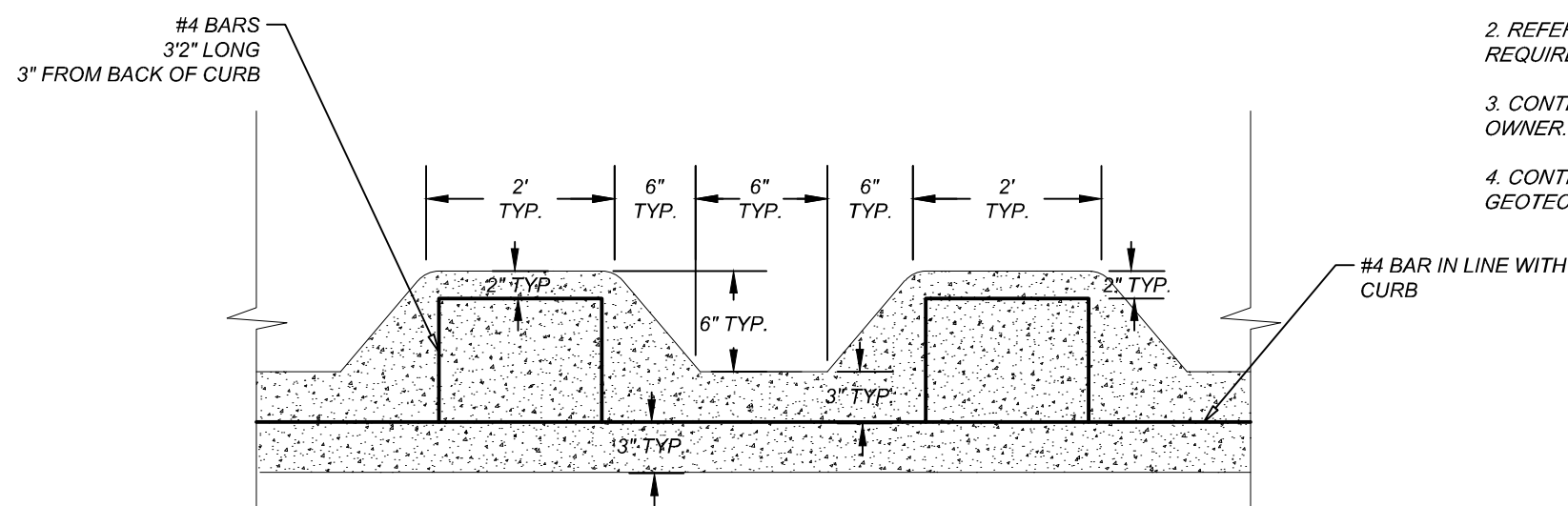
The clay soils across the site have a moderate potential to undergo expansion and contraction with fluctuations in their moisture content. Expansion and contraction of the clay subgrade can lead to cracking and undulating/corruption in the pavement and curbs. Remedial methods to address this issue include: removing the expansive soils and replacing them with non-expansive cohesive soil; chemical injection of the expansive soils; a combination of moisture conditioning, lime or cement treatment, and installation of a vertical moisture barrier; other subgrade preparation methods are also available.

This report provides recommendations to help mitigate some effects of soil shrinkage and expansion. However, even if these procedures are followed, movement and cracking in the pavements from the expansive soils should be anticipated. The severity of cracking and other damage will probably increase if any modification of the site results in excessive wetting or drying of the expansive soils. Eliminating the risk of movement and distress may not be feasible, but it may be possible to further reduce the risk of movement if significantly more expensive measures are used during construction. We would be pleased to discuss other construction alternatives with you upon request. If additional earthwork preparation methods will be used or evaluated, please contact us.

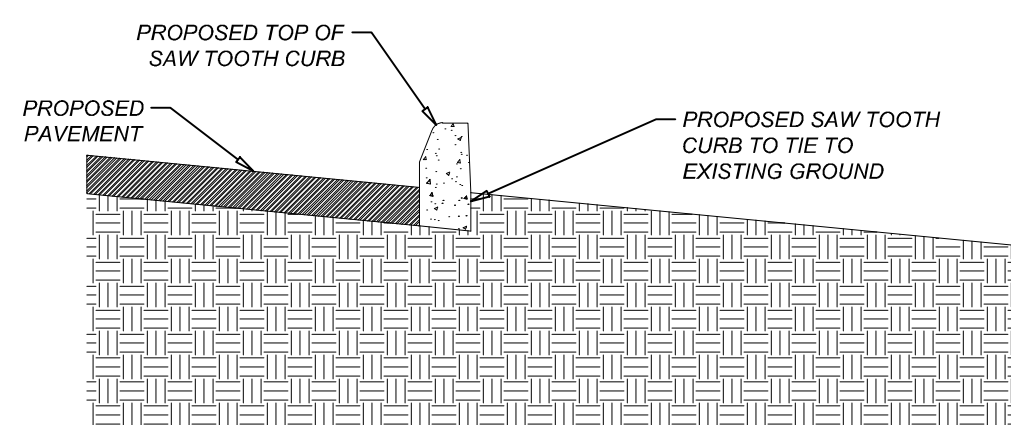
The pavement sections represent minimum recommended thicknesses to satisfy city/county requirements, and as such, periodic maintenance should be anticipated. Therefore, an on-going pavement management program should be planned and provided for preventive maintenance. Maintenance activities are intended to slow the pavement deterioration rate and preserve the pavement investment.

The following earthwork recommendations must be performed prior to pavement construction:

- Strip vegetation, loose topsoil, vegetation, and any otherwise unsuitable materials from the pavement area. The pavement area is defined as the area that extends at least three (3) feet (horizontal) beyond the perimeter of the proposed pavement and any adjacent sidewalk (sidewalks).
- Perform cut and fill to accommodate the design pavement subgrade elevation (also referenced as the bottom of the base course). Onsite soils can be used for grade adjustments in fill areas. Refer to Section 4.0 of this report for requirements for the placement of onsite soils and select fill materials.
- After achieving the required excavation depth, and before placing any fill, the exposed excavation subgrade should be proof-rolled with at least a 20-ton roller, or equivalent equipment, to evidence any weak yielding zones. A technical representative of our firm should be present to observe the proof-rolling operations. If any weak yielding zones are present, they should be over-excavated, both vertically and horizontally, until competent soils are exposed. The excavated soil can be used to restore the excavation subgrade, provided that the soils are relatively free and clean of deleterious material or materials exceeding 3 inches in maximum dimension. The excavated soil or imported fill soil shall be placed in maximum of 6-inch compacted lifts. Each lift of soil shall be moisture conditioned and compacted as described in Section 4.0.
- After proof-rolling and replacing any weak yielding zones, the clay subgrade should be lime treated in accordance with TxDOT Item 260. The lime shall be in slurry form. It is anticipated that approximately six (6) percent hydrated lime will be required (approximately 22 pounds per square yard). The soil-lime mixture shall be placed between optimum and +4 percentage points of the optimum moisture content and shall be compacted to at least 95 percent of the maximum dry density determined in accordance with the Standard compaction effort (ASTM D 698).
- For pavement subgrades, the earth work described here should result in approximately six (6) inches of lime-treated soil below the design pavement subgrade elevation.
- For the pavements located in the flood hazard area or natural drainage path areas, one of the following additional measures should be constructed beneath the soil subgrade level:
 - Prepare the subgrade with 12 inches of moisture conditioned soils beneath 6 to 8 inches of lime treated soils, or
 - Prepare the subgrade with at least 12 inches of lime-treated soils.

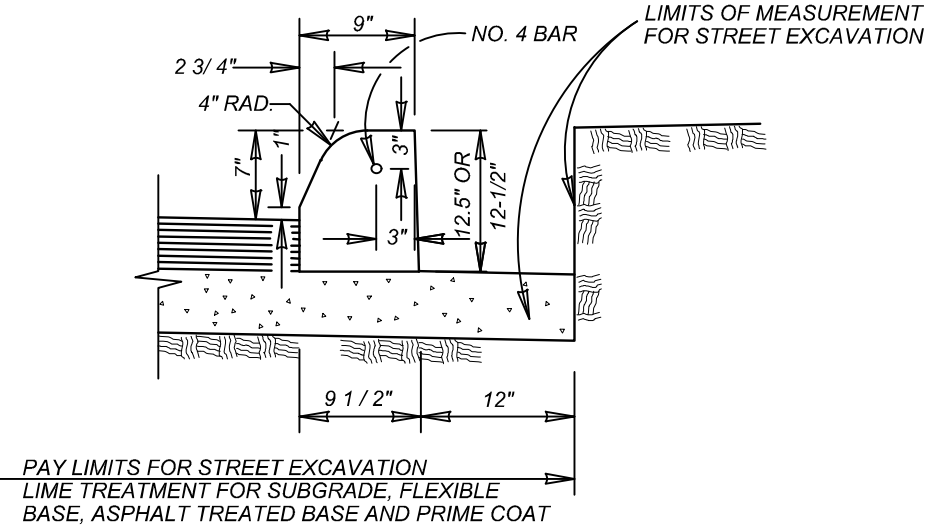


SAWTOOTH CURB DETAIL
NOT-TO-SCALE

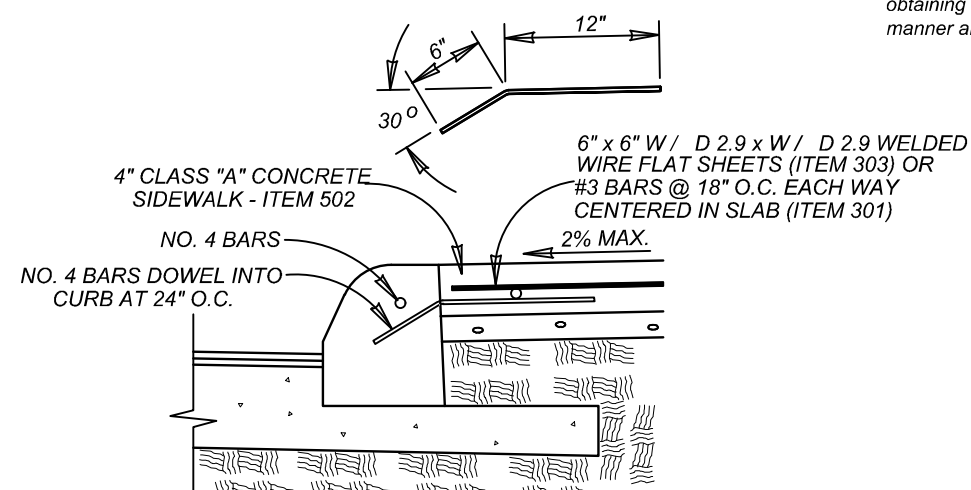


SECTION VIEW

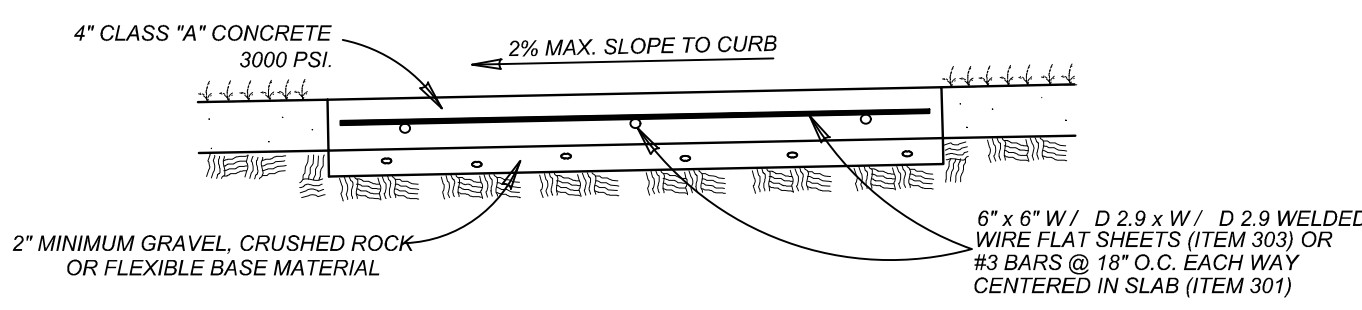
SAWTOOTH CURB DETAIL
NOT-TO-SCALE



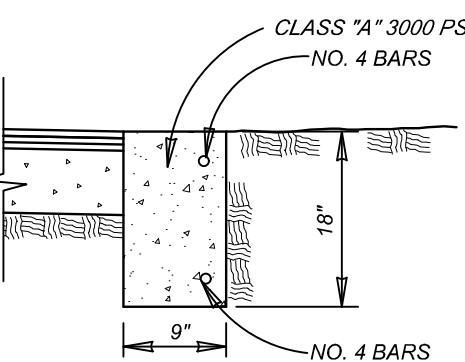
CONCRETE CURB
ITEM 500 ON FLEXIBLE BASE MATERIAL
NOT TO SCALE



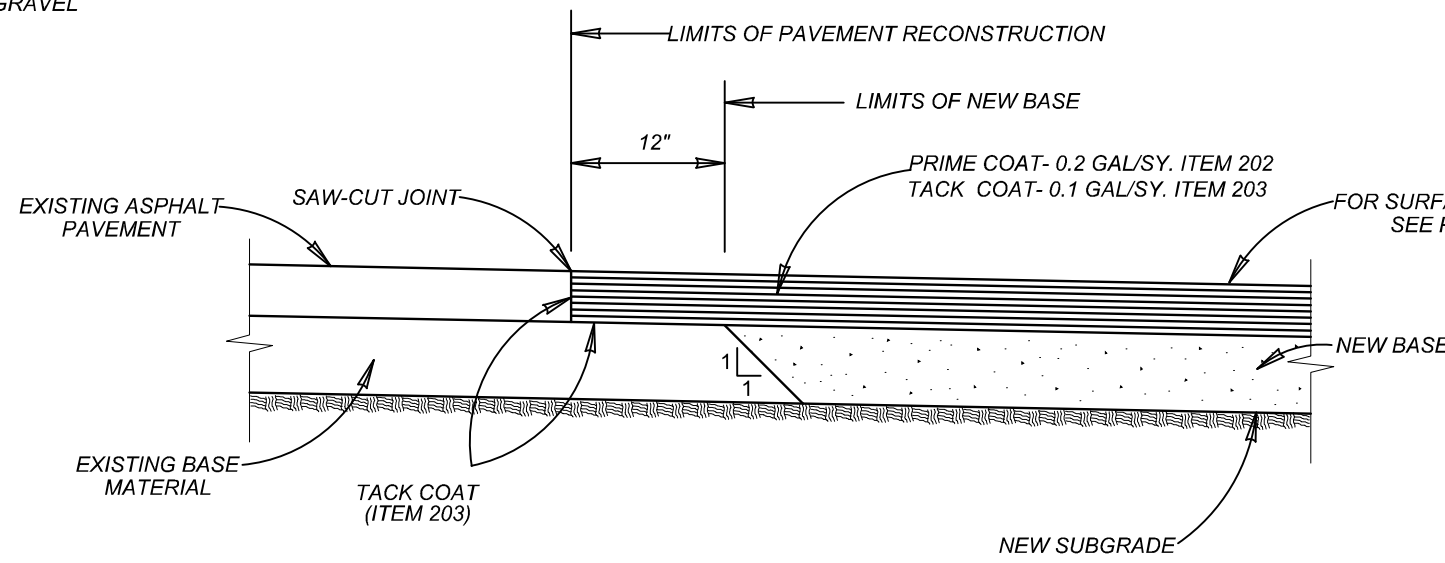
CONCRETE SIDEWALK
ABUTTING CURB SECTION
ITEM 502
NOT TO SCALE



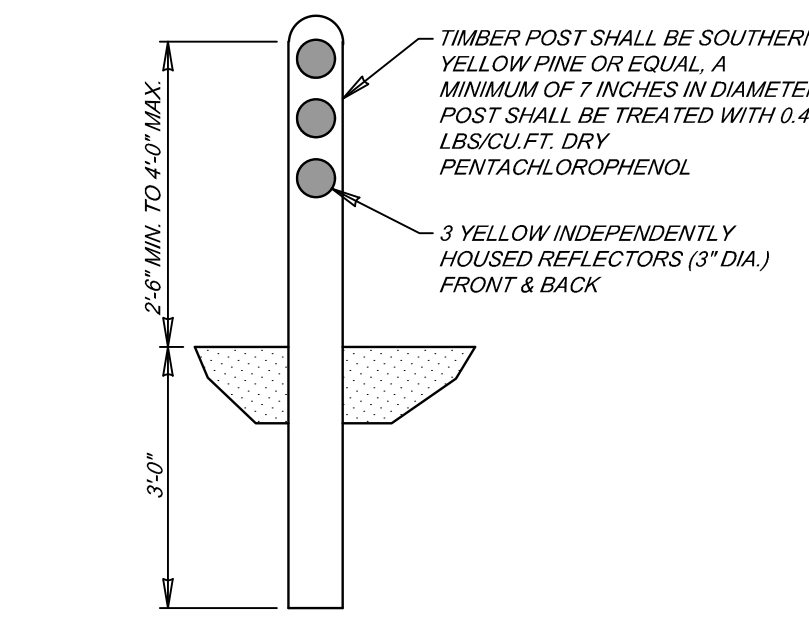
CONCRETE SIDEWALK SECTION
ITEM 502
NOT TO SCALE



HEADER CURB
ITEM 500 ON SAND OR GRAVEL
NOT TO SCALE



PAVEMENT JUNCTION DETAILS
NOT TO SCALE



TIMBER GUARD POST DETAIL
NOT-TO-SCALE

MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

STREET DETAIL SHEET

PLAT NO.
22-11800695

JOB NO. 314-46-03

DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

SHEET NUMBER:

5.4

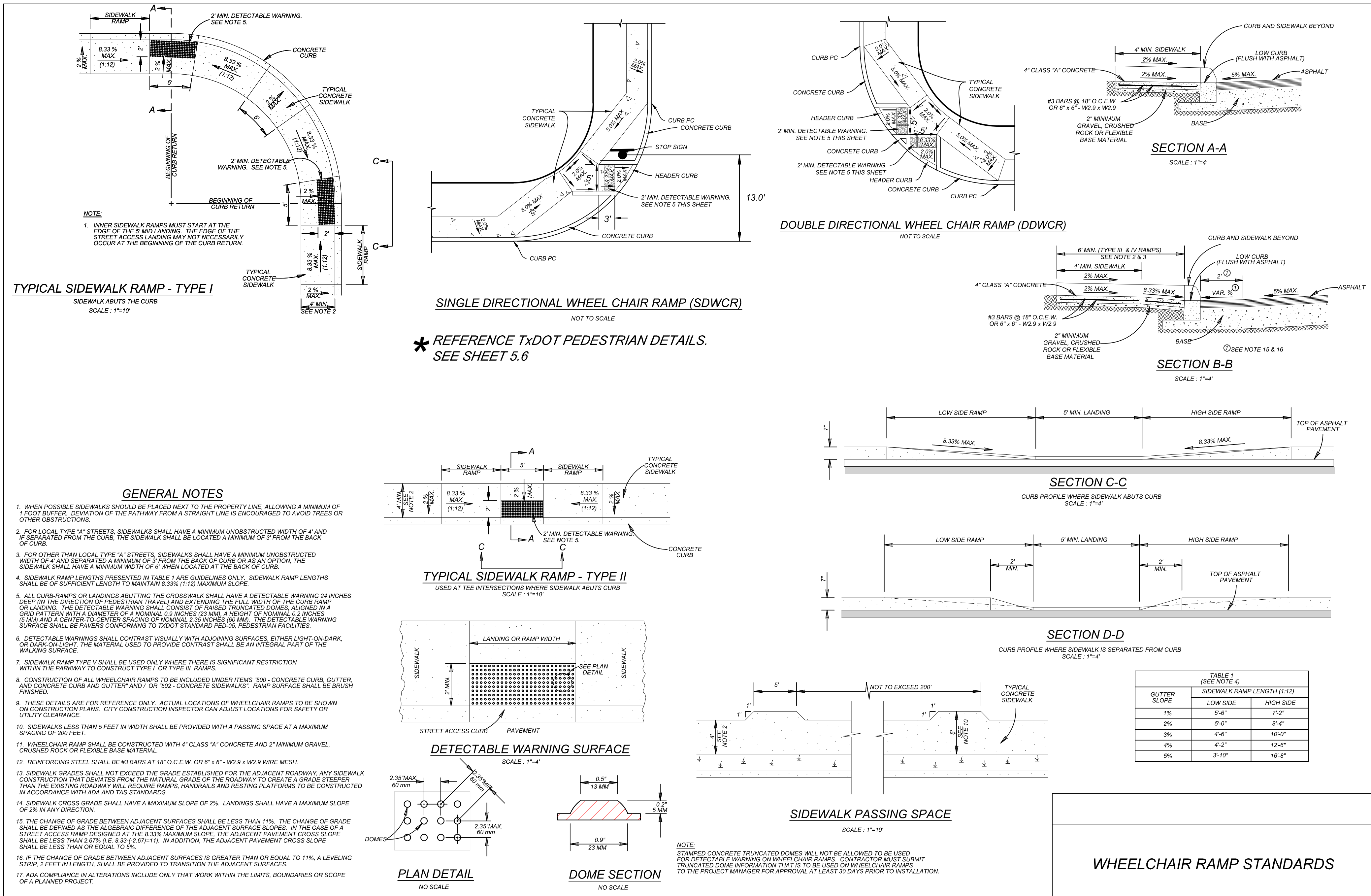
K&W
ENGINEERS + SURVEYING
Phone #: (210) 878-8444 • Fax #: (210) 878-8441
TBB# Firm #: 9513 • TBB# S Firm #: 10122300

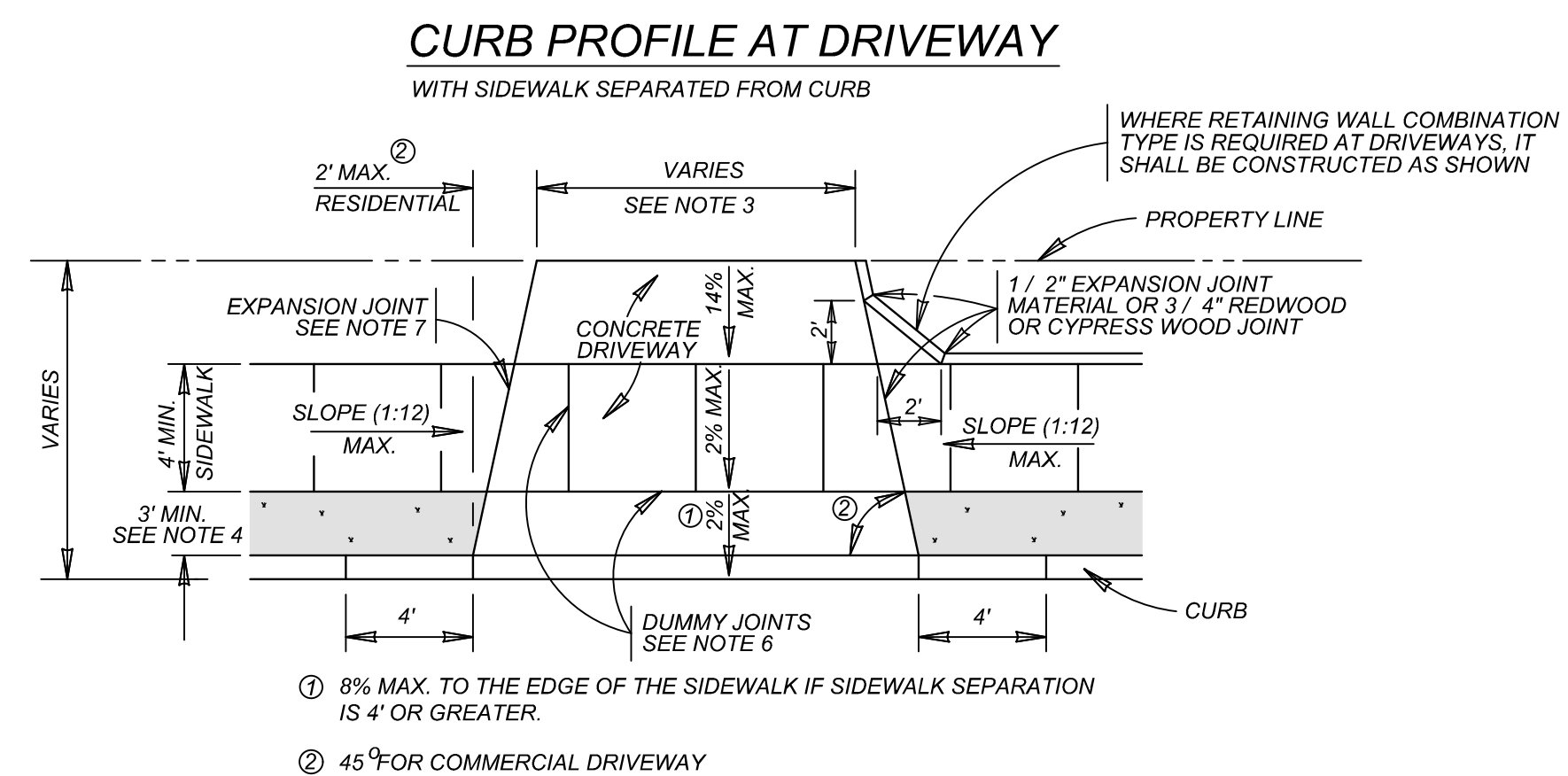
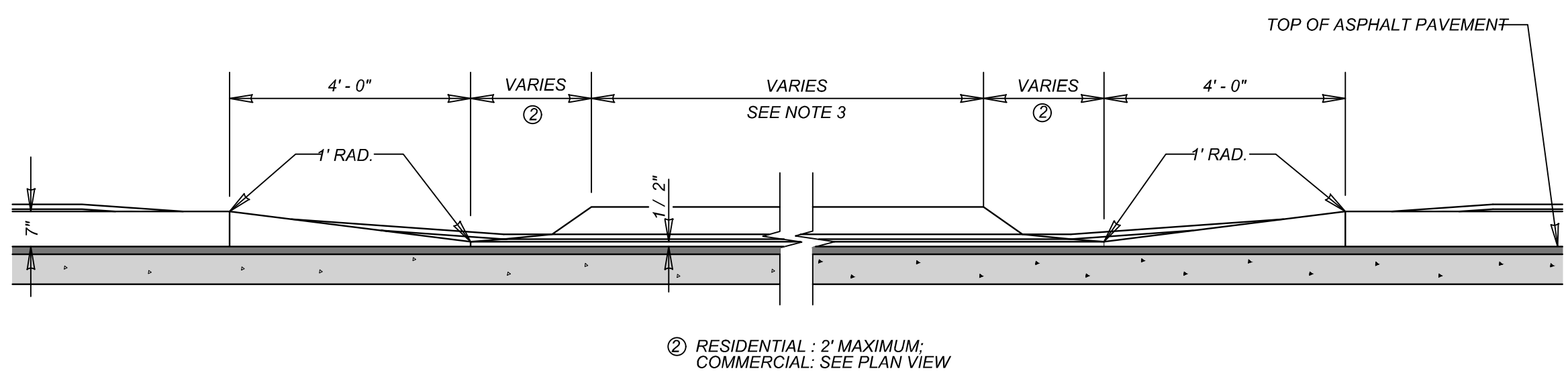
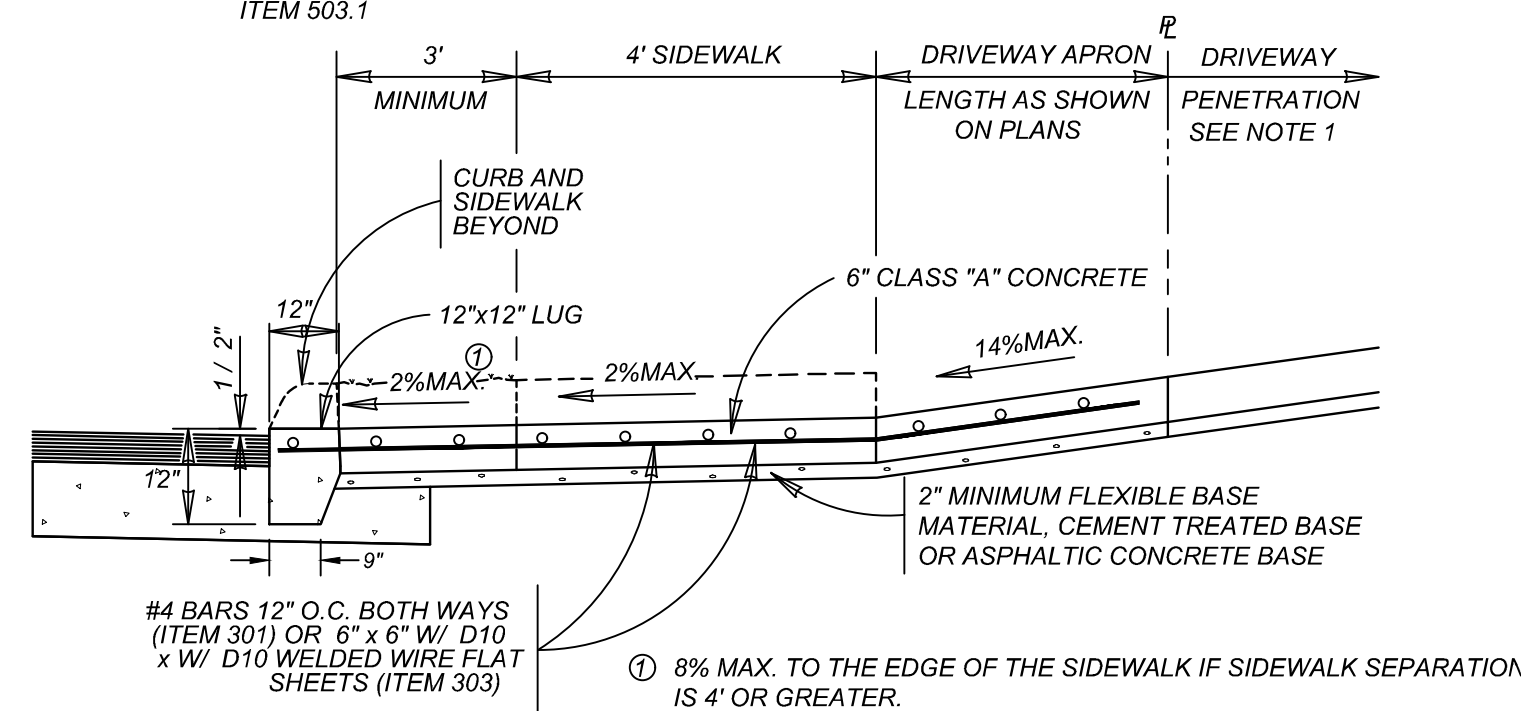
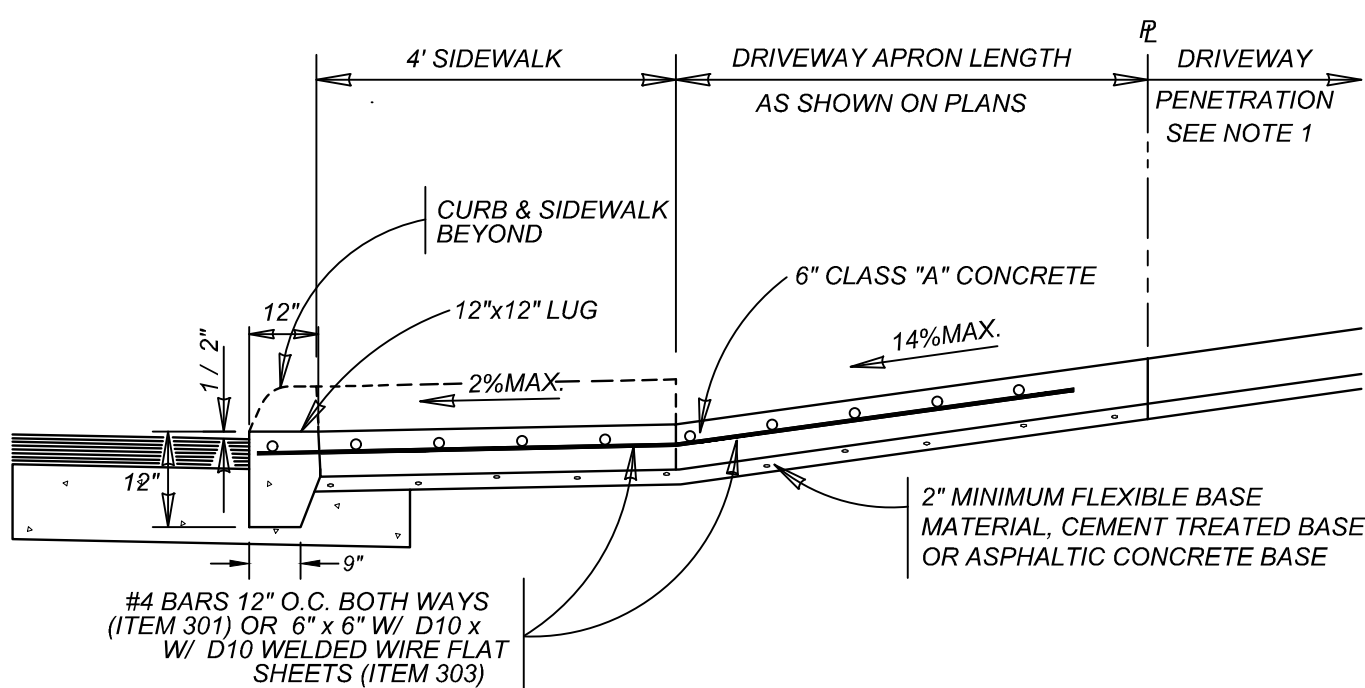
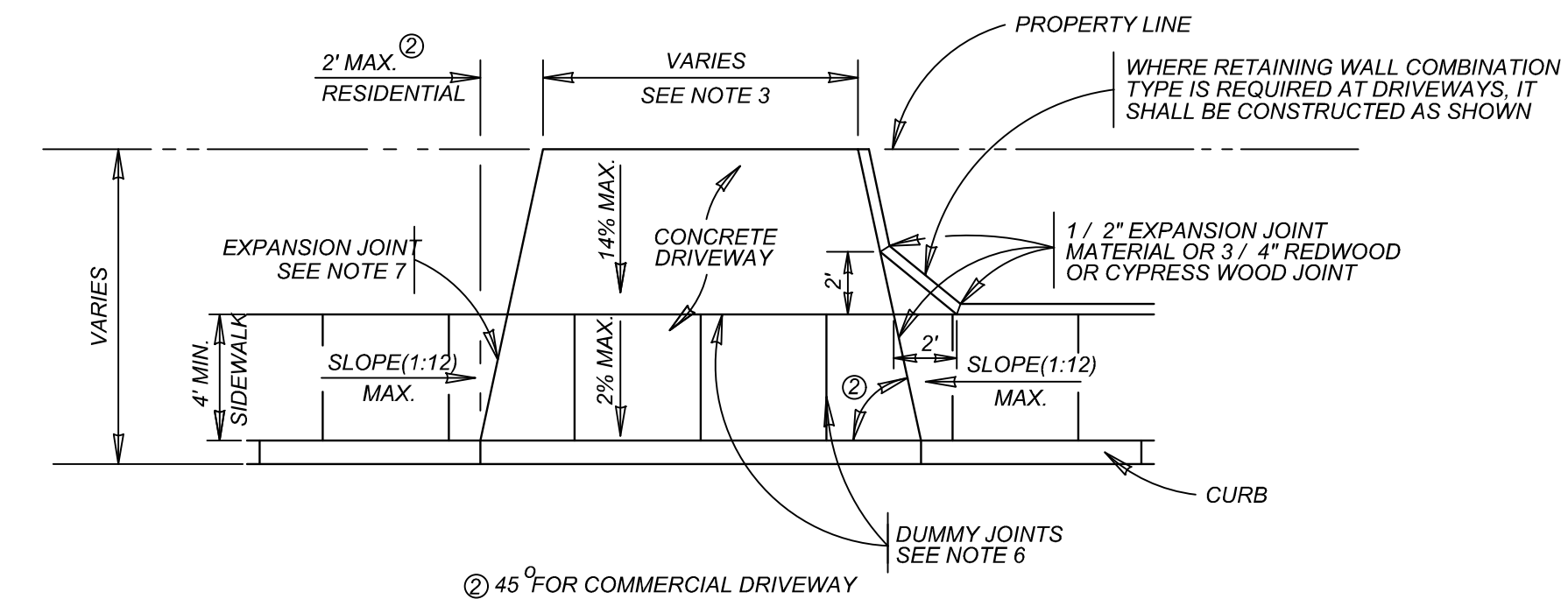
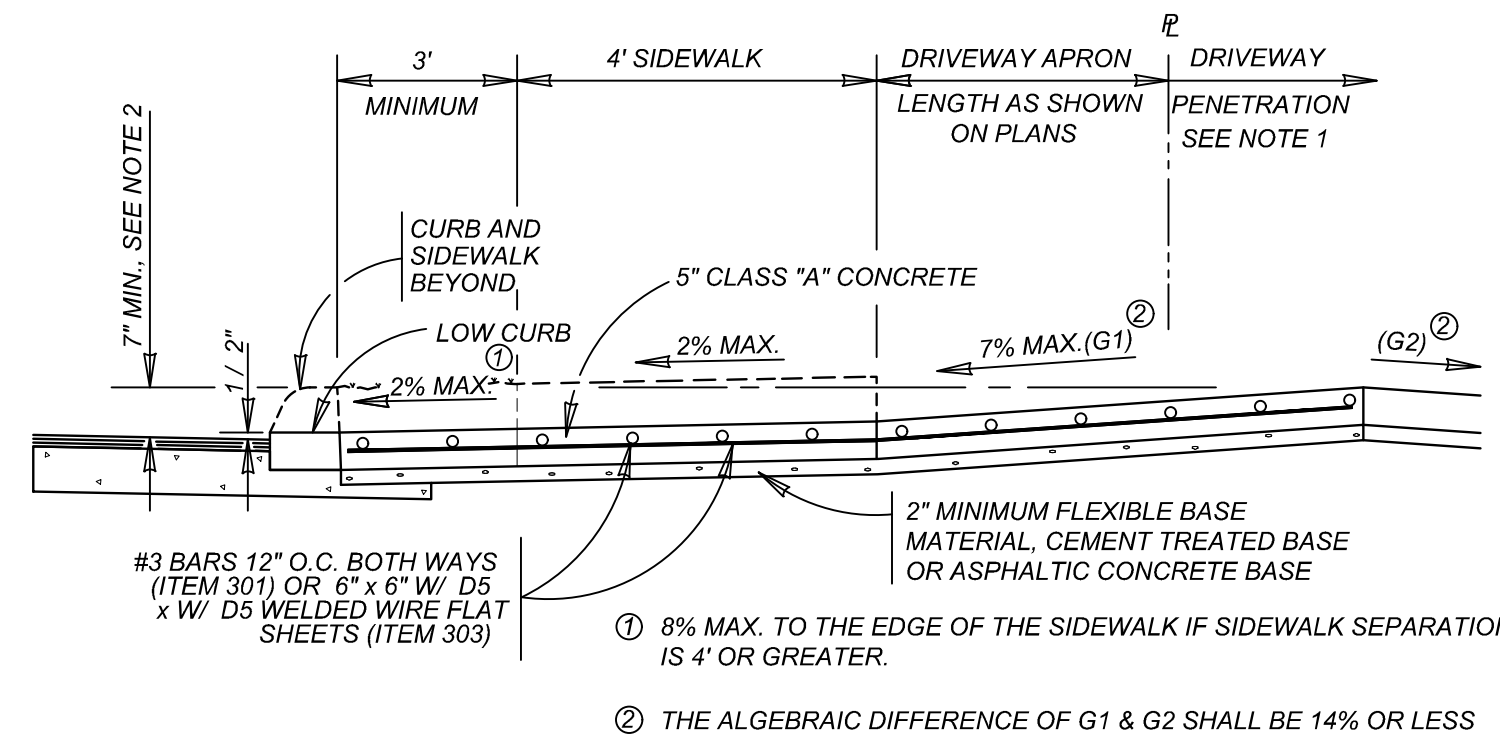
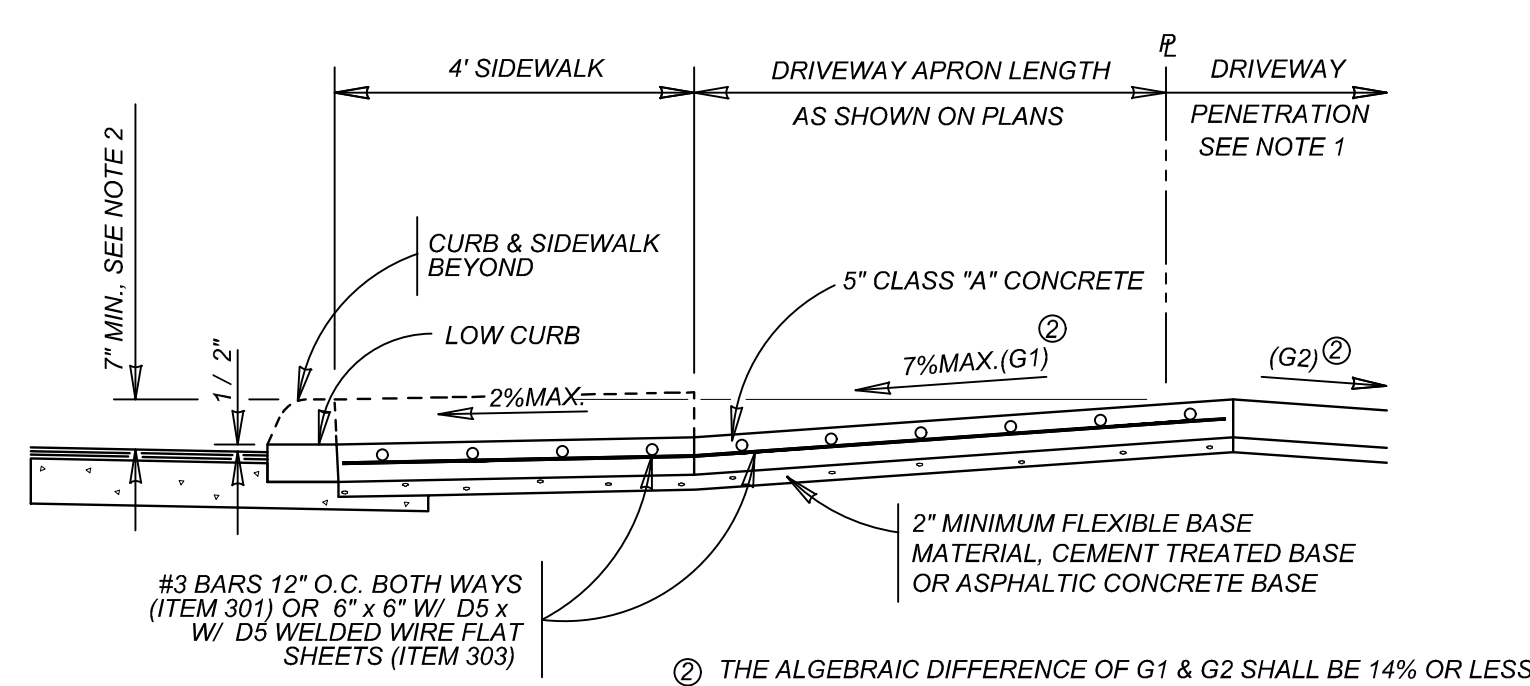
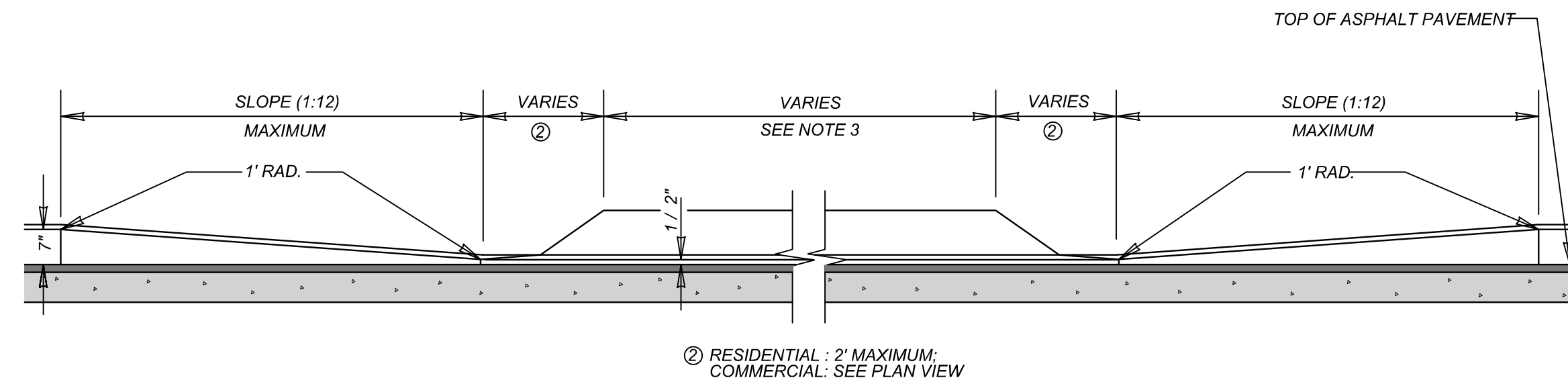
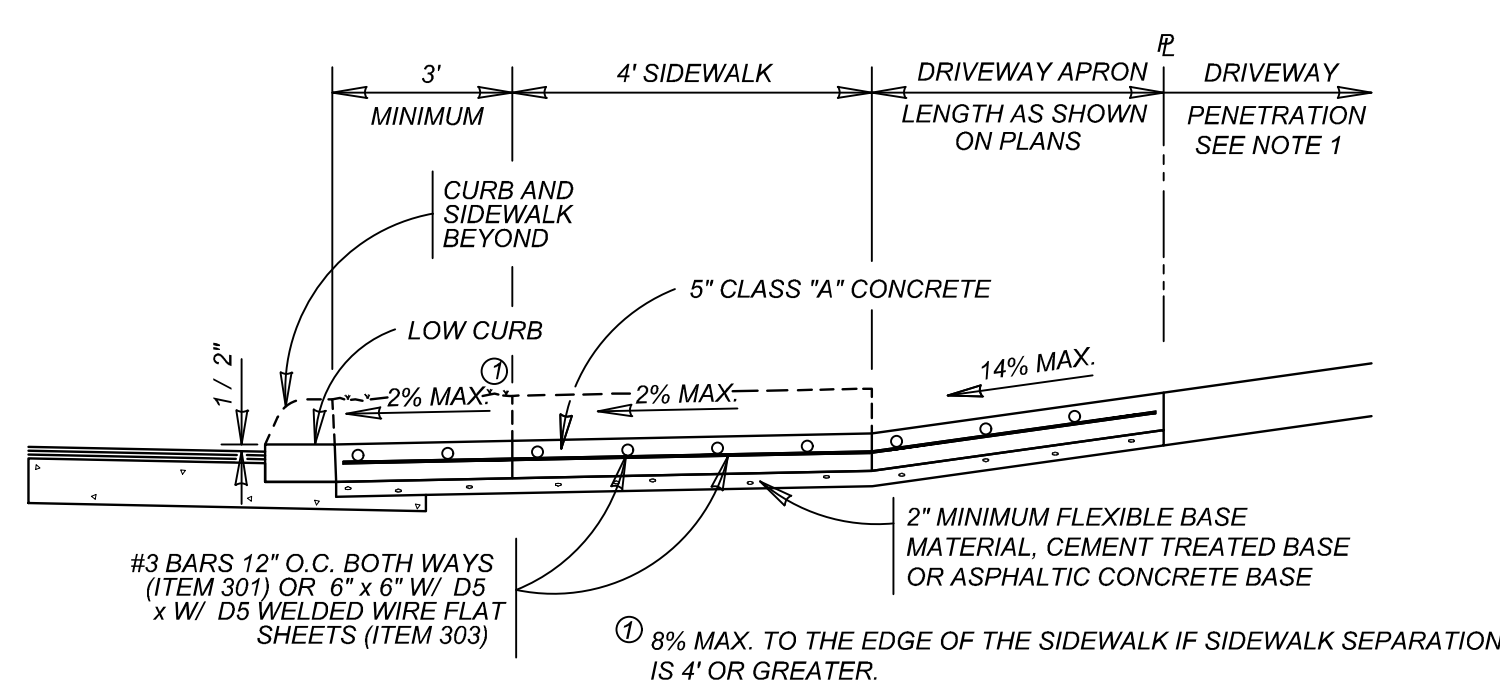
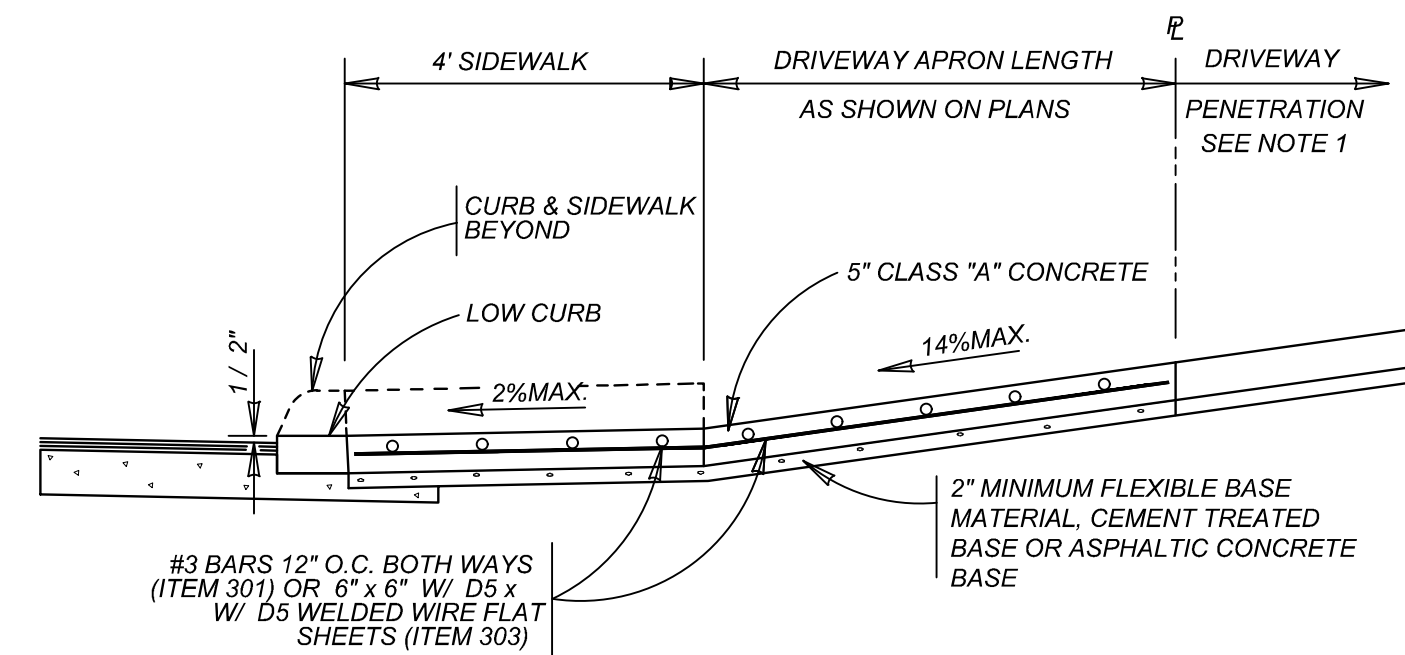
ISSUE DATE

REVISIONS



10/17/24





MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

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

PLAT NO.
22-11800695

JOB NO. 314-46-03

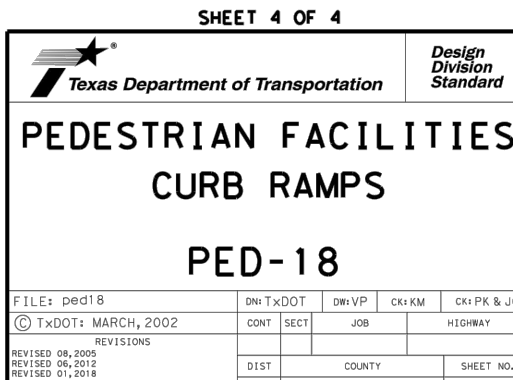
DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

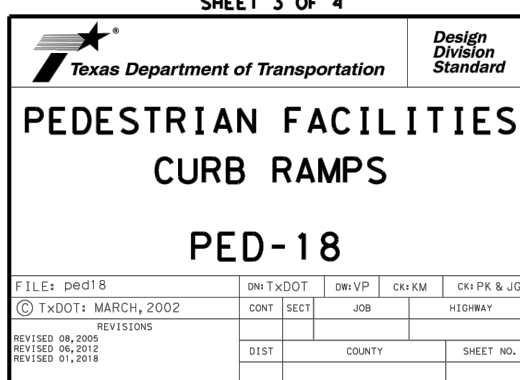
SHEET NUMBER:

5.6

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. The user assumes all responsibility for the use of this standard. No warranty is made by TxDOT for any purpose whatsoever.



DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever.



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

PEDESTRIAN FACILITIES DETAILS

PLAT NO.
22-11800695

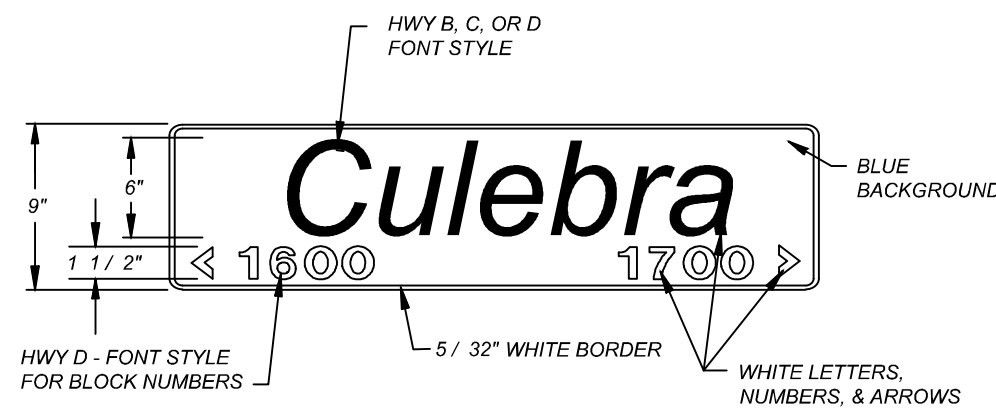
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:

5.7

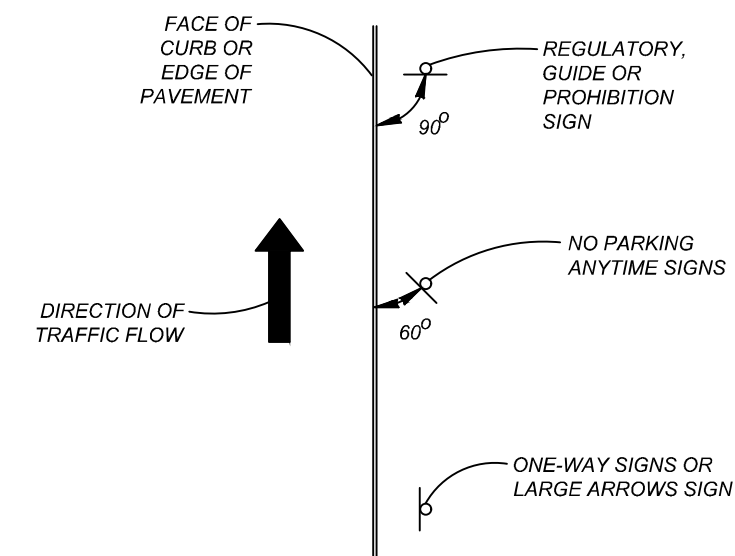
TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTORS' INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND 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 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.

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.



9" STREET NAME SIGN



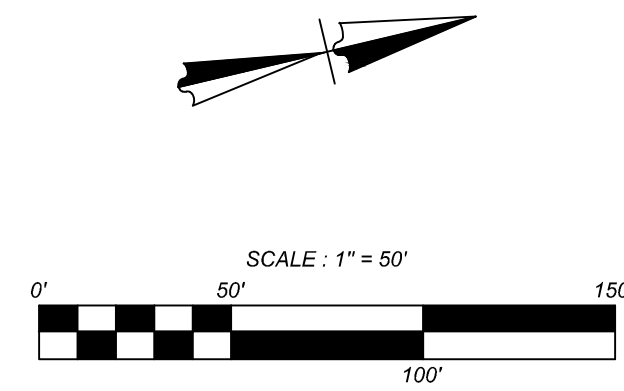
TYPICAL GROUND MOUNTED SIGN PLACEMENT

	15" OVERHEAD SIGN	9" GROUND MOUNT SIGNS
HEIGHT	9" (228 mm)	9" (228 mm)
LENGTH	48" (1200 MM) MIN. 72" (1800 MM) MAX. 1" (300 MM) INCREMENTS OF LENGTH	24" (600 MM) MIN. 48" (1200 MM) MAX. 6" (150 MM) INCREMENTS OF LENGTH
THICKNESS		0.125" (3MM)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH	
SIGN FACE MATERIALS	BLUE FILM* OVER DIAMOND GRADE - ASTM TYPE XI	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 LEGEND ON BLUE BACKGROUND	
LETTER TRACKING	17% (USUAL) 10% (MIN)	10%

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.



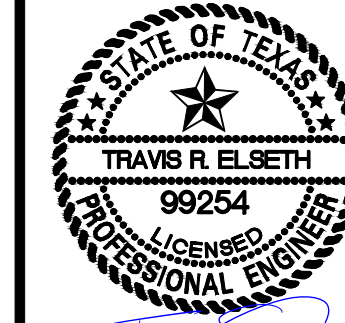
LEGEND

- C.B. = COUNTY BLOCK
- E.G.T.V.E. = ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT
- V.N.A.E. = VEHICULAR NON-ACCESS EASEMENT
- SDWCR = SINGLE DIRECTIONAL WHEEL CHAIR RAMP
SEE SHEET 5.5
- DDWCR = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP
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 LOCATIONS

LOCATION MAP
N.T.S.

BEXAR COUNTY R.O.W. NOTE

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

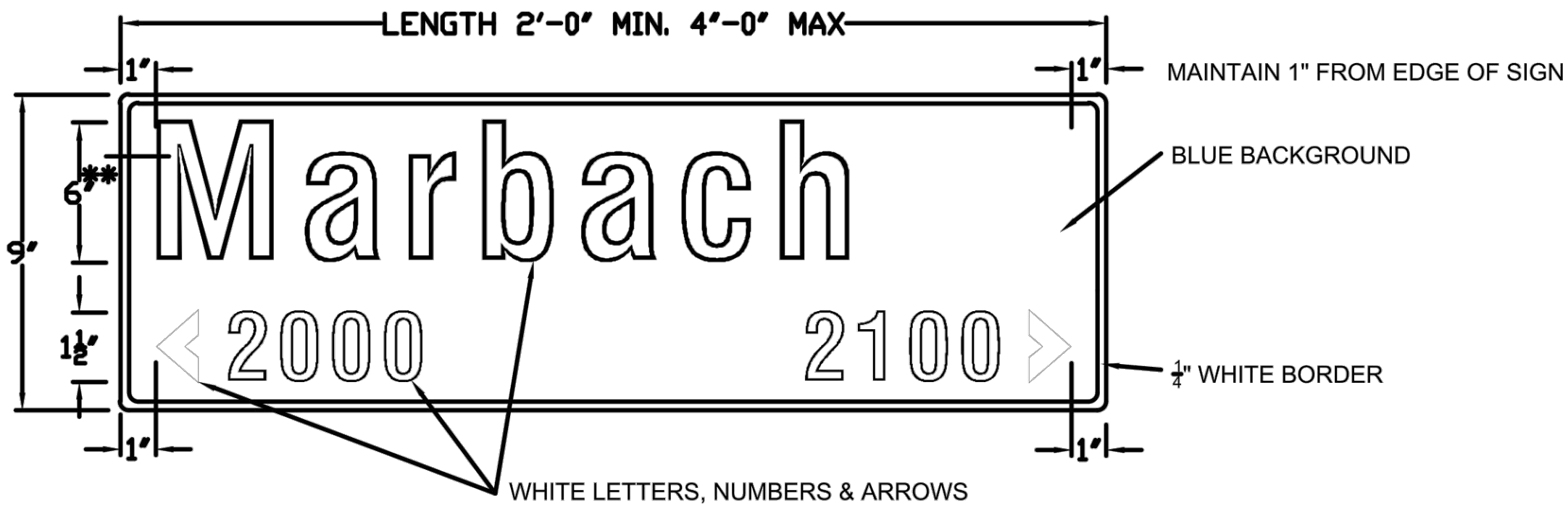
MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS
TRAFFIC SIGNAGE AND SIDEWALK PLANPLAT NO.
22-11800695JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM

SHEET NUMBER:

5.8

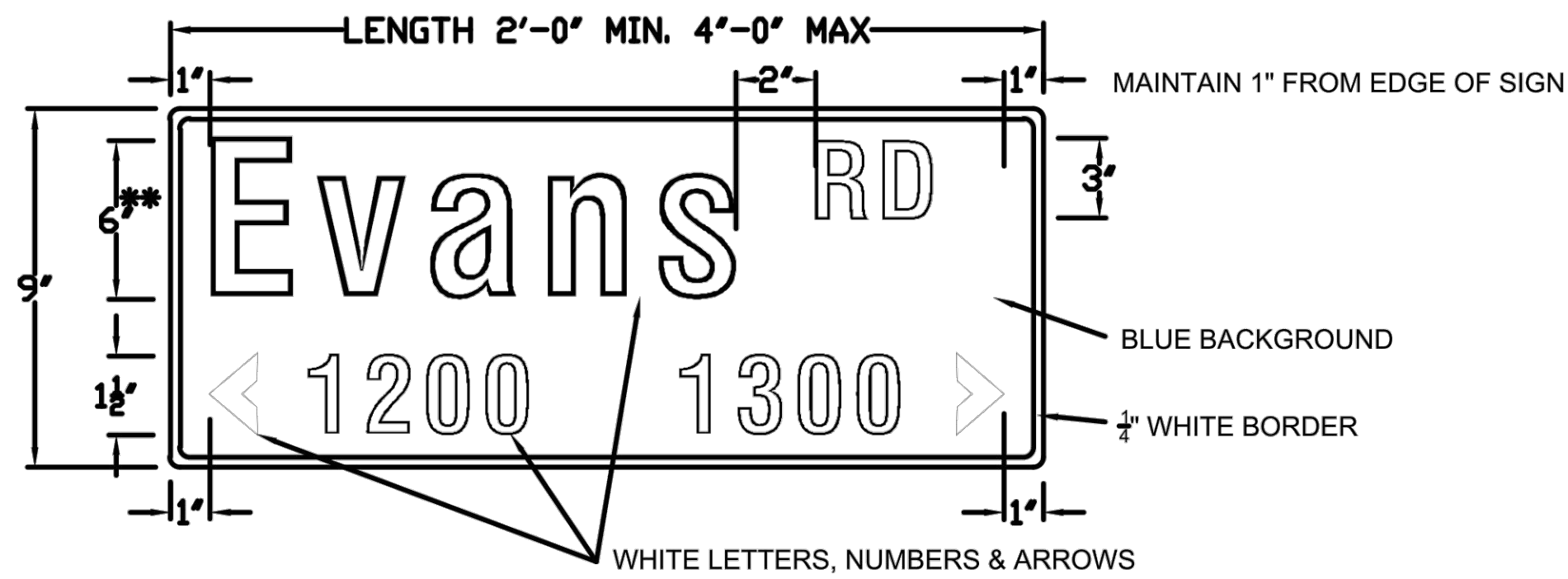
Dates: Oct 10, 2024, 3:29pm User ID: zfrueh
File: N:\314\46\03\Design\Civil\STREET\15\15-D13144603.DWG

**Capital = 6"
Lower case =4 1/2"

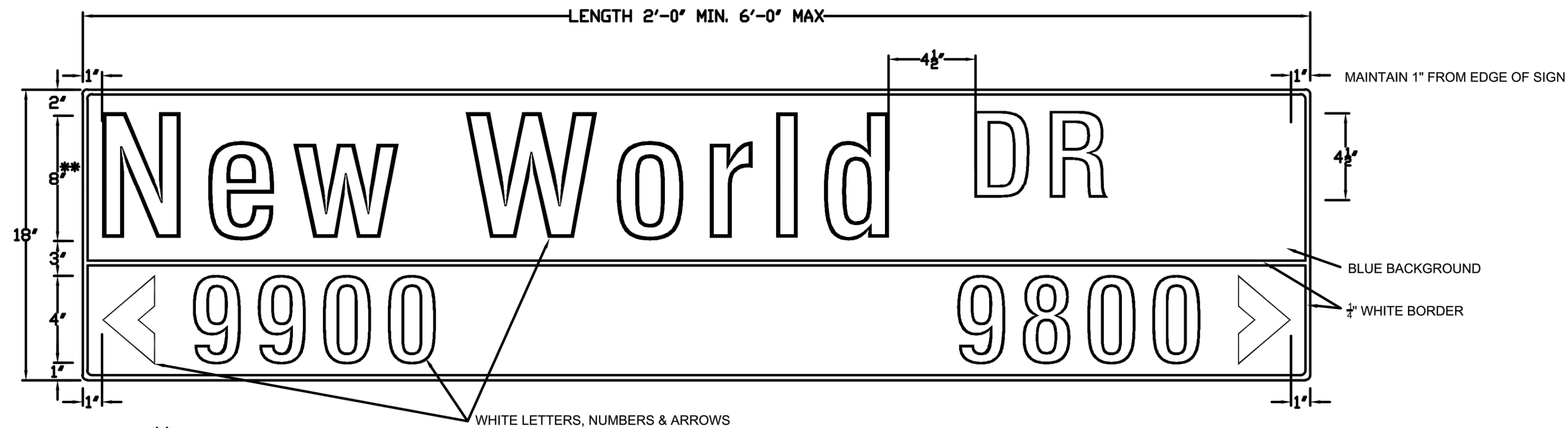


9" GROUND MOUNT STREET NAME SIGNS

**Capital = 6"
Lower case =4 1/2"



9" GROUND MOUNT STREET NAME SIGNS
WITH STREET DESIGNATION

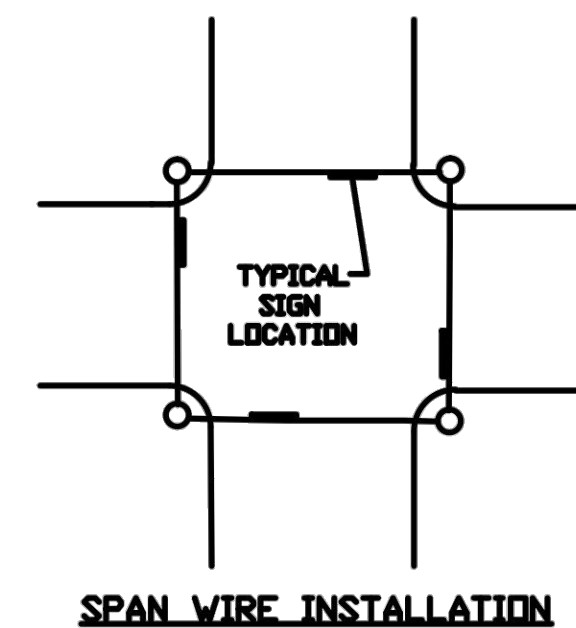


**Capital = 8"
Lower case =6"

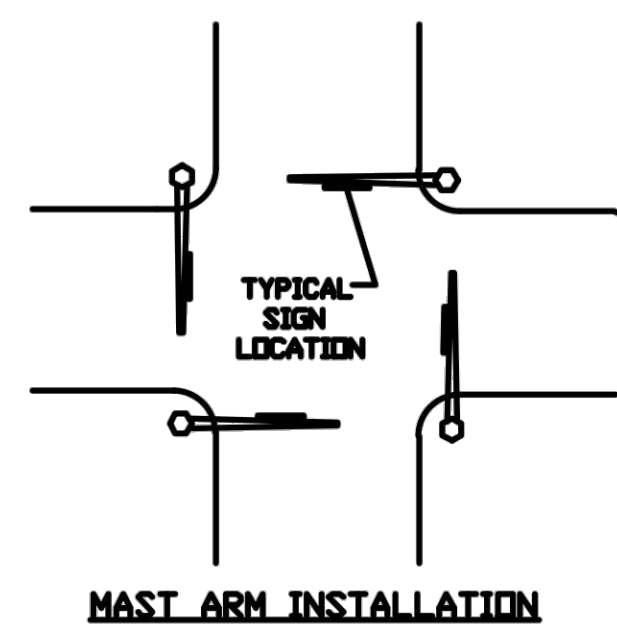
18" OVERHEAD STREET NAME SIGNS

	18" OVERHEAD SIGN	9" GROUND MOUNT SIGNS
HEIGHT	18" (381 mm)	9" (228 mm)
LENGTH	48" (1200 mm) MIN. 72" (1800 mm) MAX. 1' (300mm) INCREMENTS OF LENGTH	24" (600 mm) MIN. 48" (1200 mm) MAX. 6" (150mm) INCREMENTS OF 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 LEGEND ON BLUE BACKGROUND	
LETTER TRACKING	17% (USUAL) 10% (MIN.)	10%

* ACRYLIC ELECTRONIC CUTTABLE FILM



SPAN WIRE INSTALLATION



MAST ARM INSTALLATION

SIGN FACE MATERIALS
SHALL CONFORM TO:

- STANDARD SPECIFICATIONS FOR
CONSTRUCTION OF ROADS &
BRIDGES ON FEDERAL HIGHWAY
PROJECTS - FP-03 U.S.
CUSTOMARY UNITS SECTION 718
- GENERAL SERVICES
ADMINISTRATION FEDERAL
SPECIFICATIONS L-S-300C
- ASTM D 4956 - 09e1

Bexar County Public Works



Street Name Sign Details

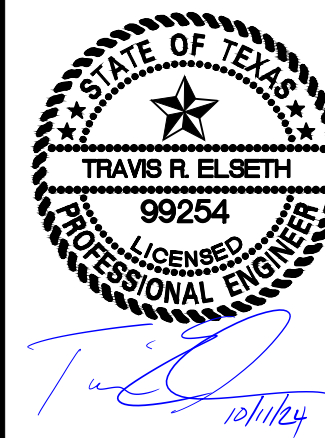
DESIGN BY	DRAWN BY
CHECKED BY	DATE
FILE NO.	
SHEET	1

MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

TRAFFIC SIGNAGE DETAILS

PLAT NO.
22-11800695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:

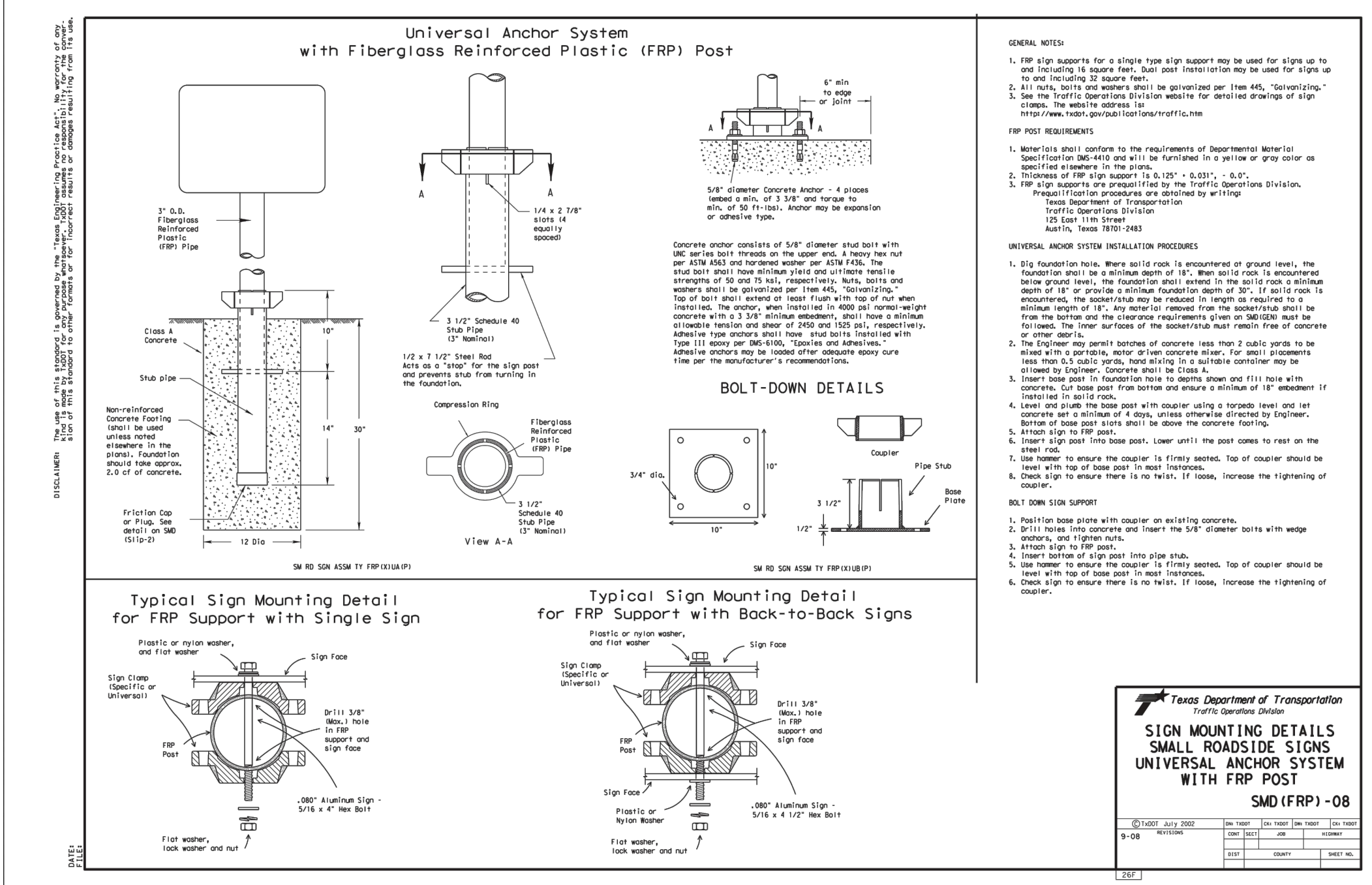
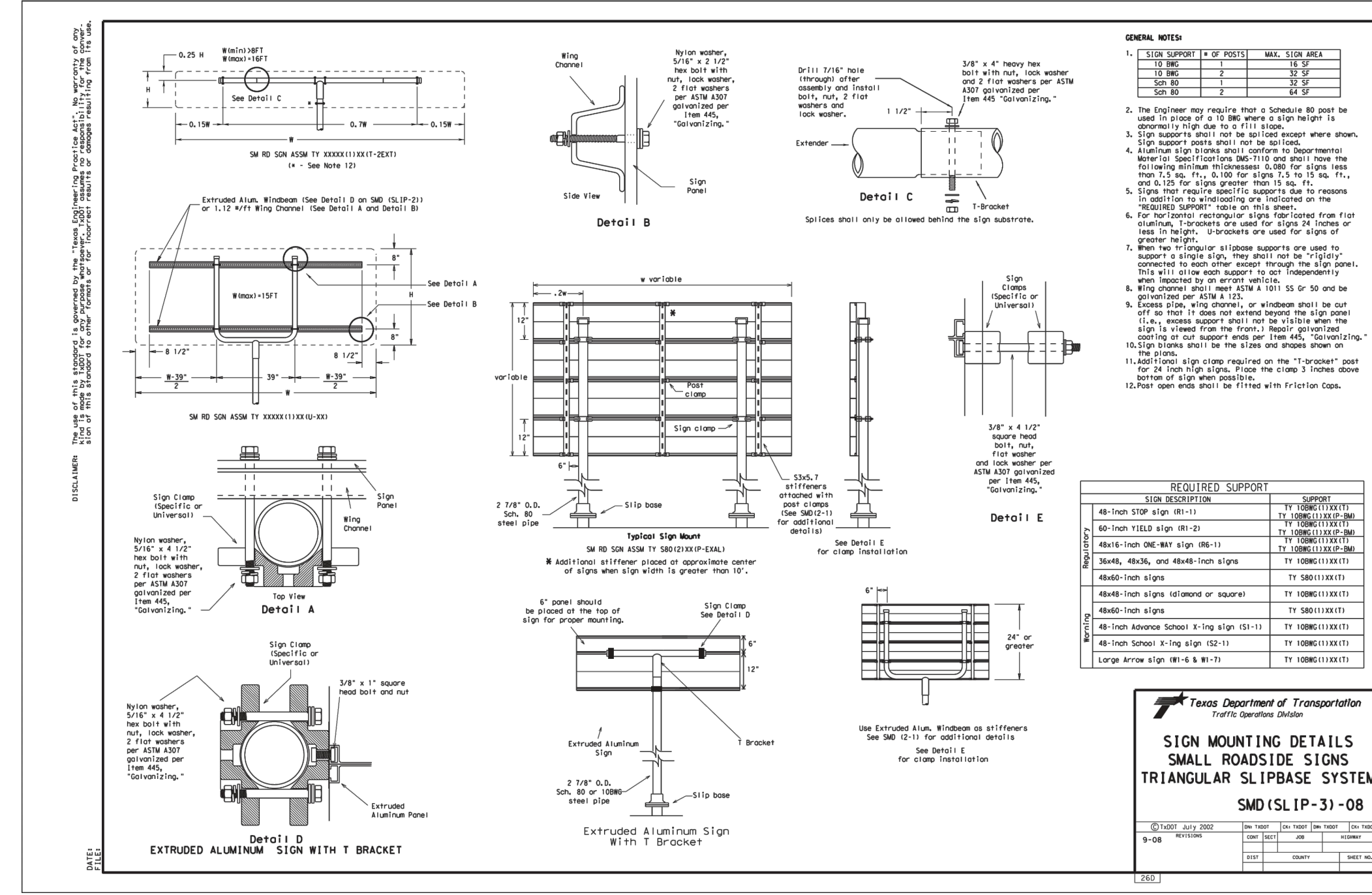
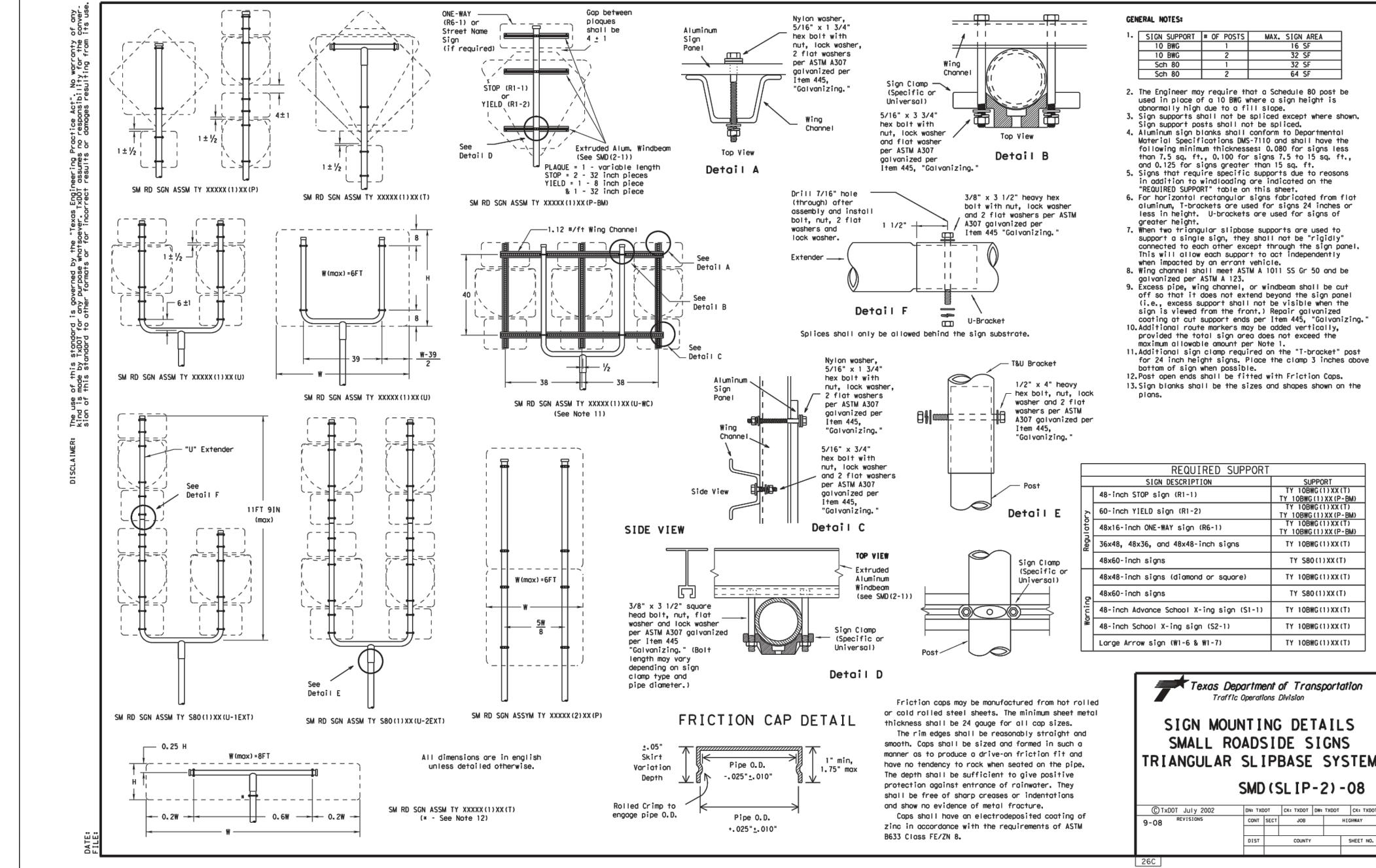
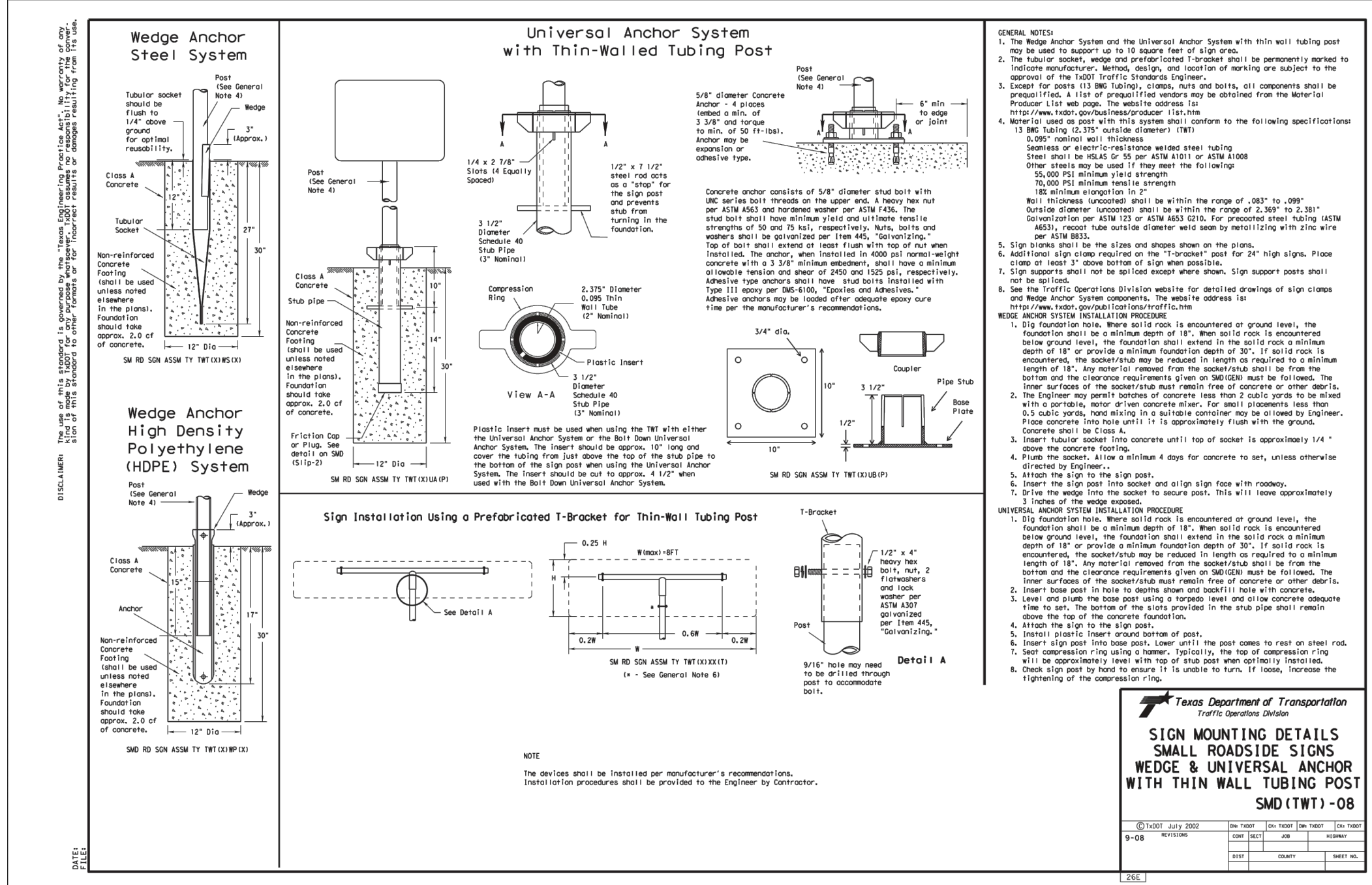
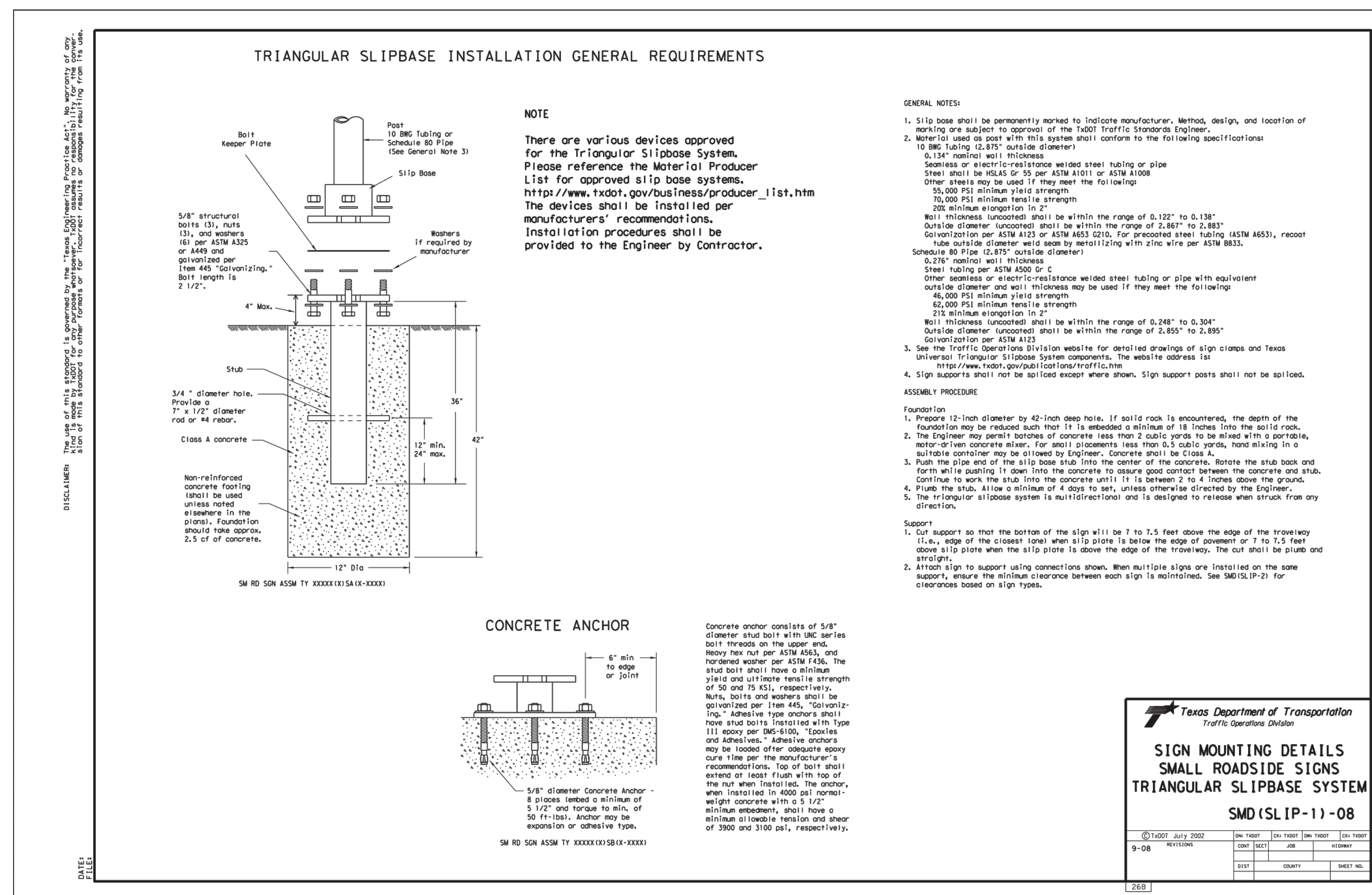
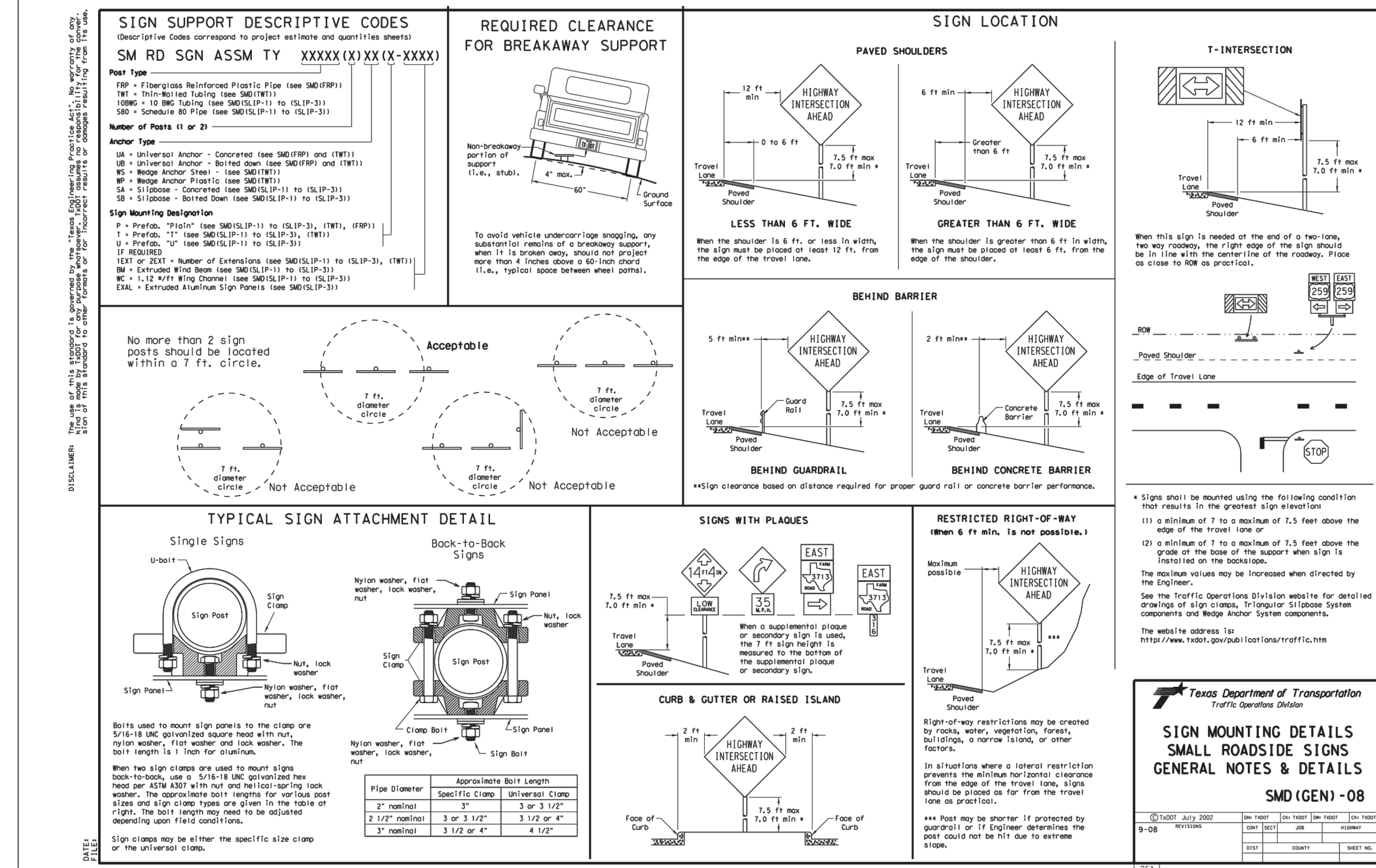
5.9



ISSUE DATE

REVISIONS

KFW
ENGINEERS + SURVEYING
10000 North Loop West, Suite 1000
Houston, Texas 77037
Phone # (210) 879-8444 • Fax # (210) 879-8441
TBB# S Firm #: 1012300



MIRO MEADOWS UNIT 2

BEXAR COUNTY, TEXAS

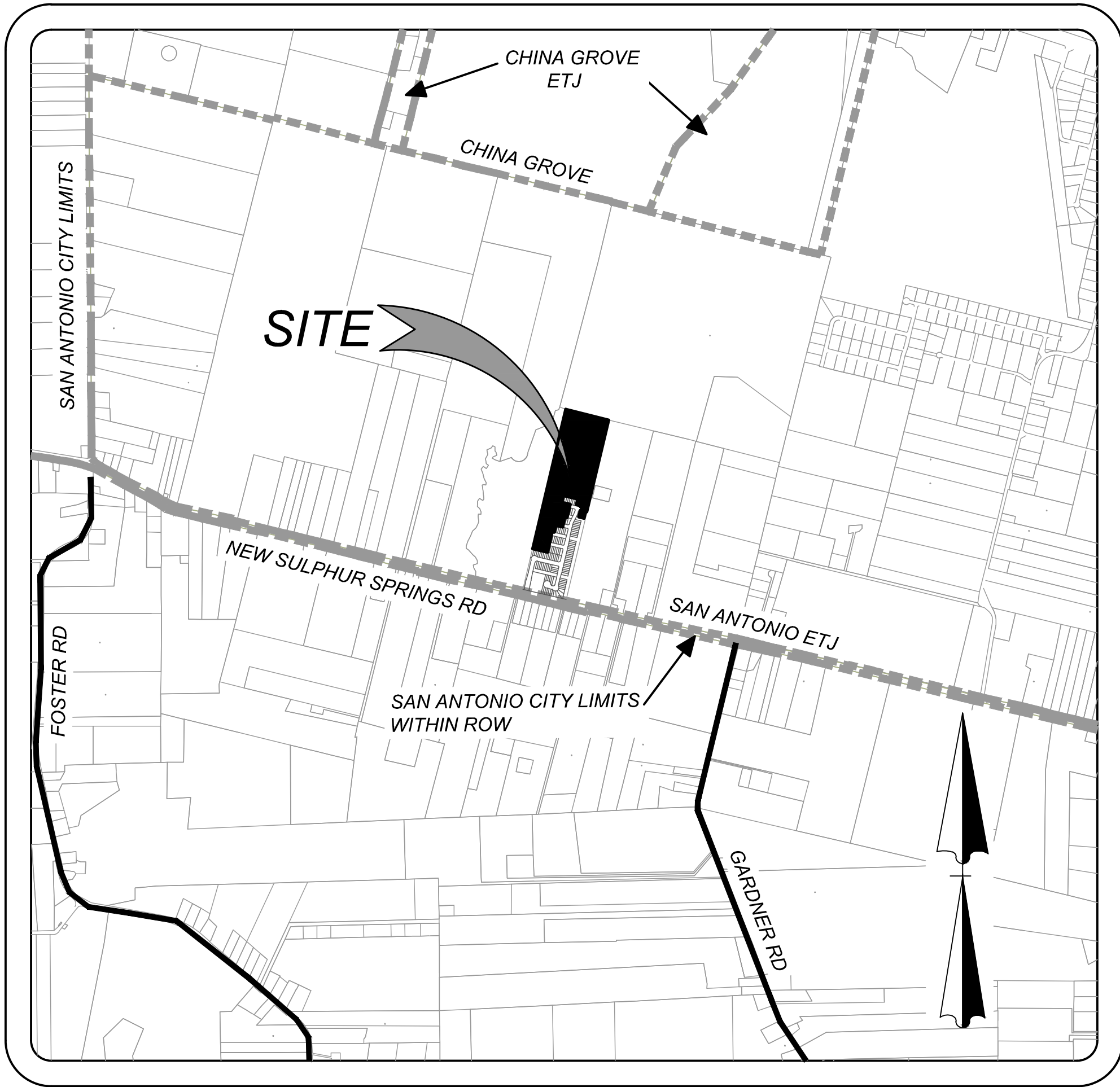
SANITARY SEWER IMPROVEMENTS

- SAWS CONSTRUCTION NOTE**
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
- General Section**
- All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
 - Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
 - Current TxDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
 - Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
 - Current City of San Antonio "Standard Specifications for Public Works Construction".
 - Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
 - The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
 - The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
 - The Contractor is to make arrangements with the SAWS Construction 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.
 - 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.
 - 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
 - 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.
 - All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
 - The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
 - The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
 - Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
 - 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.
 - A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

- Water Section**
- 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
 - 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".
 - Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a cap/plug. (NSPI)
 - Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, plugs, caps, tees, crosses, valves, and bends, in accordance with the Standard Drawings DD-839 Series and Item No. 839 in the SAWS Standard Specifications for Construction.
 - All valves shall read "open right".
 - PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of .809_ feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below .809_ feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if "PRV is/are required for such lot(s), only single service connections shall be allowed." (Note: A pressure regulator is also known as a pressure reducing valve (PRV).
 - 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.
 - 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.
 - 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.

- Sewer Notes**
- The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
 - 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.
 - Attempt to eliminate the source of the SSO.
 - Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
 - Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
 - Clean the affected sewer mains and remove any debris.
 - Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours. Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies. No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.
 - If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864, "Bypass Pumping".
 - Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
 - Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
 - ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY. It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSPI)
 - Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.
 - Manhole and all pipe testing (including the TV inspection) must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division, as per the SAWS Specifications For Water and Sanitary Sewer Construction.
 - All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.



LOCATION MAP

N.T.S

OWNER/DEVELOPER
LENNAR HOMES OF TEXAS
LAND & CONSTRUCTION LTD.
100 NE LOOP 410, SUITE 1125
SAN ANTONIO, TEXAS 78216



Travis R. Elseth
8/16/24



WEST SEWER SHED

DEVELOPER'S NAME: <u>LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION LTD.</u>			
DEVELOPER'S ADDRESS: <u>100 NE LOOP 410, SUITE 1125</u>			
CITY: <u>SAN ANTONIO</u>	STATE: <u>TEXAS</u>	ZIP: <u>78216</u>	
PHONE#: <u>(210) 409-5516</u>	FAX#: _____	TOTAL ACREAGE: <u>.24.51 A</u>	
SAWS BLOCK MAP#: <u>210554</u>		TOTAL EDU'S: <u>97</u>	
TOTAL LINEAR FOOTAGE OF PIPE: <u>766 L.F. - 8" SDR 26 PIPE</u>			
NUMBER OF LOTS: <u>97</u>	SAWS JOB#: <u>22-11800695</u>	PLAT NO.: <u>22-11800695</u>	

GENERAL CONSTRUCTION
PERMIT S.A.W.S. JOB 22-11800695

PLAT NO. : 22-11800695

SHEET 6.0

Date: Aug 06, 2024, 1:34pm User ID: wbratcher
File: N:\314\46\03\Design\Civil\SEWER\SSP\3144603.dwg

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND 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 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.

CAUTION!!

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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). REFERENCE SHEET 6.0, SANITARY SEWER GENERAL NOTES.
- SEE SHEET 6.1 FOR BENCHMARK INFORMATION.
- PIPE TYPE DESIGNATIONS ARE SDR 26.
- ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER. SEE STANDARD SPECIFICATIONS.

WATER/SEWER CROSSING NOTE:

ALL WATER/SEWER CROSSINGS SHALL COMPLY WITH SAWS SPECIFICATION ITEM 612 SANITARY SEWER/WATER DETAIL.

NOTE:

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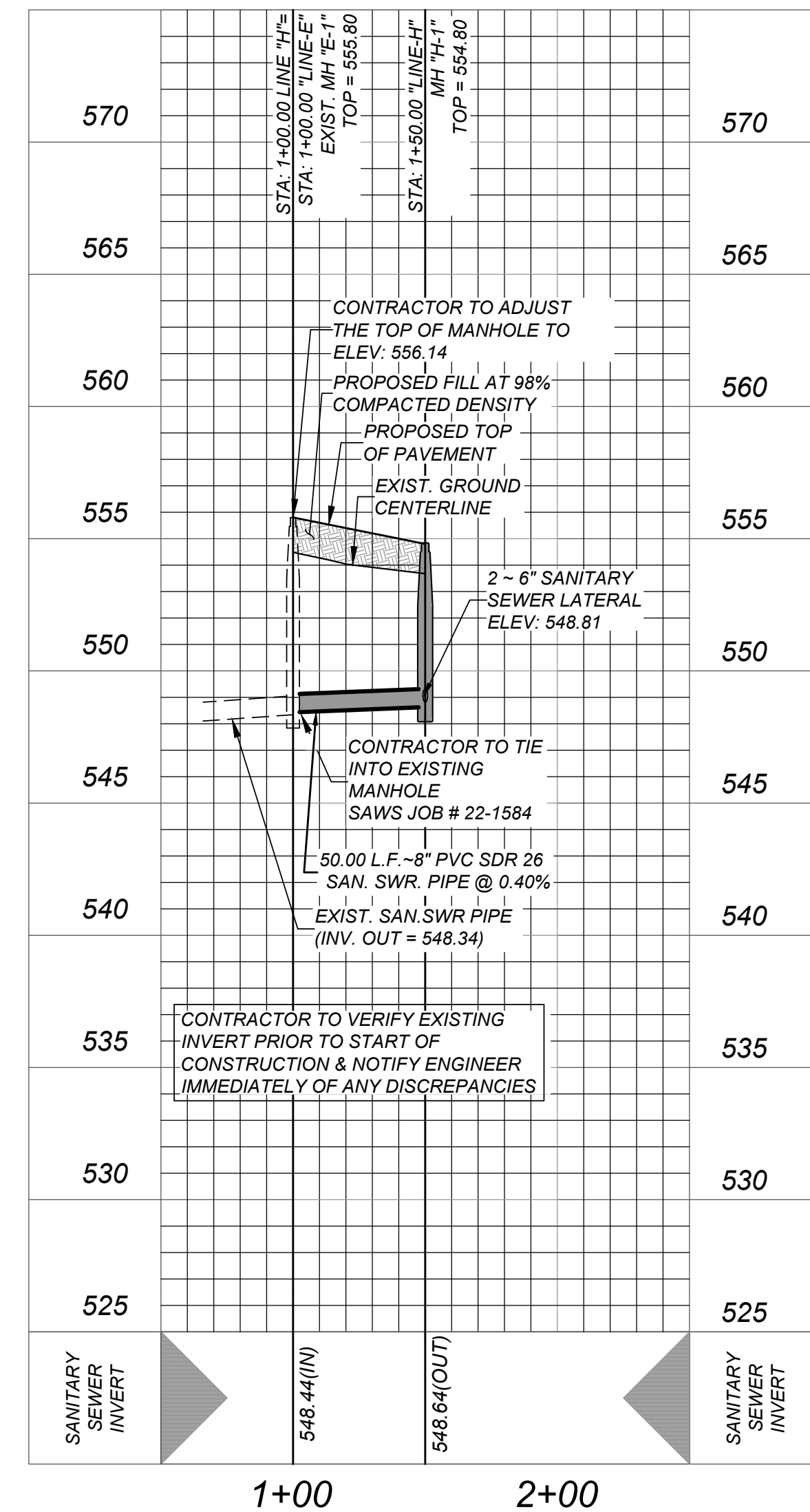
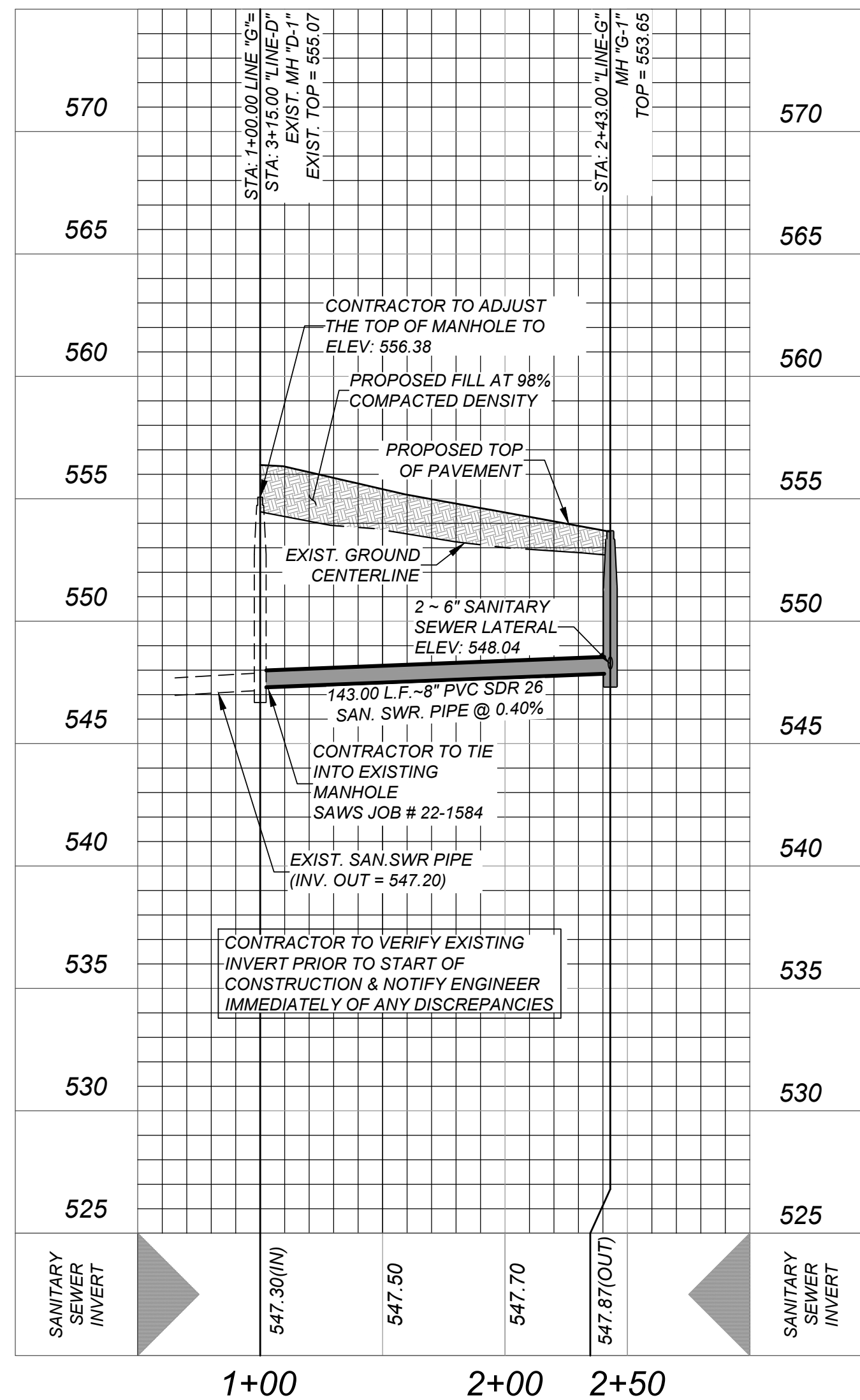
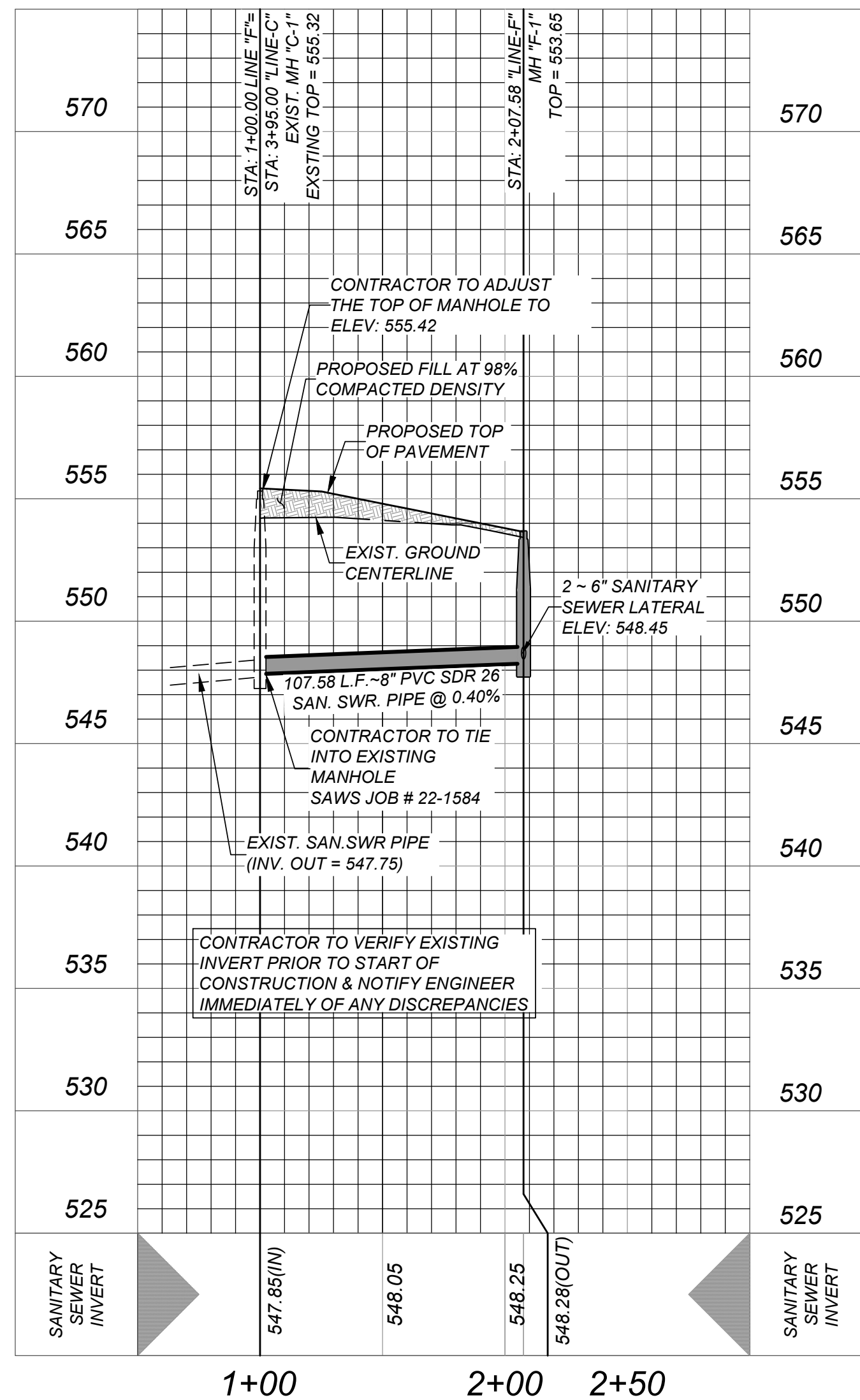
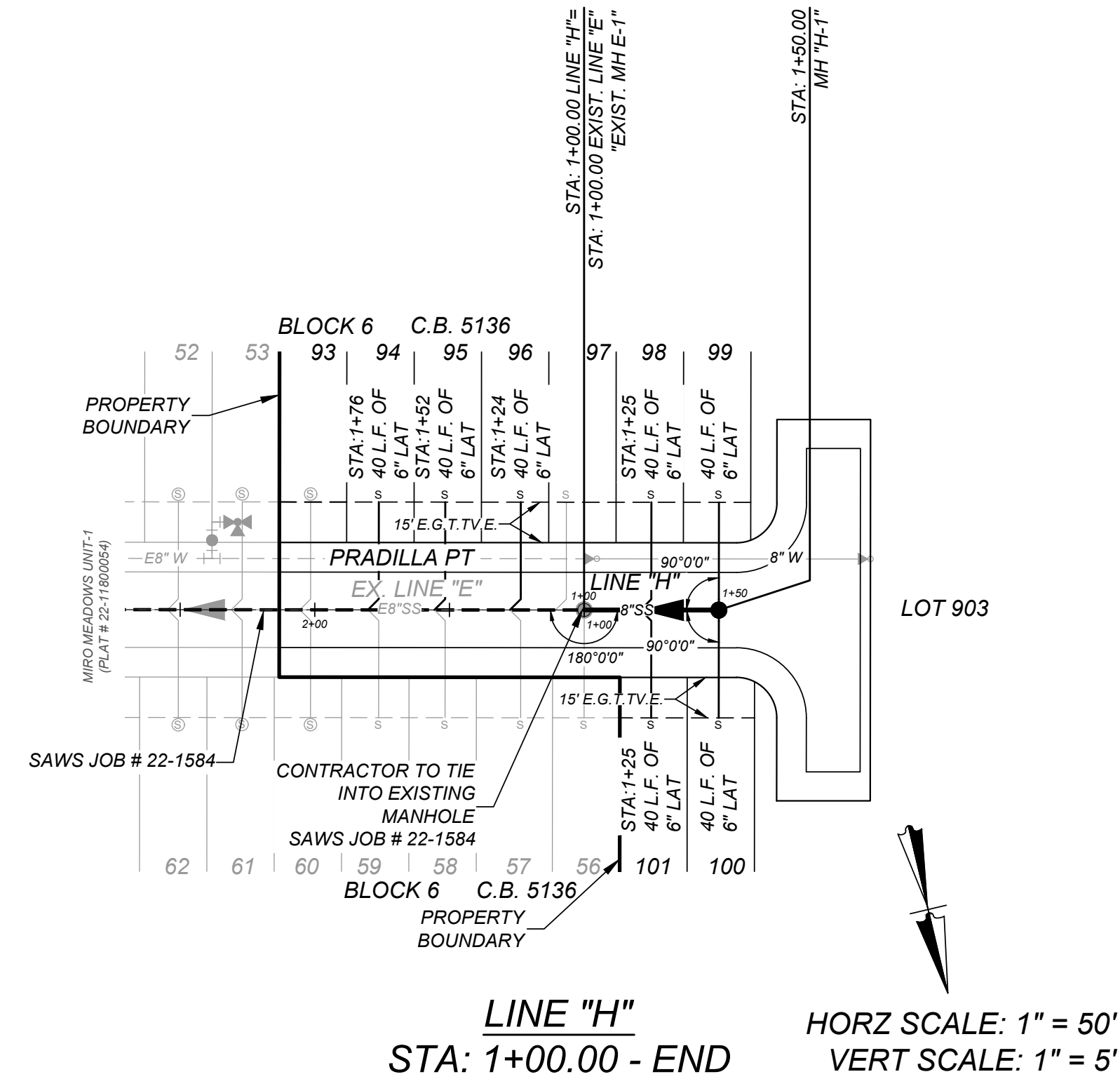
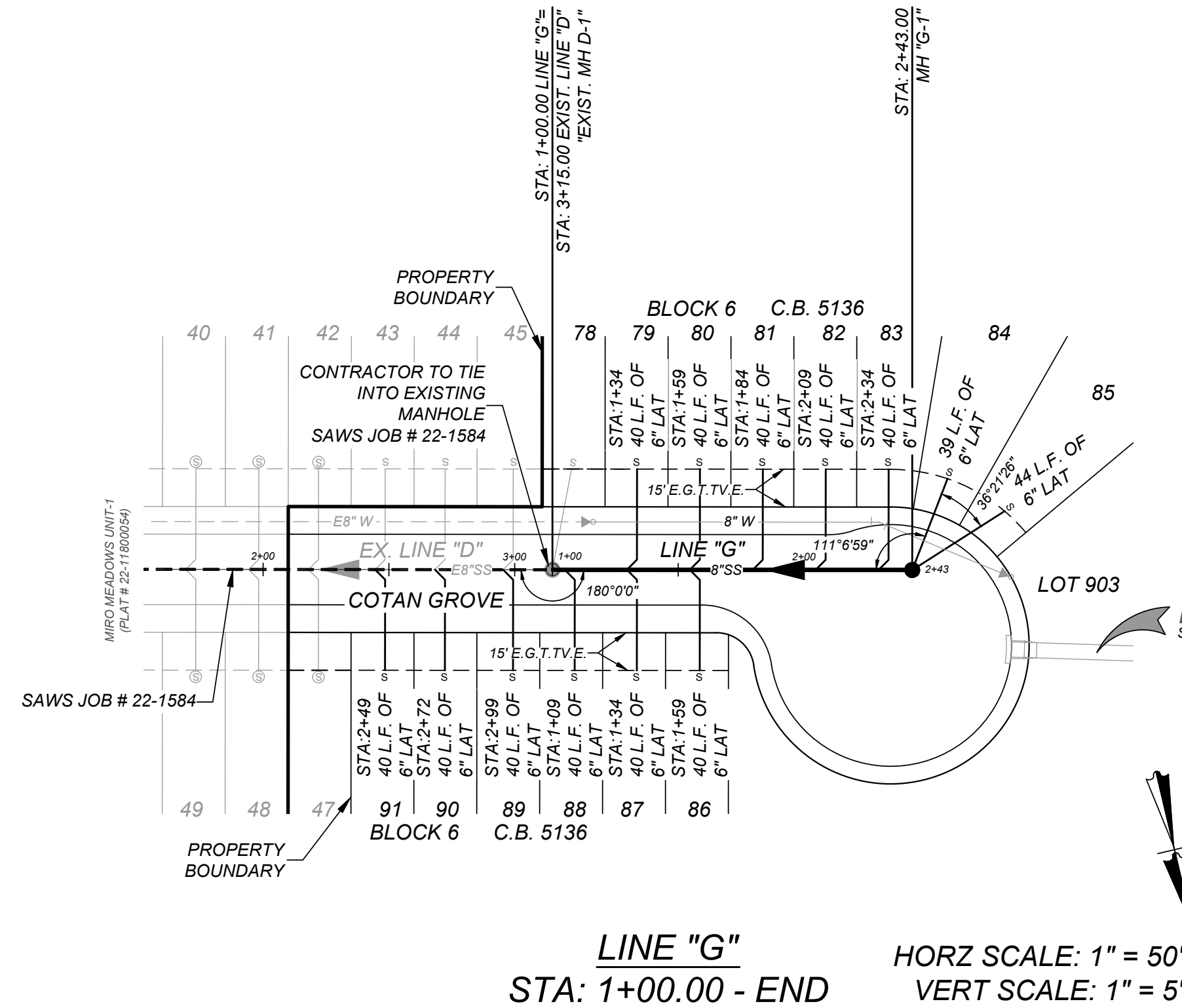
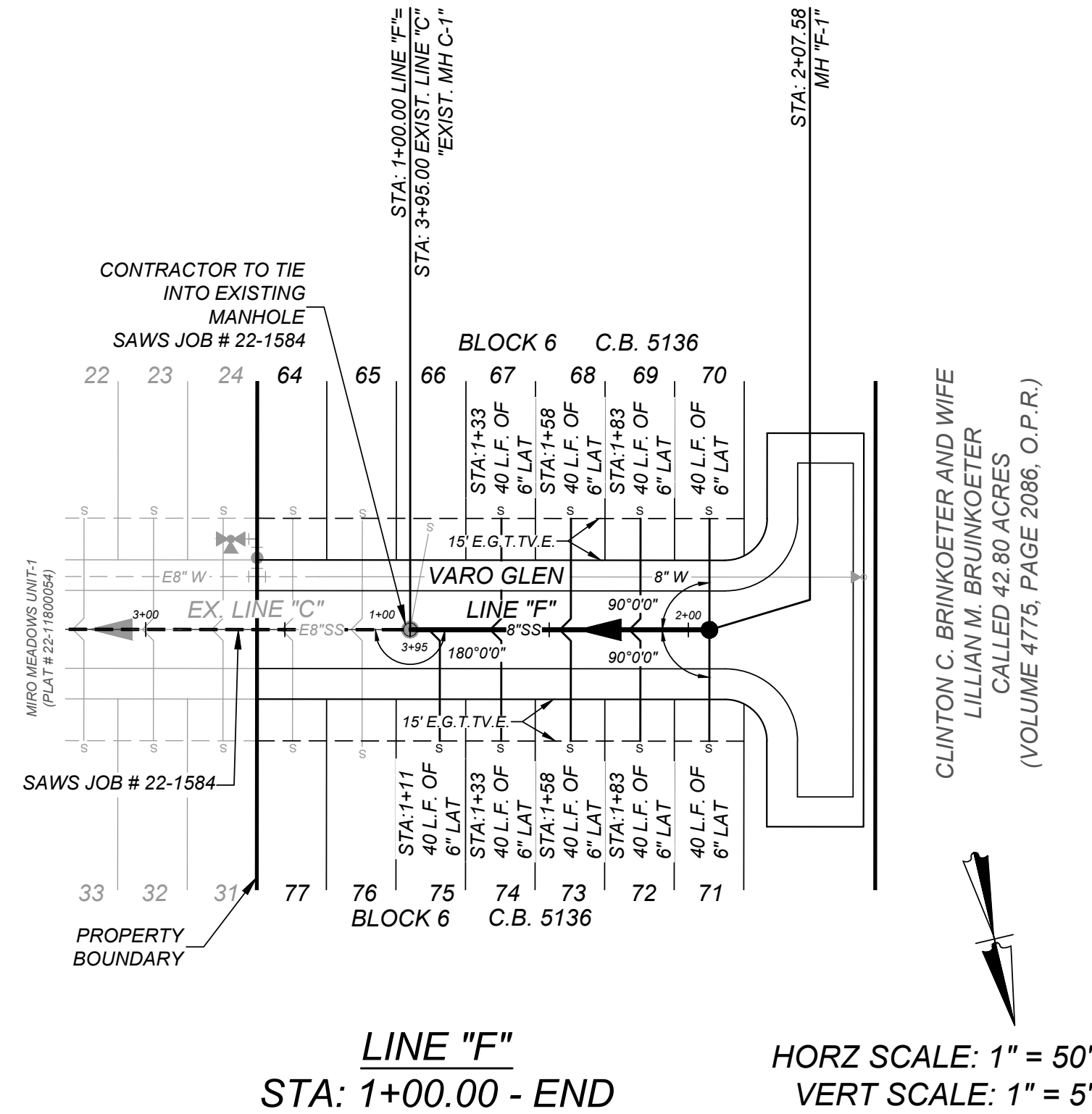
MANHOLE NOTE:

ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02 UNLESS OTHERWISE NOTED

WEST SEWER SHED

DEVELOPER'S NAME: LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION LTD.
DEVELOPER'S ADDRESS: 100 NE LOOP 410, SUITE 1125
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78216
PHONE#: (210) 409-5516 FAX#: TOTAL ACREAGE: 24.31 AC.
SAWS BLOCK MAP#: 210554 TOTAL EDU'S: 97
TOTAL LINEAR FOOTAGE OF PIPE: 766 L.F. ~ 8" SDR 26 PIPE
NUMBER OF LOTS: 97 SAWS JOB#: 22-1584 PLAT NO.: 22-11800695

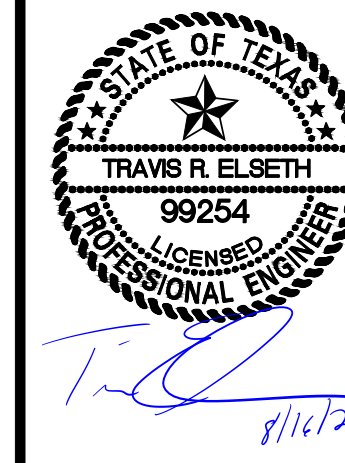
GENERAL CONSTRUCTION
PERMIT S.A.W.S. JOB 22-1584



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

SEWER LINE F, G & H PLAN AND PROFILES

PLAT NO.
22-11800695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:
6.2



ISSUE DATE
REVISIONS

ENGINEERS + SURVEYING
100 NE LOOP 410, SUITE 1125
SAN ANTONIO, TEXAS 78216
PHONE: (210) 409-5516 FAX: (210) 409-5517
TBE Firm #: 9513 • TBE S Firm #: 10122303

TRENCH EXCAVATION SAFETY PROTECTION

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WATER/SEWER CROSSING NOTE:

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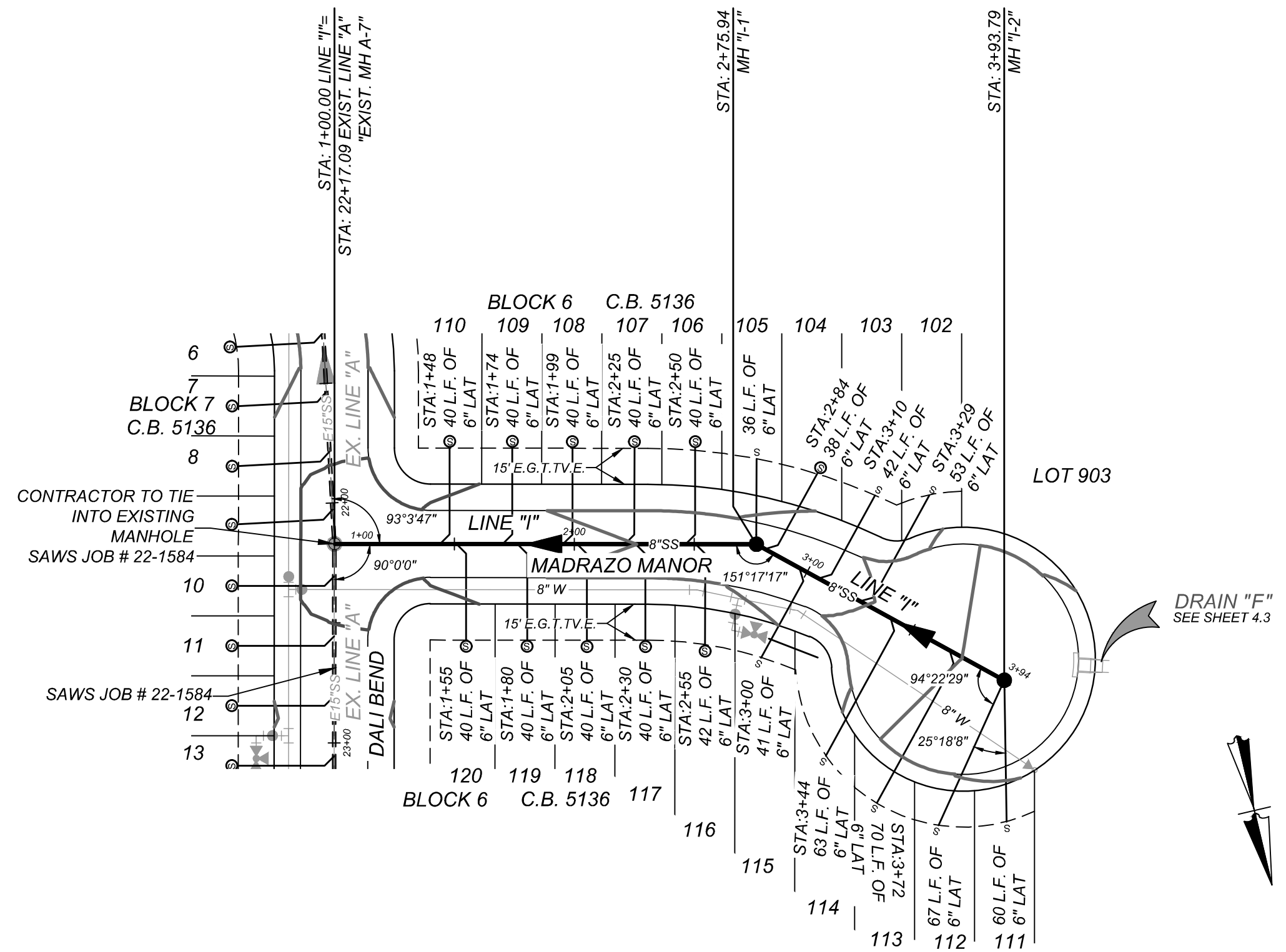
MANHOLE NOTE:

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WEST SEWER SHED

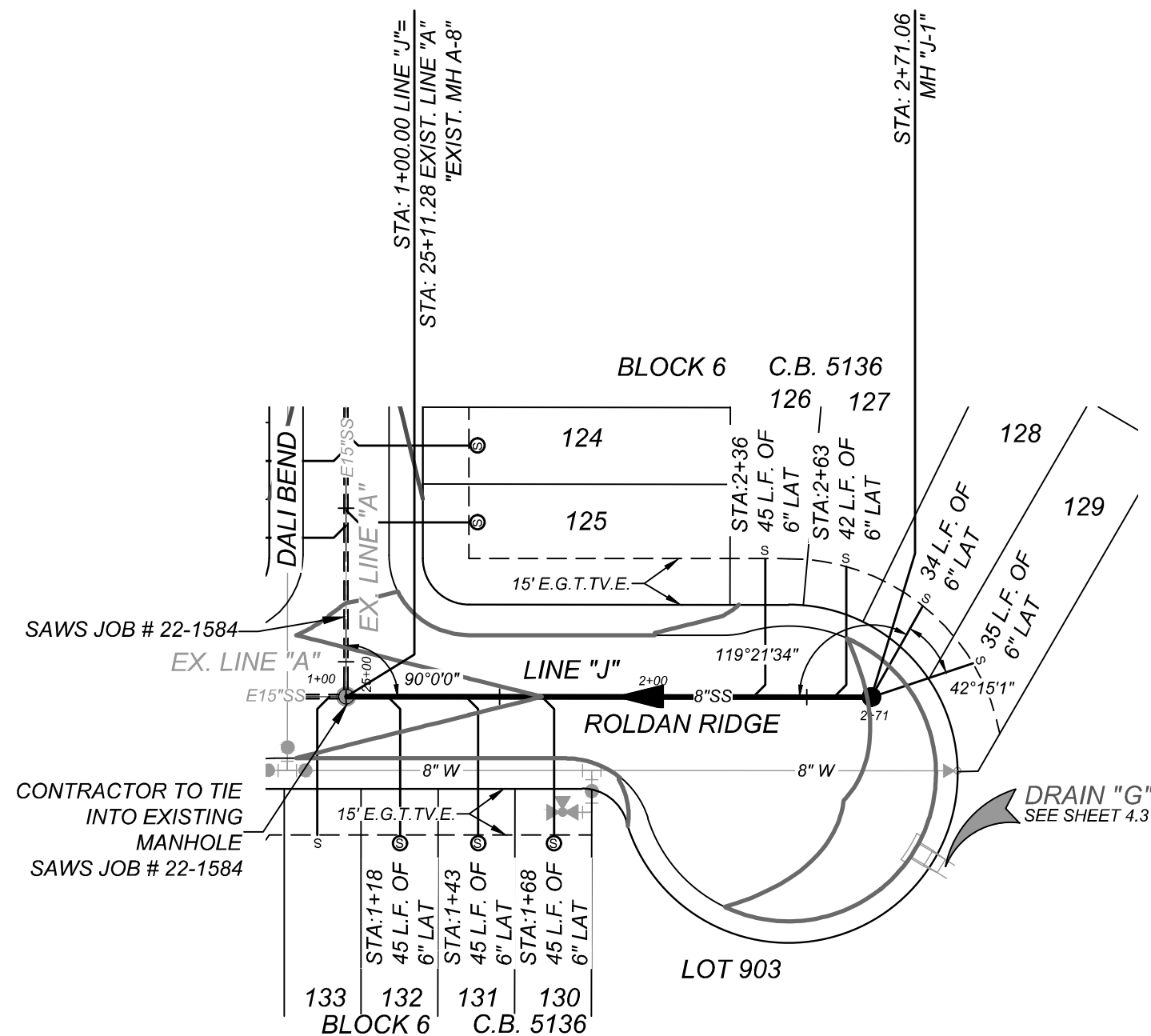
DEVELOPER'S NAME: LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION LTD.
DEVELOPER'S ADDRESS: 100 NE LOOP 410, SUITE 1125
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78216
PHONE#: (210) 409-5516 FAX#: _____ TOTAL ACREAGE: 24.51 AC.
SAWS BLOCK MAP#: 210554 TOTAL EDU'S: 97
TOTAL LINEAR FOOTAGE OF PIPE: 766 L.F. ~ 8" SDR 26 PIPE
NUMBER OF LOTS: 97 SAWS JOB#: 24-1600 PLAT NO.: 22-11800695

GENERAL CONSTRUCTION
PERMIT S.A.W.S. JOB 24-1600



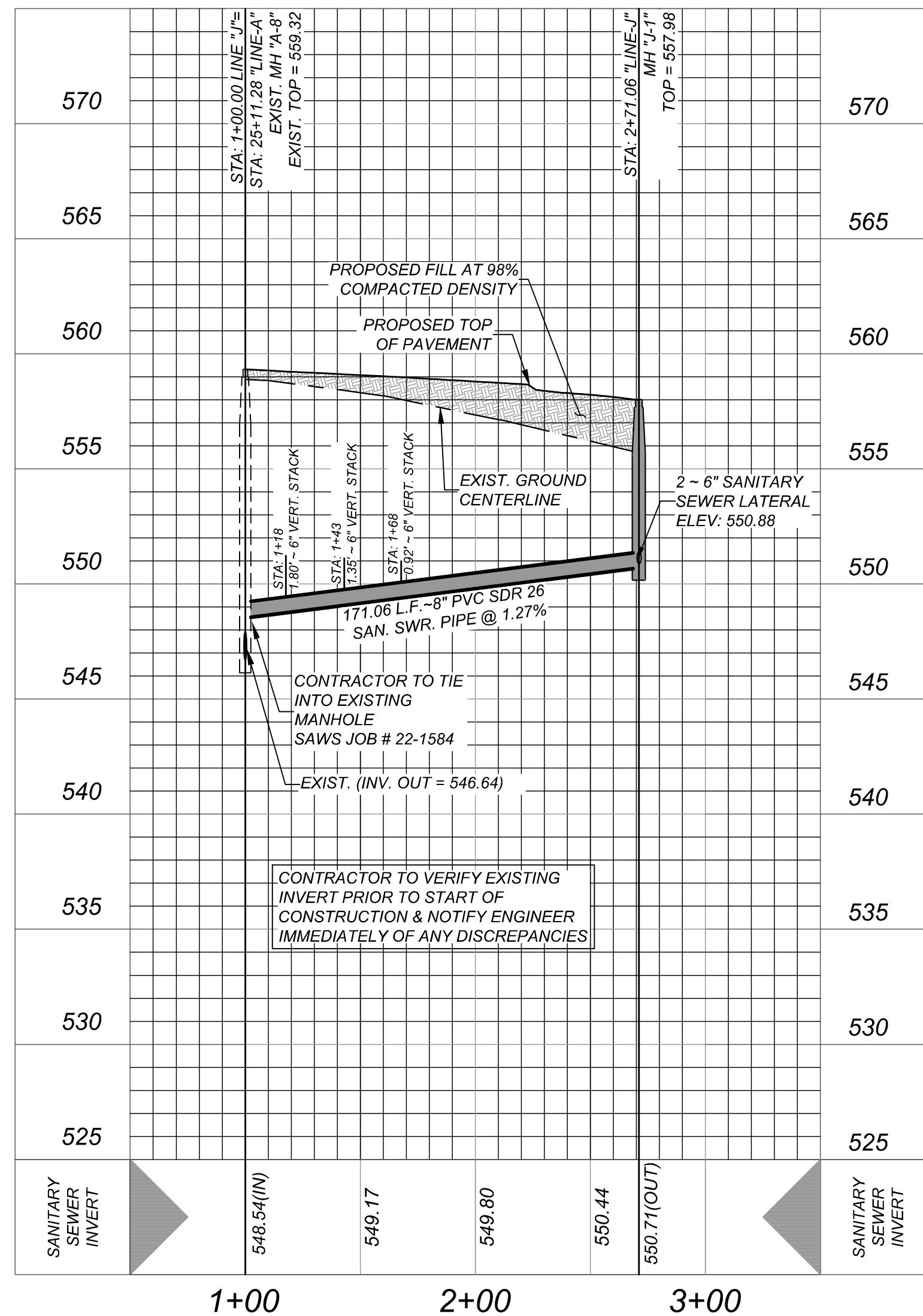
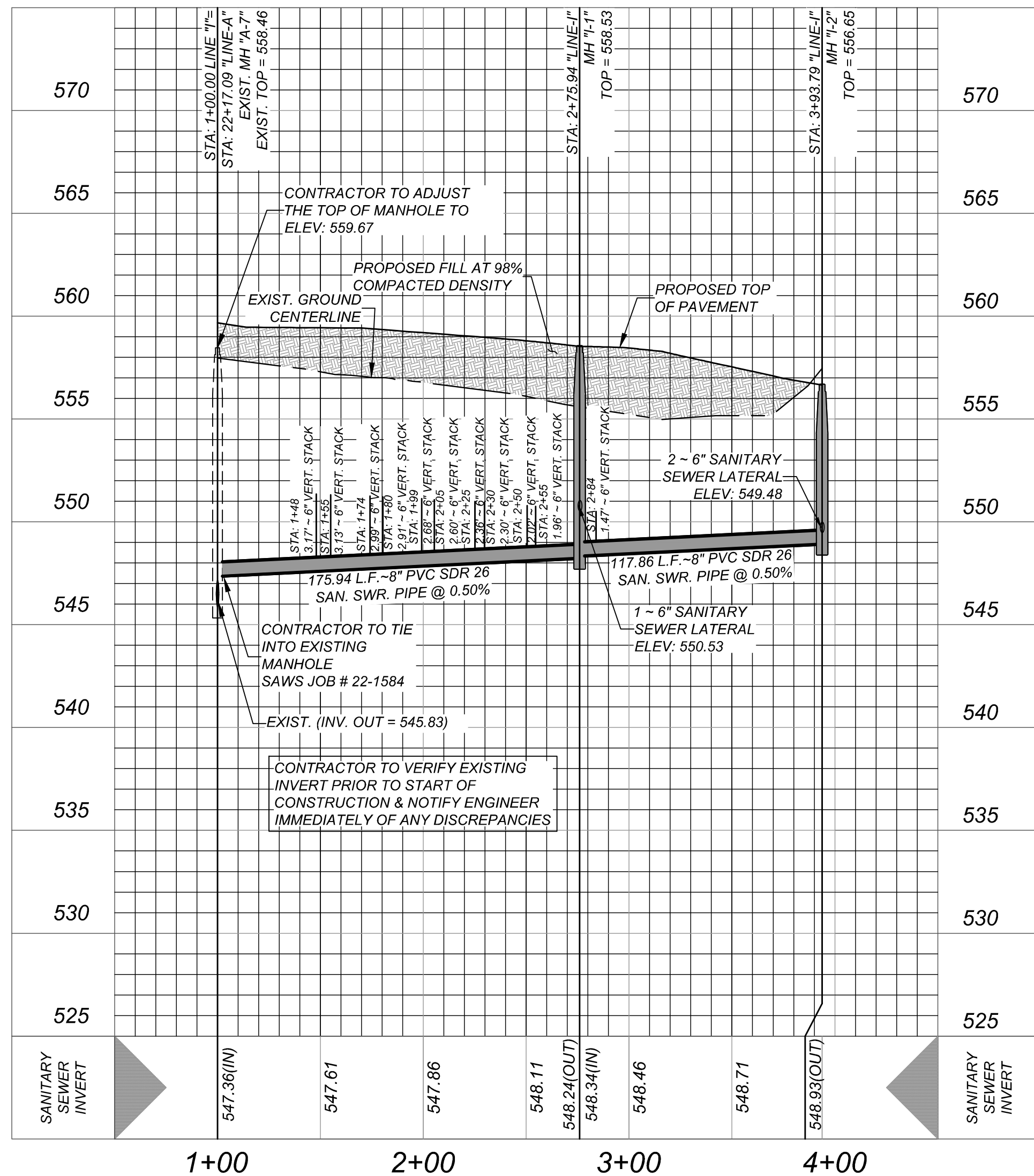
LINE "I"
STA: 1+00.00 - END

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



LINE "J"
STA: 1+00.00 - END

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



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

SEWER LINE I, & J PLAN AND PROFILES

PLAT NO.
22-11800695

JOB NO. 314-46-03

DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

SHEET NUMBER:

6.3

Date: Aug 06, 2024, 1:35pm User ID: wbratcher
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TRENCH EXCAVATION SAFETY PROTECTION

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- ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER. SEE STANDARD SPECIFICATIONS.

WATER/SEWER CROSSING NOTE:

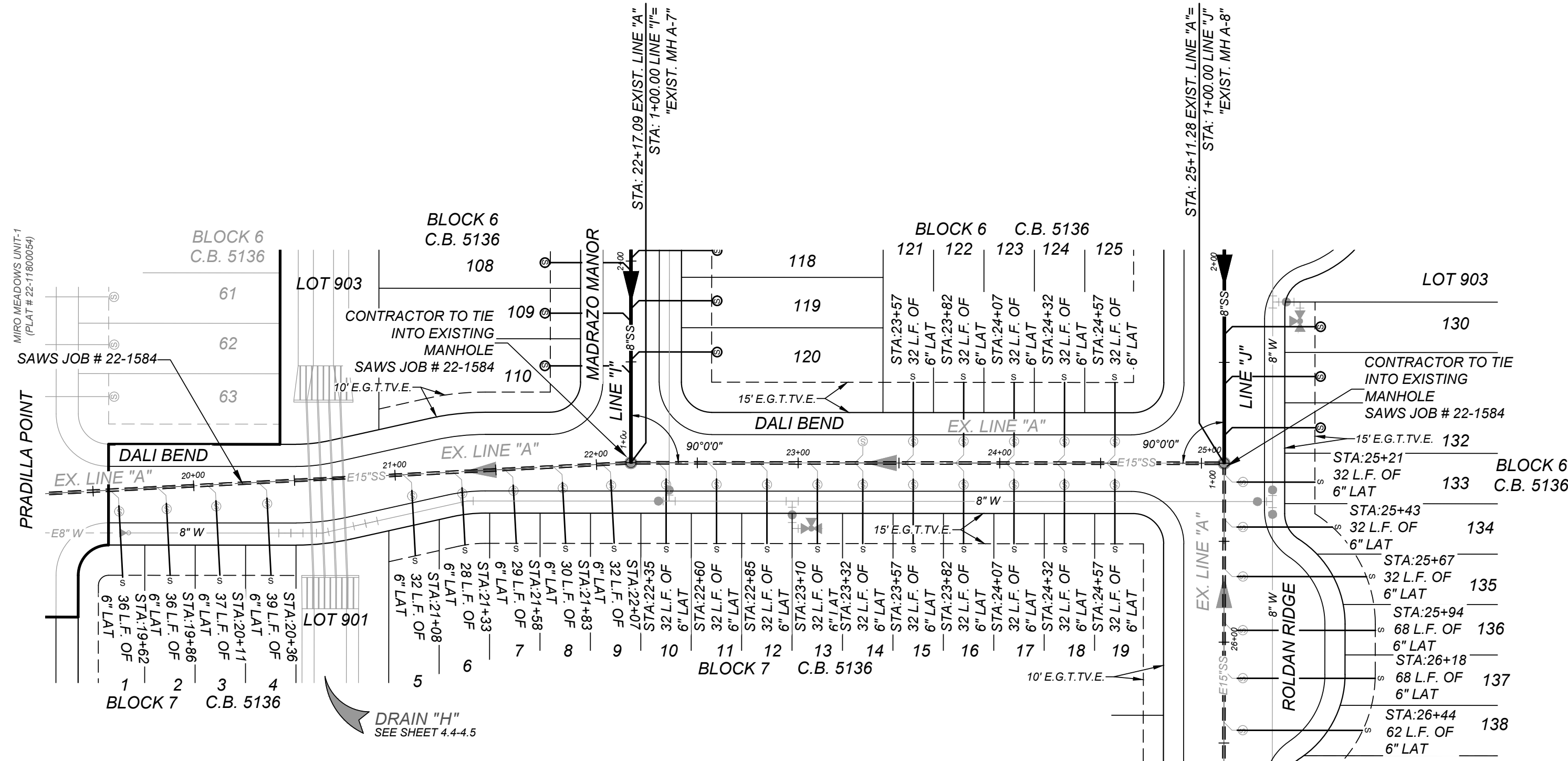
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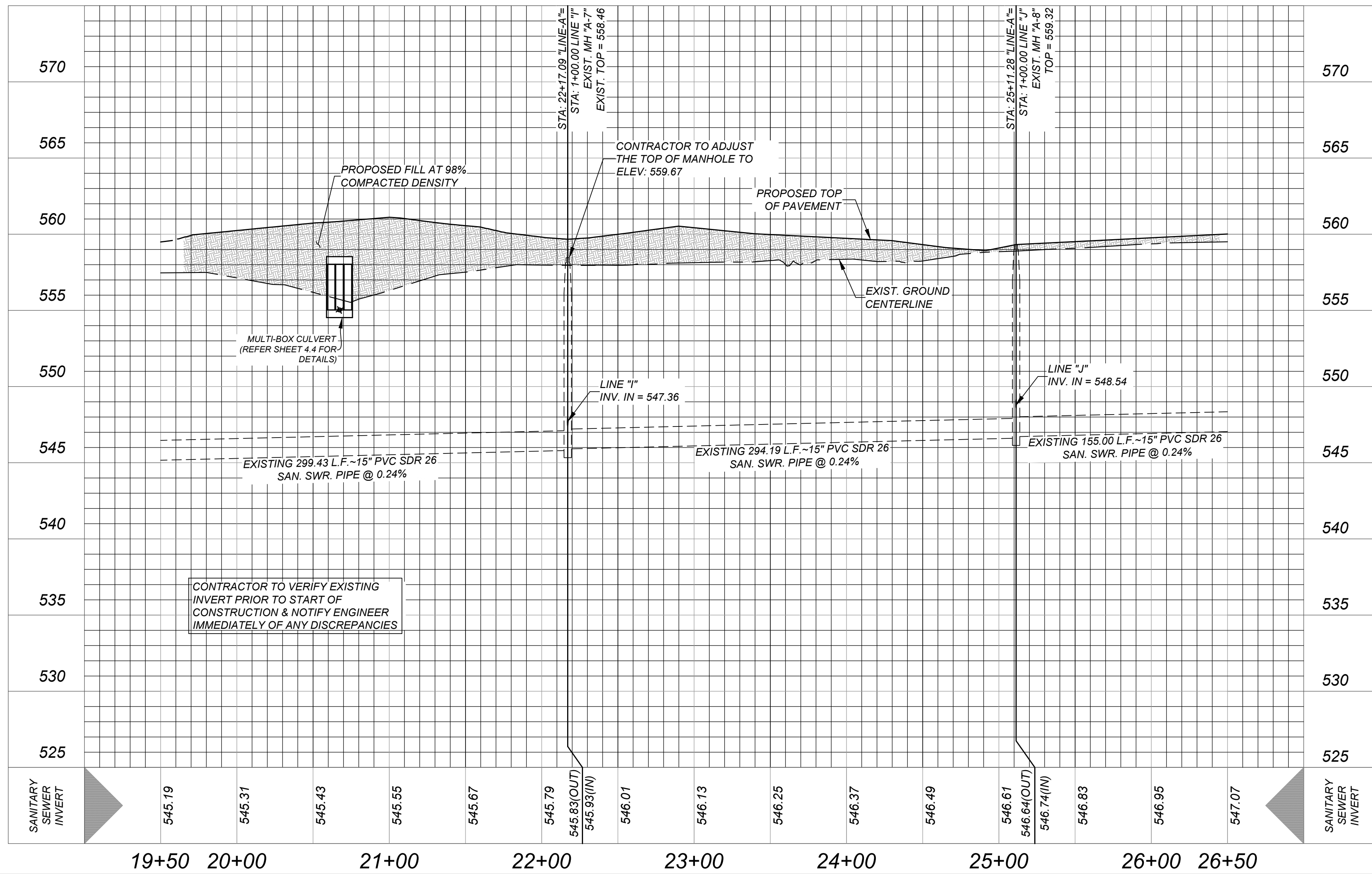
MANHOLE NOTE:

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EXISTING LINE "A"
STA: 19+50.00 - STA: 26+50.00

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



WEST SEWER SHED

DEVELOPER'S NAME: LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION LTD.
DEVELOPER'S ADDRESS: 100 NE LOOP 410, SUITE 1125
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78216
PHONE#: (210) 409-5516 FAX#: TOTAL ACREAGE: 24.51 AC.
SAWS BLOCK MAP#: 210554 TOTAL EDU'S: 97
TOTAL LINEAR FOOTAGE OF PIPE: 766 L.F. ~ 8" SDR 26 PIPE
NUMBER OF LOTS: 97 SAWS JOB#: 22- PLAT NO.: 22-11800695

GENERAL CONSTRUCTION
PERMIT S.A.W.S. JOB 22-----

MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

EXISTING SEWER LINE A PLAN AND PROFILES

PLAT NO.
22-11800695

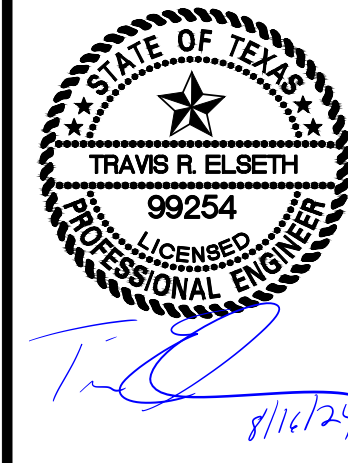
JOB NO. 314-46-03

DATE: MARCH 2024

DRAWN: SJ CHECKED: JM

SHEET NUMBER:

6.4



ISSUE DATE

REVISIONS

K&W
ENGINEERS + SURVEYING
100 NE LOOP 410, SUITE 1125
SAN ANTONIO, TEXAS 78216
Phone #: (210) 878-8444 • Fax #: (210) 878-8441
TBB# S Firm #: 10122300

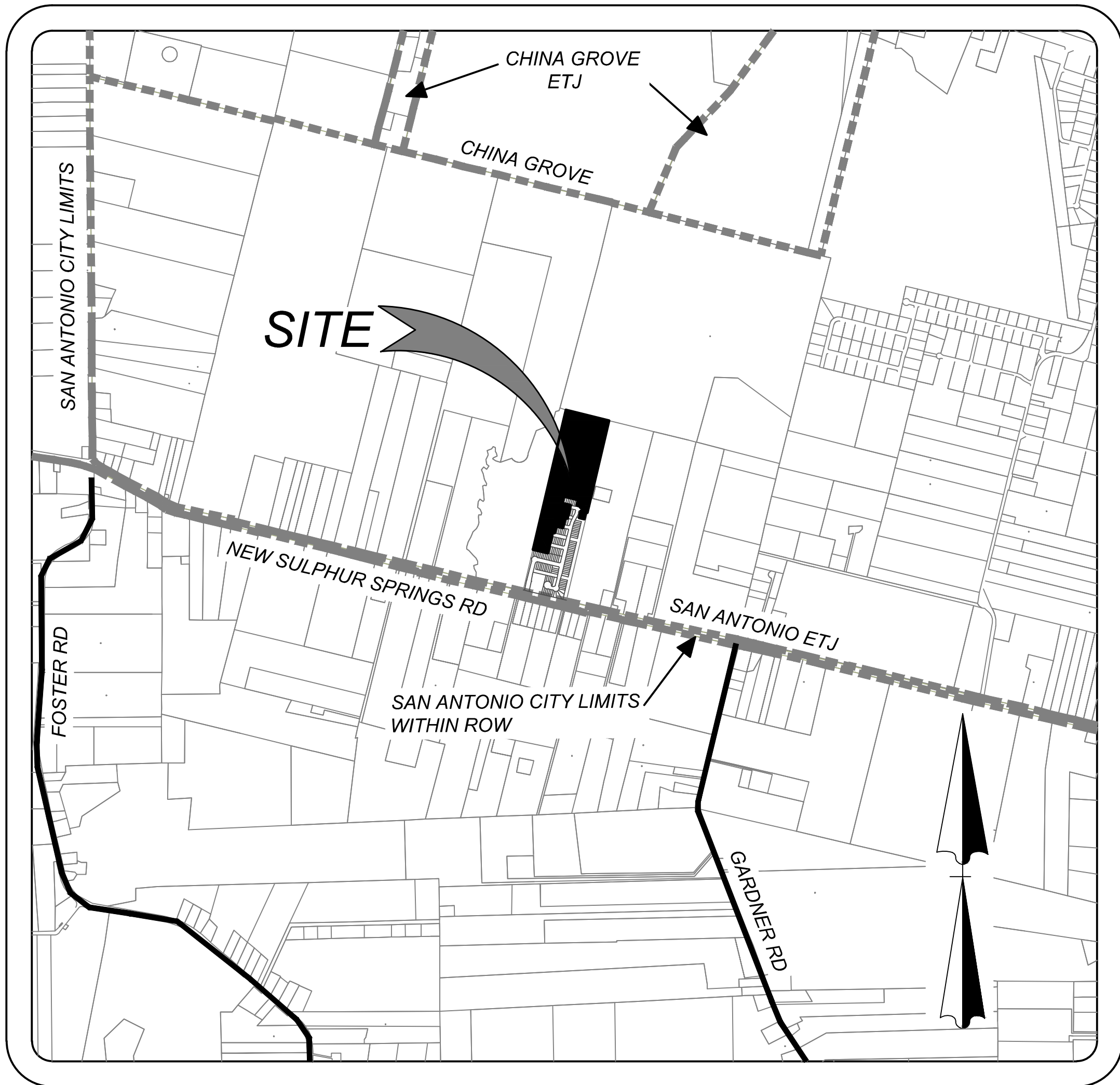
MIRO MEADOWS UNIT 2

BEXAR COUNTY, TEXAS

WATER IMPROVEMENTS

GENERAL NOTES

- ALL VALVES SHALL REMAIN CLOSED UNTIL MAINS HAVE BEEN DISINFECTED, FLUSHED, AND RELEASED FOR PUBLIC USE BY THE ENGINEER.
- EXISTING UTILITIES SHOWN ARE TAKEN FROM VARIOUS UTILITY COMPANY RECORDS. CONTRACTORS SHALL VERIFY THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO BEGINNING CONSTRUCTION. CONTRACTORS SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES AND DRAINAGE STRUCTURES DURING CONSTRUCTION.
- ALL EXCAVATION SHALL BE UNCLASSIFIED REGARDLESS OF MATERIAL ENCOUNTERED.
- BIDDERS ARE NOTIFIED TO MAKE SUBSURFACE INVESTIGATIONS AS THEY DEEM NECESSARY. NO ADDITIONAL PAYMENT WILL BE MADE FOR WATER, SAND, GRAVEL OR OTHER UNSTABLE CONDITIONS ENCOUNTERED IN EXCAVATIONS.
- DETOUR OF TRAFFIC AROUND WORK ACTIVITIES, MAINTENANCE OF TRAFFIC CONTROL SIGNS, AND FLAGMEN ARE THE CONTRACTOR'S RESPONSIBILITY. NO SEPARATE PAYMENT WILL BE MADE.
- THE CONTRACTOR SHALL PROTECT ALL OPEN EXCAVATIONS AND EQUIPMENT FROM CHILDREN, PEDESTRIANS, AND VEHICLES IN THE AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL FENCES IN THE WORK AREA TO THEIR ORIGINAL CONDITION PRIOR TO COMPLETION OF THE CONTRACT. THIS SHALL APPLY TO ALL FENCES IN THE WORK AREA WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.
- CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. ANY CONSTRUCTION STAKES, MARKS, ETC., DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL CONFER WITH EACH INDIVIDUAL PROPERTY OWNER AS TO THE LOCATION OF EACH INDIVIDUAL METER BOX.
- CONTRACTOR SHALL DISINFECT ALL NEW WATER MAINS BEFORE TYING INTO EXISTING WATER MAINS.
- ALL VALVES SHALL BE PERMANENTLY MARKED BY THE USE OF A VALVE MARKER. NO SEPARATE PAY ITEM.
- 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(S) 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.
- CONTRACTOR SHALL MAINTAIN FENCING FOR THE CONTAINMENT OF LIVESTOCK DURING CONSTRUCTION. ALL FENCES REMOVED FOR CONSTRUCTION SHALL BE REPLACED. ALL REQUIRED FENCING SHALL BE INCIDENTAL TO CONSTRUCTION AND NOT A SEPARATE PAY ITEM.
- ALL DRIVEWAYS, INCLUDING DRAIN PIPES, CULVERTS AND HEADWALLS, DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO EQUAL OR BETTER THAN PRECONSTRUCTION CONDITION. ASPHALT DRIVES ARE NOT ALLOWED TO BE CUT WITHOUT OWNERS PERMISSION. INSTALLATION OF WATER MAINS CROSSING CONCRETE DRIVES WILL BE BORED. ALL DRAIN PIPE, CULVERT AND HEADWALL REPAIR SHALL BE INCIDENTAL TO CONSTRUCTION AND NOT A SEPARATE PAY ITEM. DRIVEWAY PAVEMENT REPAIR SHALL BE PAID FOR AS PER ITEM NO. 02950, "CUTTING AND PATCHING ASPHALT PAVEMENT, ASPHALT DRIVES, CONCRETE DRIVES, OR GRAVEL ROADS AND DRIVES". PAYMENT FOR BORES UNDER CONCRETE DRIVES DRIVES SHALL BE PAID FOR AS PER ITEM 02445 "BORING AND CASING PIPE UNDER HIGHWAYS, RAILROADS, OR OTHER AREAS".
- LOCATIONS OF COMBINATION AIR VALVES WHERE SHOWN ON PLANS ARE APPROXIMATE. FINAL LOCATIONS TO BE ADJUSTED IN FIELD AT TIME OF CONSTRUCTION AT THE DIRECTION OF THE ENGINEER.
- ALL WORK SHALL BE SCHEDULED TO TAKE PLACE ON MONDAY THROUGH FRIDAY, DURING NORMAL WORK HOURS. CONTRACTOR SHALL NOTIFY ECSUD 48 HOURS PRIOR TO SERVICE SHUT OFF AFFECTING CUSTOMERS. SERVICE SHALL NOT BE SHUT OFF FOR MORE THAN EIGHT (8) HOURS AT A TIME.
- THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PROPERTY, INCLUDING, BUT NOT LIMITED TO, FENCES, PAVEMENT, DRIVEWAYS, LAWNS, CULVERTS, AND TREES, AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE EROSION CONTROL AT ALL CULVERT, STREAM AND DRAINAGE SWALE CROSSINGS. EROSION CONTROL MEASURES SHALL INCLUDE AS A MINIMUM SILT FENCES. SILT FENCES SHALL BE INSTALLED PRIOR TO DISTURBANCE OF THE WORK AREAS AND SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE DISTURBED AREAS UPSTREAM. EROSION CONTROL SHALL BE COORDINATED WITH THE ENGINEER.
- THE CONTRACTOR SHALL REMOVE AND REPLACE ANY MAILBOXES, TRAFFIC OR ROAD SIGNS ENCOUNTERED. NO SEPARATE PAY ITEM.
- CONTRACTOR SHALL SUBMIT TO ENGINEER PROPOSED CONSTRUCTION SEQUENCE PRIOR TO BEGINNING CONSTRUCTION.
- ALL FITTINGS ARE TO BE DUCTILE IRON, MECHANICAL JOINT TYPE, UNLESS OTHERWISE NOTED ON PLANS.
- ALL THRUST BLOCKS SHALL BE INSPECTED BY OWNER AND/OR ENGINEER PRIOR TO BACKFILLING.
- ALL EXISTING VALVES SHOWN ON PLANS TO BE ABANDONED, SHALL HAVE BOXES REMOVED AND SHALL BE BACKFILLED ACCORDING TO SPECIFICATIONS. NO SEPARATE PAY ITEM.
- CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION AND STAGING WITHIN EXISTING UTILITY EASEMENTS, UNLESS OTHER ARRANGEMENTS ARE MADE WITH OWNER AND/OR TxDOT.
- WHERE THE NEW WATER MAIN SHOWN ON THE PLANS REQUIRES CROSSING AN EXISTING WATER MAIN OR OTHER UTILITY, THE CONTRACTOR SHALL VERTICALLY DEFLECT THE PROPOSED WATER MAIN. DEFLECTION SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. FITTINGS ARE NOT PERMISSIBLE, UNLESS OTHERWISE SHOWN ON THE PLANS. NO SEPARATE PAY ITEM.



LOCATION MAP

N.T.S

OWNER/DEVELOPER
LENNAR HOMES OF TEXAS
LAND & CONSTRUCTION LTD.
100 NE LOOP 410, SUITE 1125
SAN ANTONIO, TEXAS 78216



KFW
ENGINEERS + SURVEYING
3421 Passarossos Pkwy Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

INDEX

DESCRIPTION	SHEET NO.
WATER IMPROVEMENT COVER SHEET	7.0
OVERALL WATER DISTRIBUTION PLAN	7.1
WATER DETAIL SHEET	7.2

WATER PLAN NOTES:
1. ALL VALVES SHALL READ "OPEN RIGHT"
2. ALL PVC PIPE SHALL BE C-900 CLASS 150.

FIRE FLOW NOTE:
IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,500 GPM AT 20 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

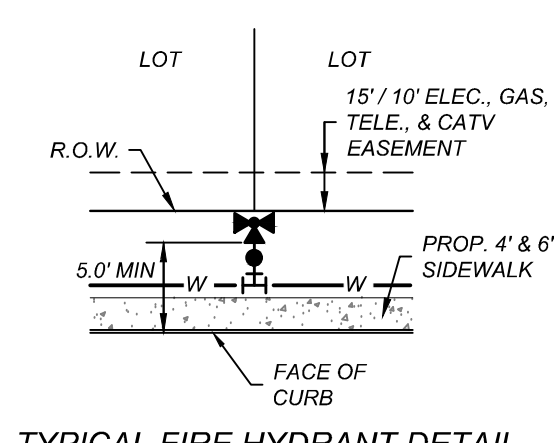
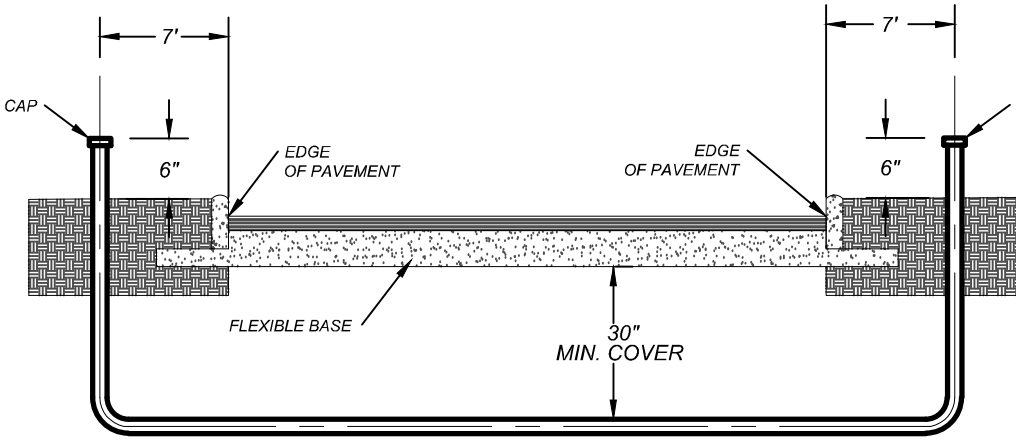
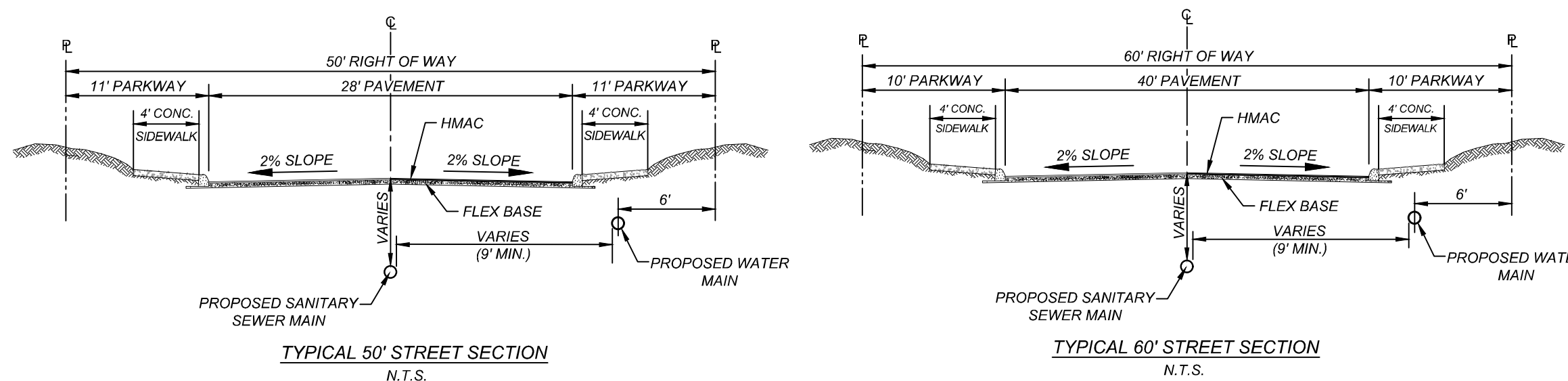
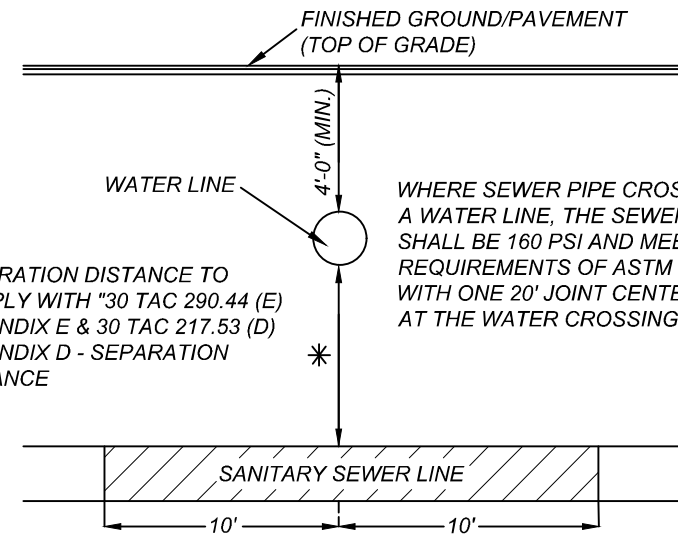
COMPACTION NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAVING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 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.

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.

NOTE:
PRESSURE REDUCING VALVES TO BE THE RESPONSIBILITY OF THE HOME BUILDER WHERE REQUIRED

NOTE:
CONTRACTOR SHALL COORDINATE WITH EAST CENTRAL WATER DISTRICT TO VERIFY THE LOCATION OF ISOLATION VALVES. OPERATION OF ISOLATION VALVES SHALL ONLY BE MADE WITH THE APPROVAL AND PRESENCE OF EAST CENTRAL WATER DISTRICT PERSONNEL

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.



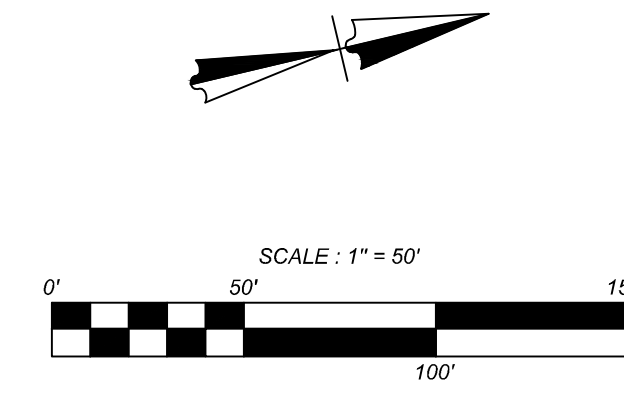
LEGEND

PROPOSED WATER MAIN	W
PROPOSED WATER SERVICE & METER BOX	W-MB
PROPOSED FIRE HYDRANT	W-H
PROPOSED WATER VALVE	W-V
PROPOSED 100W STREETLIGHT	W-SL
PROPOSED SANITARY SEWER MAIN	SS
PROPOSED SANITARY SEWER MANHOLE	SS-MH
PROPOSED SANITARY SEWER LATERAL	SS-L
PROPOSED SANITARY SEWER LATERAL WITH VERTICAL STACK	SS-L-VS
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	E.G.T.V.E
PROPOSED VEHICULAR NON ACCESS EASEMENT	V.N.A.E
EXISTING WATER MAIN	E.W
EXISTING FIRE HYDRANT	E.H
EXISTING SANITARY SEWER MAIN	E.SS
EXISTING SANITARY SEWER LATERAL (PLAT #: 22-11800054)	E.SS-L
EXISTING SANITARY SEWER LATERAL WITH VERTICAL STACK (PLAT #: 22-11800054)	E.SS-L-VS
EXISTING WATER SERVICE & METER BOX (PLAT #: 22-11800054)	E.W-MB
EXISTING 100W STREETLIGHT (PLAT #: 22-11800054)	E.W-SL

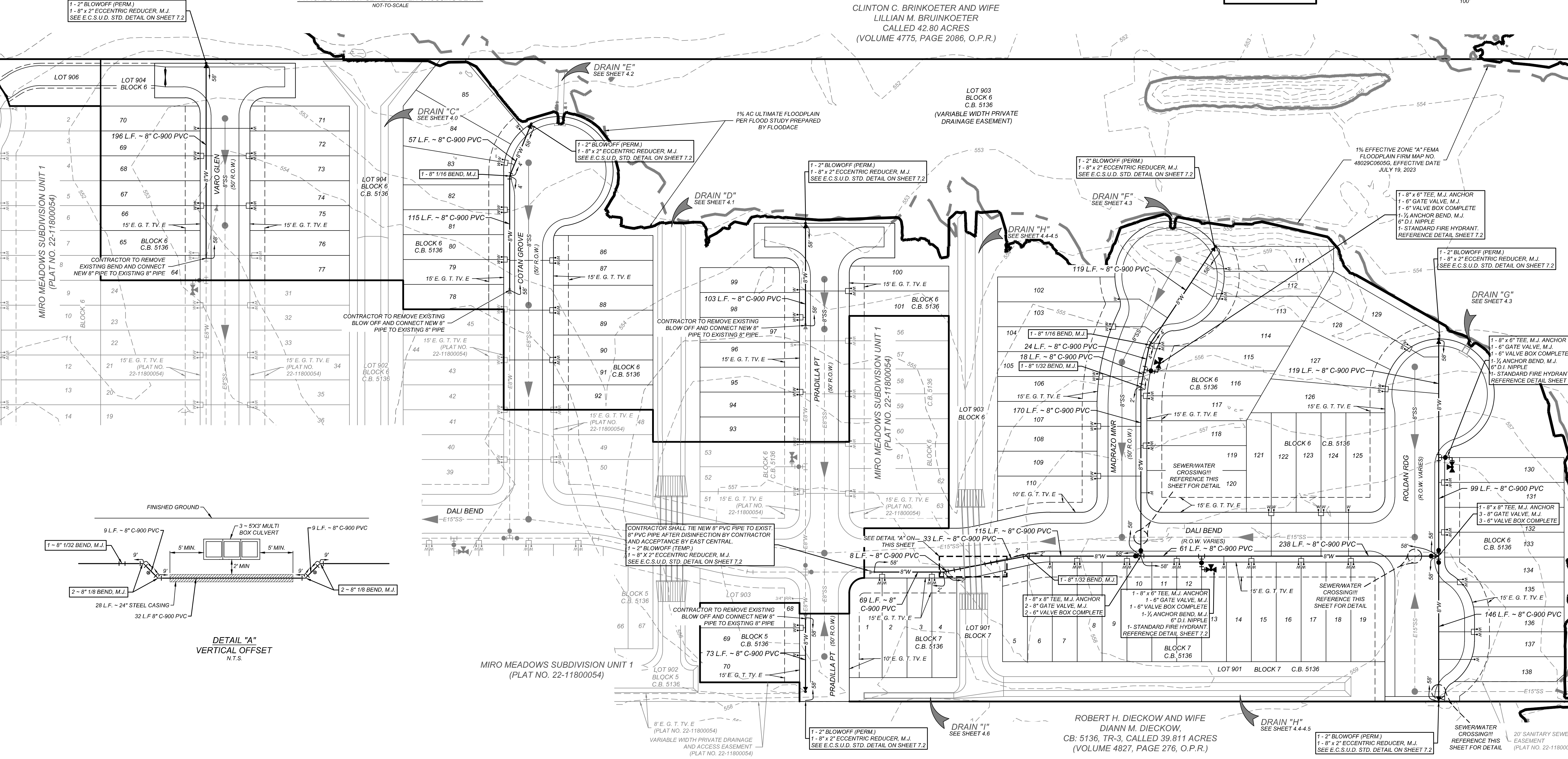
BEXAR COUNTY R.O.W. NOTE
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY R.O.W.



LOCATION MAP



CLINTON C. BRINKOETER AND WIFE
LILLIAN M. BRINKOETER
CALLED 42.80 ACRES
(VOLUME 4775, PAGE 2086, O.P.R.)



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

OVERALL WATER DISTRIBUTION PLAN

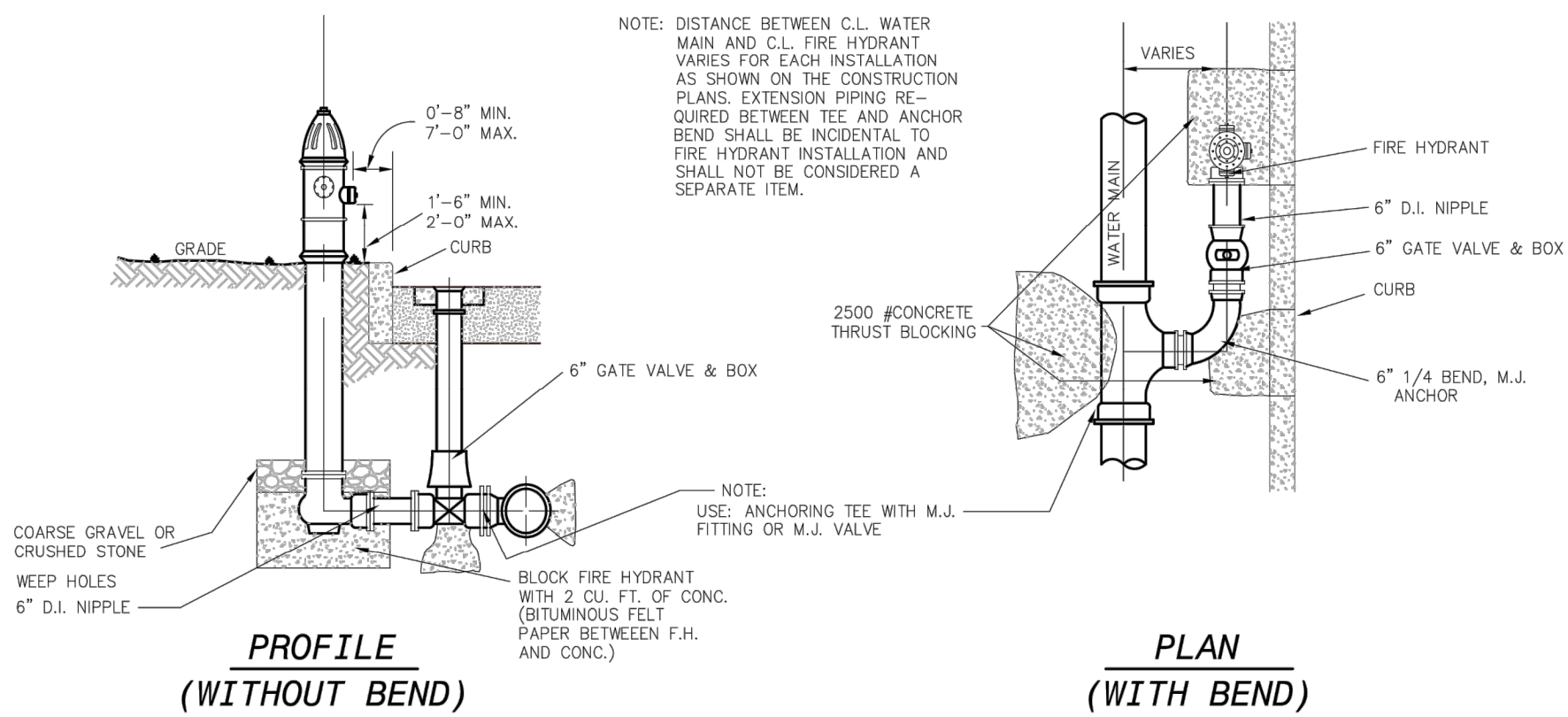
PLAT NO.
22-11800695

JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM

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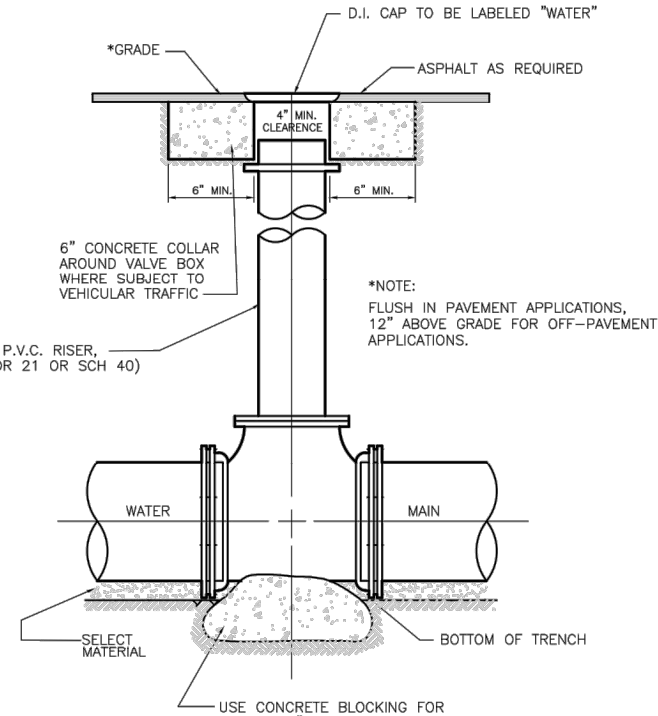
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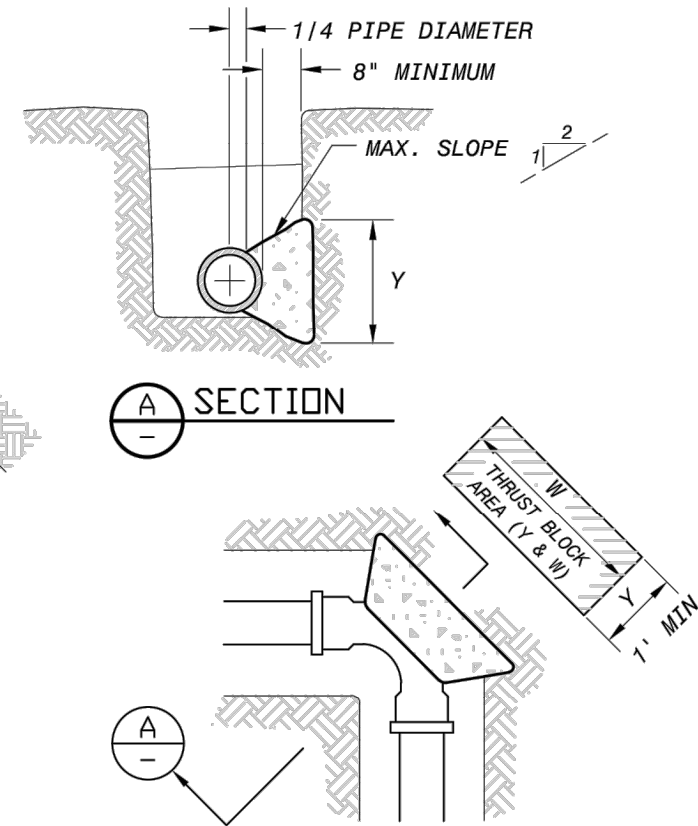
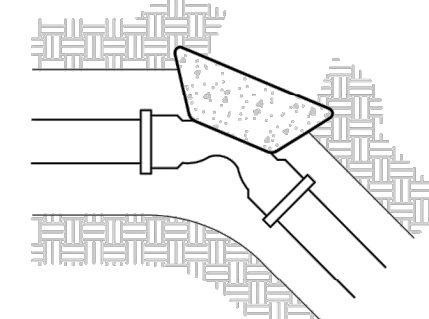
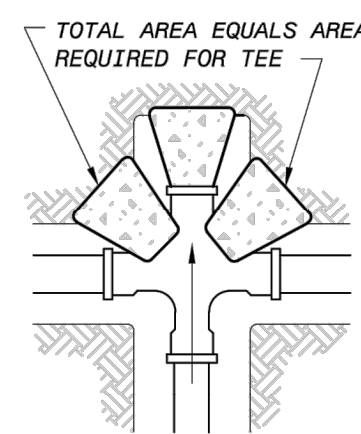
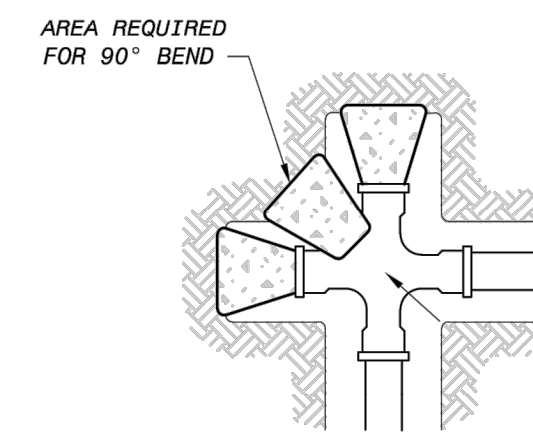
FIRE HYDRANT INSTALLATION

N.T.S.



GATE VALVE W/ VALVE BOX

N.T.S.



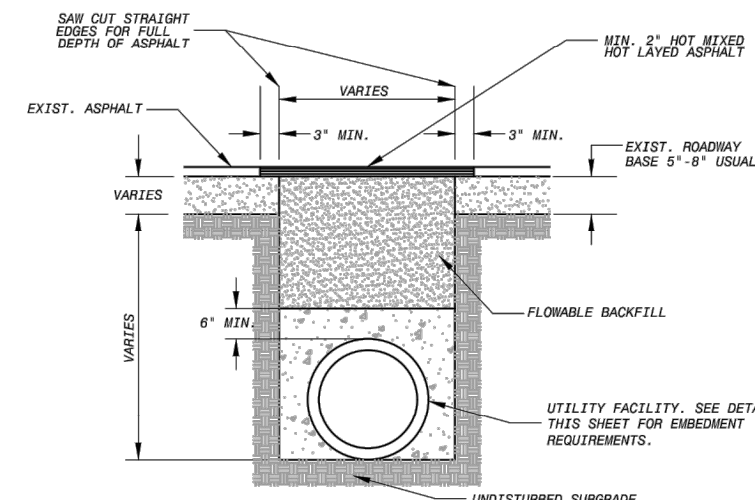
NOTES:

1. TABLE IS BASED ON 3000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.

PIPE SIZE	WATER PIPE	
	TEE, DEAD END	45° AND 90° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

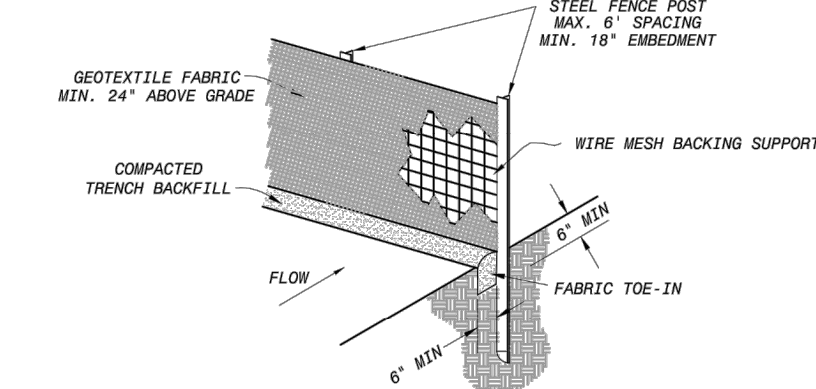
THRUST BLOCK DETAILS

N.T.S.



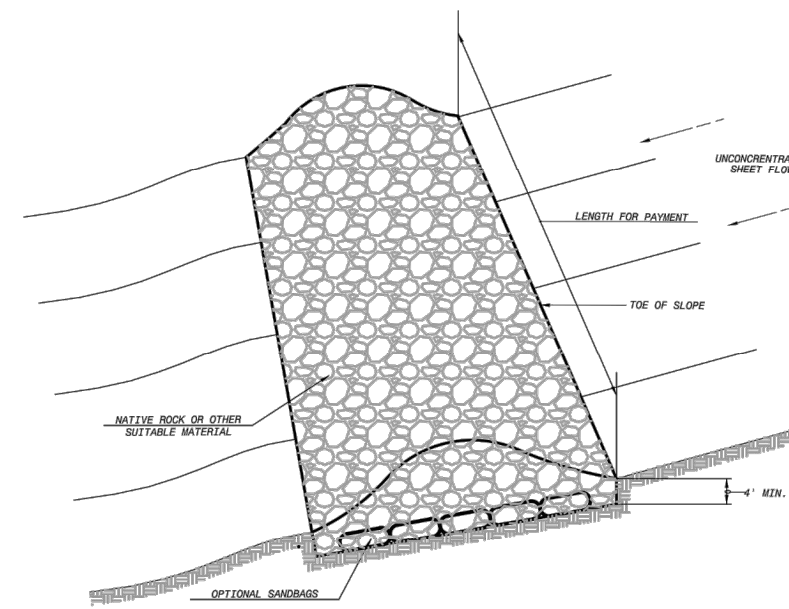
BACKFILL AND PATCH PAVEMENT

N.T.S.



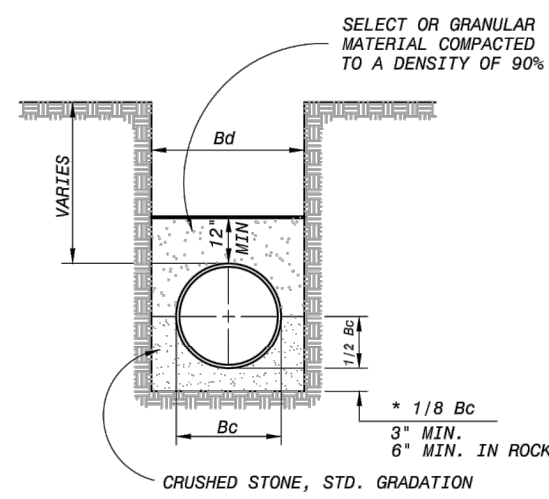
TEMPORARY SILT FENCE

N.T.S.



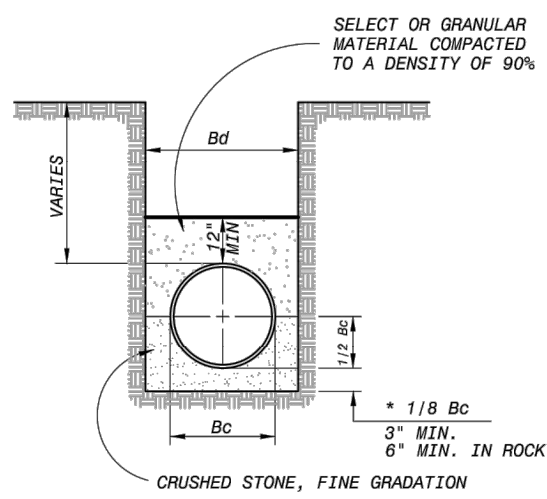
TEMPORARY ROCK BERM

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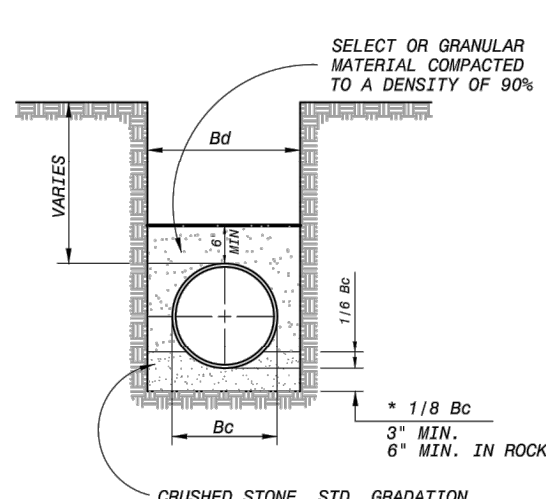
CLASS "B"

BEDDING ANGLE 150°, L.F. 1.9, E'=700



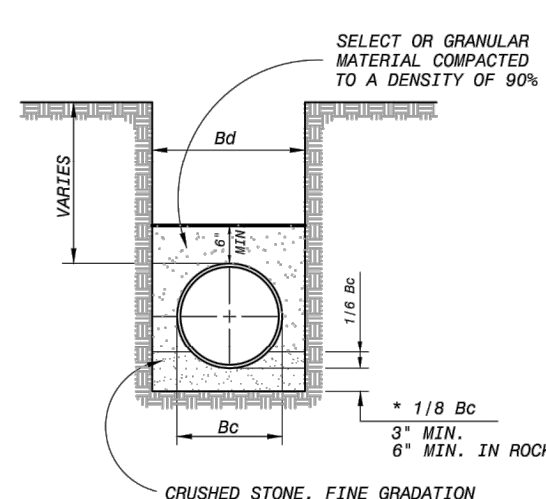
CLASS "B+"

BEDDING ANGLE 150°, L.F. 1.9, E'=700



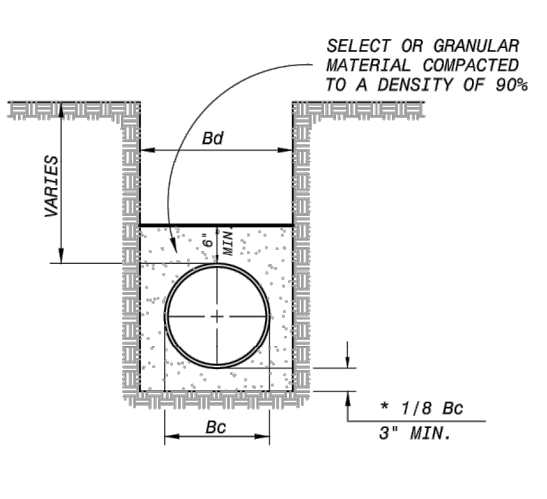
CLASS "C"

BEDDING ANGLE 75°, L.F. 1.5, E'=300



CLASS "C+"

BEDDING ANGLE 75°, L.F. 1.5, E'=300



CLASS "D+"

BEDDING ANGLE 30°, L.F. 1.3, E'=200

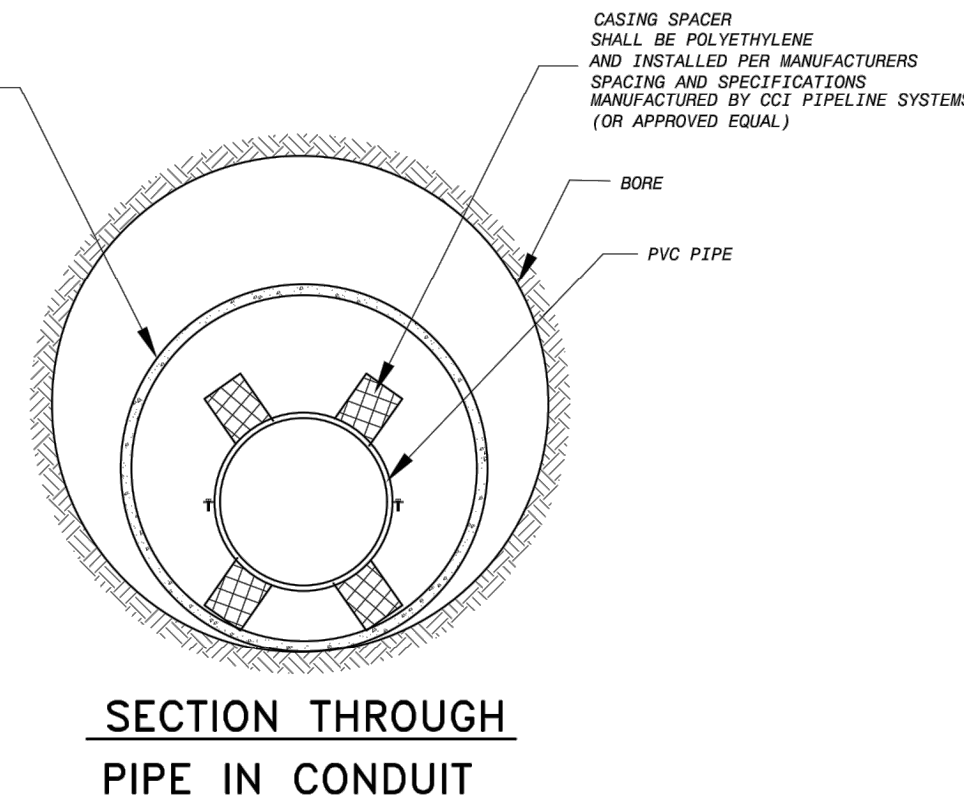
EMBEDMENT FOR WATER CONDUITS						
TYPE OF PIPE	IN EARTH			IN ROCK		
	0'-8"	8'-16"	>16'	0'-8"	8'-16"	>16'
ALL PVC WATER PIPE	C+	B+	B+	C+	B+	B+
16" AND SMALLER DUCTILE IRON WATER PIPE	D+	C	B	C	C	B
18" AND LARGER DUCTILE IRON WATER PIPE	B	B	B	B	B	B

EMBEDMENT DETAILS

N.T.S.

EMBEDMENT DIMENSIONS			
PIPE DIAMETER (INCHES)	KIND OF PIPE	EXTERNAL DIAMETER Bc (INCHES)	TRENCH WIDTH Bd (INCHES)
6"	PVC	6.90	24
6"	DI	6.90	24
8"	PVC	9.05	25
8"	DI	9.05	25
10"	PVC	11.10	27
10"	DI	11.10	27
12"	PVC	13.20	29
12"	DI	13.20	29
16"	DI	17.40	33
18"	DI	19.50	36
20"	DI	21.60	38

CARRIER PIPE SIZE	CASING PIPE SIZE	CASING PIPE THICKNESS	NO. CLEATS
6"	18"	0.375"	PER MAN.
8"	20"	0.375"	
12"	24"	0.375"	
16"	30"	0.375"	
20"	36"	0.438"	
24"	42"	0.438"	
30"	48"	1/2"	
36"	64"	9/16"	



SECTION THROUGH PIPE IN CONDUIT

INSTALLATION OF PIPE IN CONDUIT

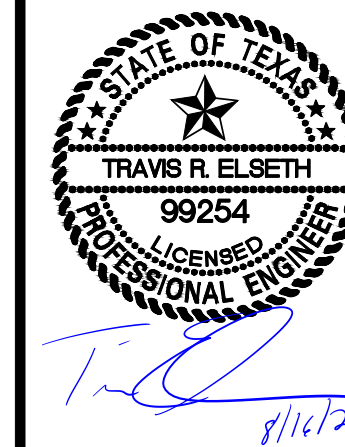
N.T.S.

MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

WATER DETAIL SHEET

PLAT NO.
22-11800695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:

7.2



ISSUE DATE

REVISIONS

K&W
ENGINEERS & SURVEYING
Phone # (201) 878-8444 • Fax # (201) 878-8441
TBB# Firm #: 9513 • TBB# S Firm #: 1012300

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 TPO'S 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.
4. CPS IS A SECONDARY OPERATOR IN THIS PROJECT. THEY WILL BE INSTALLING THE GAS AND ELECTRIC UTILITIES.

1. ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO ENSURE THAT STRUCTURAL BMPs 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 SHOULD 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 THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

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 UPGRADIENT AREAS HAVE BEEN STABILIZED PER SWPPP AND PROJECT SPECIFICATIONS. THIS PHASING SHOULD BE NOTED WITHIN 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. 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.

COORDINATION NOTE

1. **CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE (210)-244-0500.**
2. **CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210)-353-2256.**
3. **CONTACT AT&T TO COORDINATE TELEPHONE SERVICE 1-800-449-7928.**
4. **CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210)-353-2256.**
5. **CONTACT SAWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER AND WATER SERVICES. (210)-704-7297.**
6. **CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.**

680

680

680

FLOW ARROW

STABILIZED CONSTRUCTION ENTRANCE/EXIT

CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.

CONCRETE TRUCK WASHOUT PIT

DISTURBED AREA

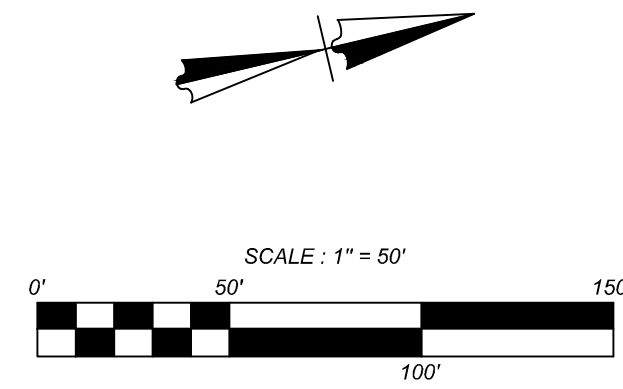
ROCK BERM

SILT FENCE PHASE 1

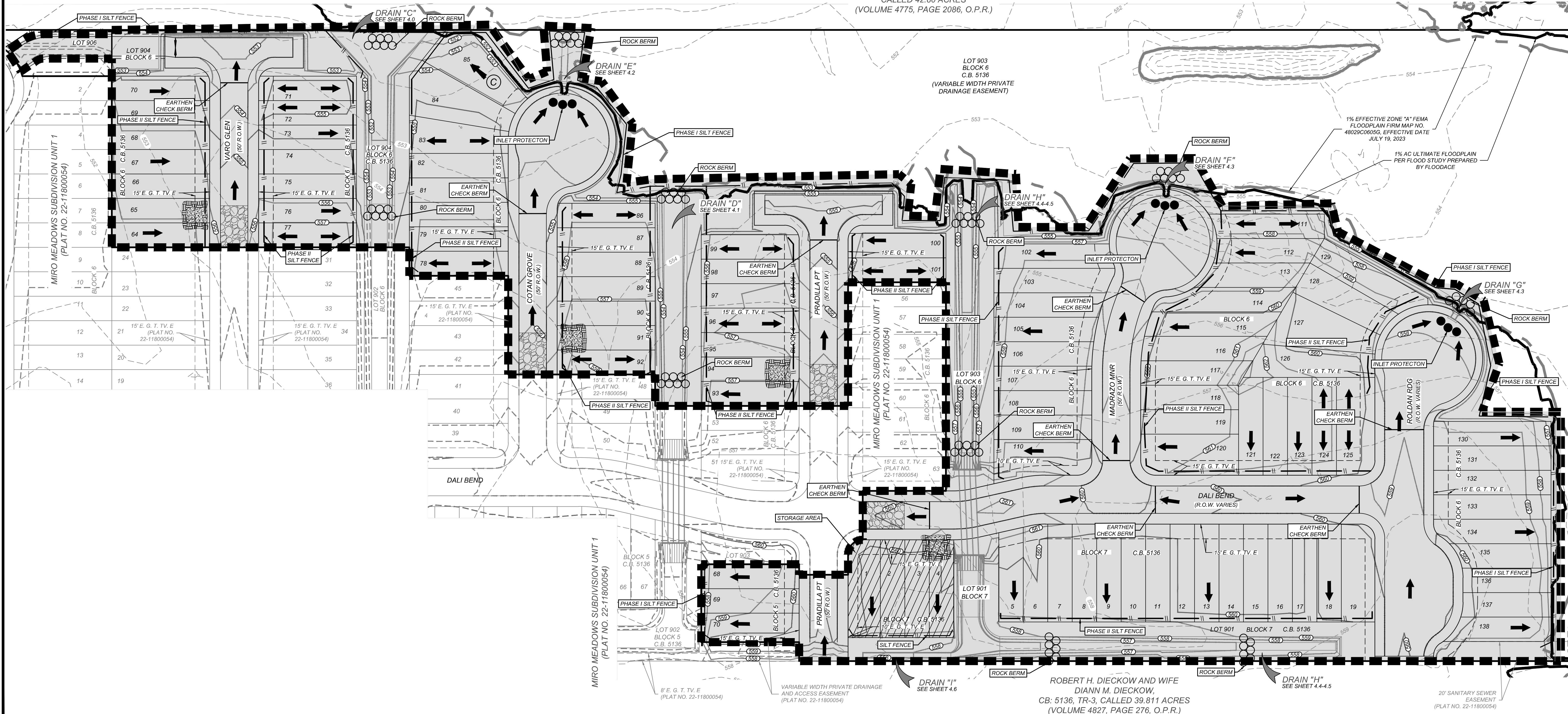
SILT FENCE PHASE 2

INLET WITH PROTECTION
(GRAVEL FILTERS BAGS)

EARTHEN CHECK BERM



CLINTON C. BRINKOETER AND WIFE
LILLIAN M. BRUINKOETER
CALLED 42.80 ACRES
(VOLUME 4775, PAGE 2086, O.P.R.)



MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

PLAT NO.
22-11800695

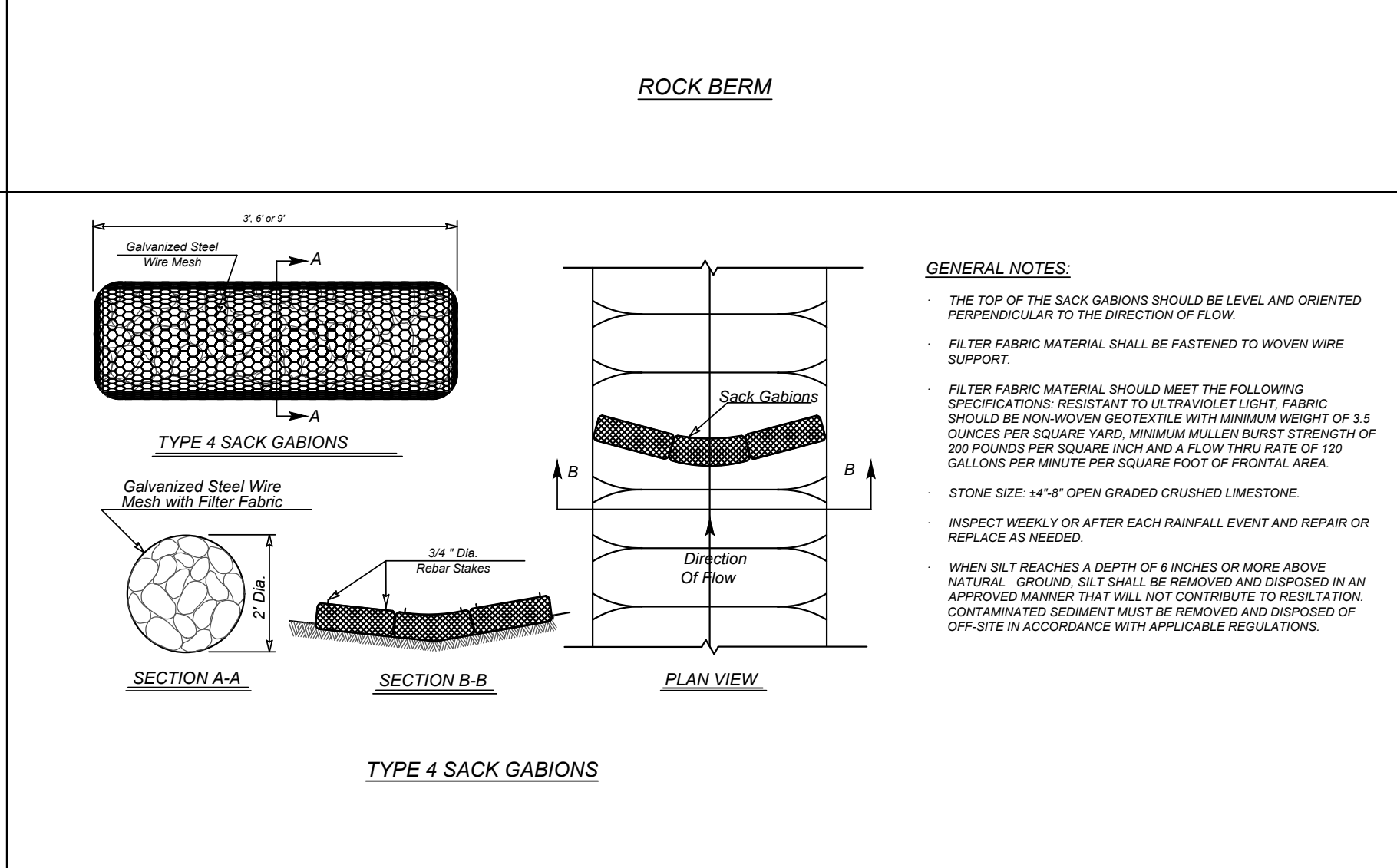
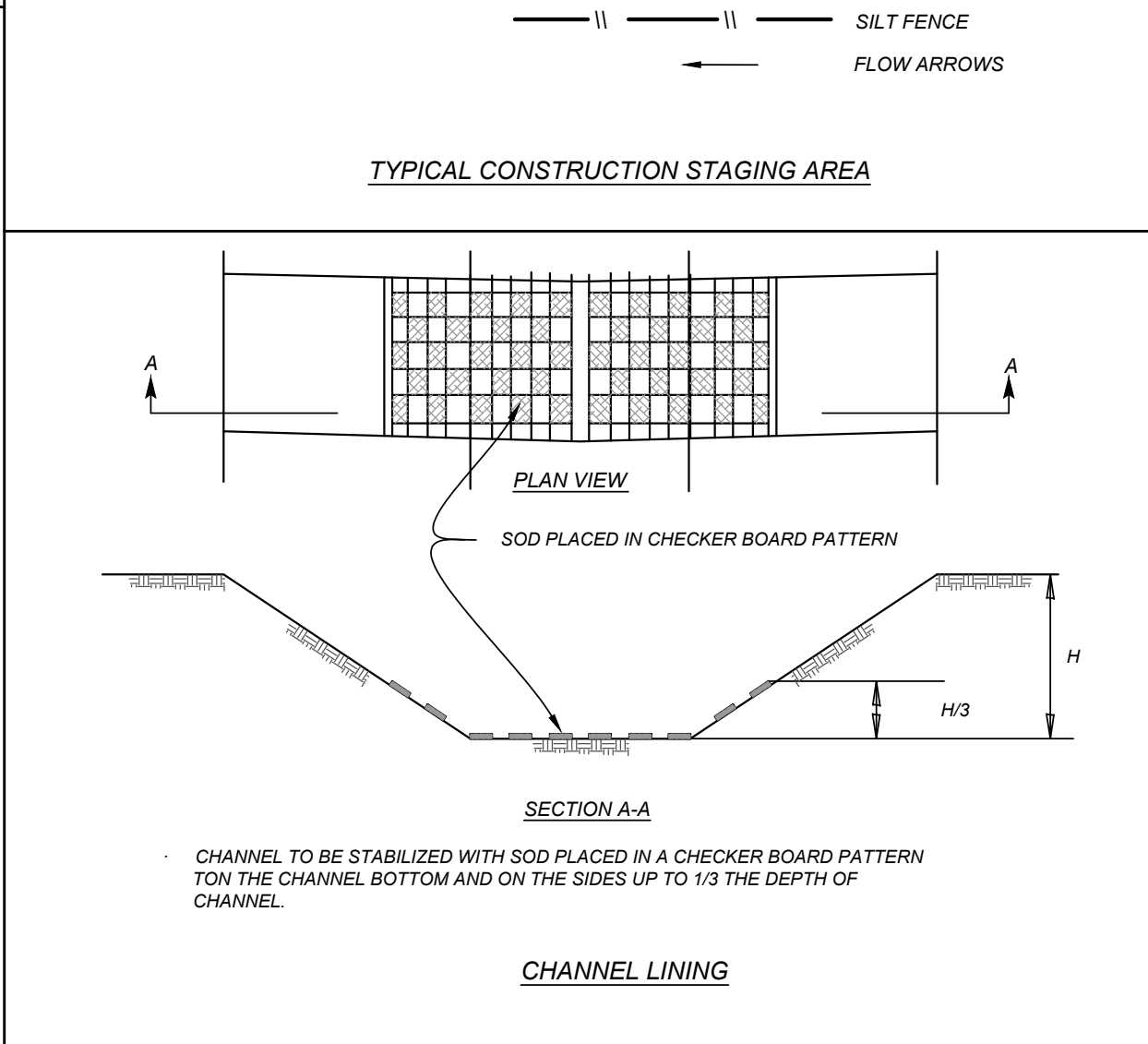
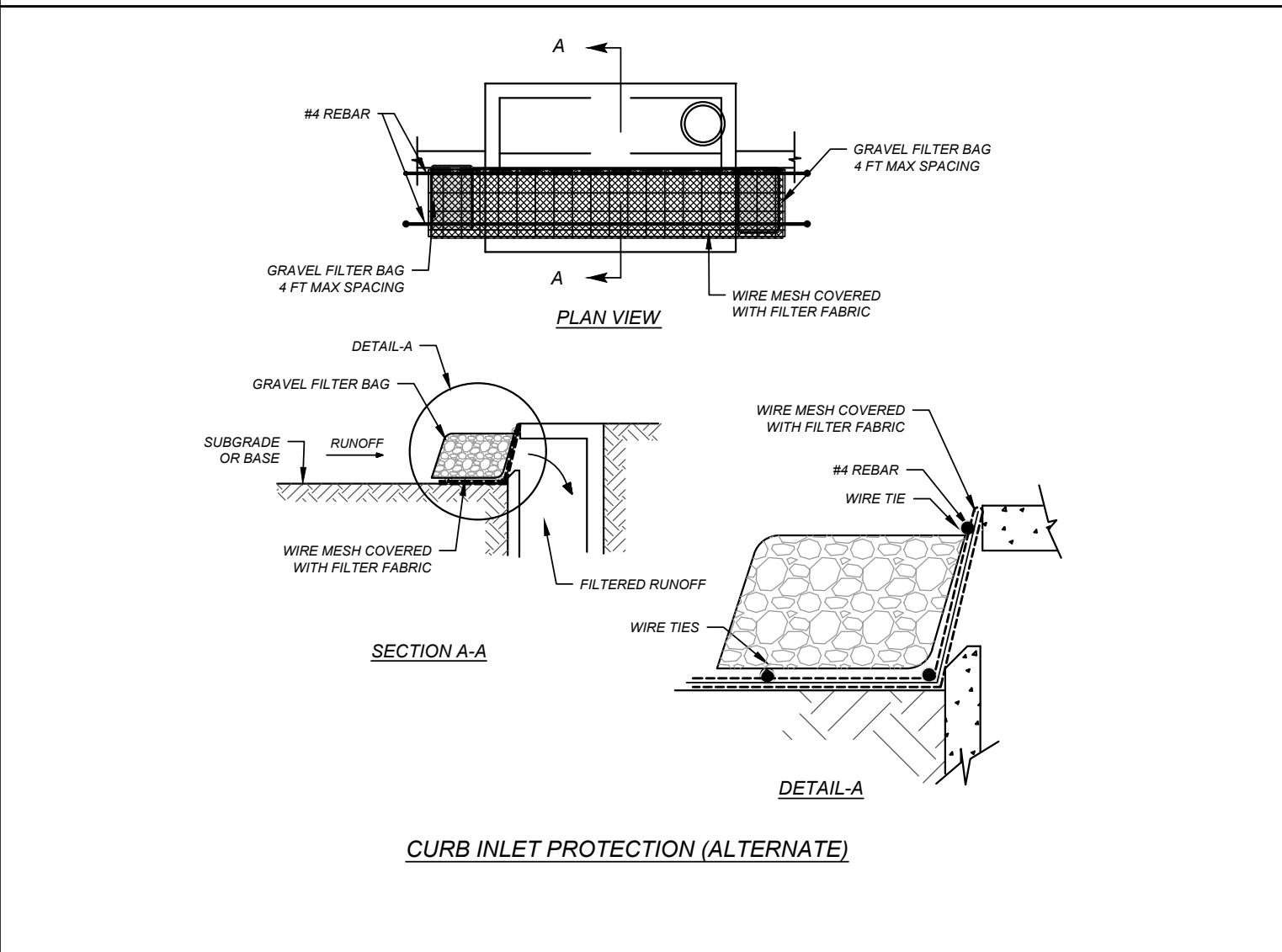
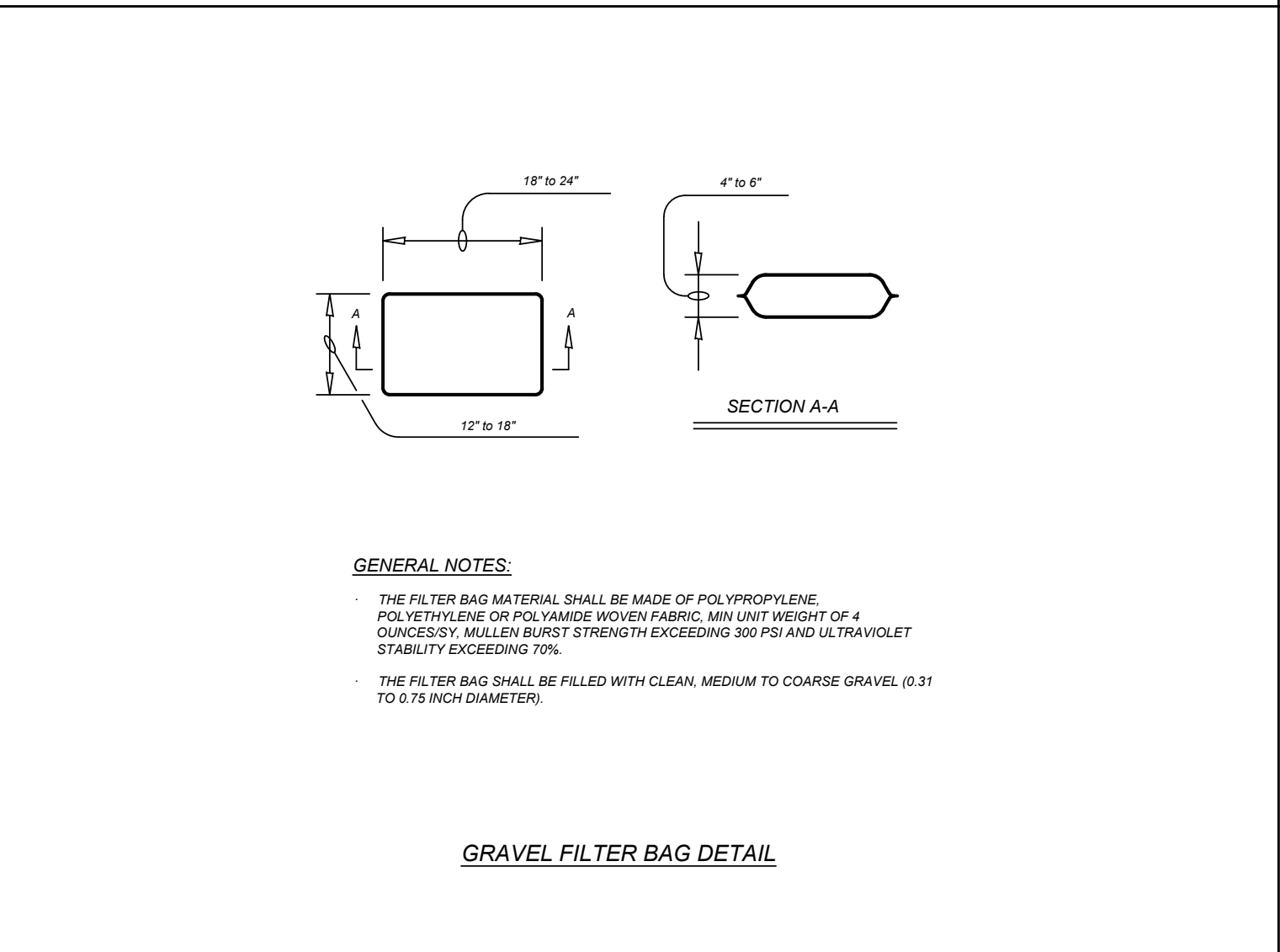
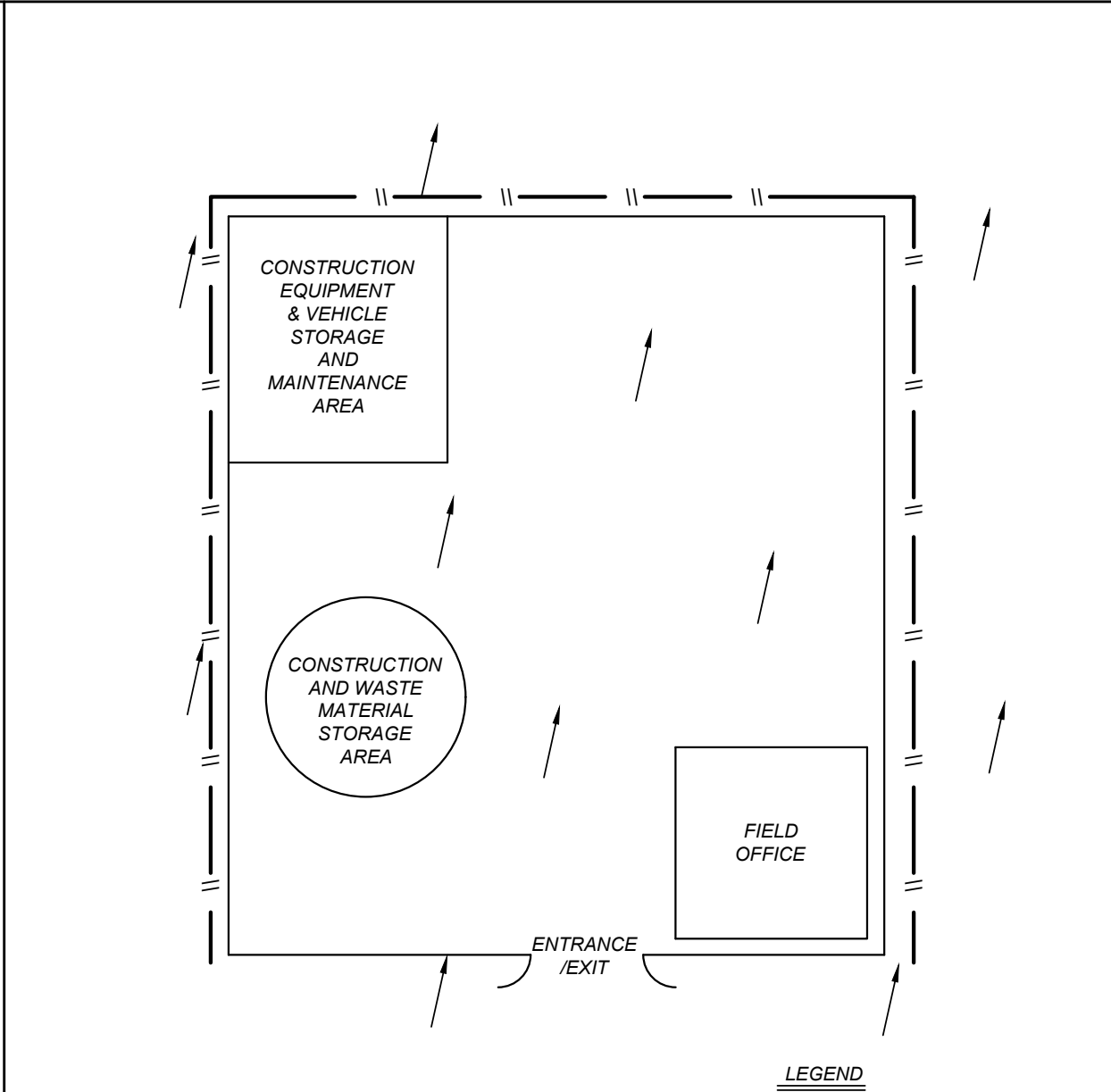
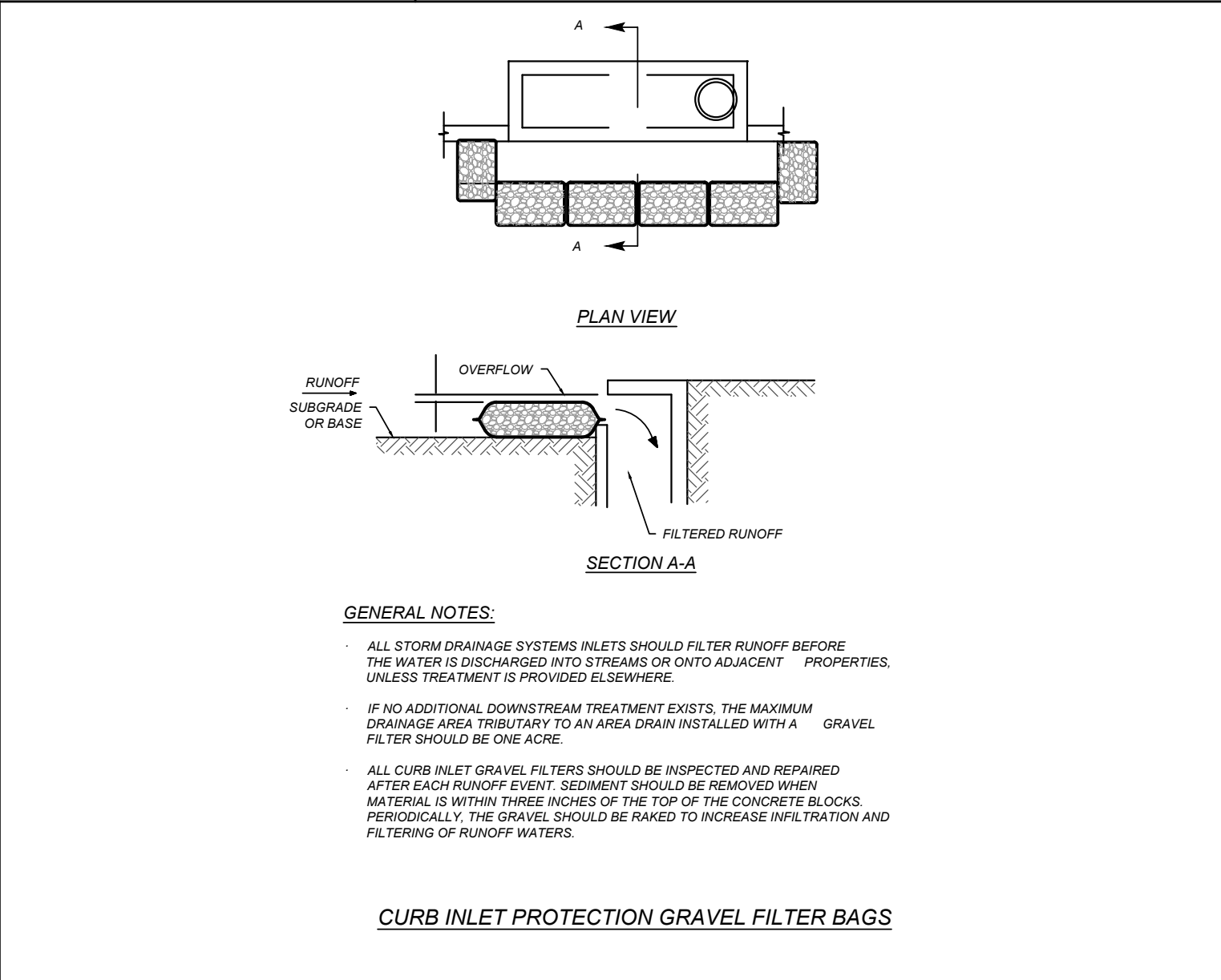
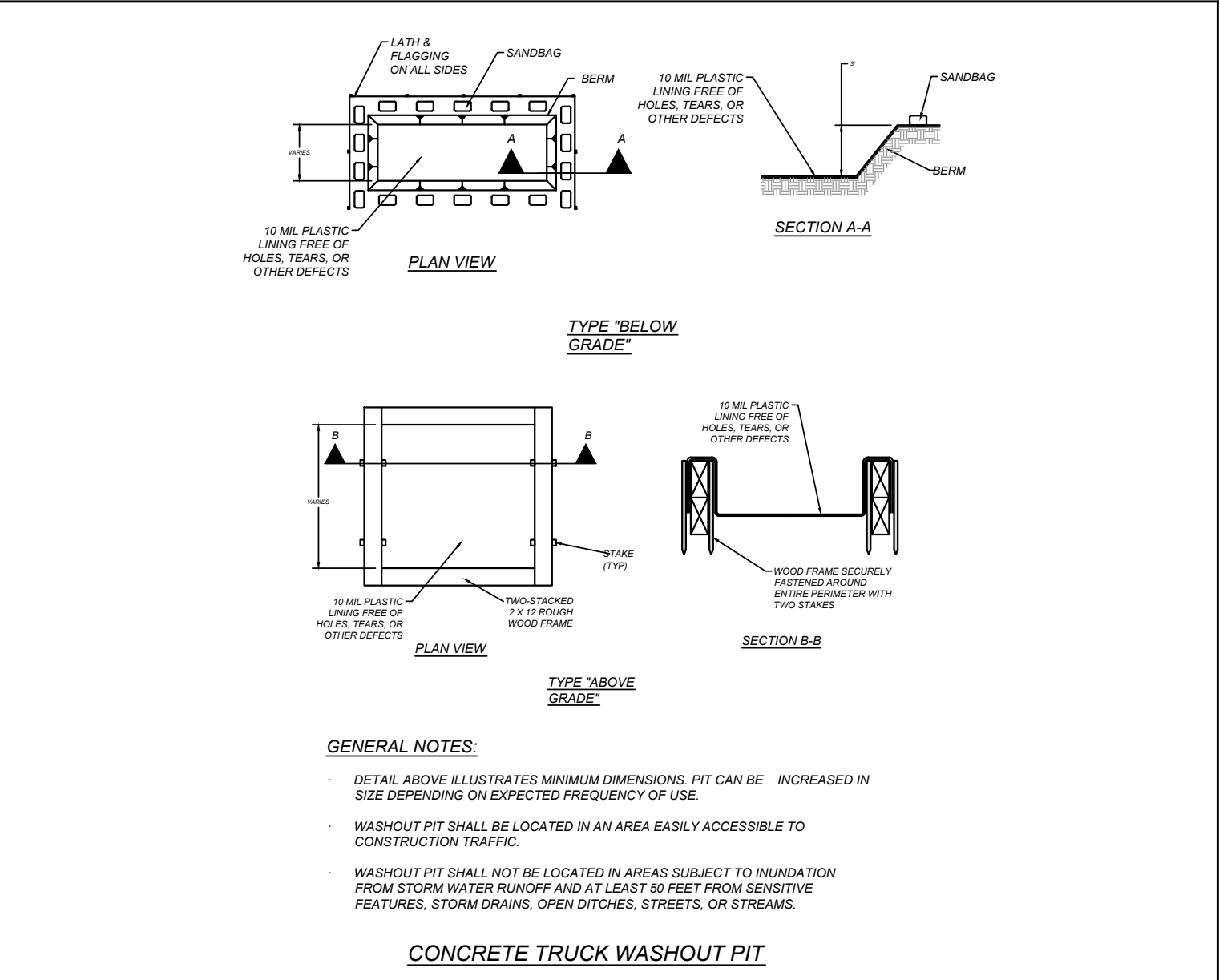
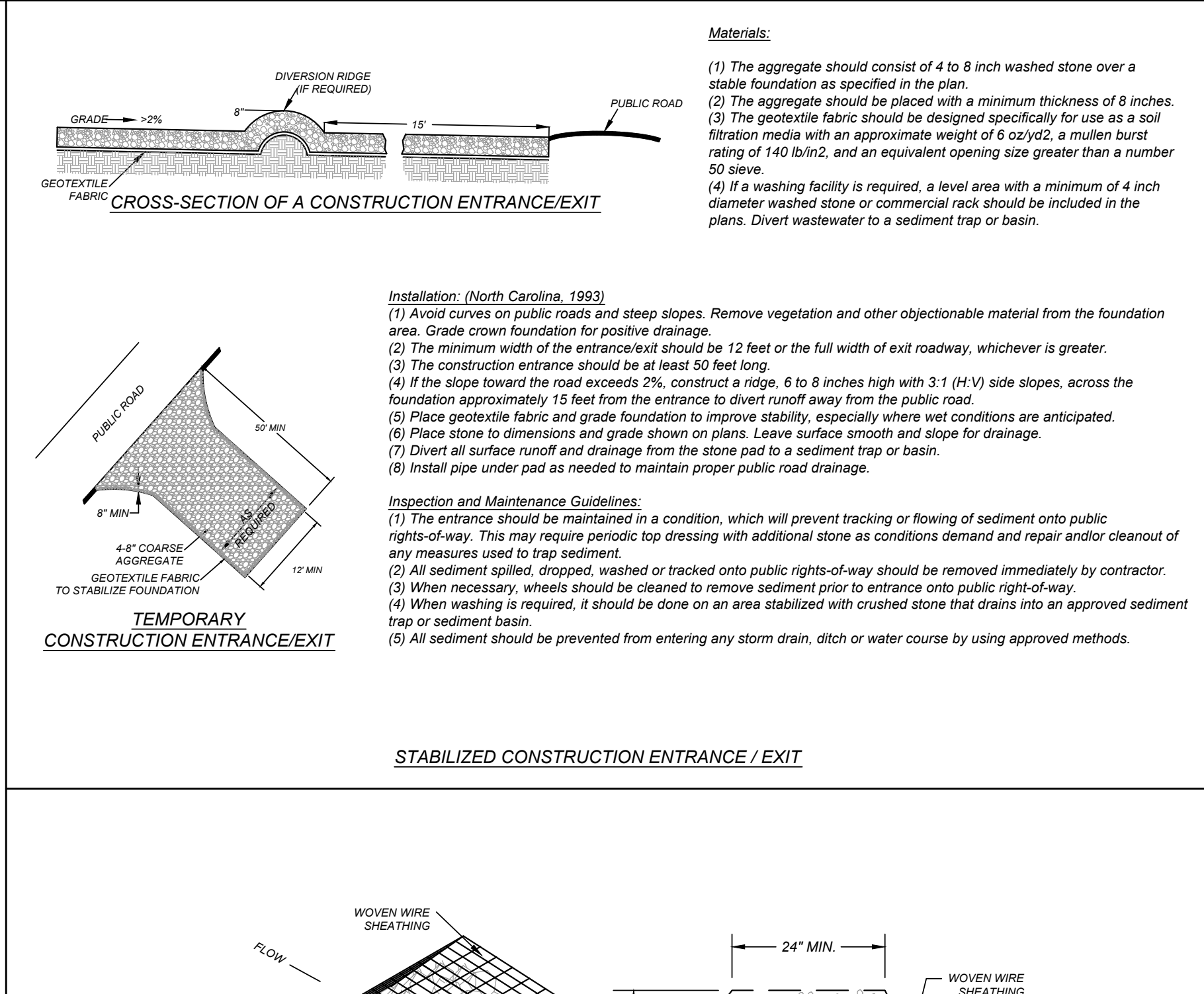
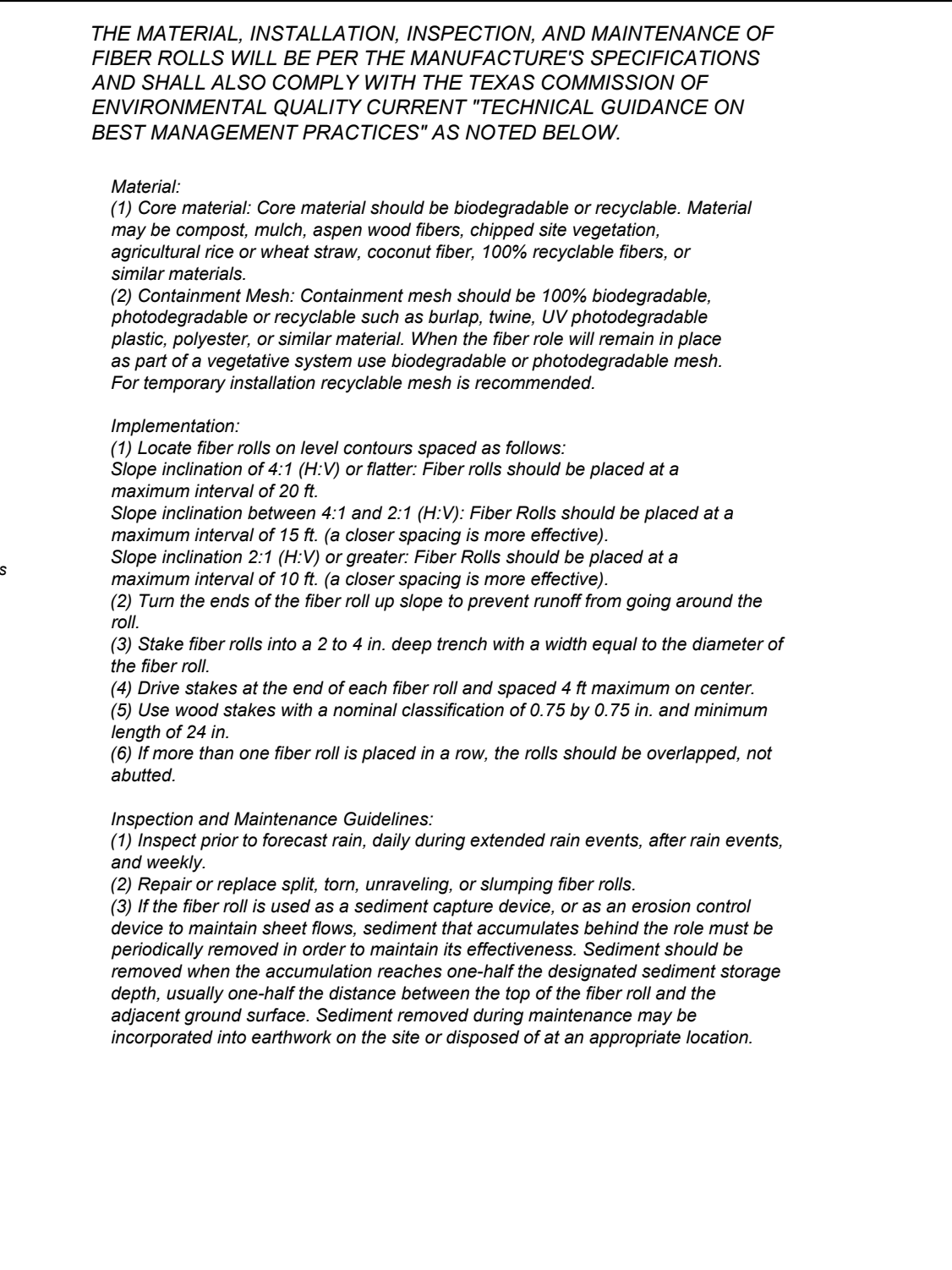
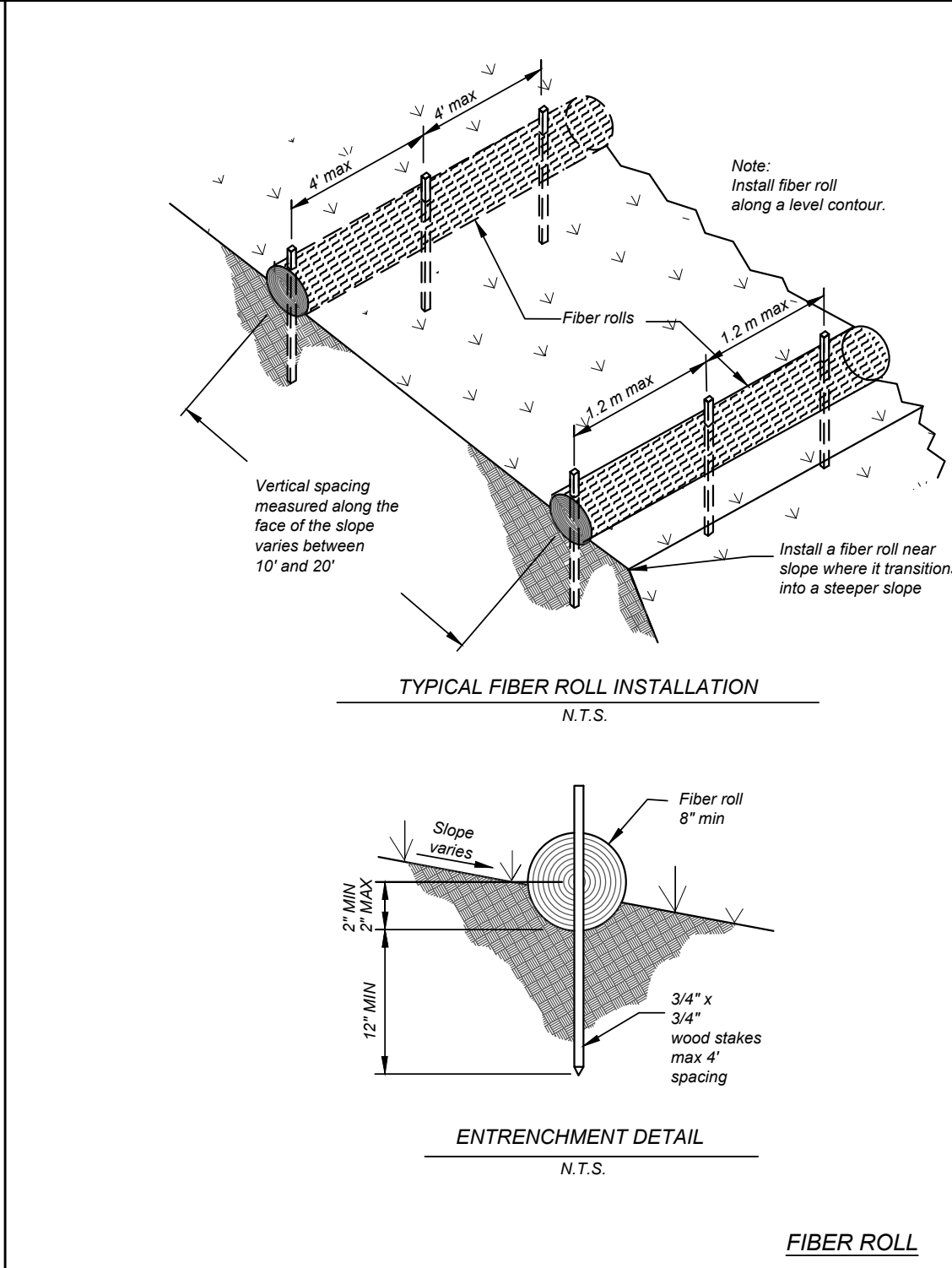
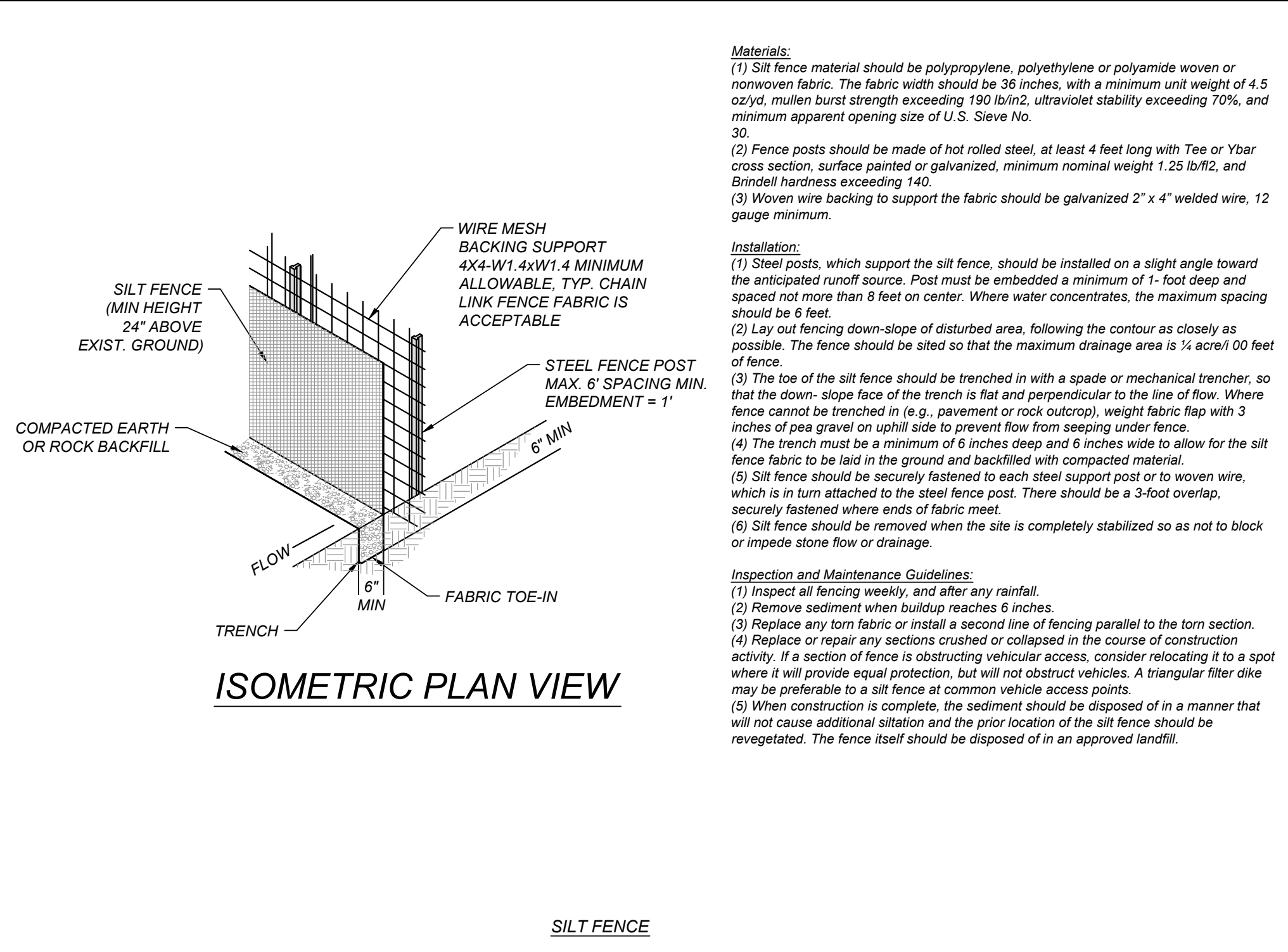
DB NO. 314-46-03

DATE: MARCH 2024

RAWN: SJ CHECKED: .

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Date: Aug 06, 2024, 1:36pm User ID: wbratcher
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MIRO MEADOWS UNIT 2
BEXAR COUNTY, TEXAS

K&W
ENGINEERS + SURVEYING
Phone # (210) 878-8444 • Fax # (210) 878-8441
TBPE Firm # 10122300

ISSUE DATE
REVISIONS
STATE OF TEXAS
TRAVIS R. ELSETH
99254
LICENSED PROFESSIONAL ENGINEER
T.R. 8/16/24

PLAT NO.
22-1180695
JOB NO. 314-46-03
DATE: MARCH 2024
DRAWN: SJ CHECKED: JM
SHEET NUMBER:
8.1