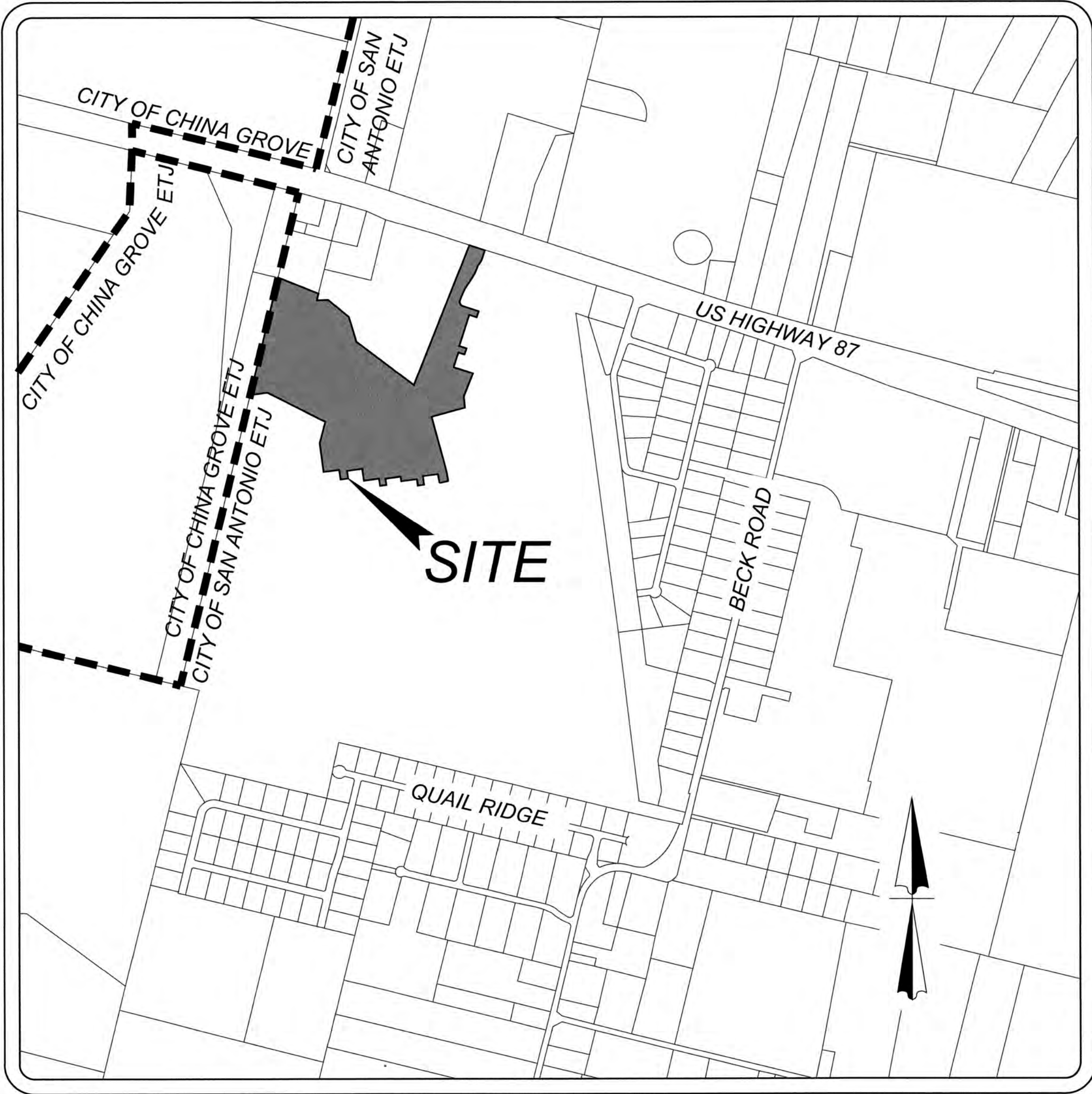


GATES SUBDIVISION UNIT 1

BEXAR COUNTY, TX

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

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LOCATION MAP
NOT-TO-SCALE

OWNER INFORMATION
MEH HOLDING COMPANY LTD
5210 THOUSAND OAKS, STE. 1318
SAN ANTONIO, TX 78233

SHEET INDEX		
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SHEET REVISION LOG			
DATE	SHEET NO.	REVISION NO.	DESCRIPTION
4/18/2022	5.0	1	REVISED CURB RETURN STATIONS

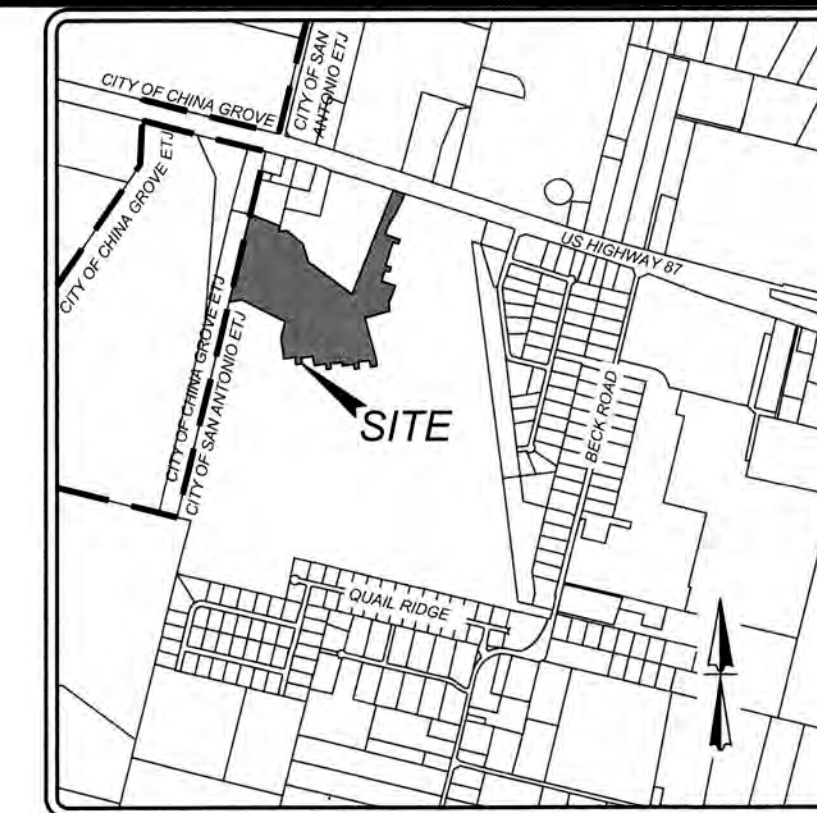
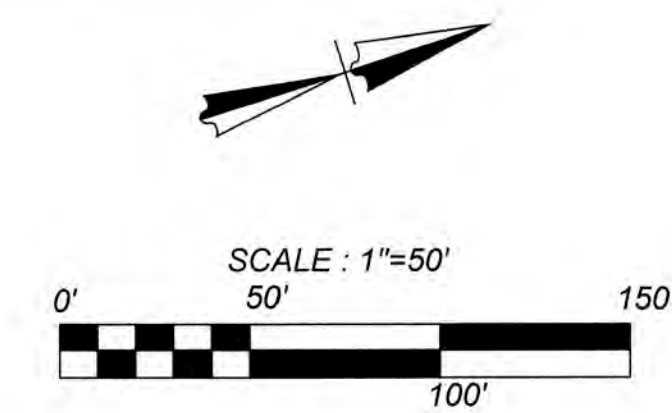
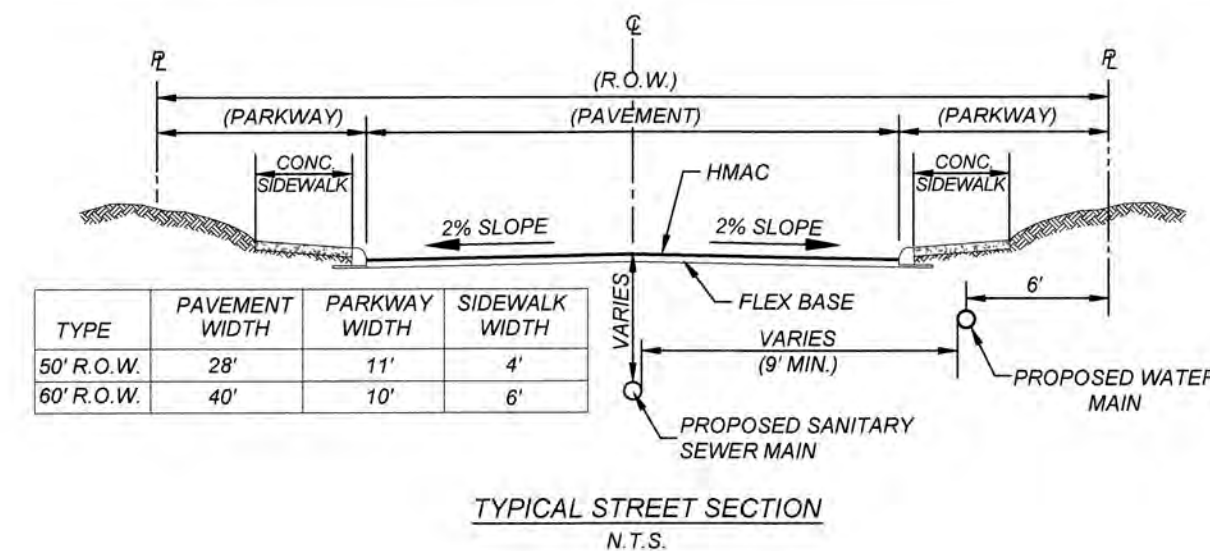
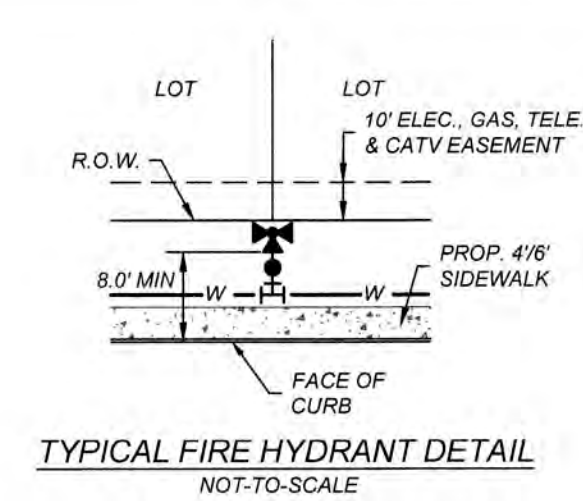


KFW
ENGINEERS + SURVEYING
3421 Paesanos Pkwy., Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

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.

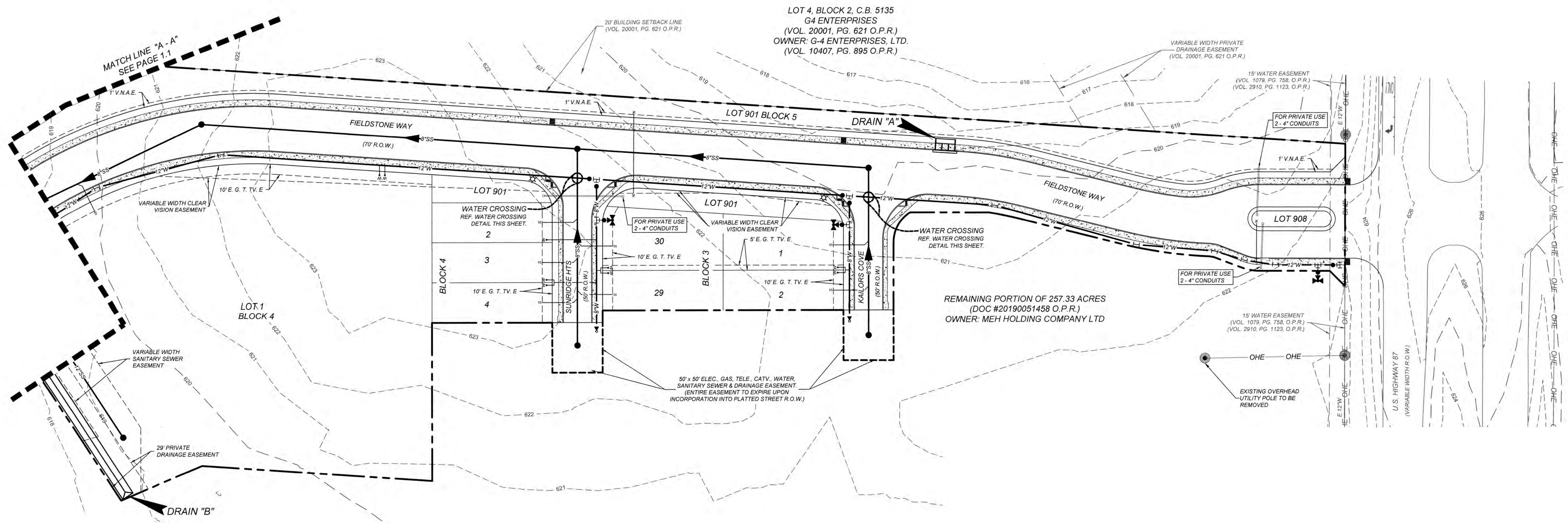
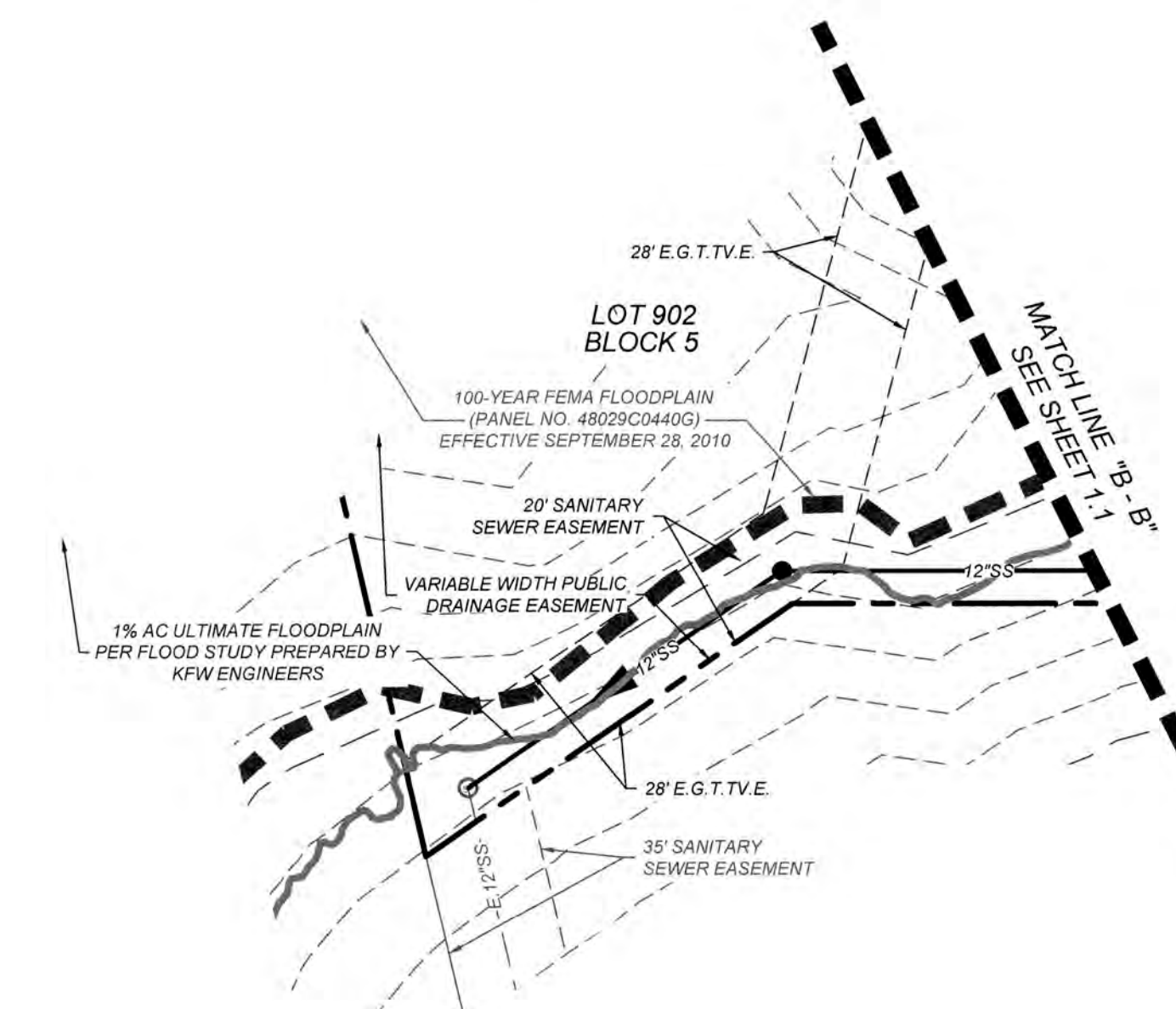
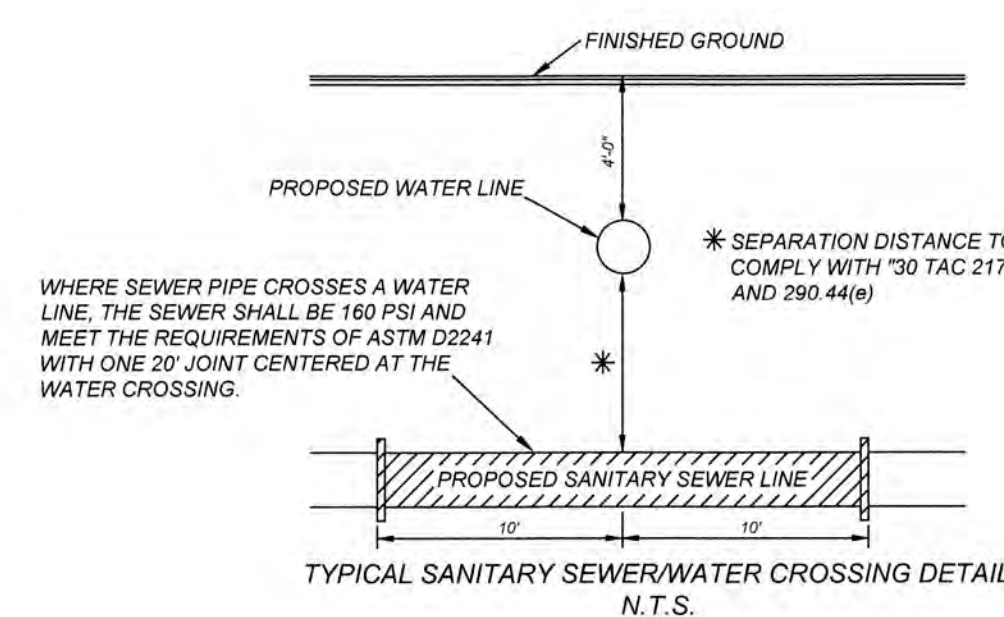
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ENGINEERING/TECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PRACTICES AND PROCEDURES FOR TRENCH EXCAVATION SAFETY AND TRENCH EXCAVATION INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ENGINEERING/TECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, 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 PROVIDE FOR THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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



LOCATION MAP
NOT-TO-SCALE

PROPOSED WATER MAIN	=	— W —
PROPOSED WATER SERVICE & METER BOX	=	— —
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	— —
PROPOSED FIRE HYDRANT	=	— —
PROPOSED WATER VALVE	=	— —
PROPOSED 100W STREETLIGHT	=	— —
PROPOSED 250W STREETLIGHT	=	— —
PROPOSED SANITARY SEWER MAIN	=	— SS — —
PROPOSED SANITARY SEWER MANHOLE	=	— —
PROPOSED SANITARY SEWER LATERAL	=	— —
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E. G. T. TV. E
EXISTING WATER MAIN	=	— — EW — —
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	— E SS — —
EXISTING SANITARY SEWER MANHOLE	=	— —
EXISTING OVERHEAD ELECTRIC WIREPOLE	=	— OHE — — OHE —
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	— — OHE —



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
OVERALL UTILITY PLAN (SHEET 1 OF 2)

PLAT NO.
21-11800645

JOB NO. 205-43-04

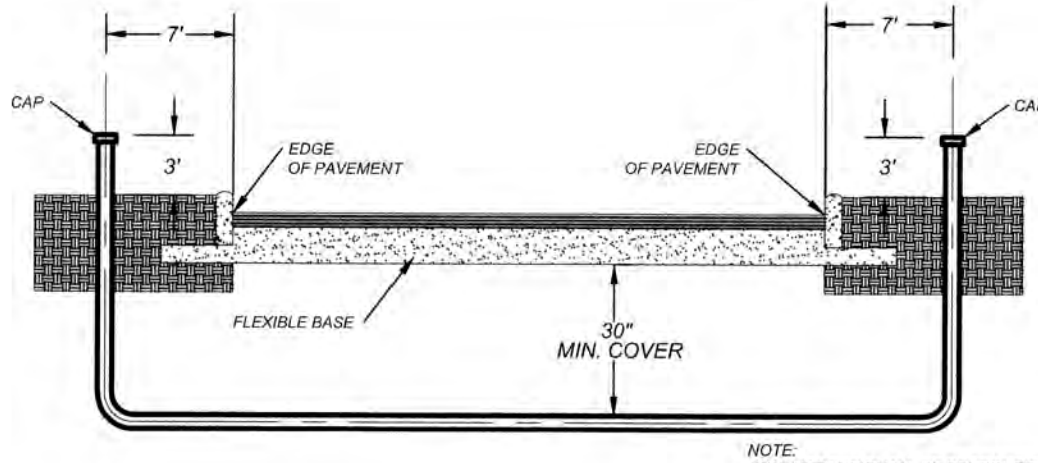
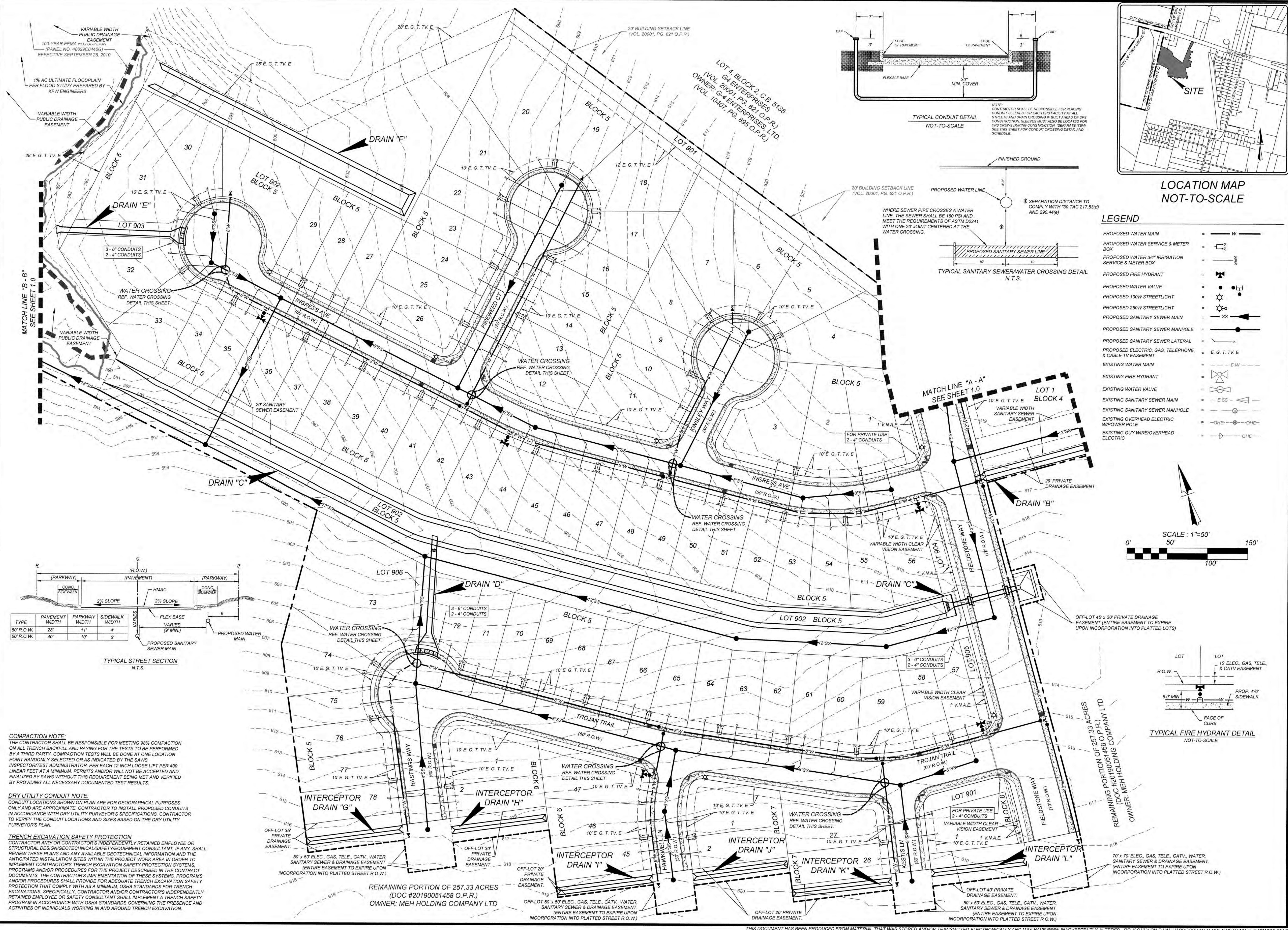
DATE: OCTOBER 2021

DRAWN: OM CHECKED: CA

SHEET NUMBER

1.0

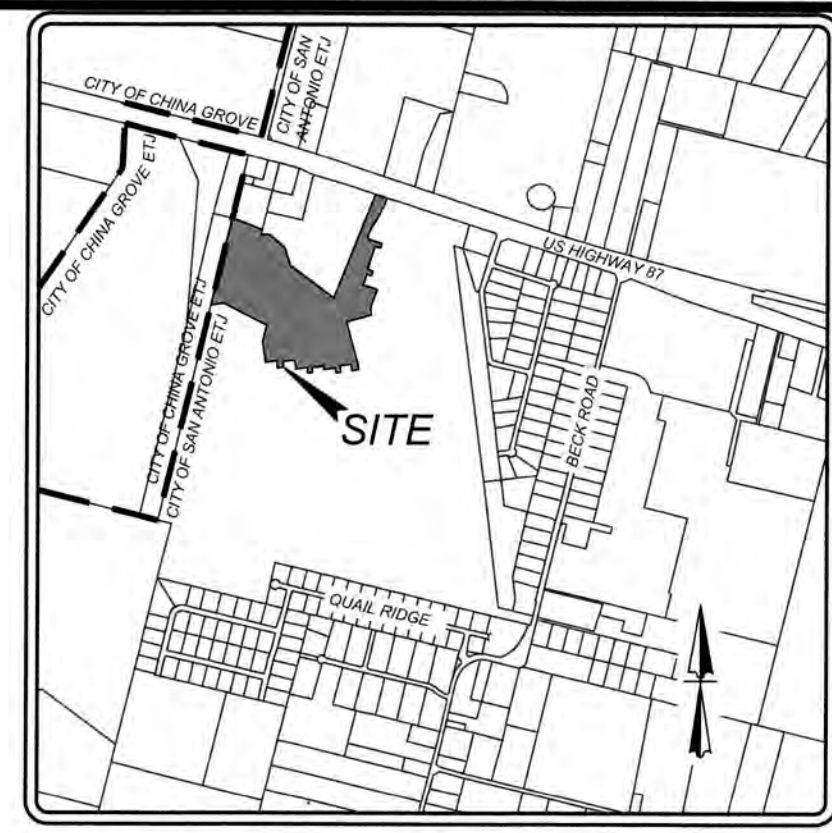
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TYPICAL CONDUIT DETAIL
NOT-TO-SCALE



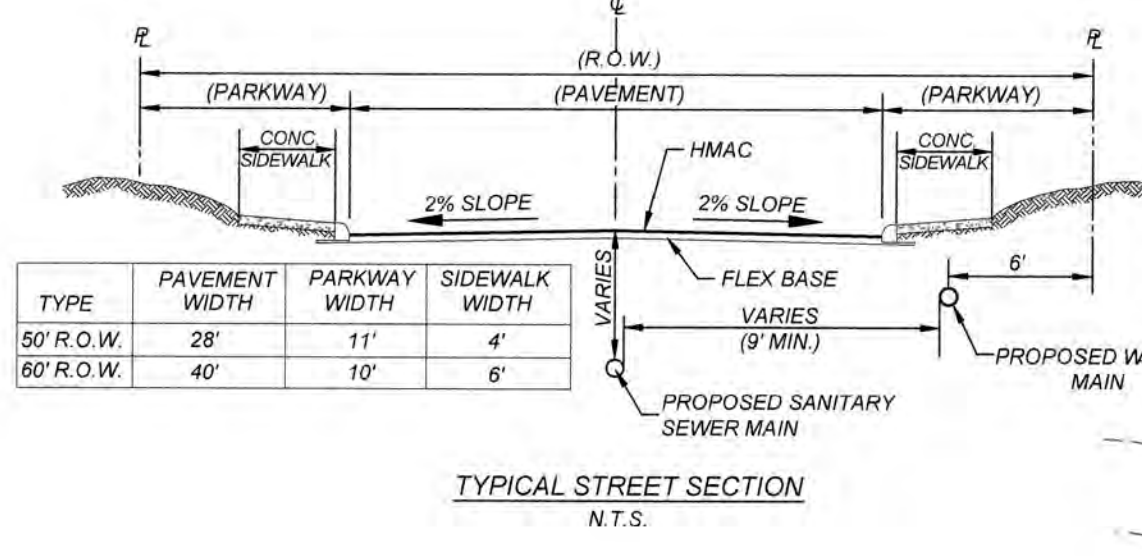
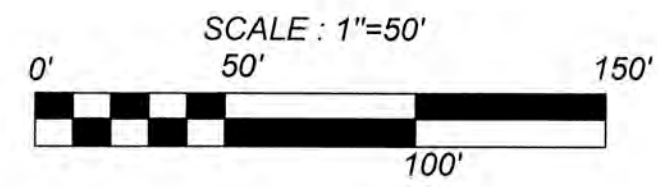
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



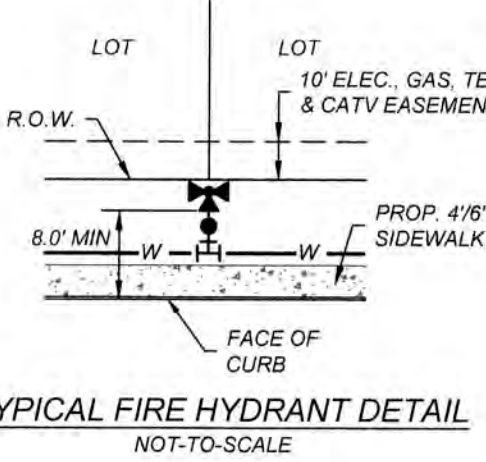
LOCATION MAP
NOT-TO-SCALE

LEGEND

- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE & METER BOX
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED 100W STREETLIGHT
- PROPOSED 250W STREETLIGHT
- PROPOSED SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
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- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING OVERHEAD ELECTRIC W/POWER POLE
- EXISTING GUY WIRE/OVERHEAD ELECTRIC



TYPICAL STREET SECTION
N.T.S.



TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE

COMPACTION NOTE:
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TRENCH EXCAVATION SAFETY PROTECTION
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REMAINING PORTION OF 257.33 ACRES
(DOC #20190051458 O.P.R.)
OWNER: MEH HOLDING COMPANY LTD

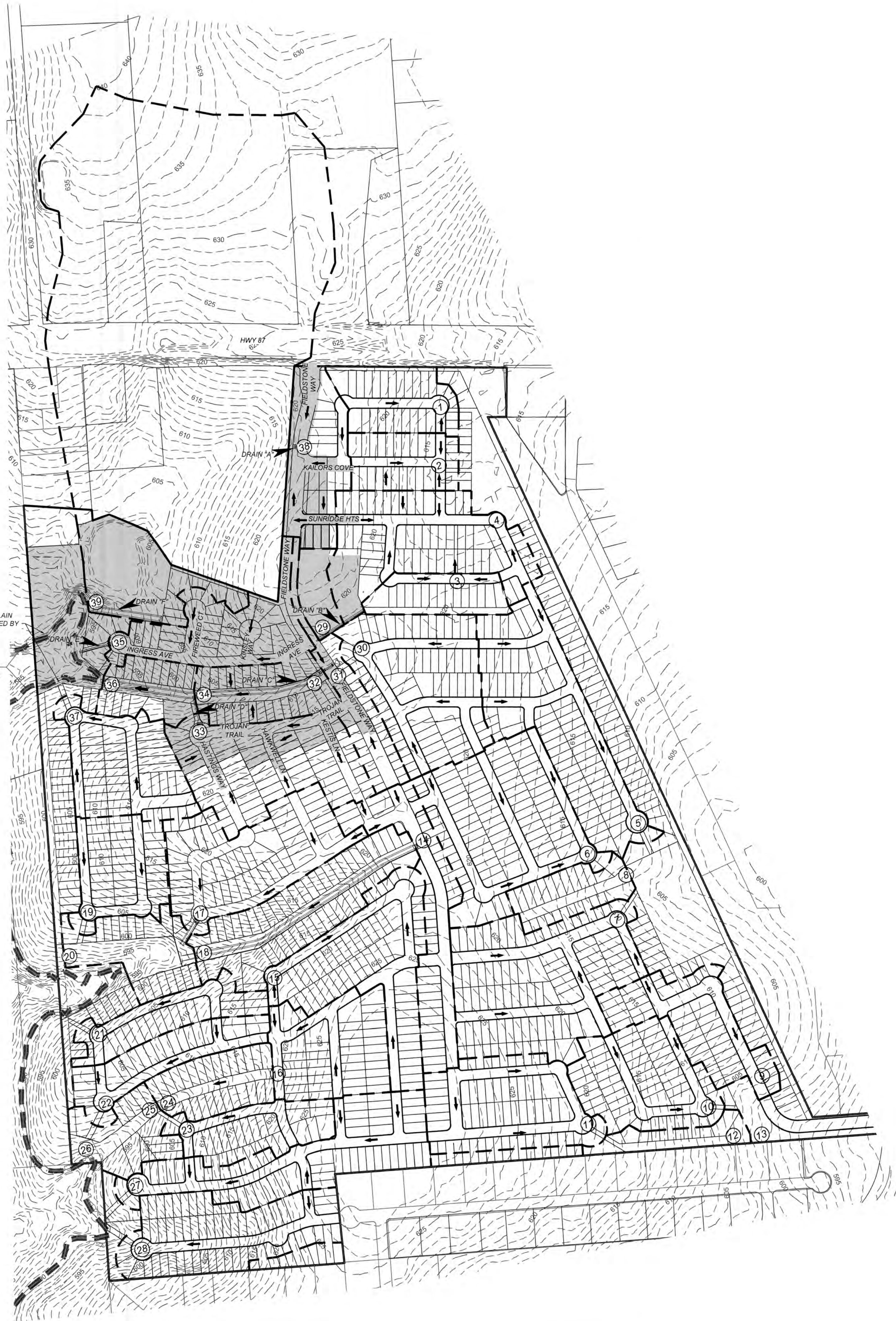
GATES SUBDIVISION UNIT 1
BEAR COUNTY, TX
OVERALL UTILITY PLAN (SHEET 2 OF 2)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

Date: Mar 13, 2023, 2:34pm User ID: cgraff
File: P:\0518104\Design\Civil\MD205-064.dwg

1% AC ULTIMATE FLOODPLAIN
PER FLOOD STUDY PREPARED BY
KFW ENGINEERS

100-YEAR FEMA FLOODPLAIN
(PANEL NO. 48029D0440G)
EFFECTIVE SEPTEMBER 28, 2010



Proposed Conditions:

Study Point	AREA	(Acres)	C	T _{over} (min)	T _{sc} (min)	T _a (min)	T _{tot} (min)	I _s (in/hr)	I ₂₅ (in/hr)	I ₁₀₀ (in/hr)	Q ₆ (ft ³ /s)	Q ₂₅ (ft ³ /s)	Q ₁₀₀ (ft ³ /s)	
1	A-1	4.22	0.75	9.00	3	1	13	5.61	7.82	9.76	17.76	24.75	30.89	
2	A-2	3.59	0.75	9.00	3	1	13	5.61	7.82	9.76	15.11	21.05	26.28	
3	A-3	3.09	0.75	9.00	4	0	13	5.61	7.82	9.76	13.01	18.12	22.62	
4	PT. 3 + A-4	12.73	0.76	10.00	CARRYOVER FROM PT. 3	3	1	14	5.42	7.53	9.39	52.56	72.94	91.00
	A-4	9.64	0.77											
5	A-5	10.98	0.75	9.00	4	3	16	5.06	6.99	8.71	41.70	57.54	71.70	
6	A-6	11.92	0.75	9.00	6	2	17	4.91	6.76	8.42	43.86	60.46	75.27	
7	A-7	13.01	0.75	9.00	8	2	19	4.63	6.37	7.93	45.21	62.20	77.35	
8	PT. 6 + A-8	14.94	0.75	10.00	CARRYOVER FROM PT. 4	7	0	17	4.91	6.76	8.42	54.98	75.77	94.34
	A-8	3.02	0.75											
9	A-9	5.89	0.75	9.00	4	2	15	5.24	7.24	9.03	23.15	31.98	39.88	
10	A-10	7.12	0.75	9.00	5	1	15	5.24	7.24	9.03	27.98	38.66	48.21	
11	A-11	8.06	0.75	9.00	5	1	15	5.24	7.24	9.03	31.68	43.77	54.57	
12	PT. 11 + A-12	10.04	0.75	10.00	CARRYOVER FROM PT. 9	5	2	17	4.91	6.76	8.42	36.94	50.92	63.40
	A-12	1.98	0.75											
13	PT. 10 + PT. 11	17.16	0.75	10.00	CARRYOVER FROM PT. 10	7	0	17	4.91	6.76	8.42	63.14	87.03	108.36
	A-14	6.28	0.82	9.00	6	2	17	4.91	6.76	8.42	25.12	34.62	43.11	
14	A-15	7.57	0.75	9.00	6	2	17	4.91	6.76	8.42	27.86	38.39	47.80	
15	A-16	6.44	0.75	9.00	5	1	15	5.24	7.24	9.03	25.31	34.97	43.60	
16	A-17	9.00	0.75	9.00	4	0	13	5.61	7.82	9.76	37.88	52.77	65.88	
17														
18	PT. 14 + PT. 15 + A-18	21.42	0.77	10.00	CARRYOVER FROM PT. 12	7	3	20	4.51	6.21	7.71	74.38	102.24	127.08
	A-18	7.57	0.75											
19	A-19	5.12	0.75	9.00		4	0	13	5.61	7.82	9.76	21.55	30.02	37.48
20	PT. 17 + PT. 18 + PT. 19 + A-20	40.29	0.75	10.00	CARRYOVER FROM PT. 16	10	2	22	4.30	5.91	7.34	130.02	178.48	221.67
	A-20	4.75	0.75											
21	A-21	3.96	0.75	9.00		4	1	14	5.42	7.53	9.39	16.11	22.35	27.89
22	A-22	4.40	0.75	9.00		4	1	14	5.42	7.53	9.39	17.89	24.83	30.98
23	A-23	4.21	0.75	9.00		4	1	14	5.42	7.53	9.39	17.12	23.76	29.65
24	PT. 16 + A-24	10.32	0.75	10.00	CARRYOVER FROM PT. 14	5	2	17	4.91	6.76	8.42	37.98	52.34	65.17
	A-24	3.88	0.75											
25	PT. 23 + PT.24	14.53	0.75	10.00	CARRYOVER FROM PT. 22	7	0	17	4.91	6.76	8.42	53.47	73.69	91.75
26	PT. 22 + PT. 25 + A-26	22.52	0.75	10.00	CARRYOVER FROM PT. 23	7	1	18	4.76	6.56	8.16	80.46	110.78	137.84
	A-26	3.59	0.75											
27	A-27	9.11	0.75	9.00		5	3	17	4.91	6.76	8.42	33.52	46.20	57.53
28	A-28	8.13	0.75	9.00		4	2	15	5.24	7.24	9.03	31.95	44.15	55.04
29	A-29	1.61	0.91	14.00		2	0	16	5.06	6.99	8.71	7.42	10.24	12.76
30	A-30	9.92	0.75	9.00		6	1	16	5.06	6.99	8.71	37.68	51.99	64.78
31	PT.29 + A-31	5.04	0.87	9.00		3	2	14	5.42	7.53	9.39	23.77	32.98	41.15
	A-31	3.43	0.85											
32	PT. 30 + PT. 31	14.96	0.84	10.00	CARRYOVER FROM PT. 29	6	1	17	4.91	6.76	8.42	61.65	84.97	105.79
33	A-33	9.17	0.75	9.00		4	1	14	5.42	7.53	9.39	37.29	51.76	64.57
34	PT. 32 + PT.34	19.29	0.78	10.00	CARRYOVER FROM PT. 30	7	2	19	4.63	6.37	7.93	69.83	96.06	119.46
	A-34	4.33	0.75											
35	A-35	6.30	0.75	9.00		3	3	15	5.24	7.24	9.03	24.76	34.21	42.65
36	PT. 33 + PT. 34 + A-36	31.52	0.77	10.00	CARRYOVER FROM PT. 32	9	1	20	4.51	6.21	7.71	109.44	150.44	186.99
	A-36	3.06	0.75											
37	A-37	6.62	0.75	9.00		6	1	16	5.06	6.99	8.71	25.14	34.69	43.23
38	A-38	5.49	0.75	9.00		3	1	13	5.61	7.82	9.76	23.11	32.19	40.19
39	A-40	69.37	0.80	19.00		7	5	31	3.62	4.96	6.14	201.02	275.30	341.36



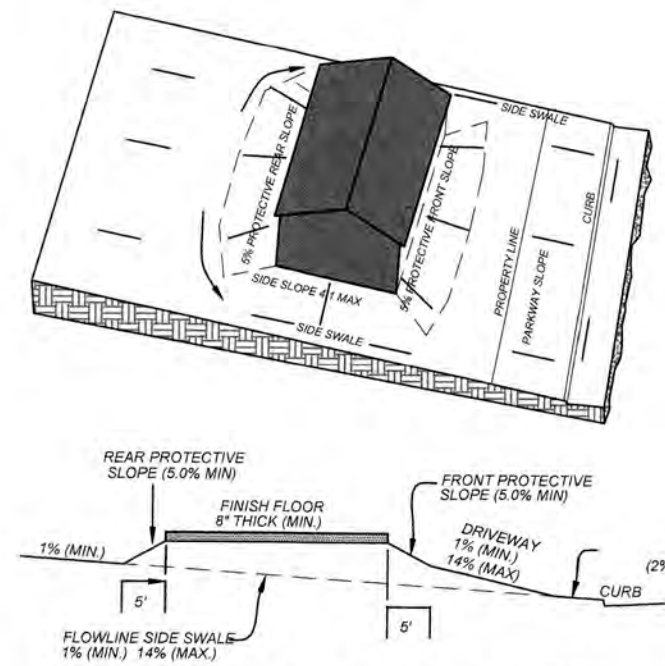
GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
MASTER DRAINAGE PLAN

PLAT NO.
21-11800645

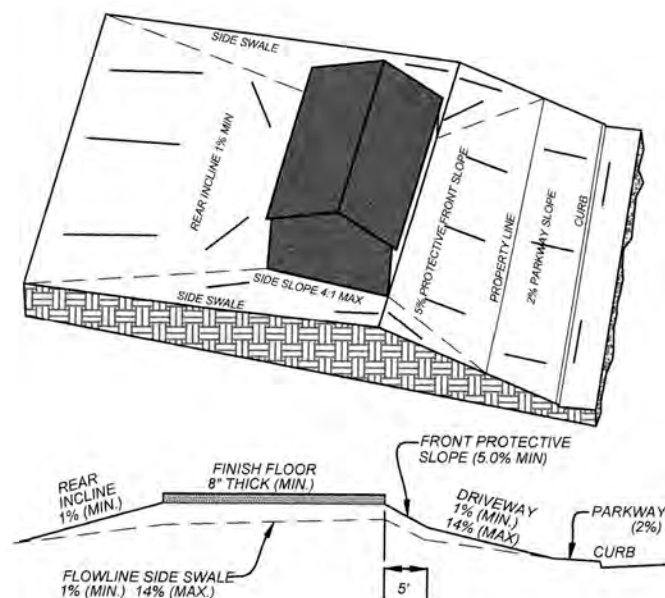
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

GENERAL NOTES:

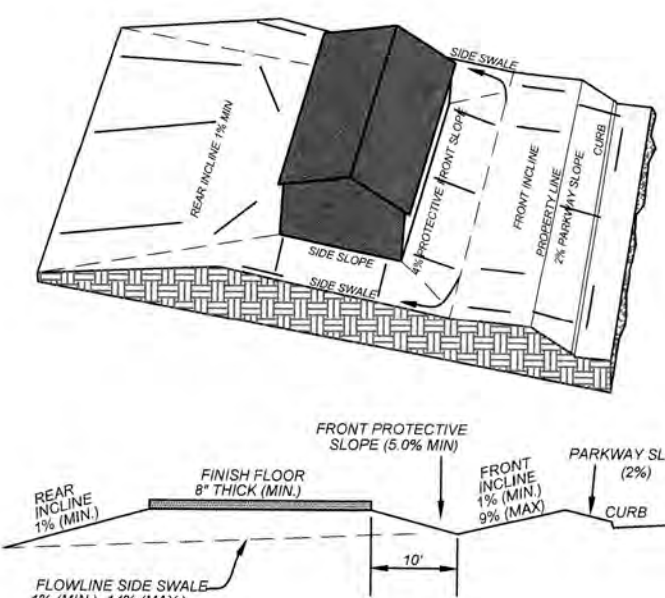
- ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.
- CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
- HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
- AS SOON AS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



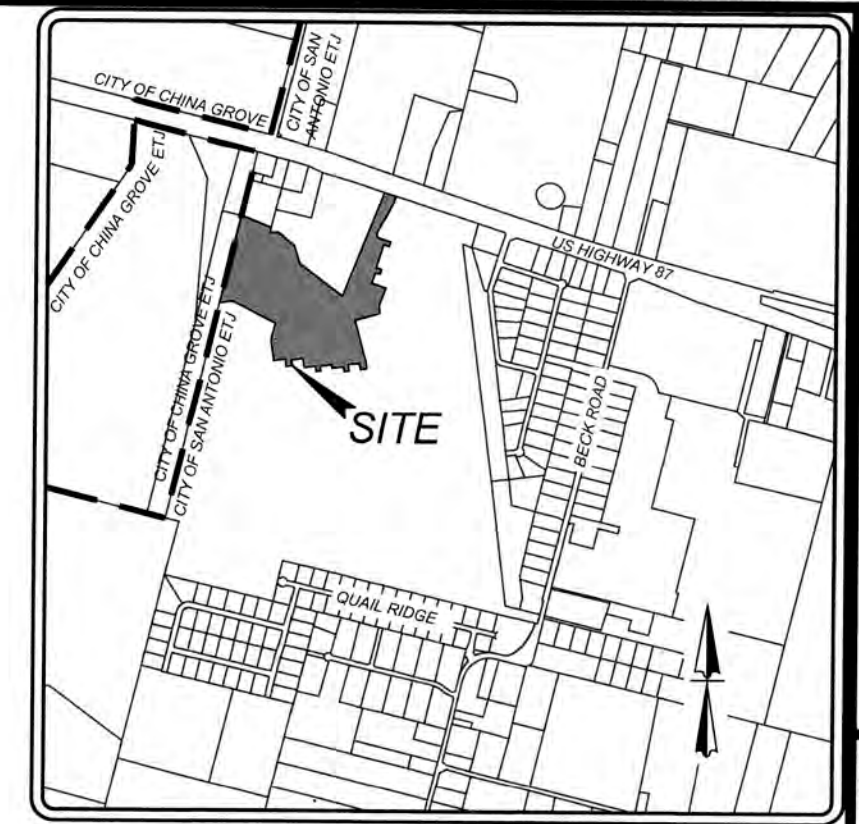
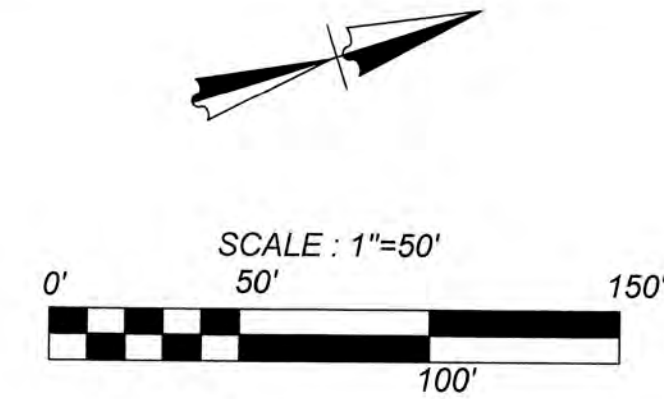
TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



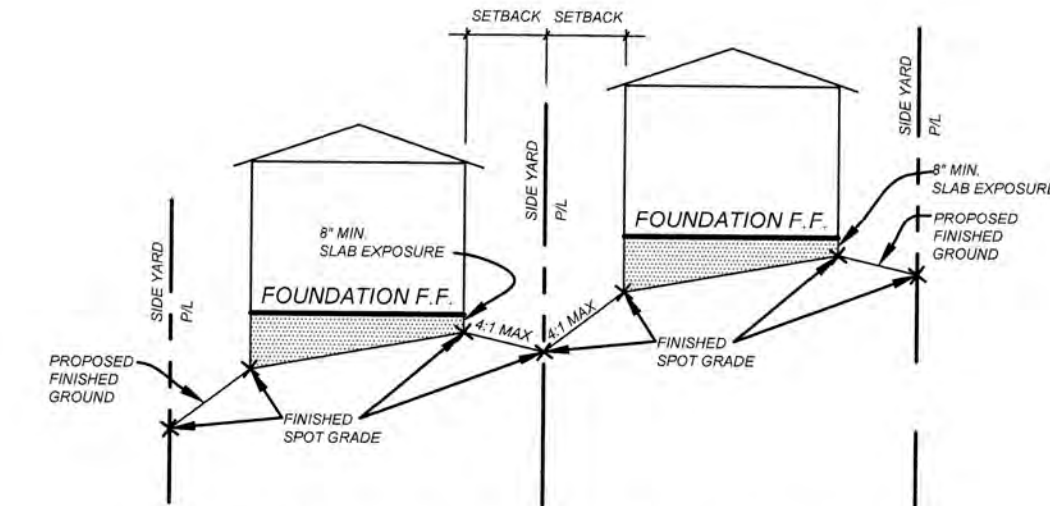
TYPE 'C' LOT GRADING



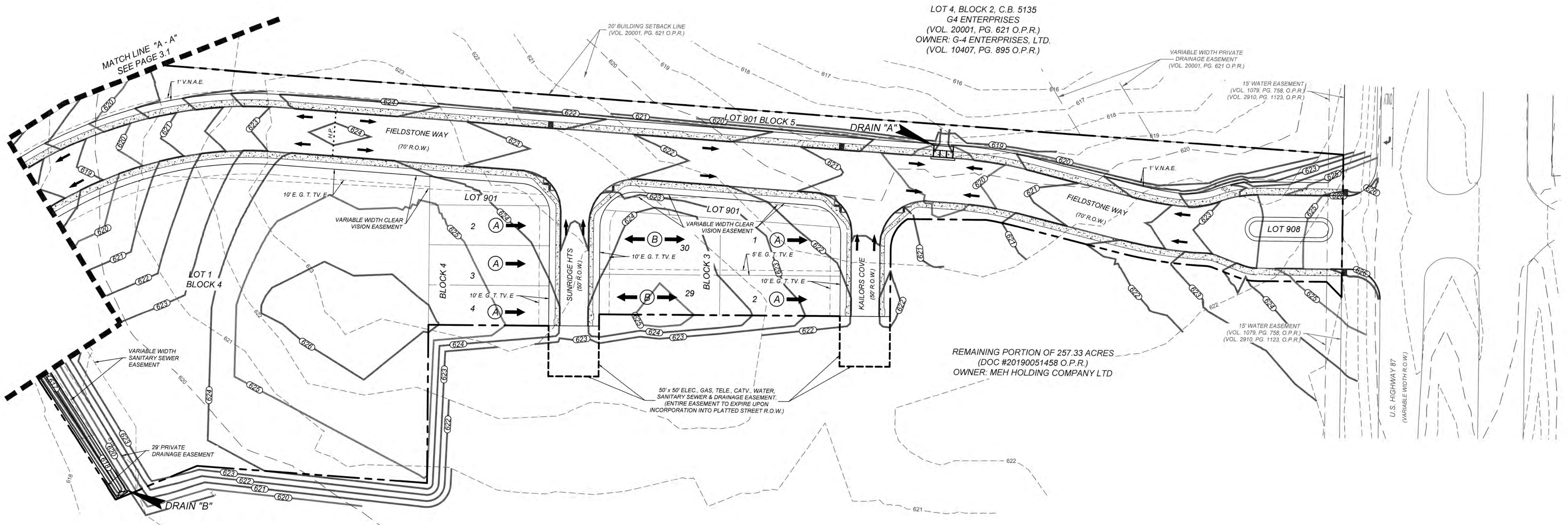
LOCATION MAP
NOT-TO-SCALE

LEGEND

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



TYPICAL SIDE YARD GRADING
N.T.S.

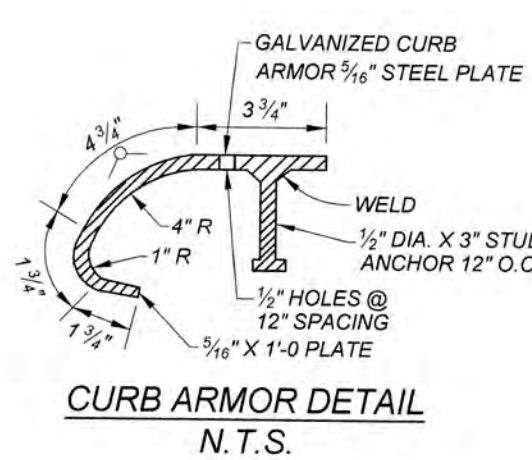
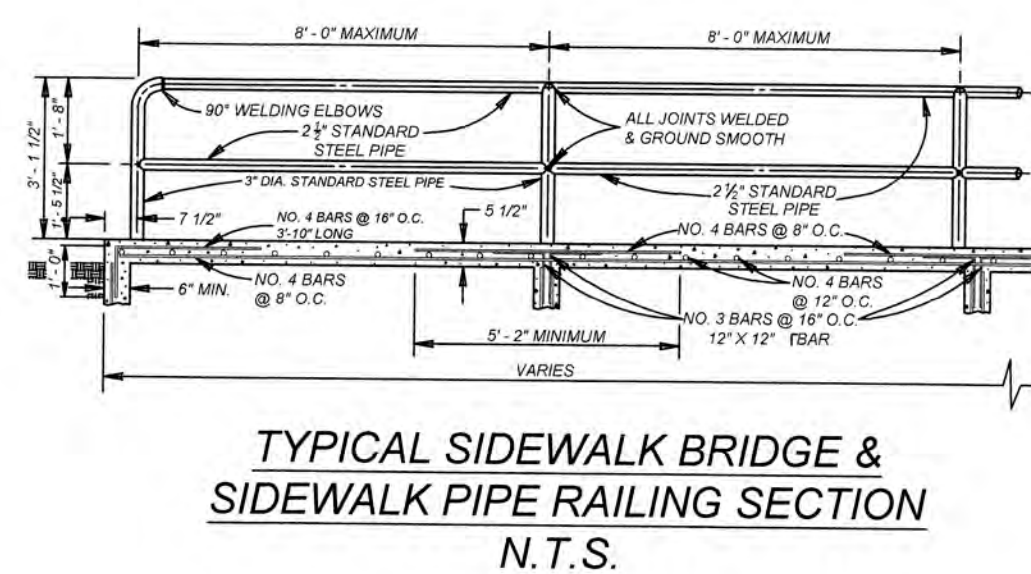
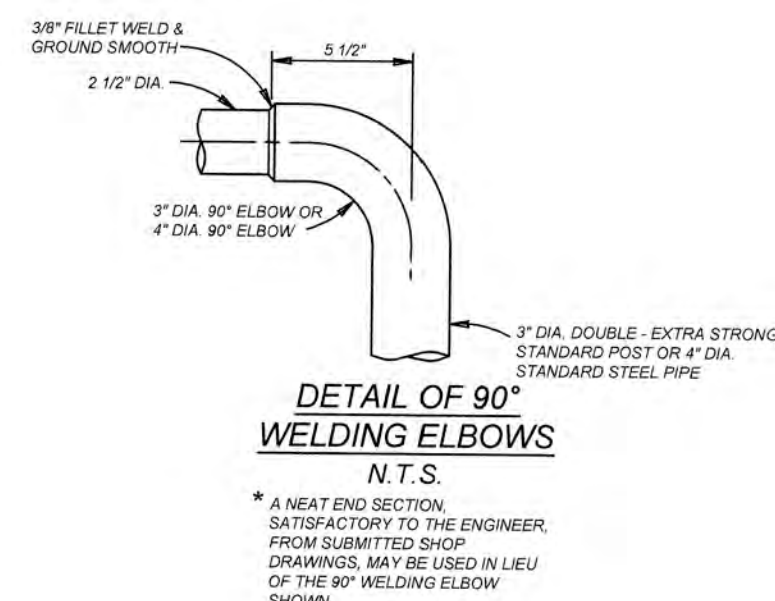
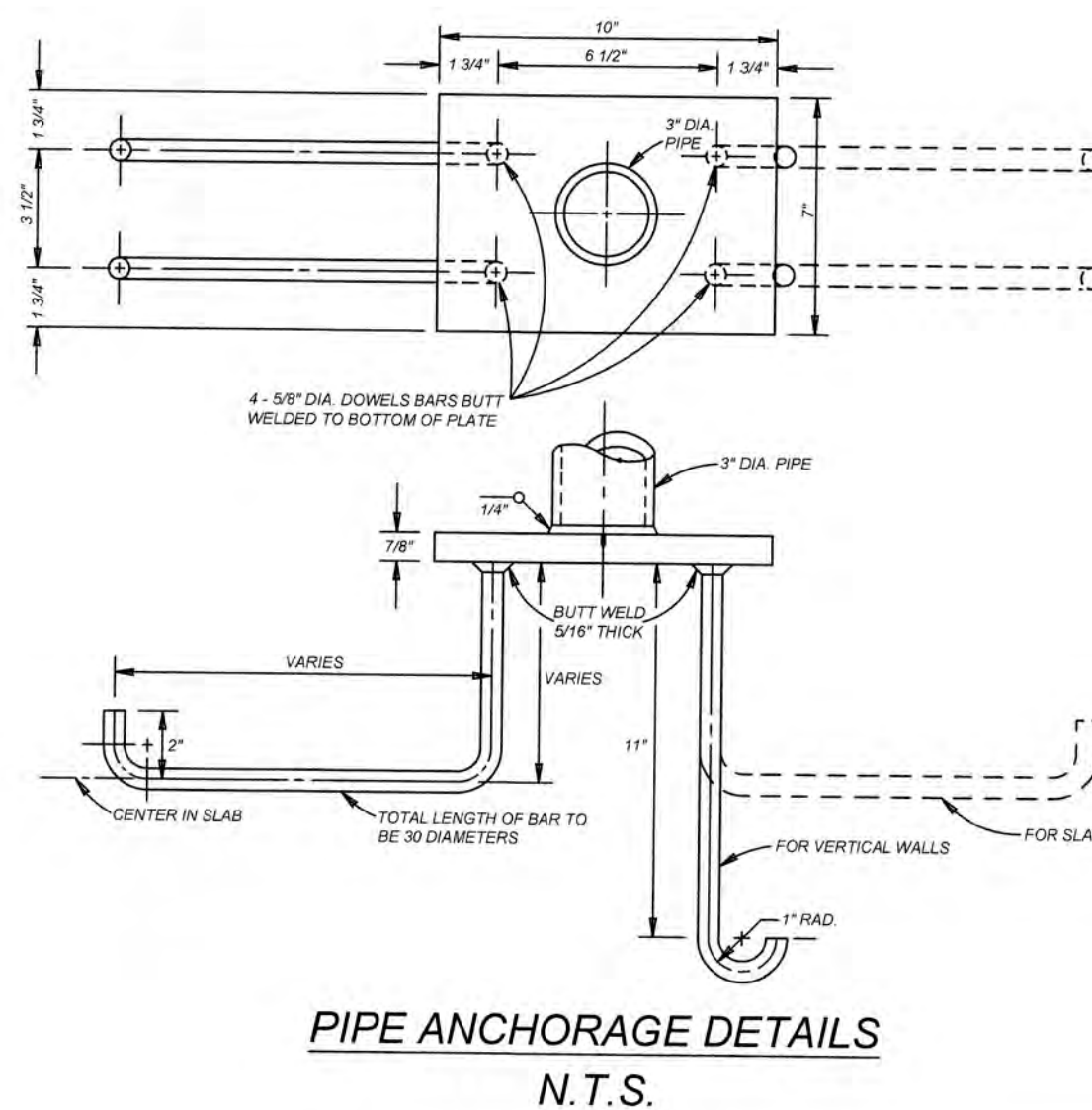
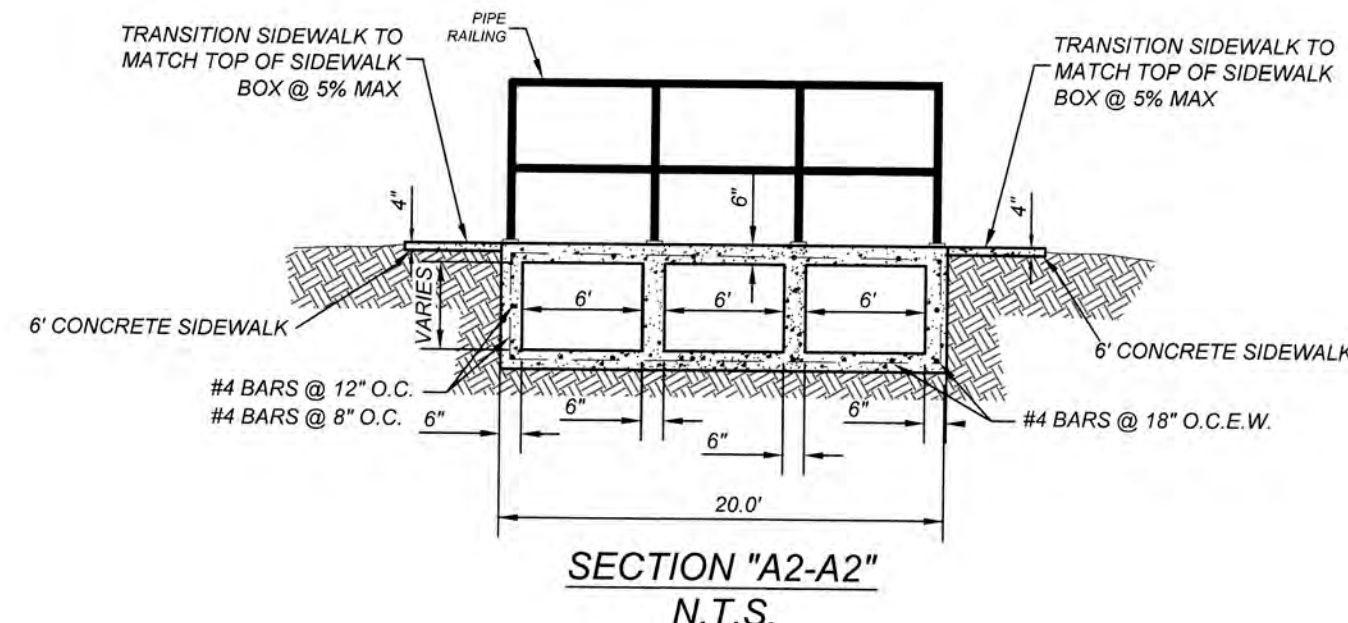
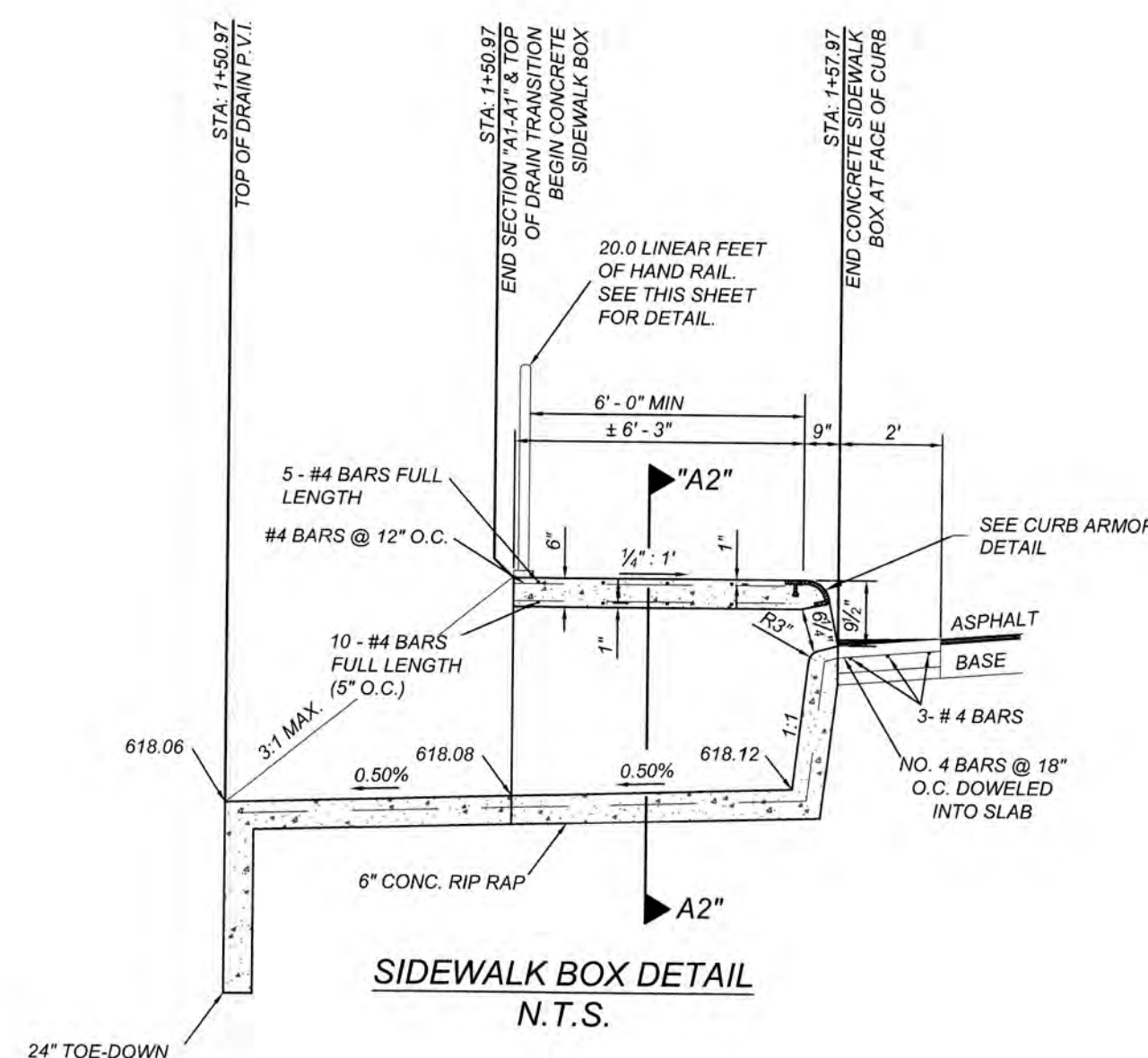
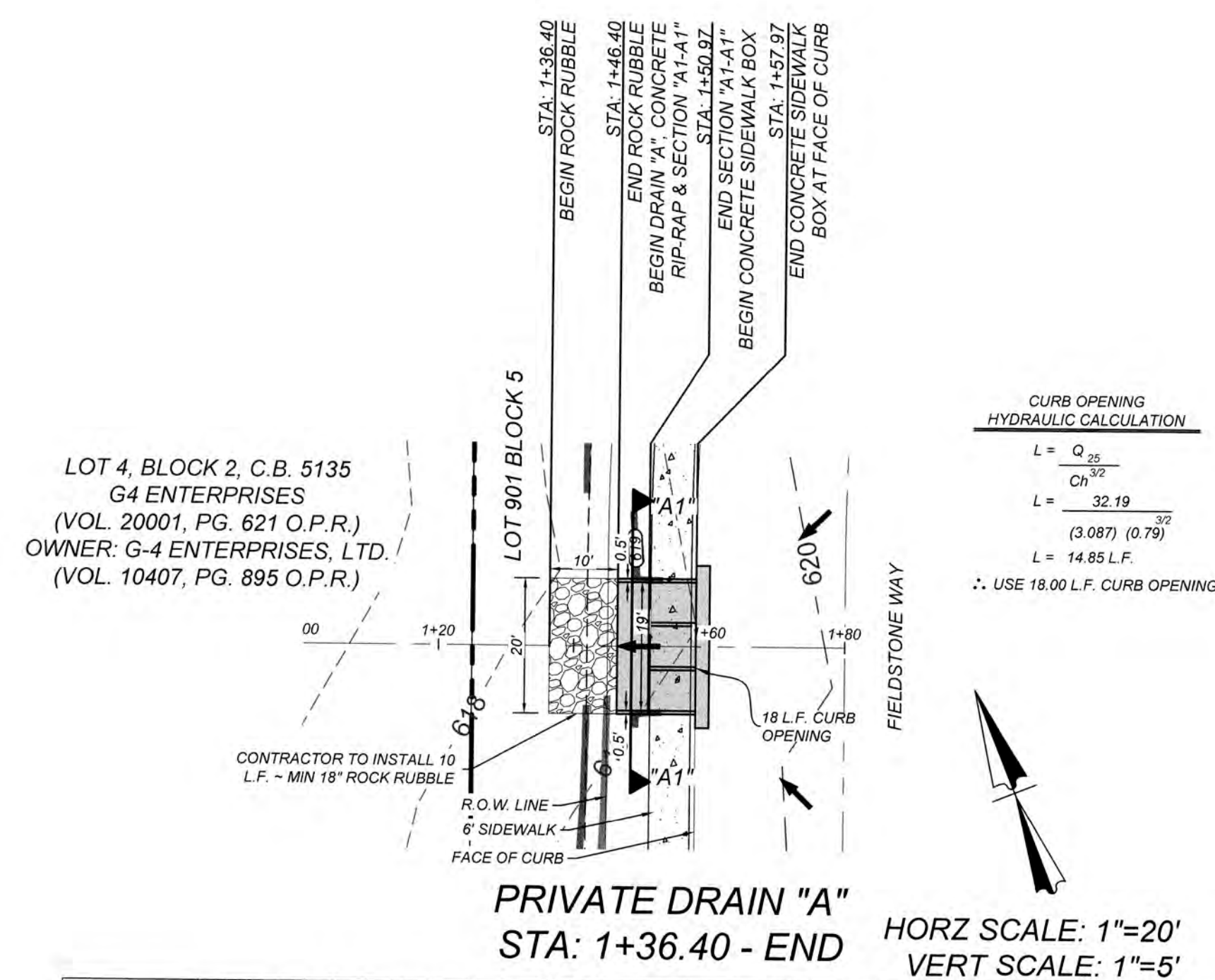
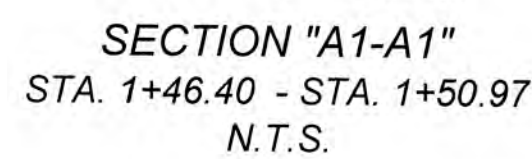


GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
OVERALL GRADING PLAN (SHEET 1 OF 2)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:
3.0

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.

[illegible]

TRENCH EXCAVATION SAFETY PROTECTION

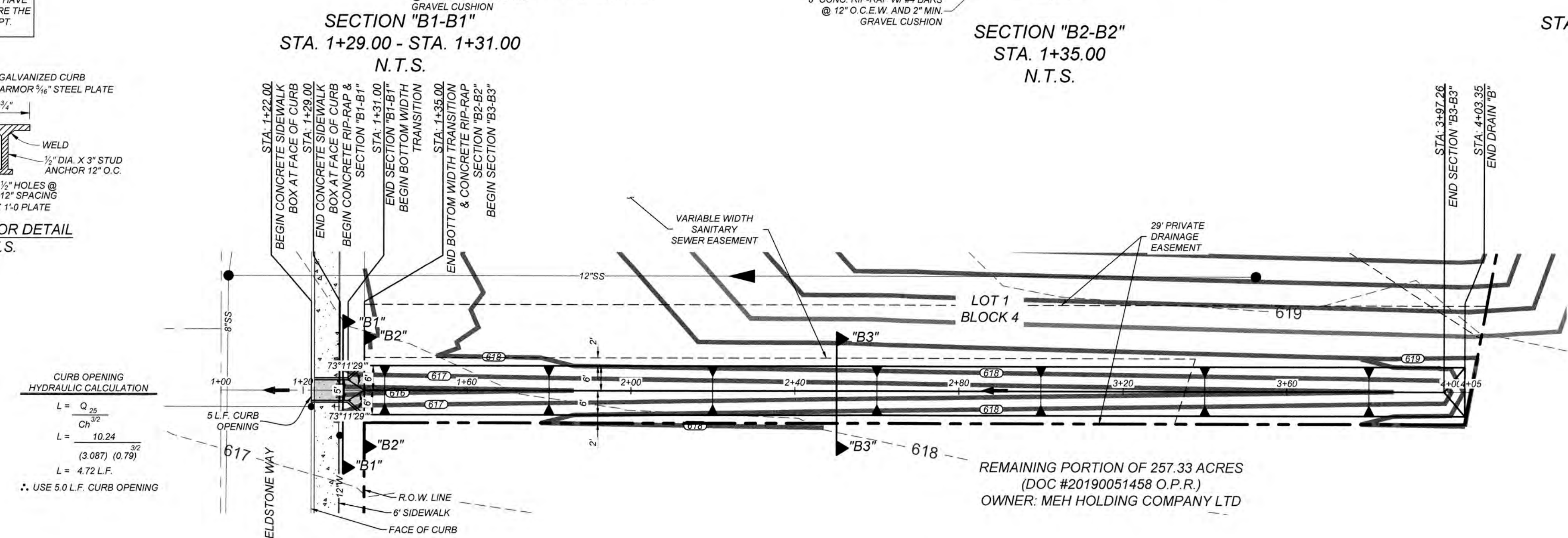
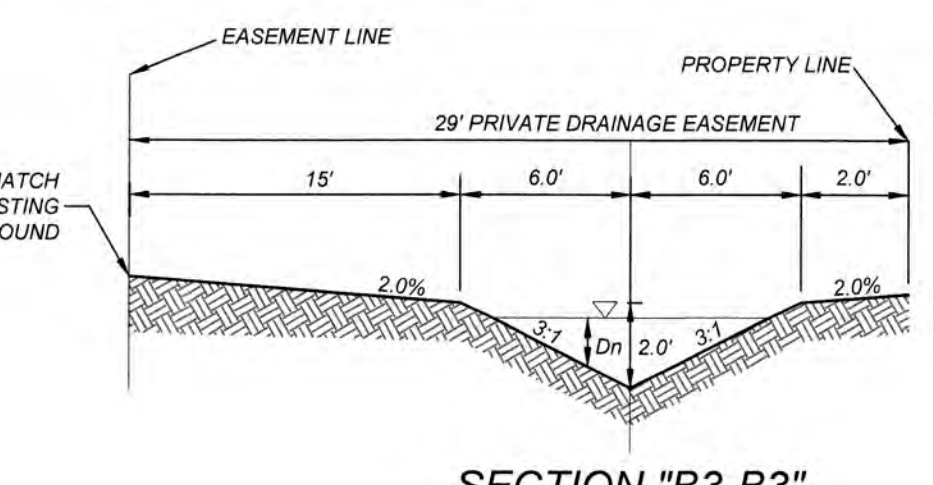
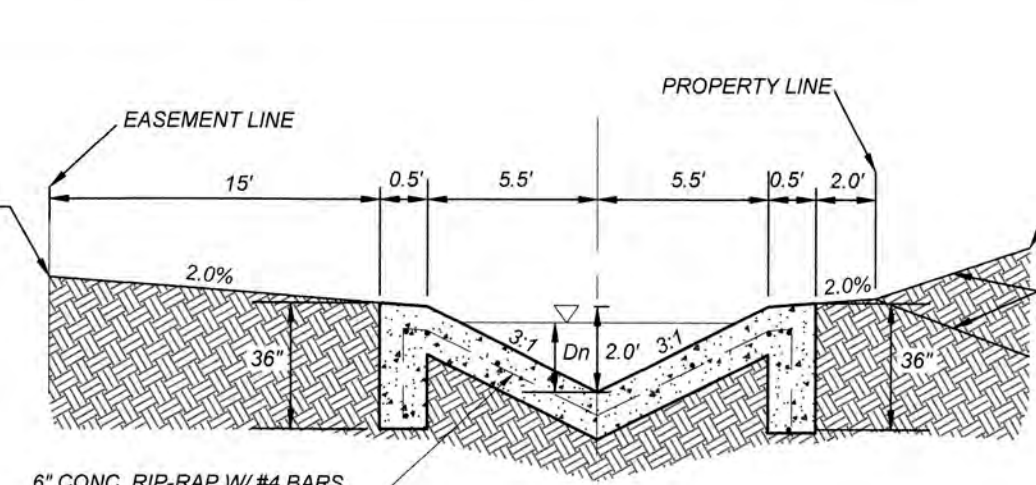
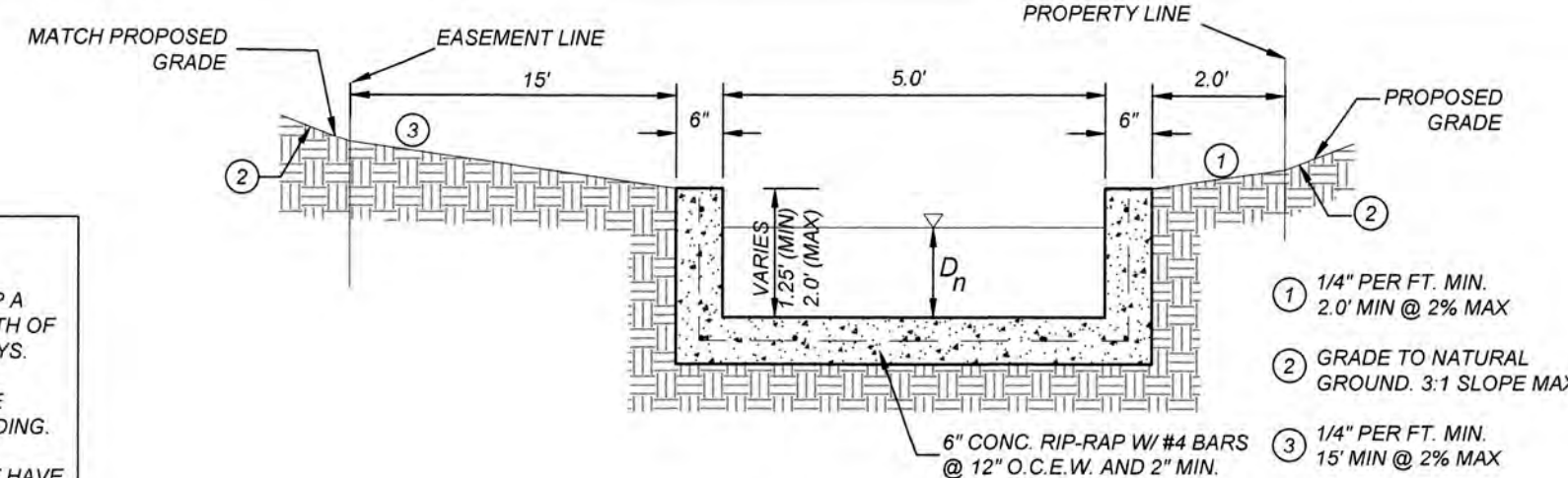
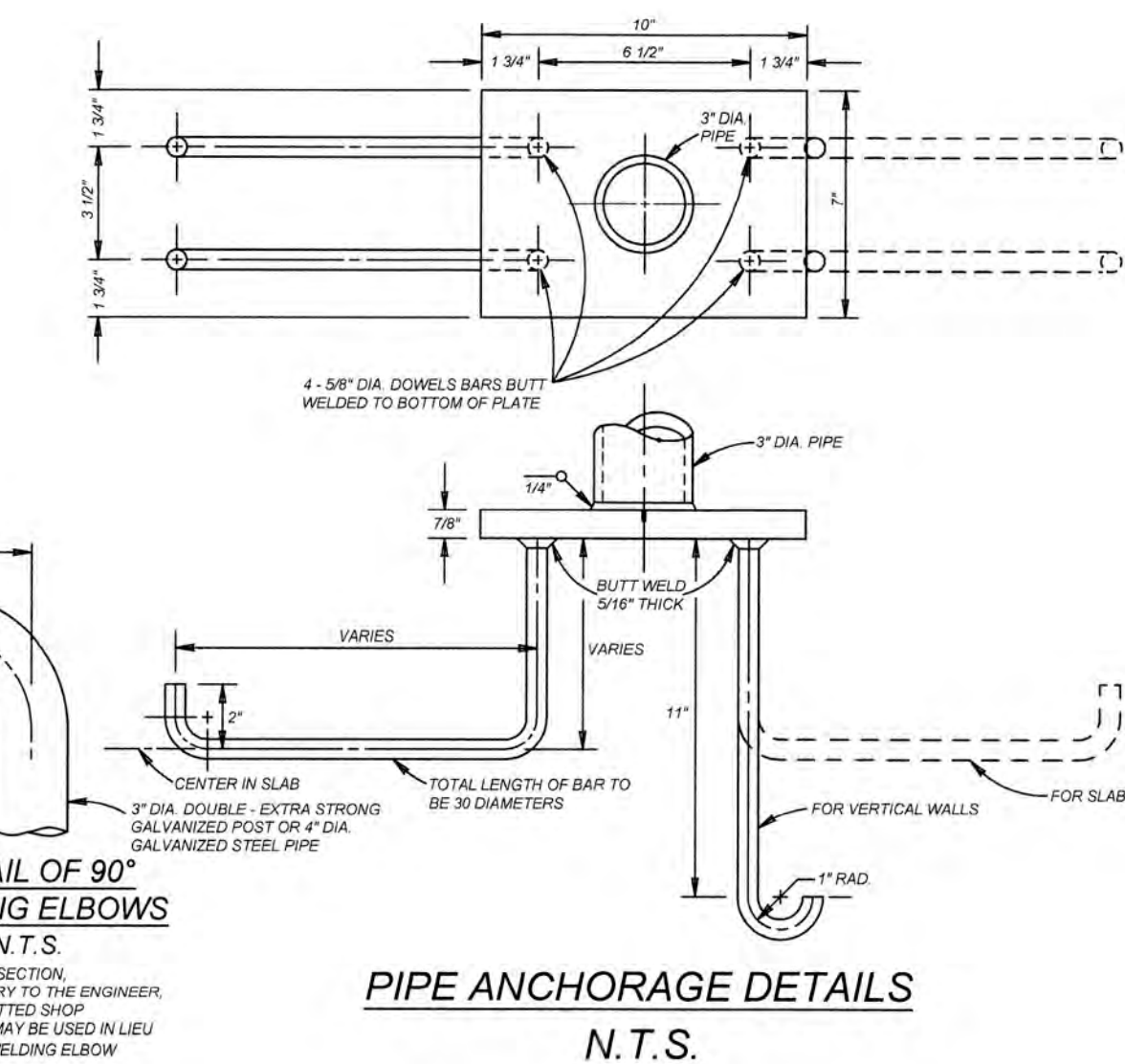
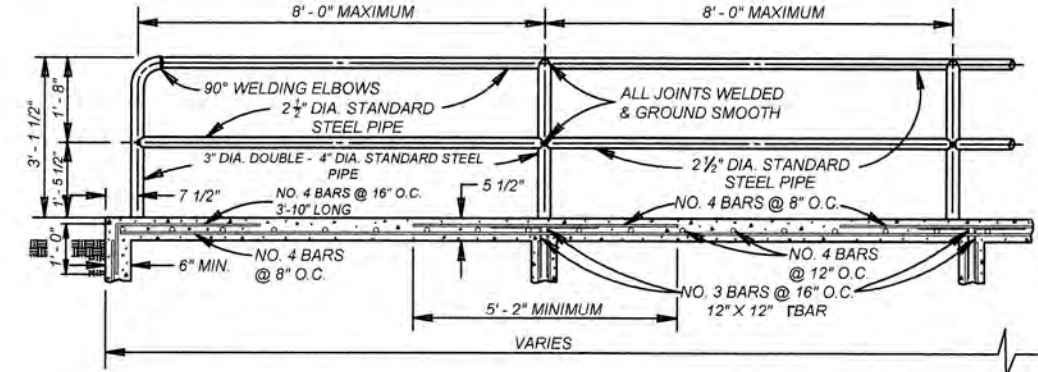
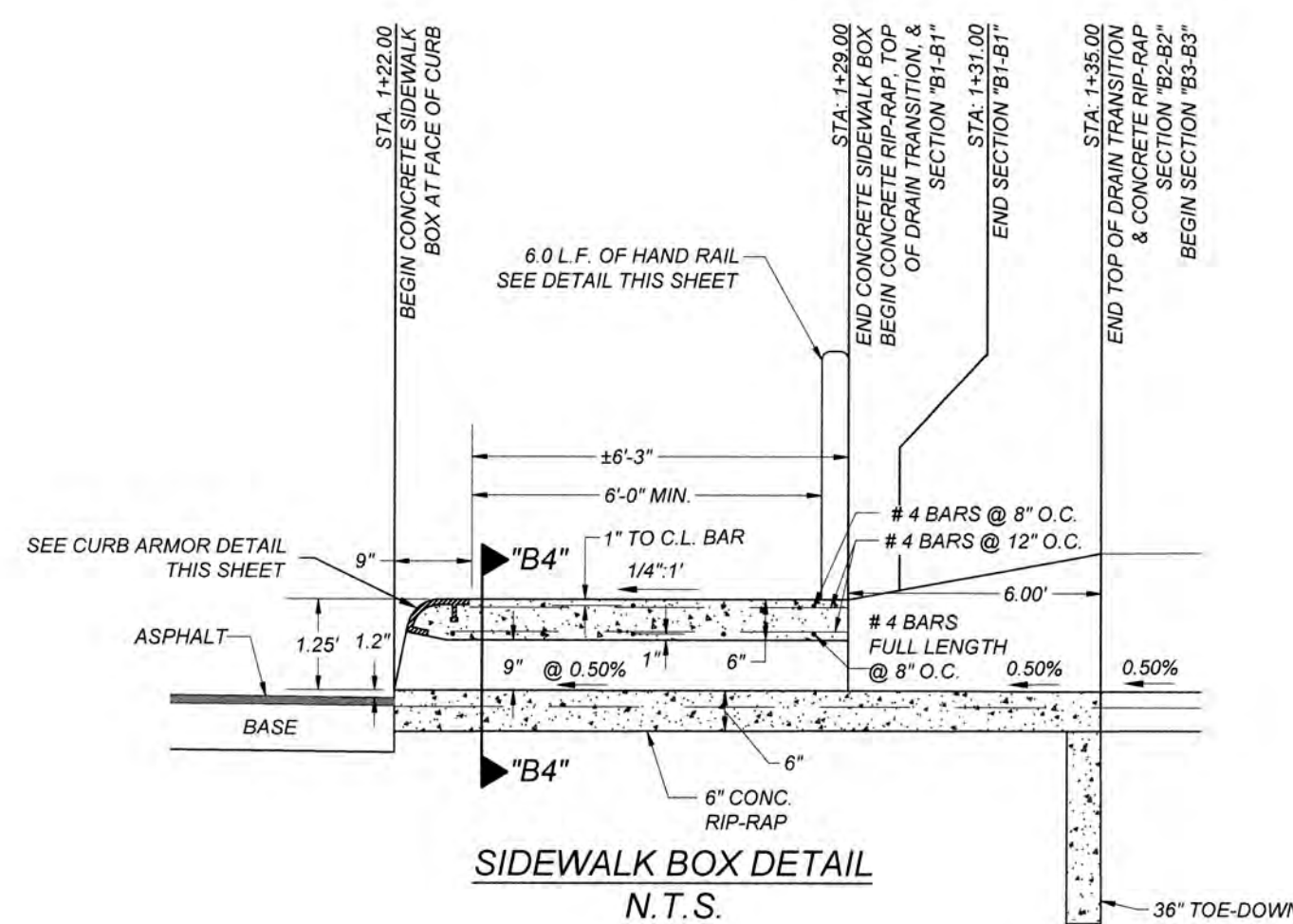
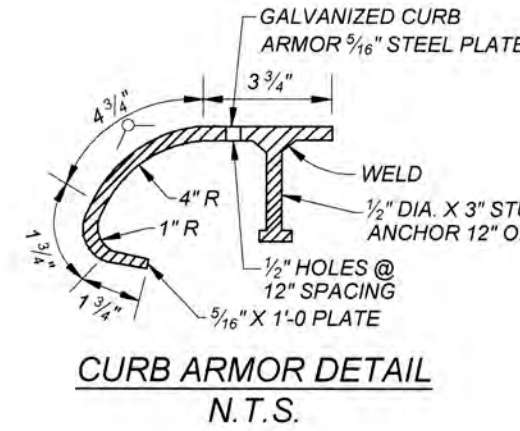
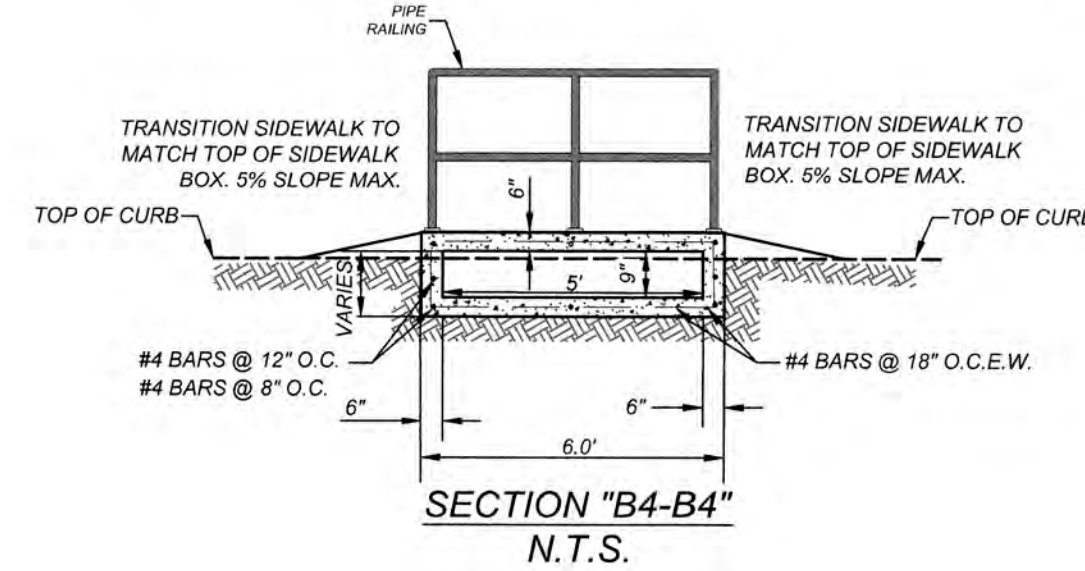
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PRIVATE DRAIN "B"
STA. 1+22.00 TO END

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

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GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
PRIVATE DRAIN "B" PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN/OM CHECKED/CL
SHEET NUMBER:

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.

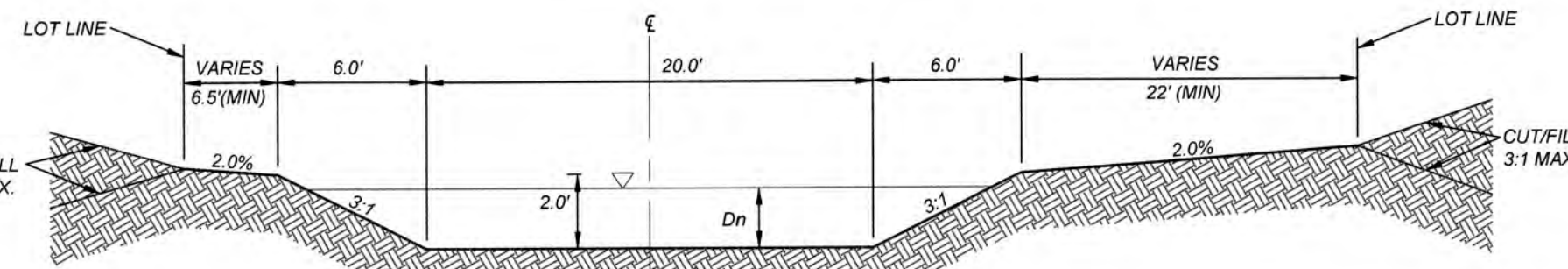
NOTE:

A. AT THE PRE-FINAL INSPECTION, THE ENGINEER MUST ISSUE CERTIFICATION TO THE CITY INSPECTOR THAT THE TRENCH EXCAVATION SAFETY PROTECTION SYSTEM (TESS) WAS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATION MUST ALSO NOTE THAT THE MATERIAL AND INSTALLATION HAS MET CITY AND MANUFACTURER SPECIFICATIONS.

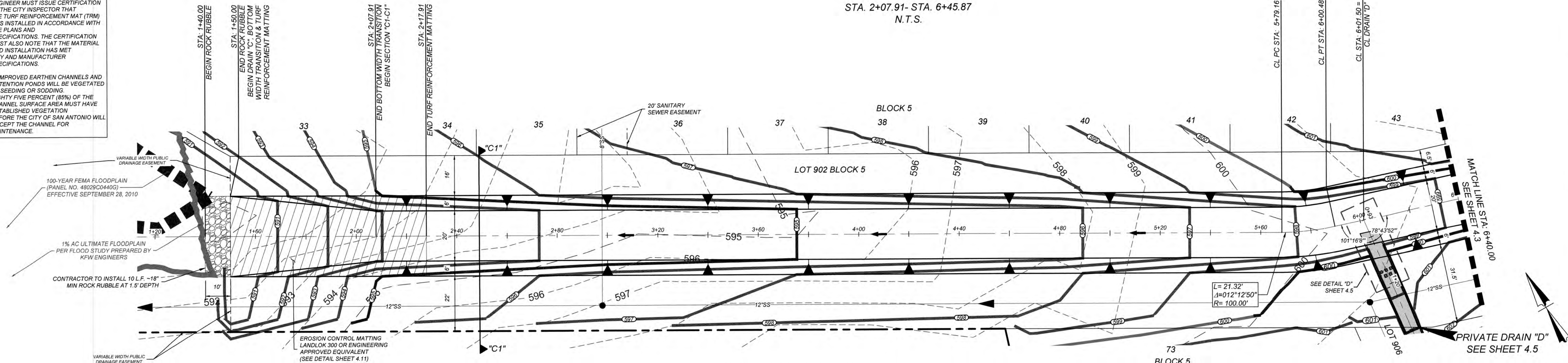
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CAUTION!!

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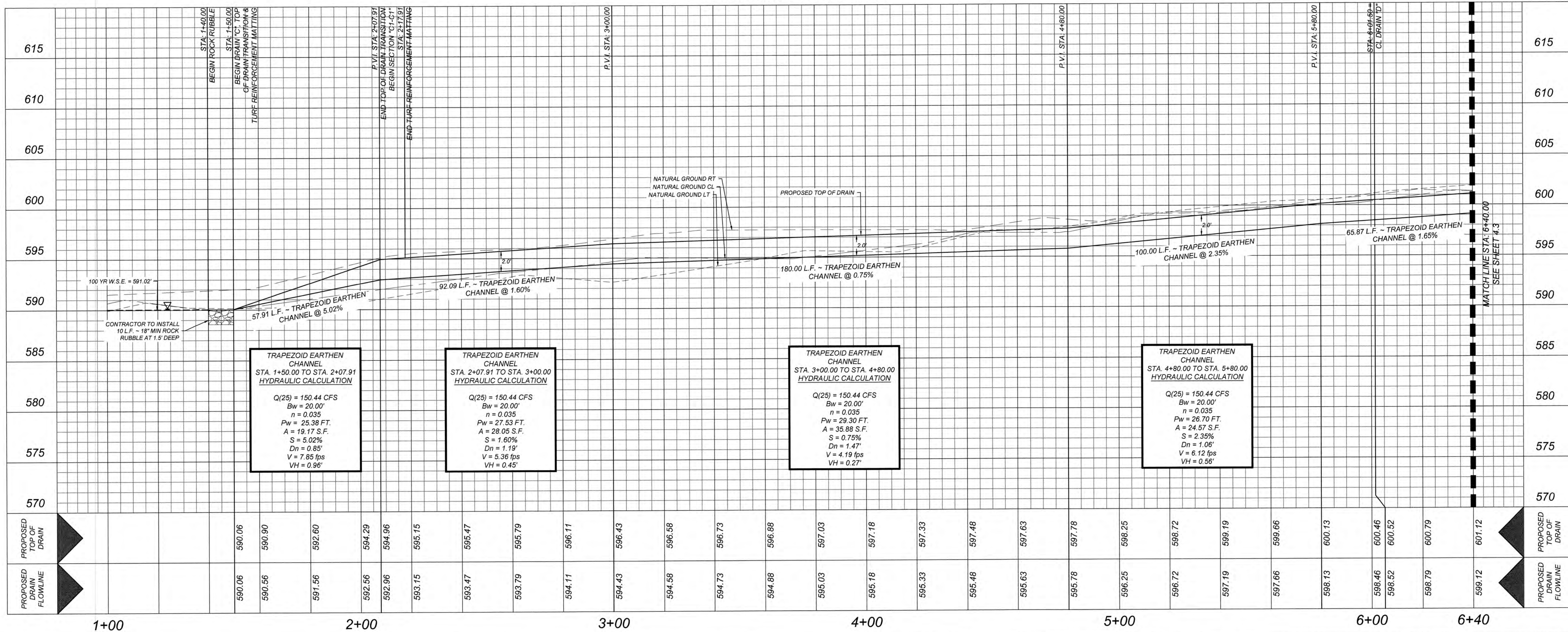


SECTION "C1-C1"
STA. 2+07.91- STA. 6+45.87
N.T.S.



PRIVATE DRAIN "C"
STA. 1+40.00 - STA. 6+40.00

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

PRIVATE DRAIN "C" PLAN & PROFILE (SHEET 1 OF 3)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

4.2

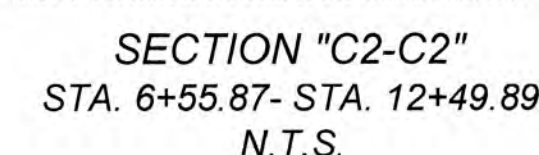
KFW
ENGINEERS + SURVEYING
3431 Pennington Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 978-8444 • Fax #: (210) 978-8441
TBE Firm #: 9513 • TBE Firm #: 1012590

ISSUE DATE
REVISIONS
STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER
6/13/2023

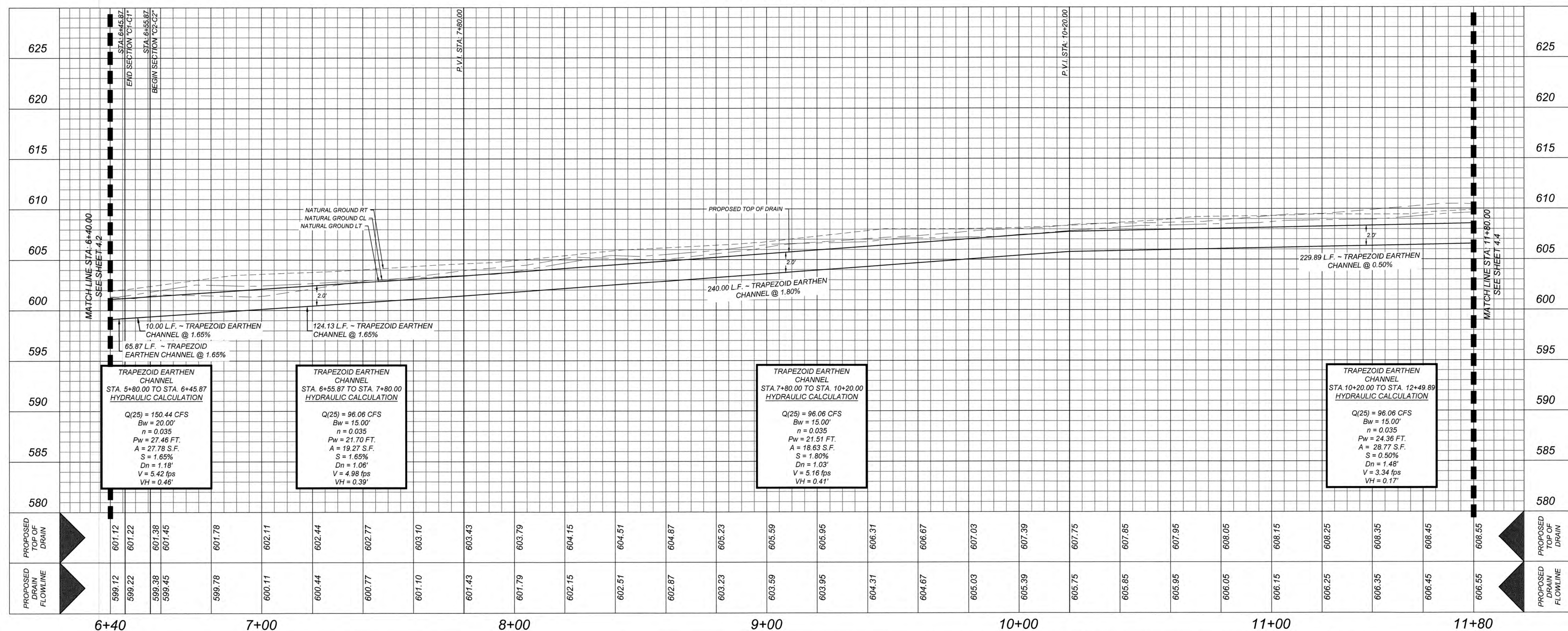
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HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

PRIVATE DRAIN "C" PLAN & PROFILE (SHEET 2 OF 3)

PLAT NO.
21-11800645

JOB NO.:205-43-04

DATE: OCTOBER 2021

DRAWN:OM CHECKED:CL

SHEET NUMBER

4.3

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.

TRENCH EXCAVATION SAFETY PROTECTION

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CAUTION!!

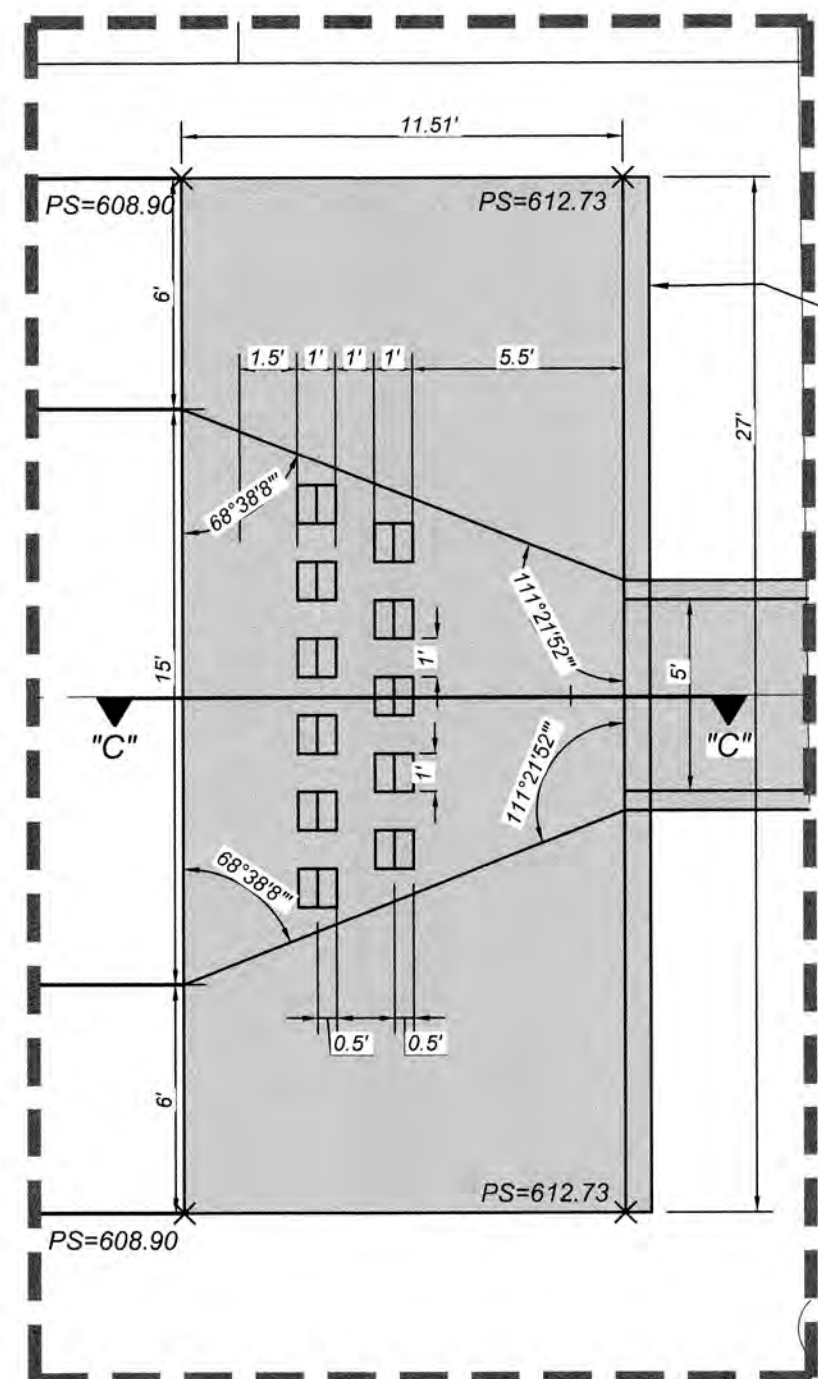
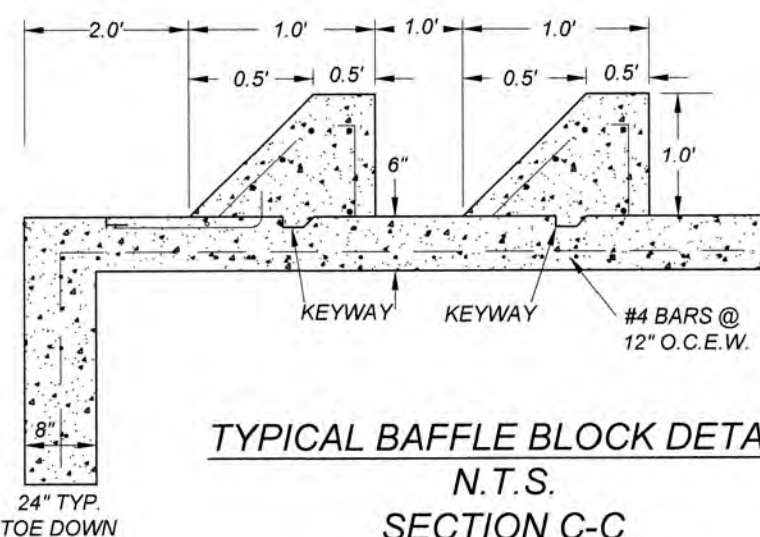
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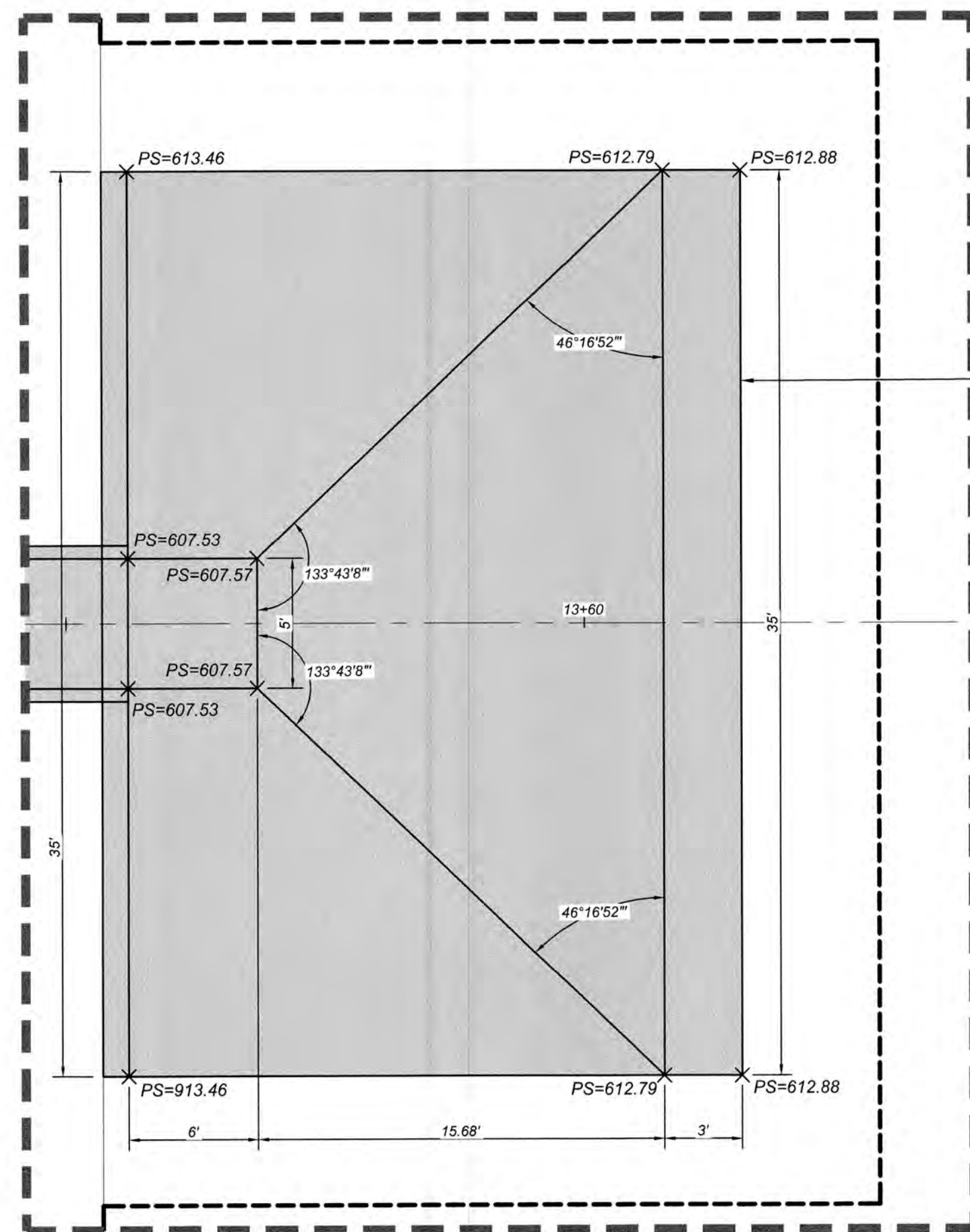
BAFFLE BLOCK CALCULATIONS (ST. ANTHONY FALLS METHOD)

Q(25) = 79.95 CFS
BOTTOM WIDTH UPSTREAM = 5.0 FT
BOTTOM WIDTH DOWNSTREAM = 15.0 FT
Y1 = 0.83 (DEPTH BEFORE JUMP)
Y2 = 1.75 (DEPTH AFTER JUMP)
WIDTH OF BLOCKS = 0.75(Y1) = 0.63 FT. (USE 1.0 FT.)
SPACE BETWEEN BLOCKS = 0.75(Y1) = 0.63 FT. (USE 1.0 FT.)
HEIGHT OF BLOCKS = Y1 = 0.83 FT. (USE 1.0 FT.)
% OF BLOCKS ACROSS BOTTOM = 6
% OF FLOOR COVERED WITH BLOCKS = 6 (1.0 FT) / 15.0 FT = 40%
(% MUST BE BETWEEN 40% AND 55%)
DEPTH OF TAILWATER (Y2)
FROUDE NUMBER BEFORE JUMP = F1 = 2.87
FROUDE NUMBER AFTER JUMP = F2 = 0.34
LENGTH OF BASIN = LB = 4.5(Y2)F1^1.76 = 3.53 FT. (USE 10.0 FT.)
DISTANCE TO FLOOR BLOCKS = LB/3 = 1.18 FT. (USE 5.5 FT.)
HEIGHT OF MAX TAILWATER DEPTH:
Z = Y2/3 = 0.57 FT.
Y2' = (1 + 10 * F1^1.2 / 120) * Y2 = H = Z + Y2' = 1.80 FT.
VELOCITY AFTER JUMP:
V = Q/A
A = Y2' (18 + 7 * Y2' / 2) = 17.5 SQ. FT.
V = 79.95 / 17.5 = 4.56 F.P.S.

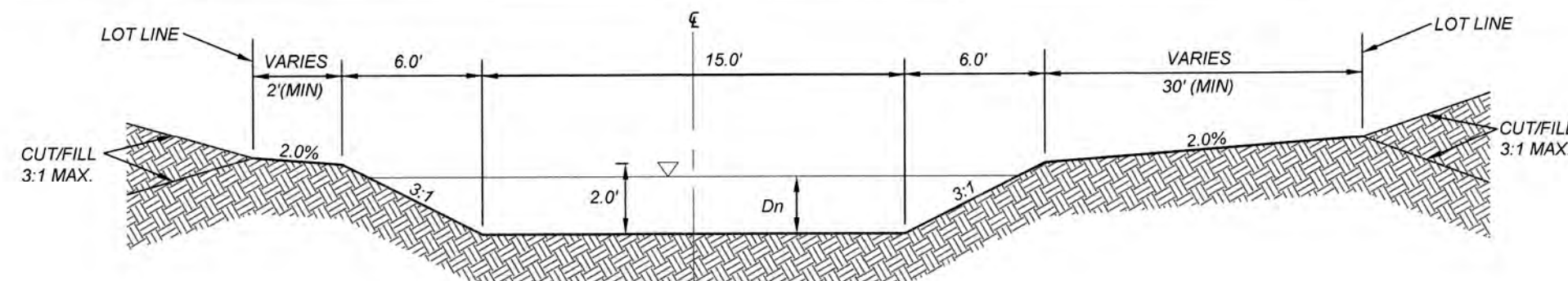


TYPICAL BAFFLE BLOCK DETAIL
N.T.S.
SECTION C-C

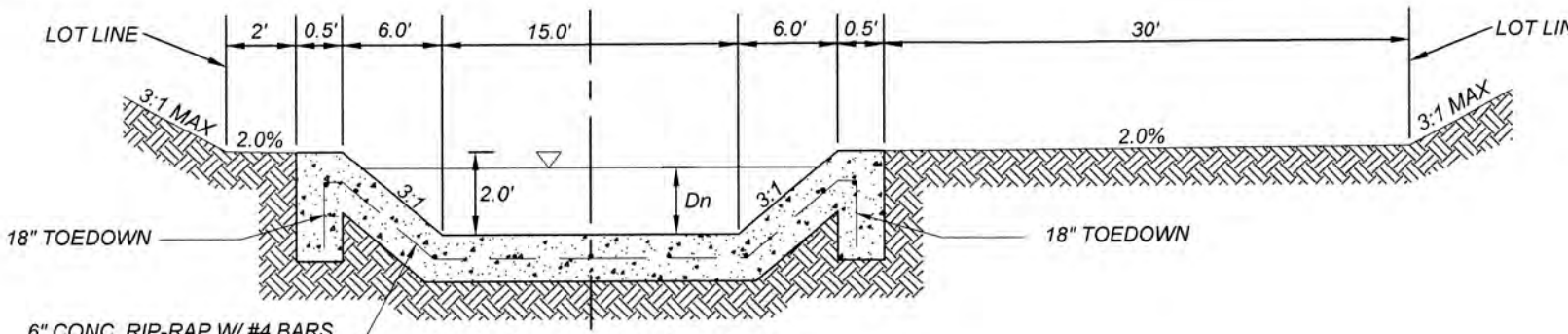
DETAIL "C"
SCALE: 1"=5'



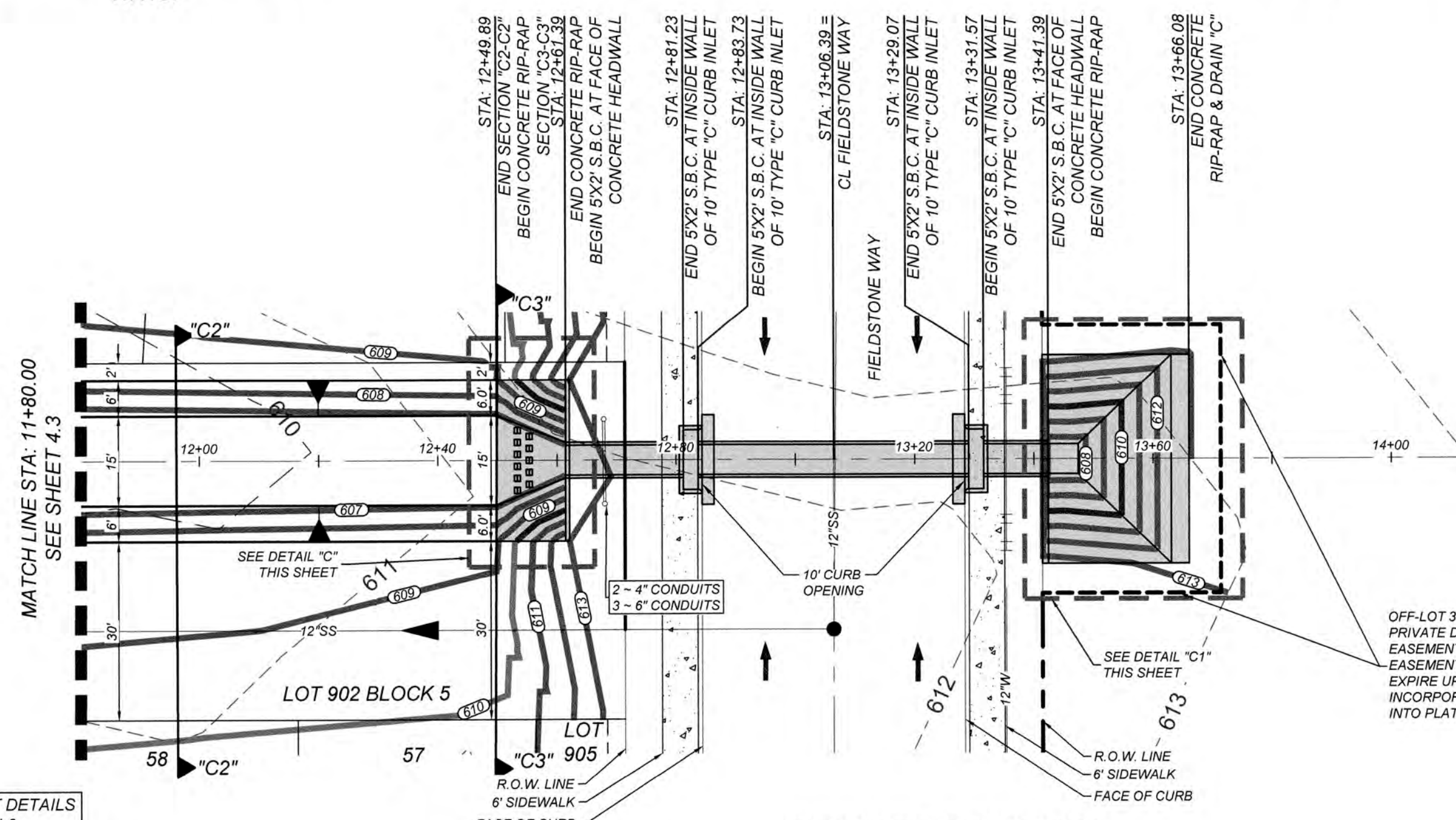
DETAIL "C1"
SCALE: 1"=5'



SECTION "C2-C2"
STA. 6+55.87- STA. 12+49.89
N.T.S.



SECTION "C3-C3"
STA. 12+49.89
N.T.S.



PRIVATE DRAIN "C"
STA. 11+80.00 - END

CURB OPENING
HYDRAULIC CALCULATION

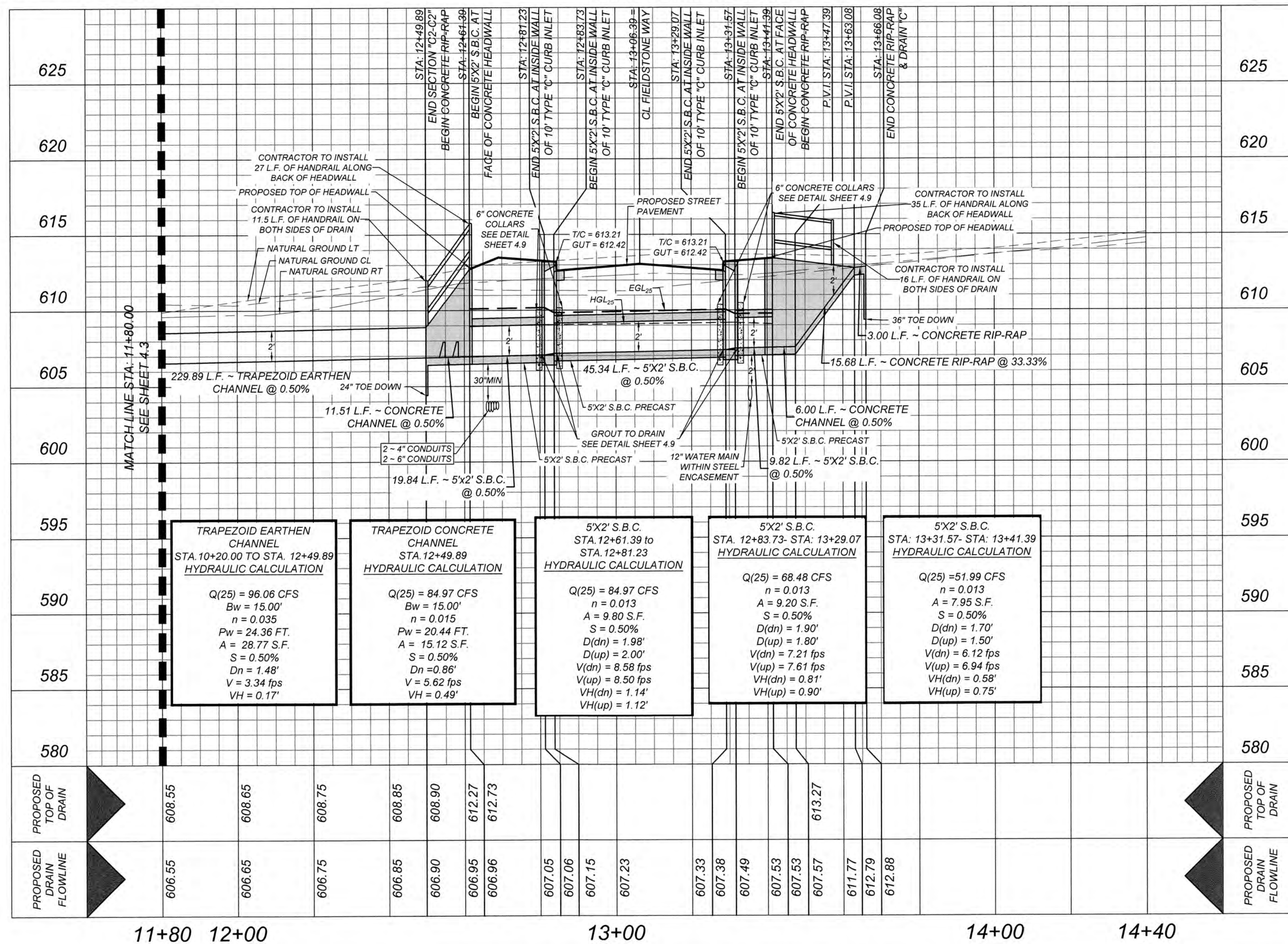
$$L = \frac{Q}{C_1 \sqrt{S}}$$

$$L = \frac{32.85}{(3.087) (0.79)^{0.52}}$$

$$L = 15.16 \text{ L.F.}$$

USE 2 ~ 10 L.F. CURB OPENING

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
PRIVATE DRAIN "C" PLAN & PROFILE (SHEET 3 OF 3)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL
SHEET NUMBER:

TRENCH EXCAVATION SAFETY PROTECTION

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CAUTION!!

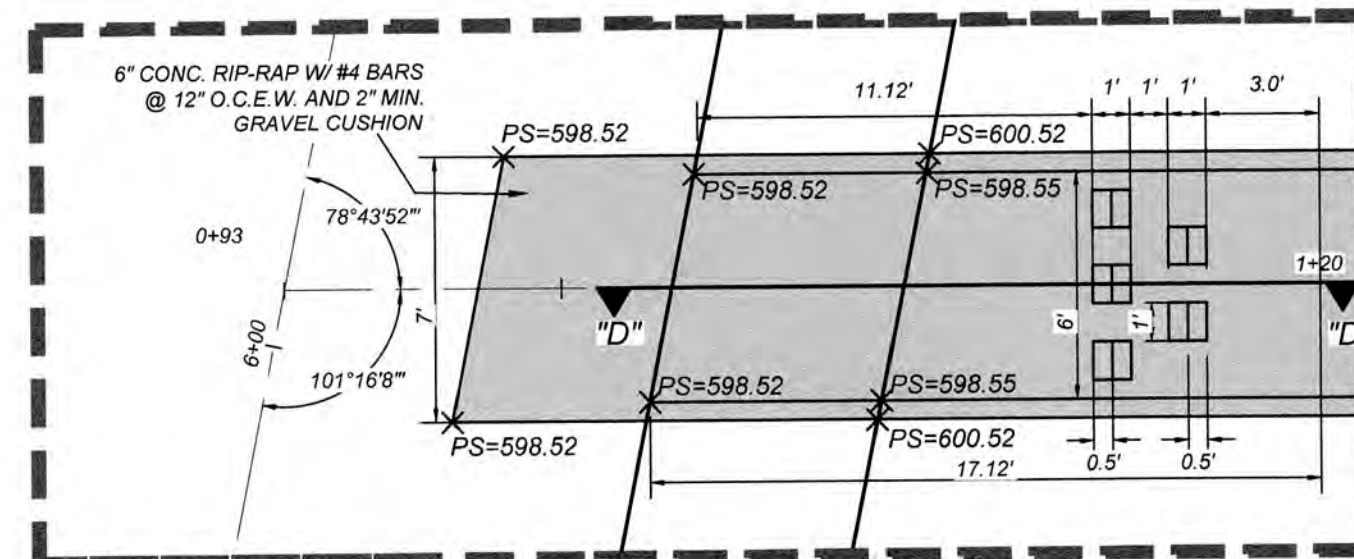
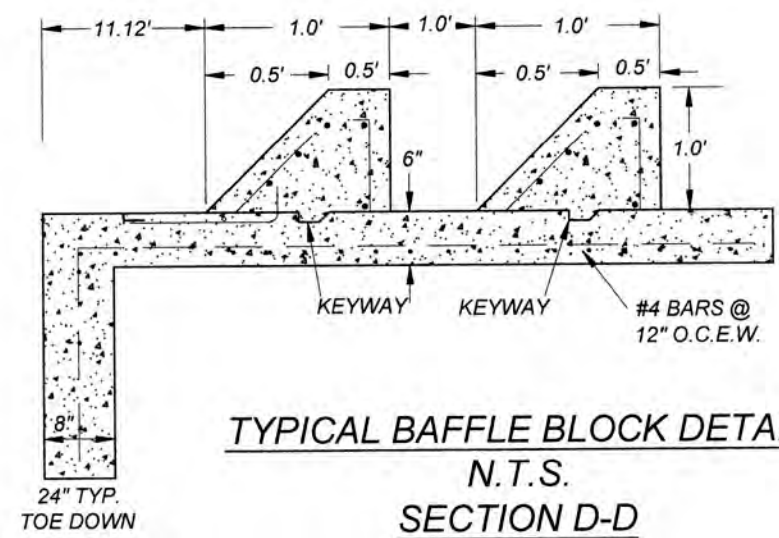
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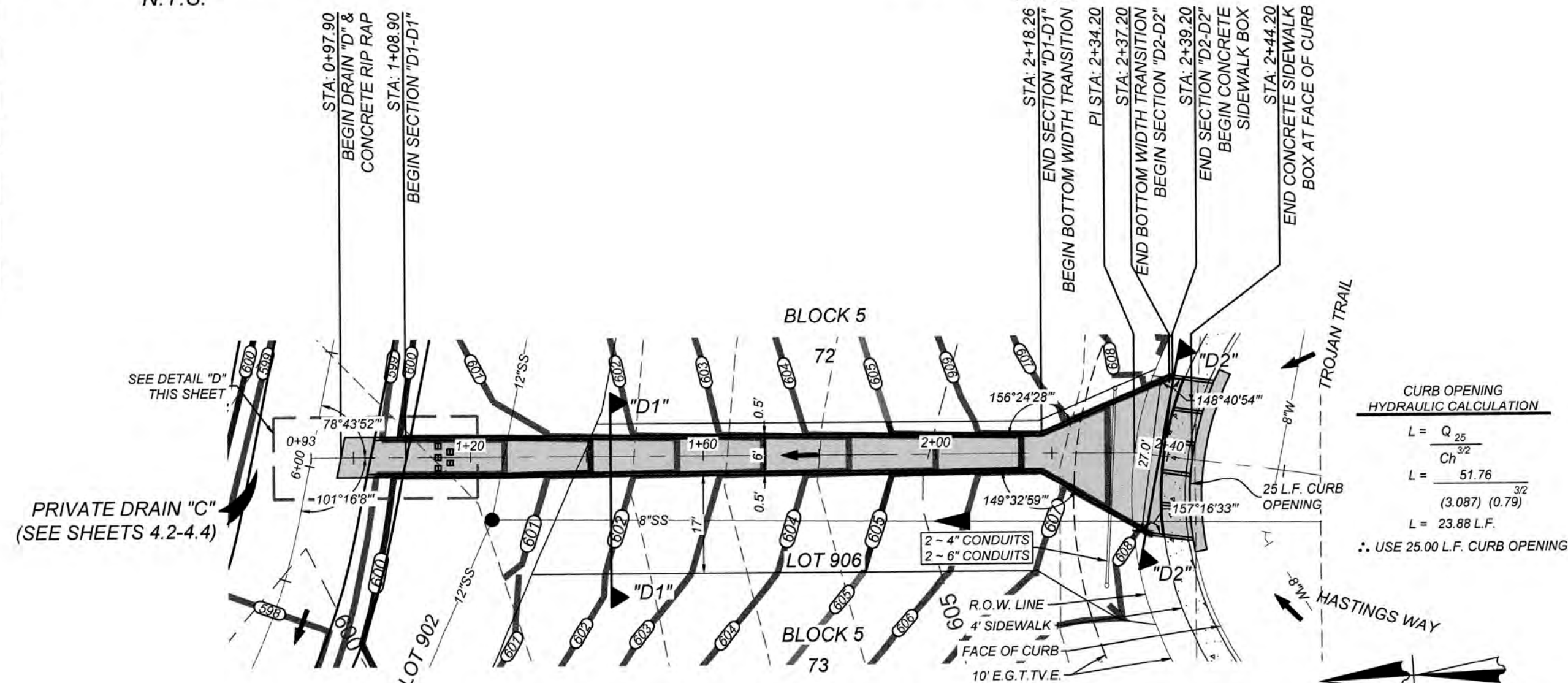
BAFFLE BLOCK CALCULATIONS (ST. ANTHONY FALLS METHOD)

Q(25) = 51.76 CFS
BOTTOM WIDTH UPSTREAM = 6.0 FT
BOTTOM WIDTH DOWNSTREAM = 6.0 FT
Y1 = 0.58' (DEPTH BEFORE JUMP)
Y2 = 2.23' (DEPTH AFTER JUMP)
WIDTH OF BLOCKS = 0.75(Y1) = 0.42 FT. (USE 1.0 FT.)
SPACE BETWEEN BLOCKS = 0.75(Y1) = 0.42 FT. (USE 1.0 FT.)
HEIGHT OF BLOCKS = Y1 = 0.58 FT. (USE 1.0 FT.)
OF BLOCKS ACROSS BOTTOM = 3
% OF FLOOR COVERED WITH BLOCKS = 3 (1.0 FT.) / 6.0 FT = 50%
(% MUST BE BETWEEN 40% AND 55%)
DEPTH OF TAILWATER (Y2)
FROUDE NUMBER BEFORE JUMP = F1 = 3.46
FROUDE NUMBER AFTER JUMP = F2 = 0.38
LENGTH OF BASIN = LB = 4.5(Y2)/F1*0.76 = 3.91 FT. (USE 10.0 FT.)
DISTANCE TO FLOOR BLOCKS = LB/3 = 1.30 FT. (USE 3.0 FT.)
HEIGHT OF MAX TAILWATER DEPTH:
Z = Y2/3 = 0.74 FT.
Y2 = (1.10 + F1/2) / (20) * Y2 = H + Z = Y2 = 2.23 FT.
VELOCITY AFTER JUMP:
V = Q/A
A = Y2 * ((B + T) / 2) = 13.38 SQ. FT.
V = 51.76 / 13.38 = 3.87 F.P.S.



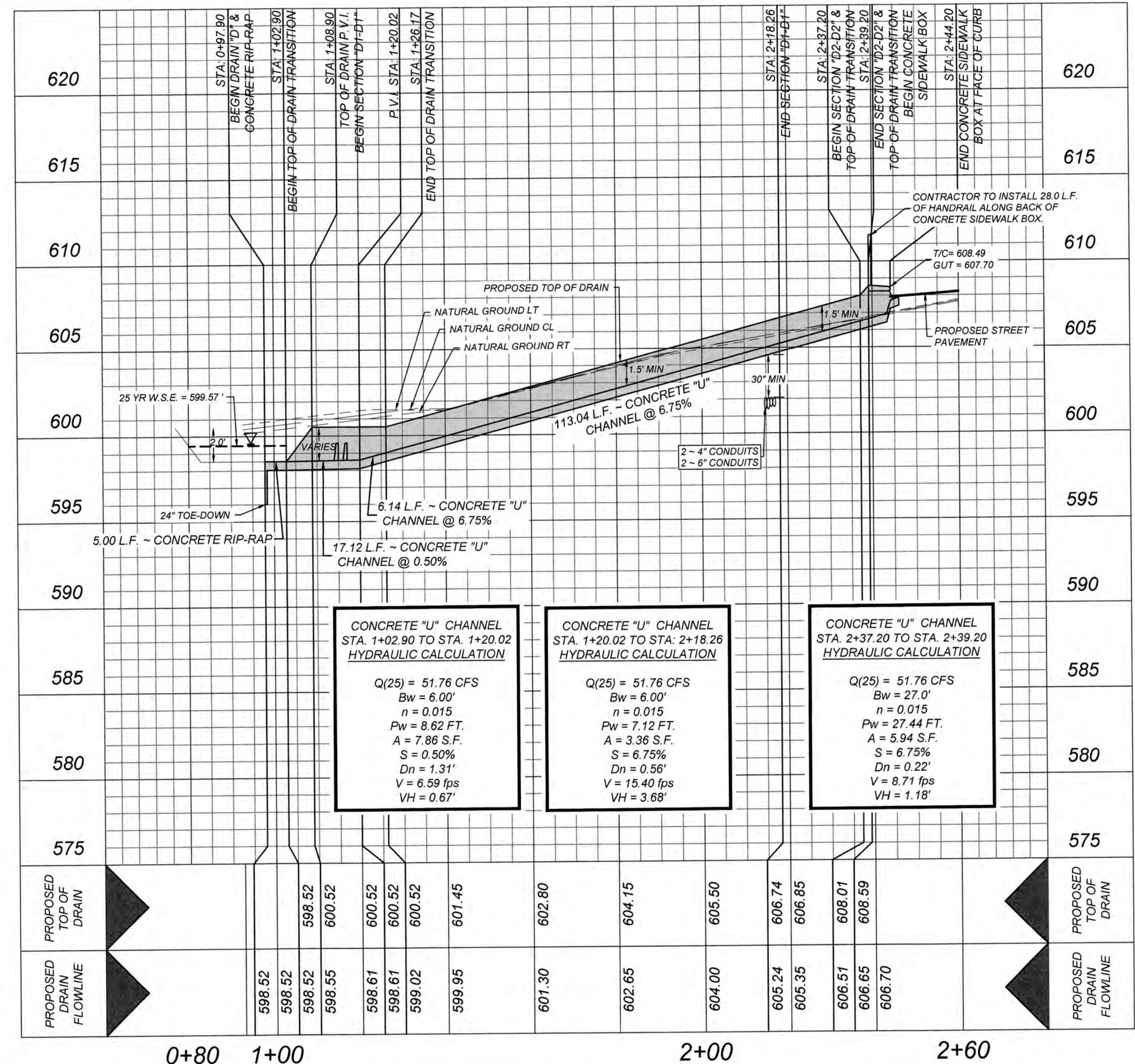
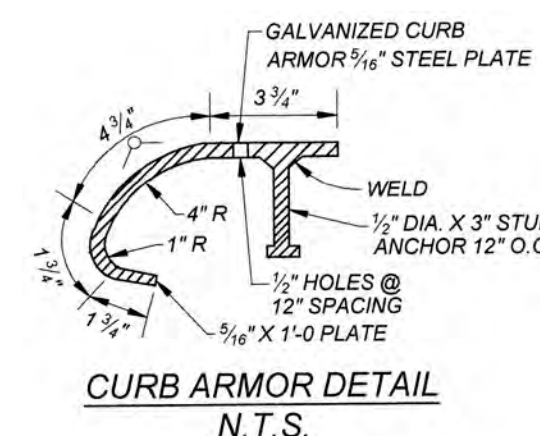
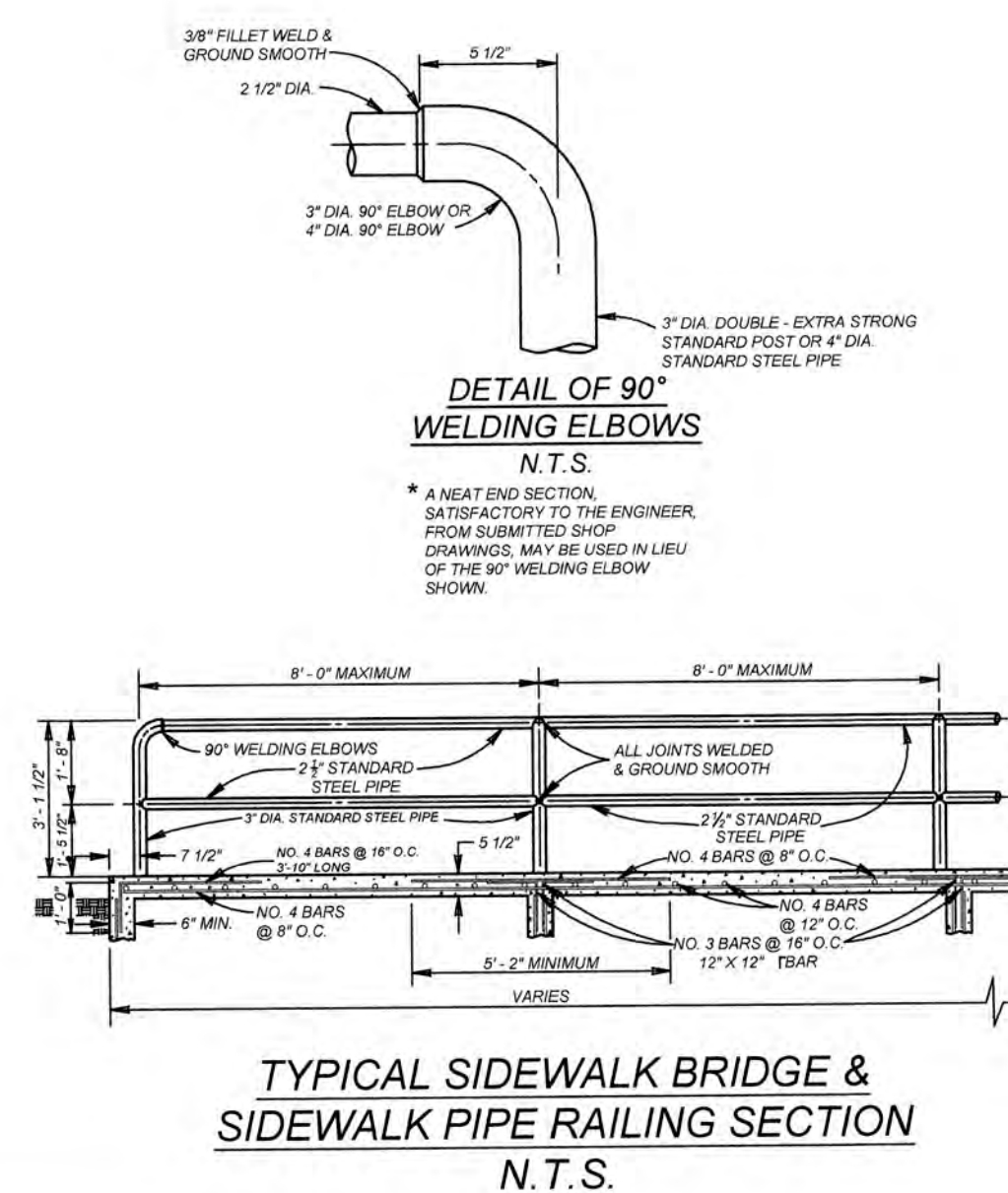
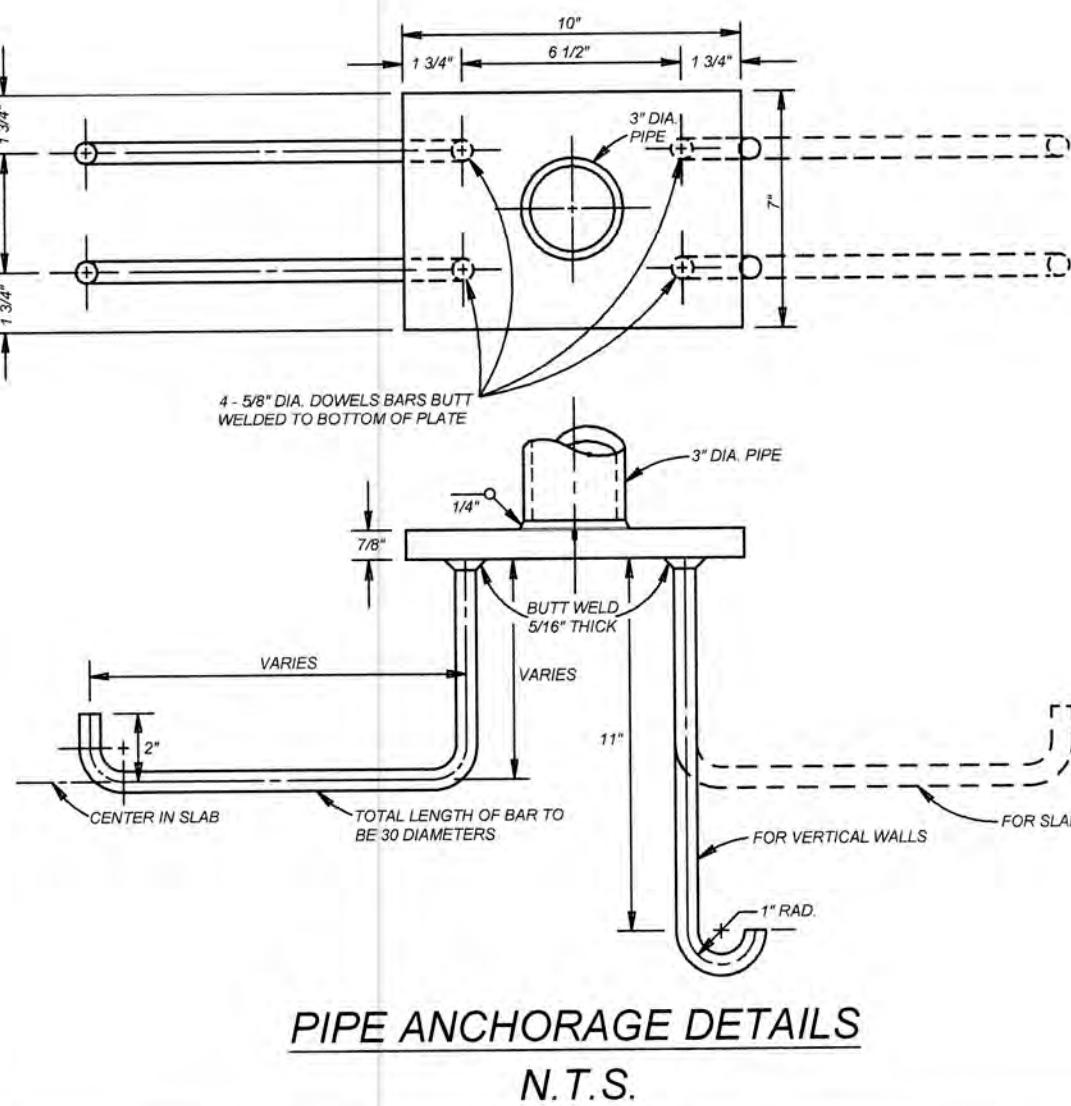
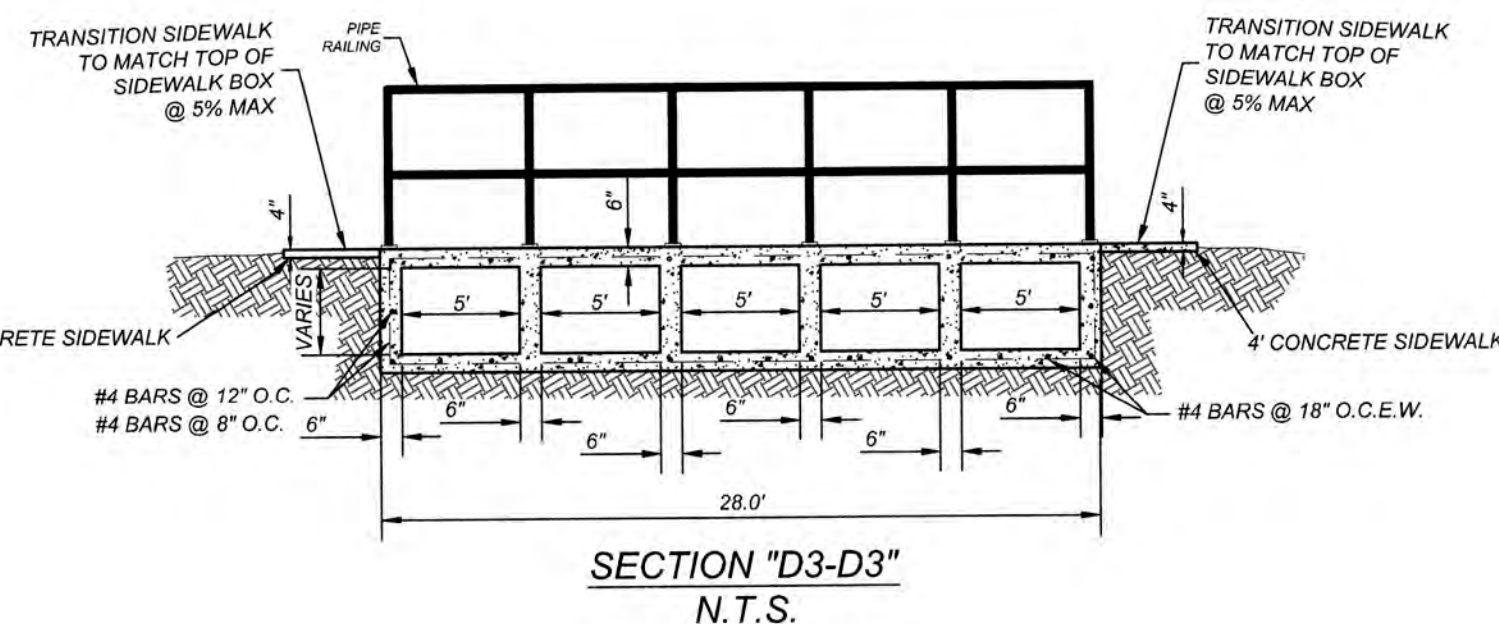
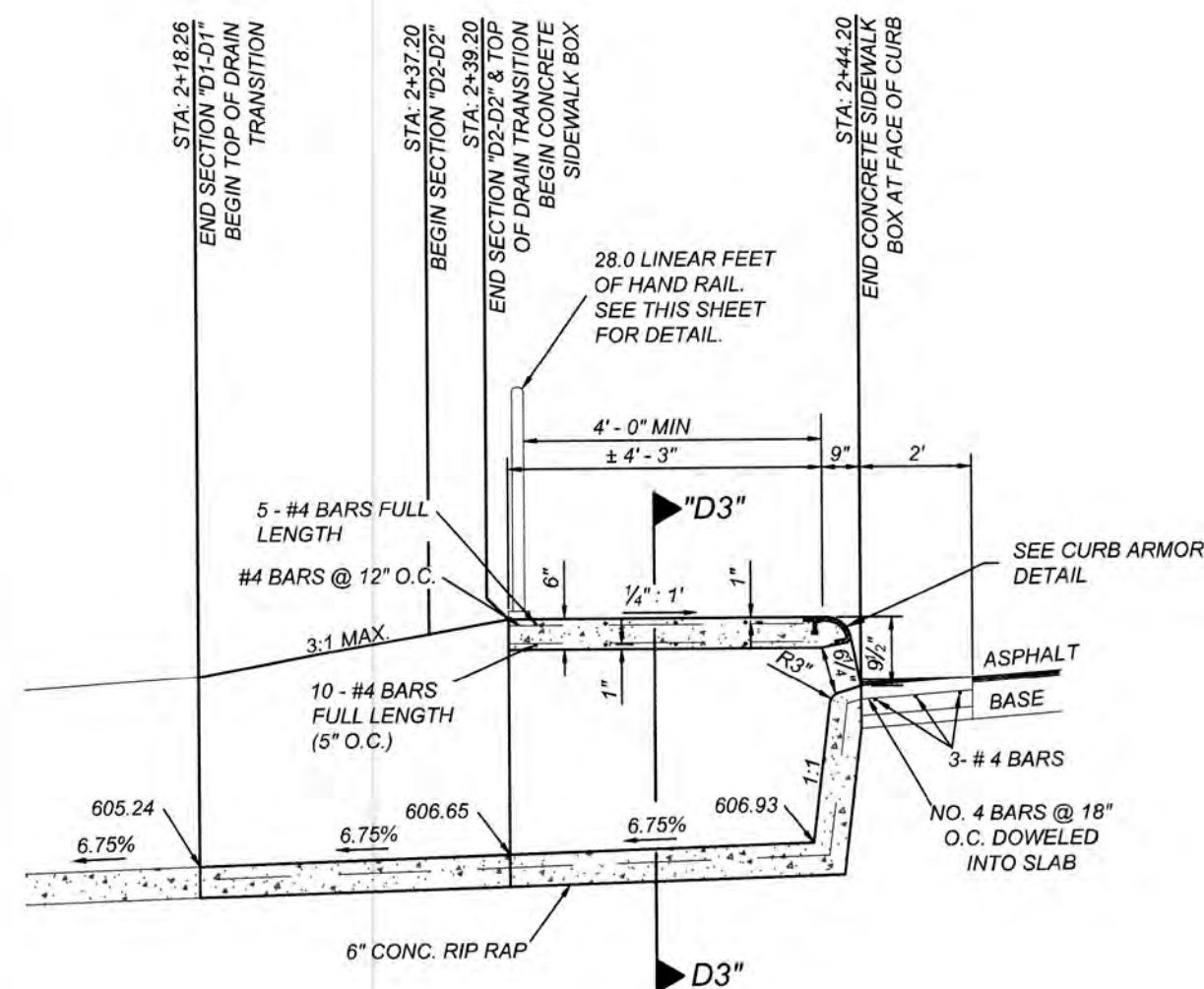
SECTION "D1-D1"
STA. 1+08.90 - STA. 2+18.26
N.T.S.

SECTION "D2-D2"
STA. 2+37.20 - STA. 2+39.20
N.T.S.



PRIVATE DRAIN "D"
STA. 0+97.90 - END

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

PRIVATE DRAIN "D" PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

4.5

TRENCH EXCAVATION SAFETY PROTECTION

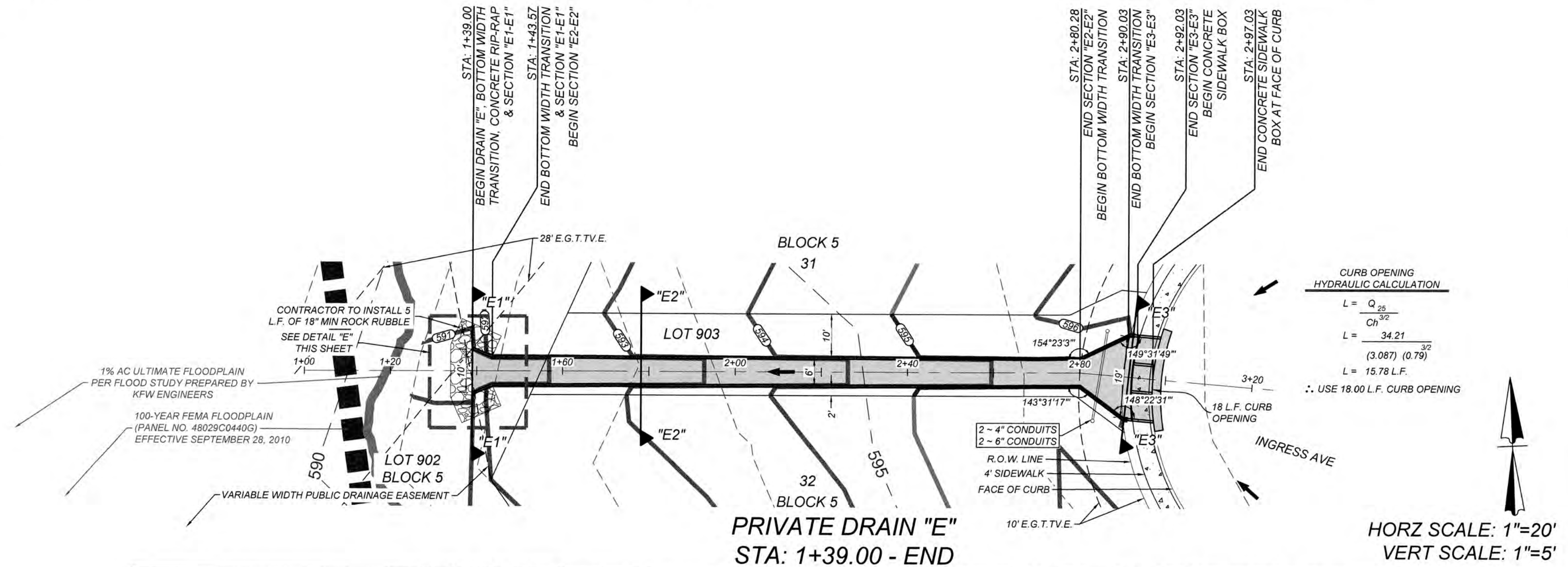
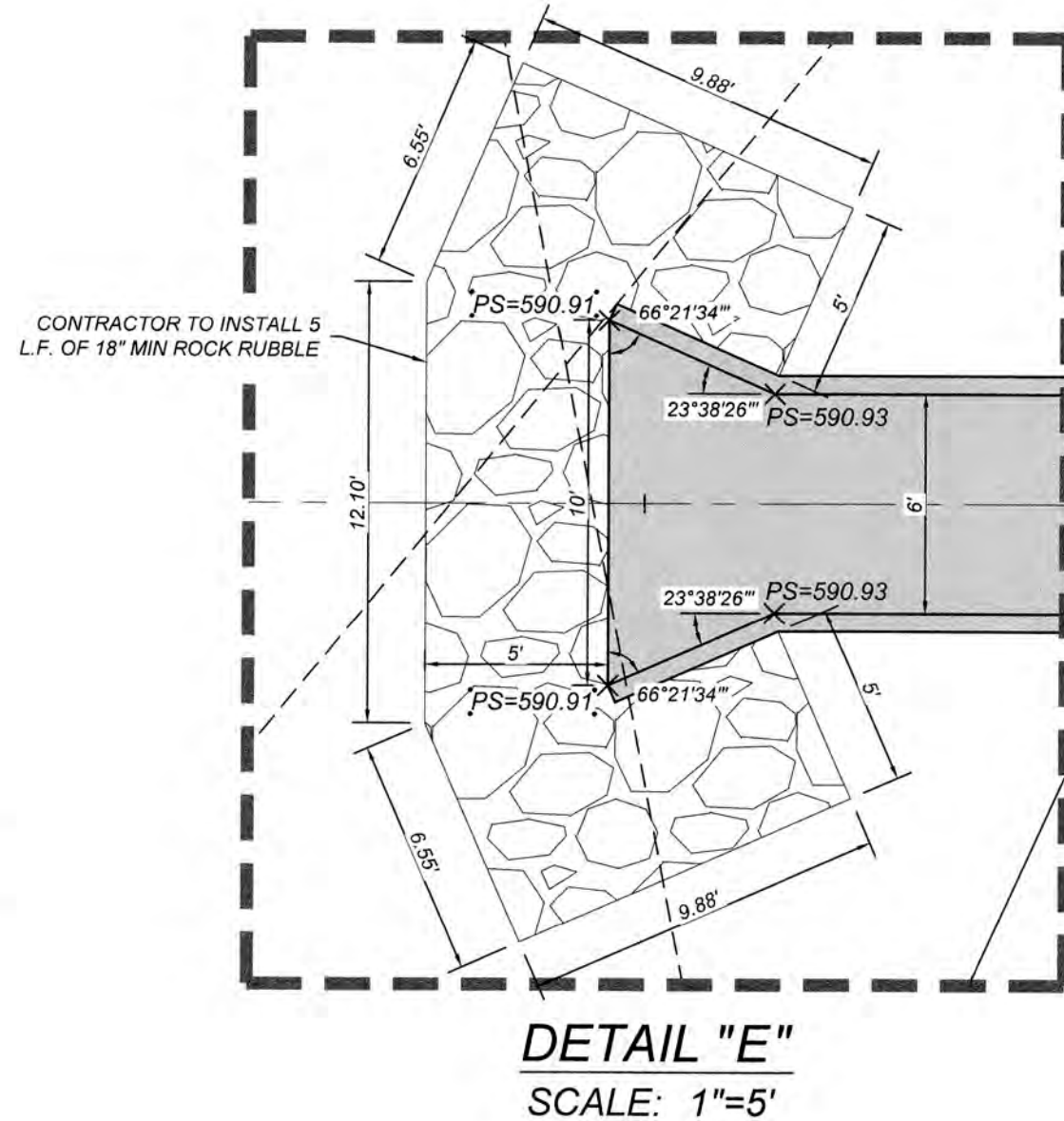
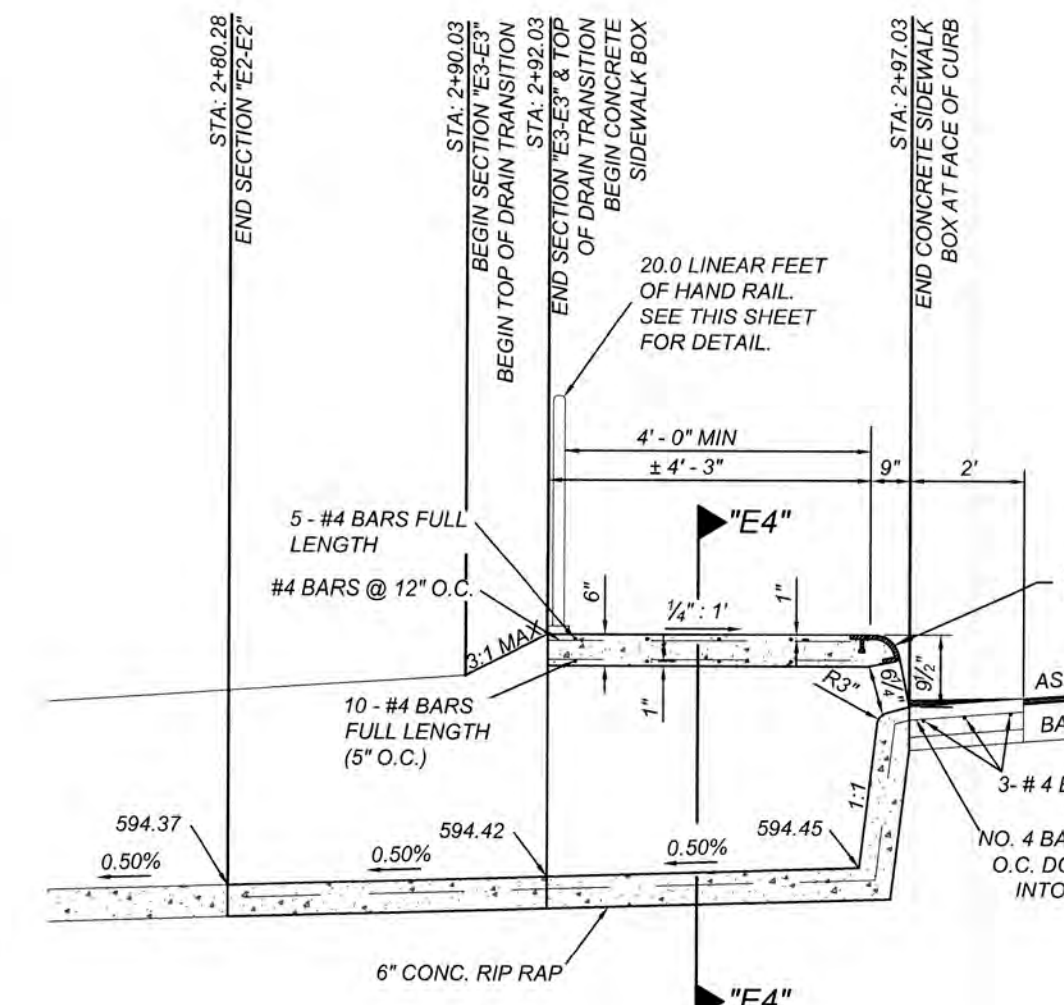
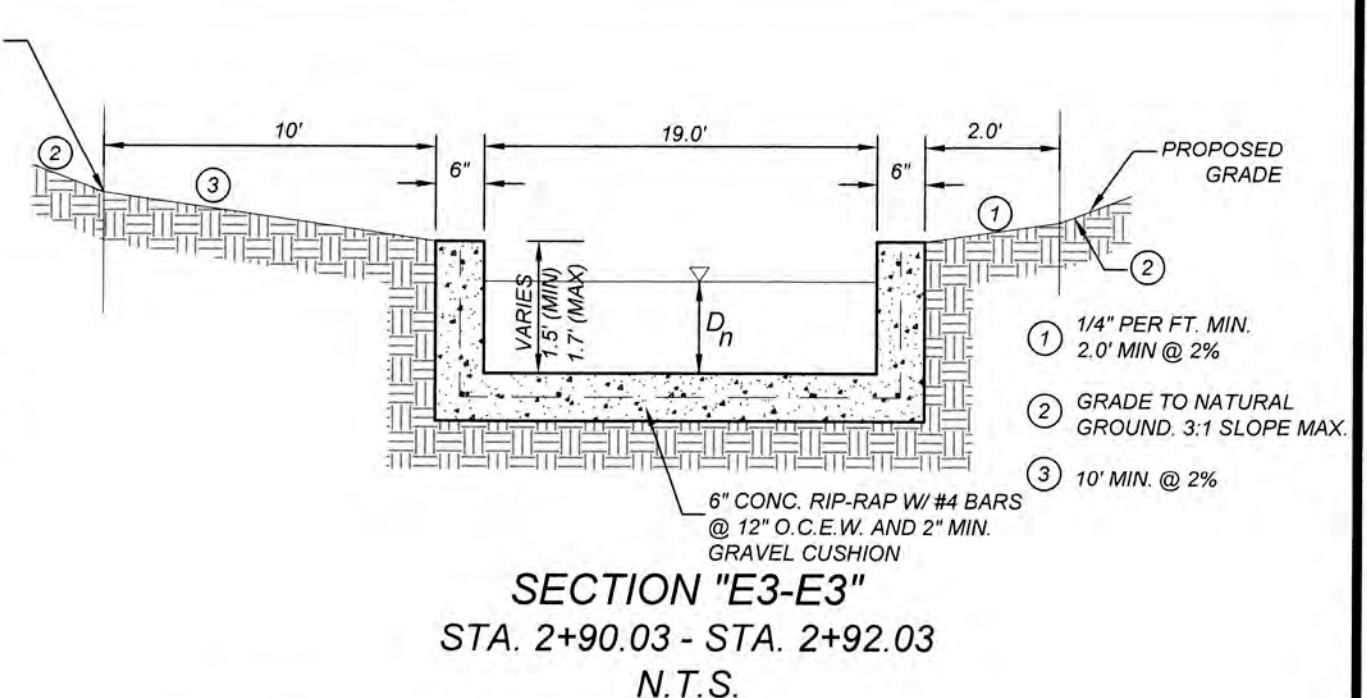
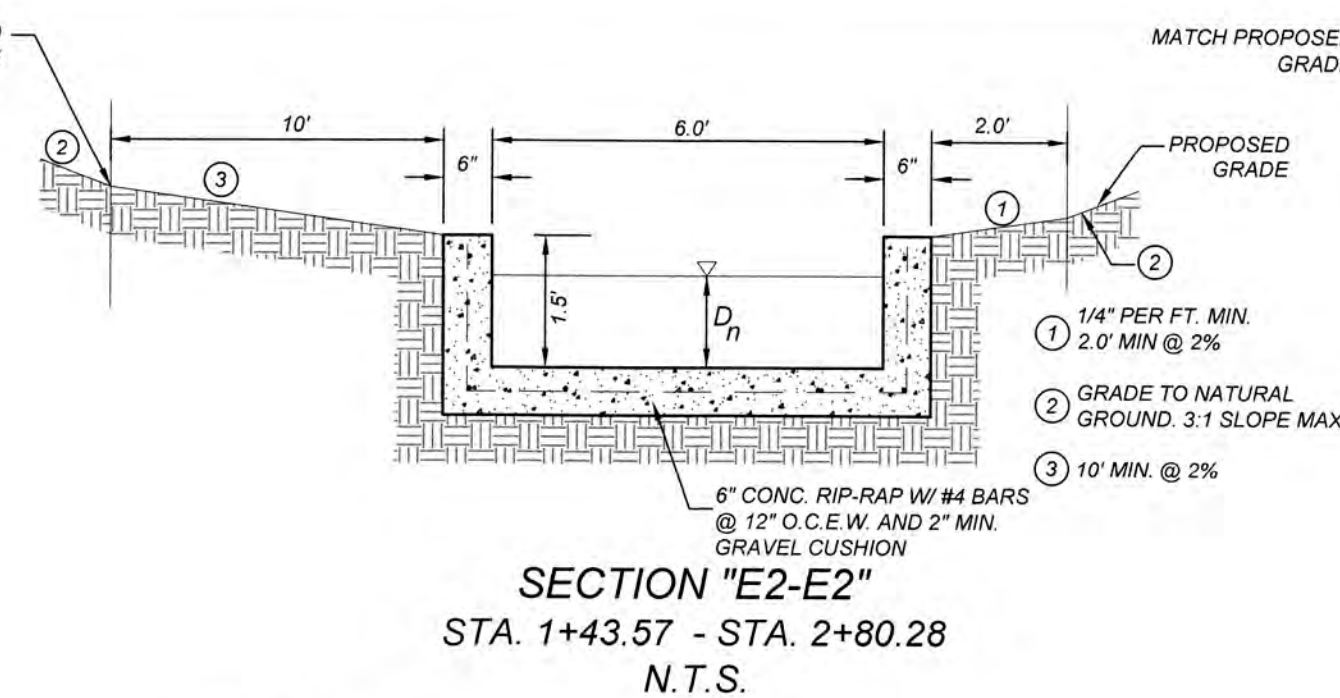
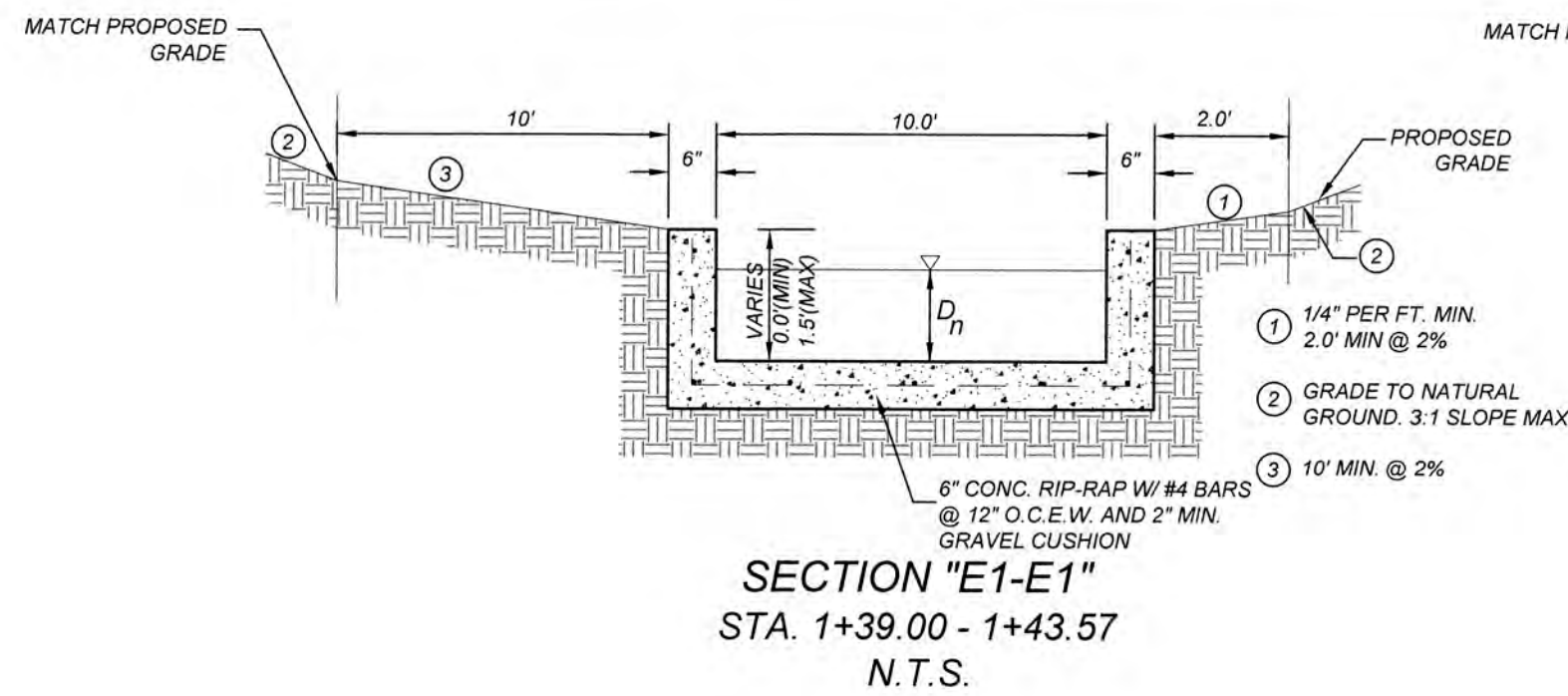
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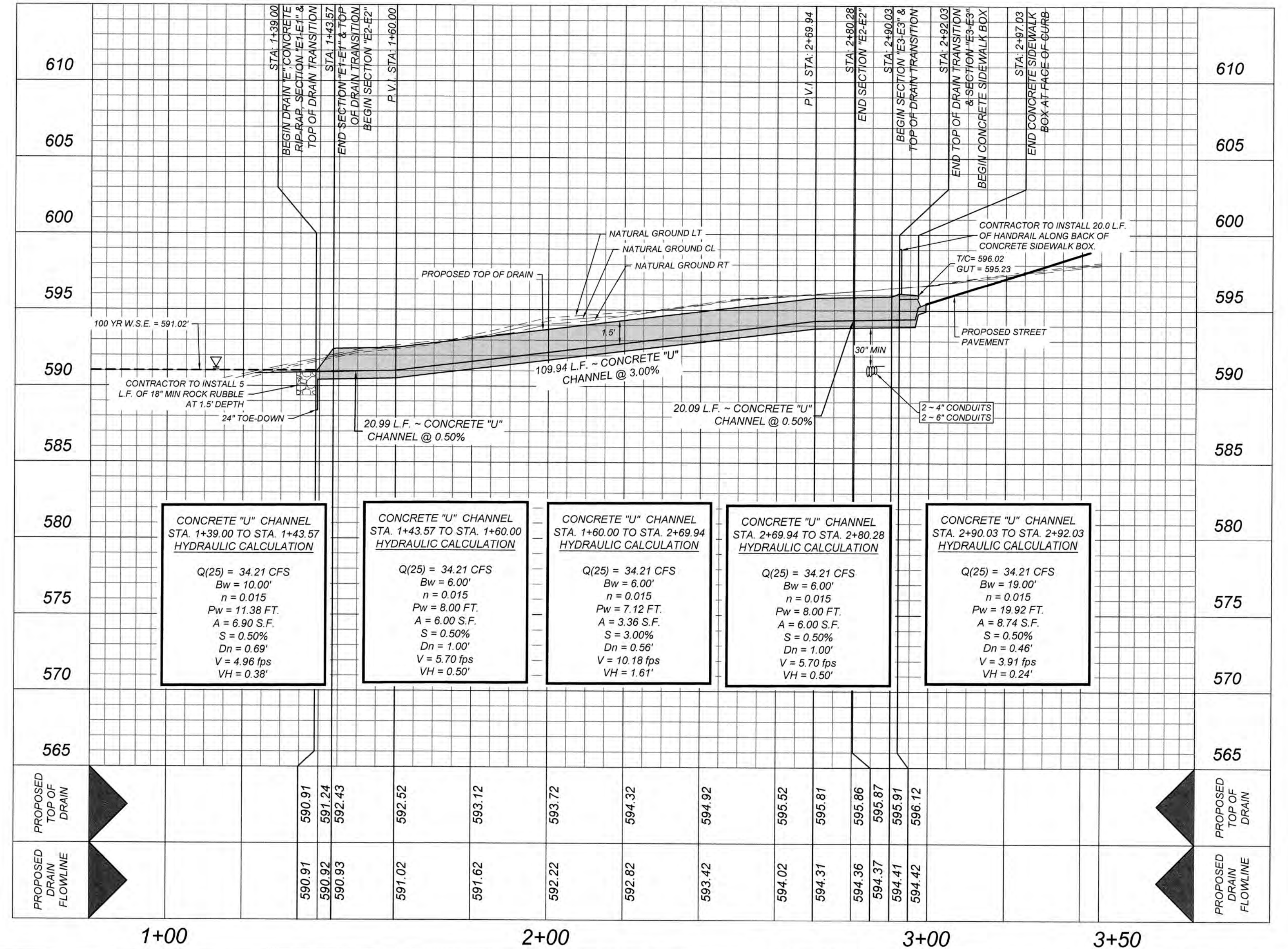
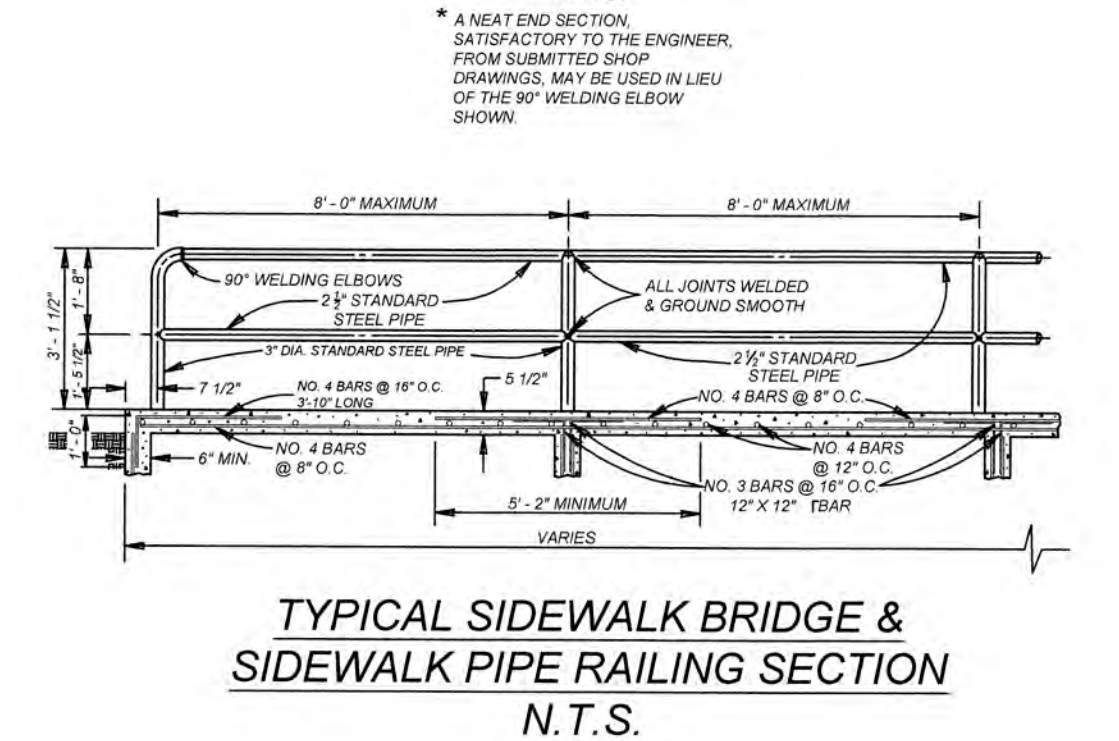
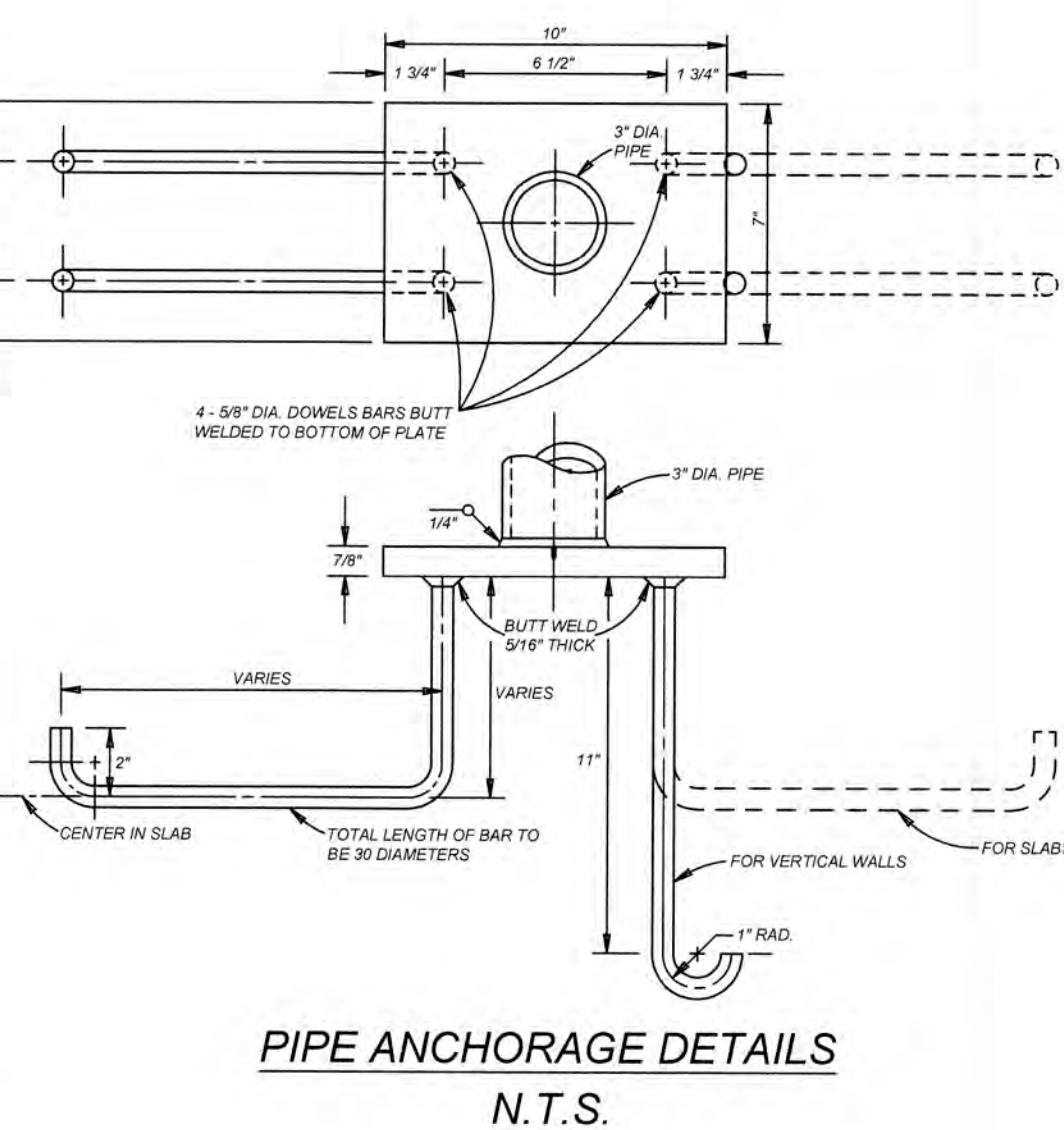
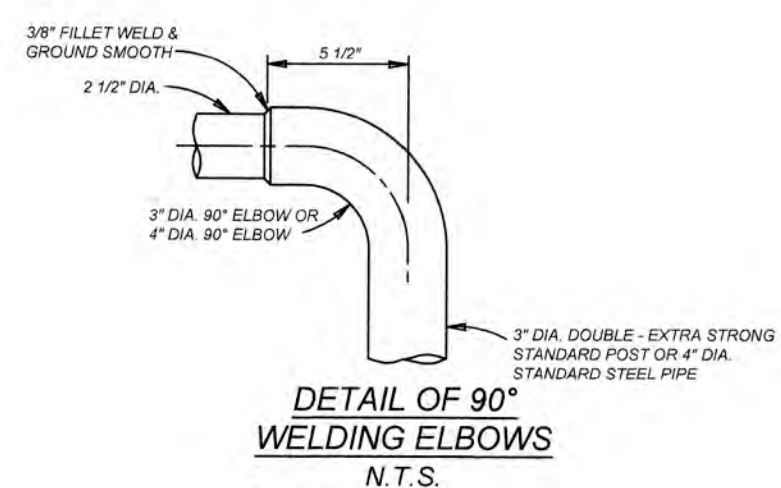
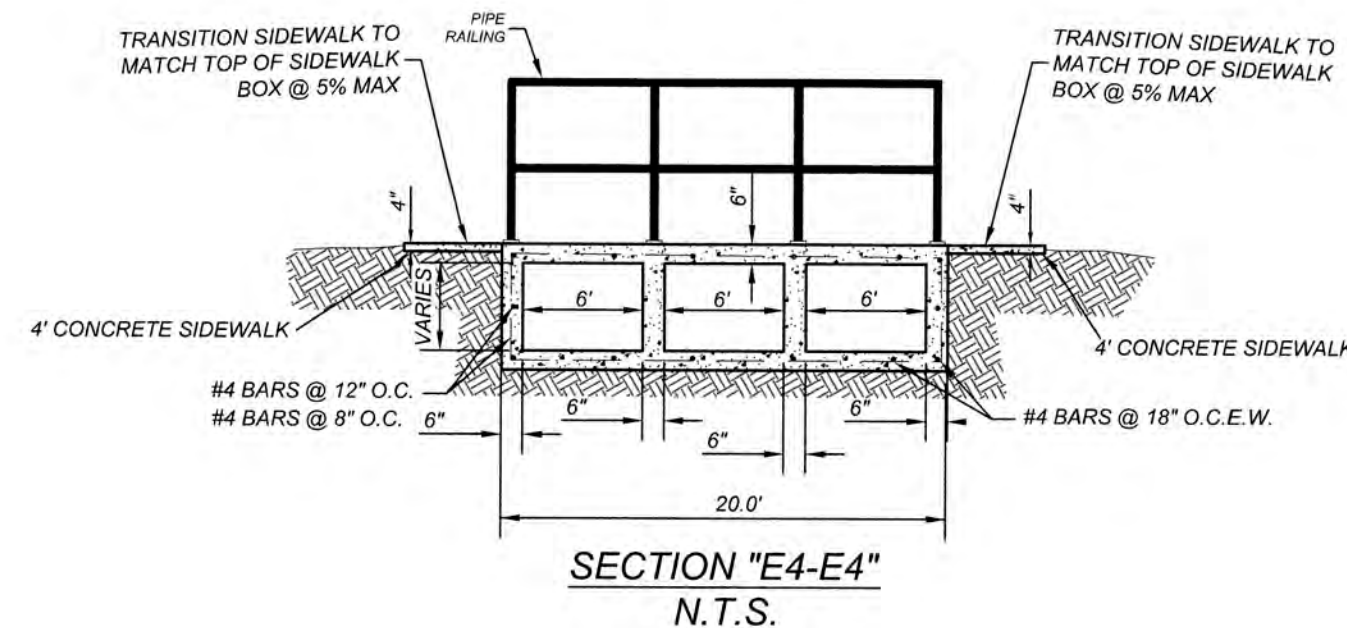
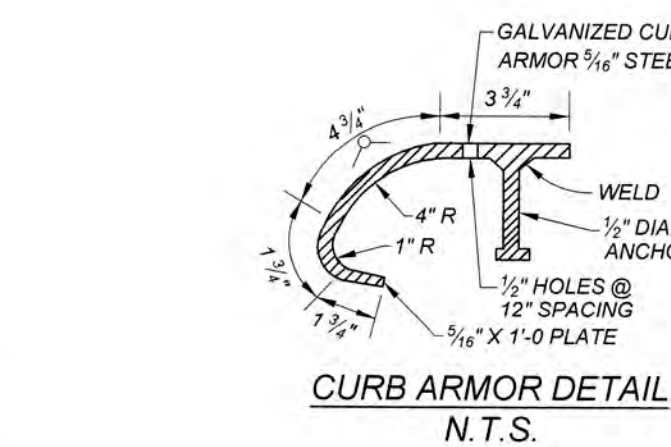
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SIDEWALK BOX DETAIL
N.T.S.

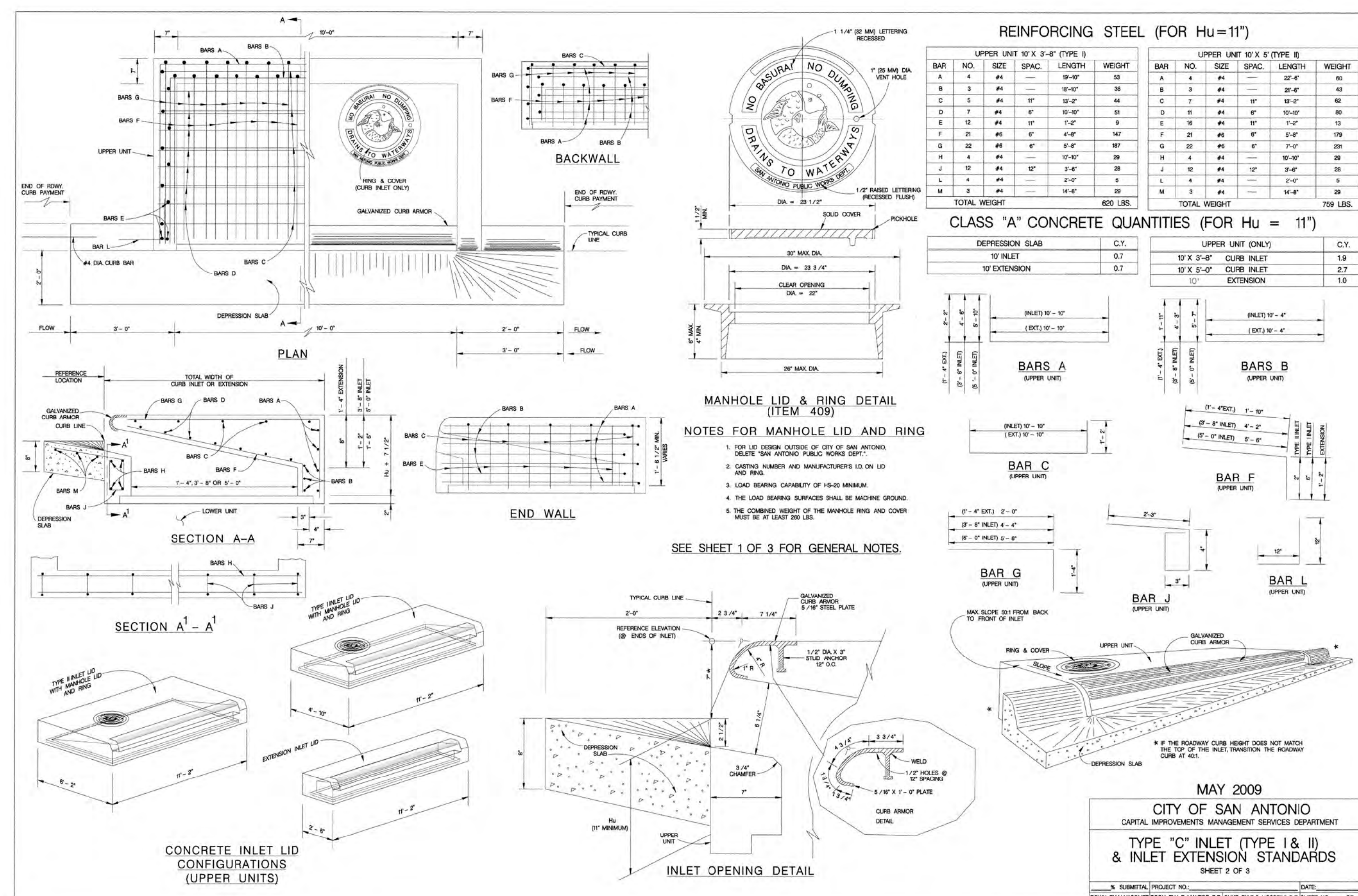


GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

PRIVATE DRAIN "E" PLAN & PROFILE

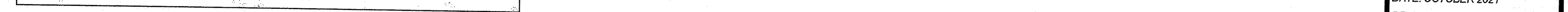
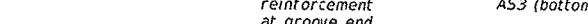
PLAT NO.
21-11800645
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DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL
SHEET NUMBER:

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FILE:
DATE:





ISSUE DATE

REVISIONS



Clayton Henry
6/23/2023

GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
DRAIN DETAILS (SHEET 3 OF 4)

PLAT NO.
21-11800645

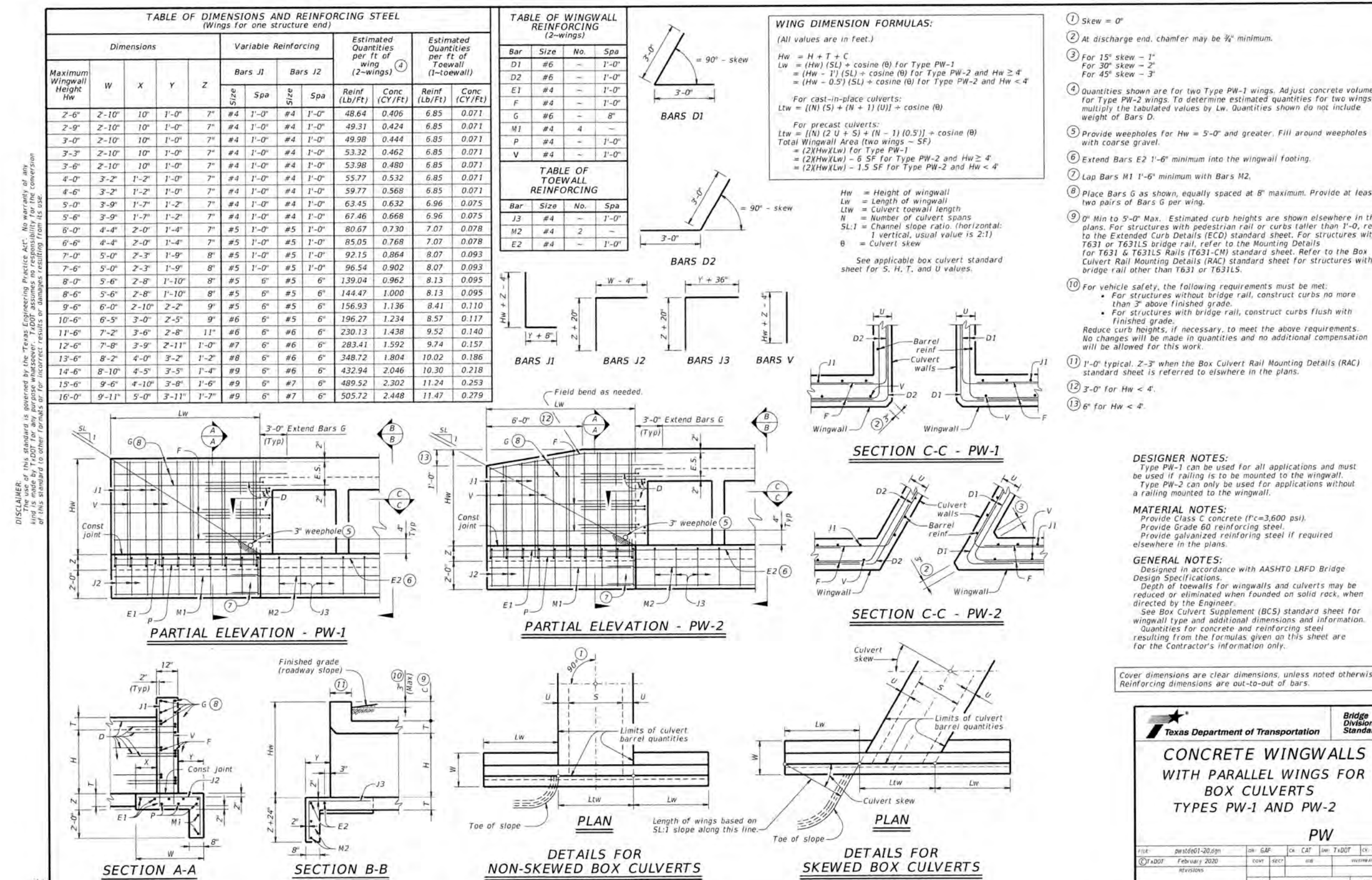
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Date: Apr 19, 2022, 8:22am User: ID: omeiners
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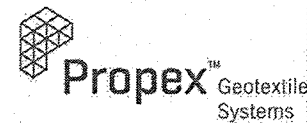


LANDLOK 300® turf reinforcement mat (TRM) is a three-dimensional, lofty, woven polypropylene geotextile that is available in green or tan which is specially designed for erosion control applications on steep slopes and vegetated waterways. The matrix is composed of polypropylene monofilament yarns featuring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

LANDLOK 300® conforms to the property values listed below¹ and is manufactured at a Propex facility having achieved ISO 9001:2000 certification. Propex performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute - Laboratory Accreditation Program (GAI-LAP). This product is NITPE approved for AASHTO standards.

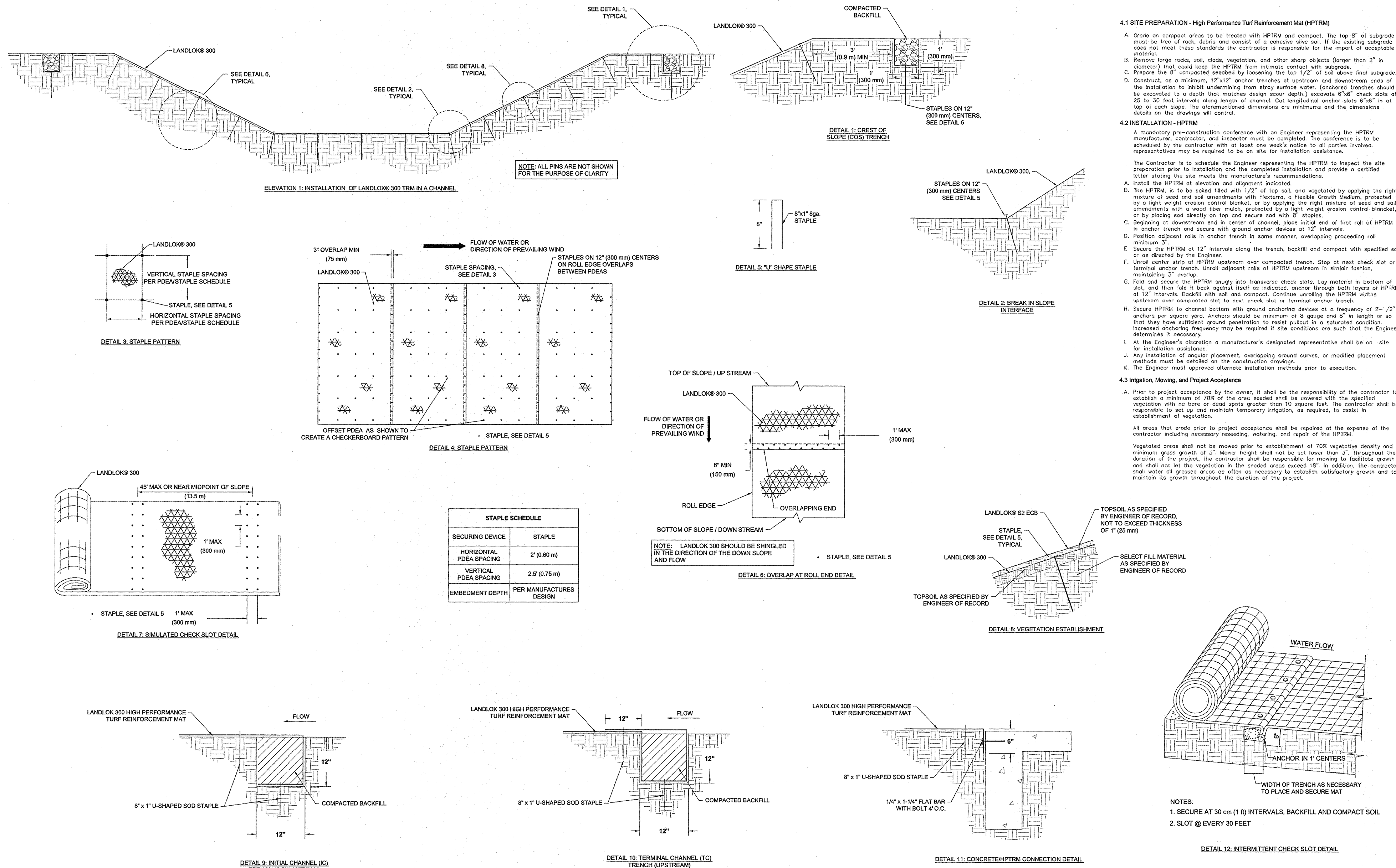
MARV ²			
PROPERTY	TEST METHOD	ENGLISH	METRIC
ORIGIN OF MATERIALS			
% U.S. Manufactured Inputs		100%	100%
% U.S. Manufactured		100%	100%
PHYSICAL			
Mass/Unit Area	ASTM D-6566	7.5 oz/yd ²	254.3 g/m ²
Thickness	ASTM D-6525	0.25 in	6.35 mm
Light Penetration (% Passing)	ASTM D-6567	50% (Max)	50%
Color	Visual	Green or Tan	
MECHANICAL			
Tensile Strength (Grab)	ASTM D-6818	2000 x 1800 lb/ft	29.2 x 26.3 kN/m
Elongation	ASTM D-6818	50% (max)	50% (max)
Resiliency	ASTM D-6524	70%	70%
Flexibility	ASTM D-6575	0.195 in-lb (avg)	225,000 mg-cm (avg)
ENDURANCE			
UV Resistance			
% Retained 3000 hrs	ASTM D-4355	90%	90%
PERFORMANCE			
Velocity ³ (Vegetated)	Large Scale	20 ft/sec	6.10 m/sec
Shear Stress ³ (Vegetated)	Large Scale	12 lb/ft ²	575 Pa
Manning's n ⁴ (Unvegetated)	Calculated	0.030	
Seeding Emergence ⁴	ECTC Draft Method #4		
ROLL SIZES		8.5 ft x 106 ft	2.6 m x 32.3 m

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



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



REVISIONS	

LANDLOK 300 INSTALLATION DETAILS	

8165 BRACKEN CREEK DRIVE
SUITE 100
DALLAS, TEXAS 75246
PH: 214-651-1386
WWW.GEOSOLUTIONSINC.COM

GEOSOLUTIONS Reg. Eng. Firm #F-4189

Scale: NOT TO SCALE	Date: 02/02/15	Drawn by: JF	Project No.: LANDLOK 300

K&W
ENGINEERS & SURVEYING
3431 S. GULF
DALLAS, TEXAS 75226
Phone #: (214) 978-9444 • Fax #: (214) 978-9441
TEPE Firm #: 8513 • TEPE Firm #: 1012230

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER
Clayton J. Linney
4/15/2022

GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
DRAIN DETAILS (SHEET 4 OF 4)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:
4.11

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.

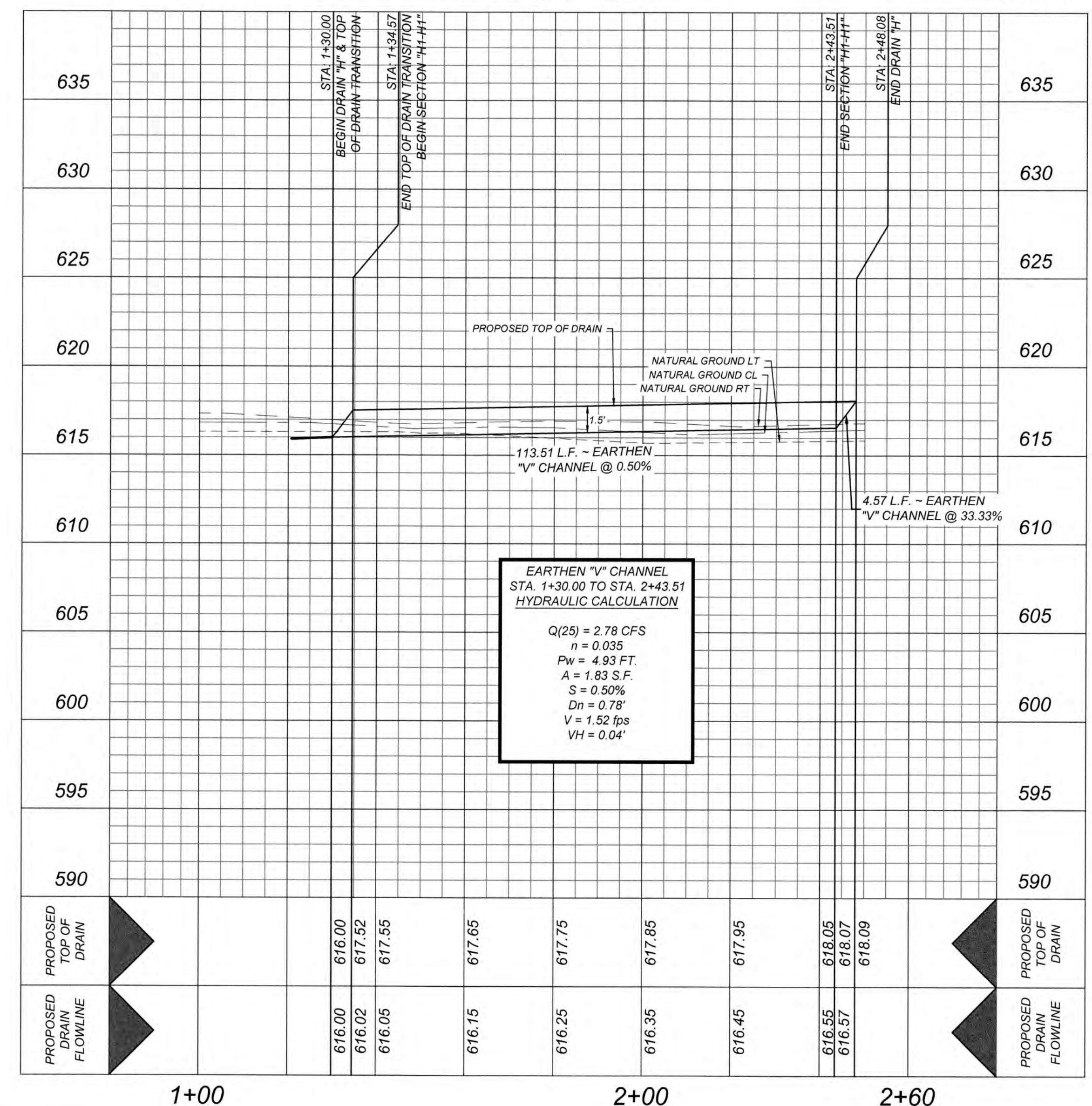
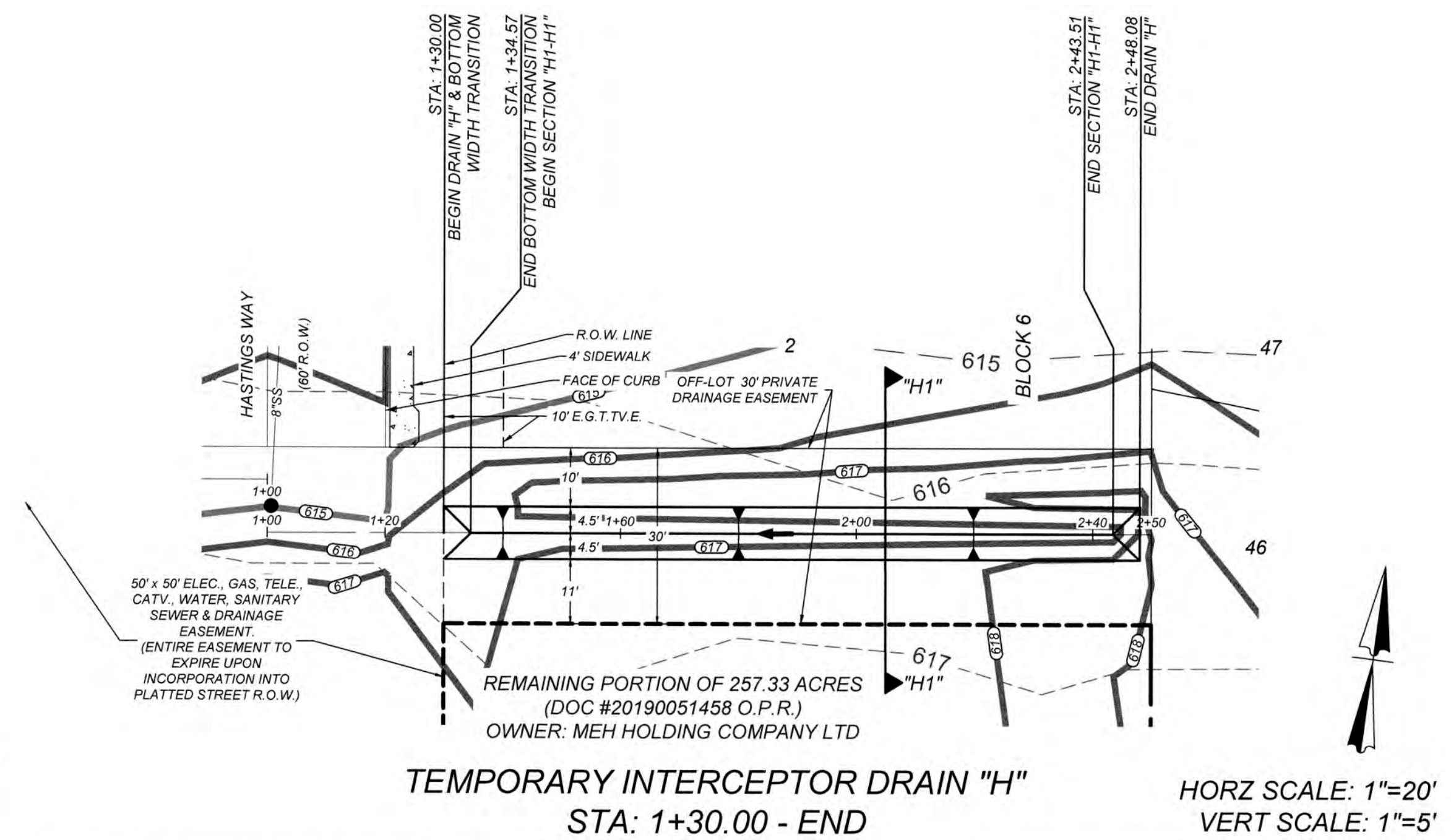
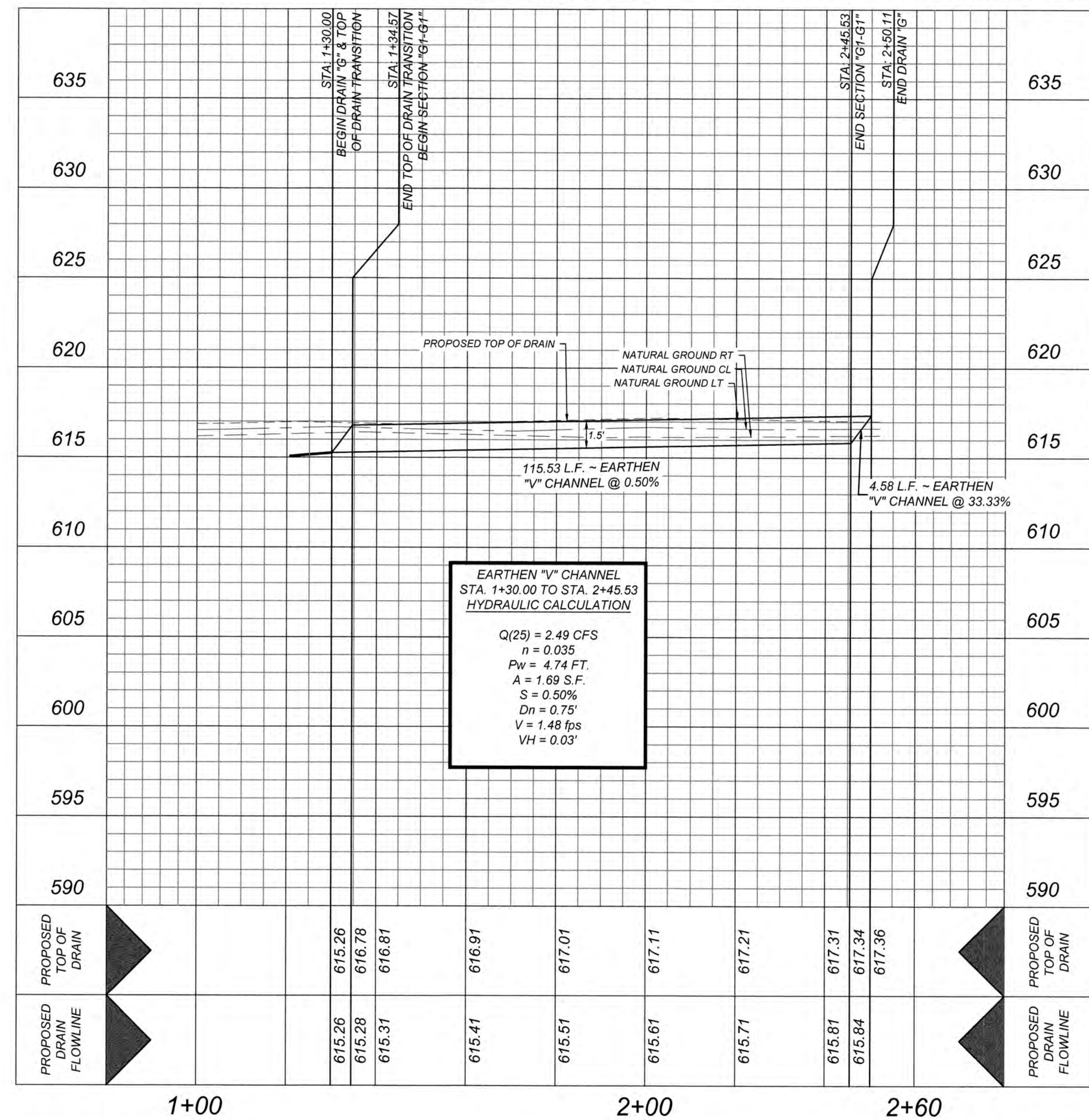
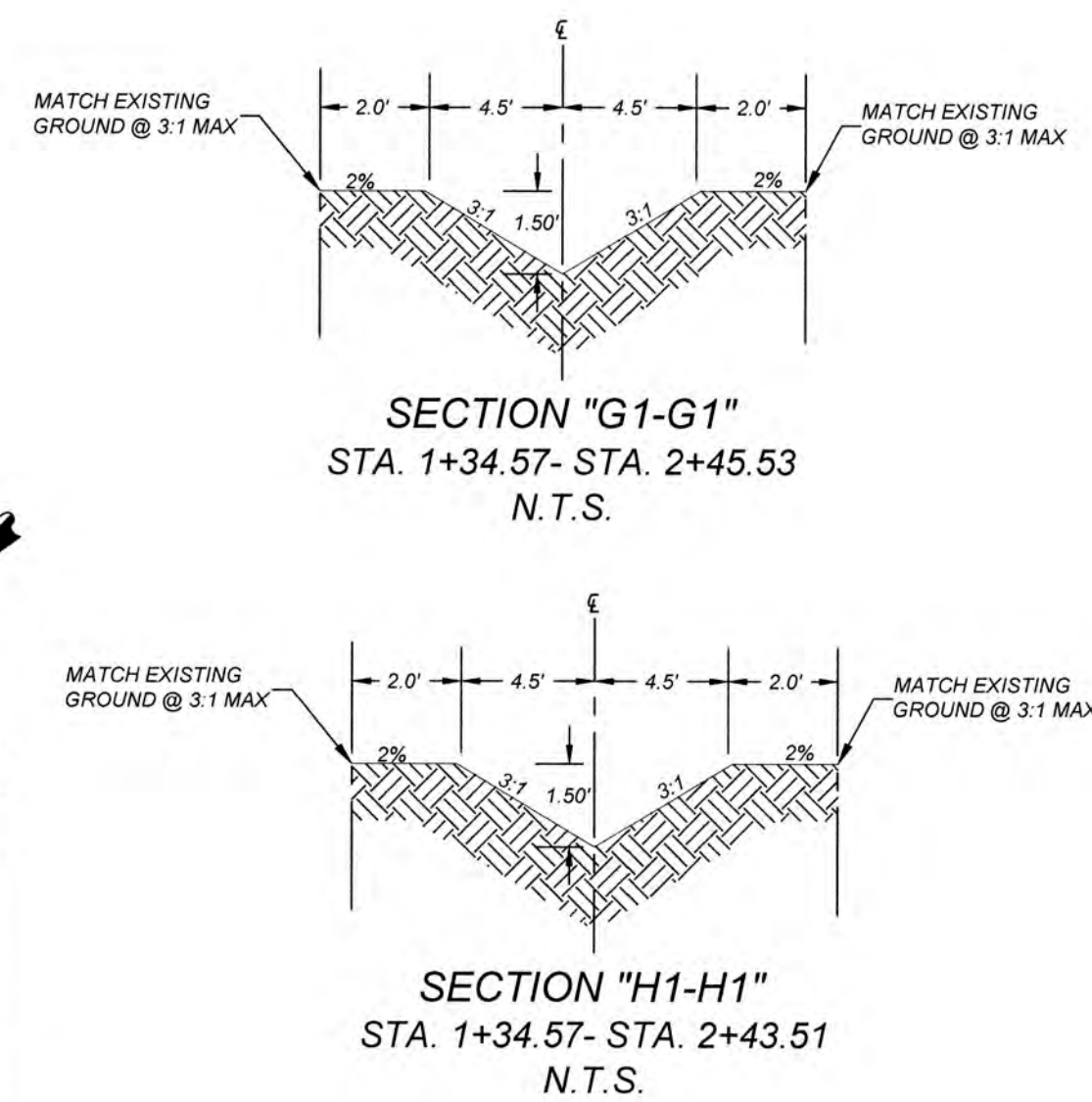
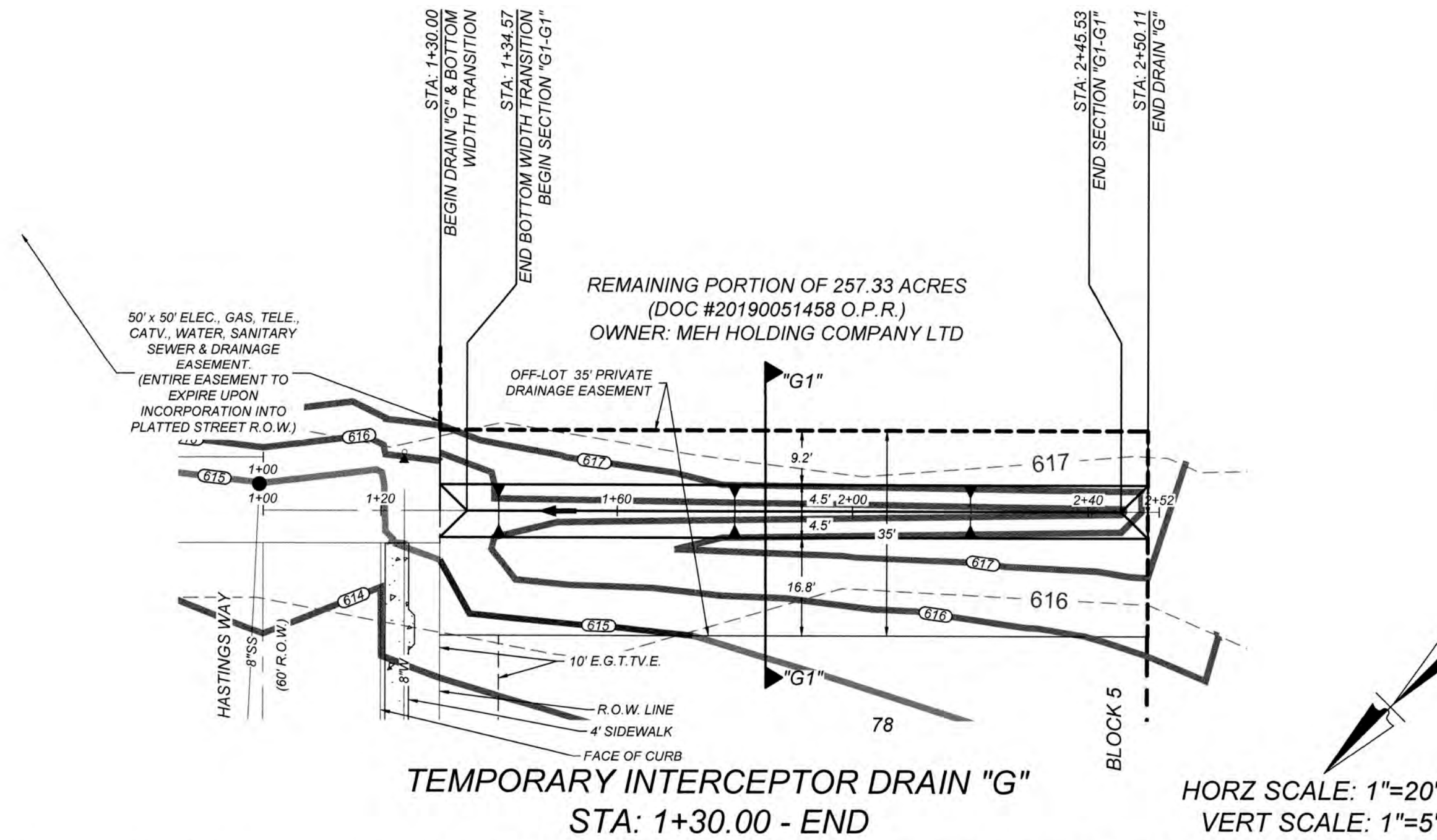
CAUTION!!!

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.

NOTE:

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

B. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.



GATES SUBDIVISION UNIT 1
 BEXAR COUNTY, TX
TEMPORARY INTERCEPTOR DRAIN "G" & "H" PLAN & PROFILE

PLAT NO.
 21-11800645
 JOB NO. 205-43-04
 DATE: OCTOBER 2021
 DRAWN: OM CHECKED: CL
 SHEET NUMBER:

4.12

ISSUE DATE
 REVISIONS



K&W
ENGINEERS + SURVEYING
 3421 Passmore Pkwy, Suite 200, San Antonio, TX 78231
 (210) 351-1111
 TBPES Firm # 9513 • TBPES Firm # 10122300

TRENCH EXCAVATION SAFETY PROTECTION

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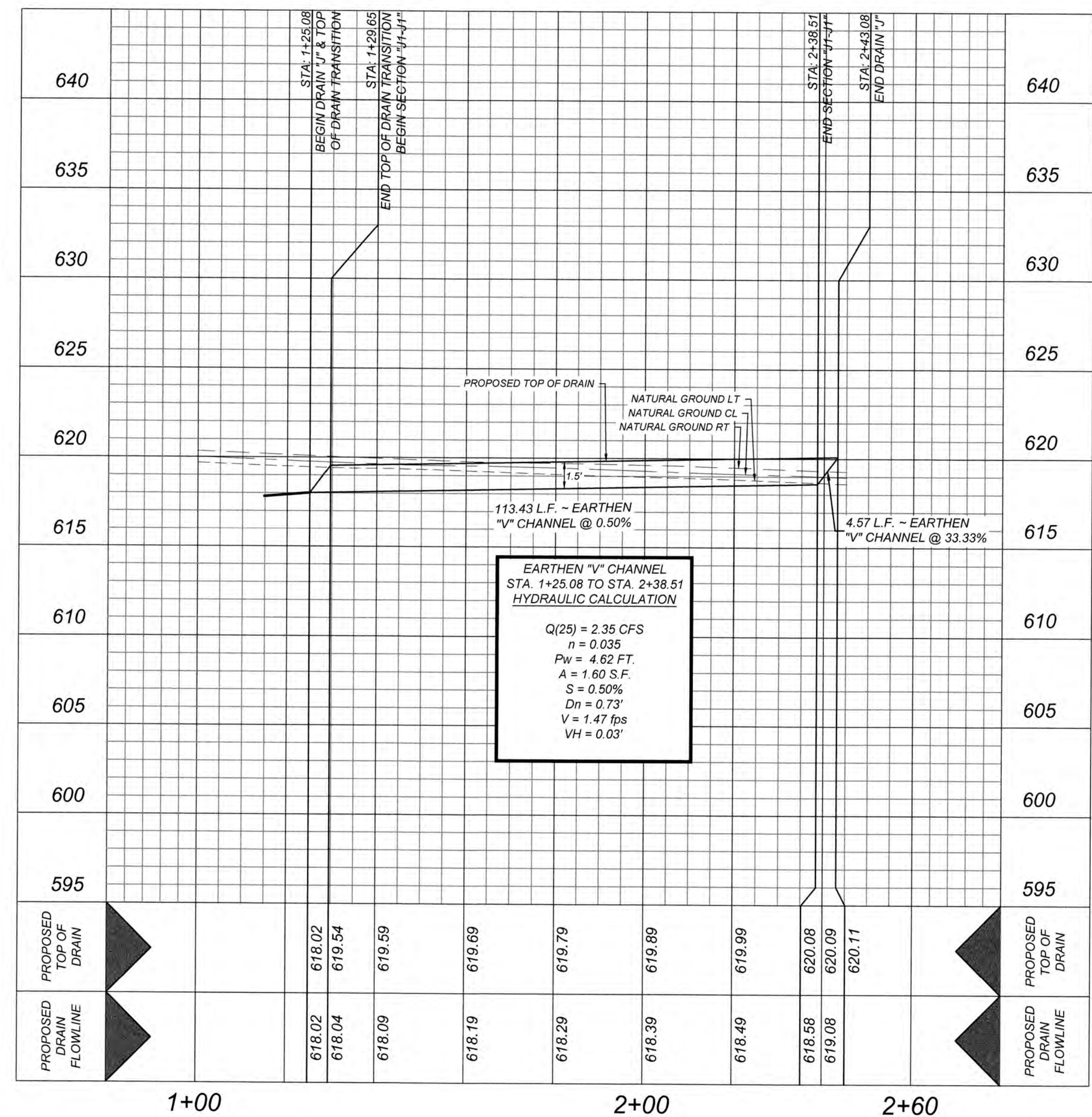
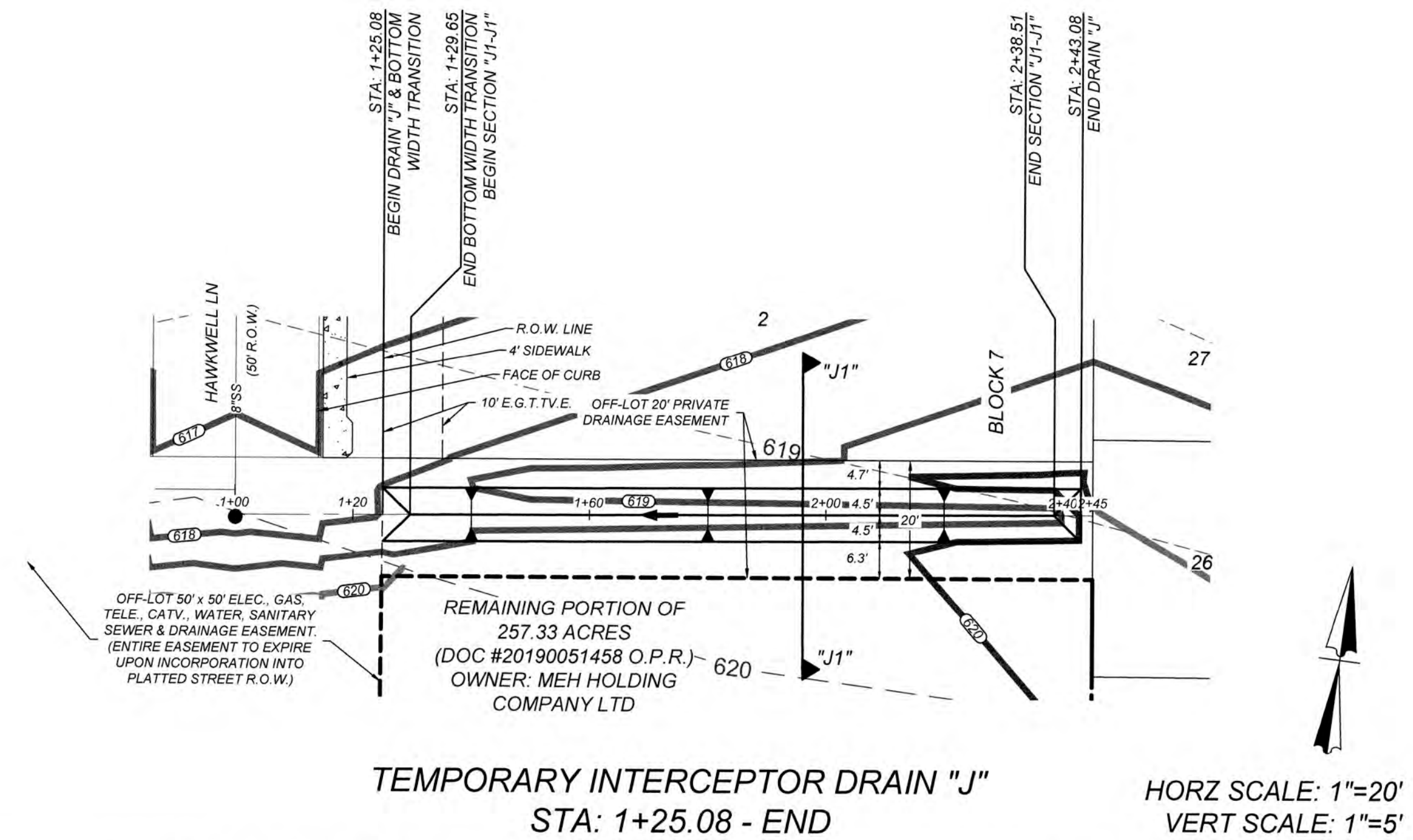
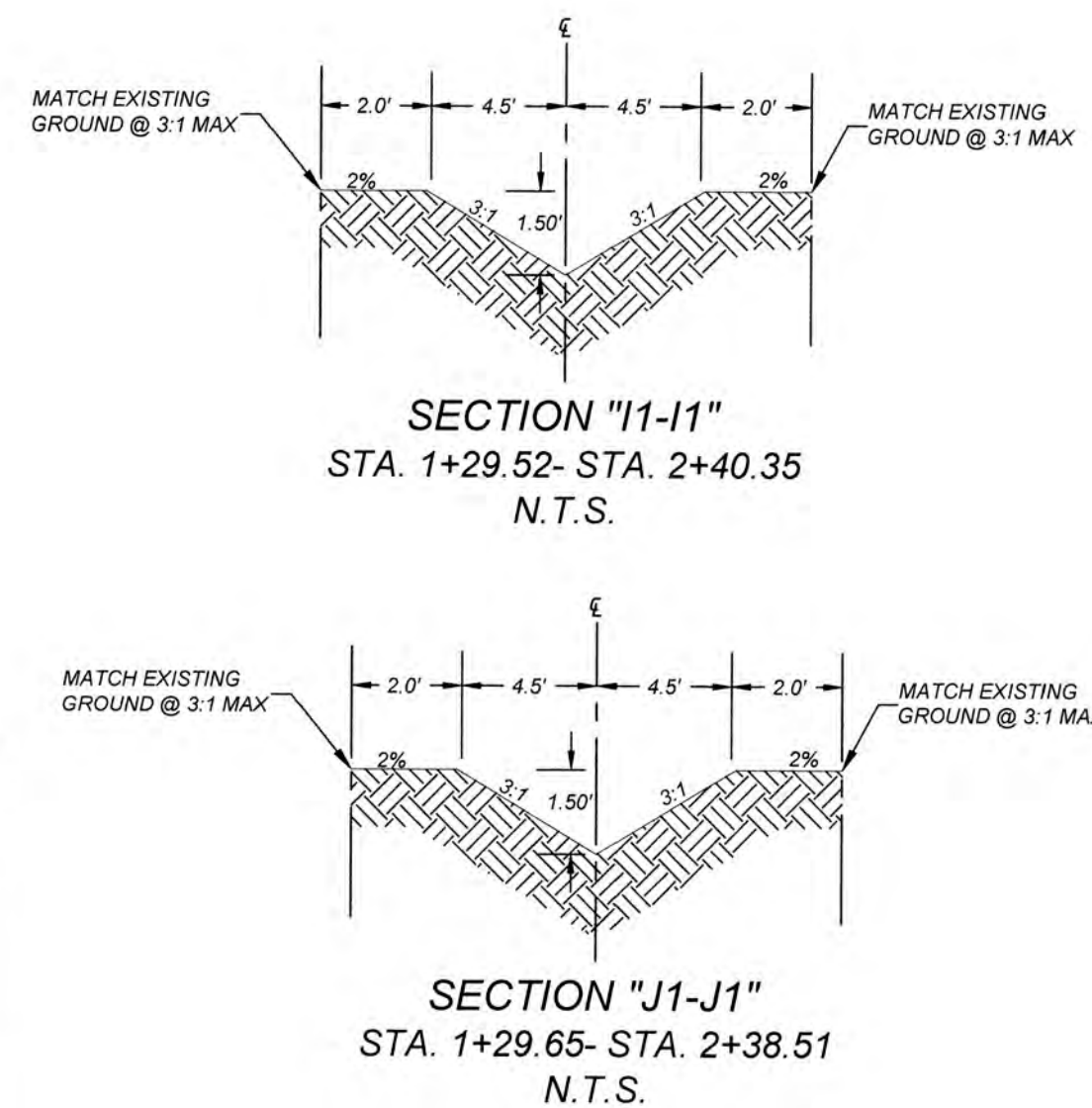
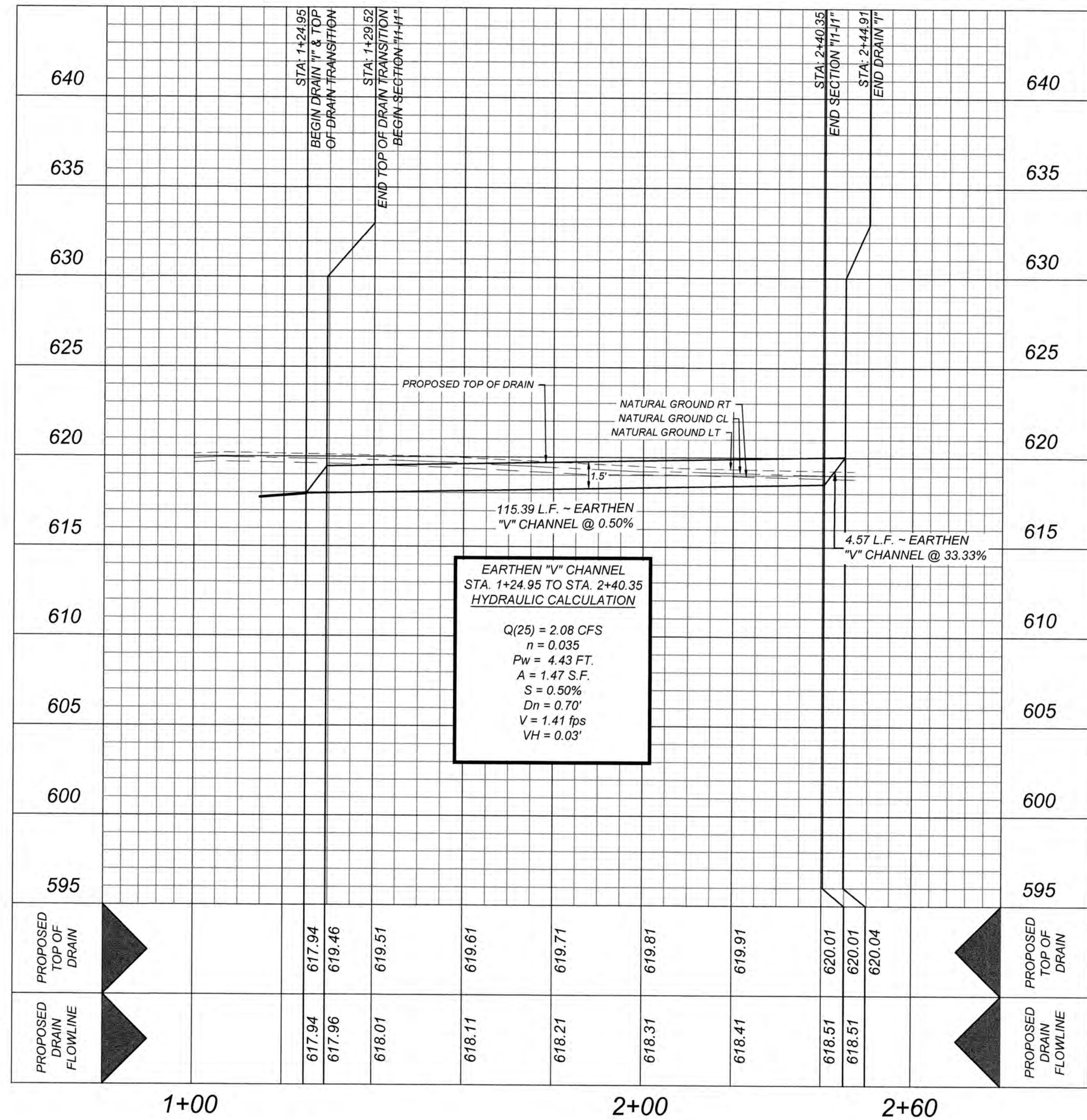
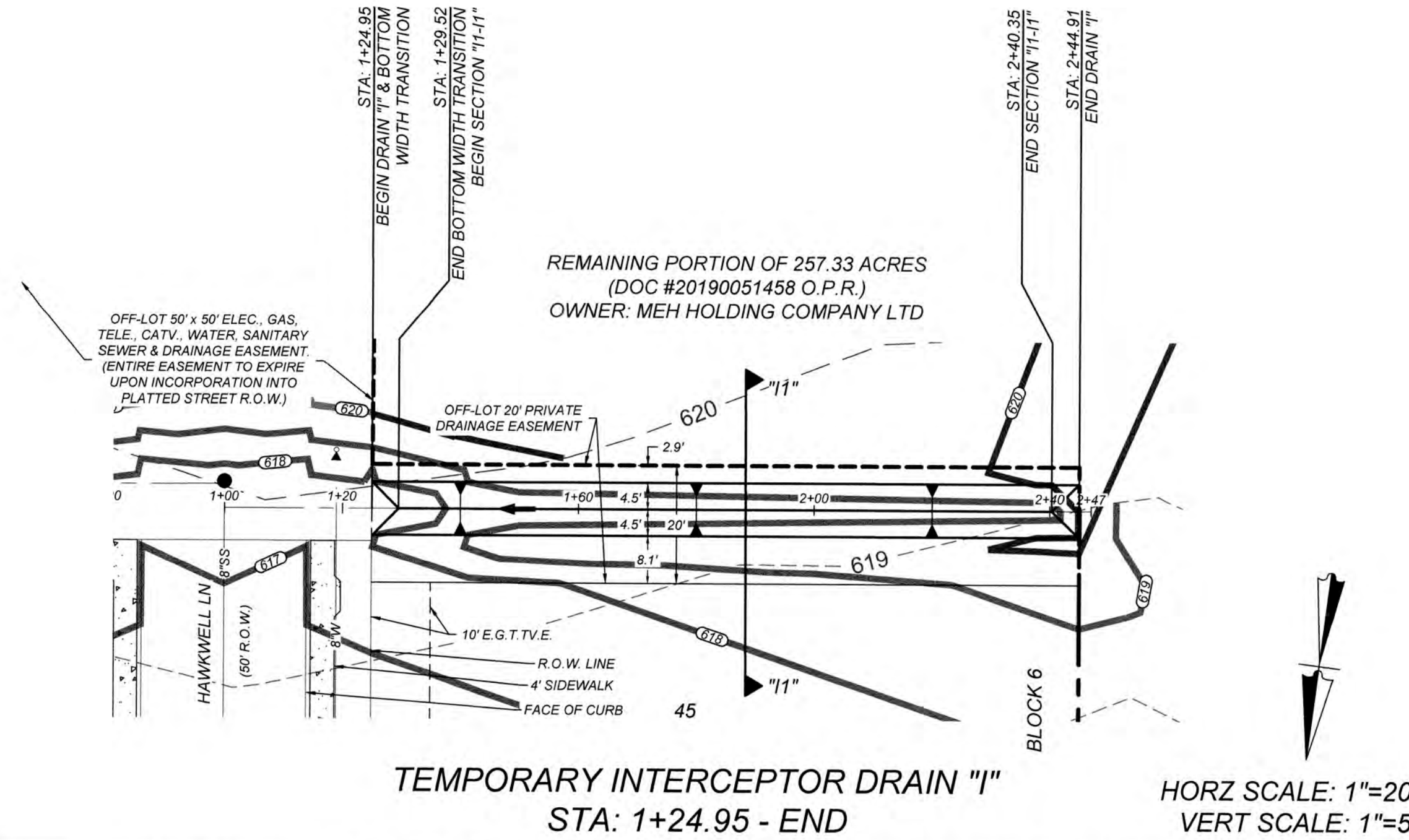
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GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

TEMPORARY INTERCEPTOR DRAIN "I" & "J" PLAN & PROFILE

PLAT NO.
21-11800645

JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL

SHEET NUMBER:

4.13



ISSUE DATE

REVISIONS

K&W
ENGINEERS & SURVEYING
3421 Peasance Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-5444 • Fax #: (210) 979-5441
TBEPLS Firm #: 9513 • TBEPLS Firm #: 10122900

TRENCH EXCAVATION SAFETY PROTECTION

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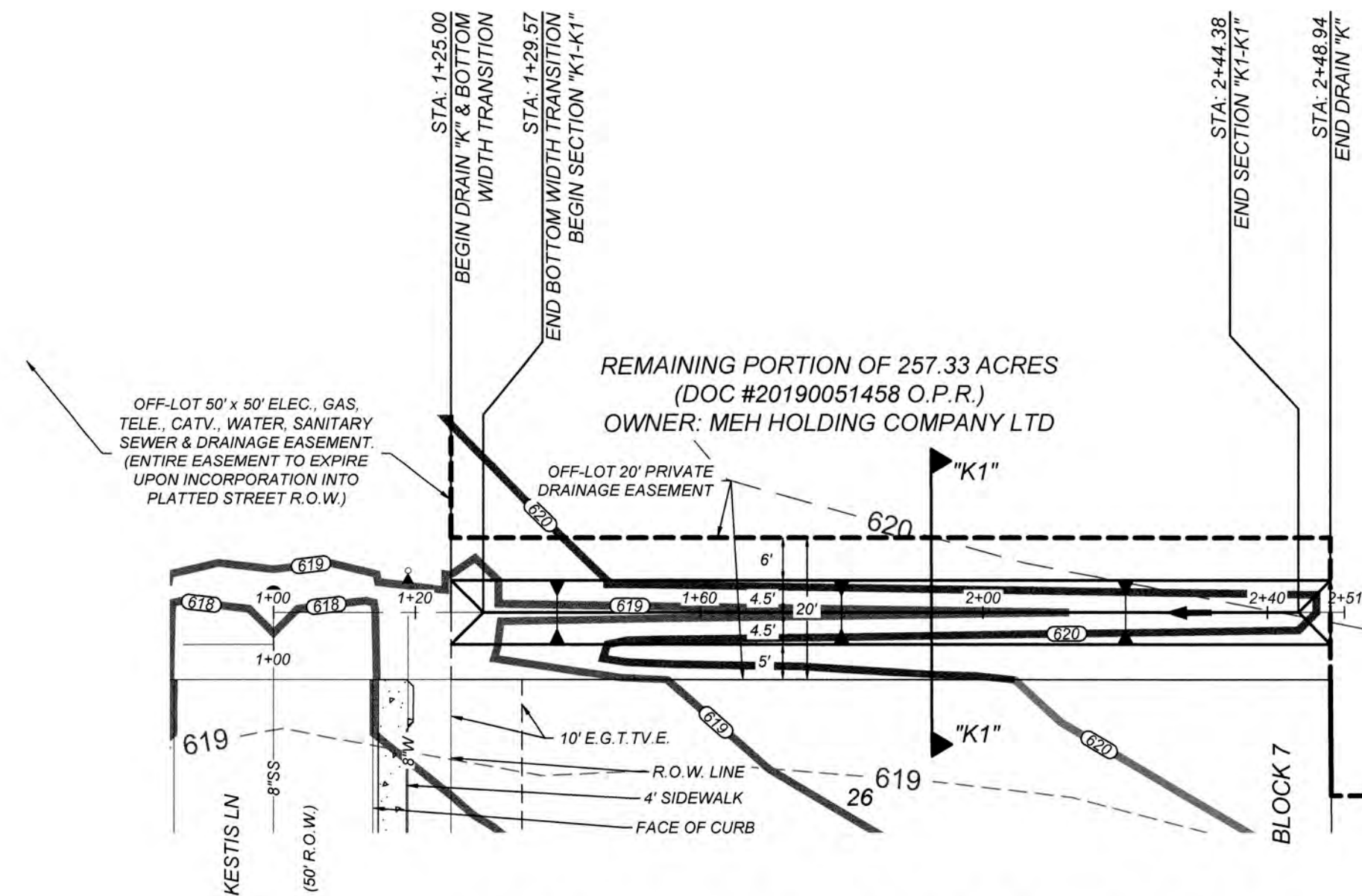
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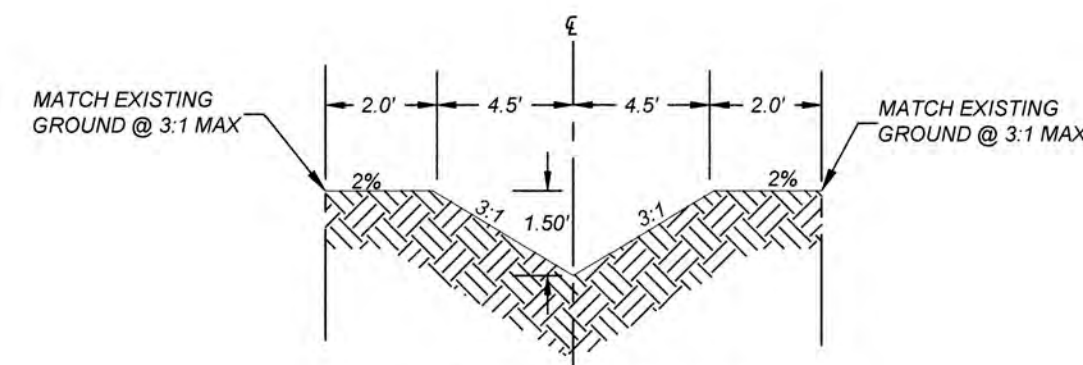
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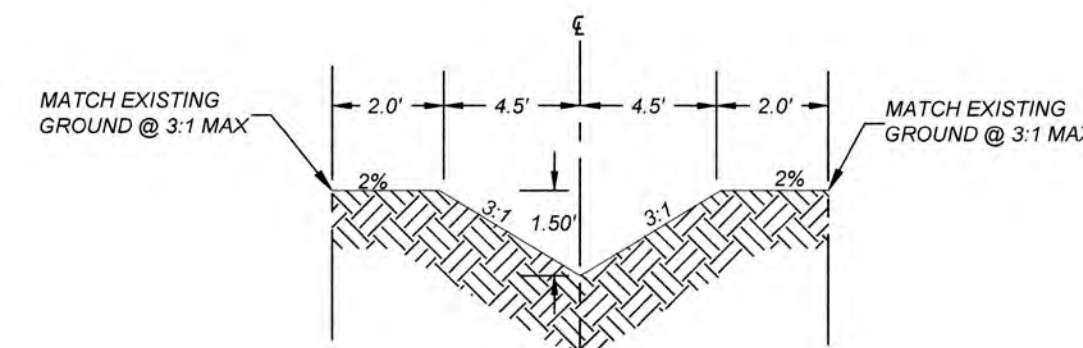


TEMPORARY INTERCEPTOR DRAIN "K"
STA: 1+25.00 - END

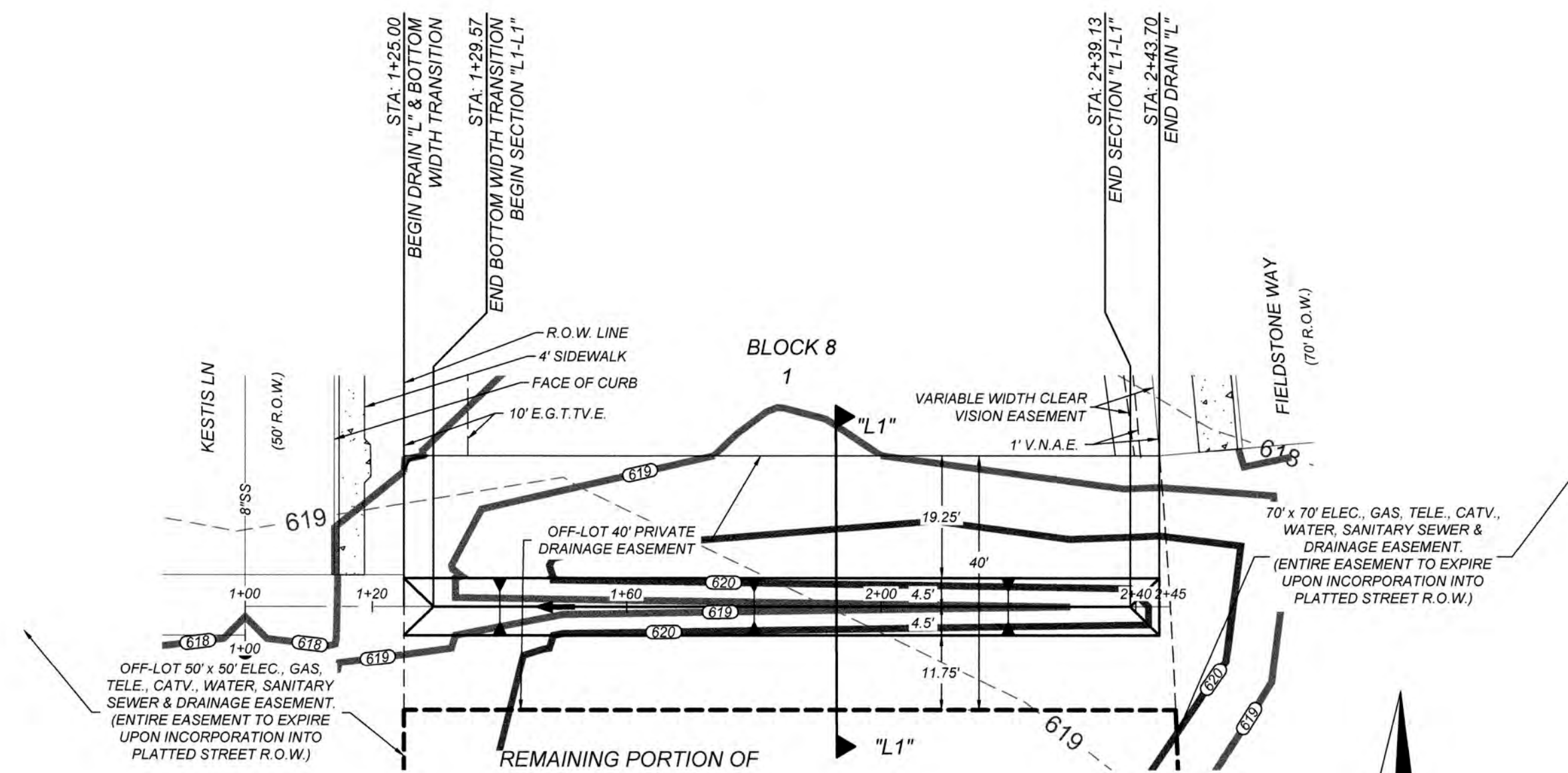
HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



SECTION "K1-K1"
STA. 1+29.57- STA. 2+44.38
N.T.S.

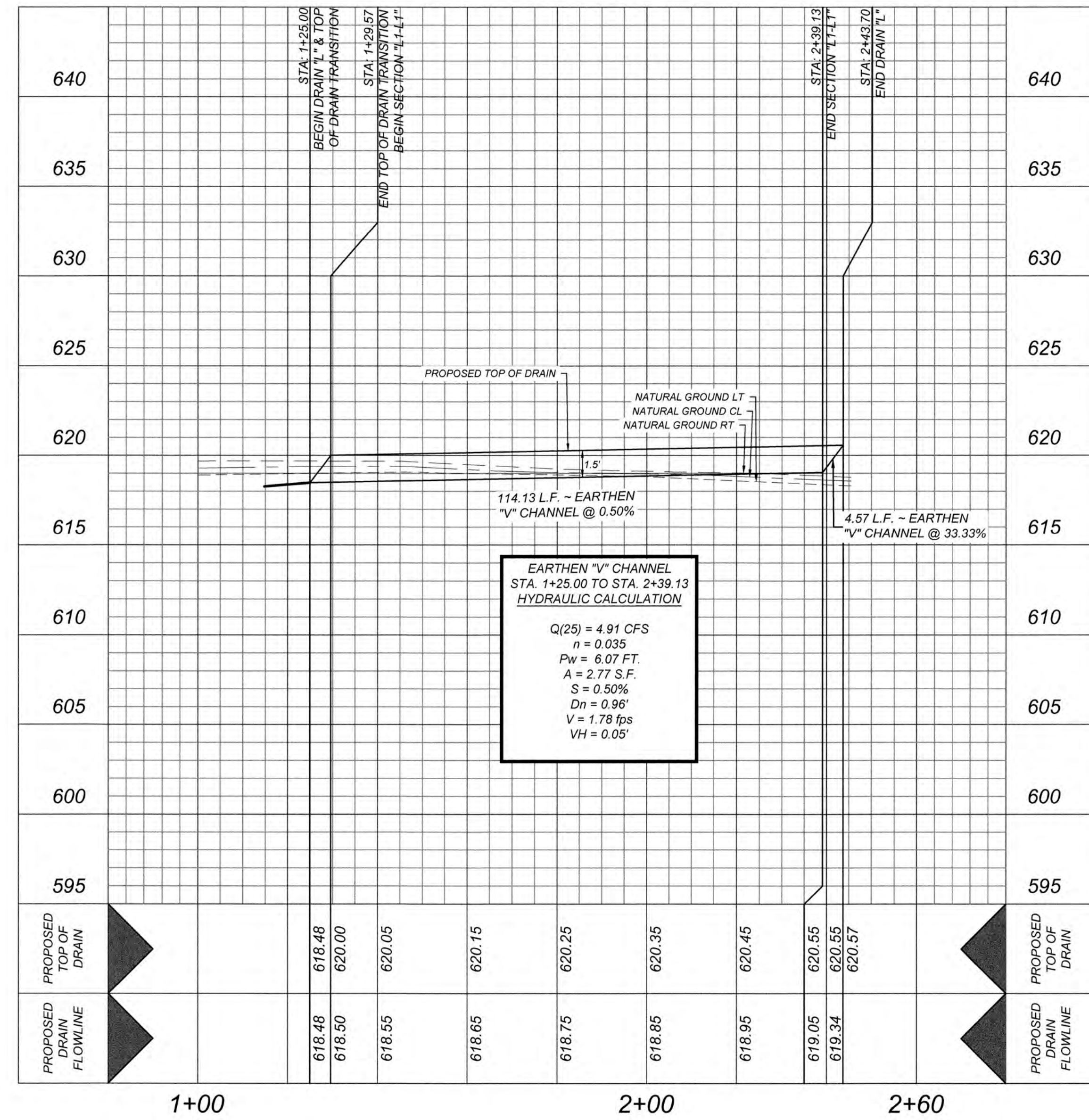
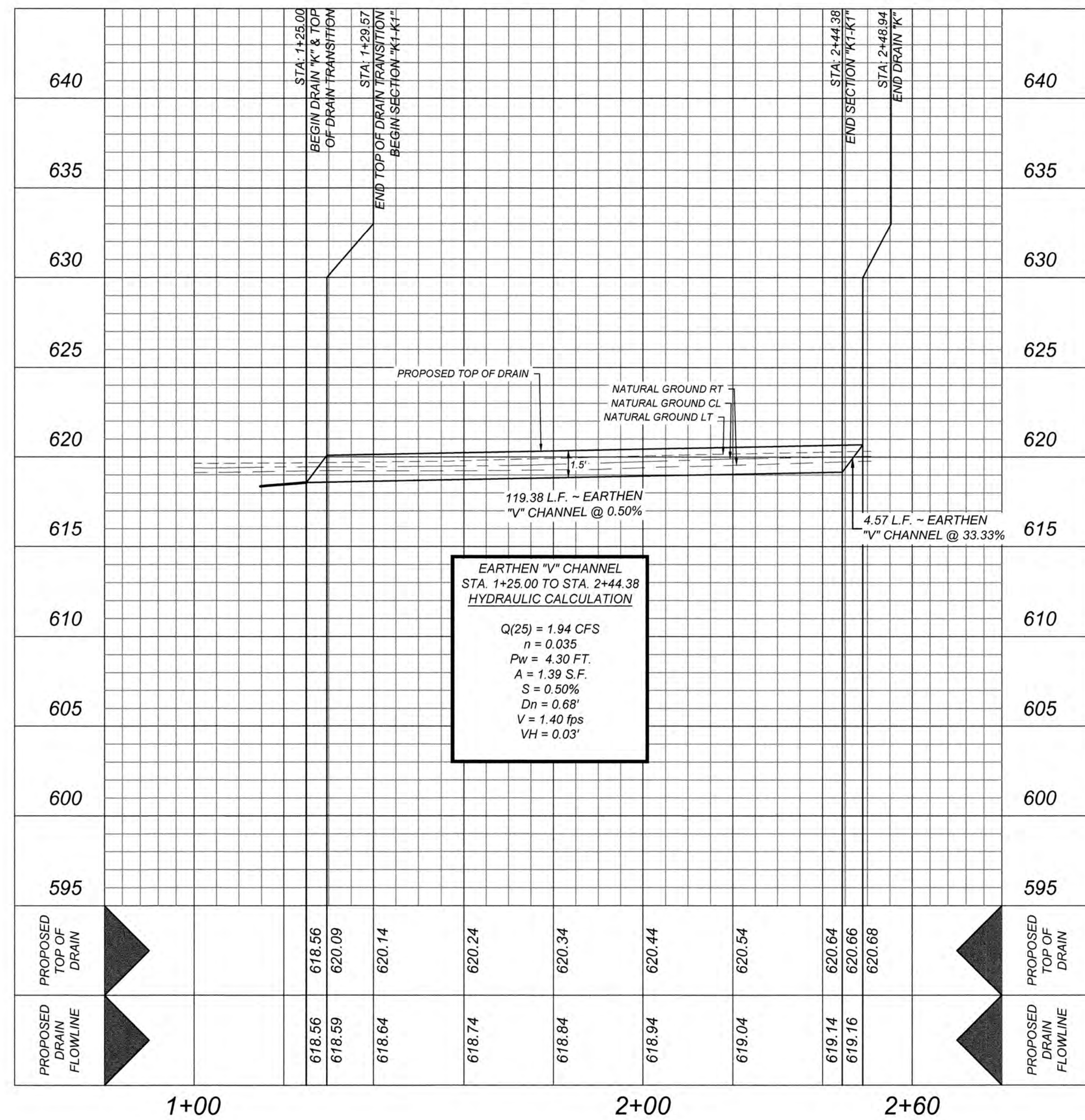


SECTION "L1-L1"
STA. 1+29.57- STA. 2+39.13
N.T.S.



TEMPORARY INTERCEPTOR DRAIN "L"
STA: 1+25.00 - END

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
TEMPORARY INTERCEPTOR DRAIN "K" & "L" PLAN & PROFILE

PLAT NO.
21-11800645

JOB NO. 205-43-04

DATE: OCTOBER 2021

DRAWN: CM CHECKED: CL

SHEET NUMBER:

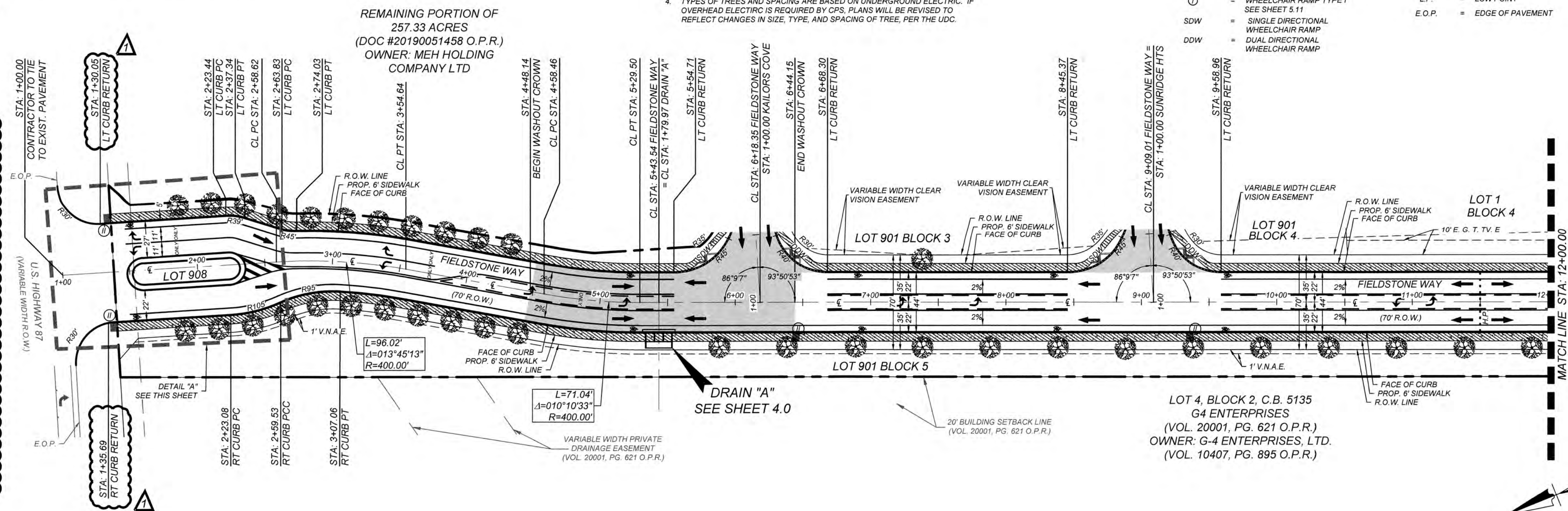
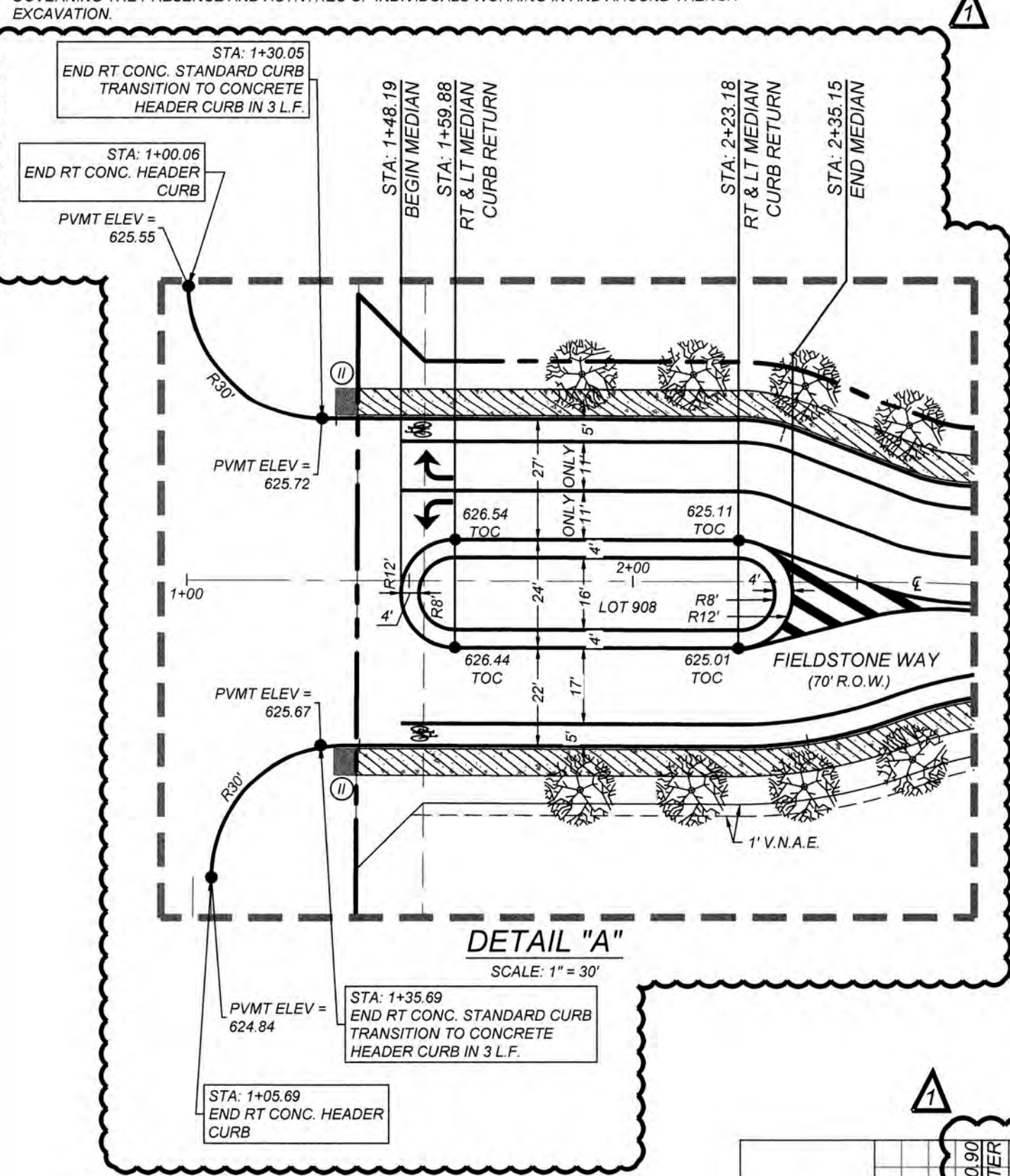
4.14

TRENCH EXCAVATION SAFETY PROTECTION

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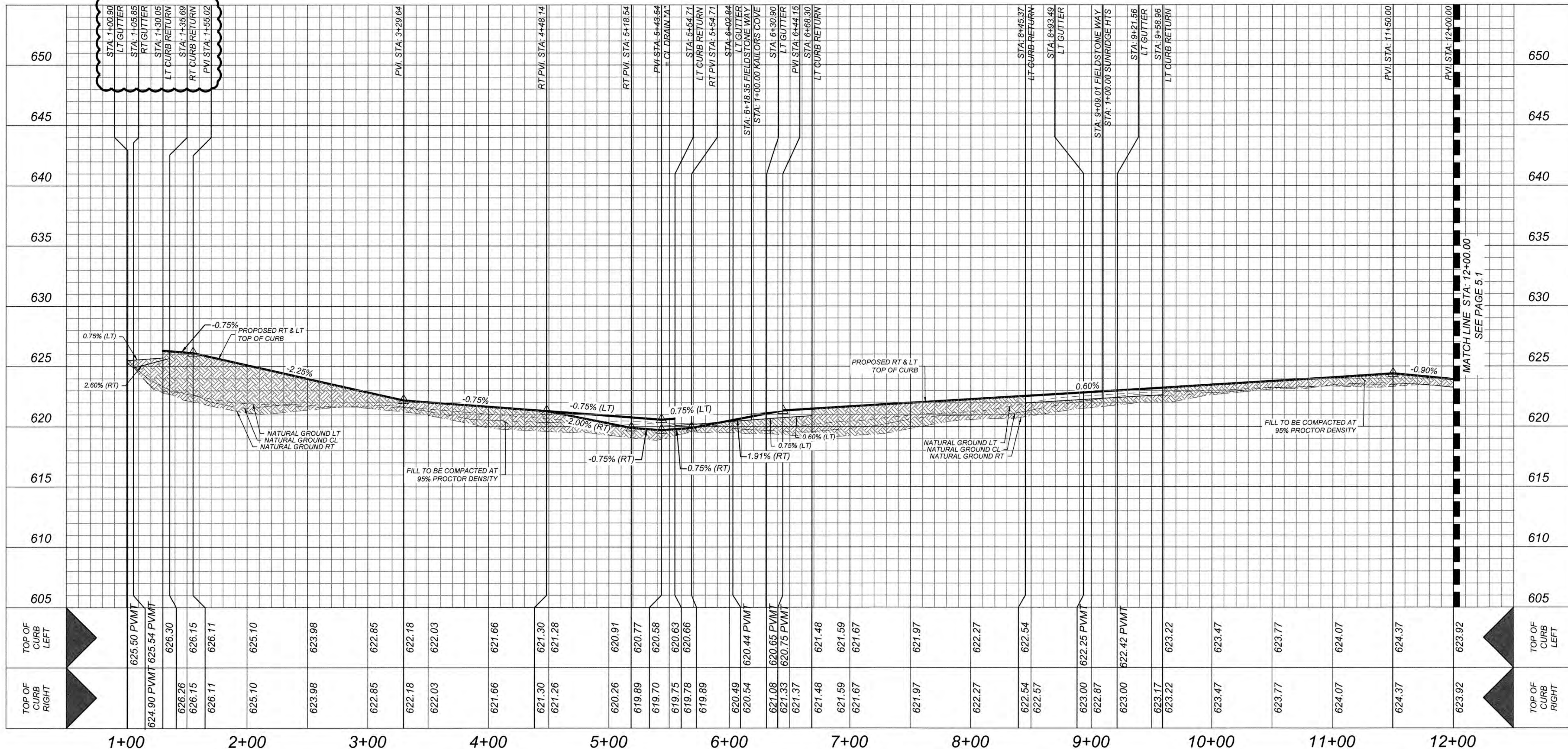


STREETSCAPE TREE PLANTING NOTES

- LARGE TREES (PER UDC) TO BE PLANTED EVERY 50 FEET OR CLUSTERS ALONG FIELDSTONE WAY R.O.W. PER NEW TREE PLANTING DETAIL ON SHEET 5.9.
- SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFORM WITH THE STREETSCAPE PLANTING STANDARDS.
- DEVELOPER TO PROVIDE MAINTENANCE ON PLANTED STREET TREES FOR A MINIMUM OF 3 YEARS.
- ALL LANDSCAPE SHALL COMPLY WITH THE CLEAR VISION AREA AS DEFINED BY THE LATEST VERSION OF AASHTO'S 'A' POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.
- TYPES OF TREES AND SPACING ARE BASED ON UNDERGROUND ELECTRIC. IF OVERHEAD ELECTRIC IS REQUIRED BY OPS. PLANS WILL BE REVISED TO REFLECT CHANGES IN SIZE, TYPE, AND SPACING OF TREE, PER THE UDC.

- LEGEND**
- R.O.W. = RIGHT OF WAY
 - G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
 - FLOW ARROW
 - WASHOUT CROWN
 - WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
 - WHEELCHAIR RAMP TYPE I SEE SHEET 5.11
 - S.D.W. = SINGLE DIRECTIONAL WHEELCHAIR RAMP
 - D.D.W. = DUAL DIRECTIONAL WHEELCHAIR RAMP
 - SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
 - SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
 - PROPOSED DRIVEWAY LOCATION
 - H.P. = HIGH POINT
 - L.P. = LOW POINT
 - E.O.P. = EDGE OF PAVEMENT

FIELDSTONE WAY STA: 1+00.00 - STA: 12+00.00



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

GATES SUBDIVISION UNIT 1 BEXAR COUNTY, TX FIELDSTONE WAY PLAN & PROFILE (SHEET 1 OF 2)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

5.0

TRENCH EXCAVATION SAFETY PROTECTION

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BEXAR COUNTY R.O.W. NOTE

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

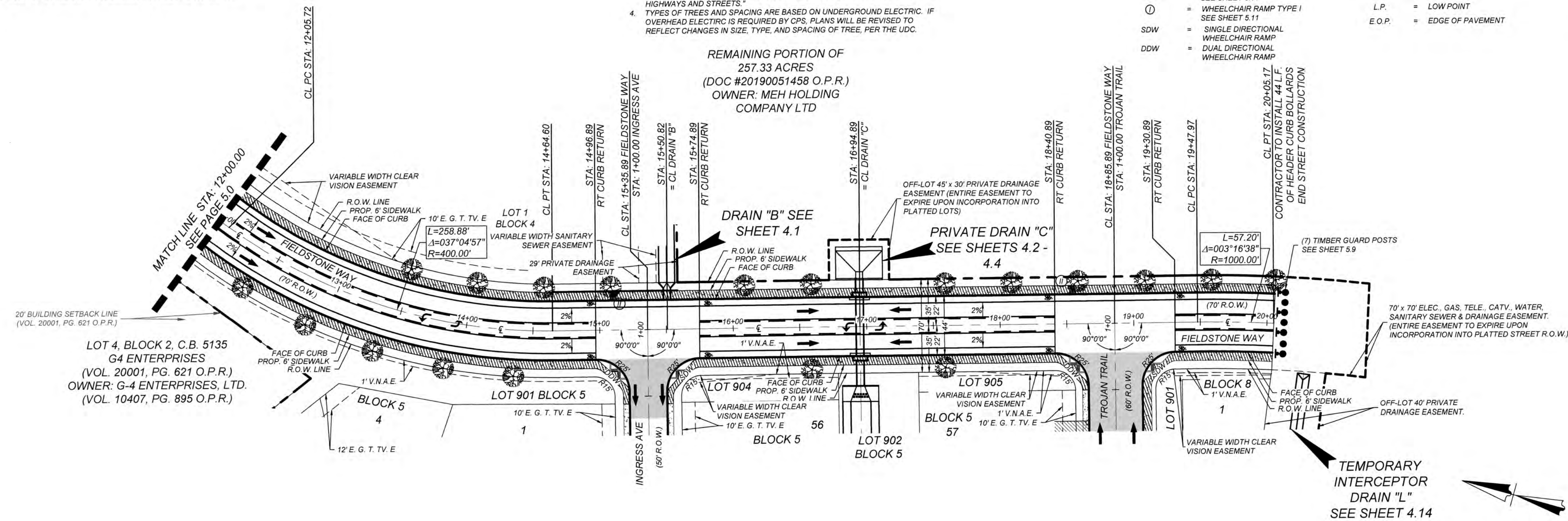
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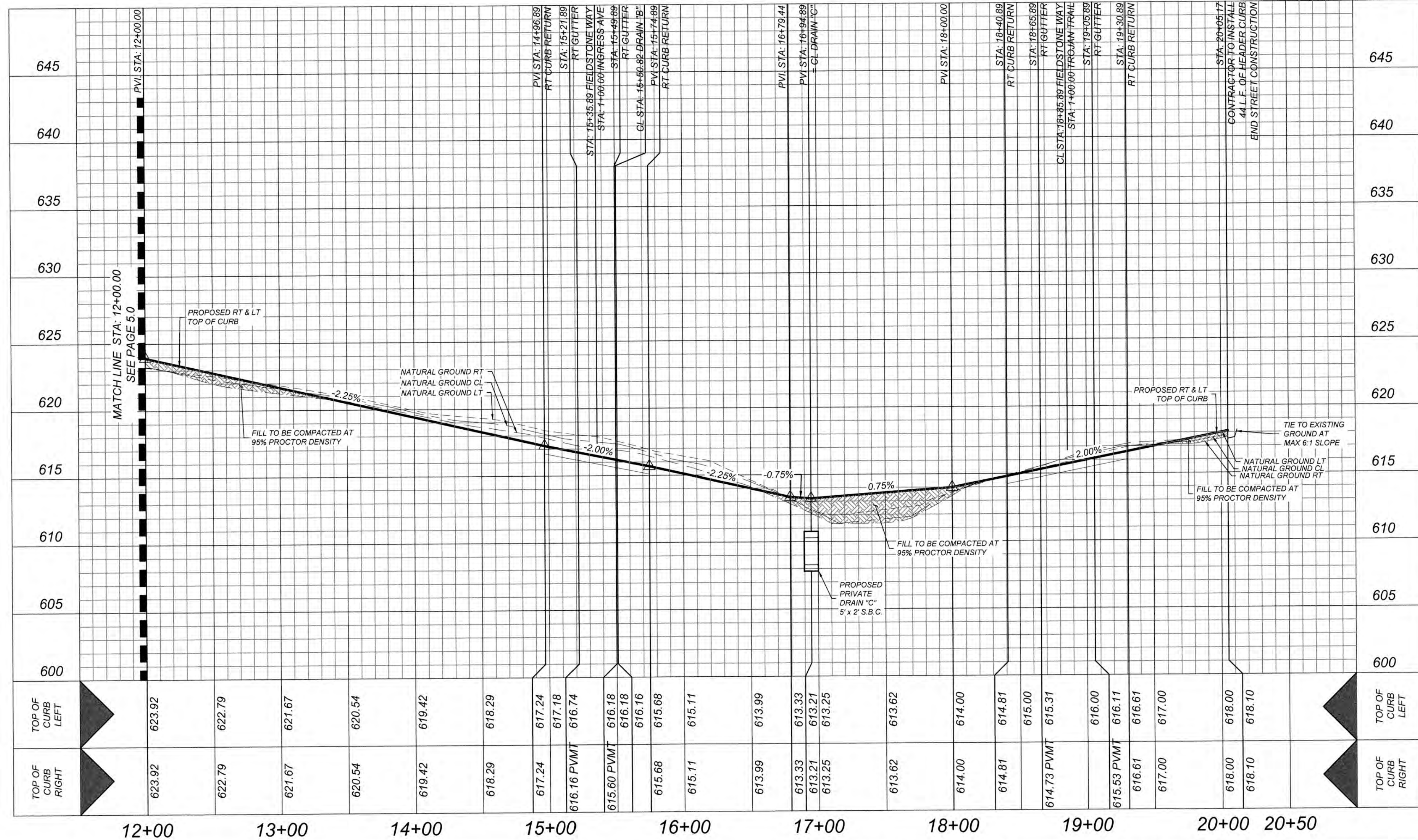
LEGEND

- R.O.W. = RIGHT OF WAY
G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
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H.P. = HIGH POINT
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FIELDSTONE WAY
STA: 12+00.00 - END

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

FIELDSTONE WAY PLAN & PROFILE (SHEET 2 OF 2)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL
SHEET NUMBER:

5.1

TRENCH EXCAVATION SAFETY PROTECTION

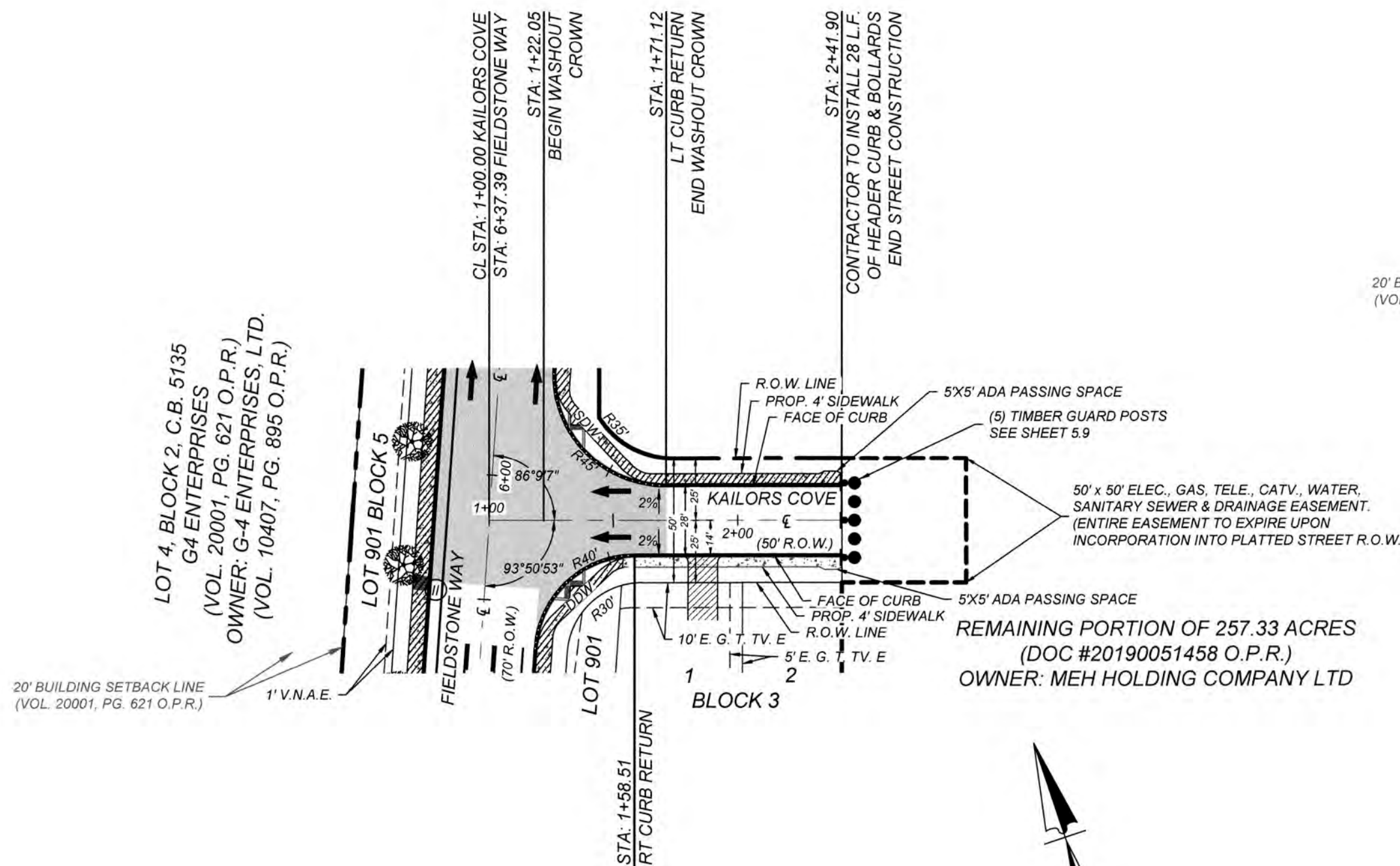
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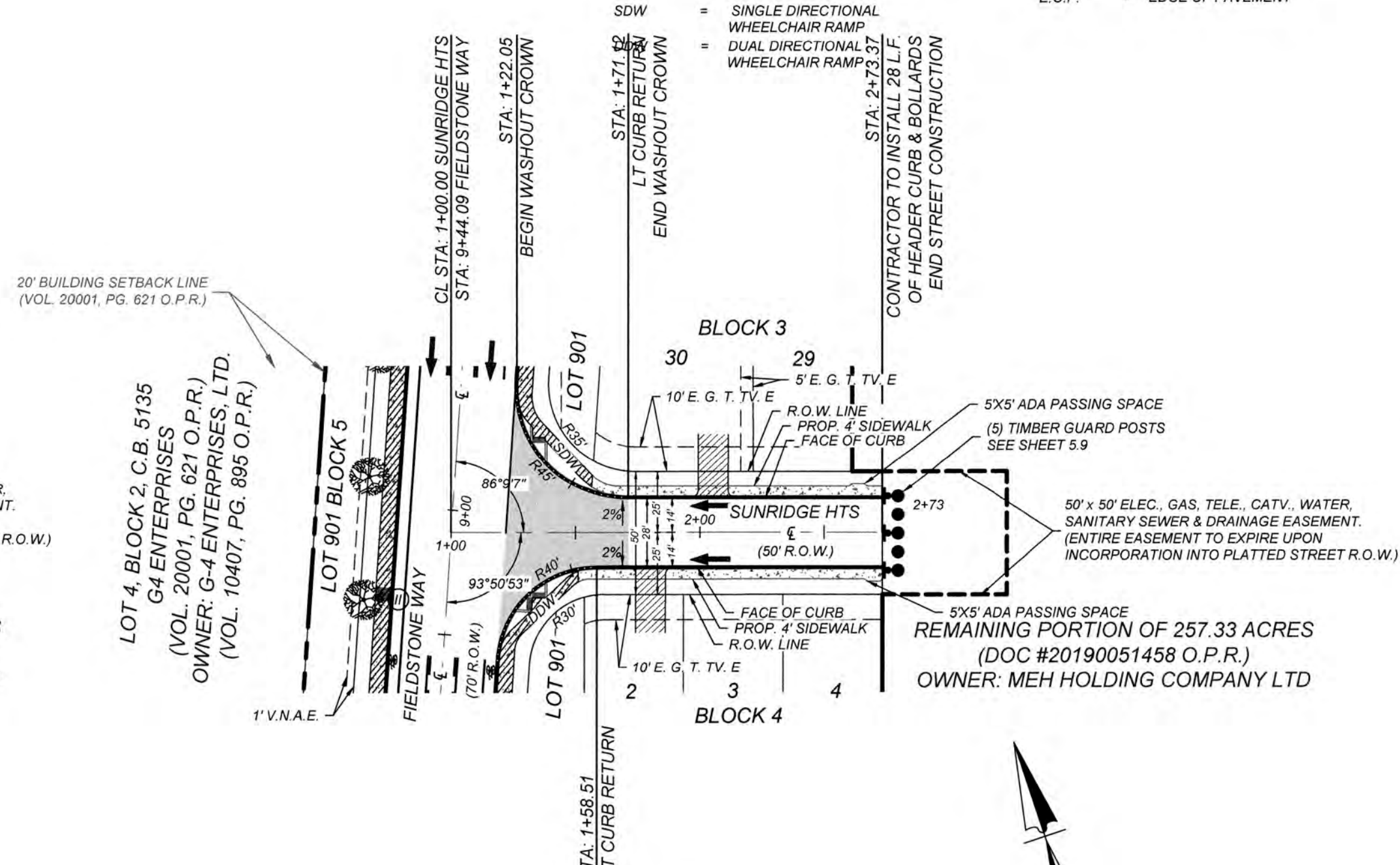
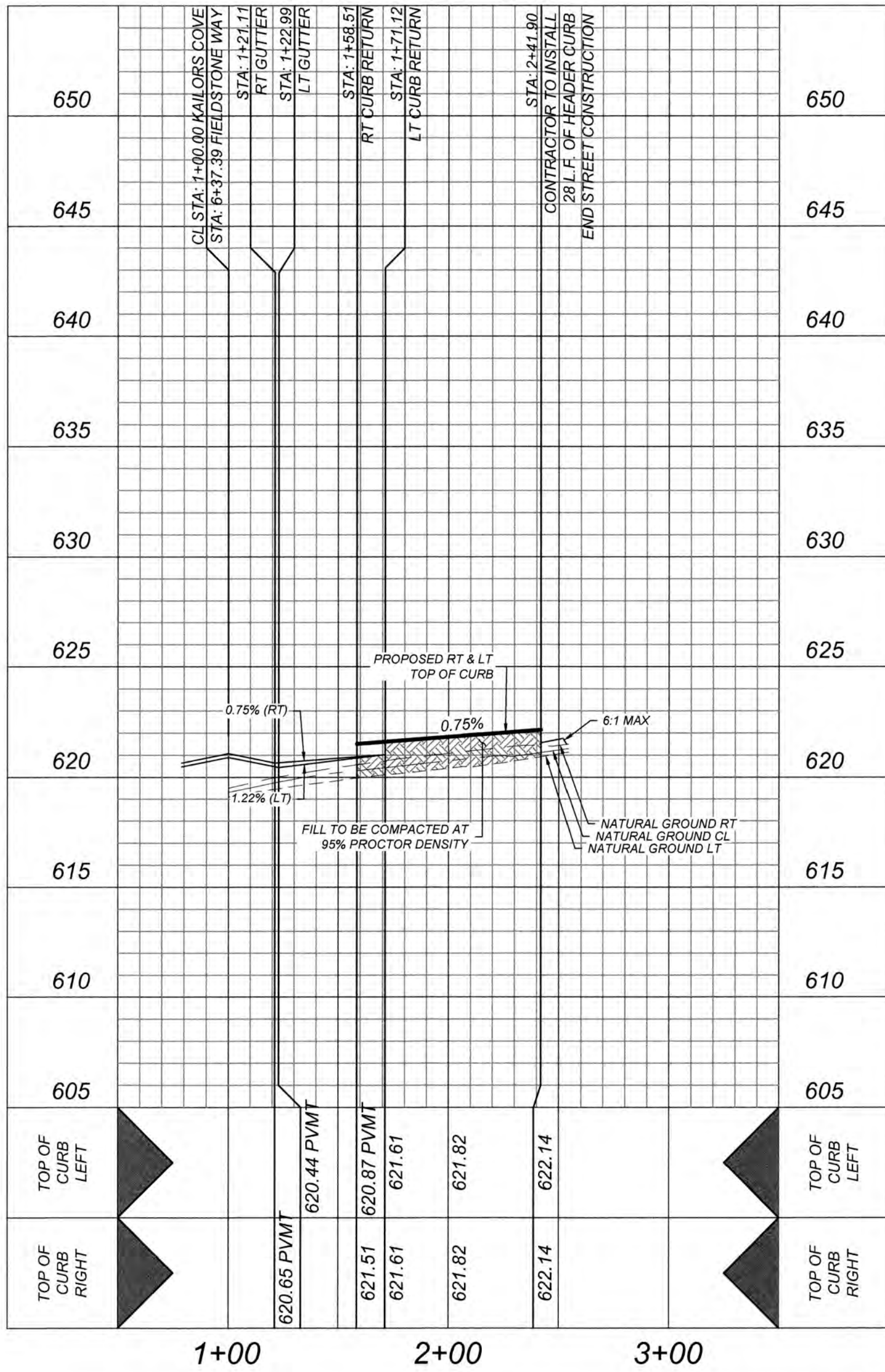
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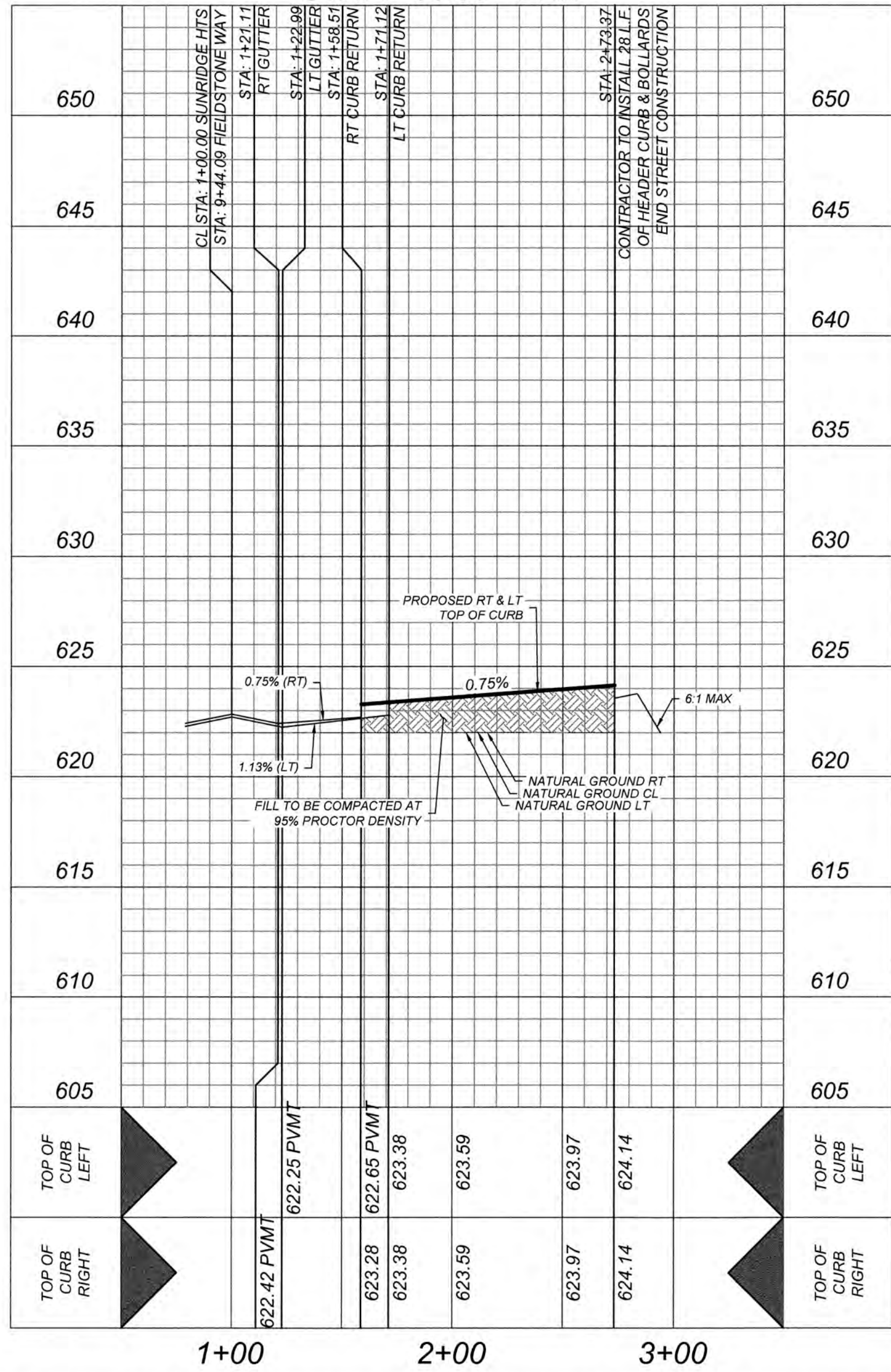
KAILORS COVE
STA: 1+00.00 - END

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



SUNRIDGE HTS
STA: 1+00.00 - END

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



LEGEND

- R.O.W. = RIGHT OF WAY
- G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
- = FLOW ARROW
- = WASHOUT CROWN
- ① = WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
- ② = WHEELCHAIR RAMP TYPE I SEE SHEET 5.11
- SDW = SINGLE DIRECTIONAL WHEELCHAIR RAMP
- = DUAL DIRECTIONAL WHEELCHAIR RAMP
- ===== = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
- = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
- ===== = PROPOSED DRIVEWAY LOCATION
- H.P. = HIGH POINT
- L.P. = LOW POINT
- E.O.P. = EDGE OF PAVEMENT

GATES SUBDIVISION UNIT 1

BEXAR COUNTY, TX

KAILORS COVE AND SUNRIDGE HTS PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

5.2

TRENCH EXCAVATION SAFETY PROTECTION

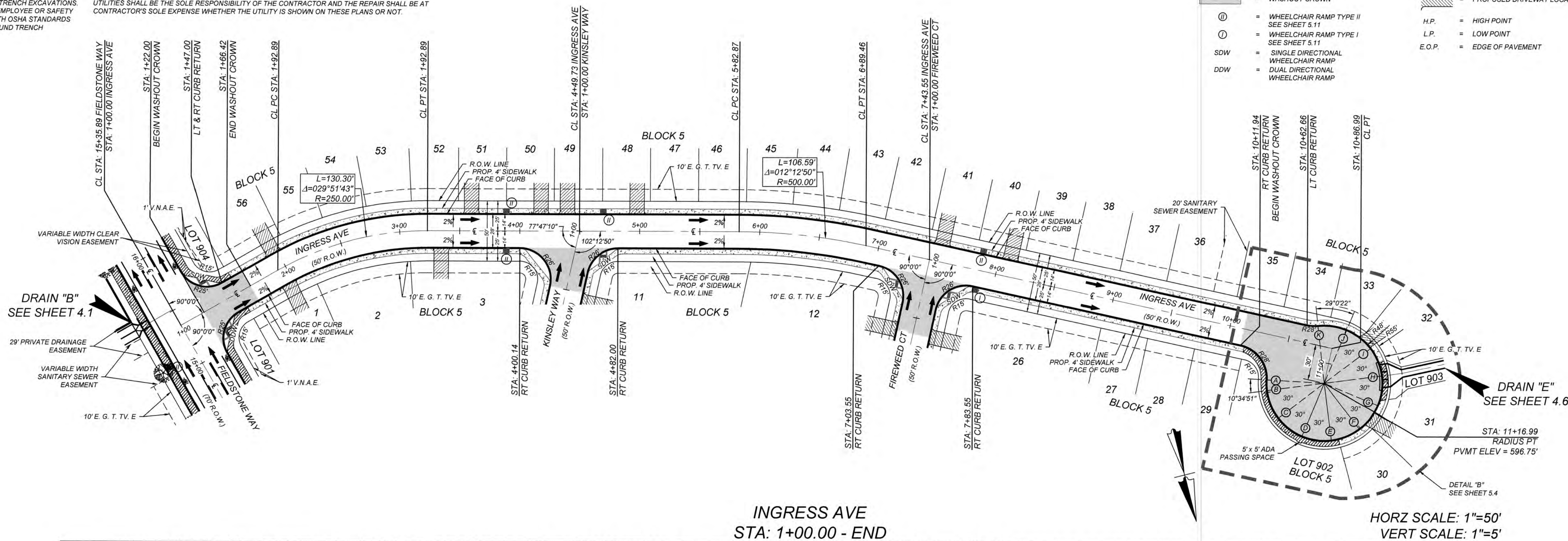
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGNER/TECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL, INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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 DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

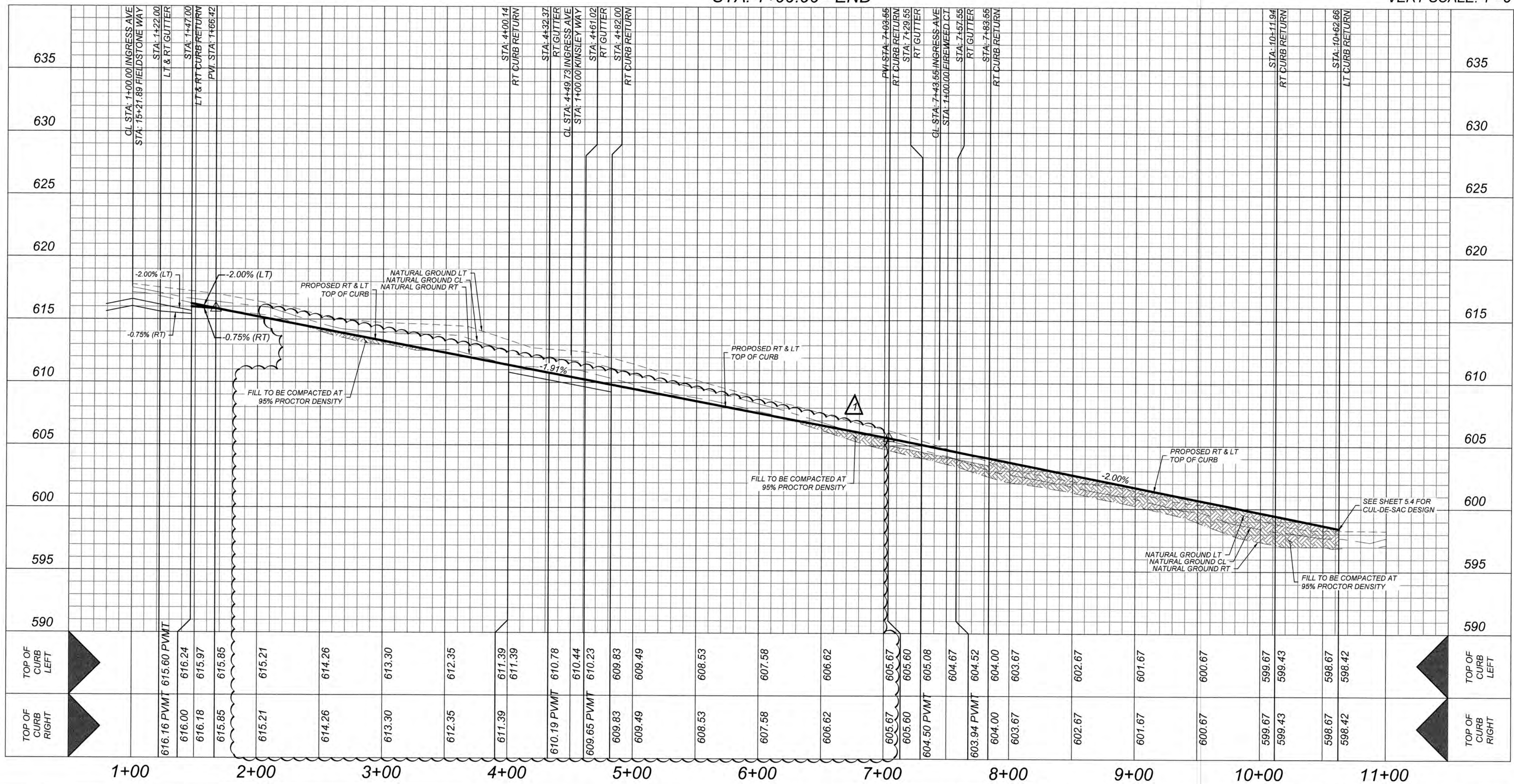
BEXAR COUNTY R.O.W. NOTE

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



INGRESS AVE
STA: 1+00.00 - END

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
INGRESS AVE PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

5.3

ENGINEERS + SURVEYING
3421 Passaic Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPCE Firm # 1513 • TBPCE Firm # 1012200

ISSUE DATE

REVISIONS

DESIGN



TRENCH EXCAVATION SAFETY PROTECTION

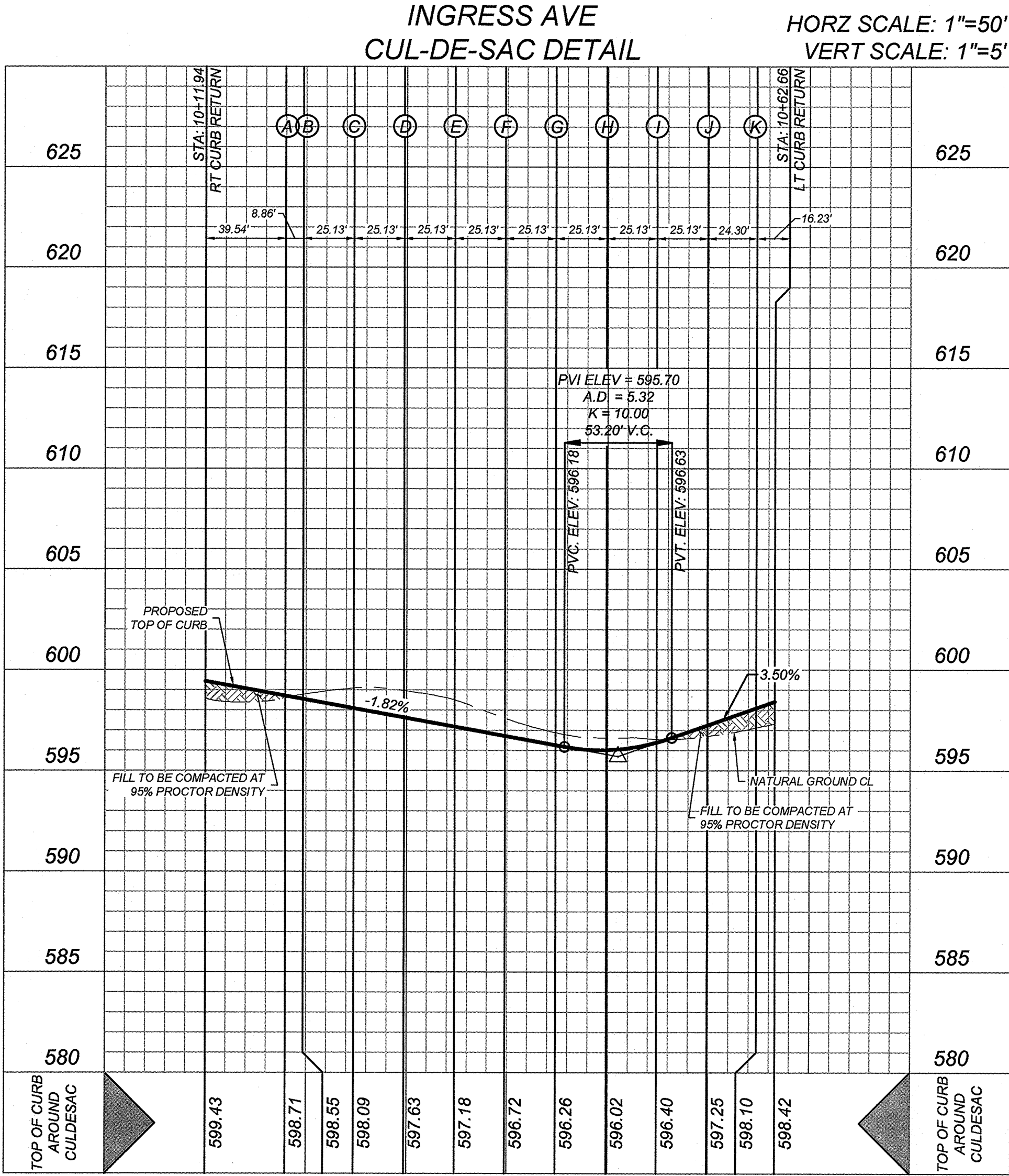
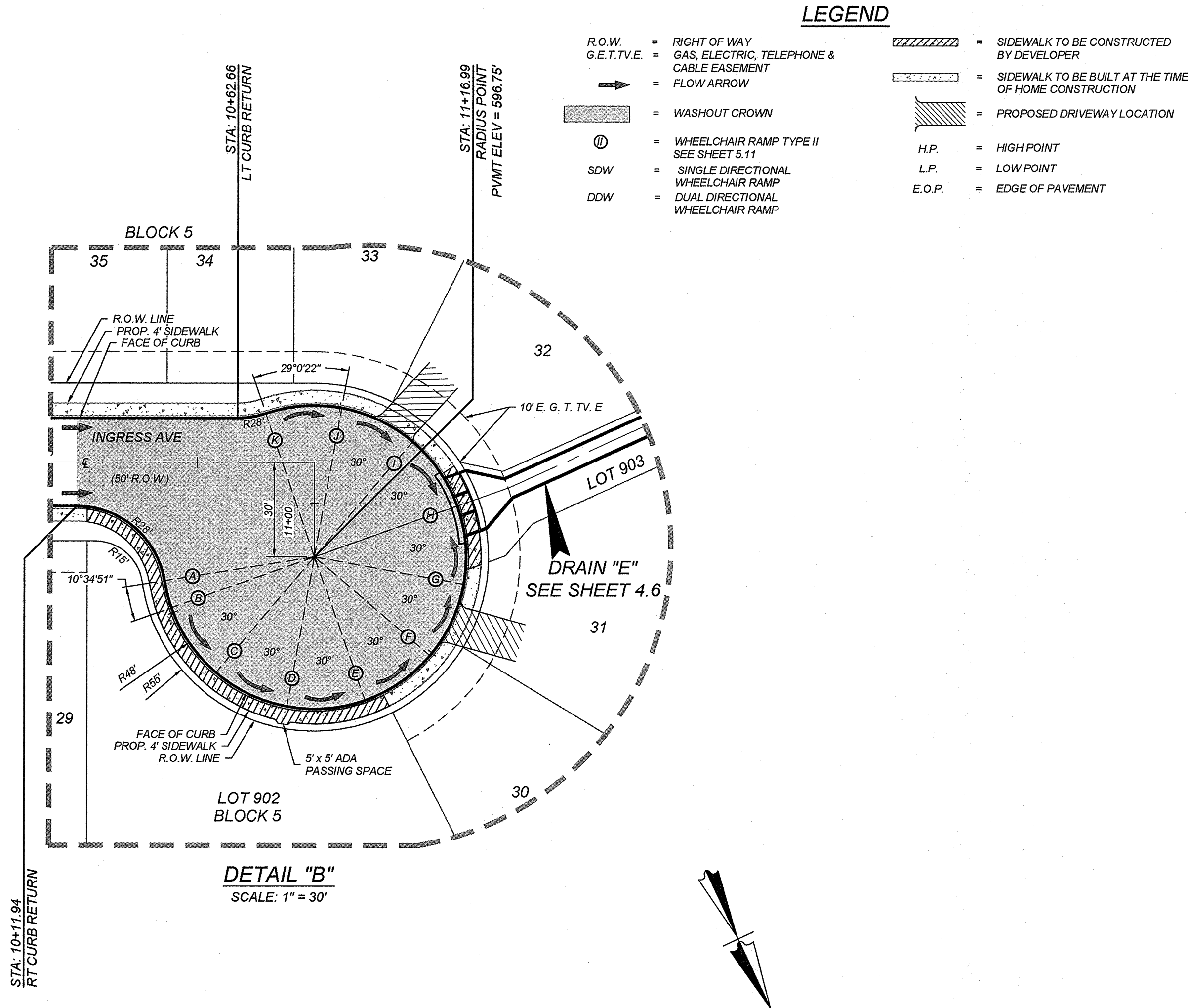
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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 DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

BEXAR COUNTY R.O.W. NOTE

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



TRENCH EXCAVATION SAFETY PROTECTION

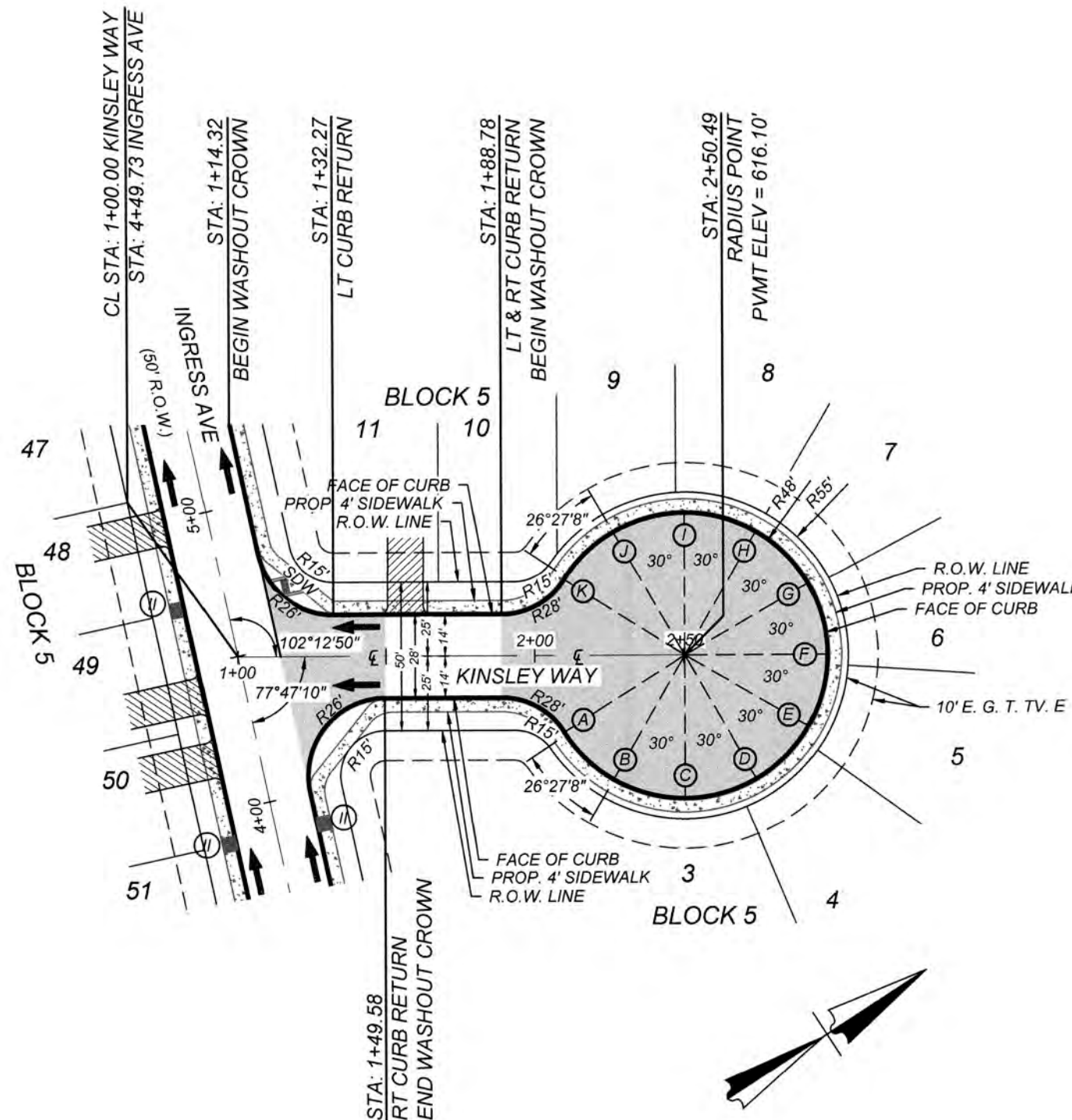
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

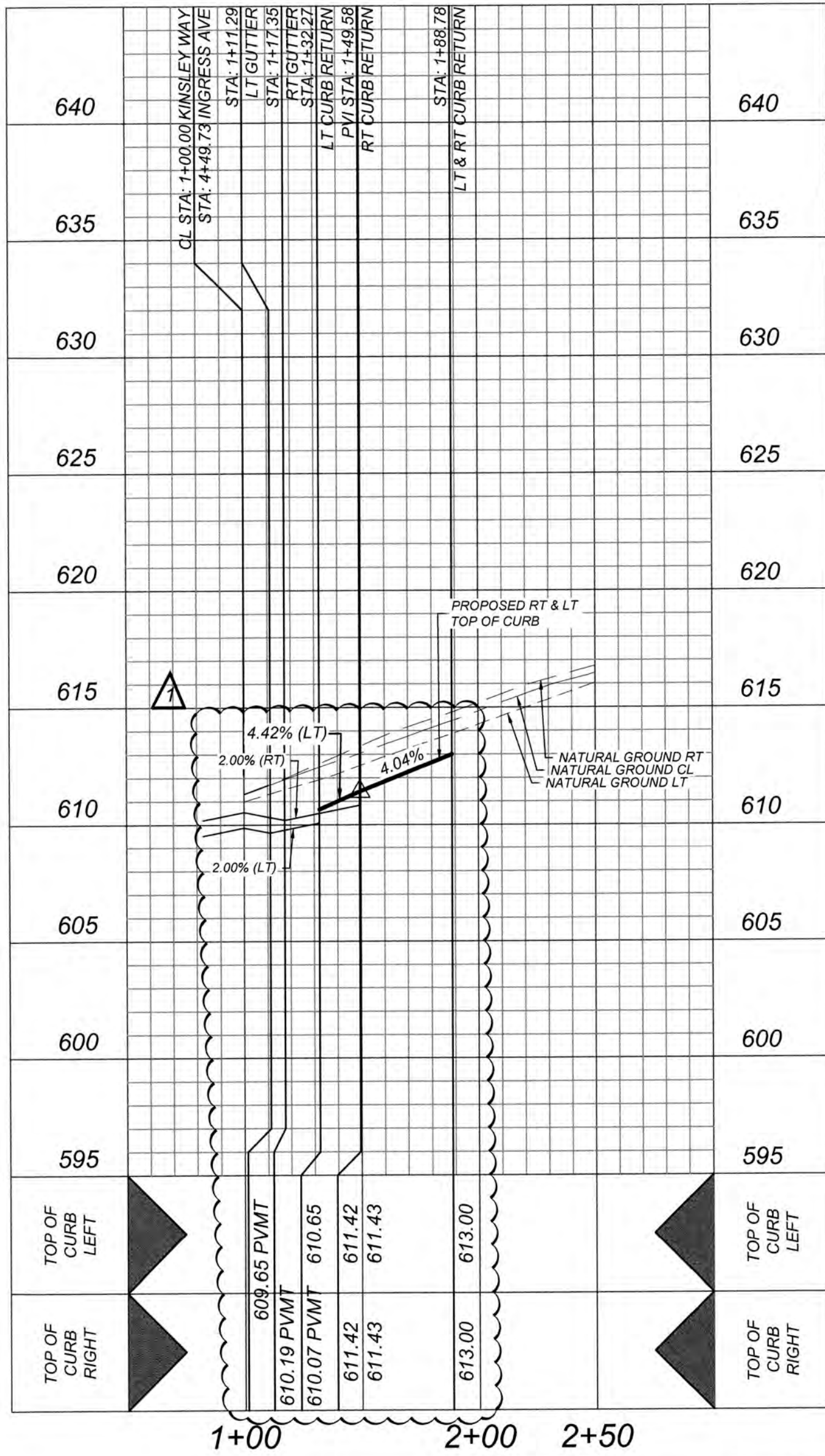
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT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

BEXAR COUNTY R.O.W. NOTE

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

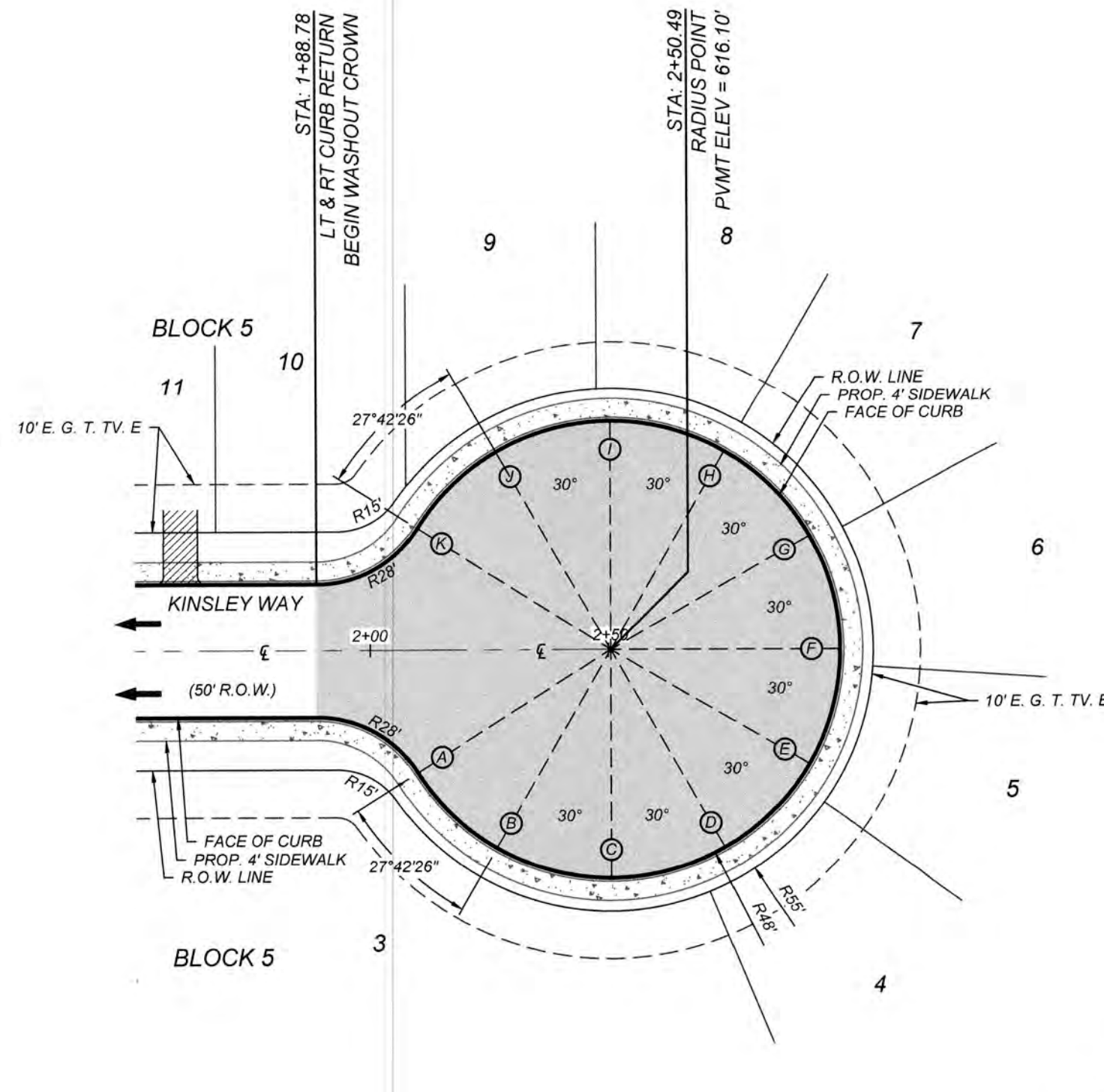


KINSLEY WAY
STA: 1+00.00 - END
HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'

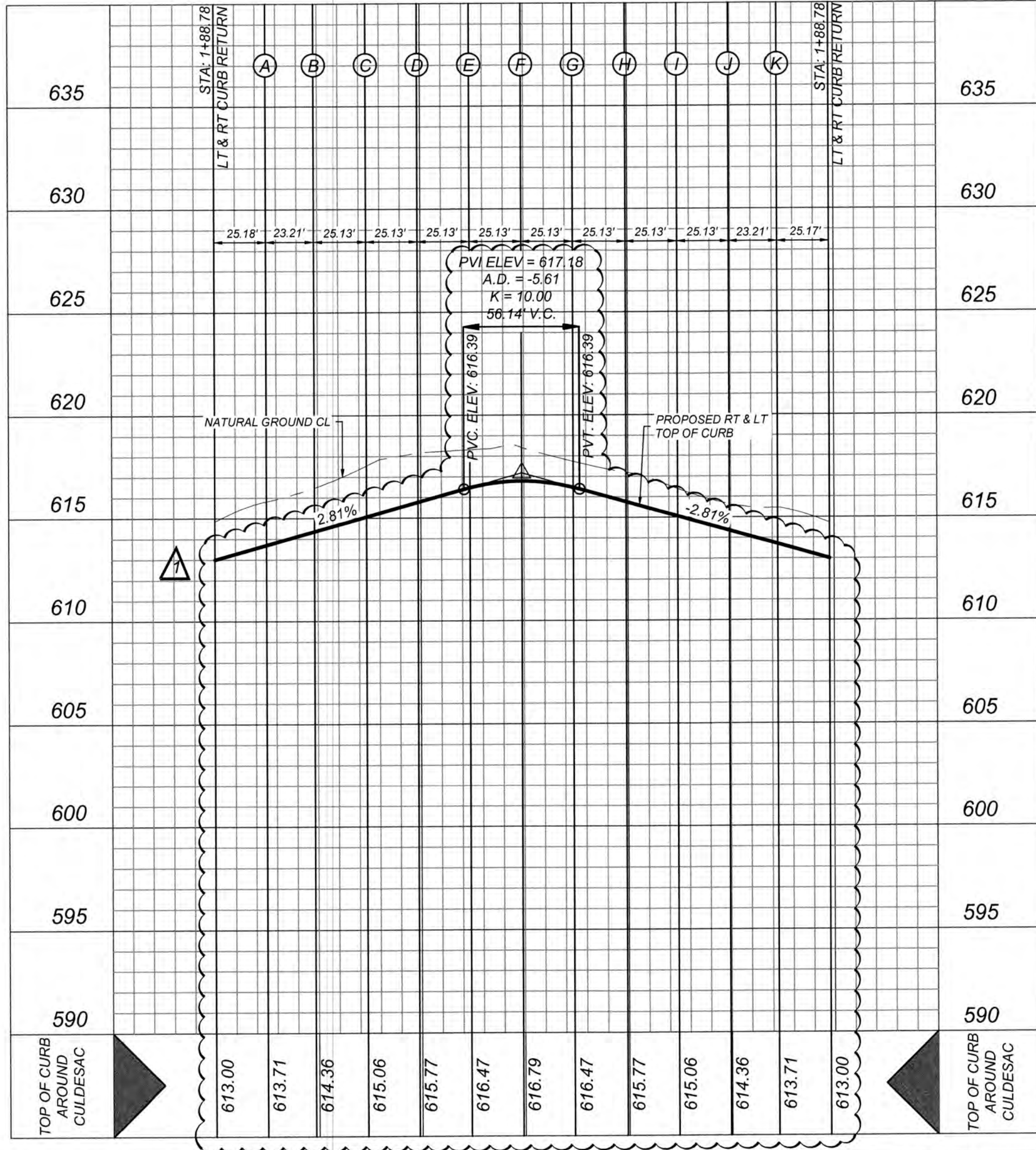


LEGEND

- R.O.W. = RIGHT OF WAY
- G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
- = FLOW ARROW
- = WASHOUT CROWN
- ⊙ = WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
- ⊙ = WHEELCHAIR RAMP TYPE I SEE SHEET 5.11
- SDW = SINGLE DIRECTIONAL WHEELCHAIR RAMP
- DDW = DUAL DIRECTIONAL WHEELCHAIR RAMP
- ===== = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
- = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
- = PROPOSED DRIVEWAY LOCATION
- H.P. = HIGH POINT
- L.P. = LOW POINT
- E.O.P. = EDGE OF PAVEMENT



CUL-DE-SAC DETAIL
HORZ SCALE: 1"=30'
VERT SCALE: 1"=5'



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
KINSLEY WAY PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

5.5

TRENCH EXCAVATION SAFETY PROTECTION

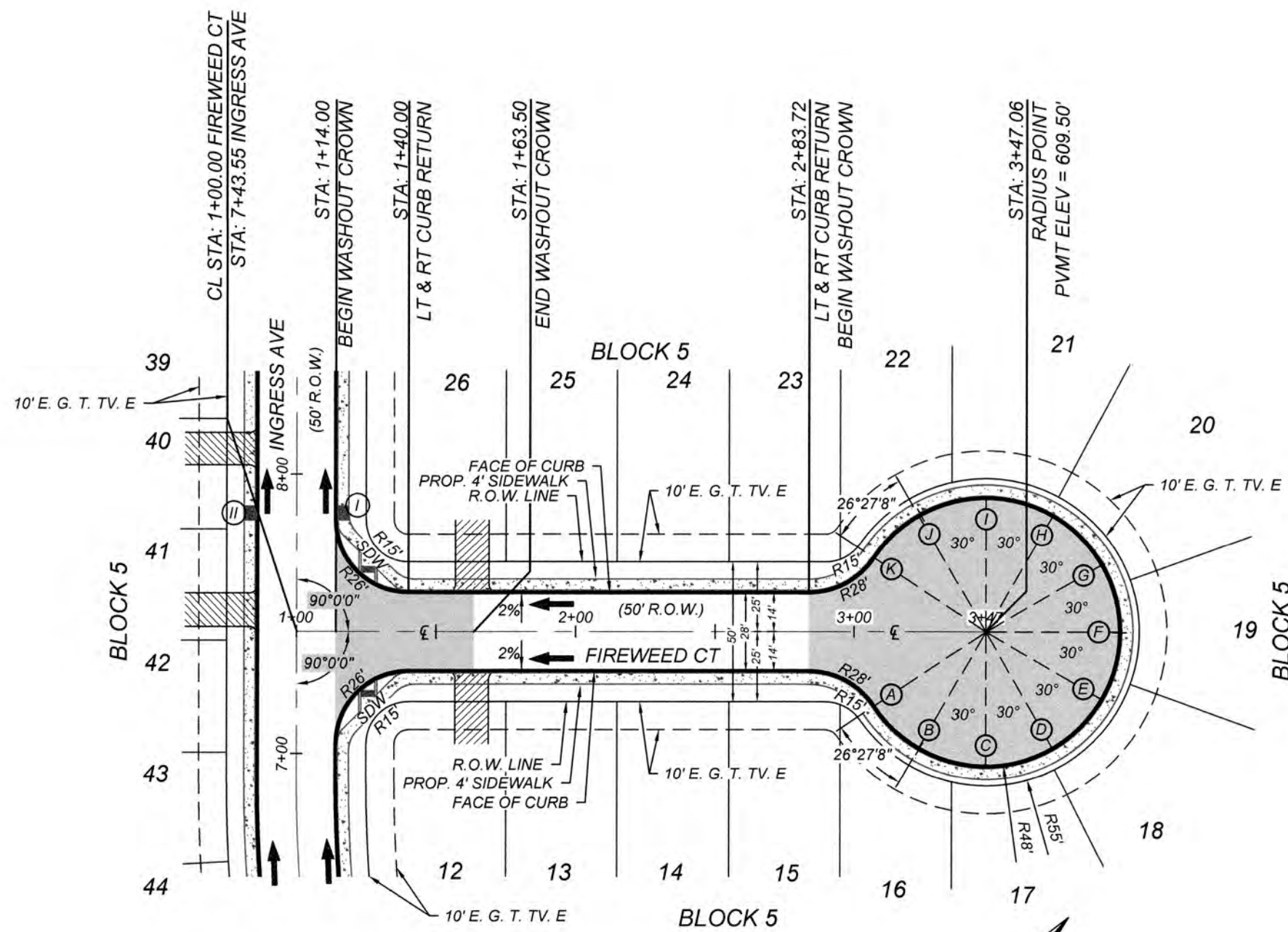
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CAUTION!!

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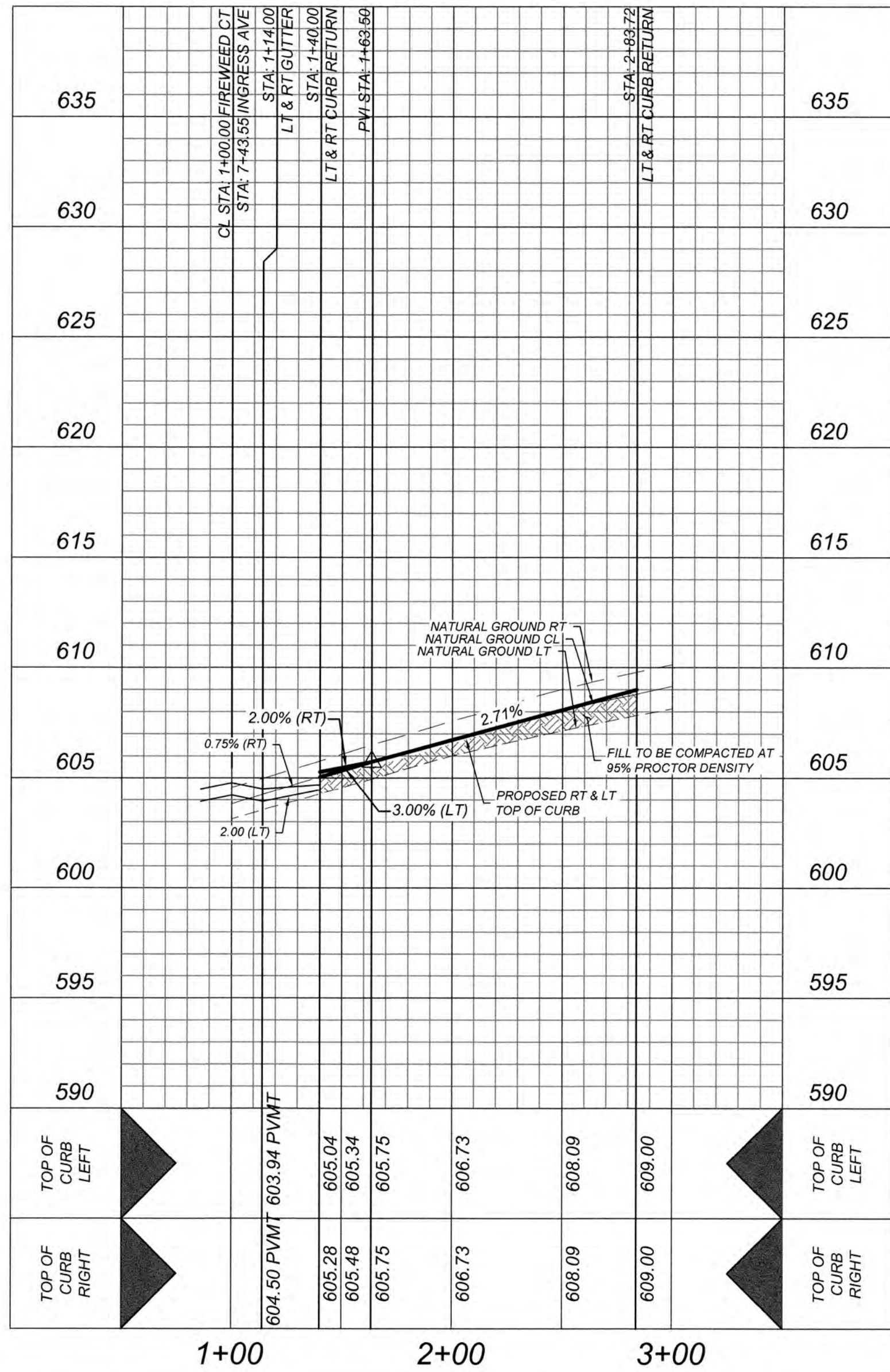
BEXAR COUNTY R.O.W. NOTE

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



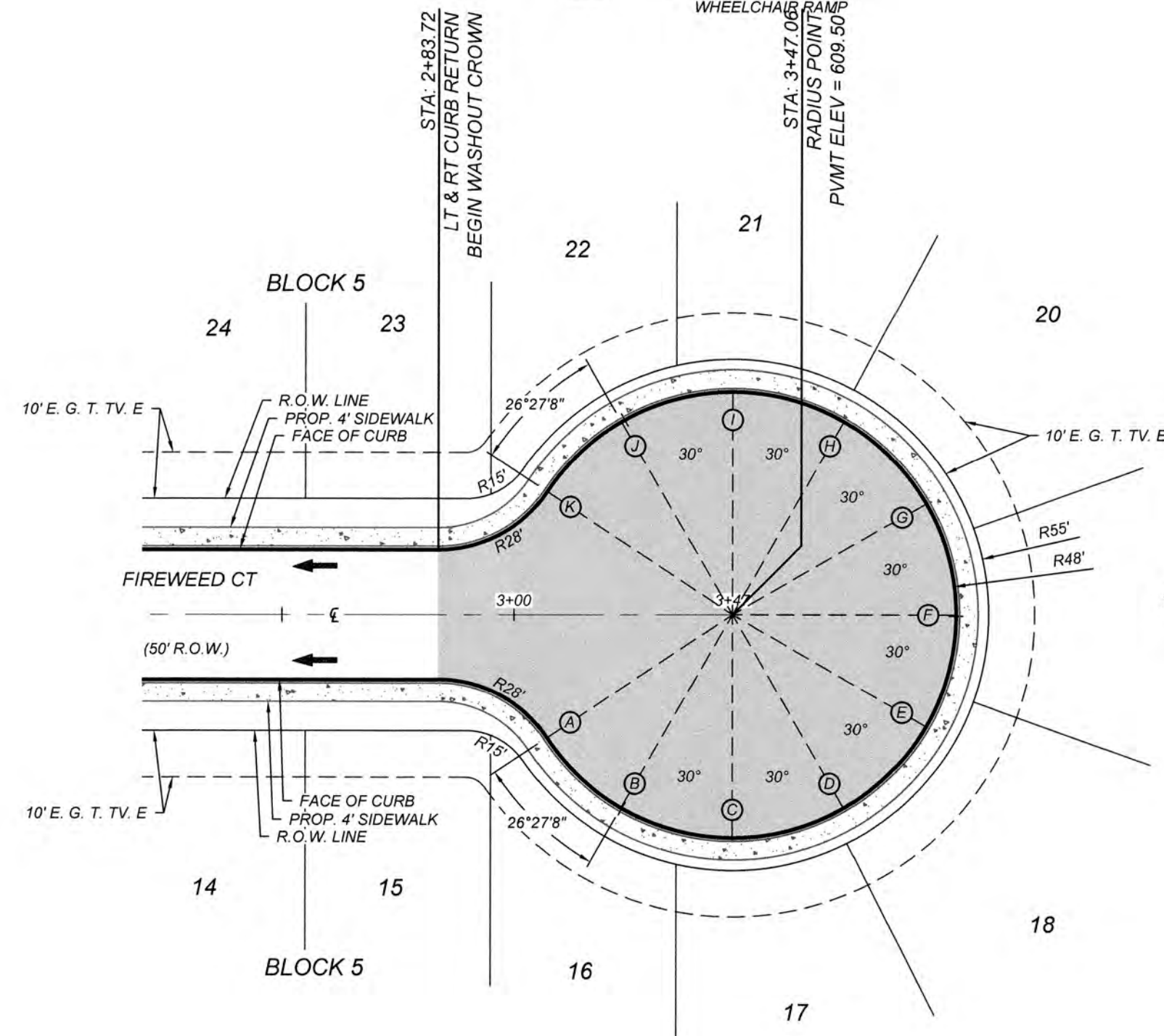
FIREWEED CT
STA: 1+00.00 - END

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



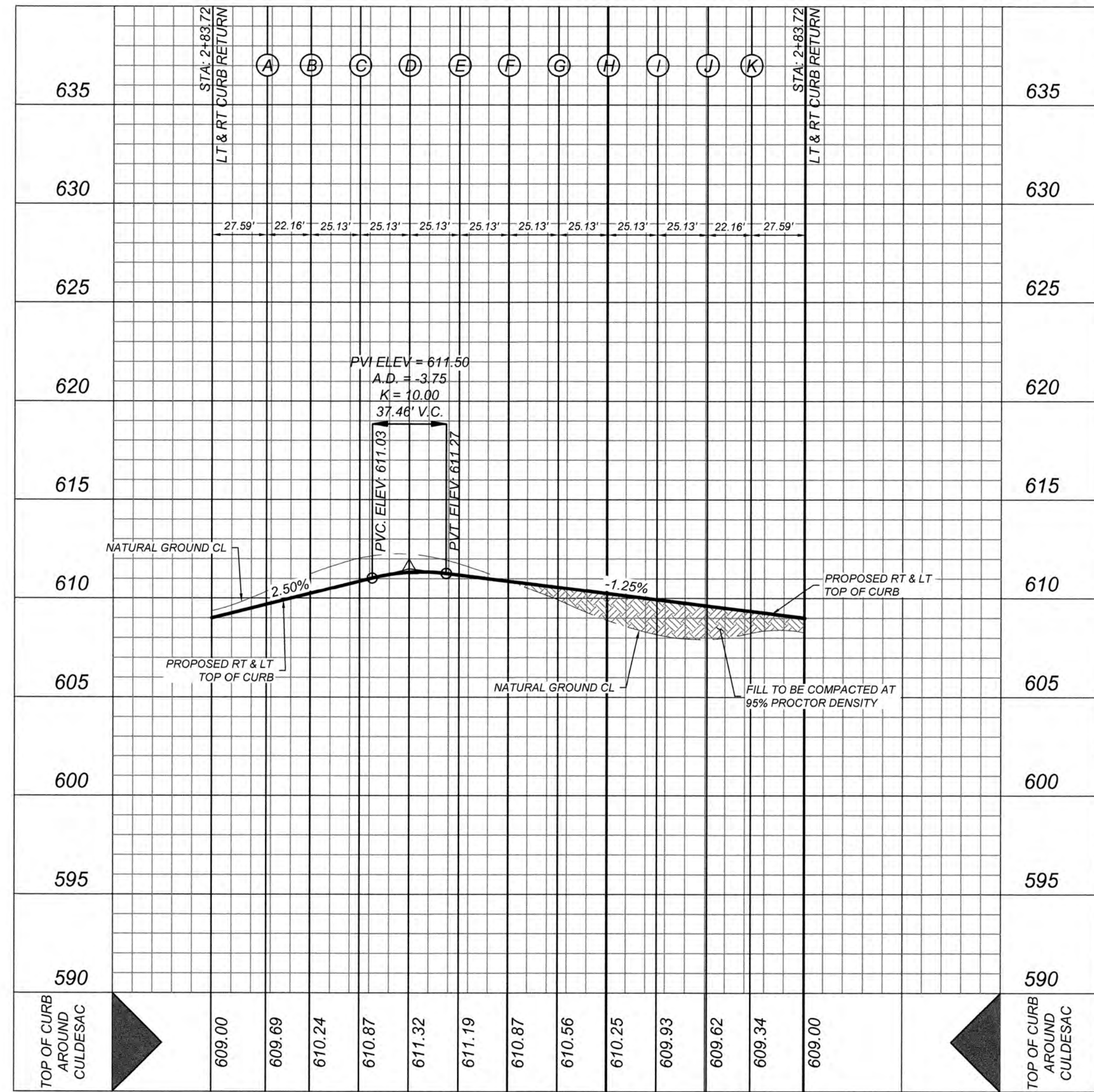
LEGEND

- R.O.W. = RIGHT OF WAY
G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
= FLOW ARROW
= WASHOUT CROWN
① = WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
② = WHEELCHAIR RAMP TYPE I SEE SHEET 5.11
SDW = SINGLE DIRECTIONAL WHEELCHAIR RAMP
DDW = DUAL DIRECTIONAL WHEELCHAIR RAMP
- ===== = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
===== = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
===== = PROPOSED DRIVEWAY LOCATION
H.P. = HIGH POINT
L.P. = LOW POINT
E.O.P. = EDGE OF PAVEMENT



CUL-DE-SAC DETAIL

HORZ SCALE: 1"=30'
VERT SCALE: 1"=5'



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
FIREWEED CT PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

5.6

TRENCH EXCAVATION SAFETY PROTECTION

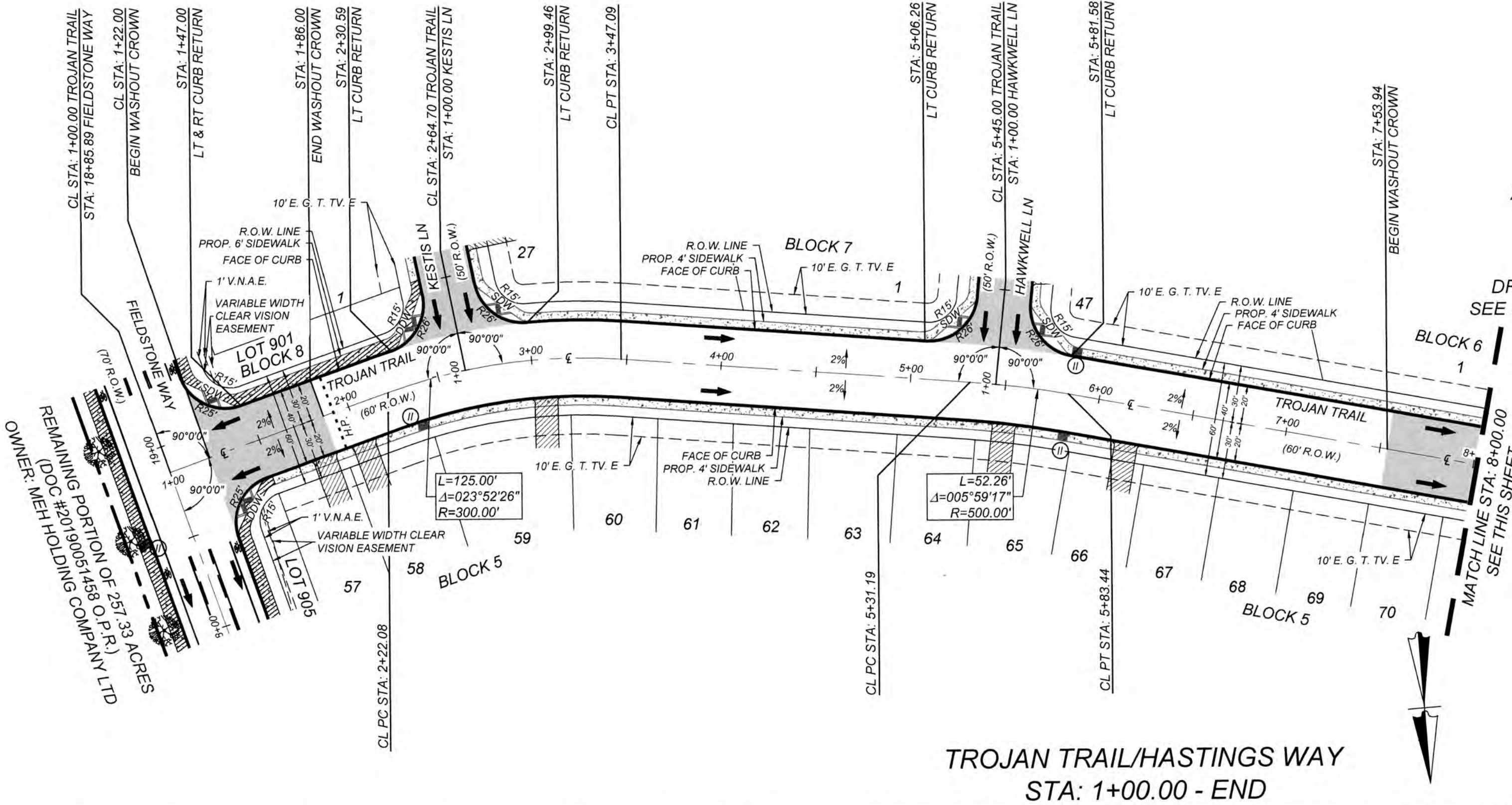
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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 ELECTRICAL, SECONDARY ELECTRICAL, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

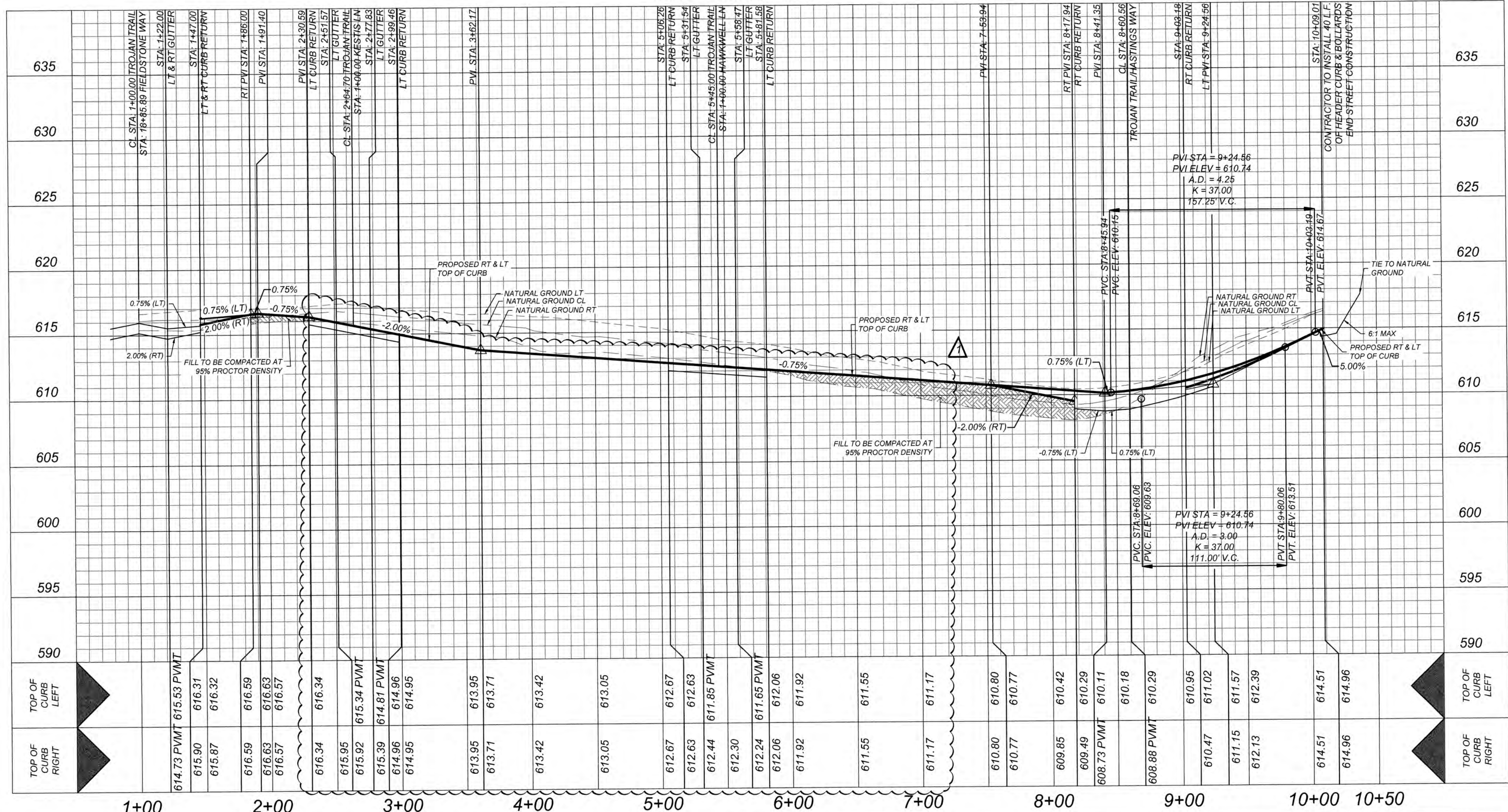
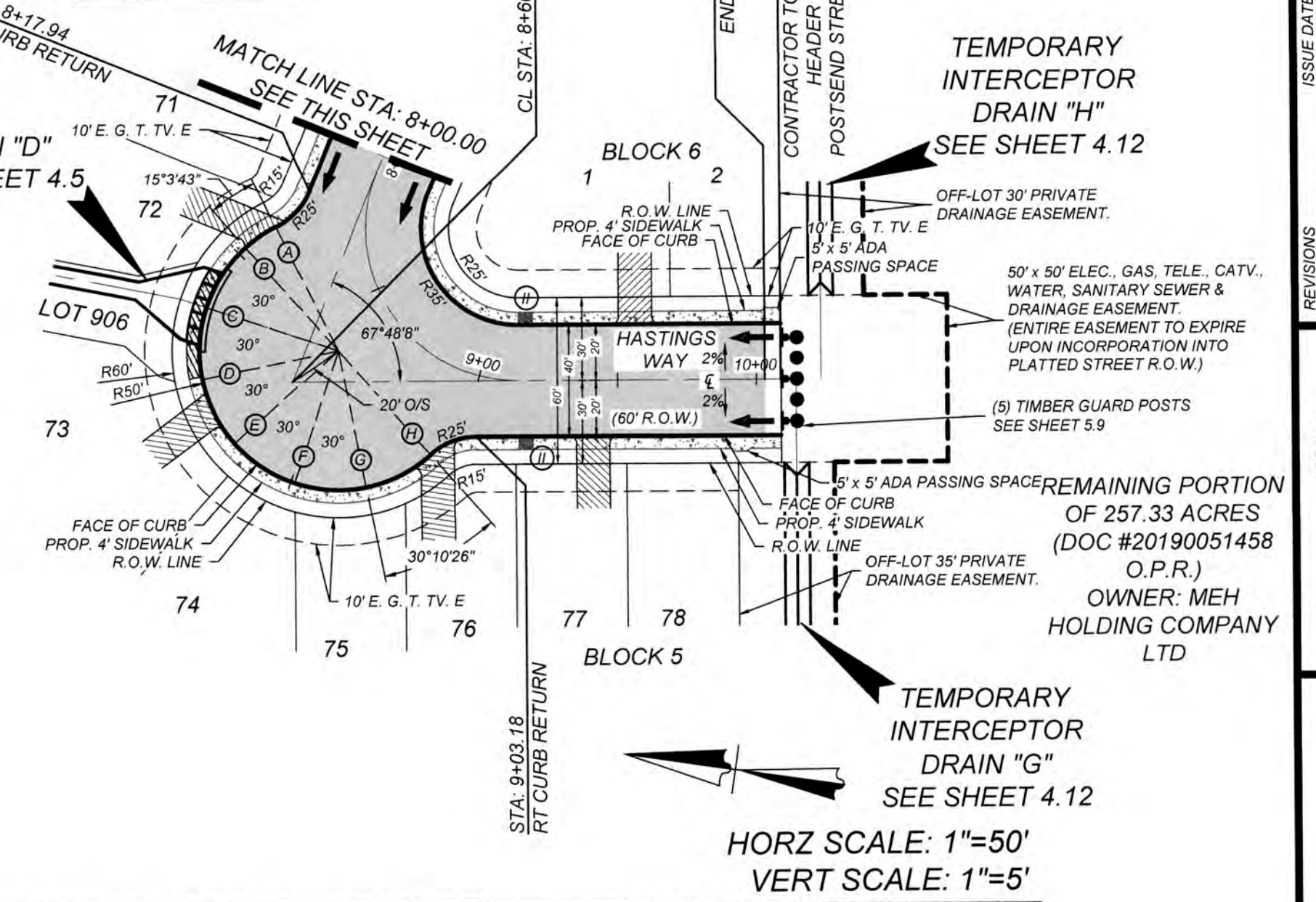
BEXAR COUNTY R.O.W. NOTE

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



CULDESAC ELEVATIONS	
STATION	TOP OF CURB ELEVATION
A	609.42
B	609.04
C	608.49
D	608.63
E	608.51
F	610.21
G	610.31
H	610.39

LEGEND	
R.O.W.	= RIGHT OF WAY
G.E.T.V.E.	= GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
→	= FLOW ARROW
—	= WASHOUT CROWN
⊙	= WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
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SDW	= SINGLE DIRECTIONAL WHEELCHAIR RAMP
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	= SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
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—	= PROPOSED DRIVEWAY LOCATION
H.P.	= HIGH POINT
L.P.	= LOW POINT
E.O.P.	= EDGE OF PAVEMENT



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
TROJAN TRAIL & HASTINGS WAY PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

5.7

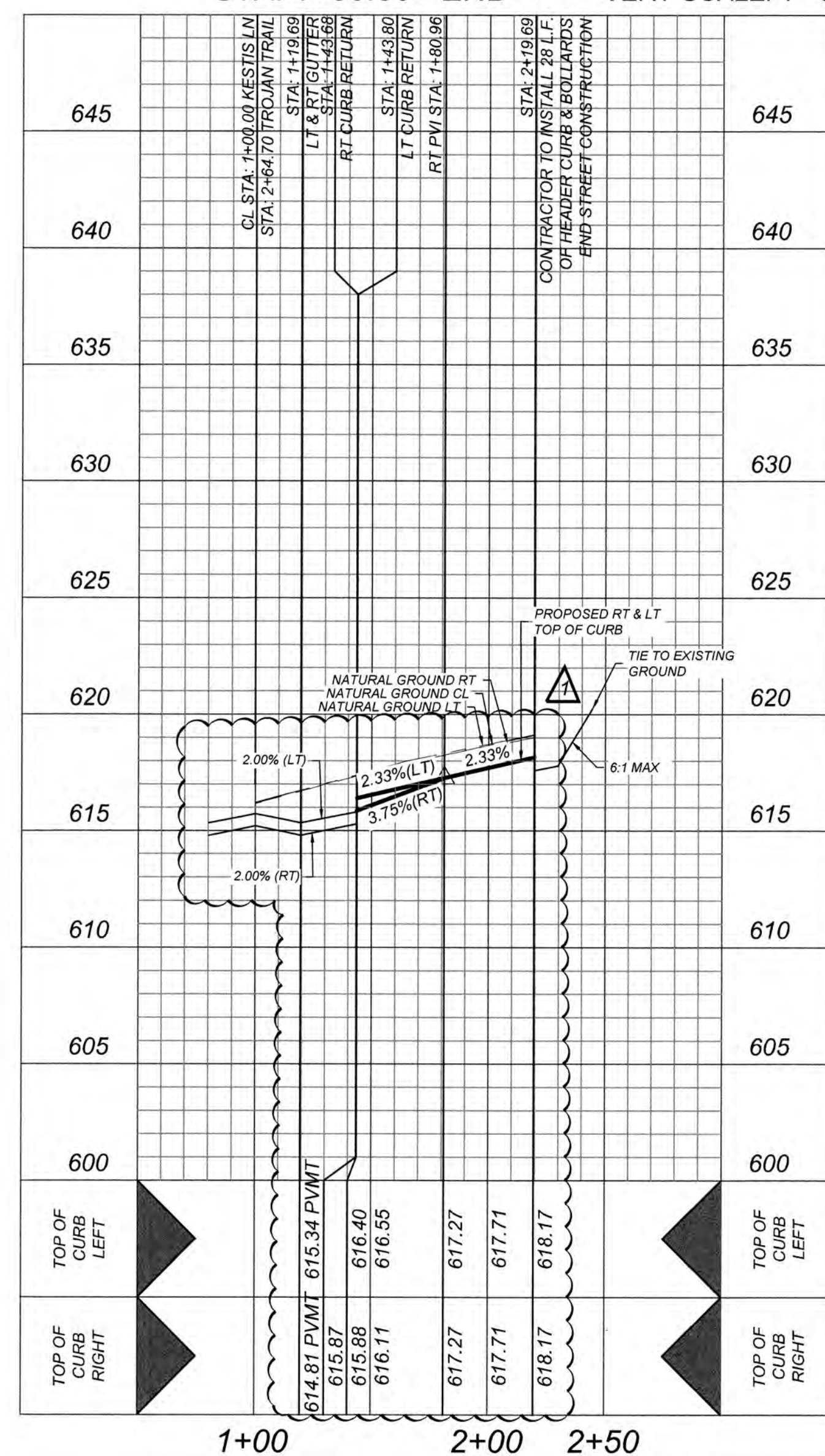


ENGINEERS & SURVEYING
3421 Eastview, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TPE Firm #: 9513 • TPE License #: 1012200

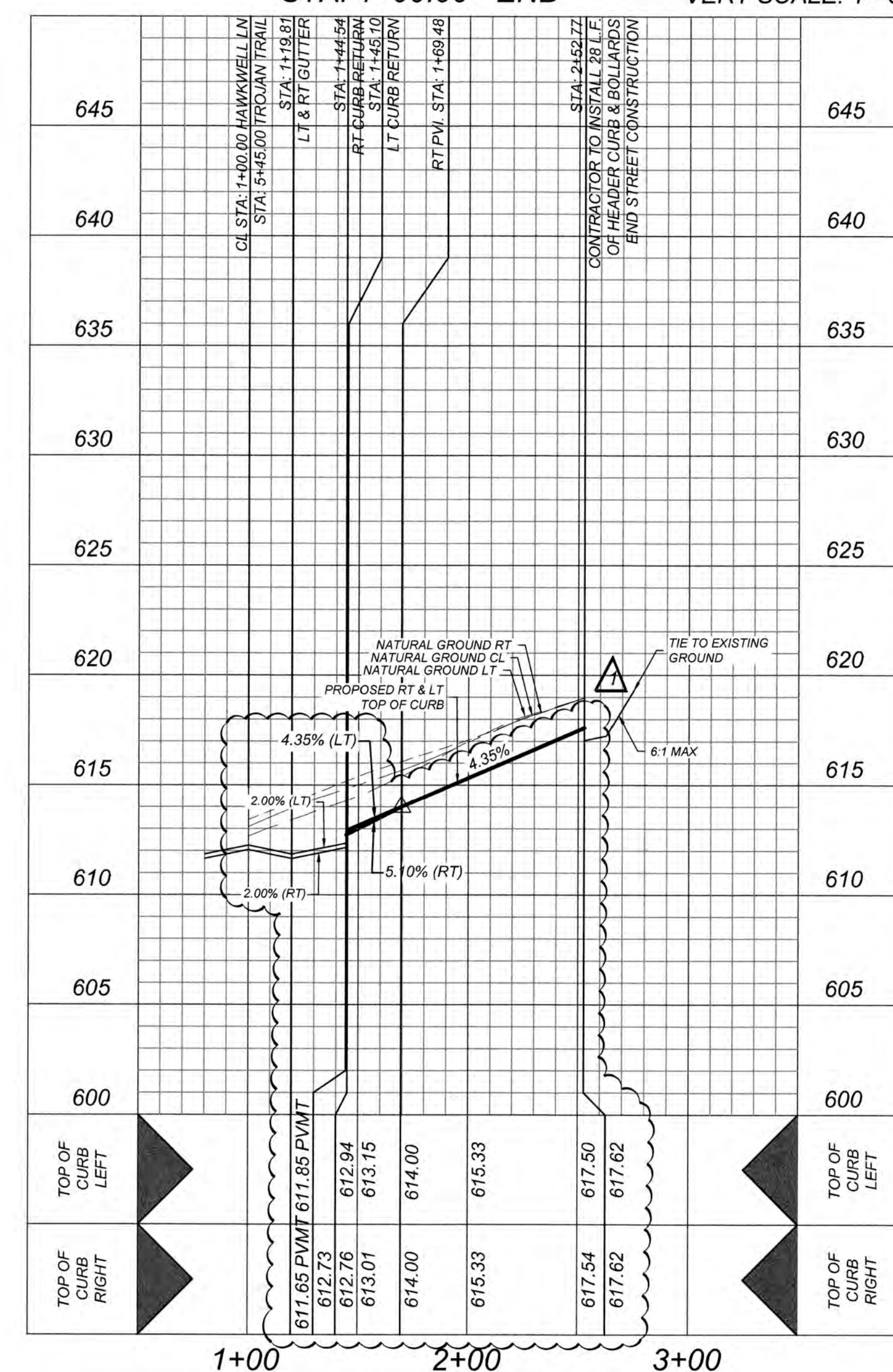
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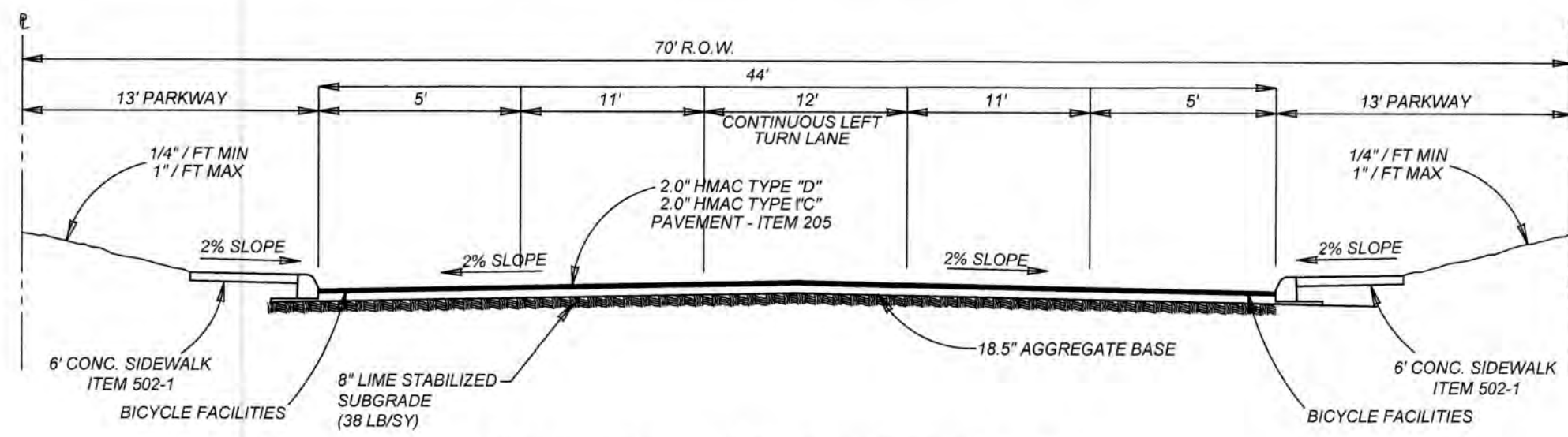
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A BEXAR COUNTY PERMIT MUST BE
OBTAINED BEFORE WORKING IN
BEXAR COUNTY R.O.W.



R.O.W.	=	RIGHT OF WAY		=	SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
G.E.T.V.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT			
	=	FLOW ARROW		=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
	=	WASHOUT CROWN		=	PROPOSED DRIVEWAY LOCATION
Ⓜ	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.11	H.P.	=	HIGH POINT
Ⓛ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.11	L.P.	=	LOW POINT
			E.O.P.	=	EDGE OF PAVEMENT

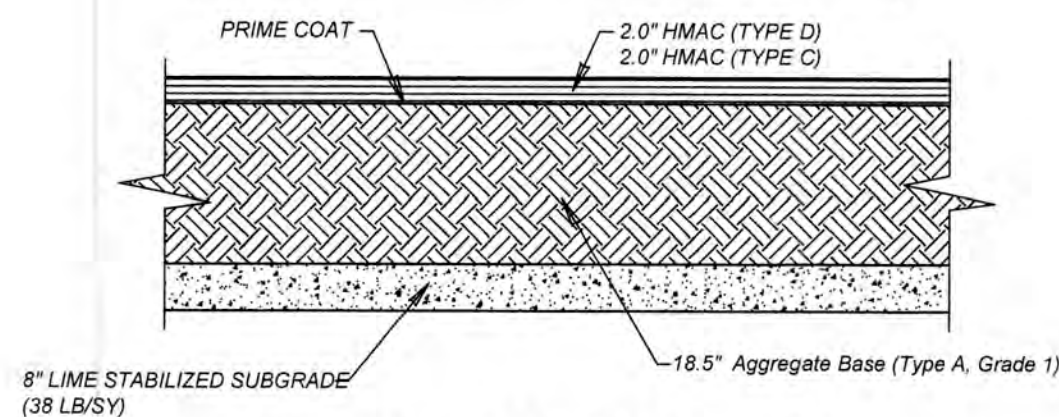




TYPICAL COLLECTOR STREET SECTION

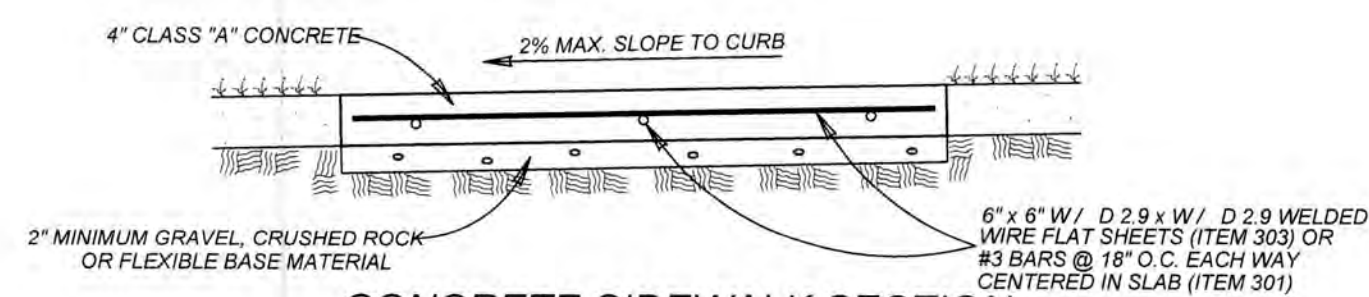
NOT TO SCALE
USE COLLECTOR STREET SECTION FOR STREETS BELOW:
FIELDSTONE WAY, STA: 1+00.00 - END

Pavement Section
2.0\"/>

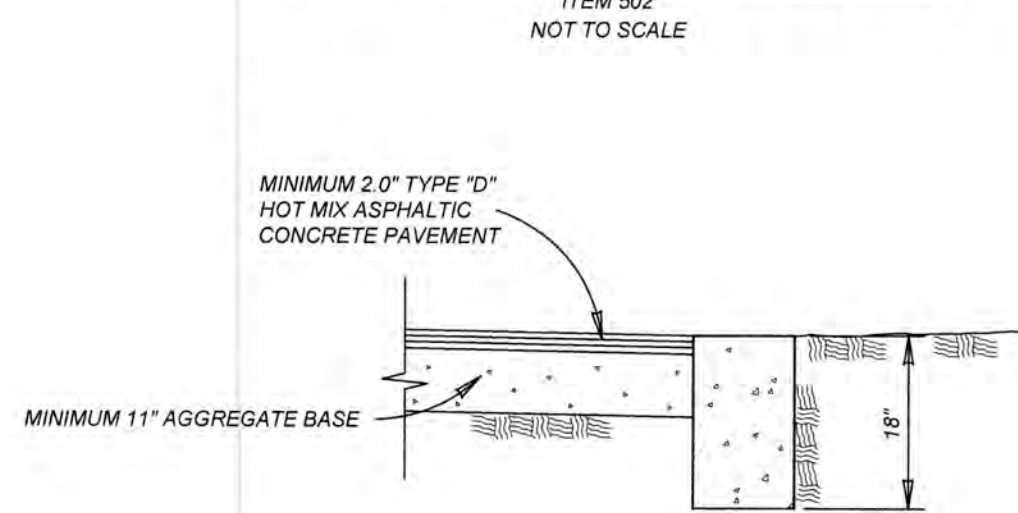


ASPHALT PAVEMENT DETAIL
DETAIL FOR ALL COLLECTORS

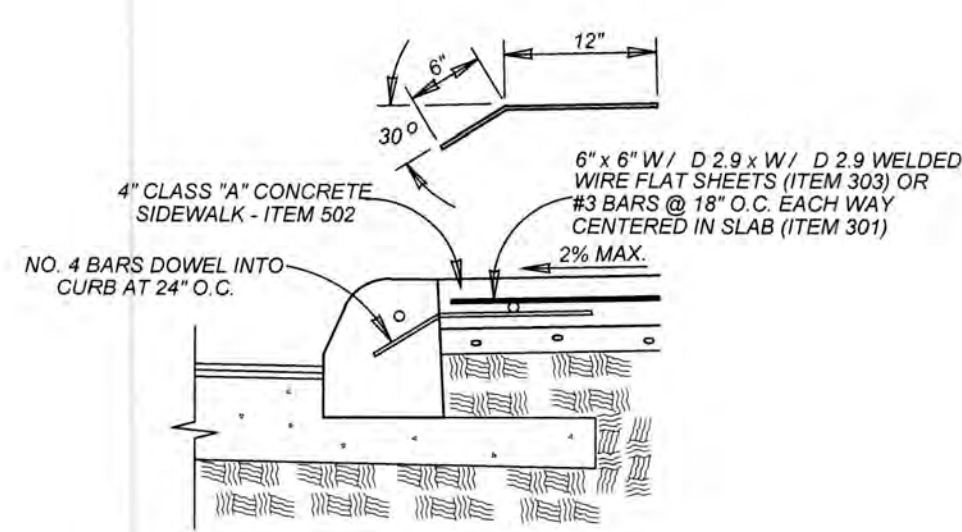
- NOTES:
1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, LLC, PROJECT NO. S211512 DATED DECEMBER 18, 2021.
 2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
 4. 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.



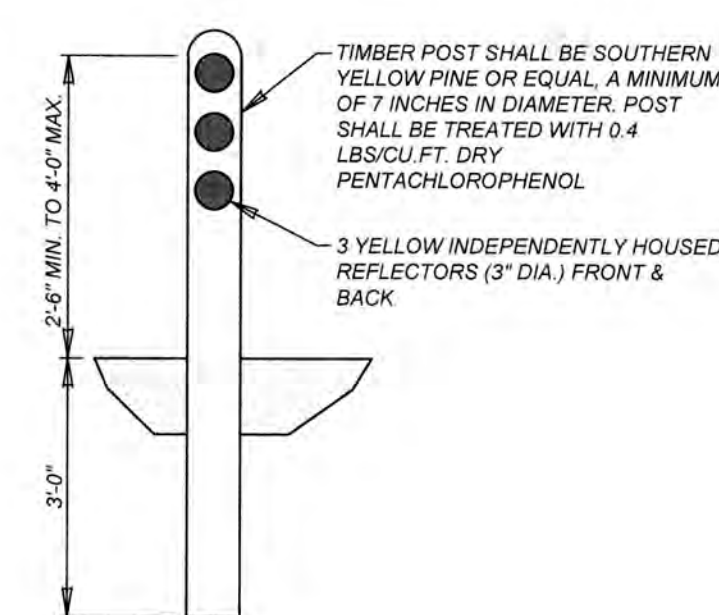
CONCRETE SIDEWALK SECTION



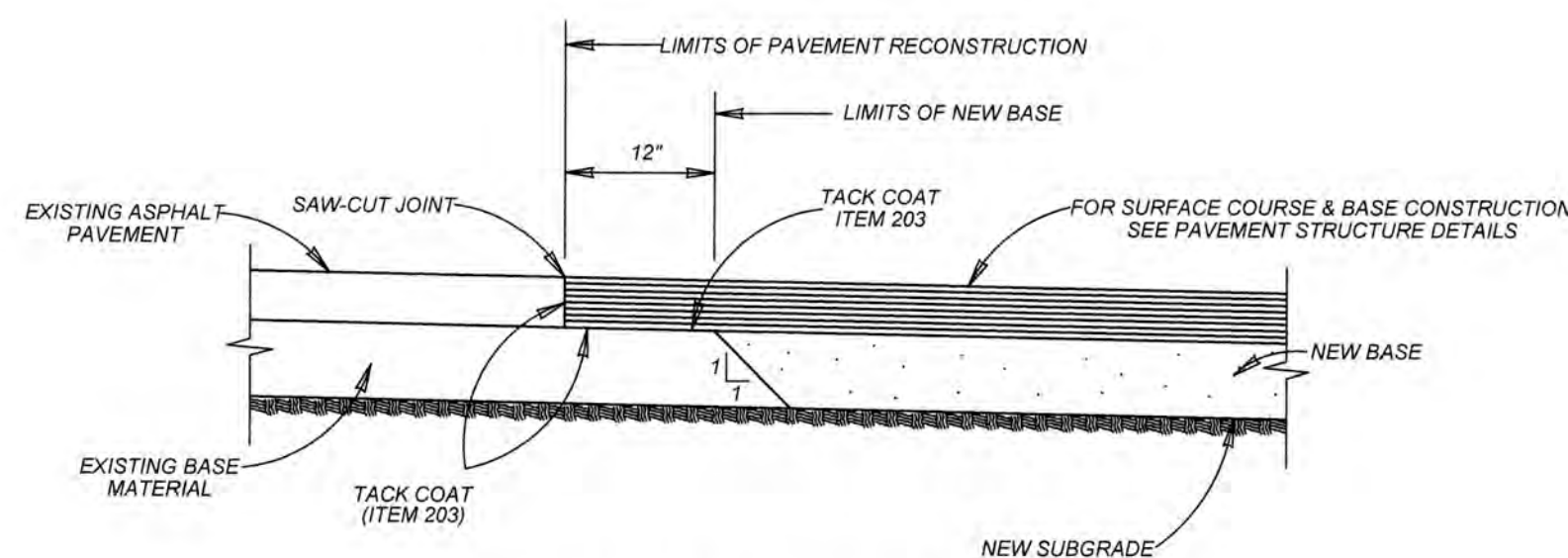
HEADER CURB
ITEM 500 ON SAND OR GRAVEL
NOT TO SCALE



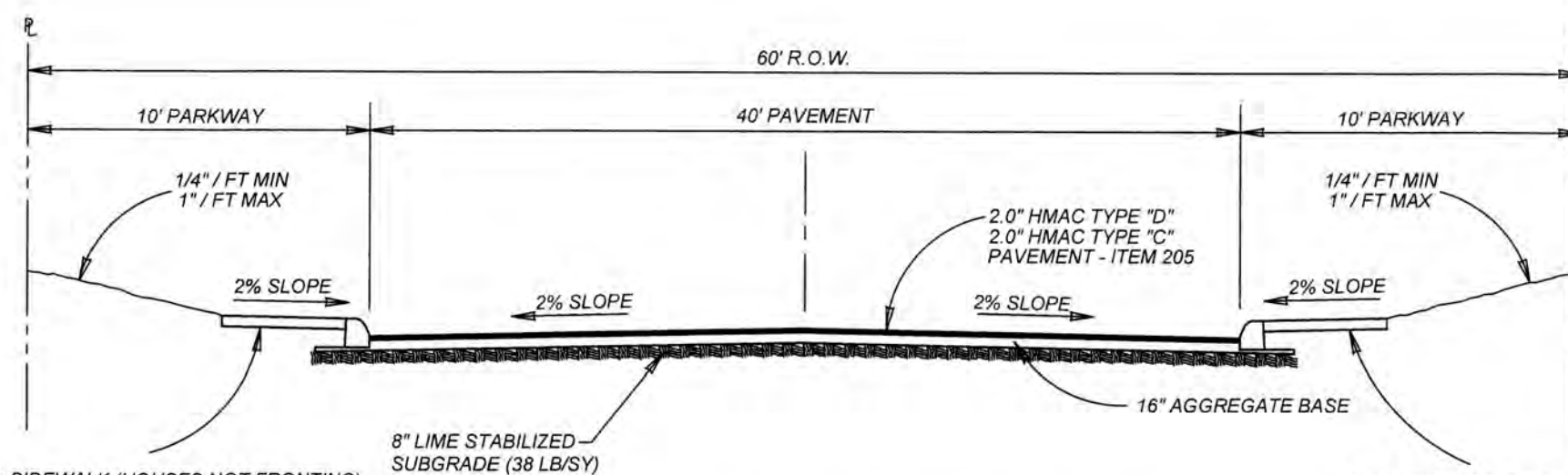
CONCRETE SIDEWALK ABUTTING CURB SECTION
ITEM 502
NOT TO SCALE



TIMBER GUARD POST DETAIL
NOT-TO-SCALE



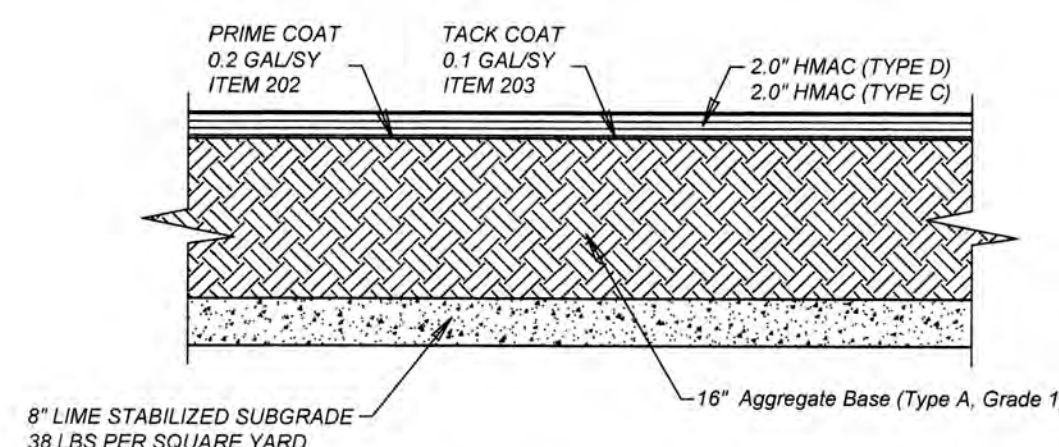
PAVEMENT JUNCTION DETAILS
NOT TO SCALE



TYPICAL LOCAL \"B\" STREET SECTION

NOT TO SCALE
USE LOCAL \"B\" STREET SECTION FOR STREETS:
TROJAN TRAIL/HASTINGS WAY, STA: 1+00.00 - END

Pavement Section
2.0\"/>



ASPHALT PAVEMENT DETAIL
DETAIL FOR ALL LOCAL TYPE B

- NOTES:
1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, LLC, PROJECT NO. S211512 DATED DECEMBER 18, 2021.
 2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
 4. CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.

GENERAL NOTES:

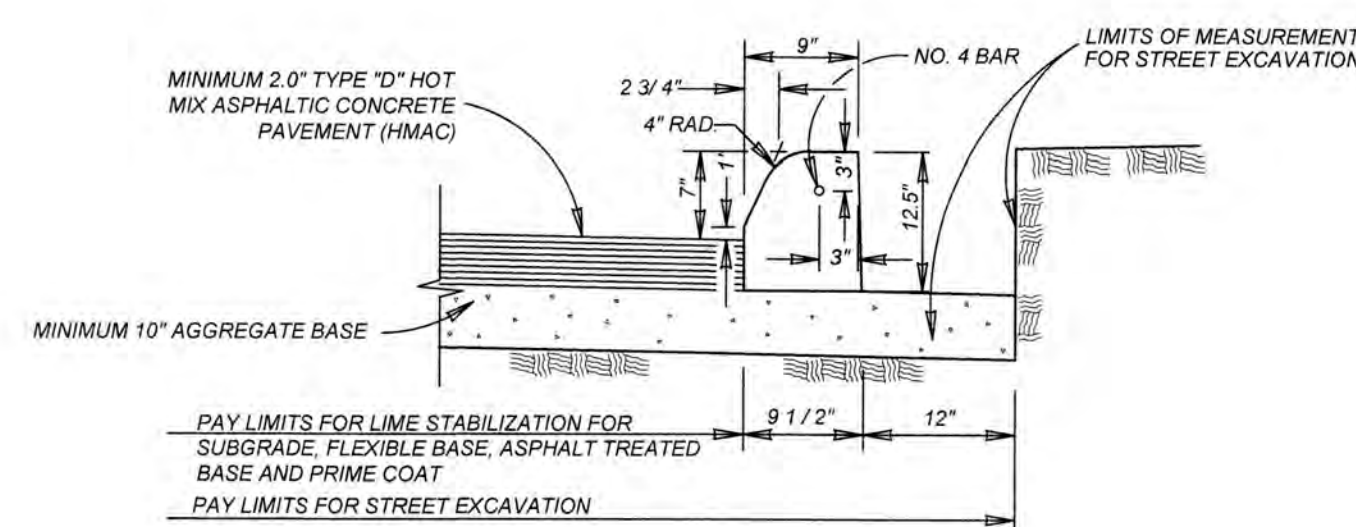
1. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
2. THE APPLICATION RATE OF LIME SHALL BE DETERMINED BASED ON LABORATORY TESTING AND SHALL BE THE LOWEST PERCENTAGE OF LIME THAT PROVIDES AN UNCONFINED COMPRESSIVE STRENGTH (UCS) AT 7-DAYS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

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

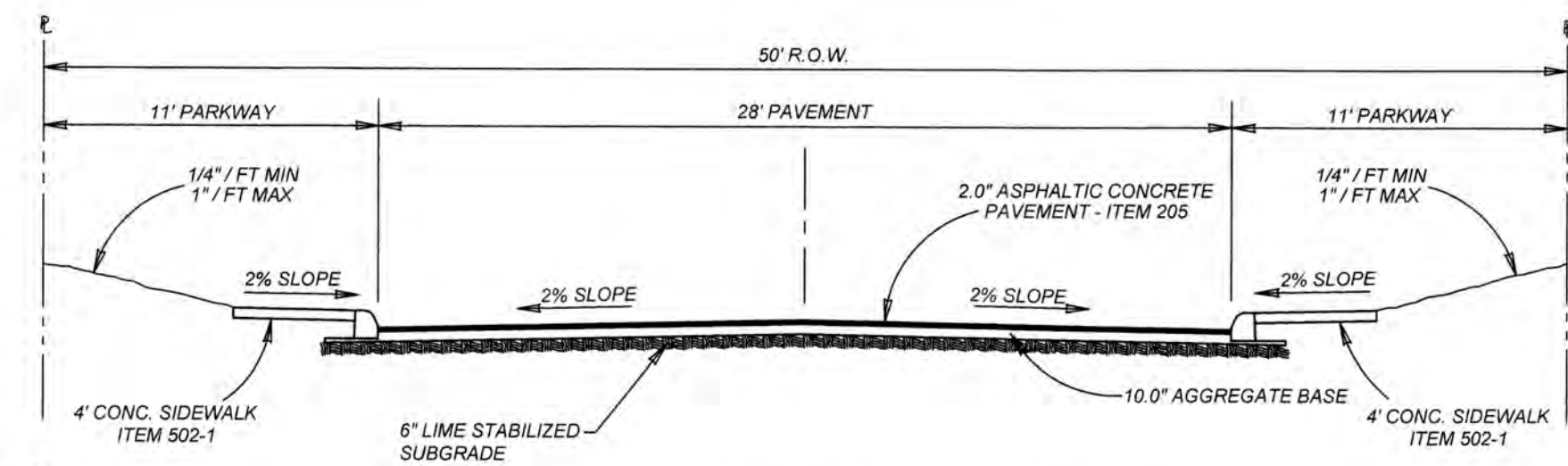
1. AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS, MAINTAIN MOISTURE DURING MELLOWING.
2. AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE 3/4 INCH SIEVE FROM THE SAMPLE):
MINIMUM PASSING 1 1/2\"/>
3. SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD) IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
4. COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED)
5. CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
6. VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ± 1.0 INCH.

NOTES:

- ANY FILL USED TO RAISE THE SUBGRADE:
- SHOULD NOT CONTAIN ANY DELETERIOUS MATERIAL.
- SHOULD HAVE A CBR VALUE OF 2.5 OR GREATER
- SHOULD HAVE THE \"LIME PERCENTAGE/APPLICATION RATE\" RE-EVALUATED AND TESTED PRIOR TO INSTALLATION
- PI SHOULD BE A MAXIMUM OF 50



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

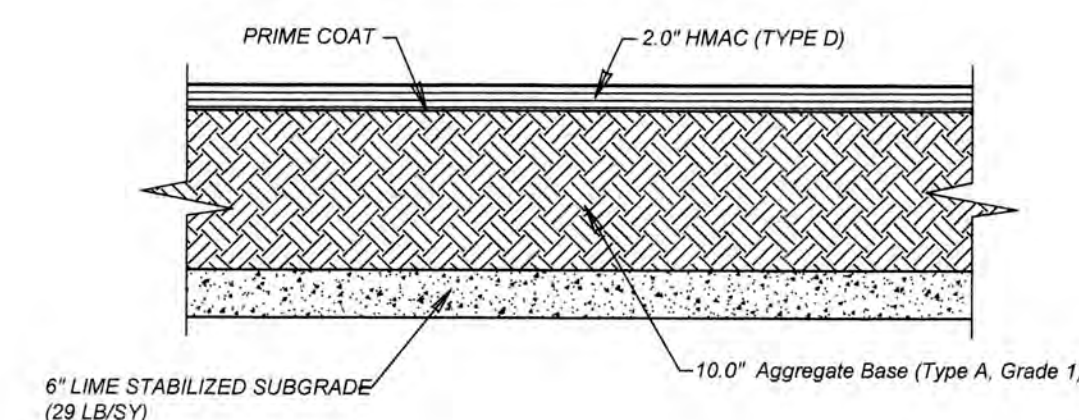


TYPICAL LOCAL \"A\" STREET SECTION

NOT TO SCALE
USE LOCAL \"A\" STREET SECTION FOR STREETS BELOW:

KAILORS COVE, STA: 1+00.00 - END
SUNRIDGE HTS, STA: 1+00.00 - END
INGRESS AVE, STA: 1+00.00 - END
KINSLEY WAY, STA: 1+00.00 - END
FIREWEED CT, STA: 1+00.00 - END
KESTIS LN, STA: 1+00.00 - END
HAWKWEILL LN, STA: 1+00.00 - END

Pavement Section
2.0\"/>



ASPHALT PAVEMENT DETAIL
DETAIL FOR ALL LOCAL TYPE A

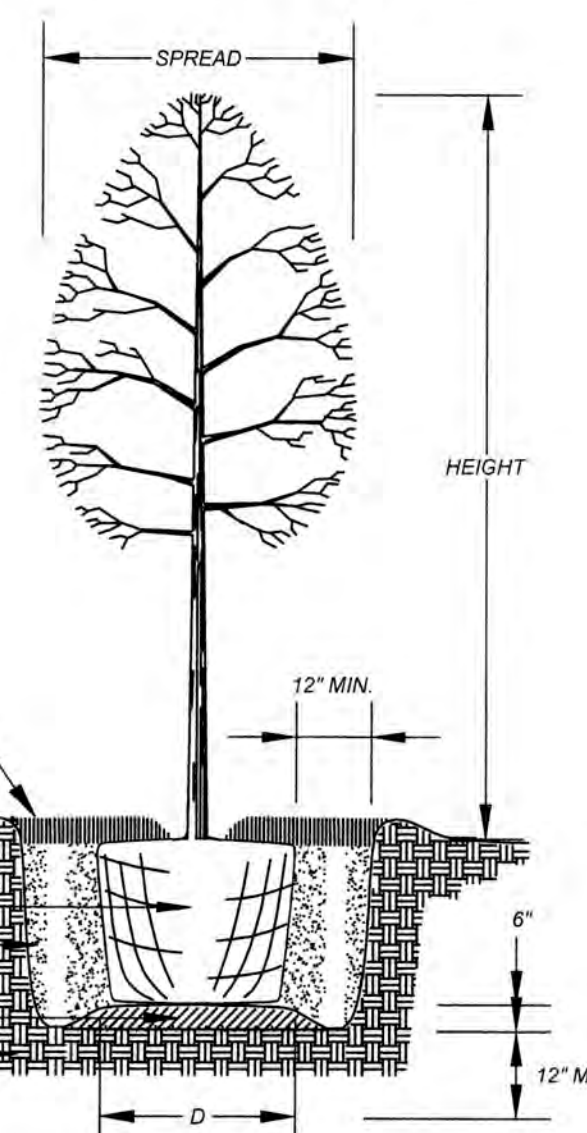
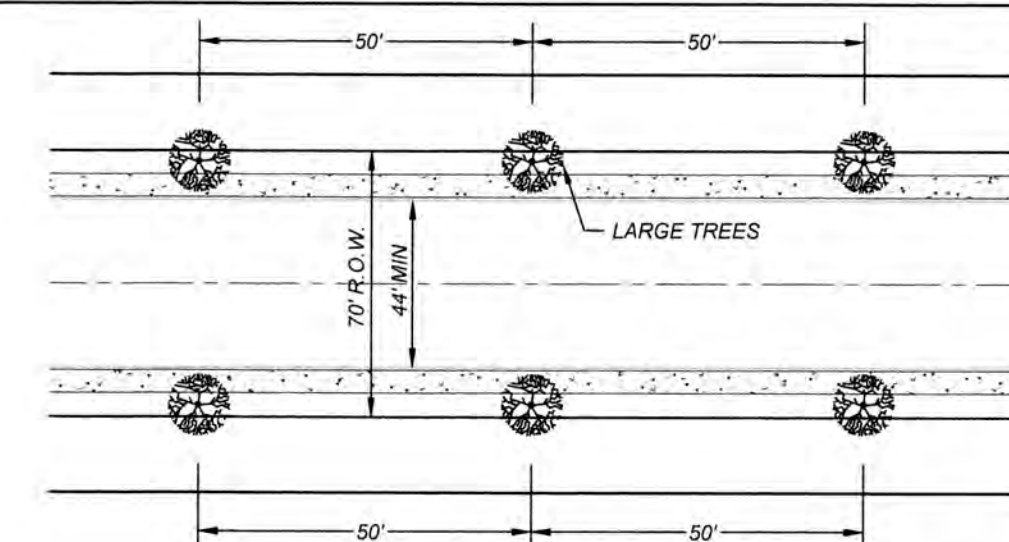
- NOTES:
1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, LLC, PROJECT NO. S211512 DATED DECEMBER 18, 2021.
 2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
 4. 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.

STREETSCAPE TREE PLANTING NOTES



LARGE TREES (PER UDC) TO BE PLANTED EVERY 50 FEET OR CLUSTERS ALONG FIELDSTONE WAY R.O.W. PER \"NEW TREE PLANTING DETAIL\" ON THIS SHEET.

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



NEW TREE PLANTING DETAIL
N. T. S.

GATES SUBDIVISION UNIT 1
SAN ANTONIO, TX
TYPICAL STREET DETAILS

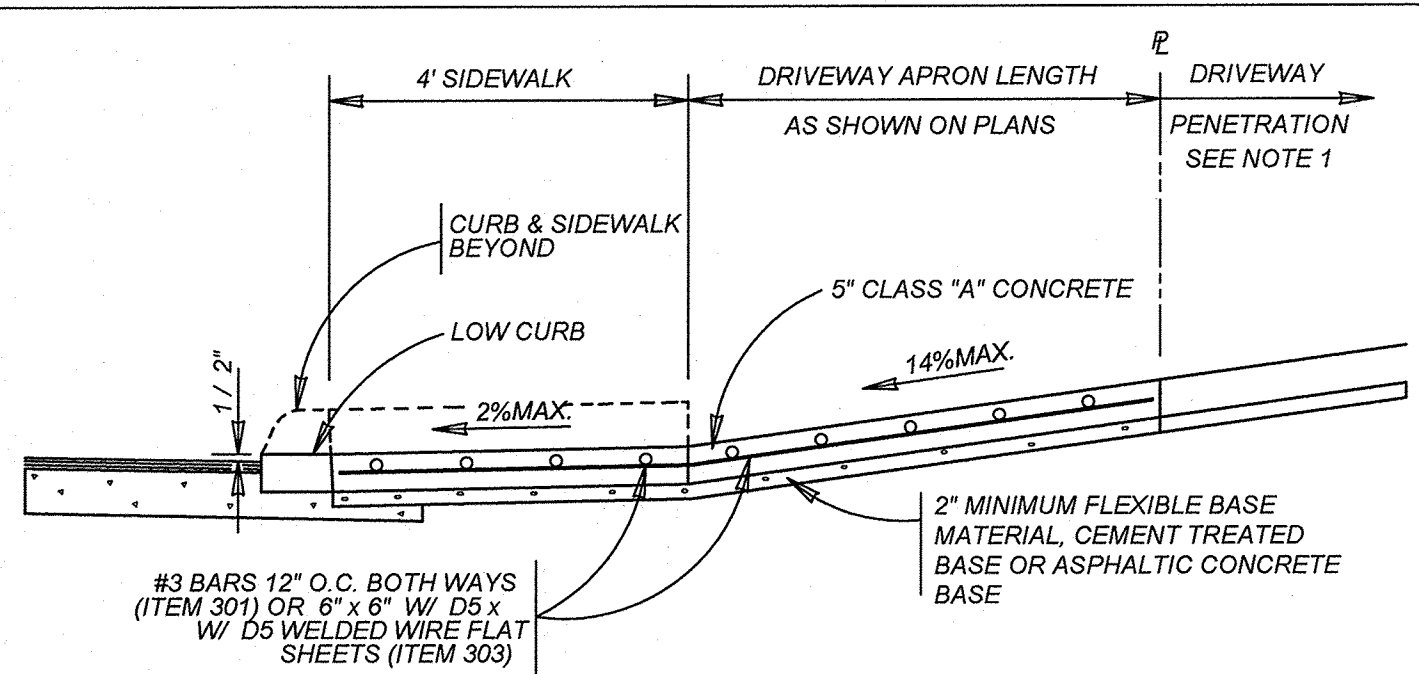
PLAT NO.
21-11800645
JOB NO: 205-43-04
DATE: OCTOBER 2021
DRAWN/OM CHECKED/CL
SHEET NUMBER:

5.9

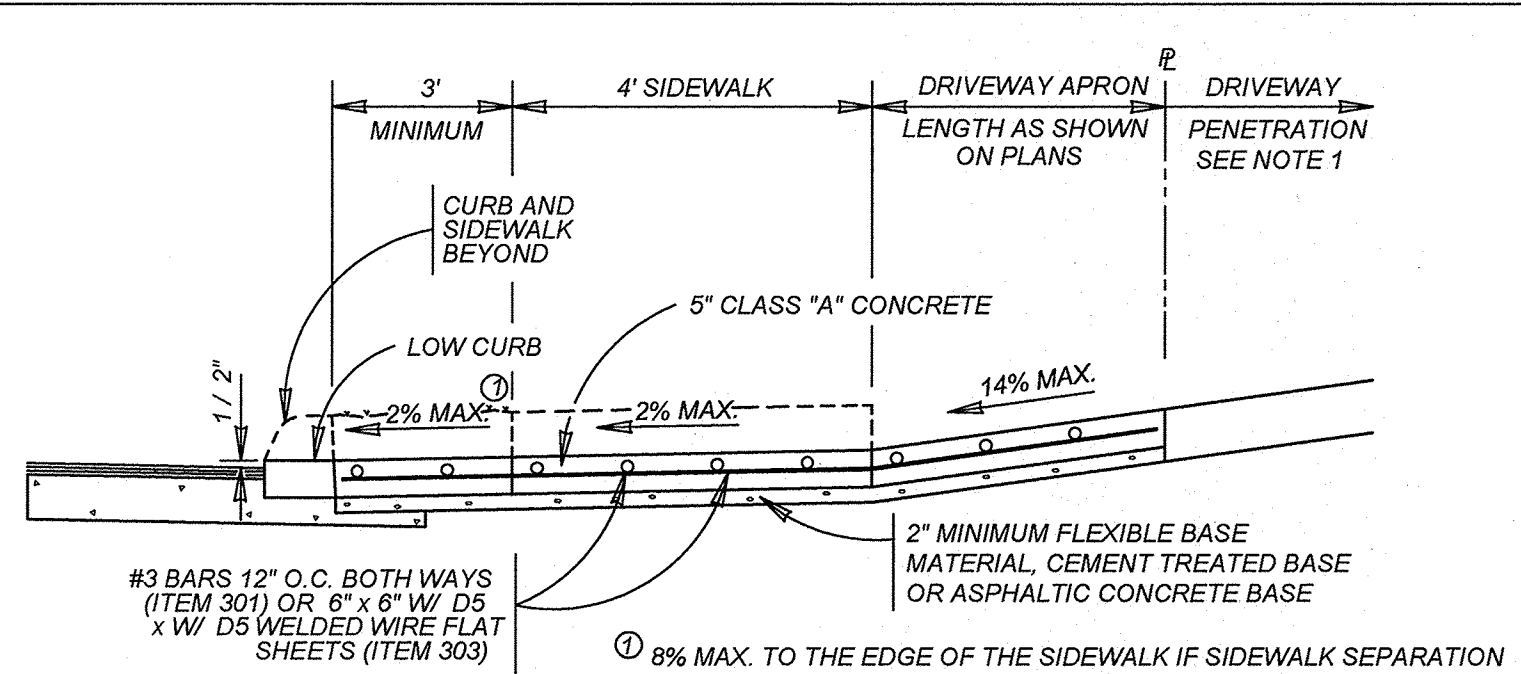
K&W
ENGINEERS & SURVEYING
3421 Peasance Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-4444 • Fax #: (210) 979-4441
TPE Firm #: 9513 • TPE License #: 10122600

ISSUE DATE
REVISIONS

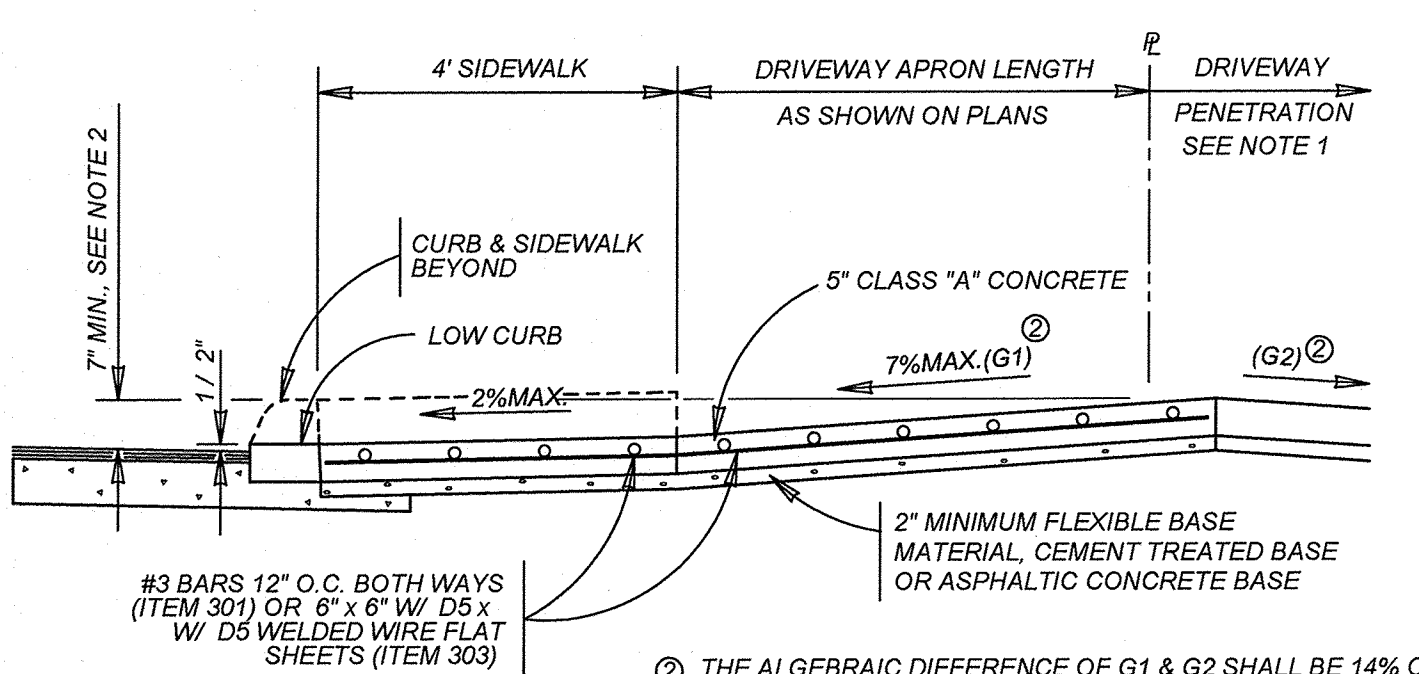




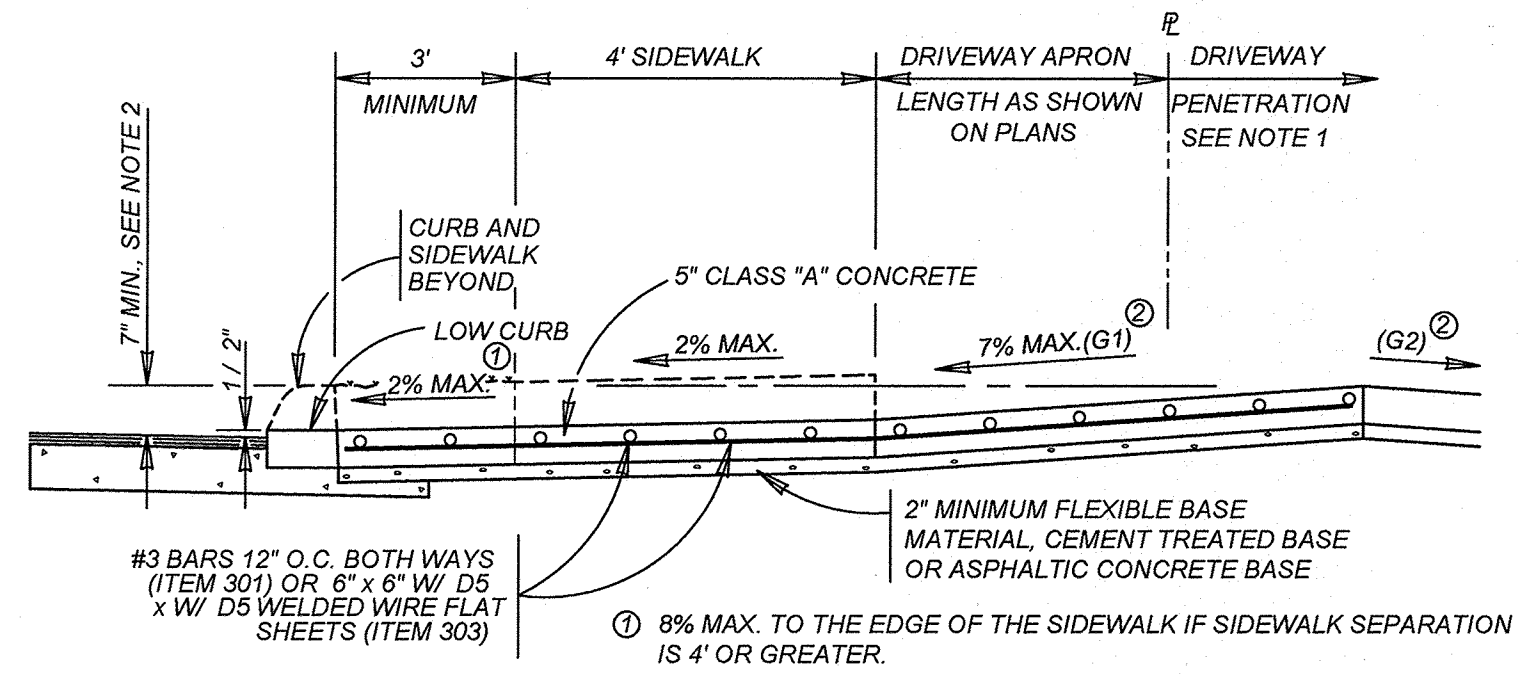
TYPICAL RESIDENTIAL DRIVEWAY SECTION
 WITH SIDEWALK ABUTTING CURB
 ITEM 503.1



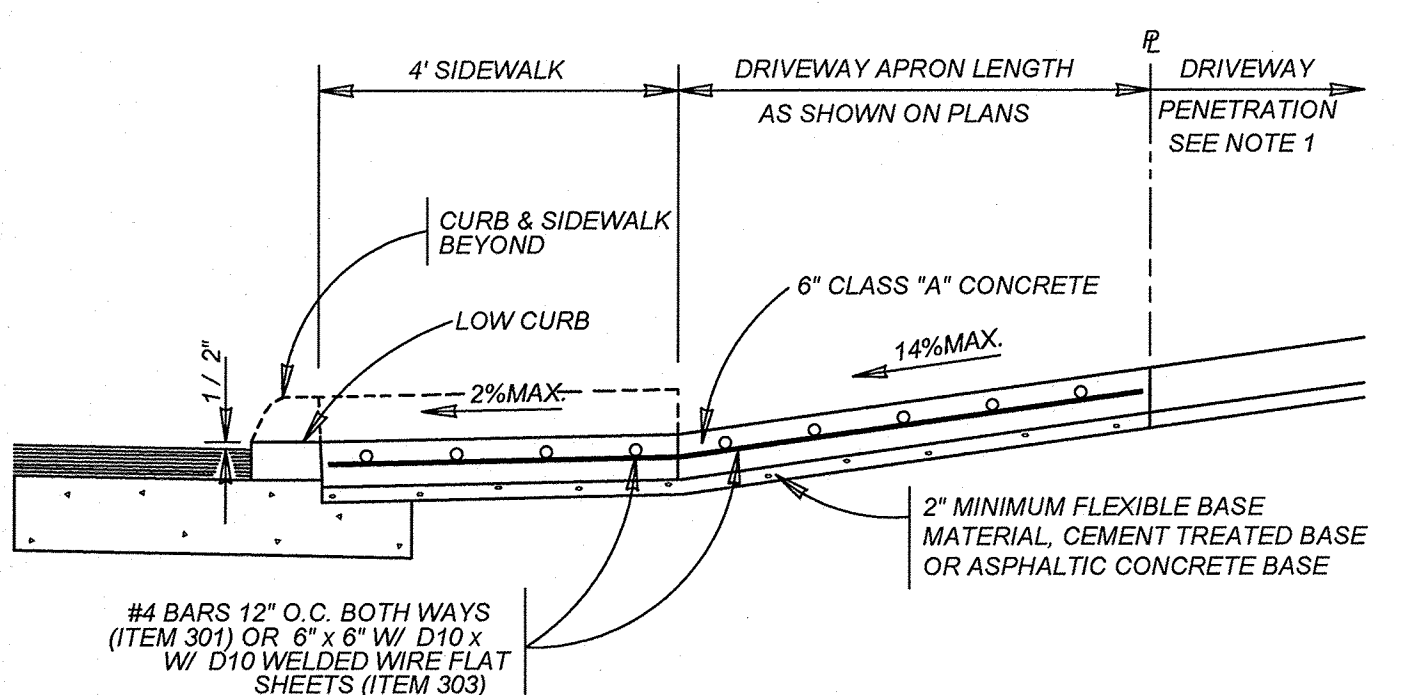
TYPICAL RESIDENTIAL DRIVEWAY SECTION
 WITH SIDEWALK SEPARATED FROM CURB
 ITEM 503.1



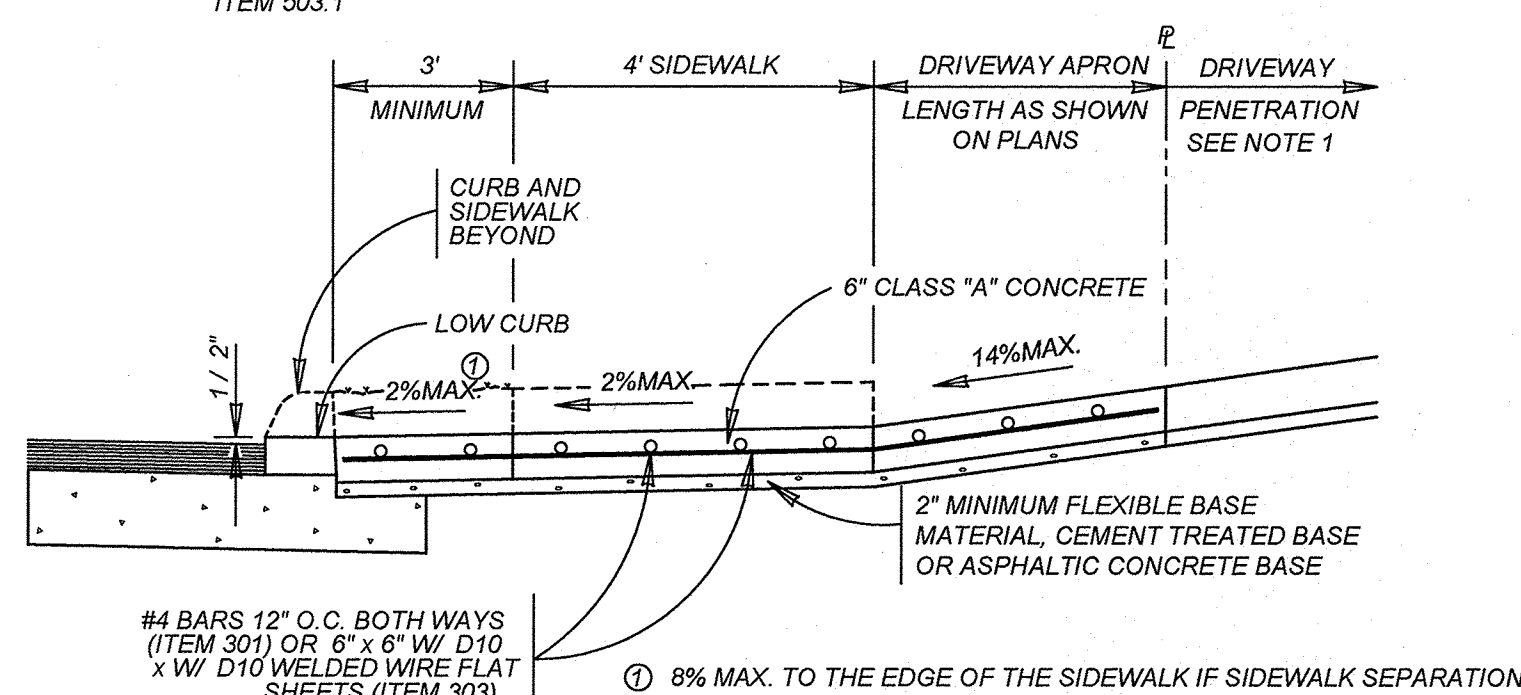
TYPICAL RESIDENTIAL DRIVEWAY SECTION
 WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
 ITEM 503.1



TYPICAL RESIDENTIAL DRIVEWAY SECTION
 WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
 ITEM 503.1



TYPICAL COMMERCIAL DRIVEWAY SECTION
 WITH SIDEWALK ABUTTING CURB
 ITEM 503.2



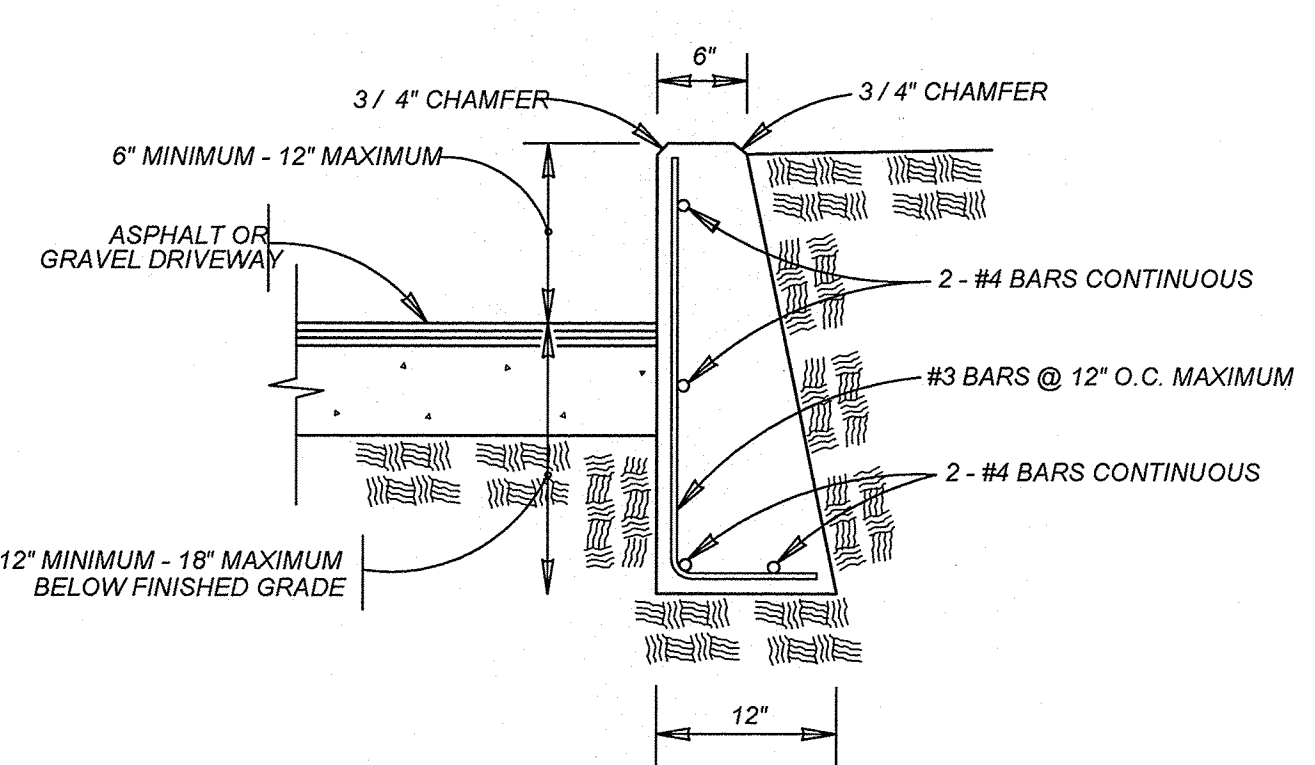
TYPICAL COMMERCIAL DRIVEWAY SECTION
 WITH SIDEWALK SEPARATED FROM CURB
 ITEM 503.2

CONCRETE DRIVEWAY NOTES

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

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

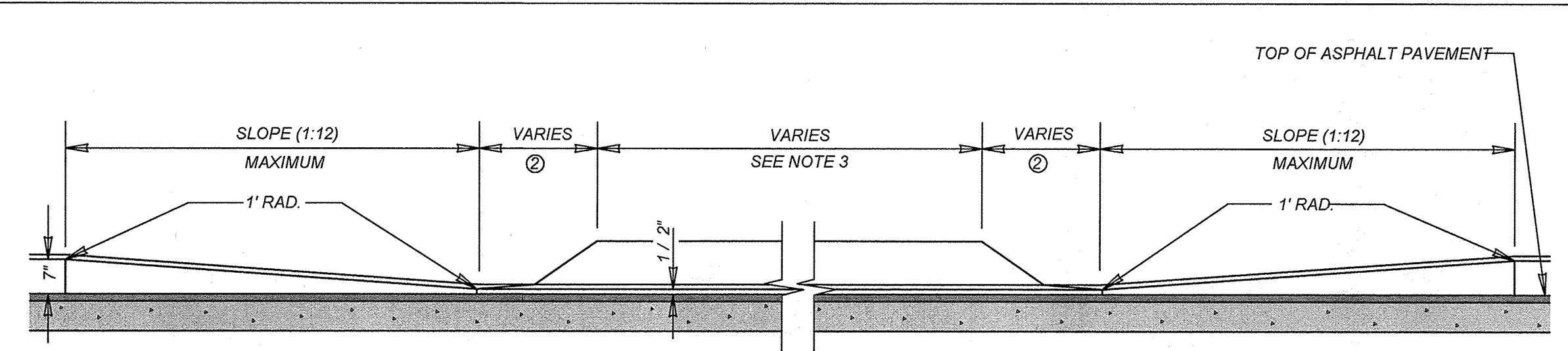
- FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
- FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK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



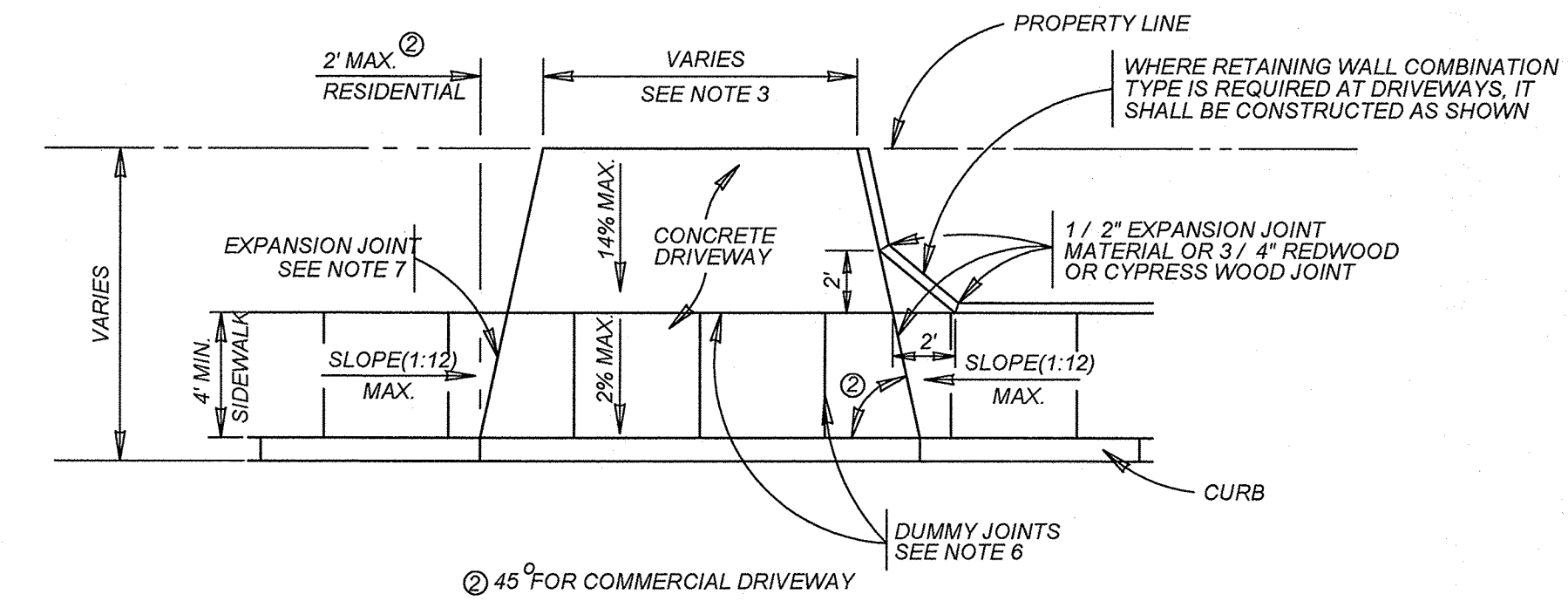
NOTE:
 1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
 2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

DRIVEWAY - CONCRETE RETAINING WALL

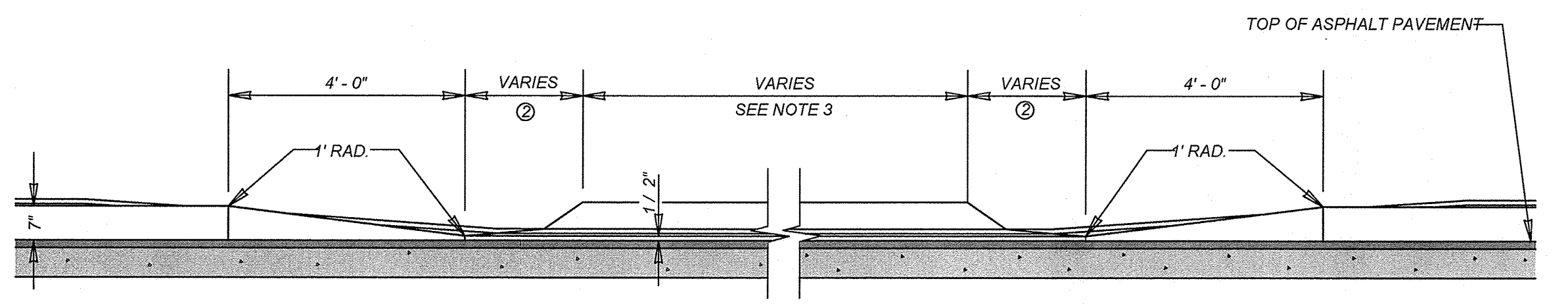
ON COMPACTED SUBGRADE
 ITEM 307.1



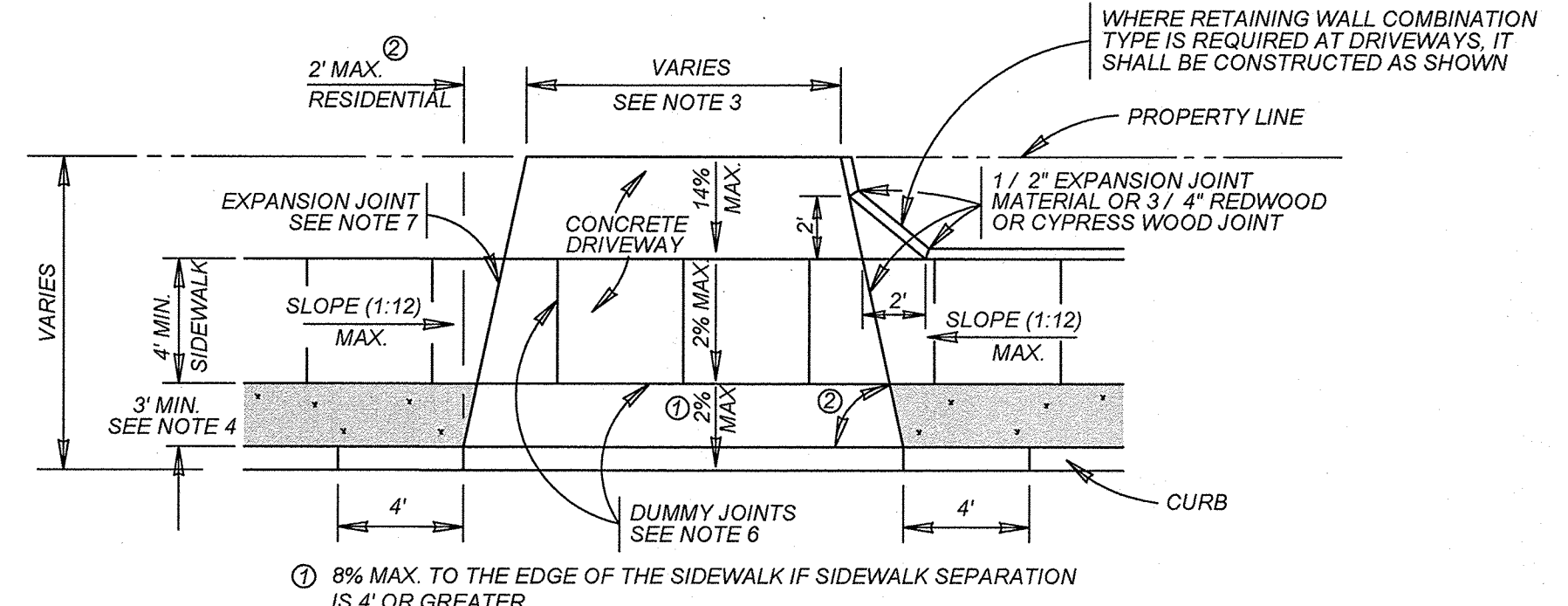
CURB PROFILE AT DRIVEWAY
 WITH SIDEWALK ABUTTING CURB



TYPICAL DRIVEWAY PLAN VIEW
 WITH SIDEWALK ABUTTING CURB



CURB PROFILE AT DRIVEWAY
 WITH SIDEWALK SEPARATED FROM CURB



TYPICAL DRIVEWAY PLAN VIEW
 WITH SIDEWALK SEPARATED FROM CURB

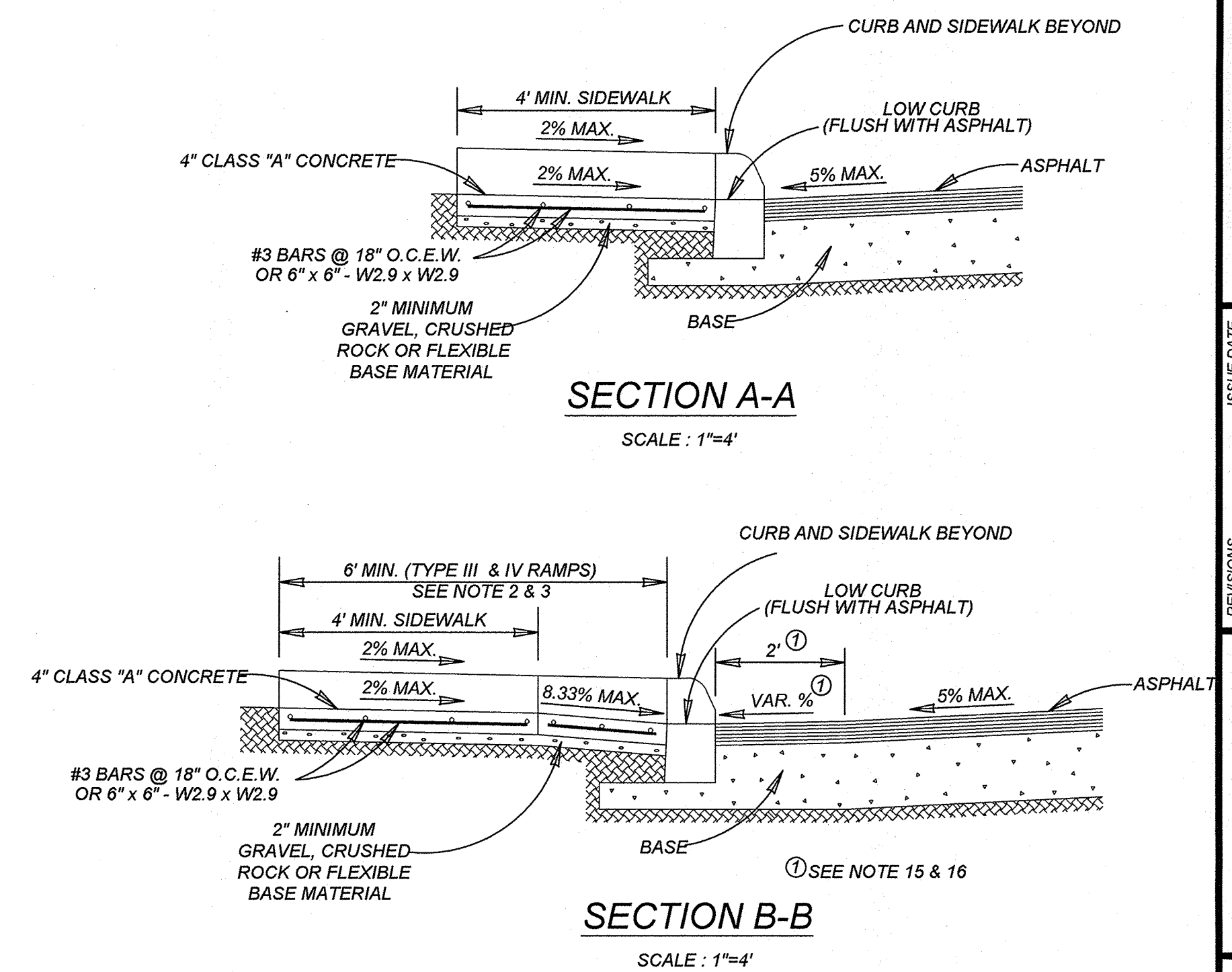
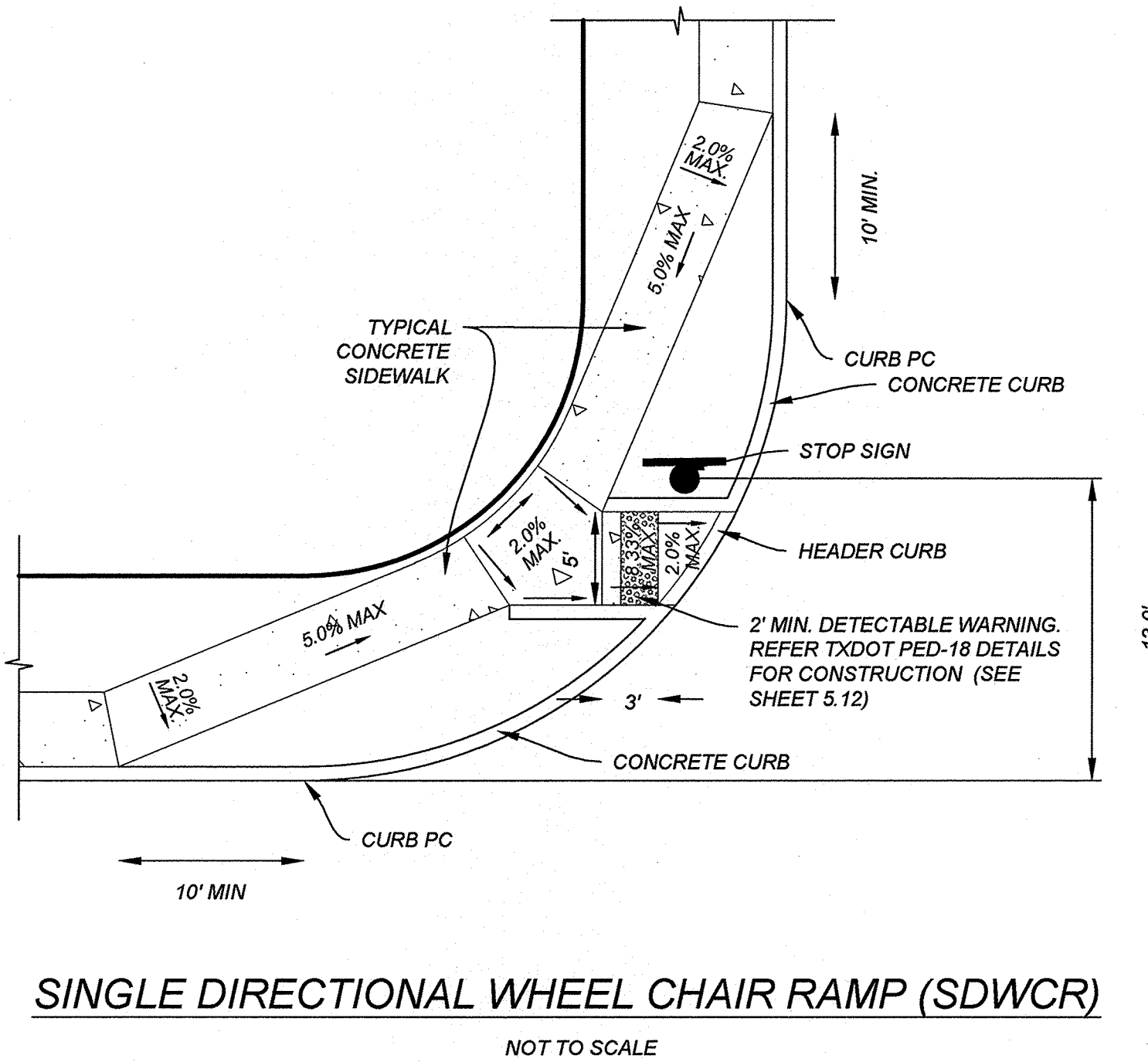
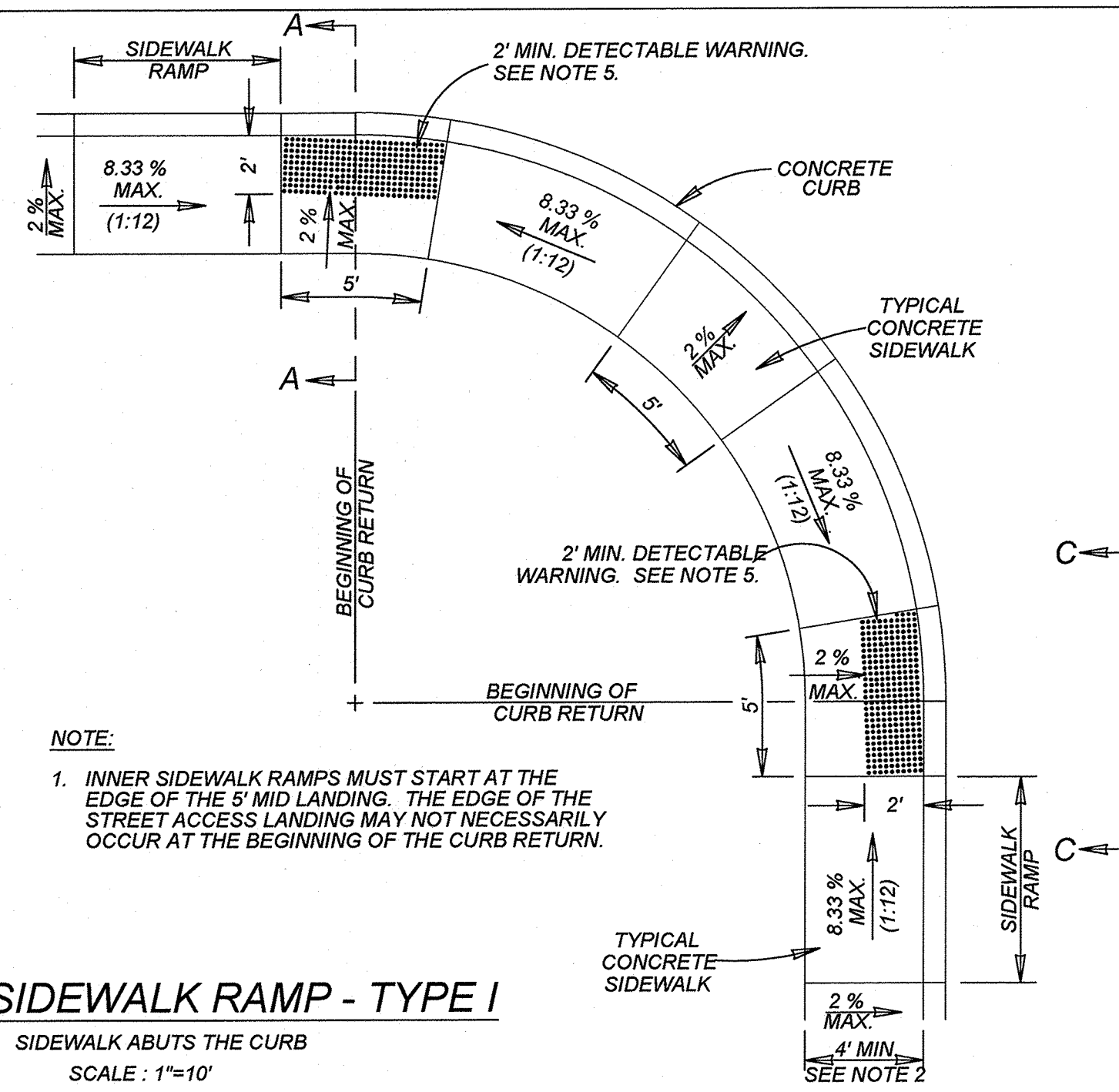
MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

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



TYPICAL SIDEWALK RAMP - TYPE I

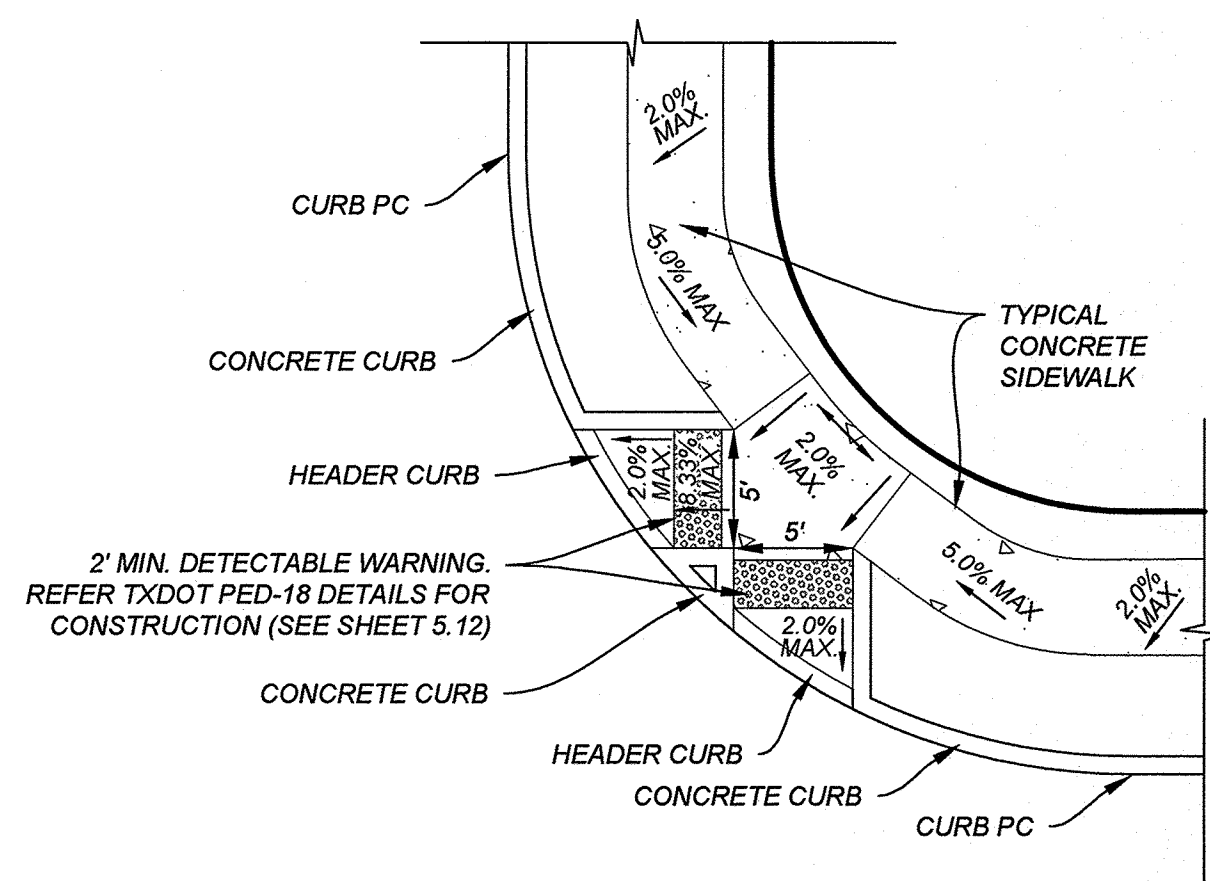
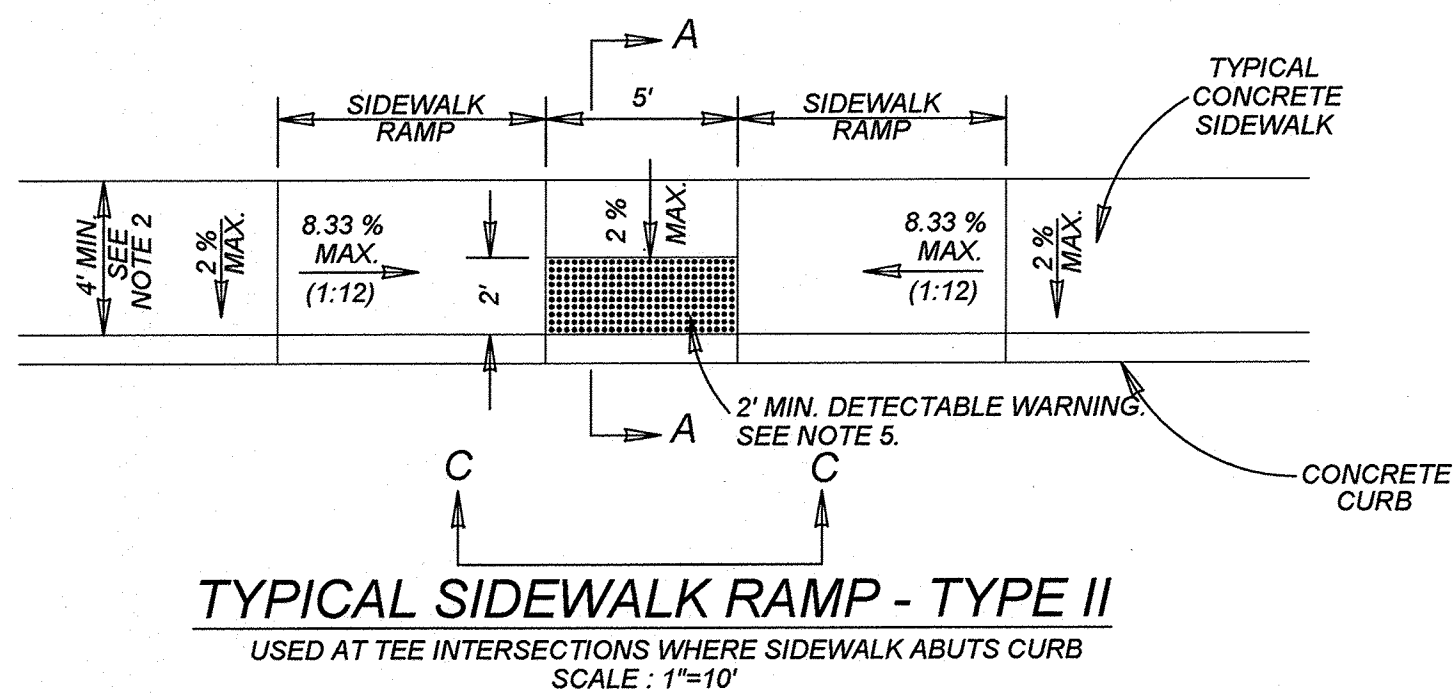
SINGLE DIRECTIONAL WHEEL CHAIR RAMP (SDWCR)

SECTION A-A

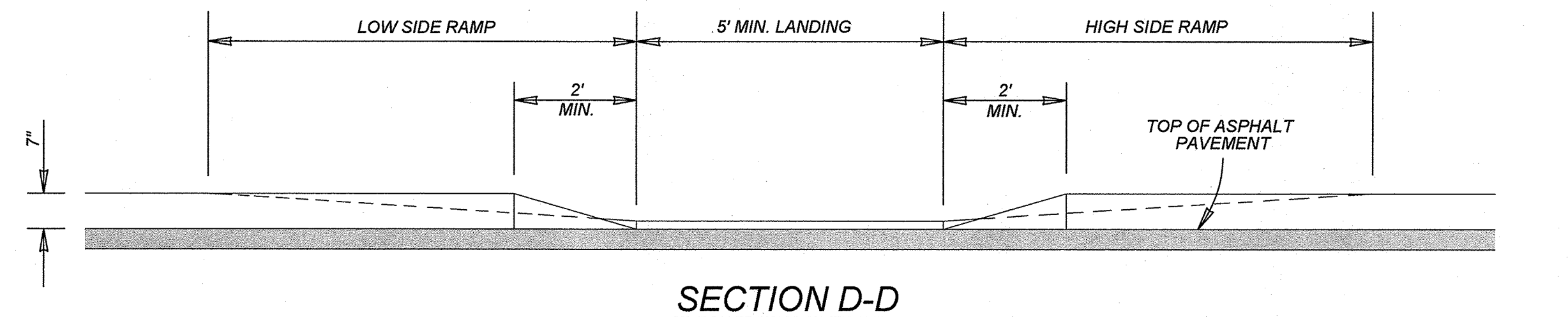
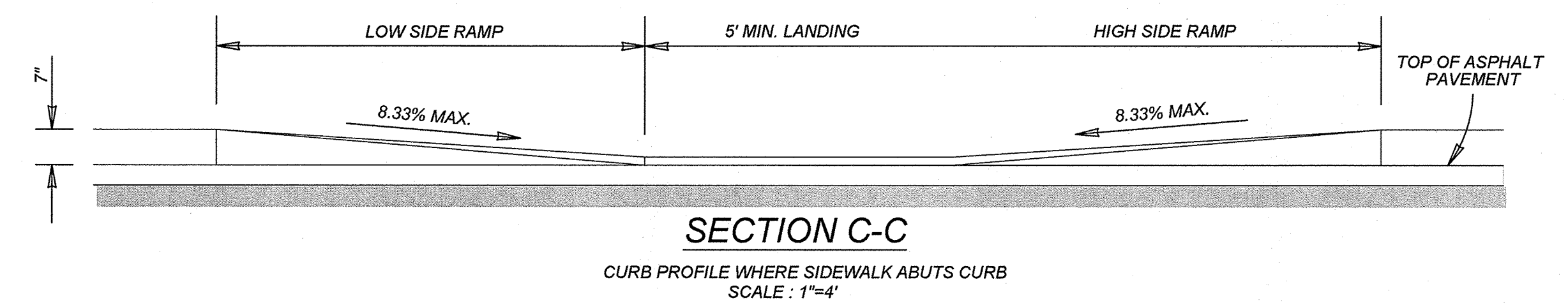
SCALE: 1"=4'

SECTION B-B

SCALE: 1"=4'

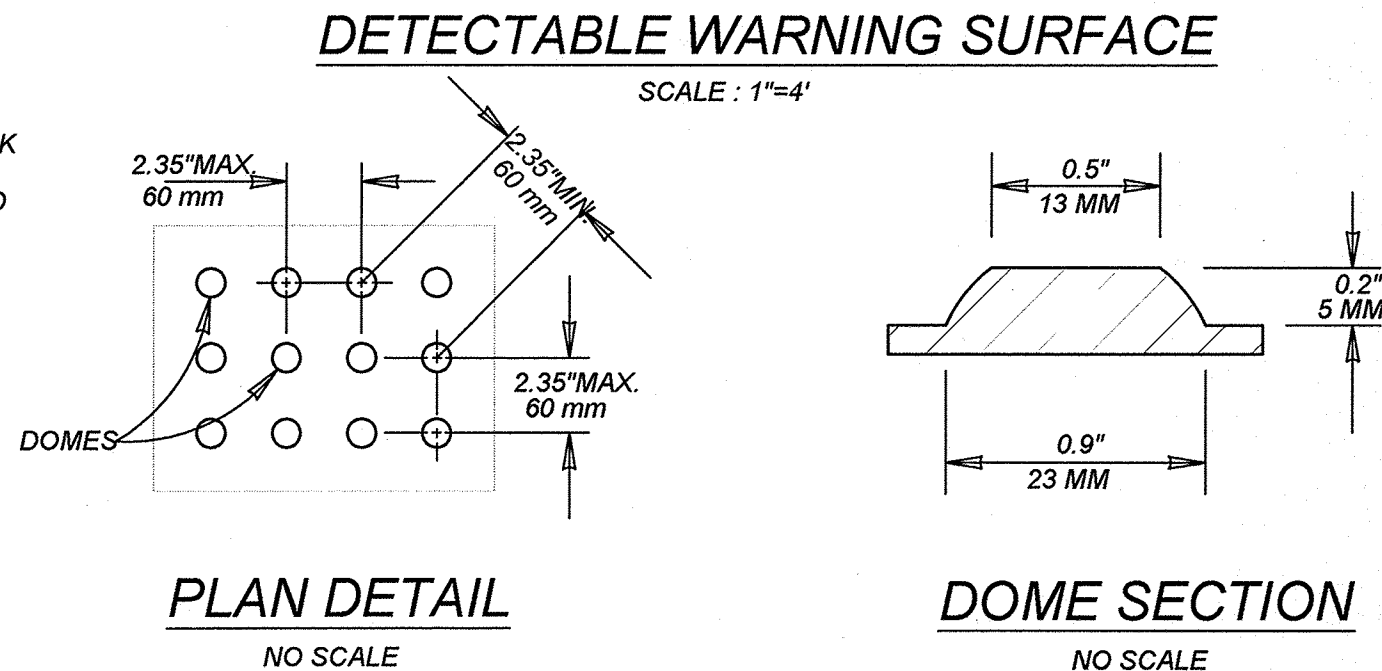
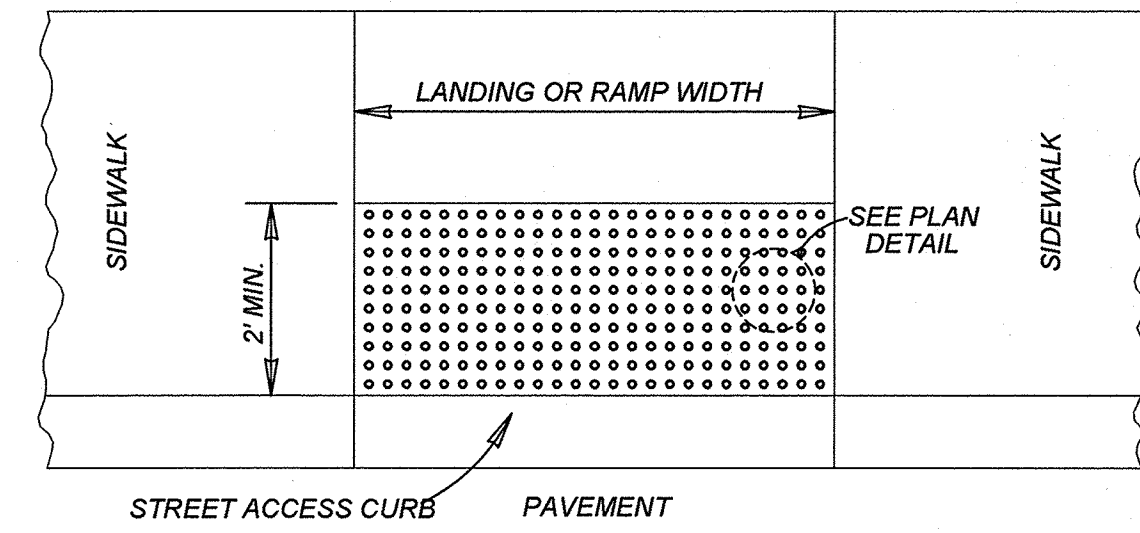


DOUBLE DIRECTIONAL WHEEL CHAIR RAMP (DDWCR)



GENERAL NOTES

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



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

SIDEWALK PASSING SPACE

SCALE: 1"=10'

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

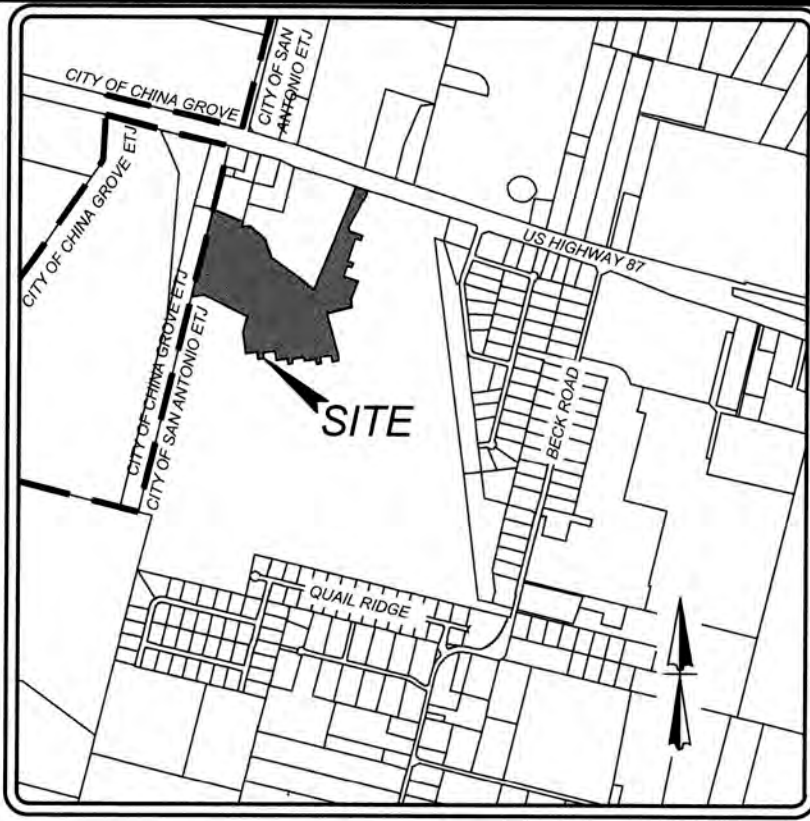
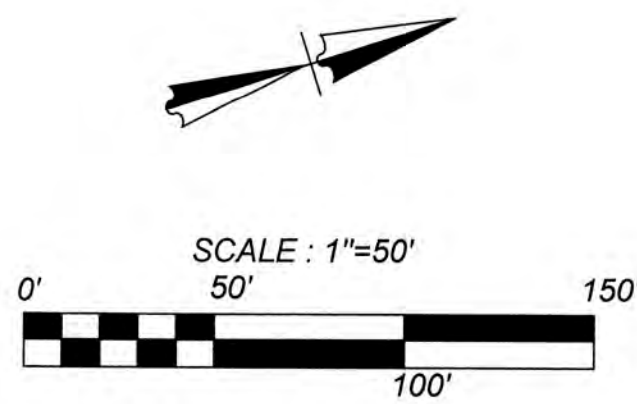
MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.	DATE:	SHEET NO.:	OF
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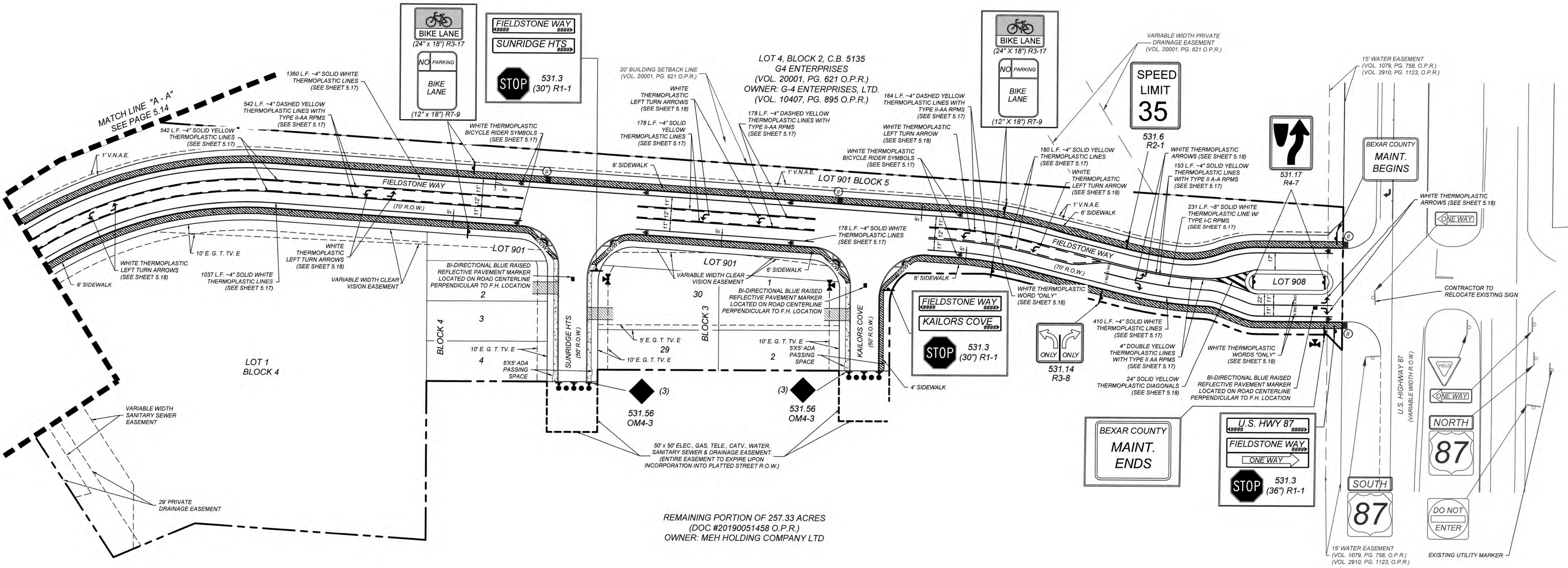
TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



LOCATION MAP
NOT-TO-SCALE

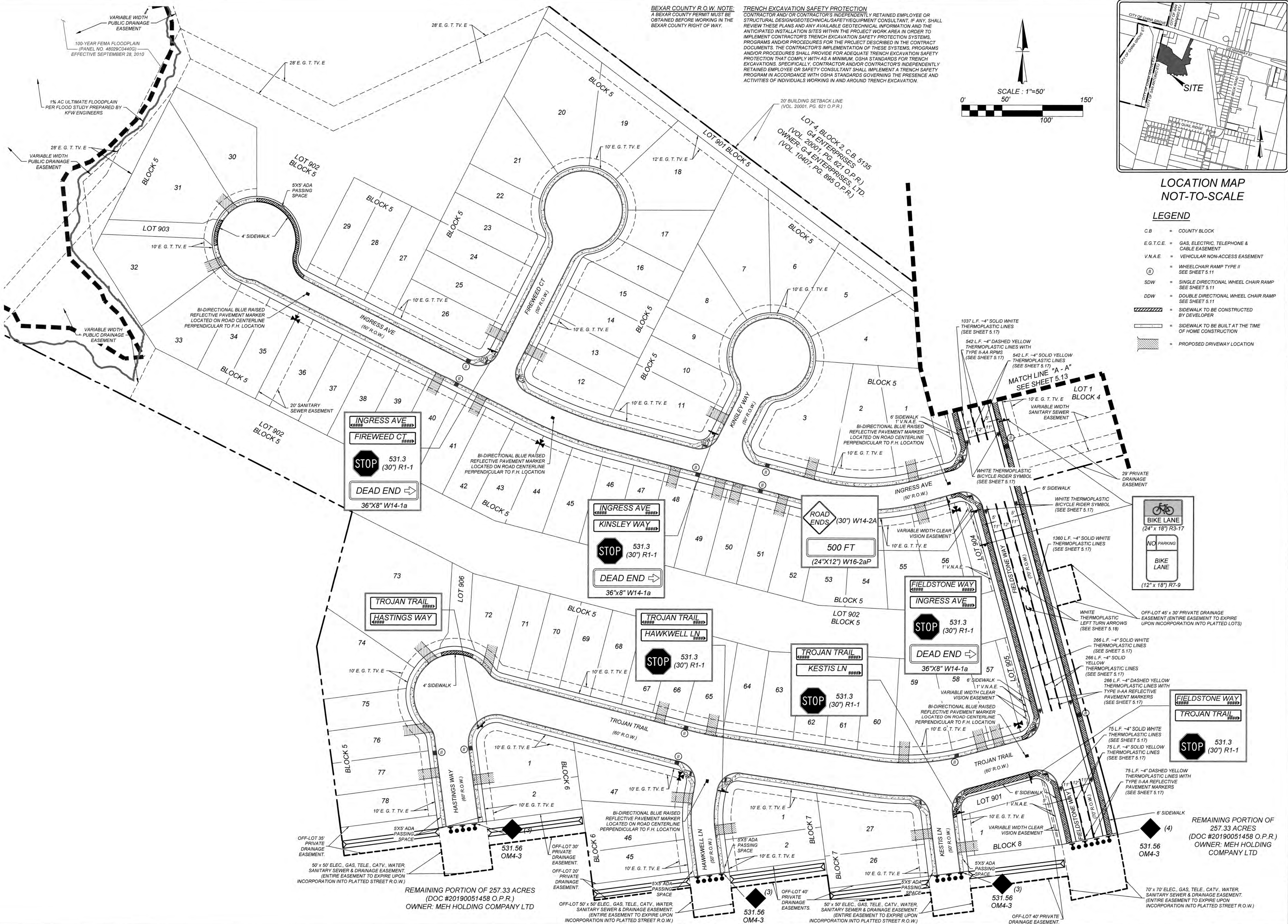
LEGEND

- C.B. = COUNTY BLOCK
- E.G.T.C.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
- V.N.A.E. = VEHICULAR NON-ACCESS EASEMENT
- Ⓜ = WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
- SDW = SINGLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.11
- DDW = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.11
- = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
- - - = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
- ▨ = PROPOSED DRIVEWAY LOCATION



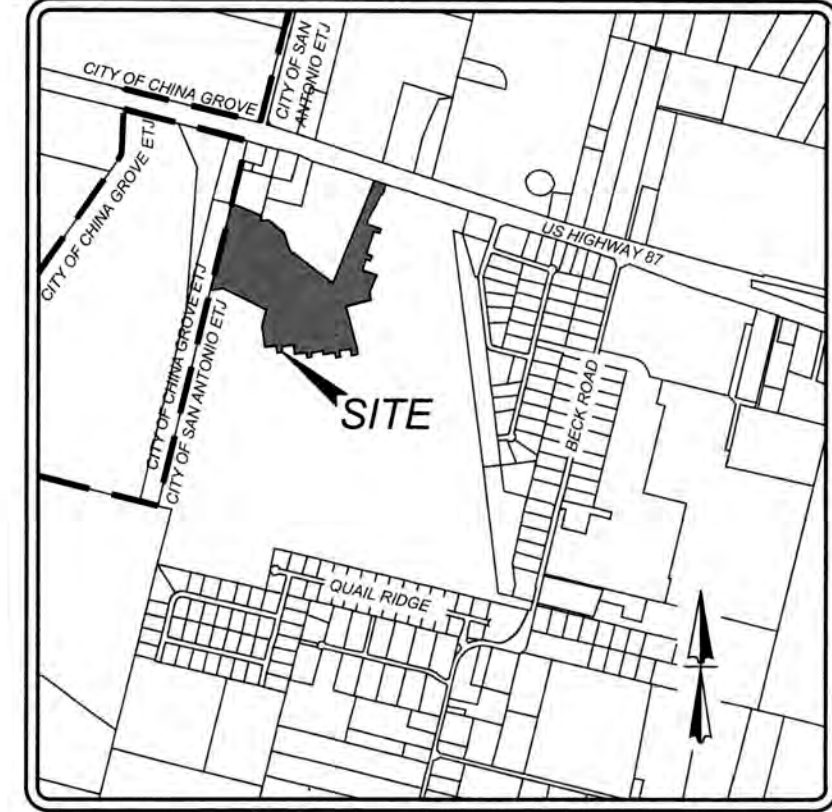
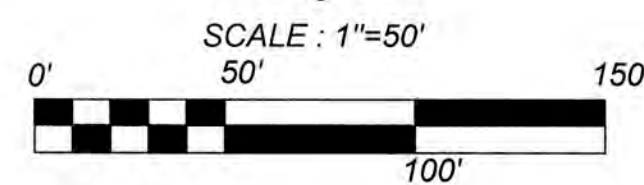
GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN
(SHEET 1 OF 2)

PLAT NO.
21-11800645
JOB NO 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:
5.13



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

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.



LOCATION MAP
NOT-TO-SCALE

LEGEND

- C.B. = COUNTY BLOCK
- E.G.T.C.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
- V.N.A.E. = VEHICULAR NON-ACCESS EASEMENT
- Ⓢ = WHEELCHAIR RAMP TYPE II SEE SHEET 5.11
- SDW = SINGLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.11
- DDW = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.11
- = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
- - - = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
- = PROPOSED DRIVEWAY LOCATION

K&W
ENGINEERS & SURVEYING
1501 S. 20th St., Suite 200, San Antonio, TX 78231
Phone #: (210) 979-9444 • Fax #: (210) 979-9441
TBPES Firm # 5913 • TBPES Firm # 1012300

ISSUE DATE: 4/29/2027

STATE OF TEXAS
CLAYTON J. LINNEY
111543
Professional Engineer

GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN
(SHEET 2 OF 2)

PLAT NO.
21-11800645

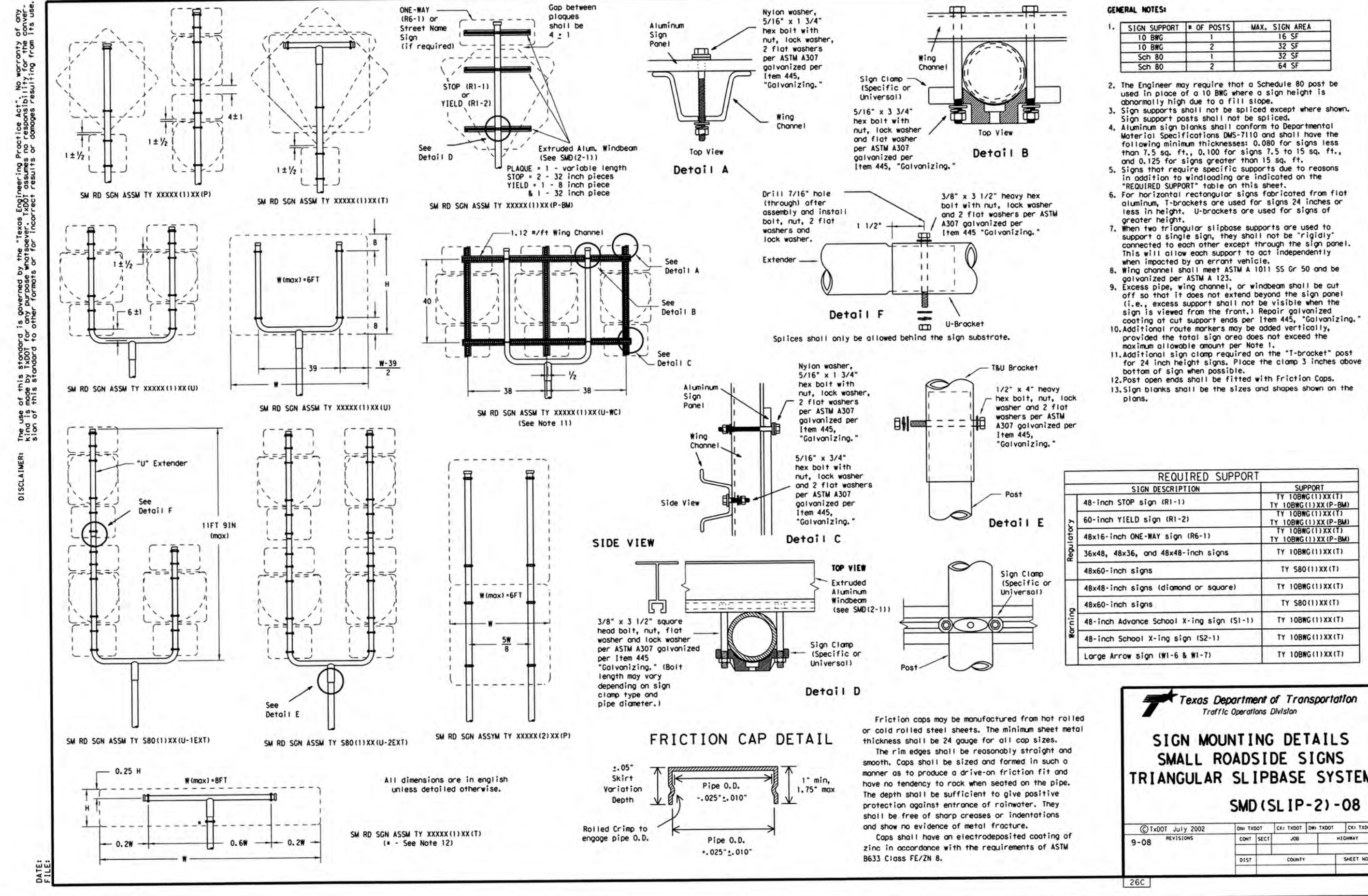
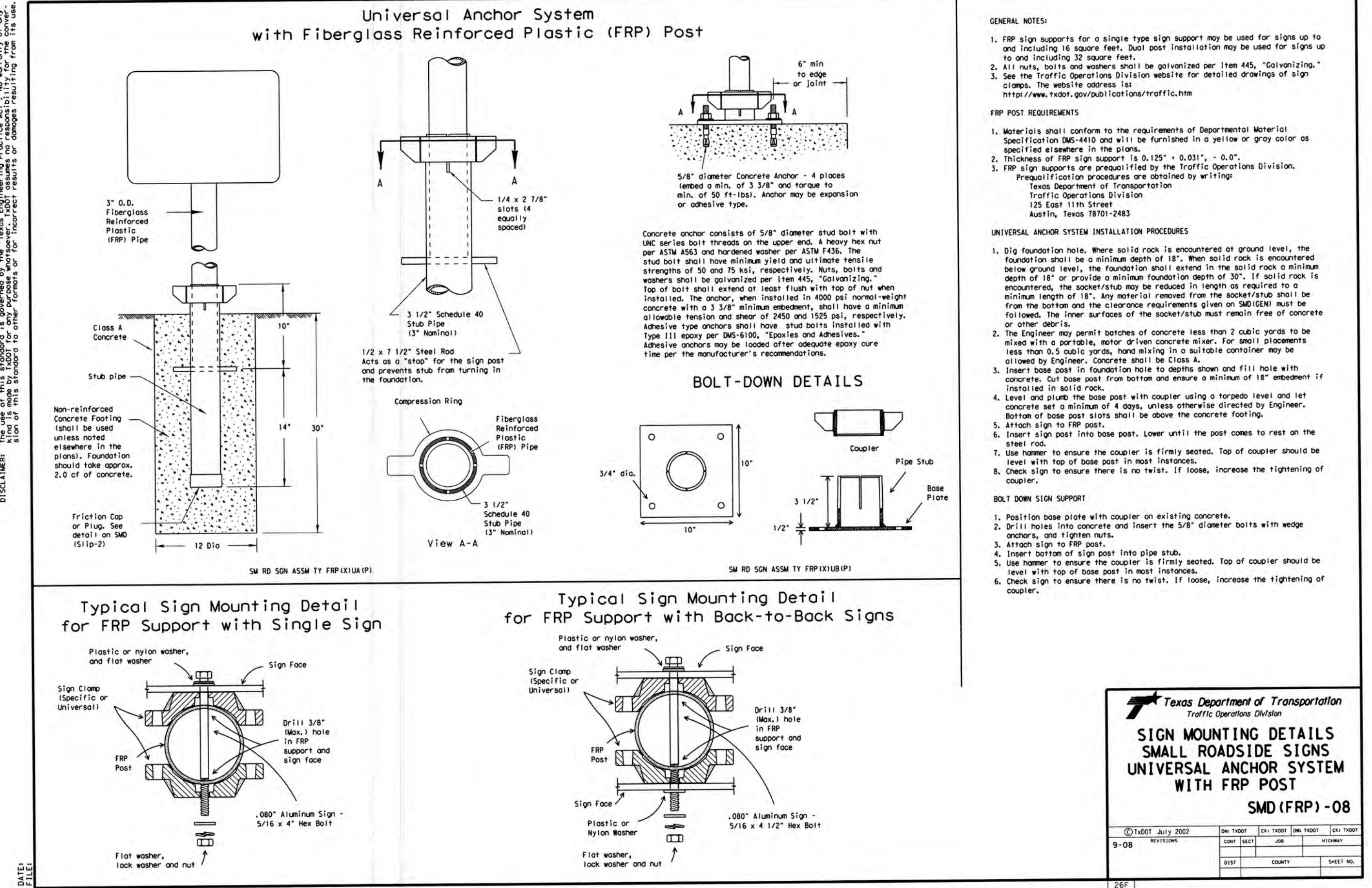
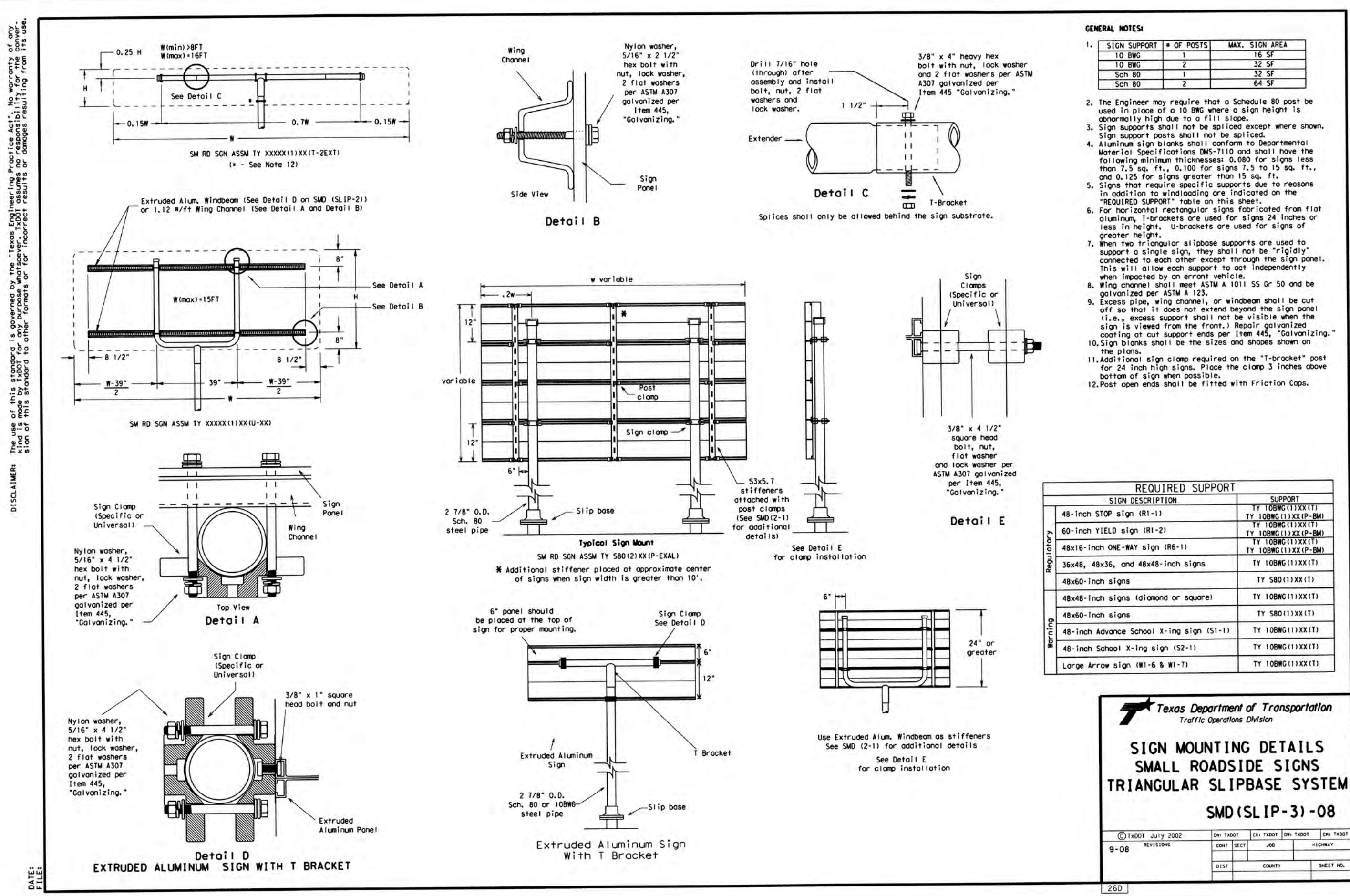
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL

SHEET NUMBER:
5.14

18"
24"
5/8" border
2 1/4" Hwy C font
4" Hwy C font
4" Hwy C font
2.81" space
1.25" space
1.25" space
2.48" space

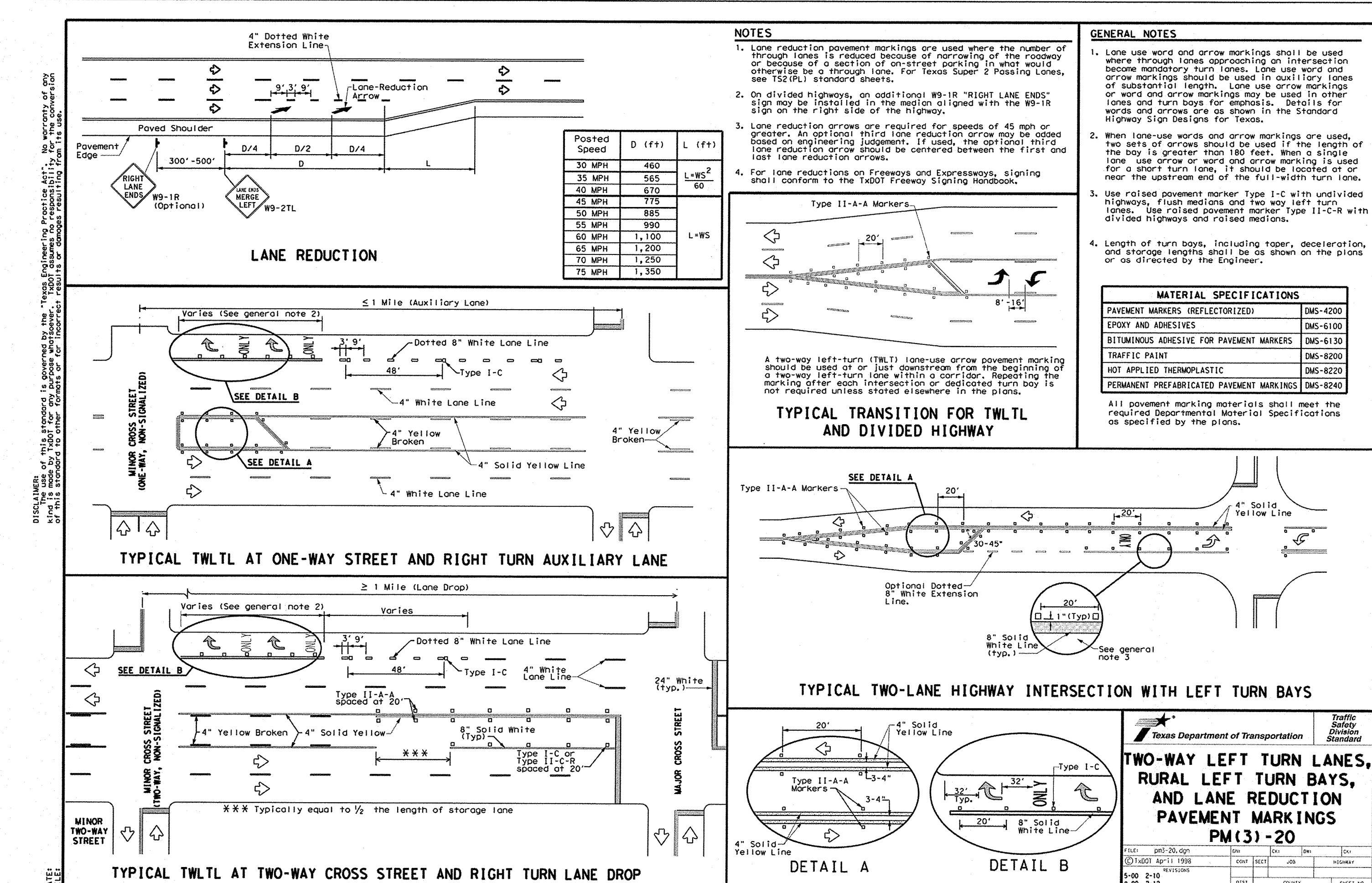
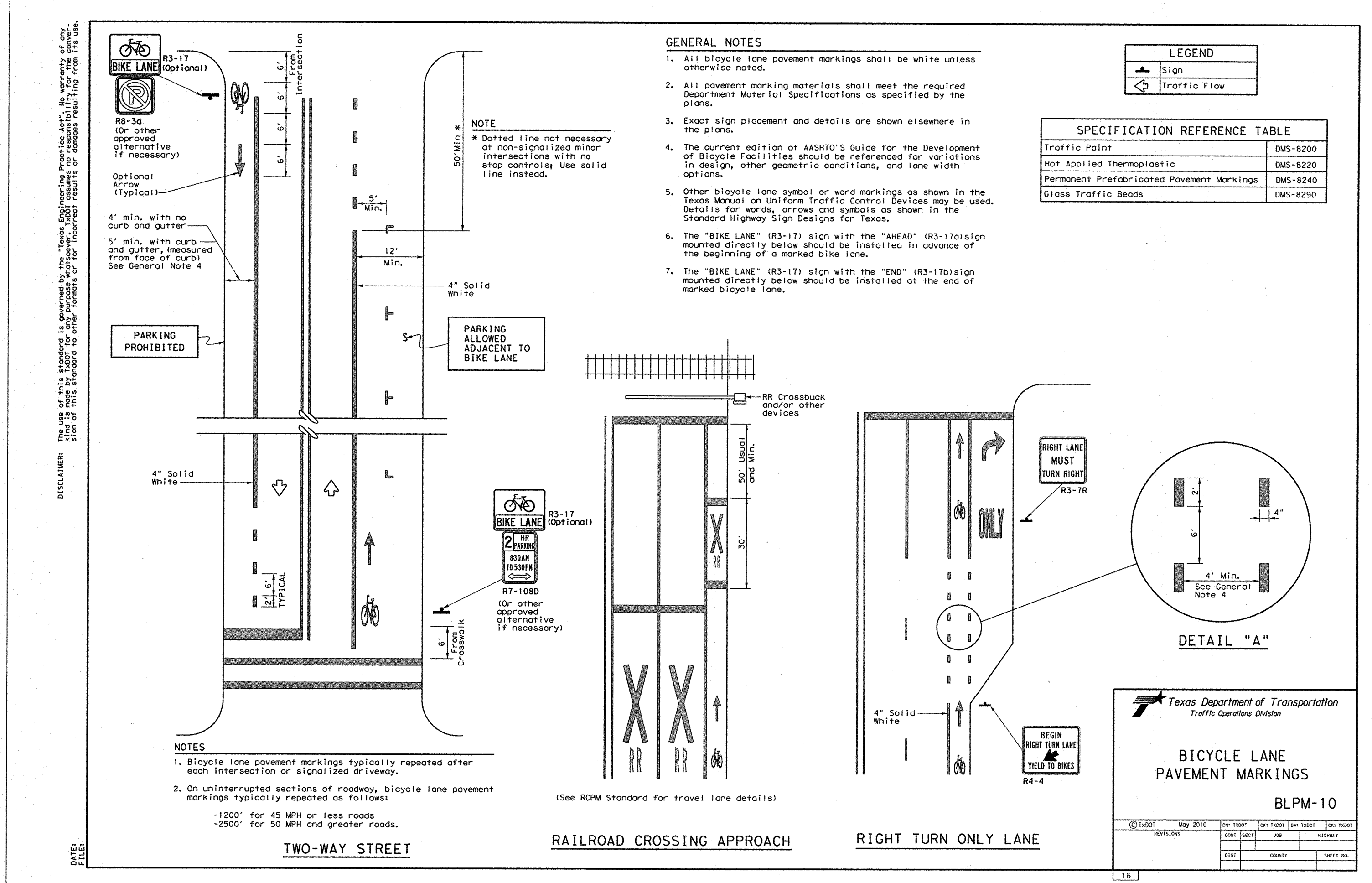
BEXAR COUNTY
MAINT.
ENDS

18" x 24"
White Prismatic Background
Green Overlay Film
Hwy C lettering

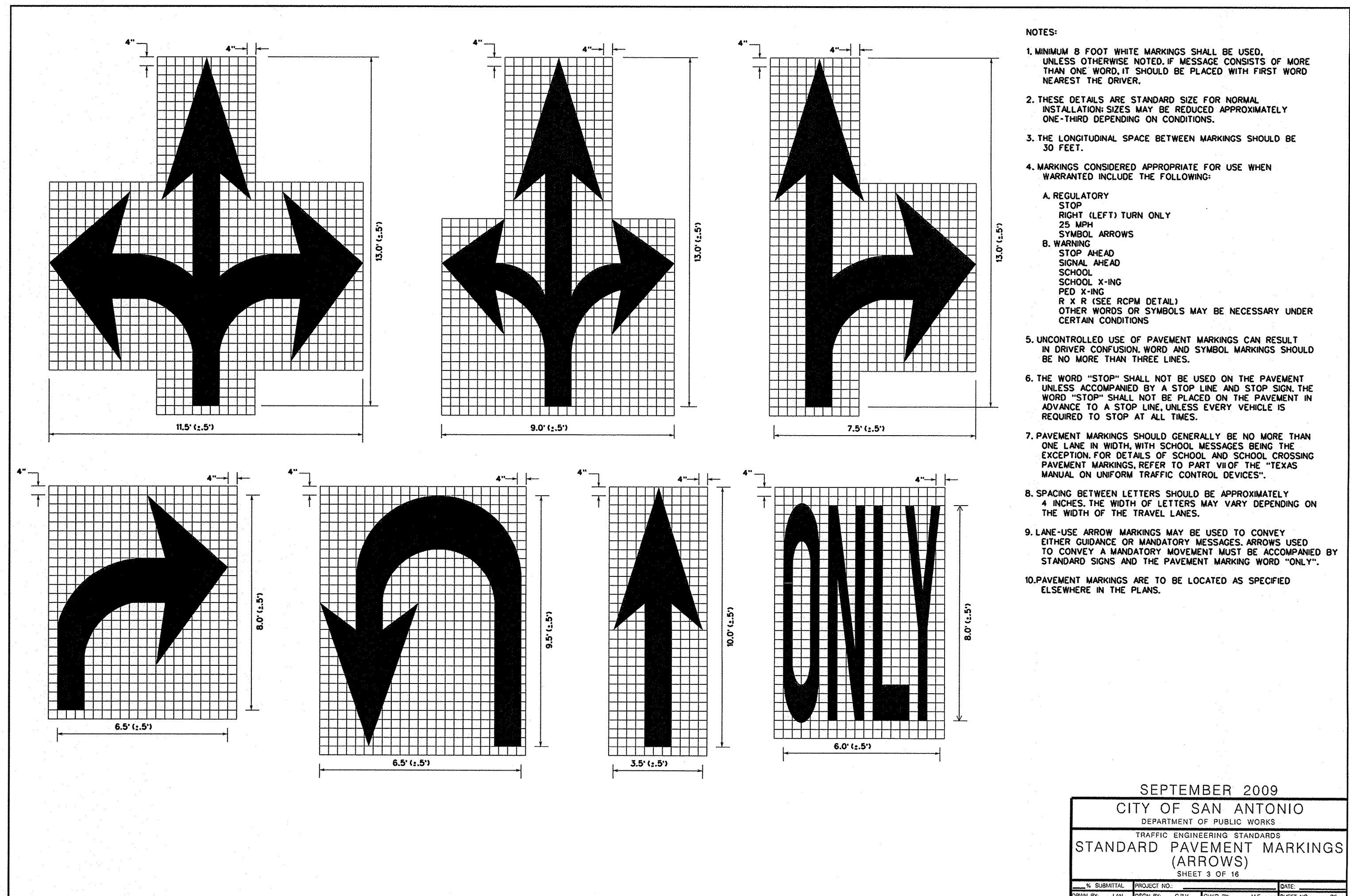
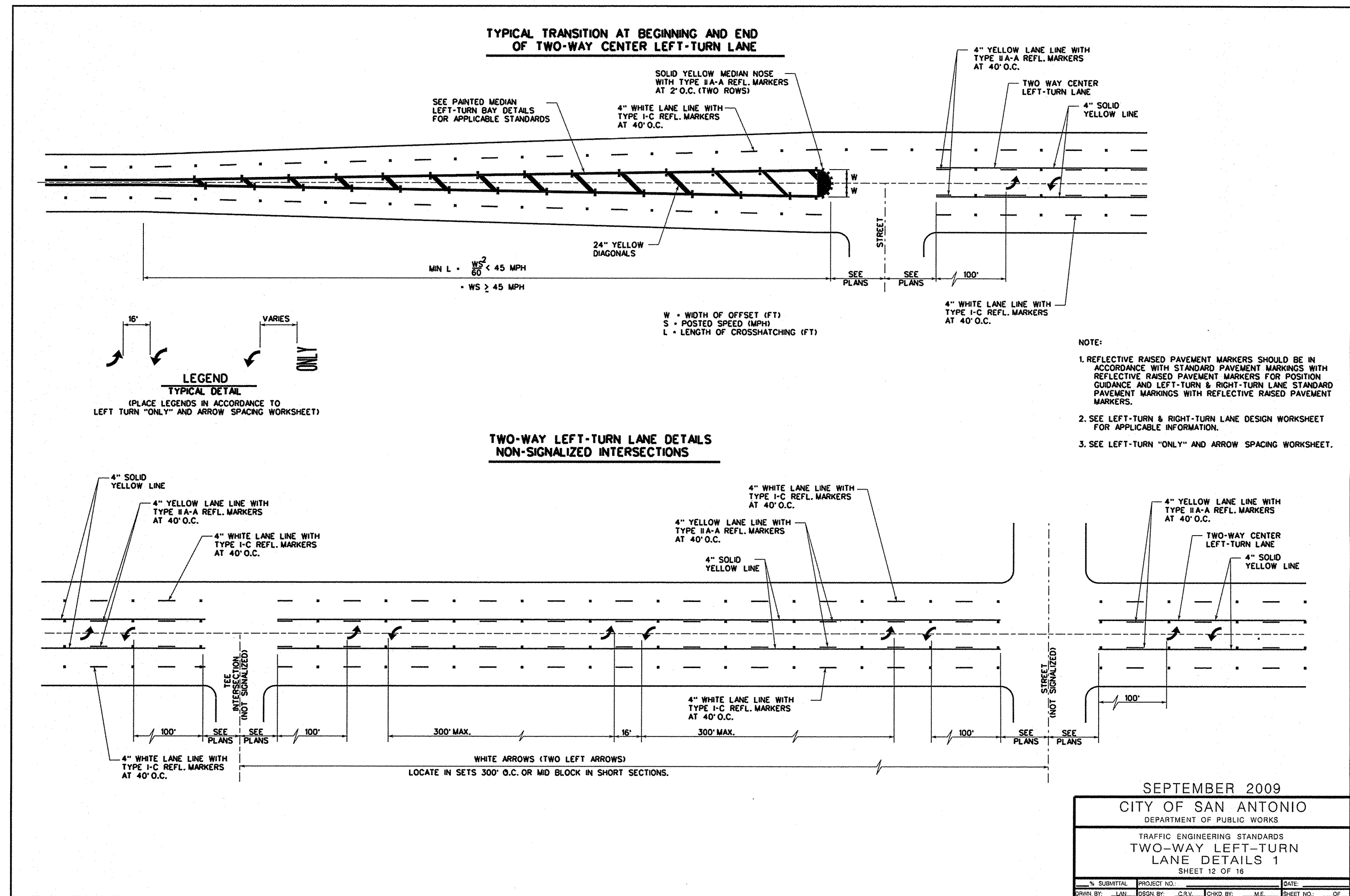


GATES SUBDIVISION UNIT 1
SAN ANTONIO, TX
TRAFFIC SIGNAGE DETAILS (SHEET 1 OF 2)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN/OM CHECKED/CL
SHEET NUMBER:

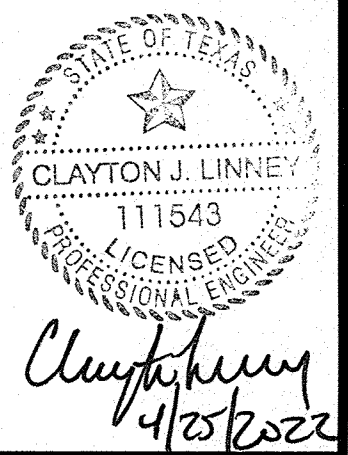


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ISSUE DATE

REVISIONS



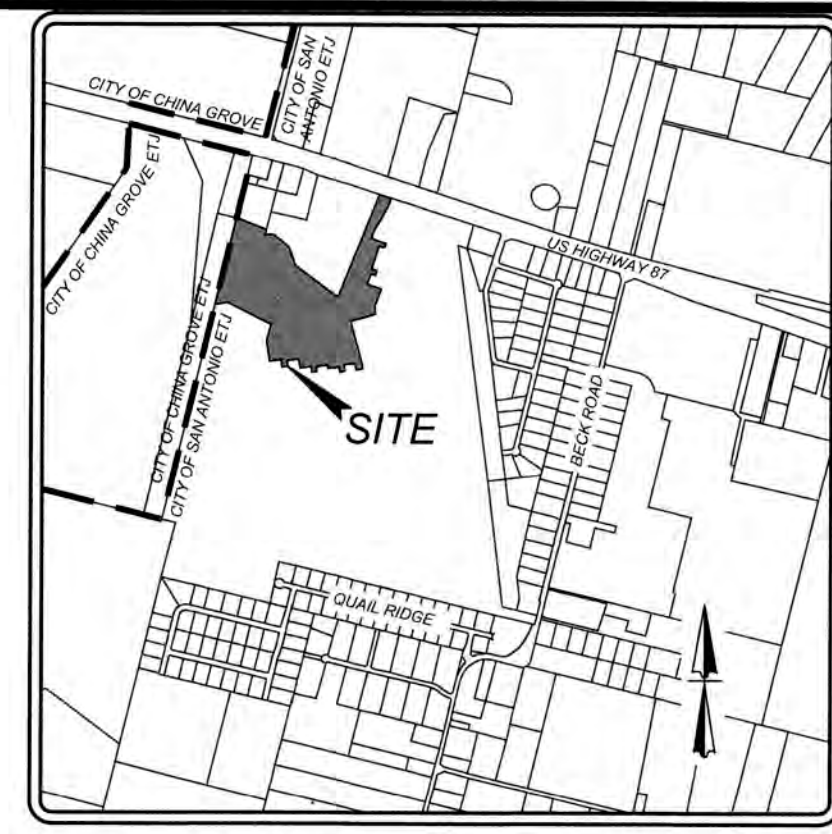
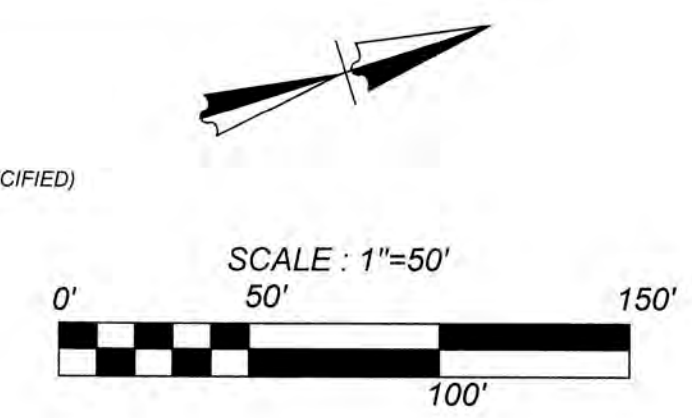
CAUTION!! THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE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

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

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:
1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
 2. SEWER PIPE WHERE WATER LINE CROSSES SHALL 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 SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
 3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
 4. PIPE TYPE DESIGNATIONS ARE SDR 26.
 5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
 6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING AND COVER.

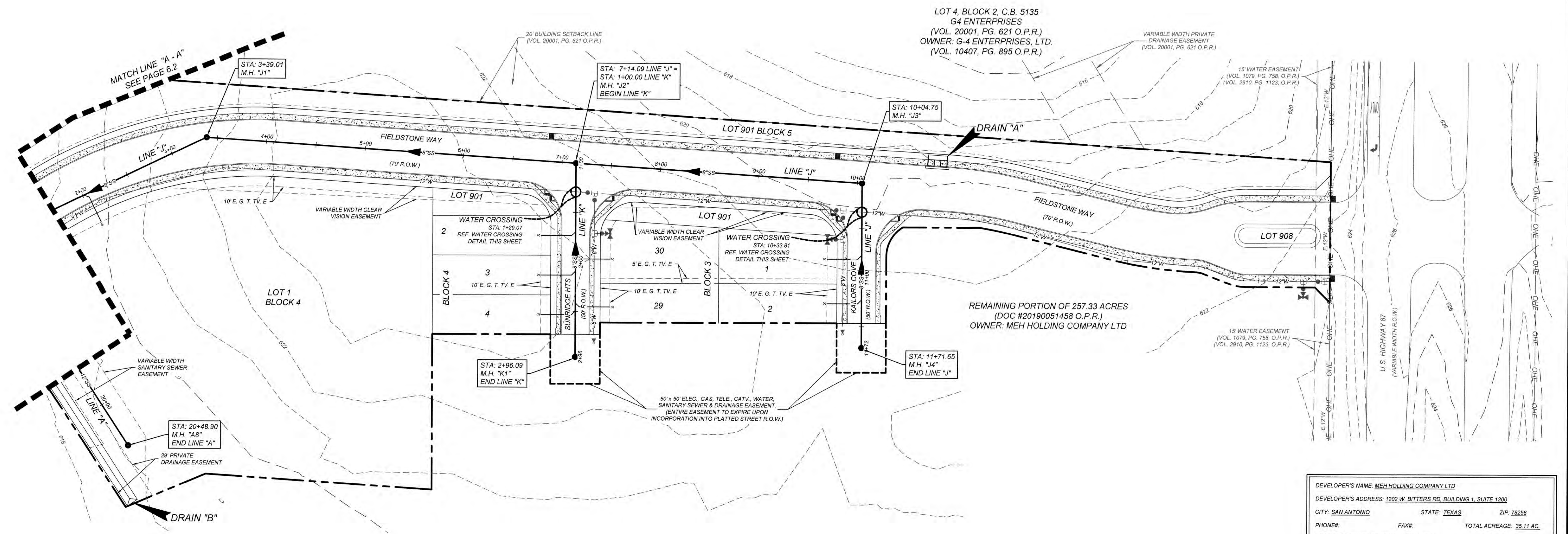
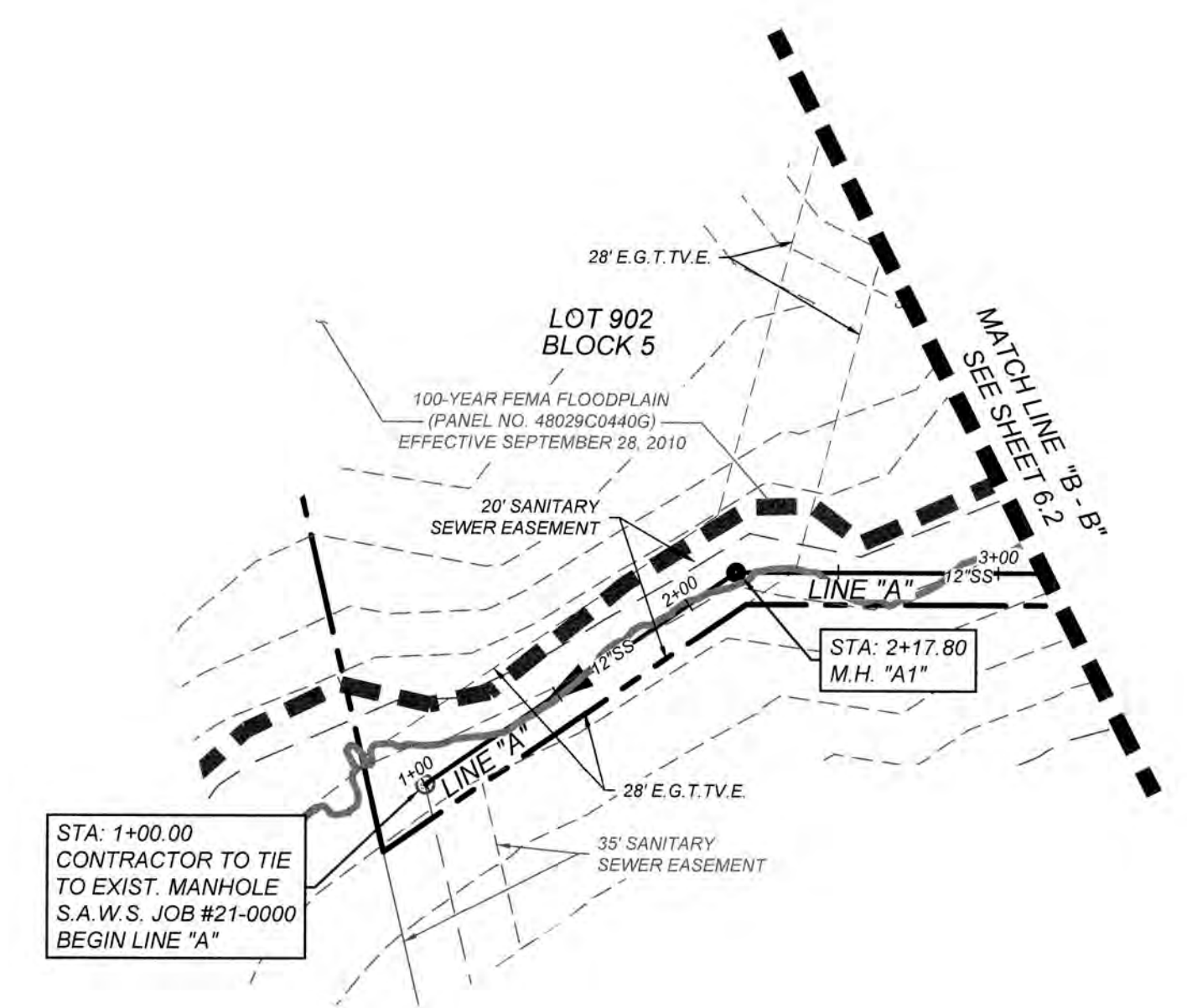
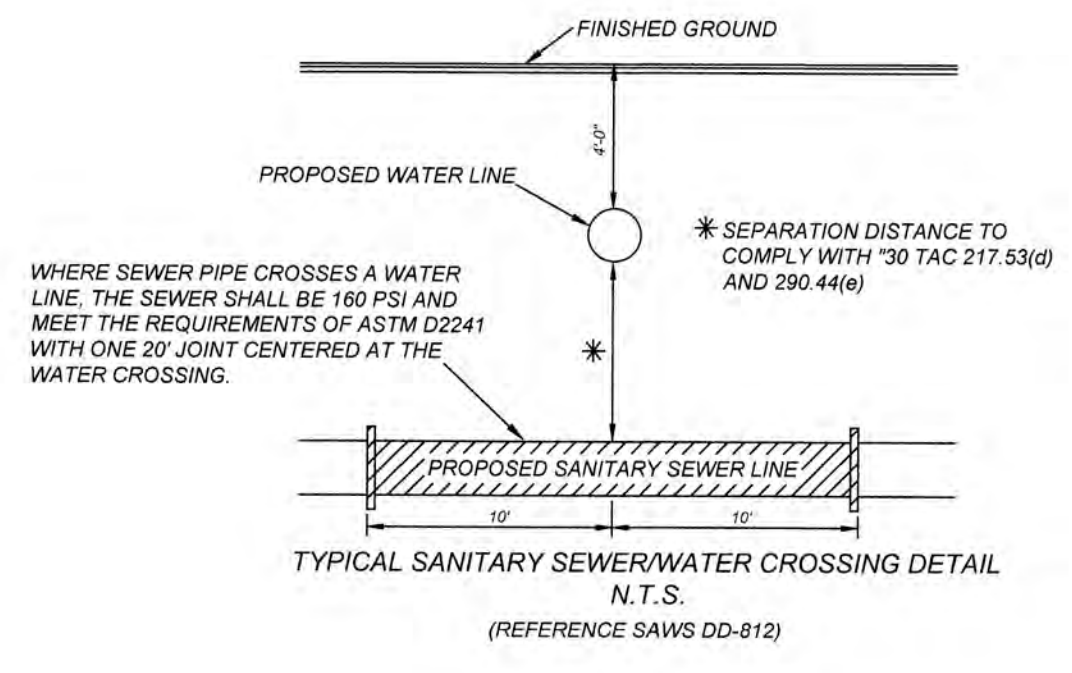
REFERENCE S.A.W.S. DETAILS
DD-804-01 SANITARY SEWER PIPE Laid IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-949-01 GO, NO GO DEFLECTION TESTING MANDREL
DD-852-01 STANDARD PRECAST MANHOLE
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)
DD-852-03 MANHOLE RING ENCASUREMENT DETAIL
DD-854-ERDZ HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)
DD-858-01 TYPICAL CONCRETE ENCASUREMENT DETAILS
DD-858-02 TYPICAL CONCRETE DETAILS
DD-860-01 TYPICAL VERTICAL STACK DETAILS
DD-852-06 PRECAST MANHOLE BASE 45° ANGLE
DD-852-08 DROP MANHOLE DETAIL
DD-852-07 MANHOLE RING AND COVER DETAIL



LOCATION MAP
NOT-TO-SCALE

LEGEND

- | | |
|--|---------------|
| PROPOSED WATER MAIN | = W |
| PROPOSED WATER SERVICE & METER BOX | = |
| PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX | = |
| PROPOSED FIRE HYDRANT | = |
| PROPOSED WATER VALVE | = |
| PROPOSED SANITARY SEWER MAIN | = SS |
| PROPOSED SANITARY SEWER MANHOLE | = |
| PROPOSED SANITARY SEWER LATERAL | = |
| PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT | = E.G.T.T.V.E |
| EXISTING WATER MAIN | = EW |
| EXISTING FIRE HYDRANT | = |
| EXISTING WATER VALVE | = |
| EXISTING SANITARY SEWER MAIN | = E.SS |
| EXISTING SANITARY SEWER MANHOLE | = |
| EXISTING OVERHEAD ELECTRIC W/POWER POLE | = OHE |
| EXISTING GUY WIRE/OVERHEAD ELECTRIC | = |



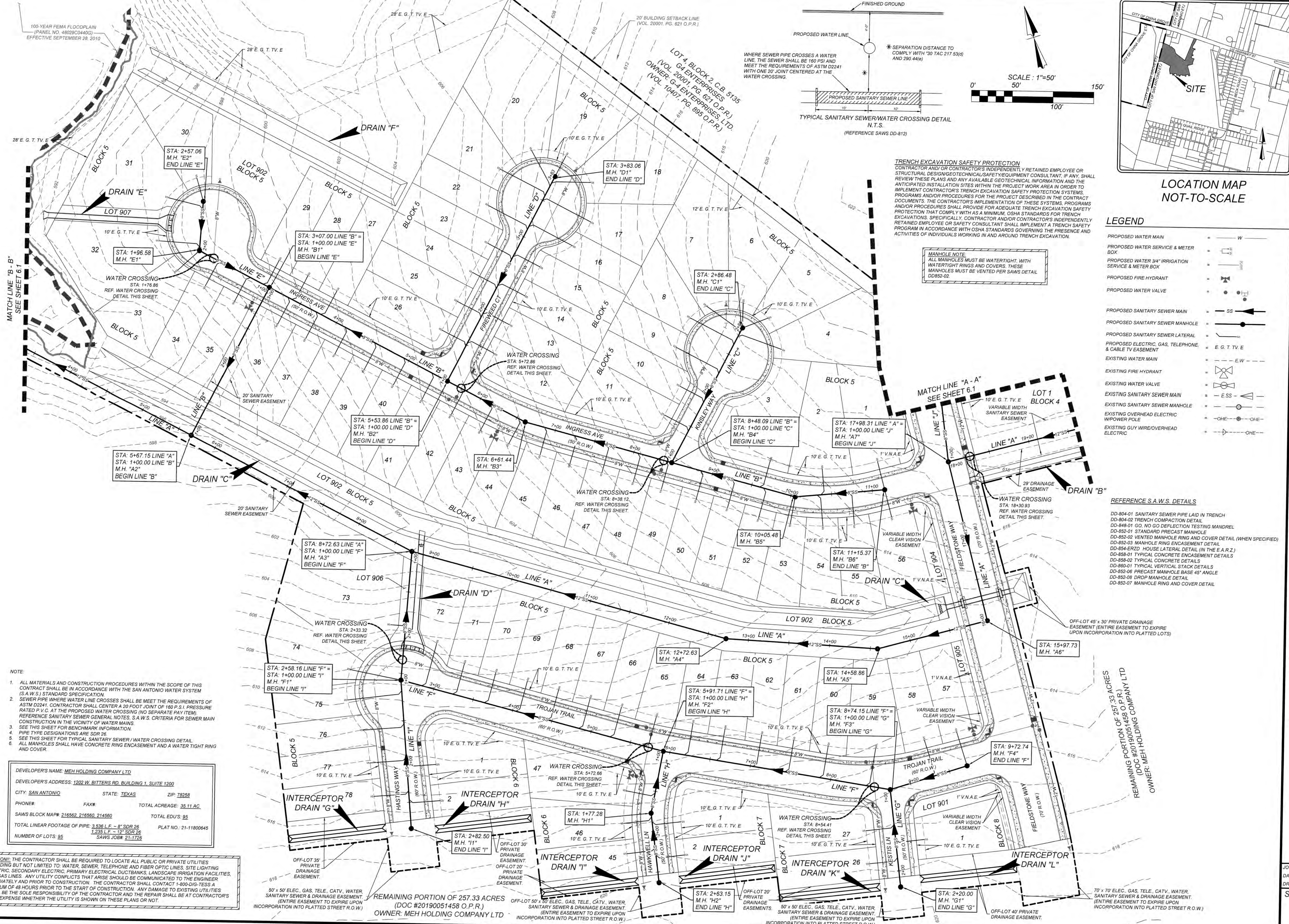
DEVELOPER'S NAME: MEH HOLDING COMPANY LTD			
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD. BUILDING 1, SUITE 1200			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78258	
PHONE#:	FAX#:	TOTAL ACREAGE: 35.11 AC.	
SAWS BLOCK MAP# 216562, 216560, 214560		TOTAL EDUS: 95	
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. - 8" SDR 26		PLAT NO.: 21-11800645	
NUMBER OF LOTS: 95		SAWS JOB# 21-1726	

K&W
ENGINEERS & SURVEYING
1202 W. BITTERS RD. BUILDING 1, SUITE 1200
SAN ANTONIO, TEXAS 78258
Phone # (210) 979-9444 • Fax # (210) 979-9441
TBP# E-9613 • TBP# S-9613 • TBP# L-9613

STATE OF TEXAS
CLAYTON J. LINNEY
11543
LICENSED PROFESSIONAL ENGINEER
Clayton Linney
6/29/2023

GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
OVERALL SANITARY SEWER PLAN (SHEET 1 OF 2)

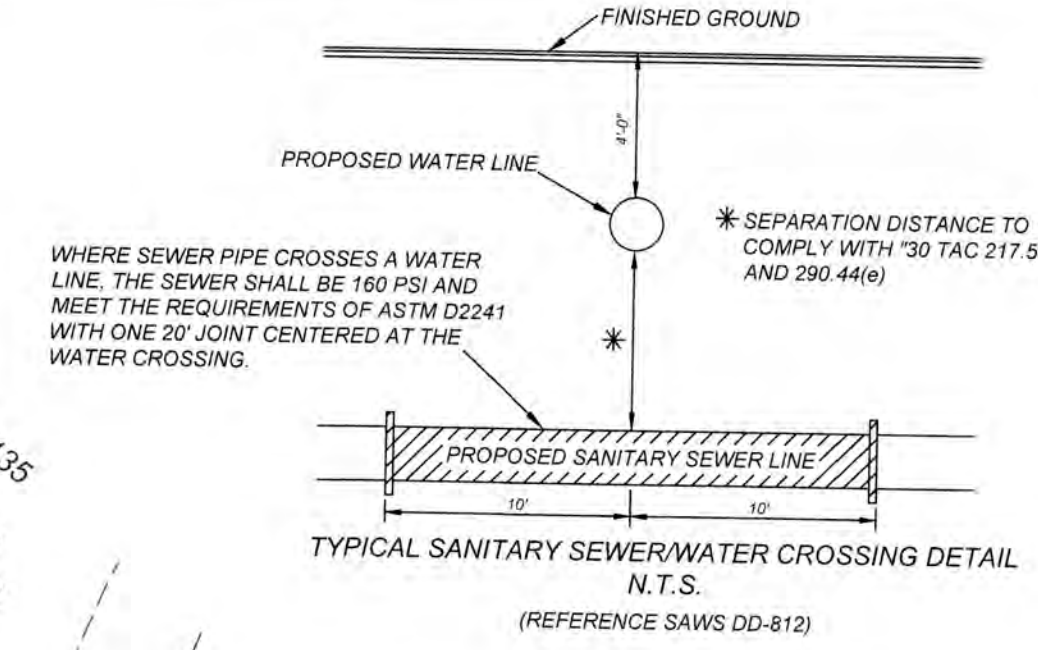
PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN OM CHECKED CL
SHEET NUMBER:
6.1



- NOTE:
1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
 2. SEWER PIPE WHERE WATER LINE CROSSES SHALL MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 180 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
 3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
 4. PIPE TYPE DESIGNATIONS ARE SDR 26.
 5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
 6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING AND COVER.

DEVELOPER'S NAME: MEH HOLDING COMPANY LTD.
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD. BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258
PHONE: [blank] FAX: [blank] TOTAL ACRES: 35.11 AC.
SAWS BLOCK MAP# 216562, 216560, 214560 TOTAL E.D.U.'S: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. - 8" SDR 26 PLAT NO.: 21-11800645
NUMBER OF LOTS: 95 1,235 L.F. - 12" SDR 26 SAWS JOB# 21-1726

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



TRENCH EXCAVATION SAFETY PROTECTION
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MANHOLE NOTE
ALL MANHOLES MUST BE WATER TIGHT, WITH WATER TIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD652-02.

LEGEND

PROPOSED WATER MAIN	W
PROPOSED SERVICE & METER BOX	[Symbol]
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	[Symbol]
PROPOSED FIRE HYDRANT	[Symbol]
PROPOSED WATER VALVE	[Symbol]
PROPOSED SANITARY SEWER MAIN	SS
PROPOSED SANITARY SEWER MANHOLE	[Symbol]
PROPOSED SANITARY SEWER LATERAL	[Symbol]
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	E.G.T.V.E
EXISTING WATER MAIN	E-W
EXISTING FIRE HYDRANT	[Symbol]
EXISTING WATER VALVE	[Symbol]
EXISTING SANITARY SEWER MAIN	E-SS
EXISTING SANITARY SEWER MANHOLE	[Symbol]
EXISTING OVERHEAD ELECTRIC W/POWER POLE	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	[Symbol]

REFERENCE S.A.W.S. DETAILS

- DD-804-01 SANITARY SEWER PIPE Laid IN TRENCH
- DD-804-02 TRENCH COMPACTION DETAIL
- DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL
- DD-852-01 STANDARD PRECAST MANHOLE
- DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)
- DD-852-03 MANHOLE RING ENCASUREMENT DETAIL
- DD-854-ERD HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)
- DD-858-01 TYPICAL CONCRETE ENCASUREMENT DETAILS
- DD-858-02 TYPICAL CONCRETE DETAILS
- DD-860-01 TYPICAL VERTICAL STACK DETAILS
- DD-852-06 PRECAST MANHOLE BASE 45° ANGLE
- DD-852-08 DROP MANHOLE DETAIL
- DD-852-07 MANHOLE RING AND COVER DETAIL

REMAINING PORTION OF 257.33 ACRES
(DOC #20190051458 O.P.R.)
OWNER: MEH HOLDING COMPANY LTD

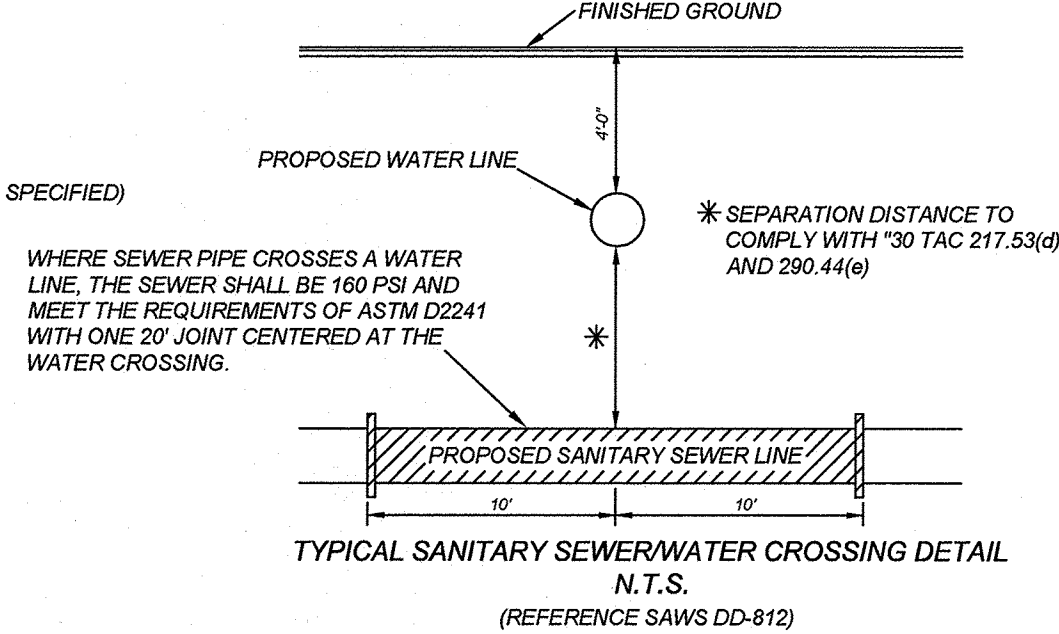
TRENCH EXCAVATION SAFETY PROTECTION
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3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING AND COVER.

REFERENCE S.A.W.S. DETAILS

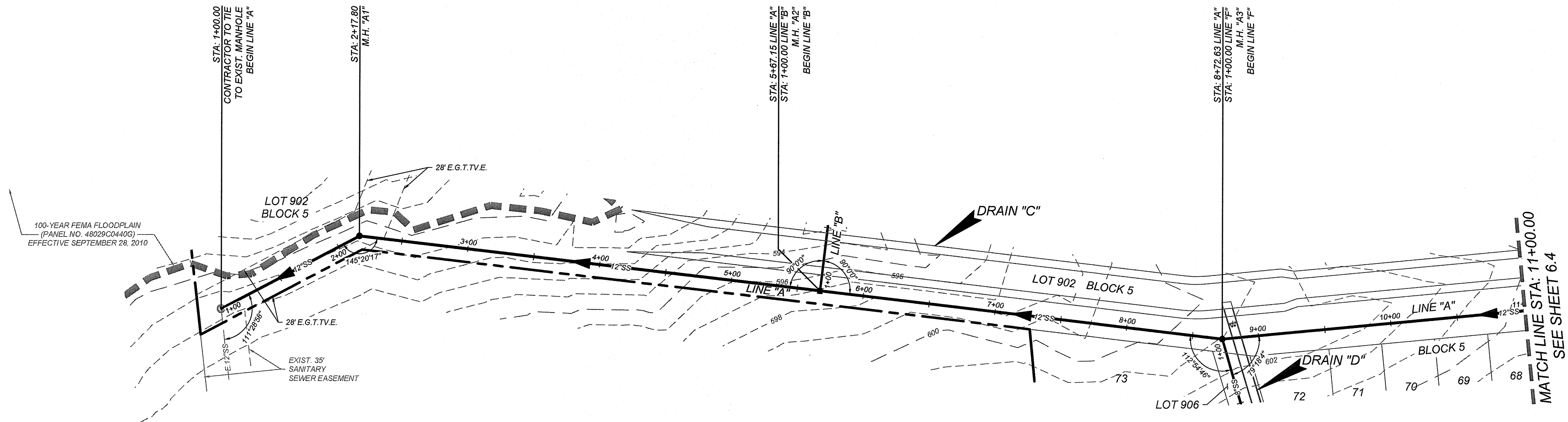
DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL
DD-852-01 STANDARD PRECAST MANHOLE
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)
DD-852-03 MANHOLE RING ENCASUREMENT DETAIL
DD-854-ERD2 HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)
DD-858-01 TYPICAL CONCRETE ENCASUREMENT DETAILS
DD-858-02 TYPICAL CONCRETE DETAILS
DD-880-01 TYPICAL VERTICAL STACK DETAILS
DD-882-06 PRECAST MANHOLE BASE 45° ANGLE
DD-852-08 DROP MANHOLE DETAIL
DD-852-07 MANHOLE RING AND COVER DETAIL



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

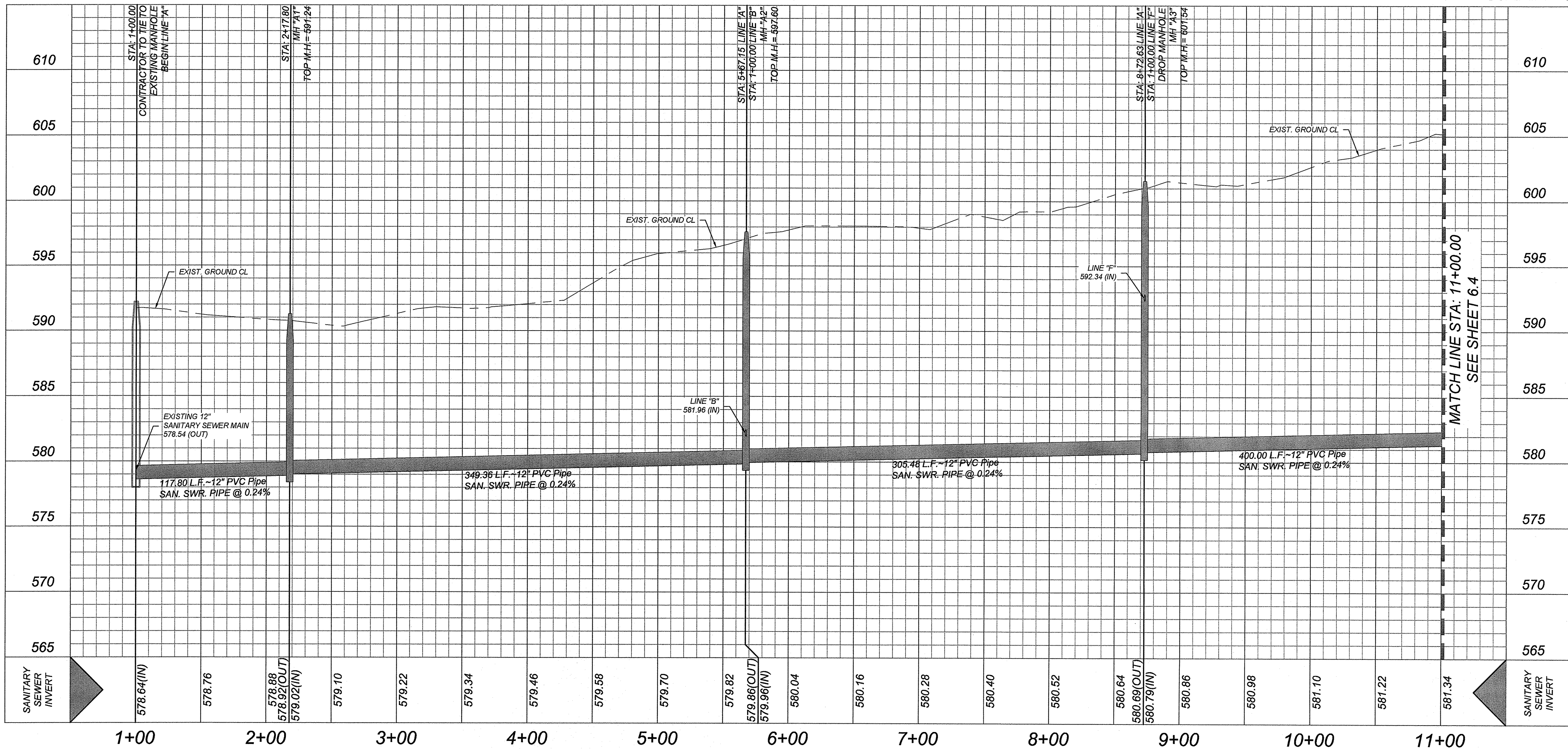
MANHOLE NOTE:
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DEVELOPER'S NAME: MEH HOLDING COMPANY LTD
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD, BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258
PHONE: FAX: TOTAL ACREAGE: 35.11 AC.
SAWS BLOCK MAP: 216562, 216560, 214560 TOTAL E.D.U.S: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. ~ 8" SDR 26
1,235 L.F. ~ 12" SDR 26 PLAT NO.: 21-11800645
NUMBER OF LOTS: 95 SAWS JOB#: 21-1728



LINE "A"
STA: 1+00.00 - 11+00.00

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



GATES SUBDIVISION UNIT 1

BEXAR COUNTY, TX

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

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

6.3

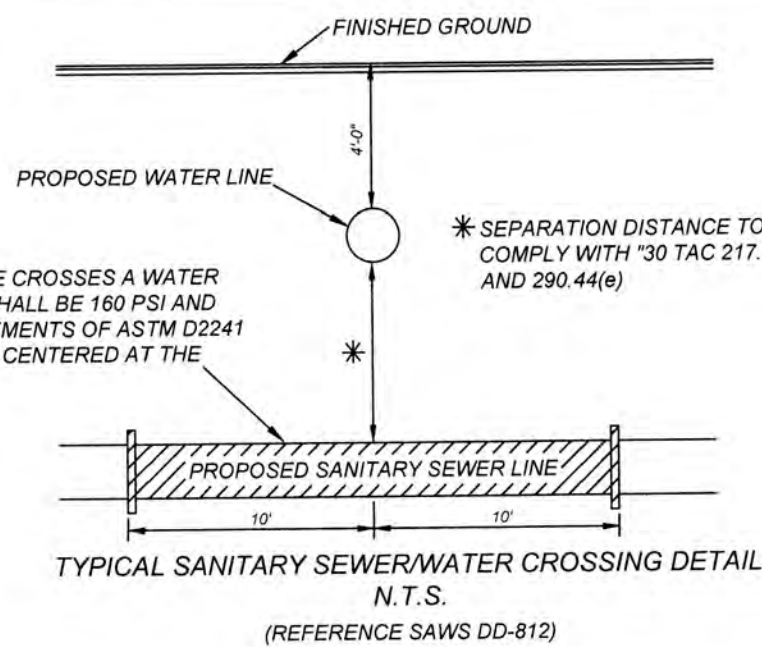
TRENCH EXCAVATION SAFETY PROTECTION
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3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASMENT AND A WATER TIGHT RING AND COVER.

REFERENCE S.A.W.S. DETAILS

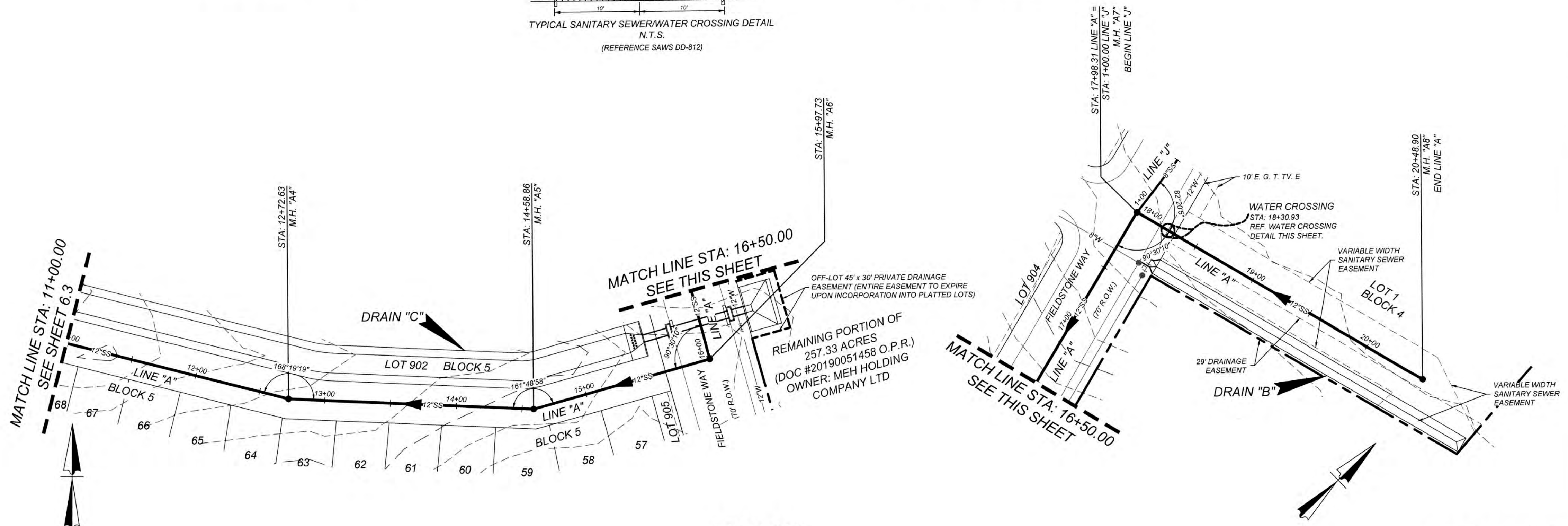
DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL
DD-852-01 STANDARD PRECAST MANHOLE
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)
DD-852-03 MANHOLE RING ENCASMENT DETAIL
DD-854-ER2D HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)
DD-858-01 TYPICAL CONCRETE ENCASMENT DETAILS
DD-858-02 TYPICAL CONCRETE DETAILS
DD-860-01 TYPICAL VERTICAL STACK DETAILS
DD-862-06 PRECAST MANHOLE BASE 45° ANGLE
DD-852-08 DROP MANHOLE DETAIL
DD-852-07 MANHOLE RING AND COVER DETAIL



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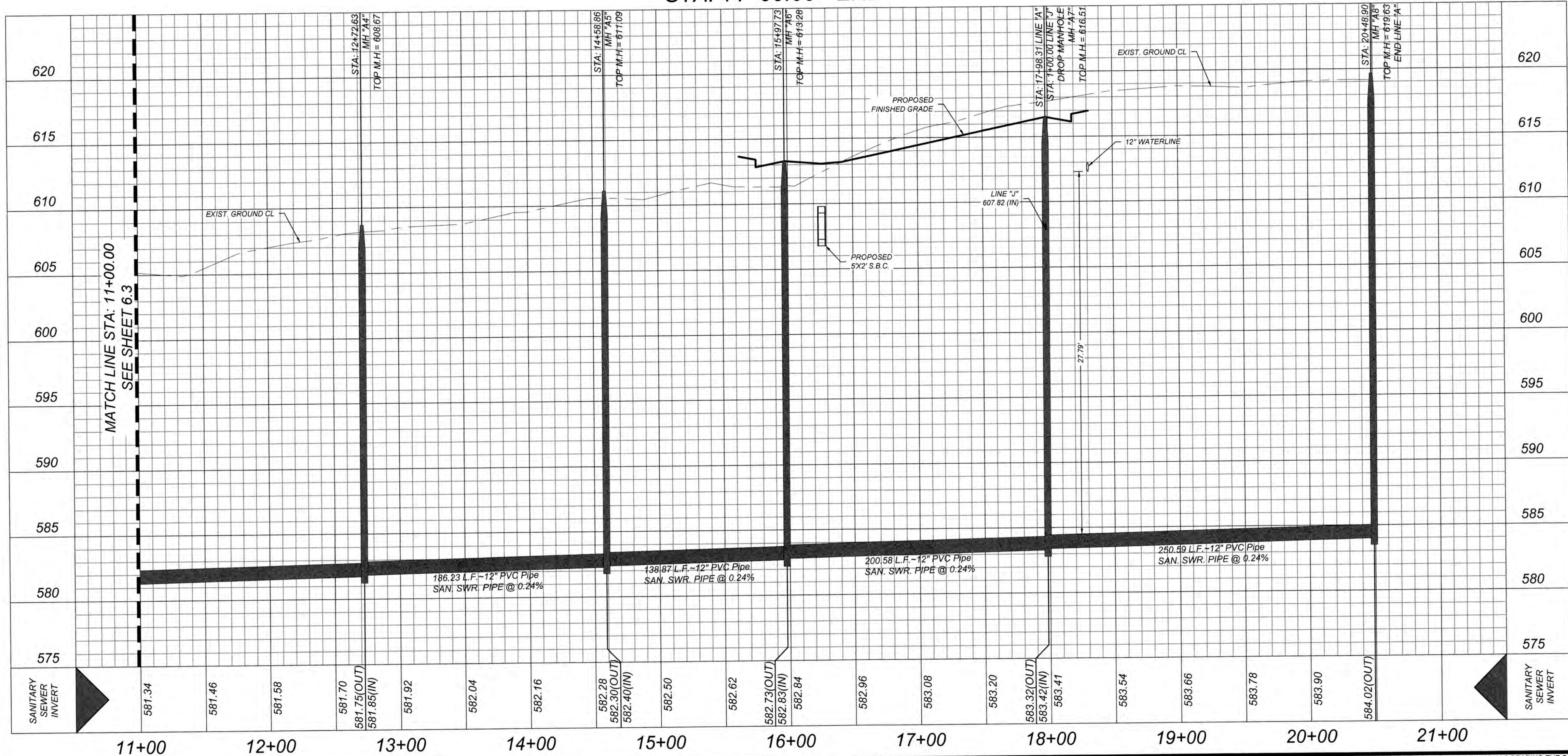
MANHOLE NOTE:
ALL MANHOLES MUST BE WATER TIGHT, WITH WATER TIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

DEVELOPER'S NAME: MEH HOLDING COMPANY LTD
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD, BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258
PHONE: FAX: TOTAL ACRES: 35.11 AC.
SAWS BLOCK MAP#: 218562, 218560, 214560 TOTAL EDU'S: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. ~ 8" SDR 26 PLAT NO.: 21-11800645
1,235 L.F. ~ 12" SDR 26
NUMBER OF LOTS: 95 SAWS JOB#: 21-1726



LINE "A"
STA: 11+00.00 - END

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



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

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



PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL
SHEET NUMBER:

6.4

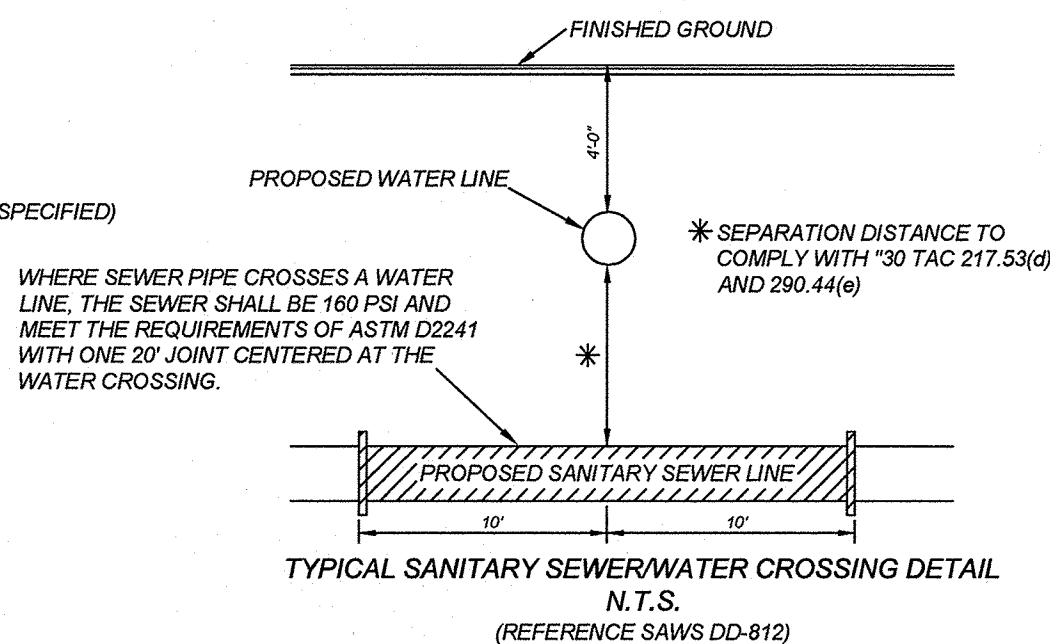
TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK 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:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 180 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING AND COVER.

REFERENCE S.A.W.S. DETAILS

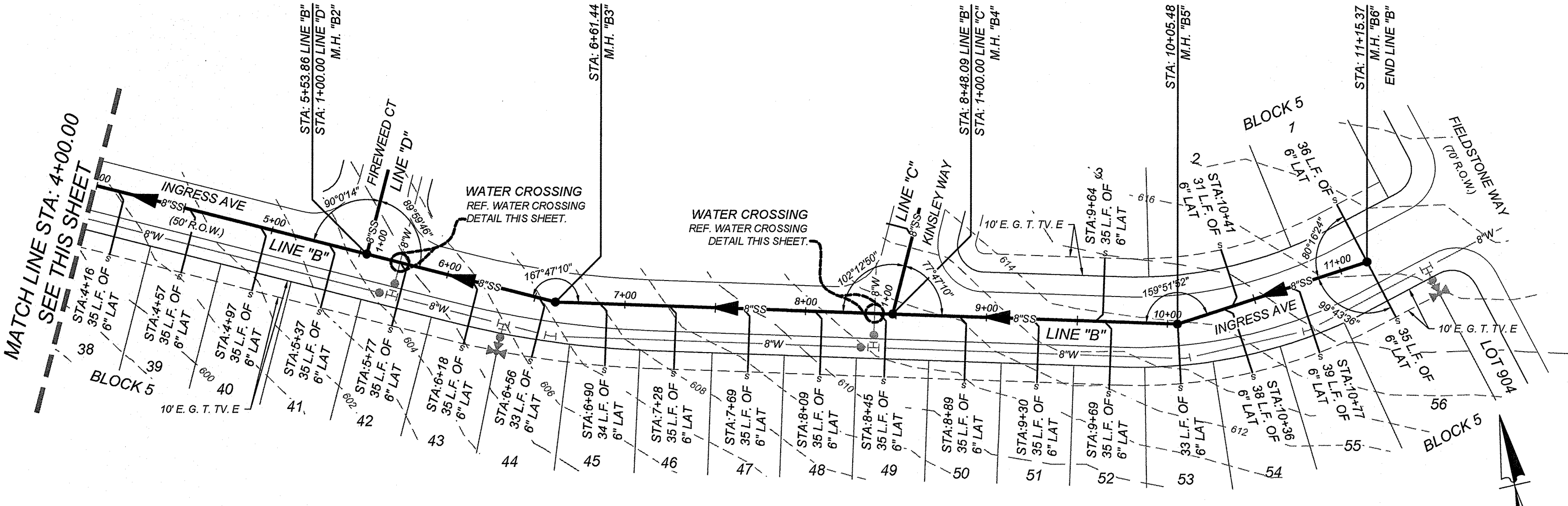
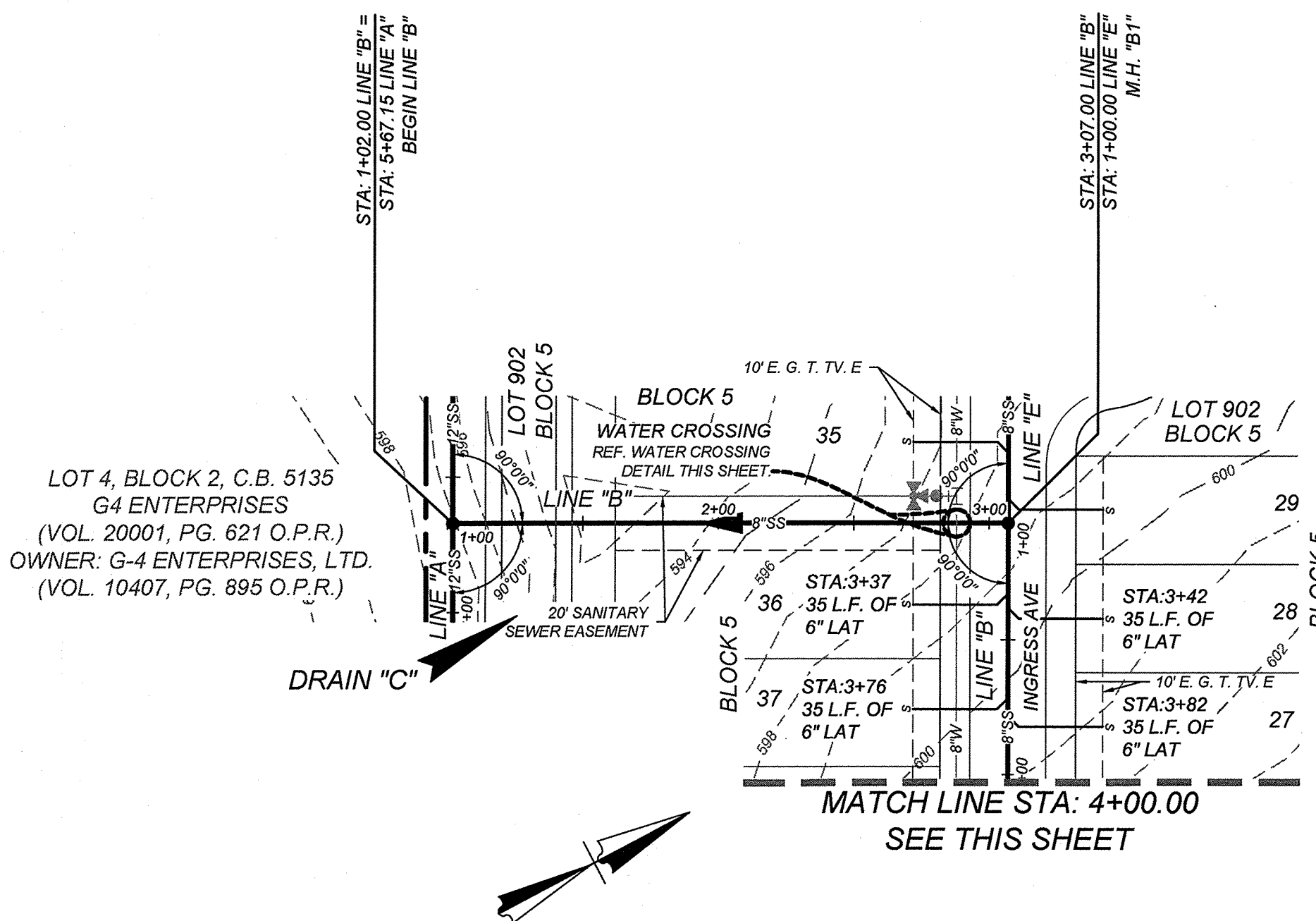
DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL
DD-852-01 STANDARD PRECAST MANHOLE
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)
DD-854-02 HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)
DD-858-01 TYPICAL CONCRETE ENCASUREMENT DETAILS
DD-858-02 TYPICAL CONCRETE DETAILS
DD-860-01 TYPICAL VERTICAL STACK DETAILS
DD-852-06 PRECAST MANHOLE BASE 45° ANGLE
DD-852-08 DROP MANHOLE DETAIL
DD-852-07 MANHOLE RING AND COVER DETAIL



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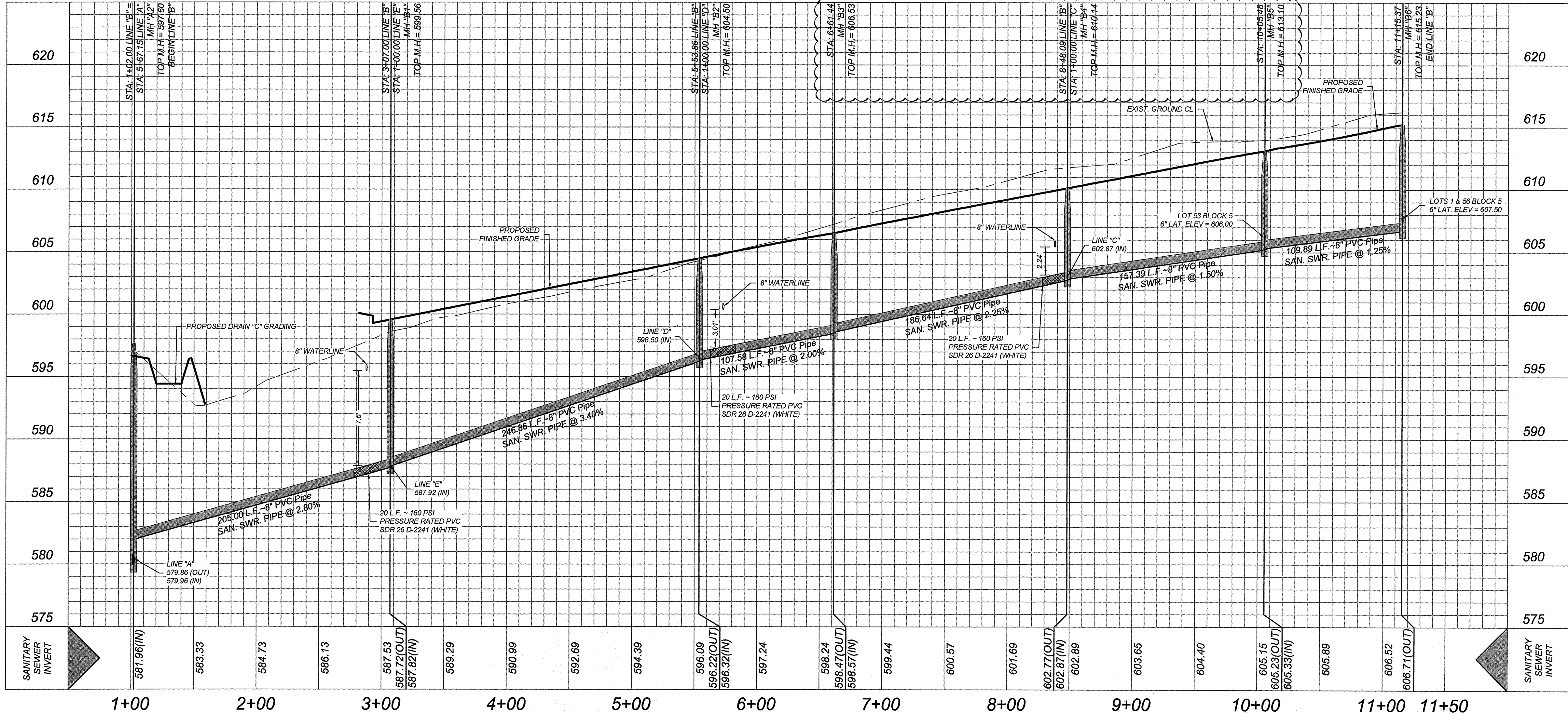
MANHOLE NOTE:
ALL MANHOLES MUST BE WATER TIGHT, WITH WATER TIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD-852-02.

DEVELOPER'S NAME: MEH HOLDING COMPANY LTD
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD. BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258
PHONE: FAX: TOTAL ACREAGE: 35.11 AC.
SAWS BLOCK MAP#: 216582, 216560, 214550 TOTAL EDU'S: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,538 L.F. ~ 8" SDR 26 PLAT NO.: 21-11800645
1,235 L.F. ~ 12" SDR 26
NUMBER OF LOTS: 95 SAWS JOB#: 21-1726



LINE "B"
STA: 1+02.00 - END

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

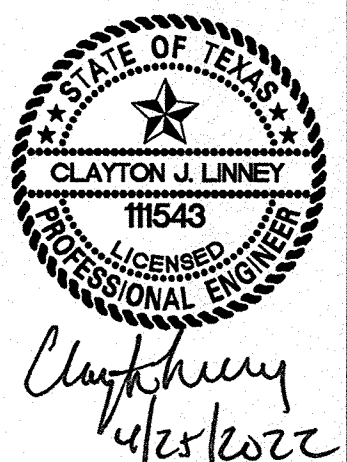


GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

LINE "B" PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

6.5



REVISIONS
Δ REVISION TOP OF MANHOLE ELEVATIONS

ISSUE DATE
4/10/2022



TRENCH EXCAVATION SAFETY PROTECTION

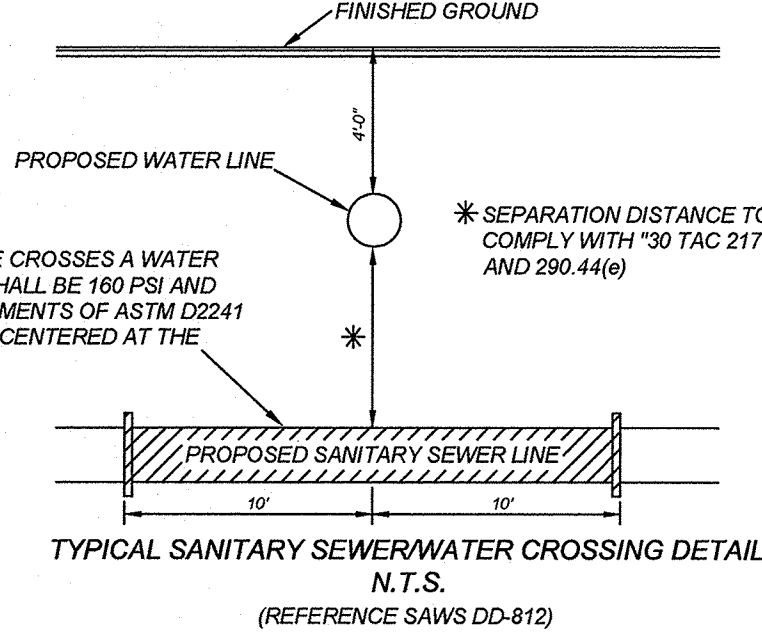
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NOTE:

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- SEE THIS SHEET FOR BENCHMARK INFORMATION.
- PIPE TYPE DESIGNATIONS ARE SDR 26.
- SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
- ALL MANHOLES SHALL HAVE CONCRETE RING ENCASMENT AND A WATER TIGHT RING AND COVER.

REFERENCE S.A.W.S. DETAILS

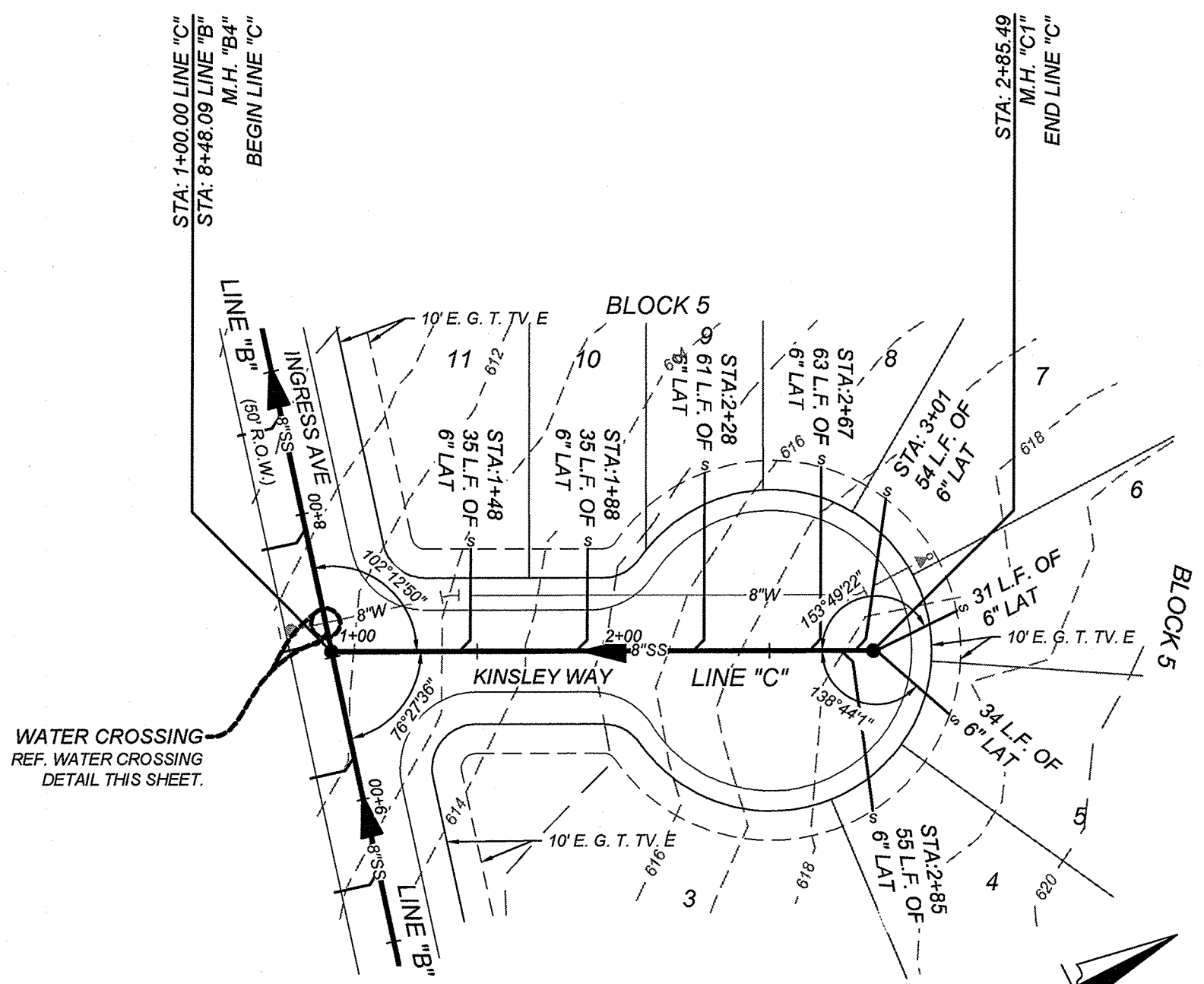
DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH
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DD-852-06 PRECAST MANHOLE BASE 45° ANGLE
DD-852-08 DROP MANHOLE DETAIL
DD-852-07 MANHOLE RING AND COVER DETAIL



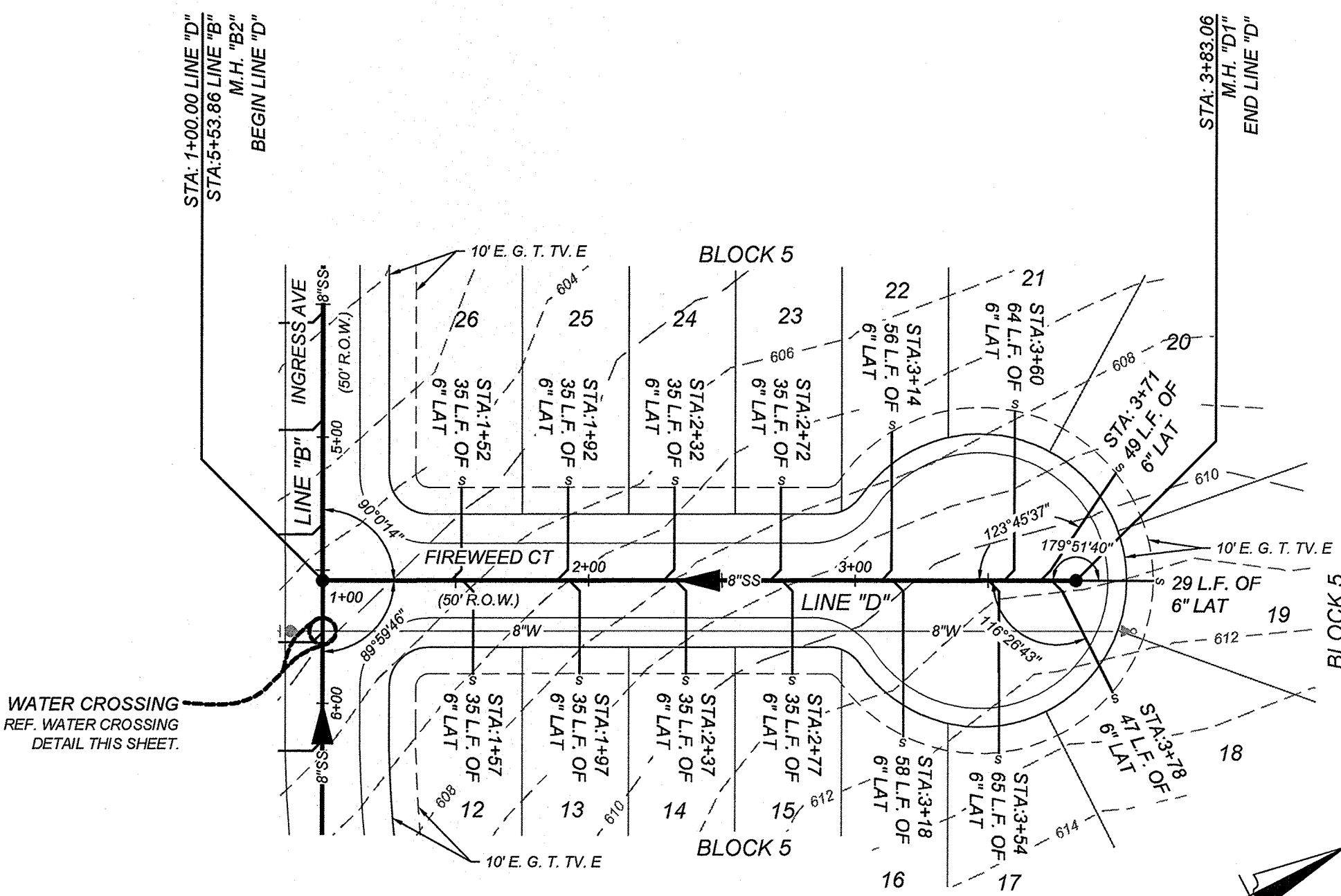
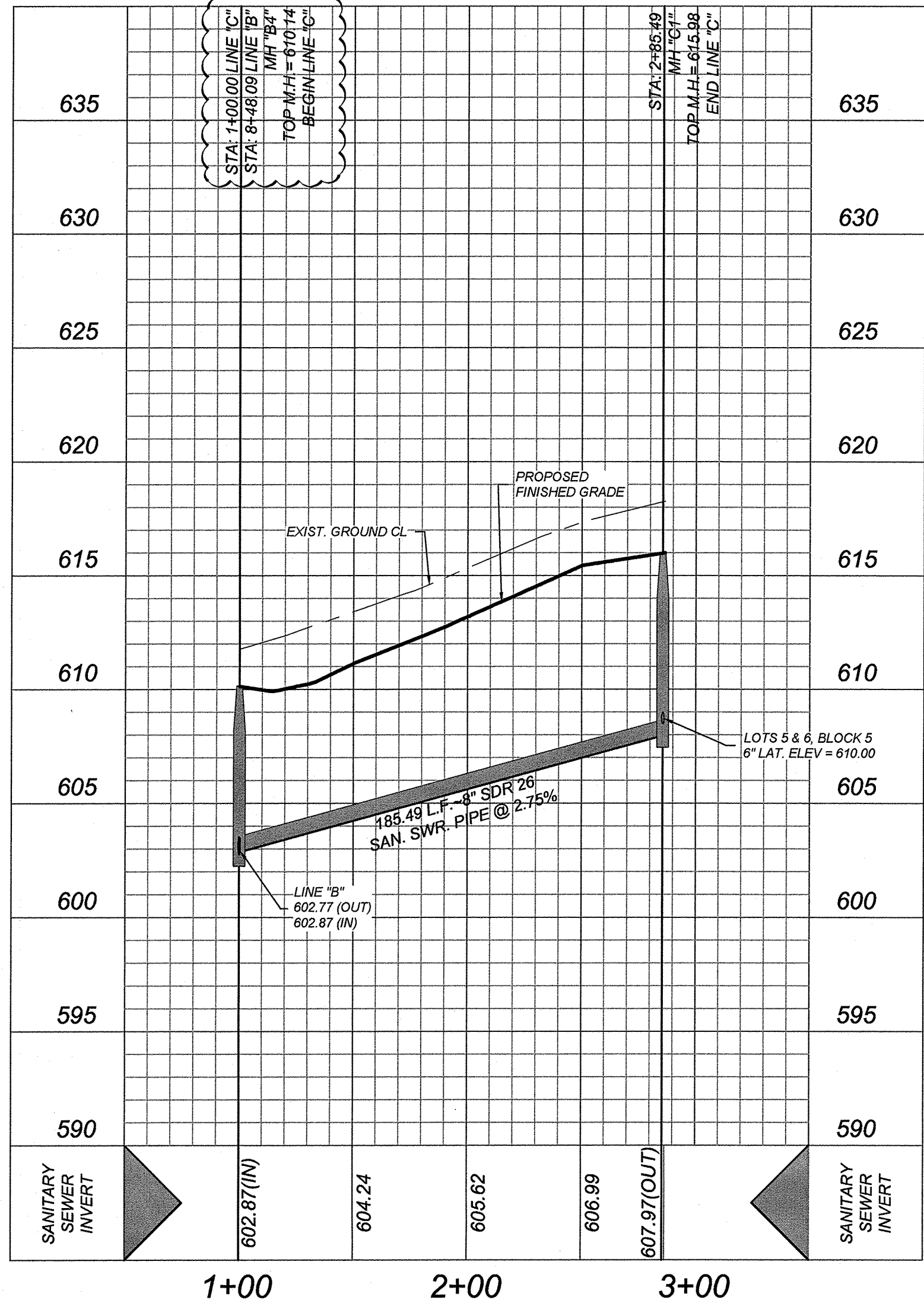
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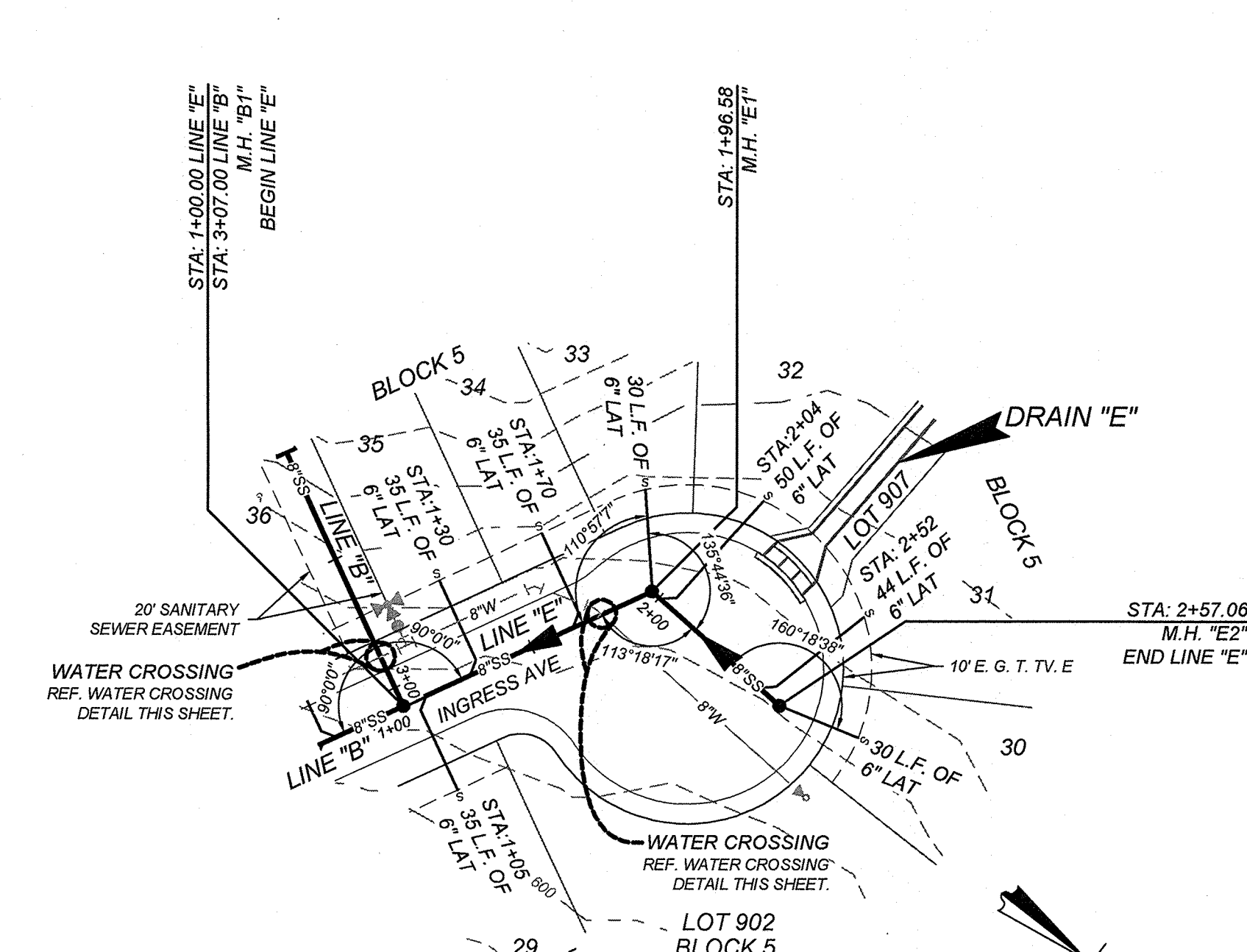
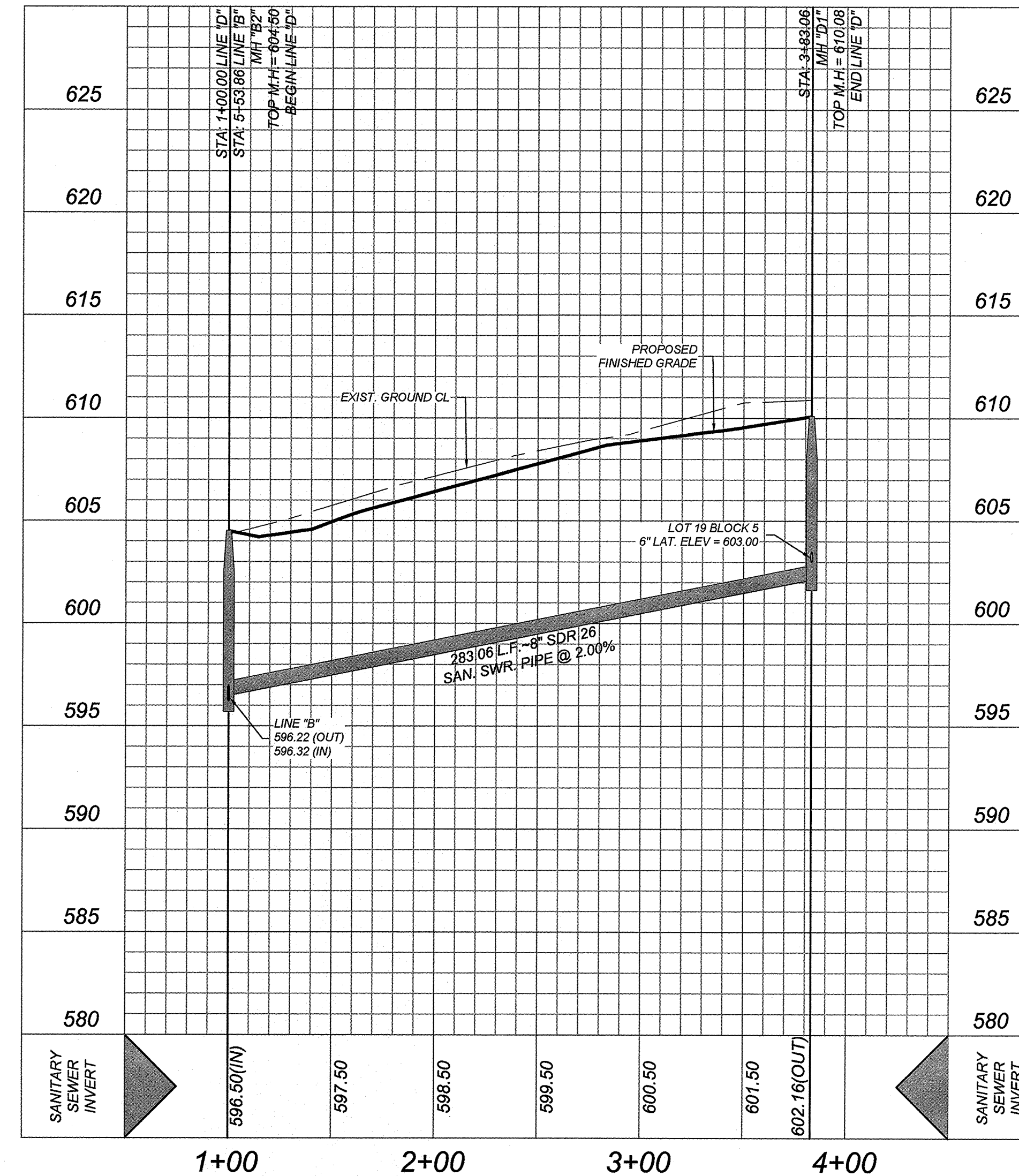
DEVELOPER'S NAME: MEH HOLDING COMPANY LTD
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD, BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78268
PHONE: FAX: TOTAL ACRES: 35.11 AC.
SAWS BLOCK MAP#: 216582, 216560, 214560 TOTAL EDUS: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. - 8" SDR 26
1,235 L.F. - 12" SDR 26 PLAT NO.: 21-11800645
NUMBER OF LOTS: 95 SAWS JOB#: 21-1726



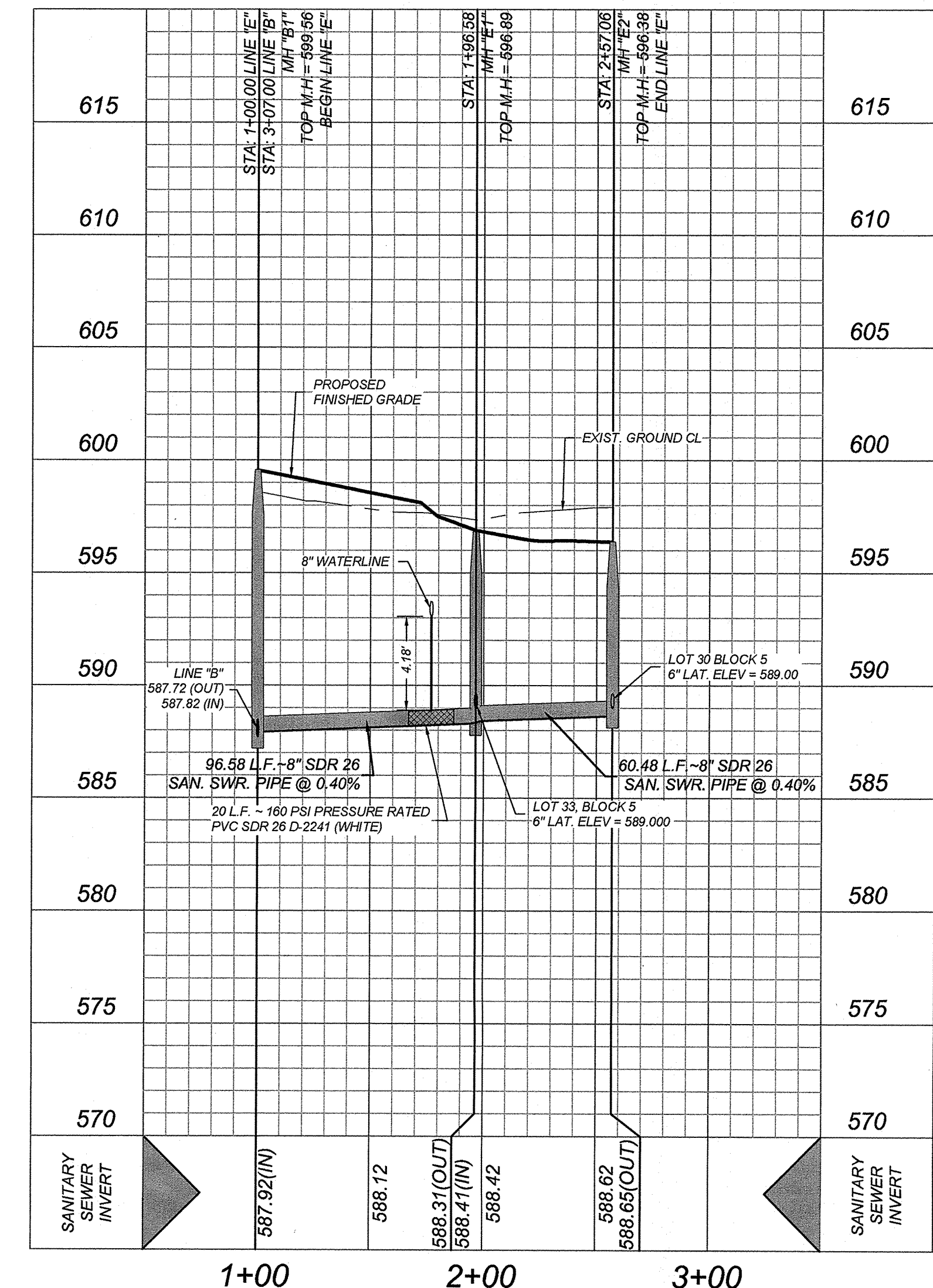
LINE "C"
STA: 1+00.00 - END
HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'



LINE "D"
STA: 1+00.00 - END
HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'



LINE "E"
STA: 1+00.00 - END
HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
LINE "C", "D" & "E" PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

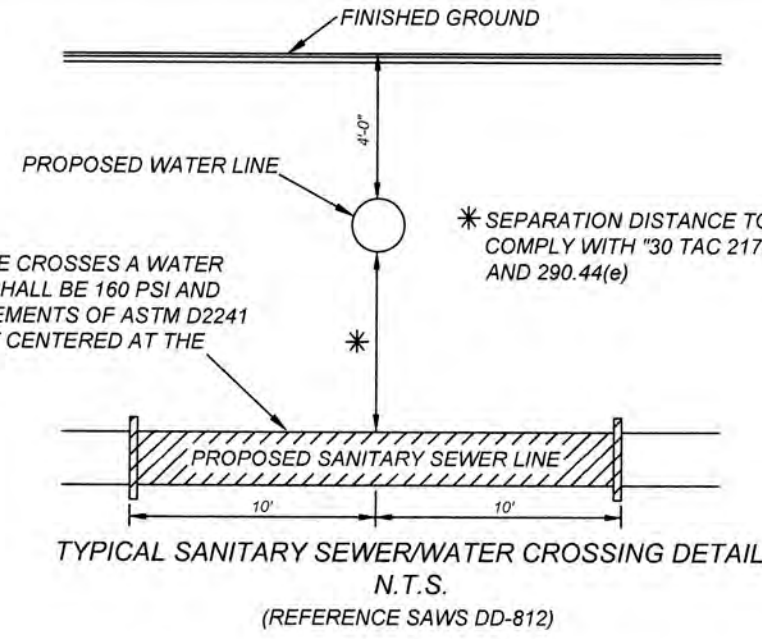
TRENCH EXCAVATION SAFETY PROTECTION
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3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING AND COVER.

REFERENCE S.A.W.S. DETAILS

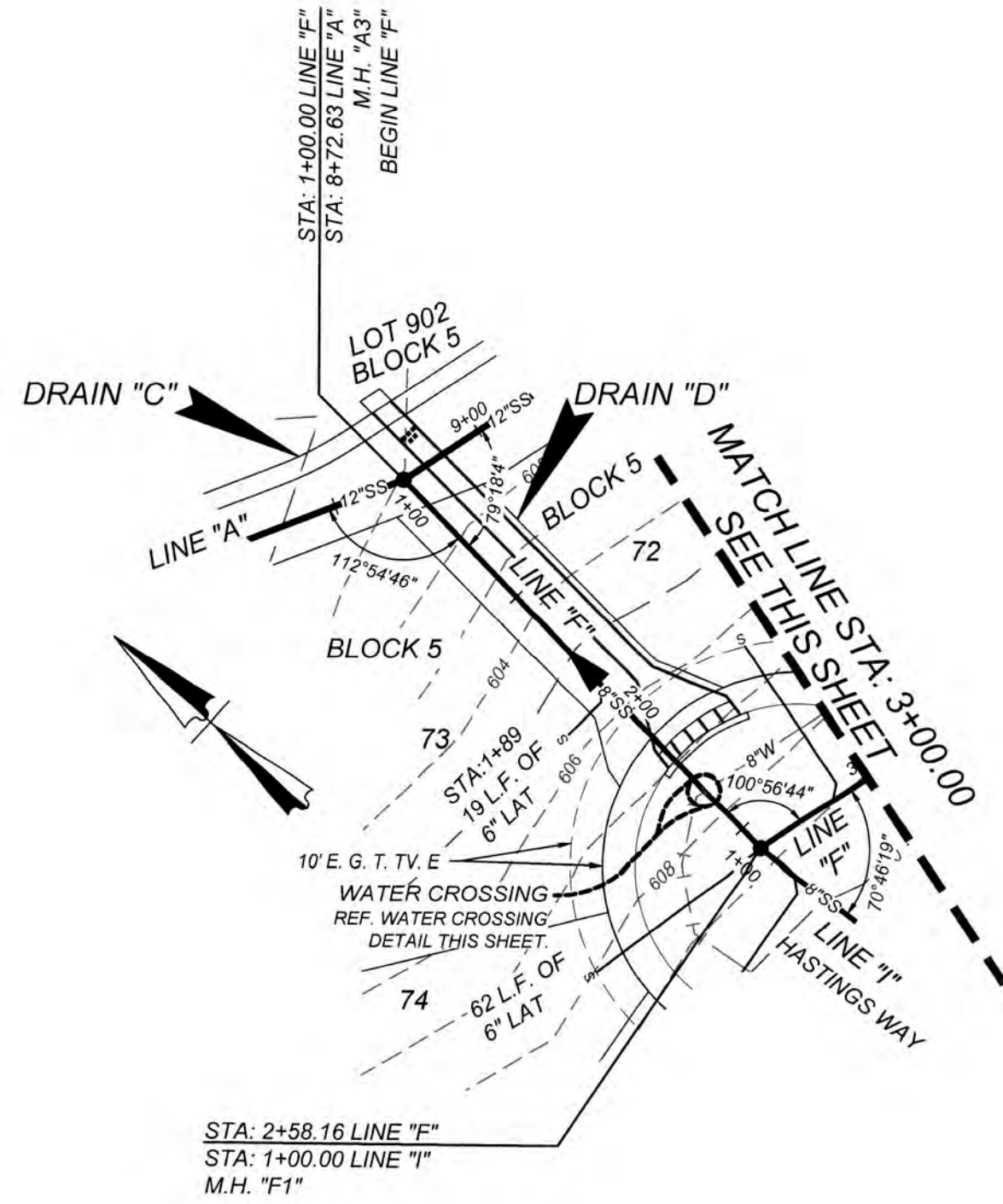
- DD-804-01 SANITARY SEWER PIPE Laid IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL
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DD-858-02 TYPICAL CONCRETE ENCASUREMENT DETAILS
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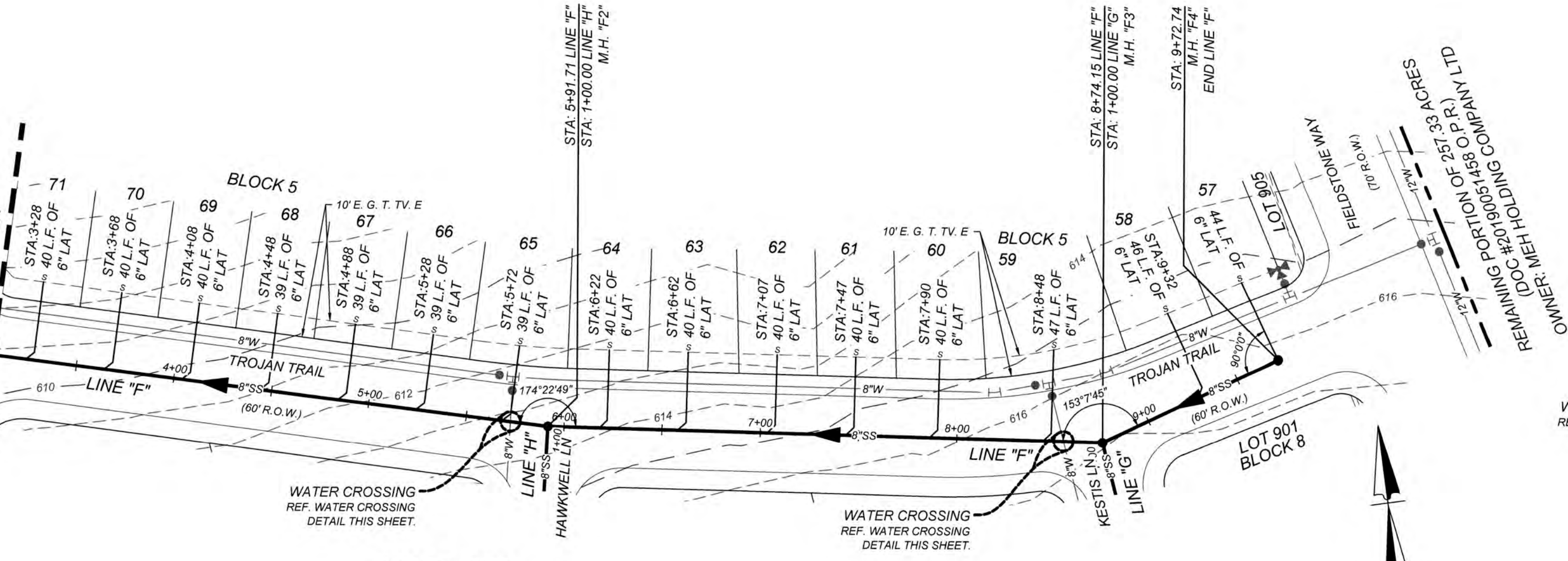
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MANHOLE NOTE:
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DEVELOPER'S NAME: MEH HOLDING COMPANY LTD
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD. BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258
PHONE: FAX: TOTAL ACREAGE: 35.11 AC.
SAWS BLOCK MAP: 215562, 215560, 214560 TOTAL EDU'S: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. - 8" SDR 26
1,335 L.F. - 12" SDR 26
NUMBER OF LOTS: 95 SAWS JOB#: 21-1728
PLAT NO.: 21-11800645

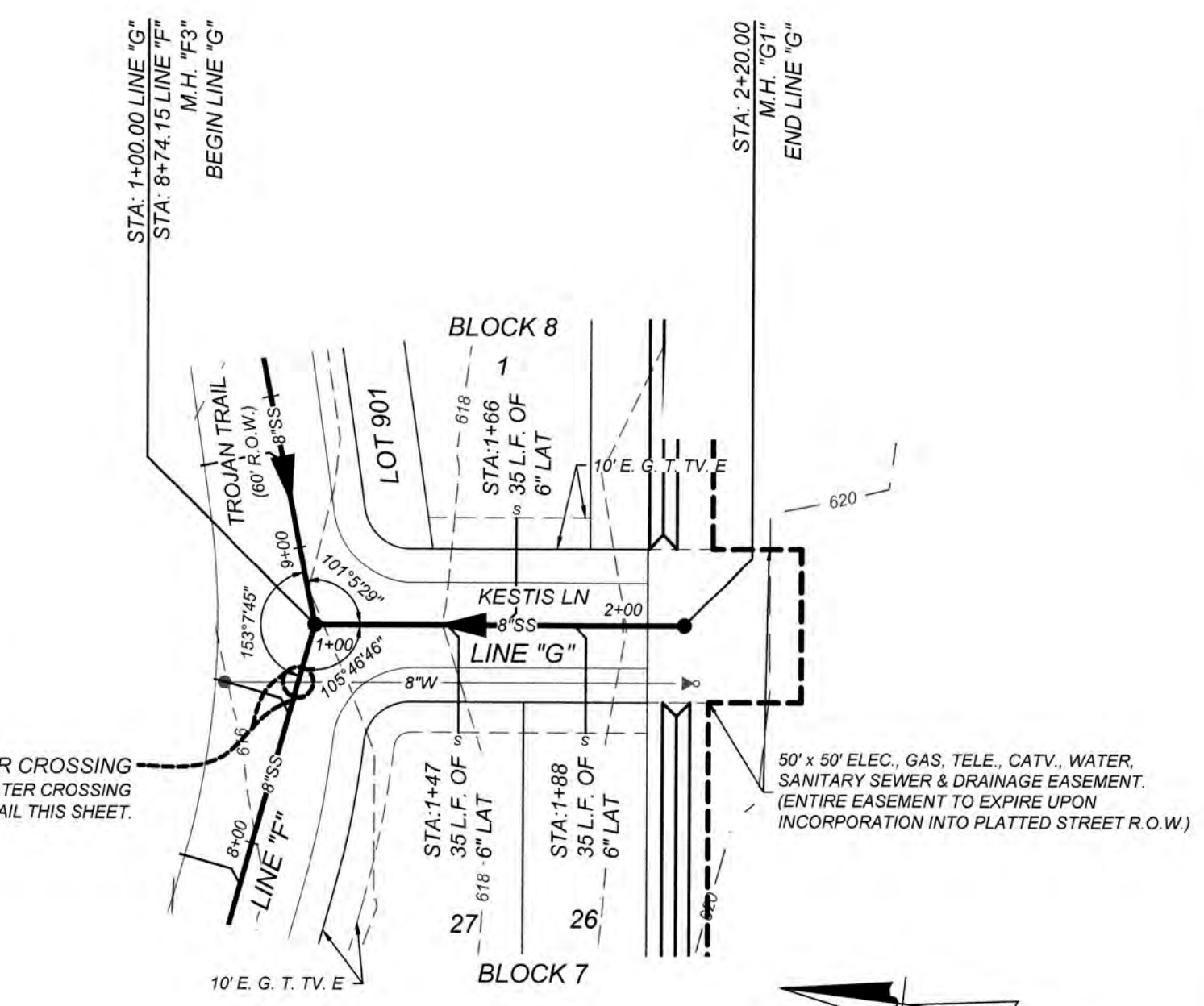


MATCH LINE STA: 3+00.00
SEE THIS SHEET

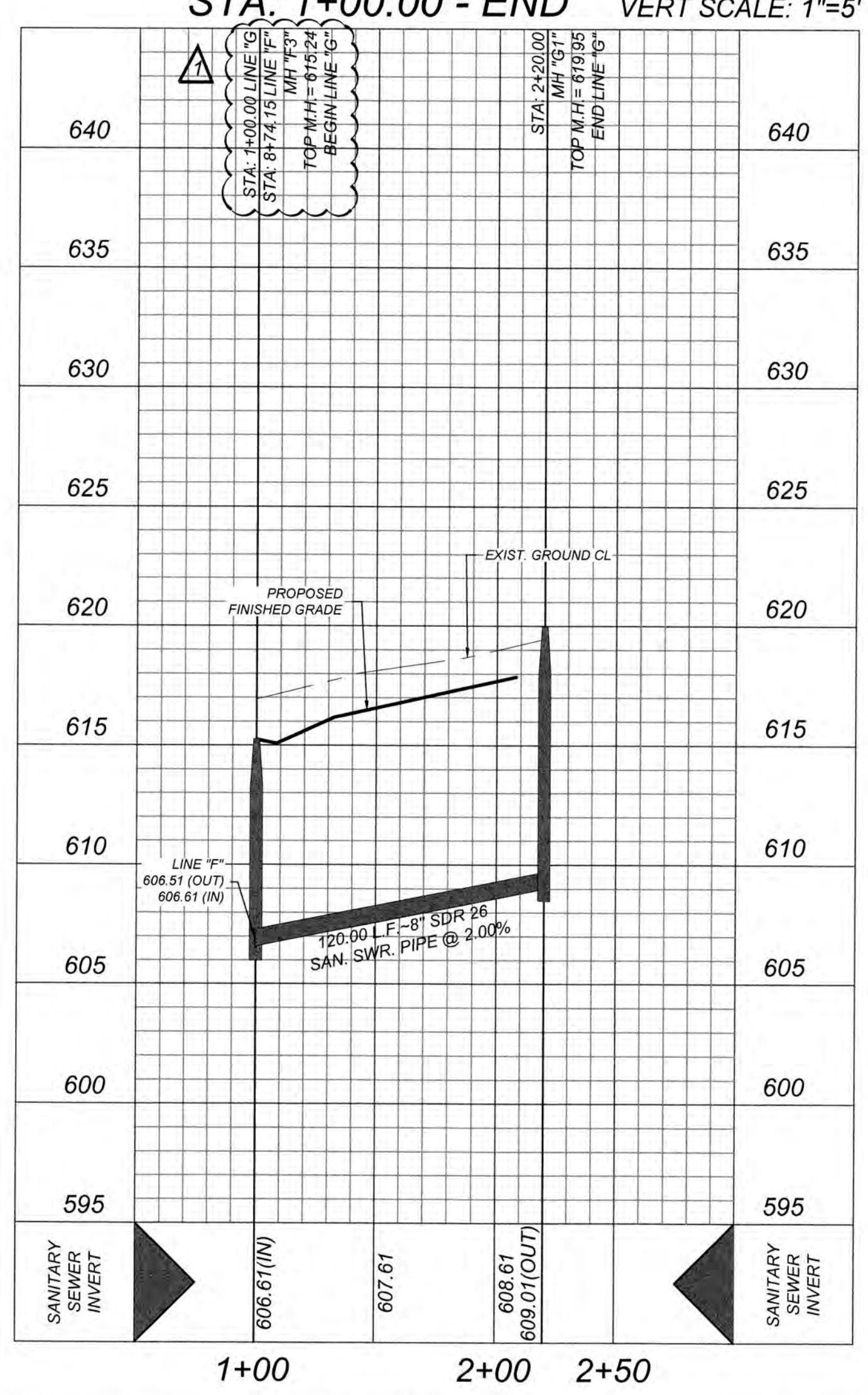
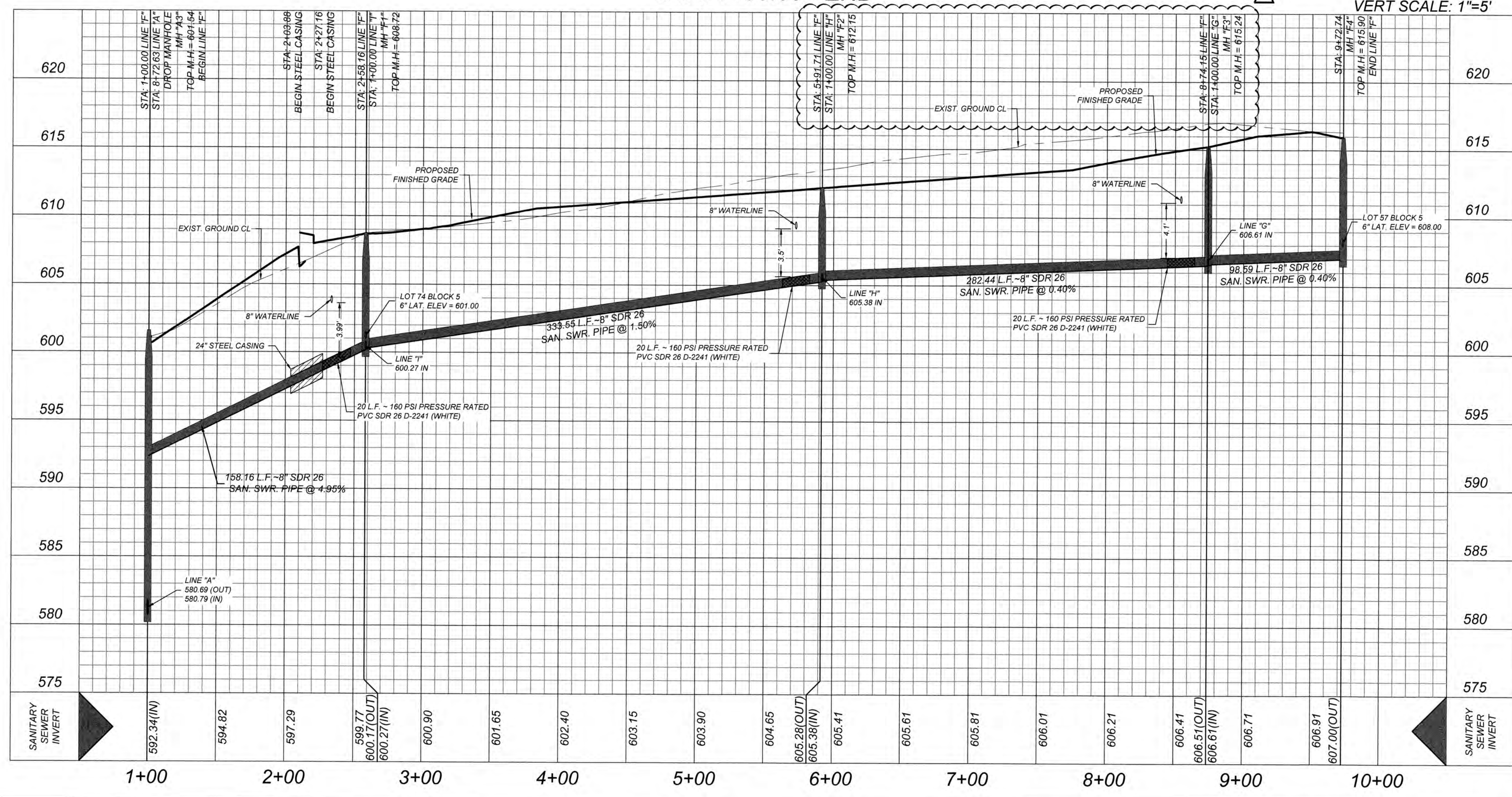


LINE "F"
STA: 1+00.00 - END

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



LINE "G"
STA: 1+00.00 - END
HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
LINE "F" & "G" PLAN & PROFILE

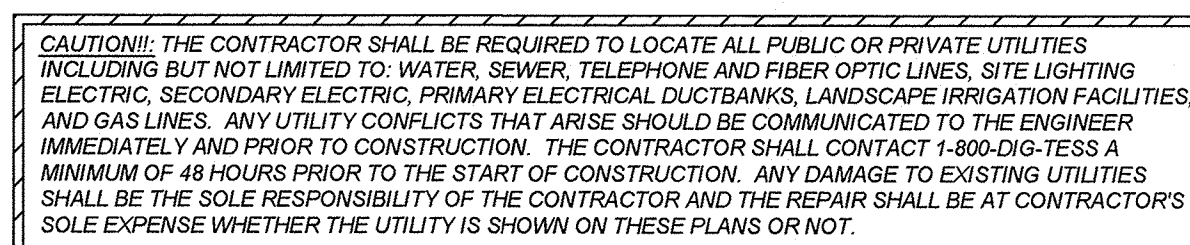
PLAT NO.
21-11800645
JOB NO: 205-43-04
DATE: OCTOBER 2021
DRAWN: OM CHECKED: CL
SHEET NUMBER:

6.7

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3. REFERENCE SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE CITY OF SAN ANTONIO.
4. SEE THIS SHEET FOR BENCHMARK INFORMATION.
5. PIPE TYPE DESIGNATIONS ARE SDR 26.
6. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
- ALL MATERIALS SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-804-01 GO, NO GO DEFLECTO TESTING MANDREL
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DEVELOPER'S NAME: MEH HOLDING COMPANY LTD

DEVELOPER'S ADDRESS: 1202 W. BITTERS RD, BUILDING 1, SUITE 1200

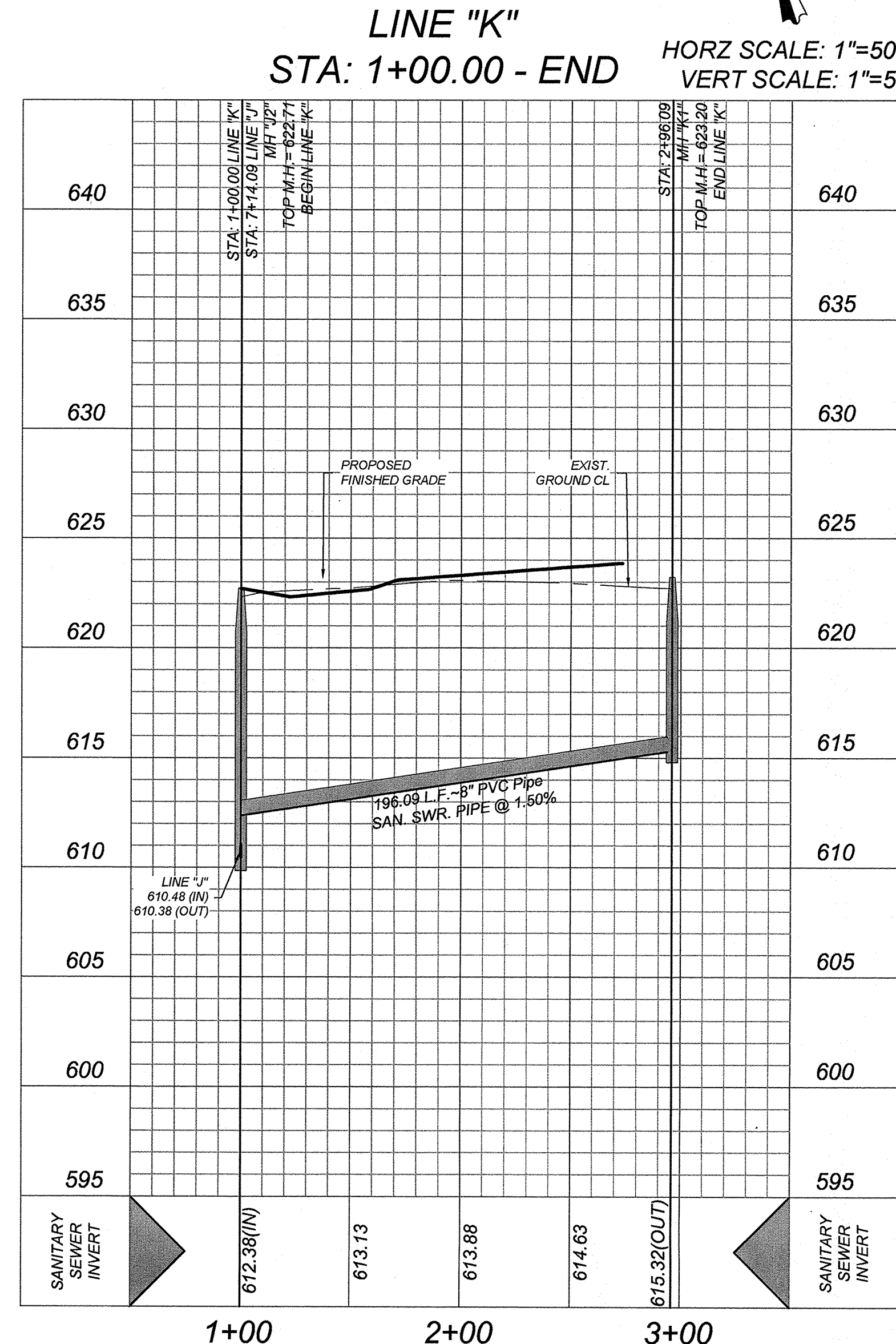
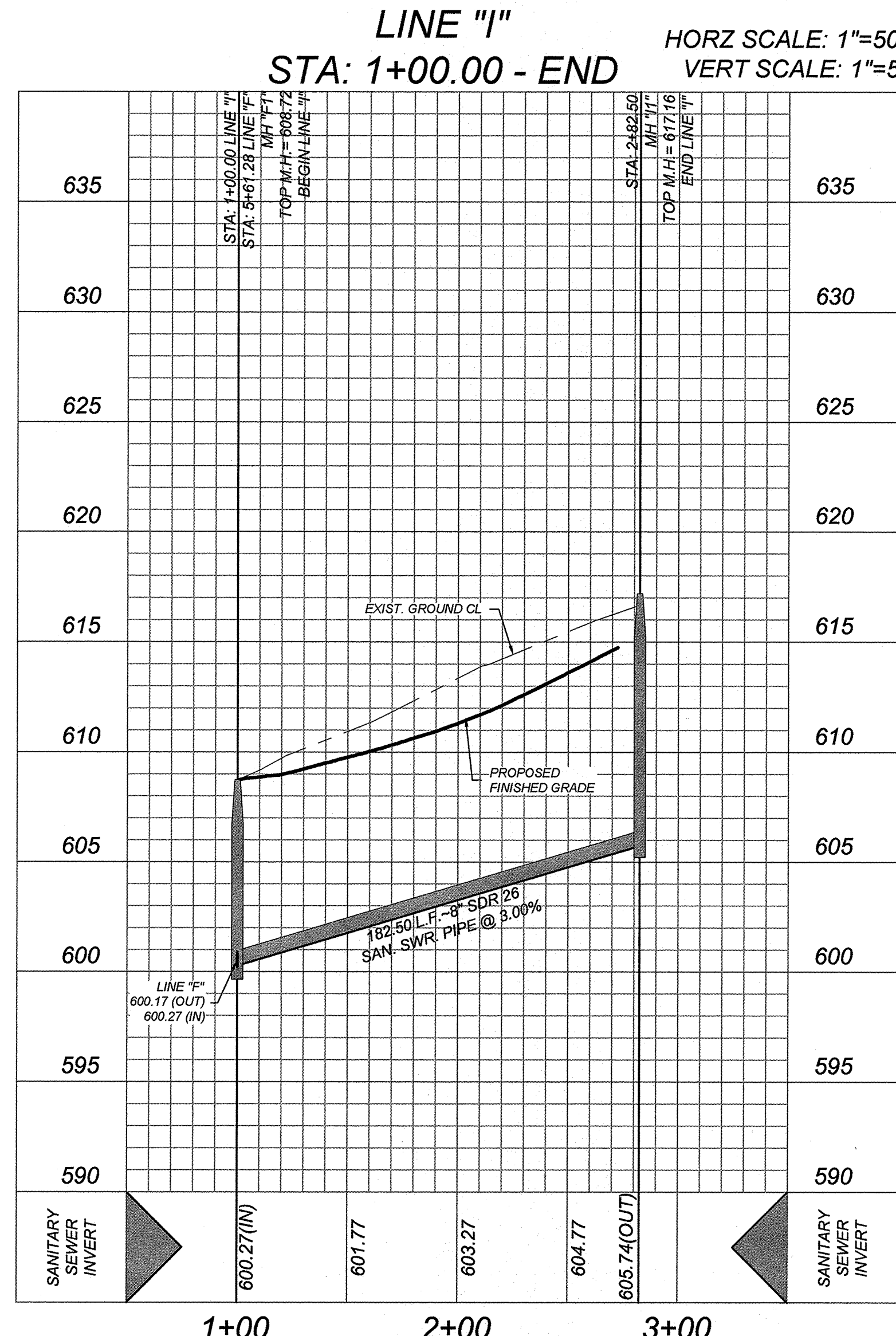
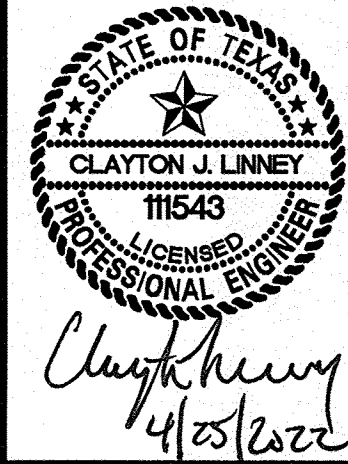
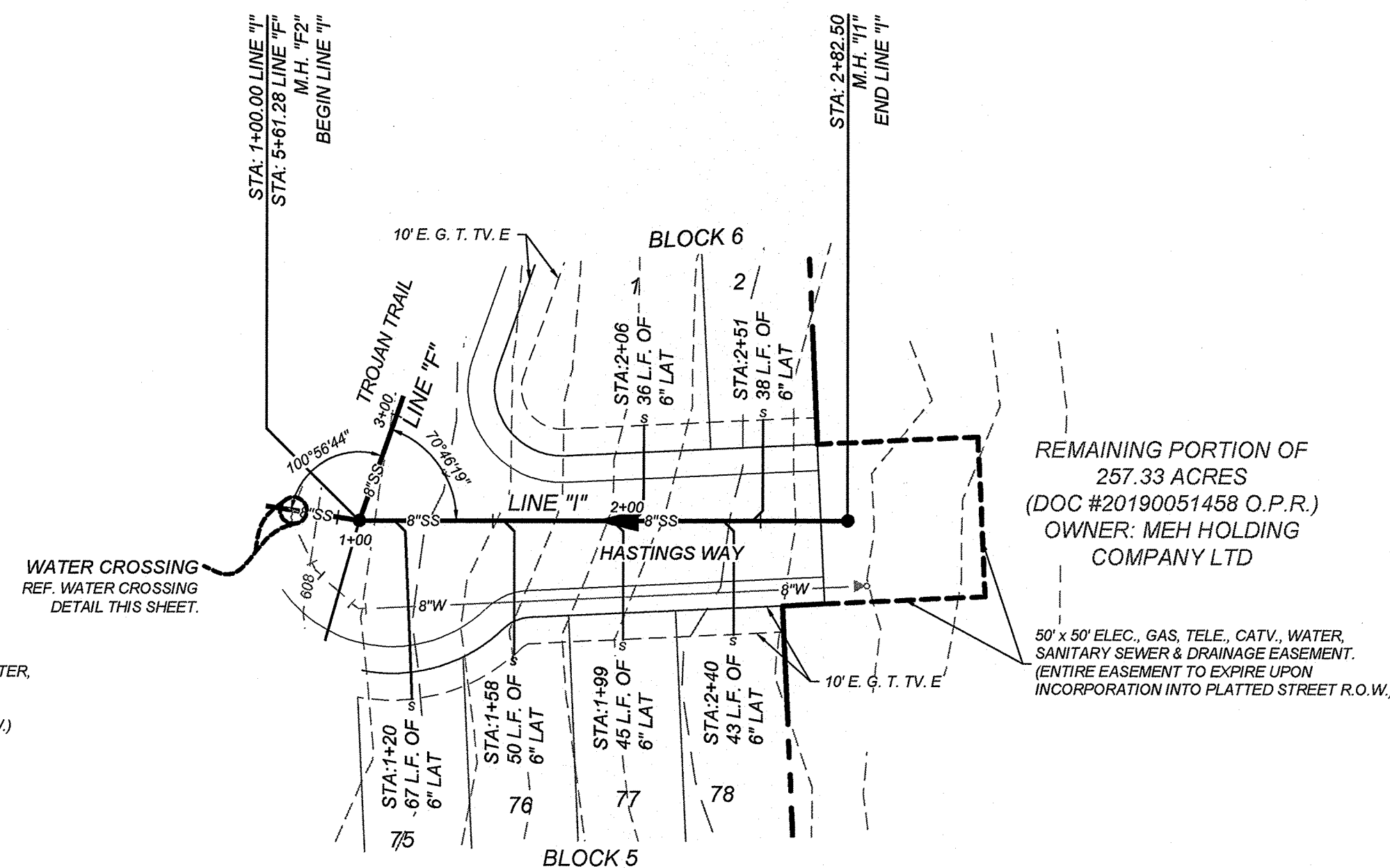
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258

PHONE#: FAX#: TOTAL ACREAGE: 35.11 AC.

SAWS BLOCK MAP#: 216562, 216560, 214560 TOTAL EDUS: 95

TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. - 8" SDR 26 PLAT NO: 21-11800645
1,325 L.F. - 12" SDR 26

NUMBER OF LOTS: 95 SAWS JOB#: 21-1726



PLAT NO.
21-11800645

JOB NO.:205-43-04

DATE: OCTOBER 2021

DRAWN:OM CHECKED:CL

SHEET NUMBER

6.8

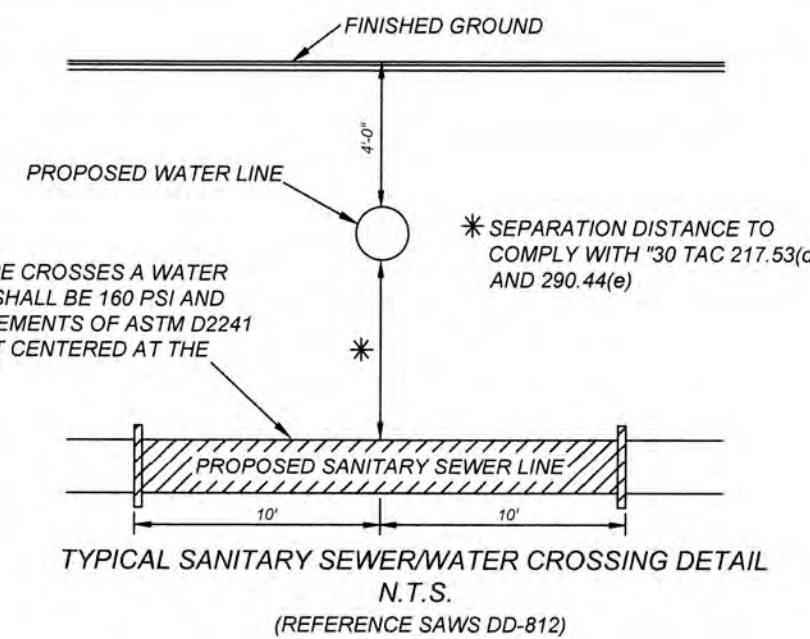
TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA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

NOTE:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 150 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING AND COVER.

REFERENCE S.A.W.S. DETAILS

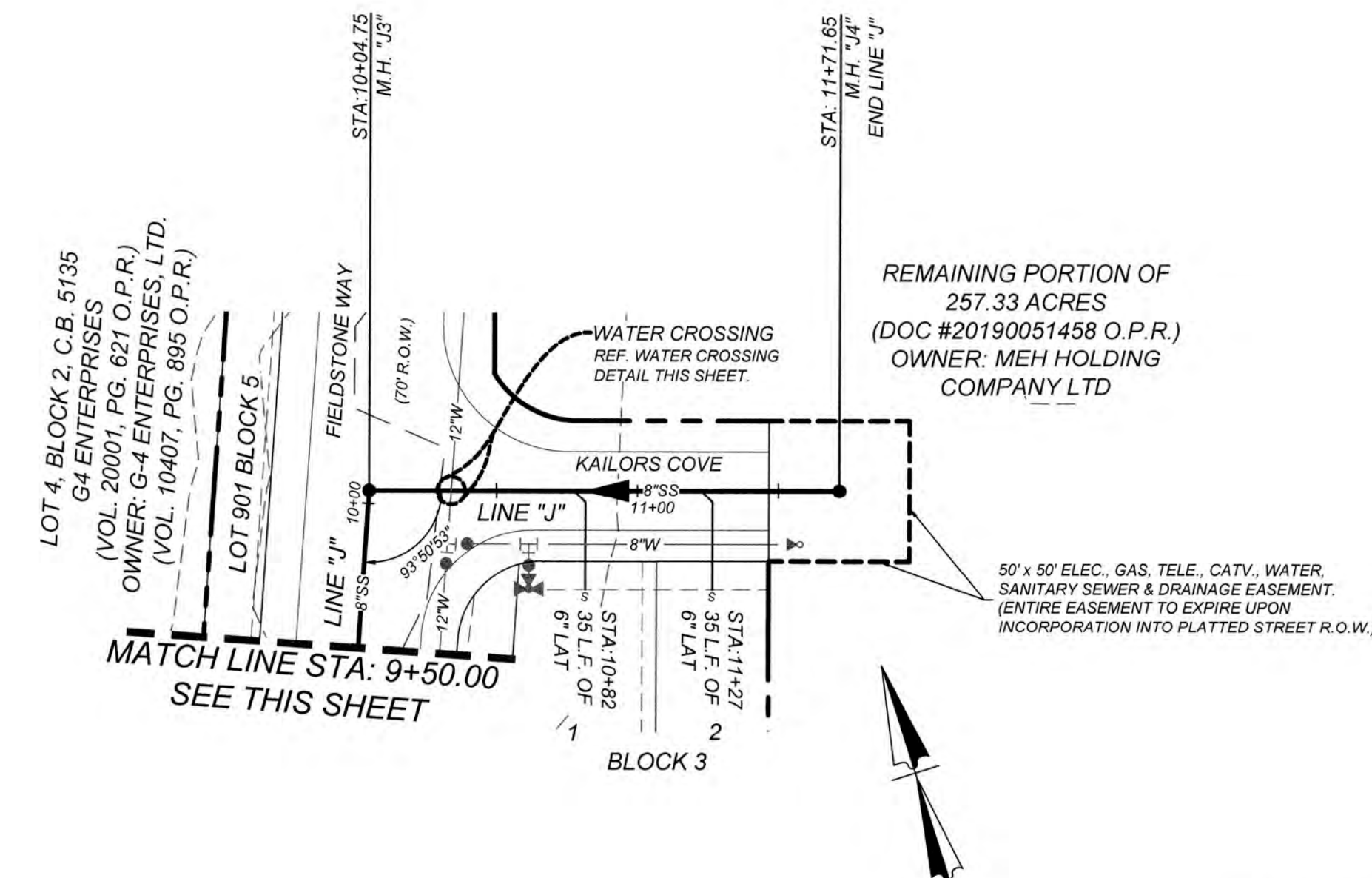
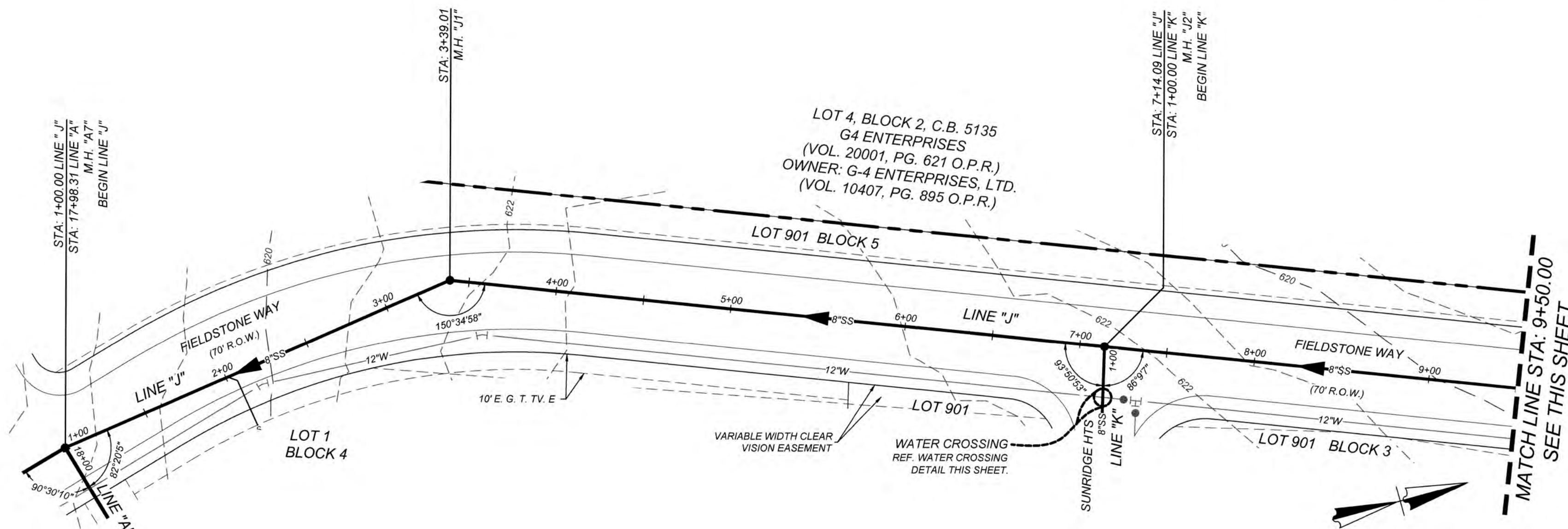
DD-804-01 SANITARY SEWER PIPE Laid IN TRENCH
DD-804-02 TRENCH COMPACTION DETAIL
DD-846-01 GO, NO GO DEFLECTION TESTING MANDREL
DD-852-01 STANDARD PRECAST MANHOLE
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)
DD-852-03 MANHOLE RING ENCASUREMENT DETAIL
DD-854-ER2D HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)
DD-858-01 TYPICAL CONCRETE ENCASUREMENT DETAILS
DD-858-02 TYPICAL CONCRETE DETAILS
DD-860-01 TYPICAL VERTICAL STACK DETAILS
DD-852-06 PRECAST MANHOLE BASE 45° ANGLE
DD-852-08 DROP MANHOLE DETAIL
DD-852-07 MANHOLE RING AND COVER DETAIL



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

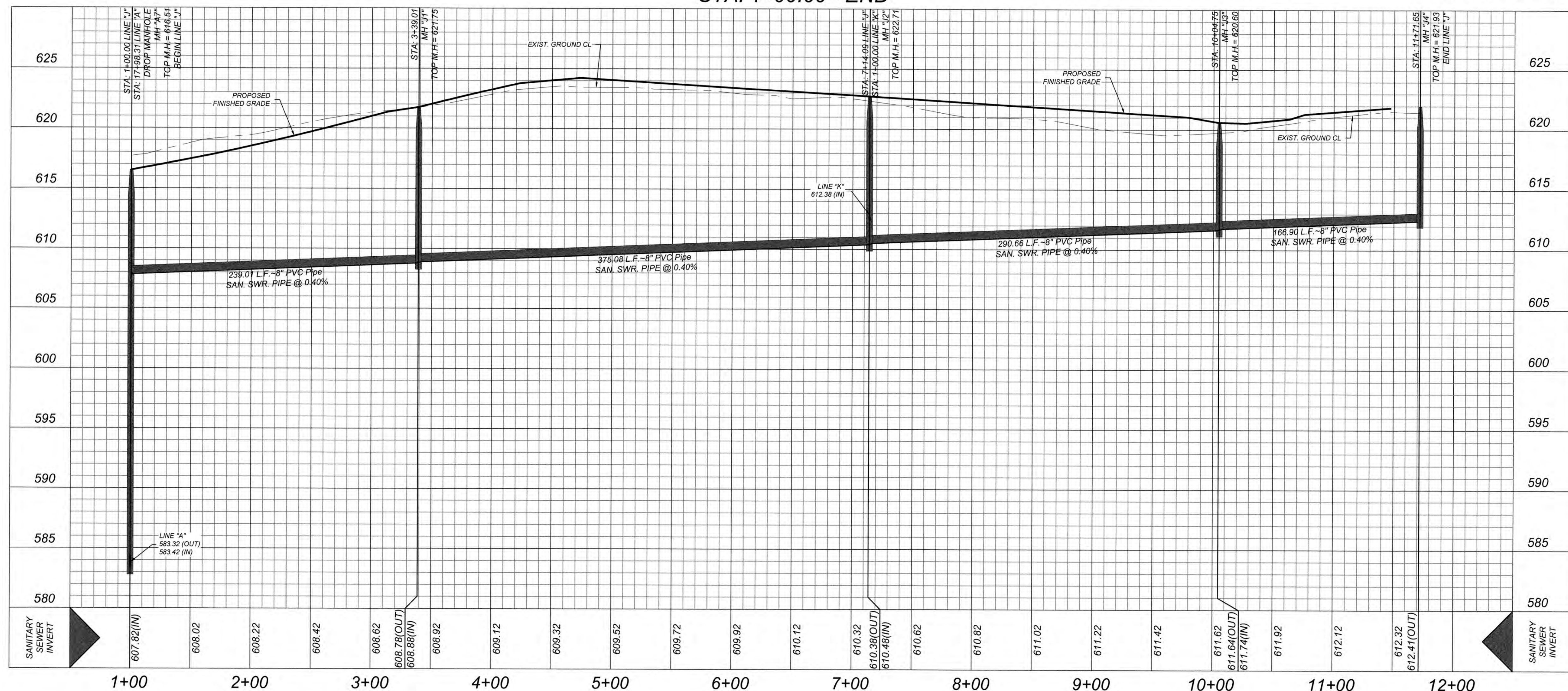
MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

DEVELOPER'S NAME: MEH HOLDING COMPANY LTD
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD. BUILDING 1, SUITE 1200
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258
PHONE: FAX: TOTAL ACREAGE: 35.11 AC.
SAWS BLOCK MAP: 216562, 216560, 214560 TOTAL EDU'S: 95
TOTAL LINEAR FOOTAGE OF PIPE: 3,536 L.F. - 8" SDR 26
1,235 L.F. - 12" SDR 26
NUMBER OF LOTS: 95 SAWS JOB#: 21-1726
PLAT NO.: 21-11800645



LINE "J"
STA: 1+00.00 - END

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

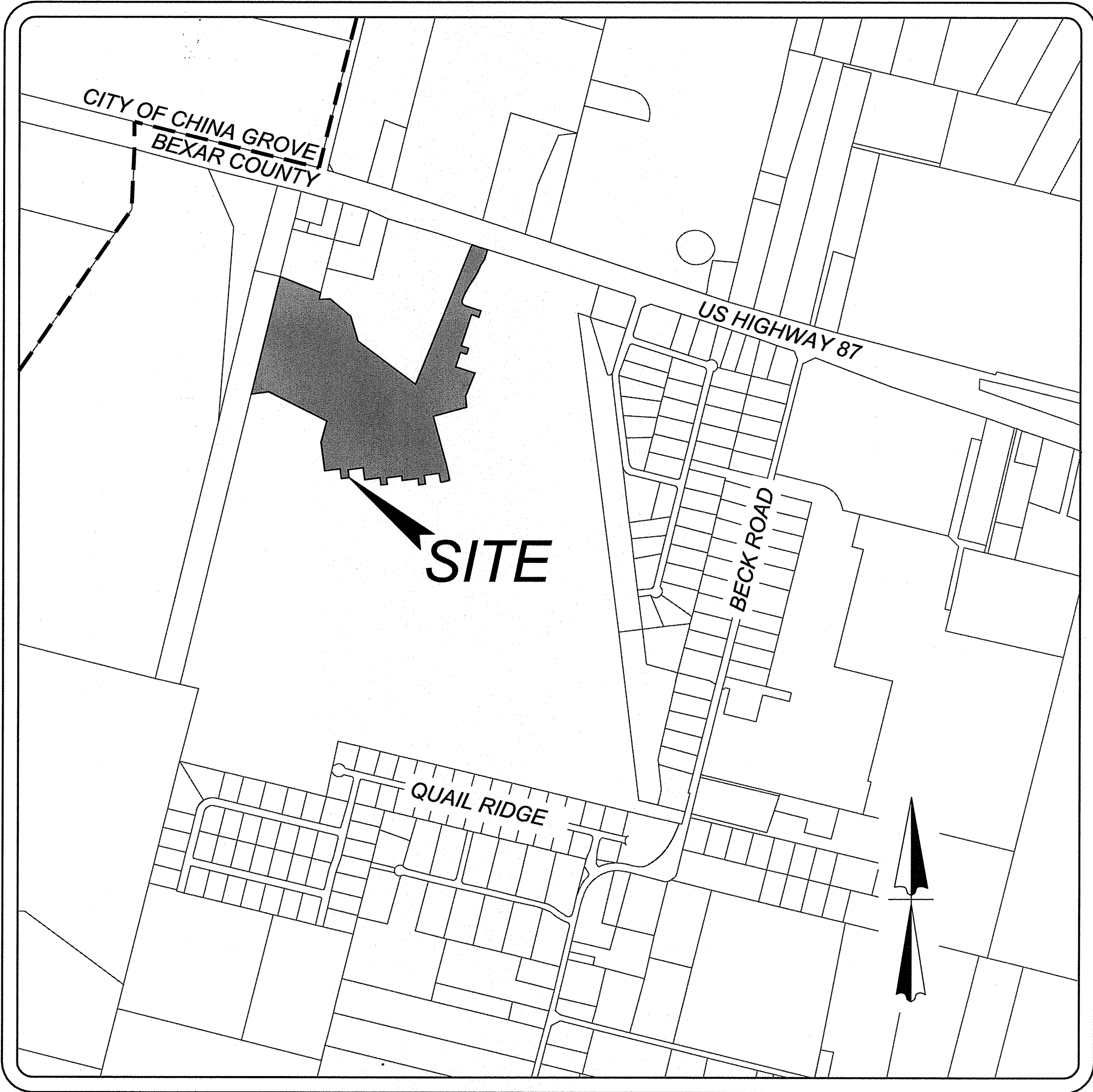


GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
LINE "J" PLAN & PROFILE

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN/OM CHECKED/CL
SHEET NUMBER:

6.9

GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
WATER IMPROVEMENTS



SHEET INDEX	
SHEET TITLE	SHEET NO.
WATER DISTRIBUTION COVER SHEET	7.0
WATER DISTRIBUTION PLAN (SHEET 1 OF 2)	7.1
WATER DISTRIBUTION PLAN (SHEET 2 OF 2)	7.2
WATER DISTRIBUTION DETAILS (SHEET 1 OF 5)	7.3
WATER DISTRIBUTION DETAILS (SHEET 2 OF 5)	7.4
WATER DISTRIBUTION DETAILS (SHEET 3 OF 5)	7.5
WATER DISTRIBUTION DETAILS (SHEET 4 OF 5)	7.6
WATER DISTRIBUTION DETAILS (SHEET 5 OF 5)	7.7

LOCATION MAP
NOT-TO-SCALE

OWNER INFORMATION
MEH HOLDING COMPANY LTD
1202 W. BITTERS, BUILDING 1, SUITE 1200
SAN ANTONIO, TX 78216

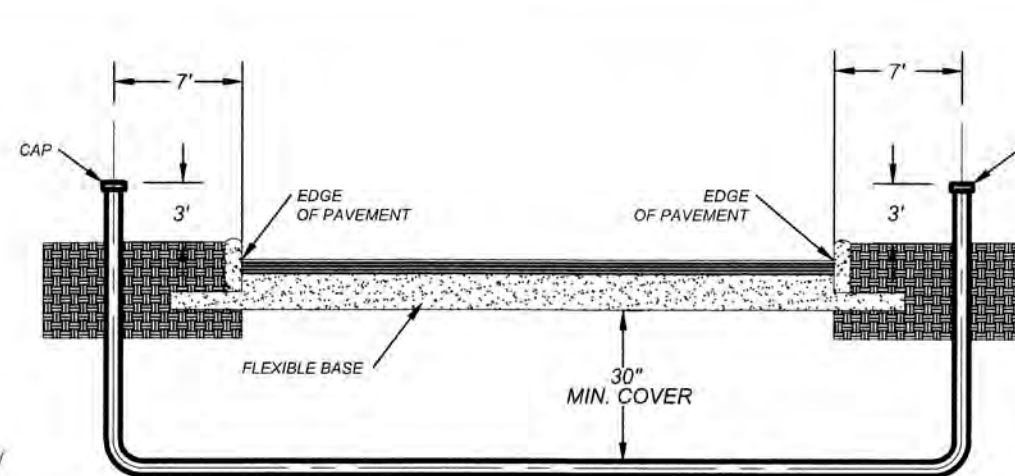
SHEET REVISION LOG			
DATE	SHEET NO.	REVISION NO.	DESCRIPTION



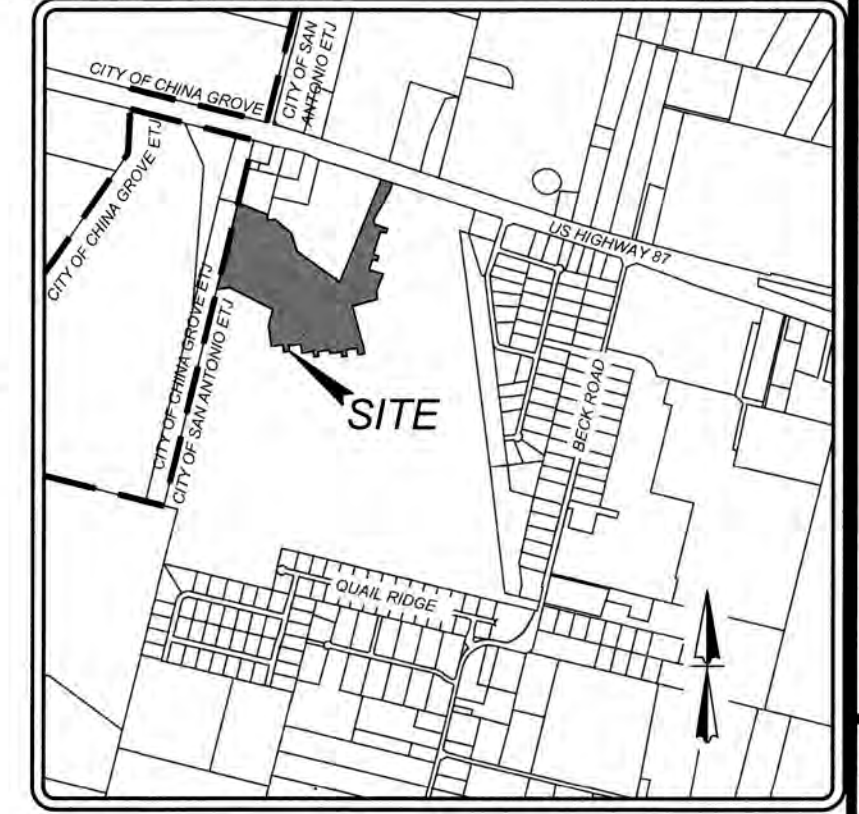
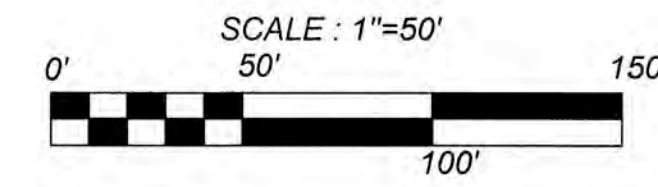
KFW
ENGINEERS + SURVEYING
3421 Paeanos Pkwy., Suite 200, San Antonio, TX 78231
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

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 FINIALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

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.



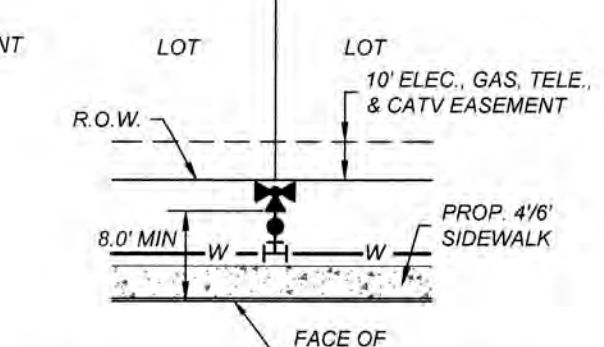
NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPIS FACILITY AT ALL STREETS AND DRAIN CROSSINGS IF BUILT AHEAD OF CPIS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPIS CHAINS DURING CONSTRUCTION. (SEPARATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.



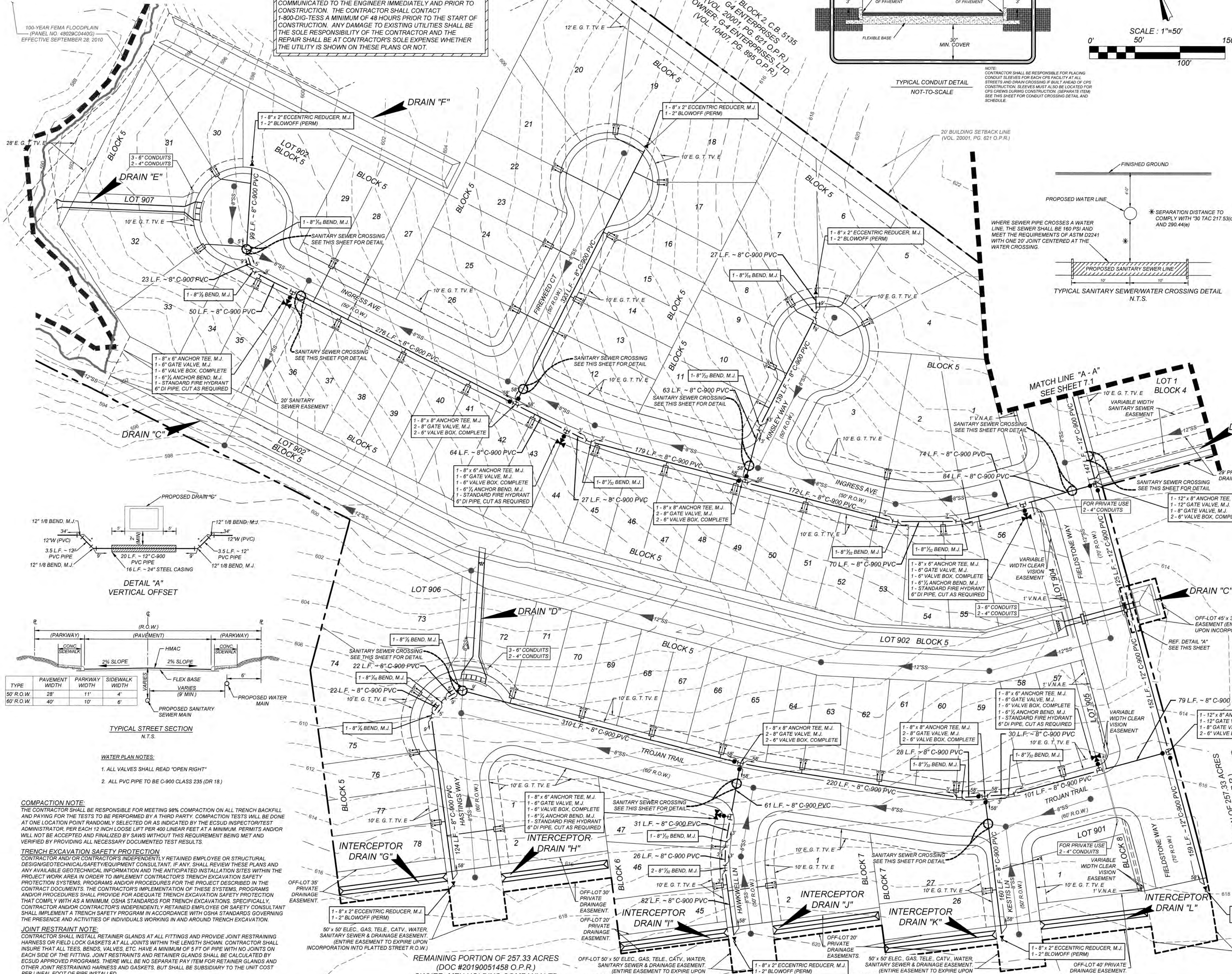
LOCATION MAP NOT-TO-SCALE

LEGEND

- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE & METER BOX
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED ELECTRIC, GAS, TELE, & CABLE TV EASEMENT
- EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING OVERHEAD ELECTRIC W/POWER POLE
- EXISTING GUY WIRE/OVERHEAD ELECTRIC



TYPICAL FIRE HYDRANT DETAIL NOT-TO-SCALE



TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	28'	11'	4'
60' R.O.W.	40'	10'	6'

TYPICAL STREET SECTION N.T.S.

WATER PLAN NOTES:

- ALL VALVES SHALL READ "OPEN RIGHT"
- ALL PVC PIPE TO BE C-900 CLASS 235 (DR 18)

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

REMAINING PORTION OF 257.33 ACRES (DOC #20190051458 O.P.R.)
OWNER: MEH HOLDING COMPANY LTD

GATES SUBDIVISION UNIT 1
WATER DISTRIBUTION PLAN (SHEET 2 OF 2)

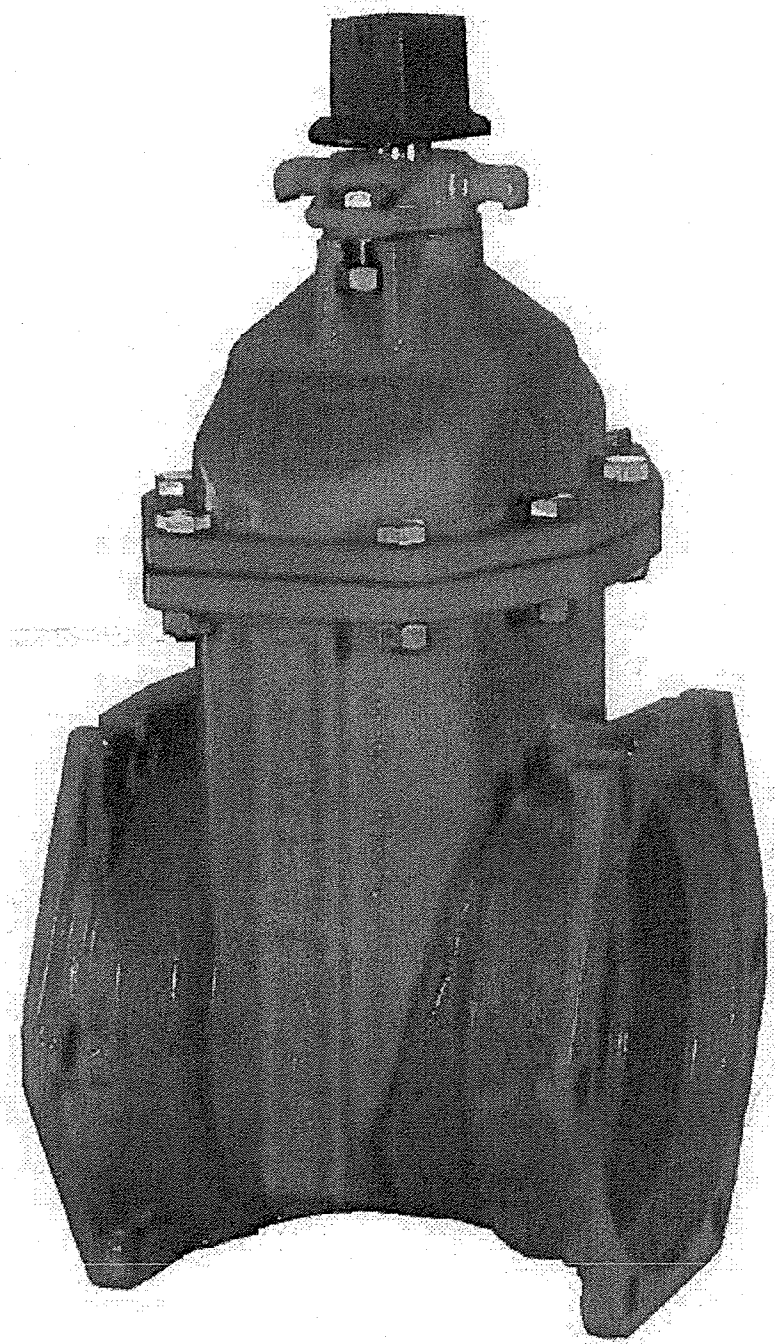
PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM
CHECKED: CL
SHEET NUMBER:
7.2



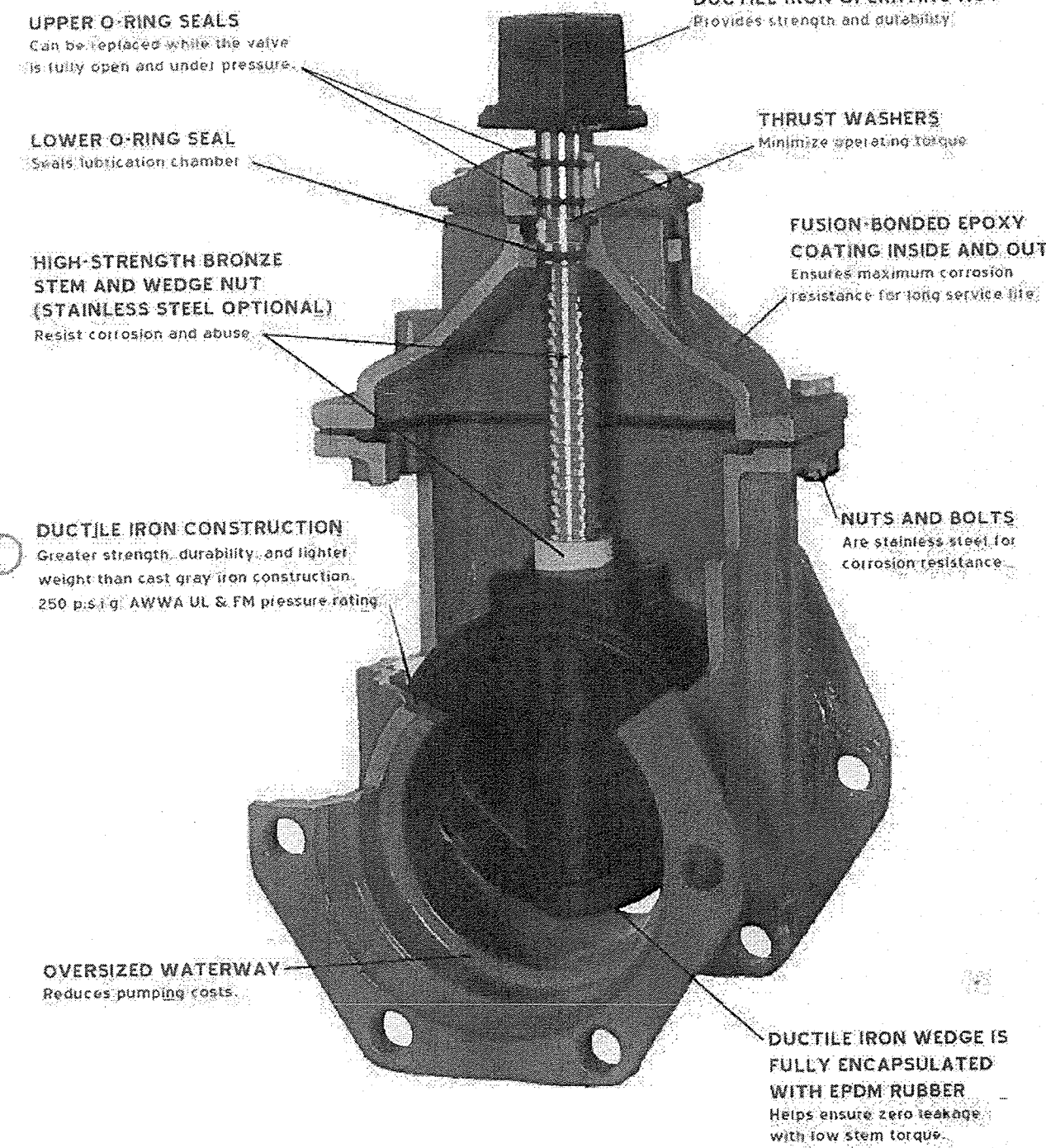
ENGINEERS + SURVEYING
78231
Phone # (210) 979-8444 • Fax # (210) 979-8441
TBPE Firm # 9513 • TBPLS Firm # 10122300



2" - 12" SERIES 2500 RESILIENT WEDGE GATE VALVE



CONSTRUCTION



THE RIGHT WAY

HARCO DUCTILE IRON IPS GASKETED FITTINGS

CROSSOVER RING				
SIZE	PART No.	A	L	WT. (approx.)
3	82103	3.6	6.6	3.1
4	82104	4.6	7.7	4.6
6	82106	6.7	10.0	7.5

90° BEND (GXG) (1/4 Bend)				
SIZE	PART No.	L	R	WT. (approx.)
1 1/2"	80020	1.1	1.1	4.4
2"	80120	1.4	1.4	5.9
2 1/2"	80220	1.8	1.8	7.1
3"	80320	2.0	2.0	10.2
4"	80420	2.5	2.5	15.1
6"	80620	3.5	3.5	26.7
8"	80820	4.5	4.5	42.0
10"	81020	5.6	5.6	67.0
12"	81220	6.7	6.7	99.0
14"	81420	7.7	7.7	164.7
16"	81620	9.0	9.0	203.2
18"	81820	10.0	10.0	283.0

45° BEND (GXG) (1/8 Bend)				
SIZE	PART No.	L	R	WT. (approx.)
1 1/2"	80022	1.8	1.9	7.5
2"	80122	0.8	1.5	5.4
2 1/2"	80222	0.7	1.7	6.8
3"	80322	0.9	2.2	8.6
4"	80422	1.1	2.7	13.3
6"	80622	1.5	3.6	22.6
8"	80822	1.8	4.7	35.1
10"	81022	2.2	5.4	55.4
12"	81222	2.6	6.4	73.1
14"	81422	3.3	8.1	161.4
16"	81622	3.8	9.0	203.8
18"	81822	4.4	10.0	283.0

NOTES:
• All lay lengths & weights are approximate and are subject to change without notice.
• Fabricated fitting configurations may vary.
• CALL FOR OTHER SIZES, CONFIGURATIONS & GASKET MATERIALS.

THE HARRINGTON CORPORATION
P.O. BOX 10336 • LYNCHBURG VIRGINIA 24506 • PLANT 3721 COHEN PLACE • LYNCHBURG VIRGINIA 24501
Phone: (434) 845-7084 • FAX: (434) 845-8562 • E-mail: sales@harringtonco.com

2" - 12" SERIES 2500 RESILIENT WEDGE GATE VALVE

FEATURES/SPECIFICATIONS

FEATURES

- The AMERICAN Series 2500 Ductile Iron** 250 p.s.i.g. AWWA Resilient Wedge Gate Valve is designed for use in drinking water, sewage and fire protection systems as well as irrigation and backflow control systems.
- Triple O-ring Stem Seals**
Sealing the lubrication chamber is a series of three O-ring stem seals. The O-rings help to isolate the lubrication chamber.
- Thrust Washers**
Two thrust washers are used. One is located above and one is located below the thrust collar. These thrust washers provide easy operation.
- Ductile Iron Construction**
The ductile iron body, bonnet and wedge provide strength and a pressure rating that meets or exceeds the requirements of AWWA C515. The tensile strength of ductile iron is more than twice that of cast iron. This added strength makes the Series 2500 more durable and rated at 250 p.s.i.g. This strength and higher pressure rating is provided in a compact, lightweight and easy-to-handle ductile iron valve.
- Fusion-Bonded Epoxy**
The Series 2500 valve is epoxy coated on the interior and the exterior. The fusion-bonded epoxy coating is applied prior to assembly. The bolt holes and body-to-bonnet flange surfaces are fully epoxy coated.
- O-ring Style Gaskets**
The body-to-bonnet and stuffing box cover seals are pressure-energized O-rings. This reduces the need for excessive bolt loading, which is required by designs that use flat gaskets. The O-rings are reusable; which reduces downtime during any needed repair.
- The Series 2500 Resilient Wedge Gate Valve** is furnished in configurations that are listed by Underwriters Laboratories, Inc. and Approved by Factory Mutual Research Corp.

The Series 2500 Ductile Iron Resilient Wedge Gate Valve has these standard features:

- UL Listed-FM Approved
- Seal Tested at 375 p.s.i.g.
- Shell Tested at 500 p.s.i.g.
- 100% Leak-Tight Closure
- Complies With ANSI/AWWA C550
- CL250H Raised Face Flanges Available
- 250 p.s.i.g. AWWA UL & FM Pressure Rating
- Fully Rubber-Encapsulated Wedge
- Triple O-ring Stem Seals
- Thrust Washers
- Smooth larger than nominal Waterway
- 100% Leak-Tight Closure
- 4" and larger sizes Certified to NSF/ANSI standard 61
- Complies with AWWA C515
- Ductile Iron Body, Bonnet, Wedge, Operating Nut and Stuffing Box

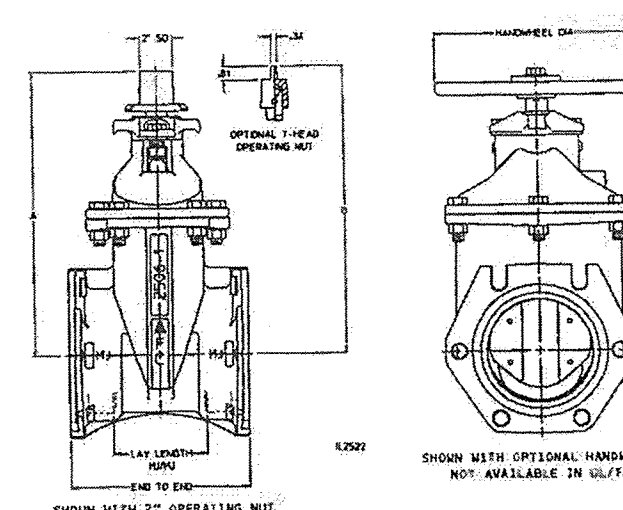
SPECIFICATIONS

Valves 2" - 12" in size shall be of a resilient wedge design. The valve shall have a cold water rated working pressure of 250 p.s.i.g. All cast ferrous components shall be ductile iron and shall be manufactured in compliance with the latest edition of AWWA/ANSI C515. The valve shall also be listed by Underwriters Laboratories, Incorporated, and Approved by Factory Mutual, in applicable configurations. The valve design shall be lightweight, easy to handle, and constructed with wall thickness per Table 2, of AWWA/ANSI C515. Heavy wall and/or cast gray iron bodies are not acceptable. The valve shall have a smooth and oversize waterway, and have the marking "D.I." or "Ductile Iron" cast on onto the body. The valve shall be constructed of ductile iron and provided with protective wedge guide covers in sizes 4" - 12". All wedges 3" and smaller shall be constructed of bronze. All wedges shall be fully encapsulated with EPDM rubber. Valve stems shall be sealed by three O-rings. Two of the O-rings shall reside above the thrust collar. The O-rings shall be replaceable under full working pressure and with the valve in the full open position. O-rings set in a cartridge shall not be allowed. The valve shall also be equipped with thrust washers above and below the stem thrust collar for reduction of operating torque. All exterior valve body bolting shall be type 304 stainless steel and shall be provided with hexagonal heads, with dimensions conforming to ANSI B18.2.1. Metric size and/or socket head cap screws or bolts, are not allowed. The operating nut shall be 2" square and shall be constructed of ductile iron fitted to a square tapered stem to help ensure even valve operating input torque. All body gaskets shall be of the pressure energized O-ring style design. All internal and external ferrous surfaces of the valve body and bonnet shall have a fusion-bonded epoxy coating, complying with AWWA/ANSI C550. The coating shall be electrostatically applied prior to assembly and shall be Certified to ANSI/NFPA Standard 61. All valves shall be the AMERICAN Flow Control Series 2500 or 2500-1 Resilient Wedge Gate Valves.

2" - 12" SERIES 2500 RESILIENT WEDGE GATE VALVE

DRAWING/DIMENSIONS

ES 2500 - STANDARD NRS DIMENSIONS
2" - 12" SIZES



		QUANTITY							
		2"	2-1/2"	3"	4"	6"	8"	10"	12"
NRS with 2" Square Operating Nut									
NRS with Handwheel									
CS & Y									
NRS with T-Head Oper. Nut									
Post Indicator Valve (PIV)									
Actuals (Check One)									
NRS with Enclosed Meter Gearing									
2" Sq. Open Nut Parallel to Waterway									
2" Sq. Open Nut Perpendicular to Waterway									
Handwheel Perpendicular to Waterway									
Open Direction:									
Stem Material:									
End Connections:									
Mechanical Joint Accessories:									
UL Listed, FM Approved:									
Other Requirements (List on a separate sheet):									

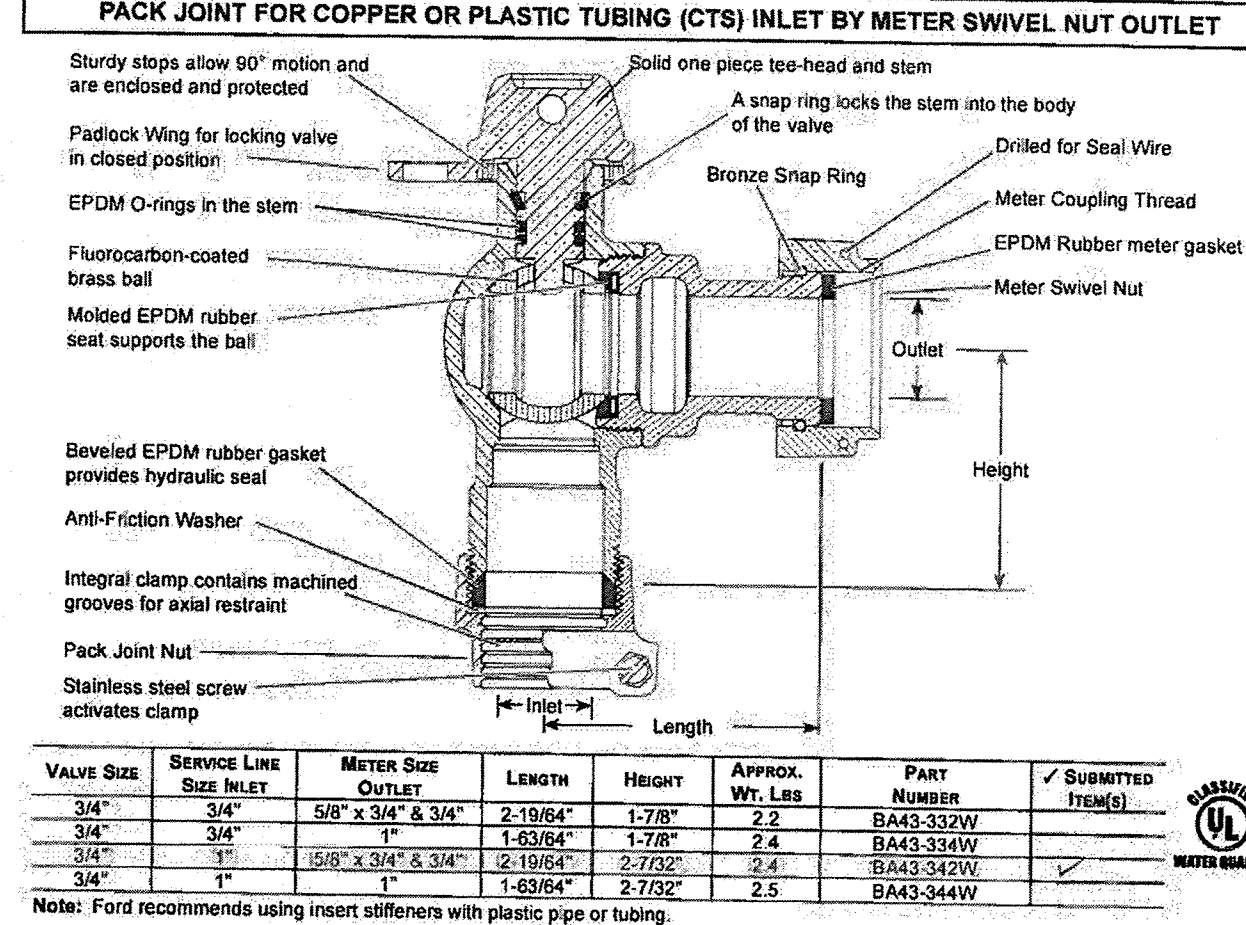
See notes at bottom of page.

DIMENSION	VALVE SIZE							
	2"	2-1/2"	3"	4"	6"	8"	10"	12"
A	9.25	11.03	11.84	13.91	17.12	20.47	24.06	27.59
B	10.22	12.00	N/A	N/A	N/A	N/A	N/A	N/A
End to End - M/JMJ	8.25	N/A	8.62	10.00	10.50	11.50	12.50	13.50
Lay Length - M/JMJ	3.25	N/A	3.62	5.00	5.50	6.50	7.50	8.50
End to End - FL/FL (Class 125)	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00
End to End - FL/FL (Class 250)	N/A	N/A	11.12	12.00	15.88	18.50	18.00	19.75
End to End - T/TVT	N/A	N/A	9.31	9.50	10.50	12.38	13.62	14.38
End to End - FL/FL (Class 125)	N/A	N/A	N/A	11.00	13.19	14.50	15.88	16.88
End to End - FL/FL (Class 125)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
End to End - P/CVPC	10.75	11.12	11.38	13.00	15.88	17.50	N/A	N/A
End to End - Threaded	6.25	7.38	7.38	N/A	N/A	N/A	N/A	N/A
Handwheel Diameter	8.08	8.00	8.00	10.00	12.00	14.00	15.50	15.50
No. of Turns to Open	9	11	13	14	20	26	32	38

- 3" through 12" valve meet or exceed requirements of ANSI/AWWA C515.
- 2-1/2" through 12" valves may be ordered in configurations which are listed by Underwriters Laboratories, Inc. and Approved by Factory Mutual Research.
- 2" through 12" valves have 250 p.s.i.g. AWWA rated working pressure.
- 2-1/2" through 12" valves have 250 p.s.i.g. UL and FM rated working pressure.
- Flange ends are in accordance with ANSI/AWWA C110A21.10 (ASME B16.1, Class 125). Flanged ends are in accordance with ASME B16.4, Class 125.
- Mechanical joint ends are in accordance with ANSI/AWWA C111A21.11.
- "Y" end and push-on ends are in accordance with ANSI/AWWA C111A21.11 for use on cast iron (CI) size ductile iron pipe.
- PVC ends are suitable for use on steel (IPS) size of PVC or steel pipe.
- MAINTENANCE: Each valve should be operated through a full cycle and returned to its normal position. This should be done on a time schedule that is designed to prevent a buildup of submergence or other deposits that could render the valve inoperable or prevent a light shutoff. It is recommended this be done once a year.

SUBMITTAL INFORMATION

Angle Ball Meter Valves - (BA43-3xxW style)



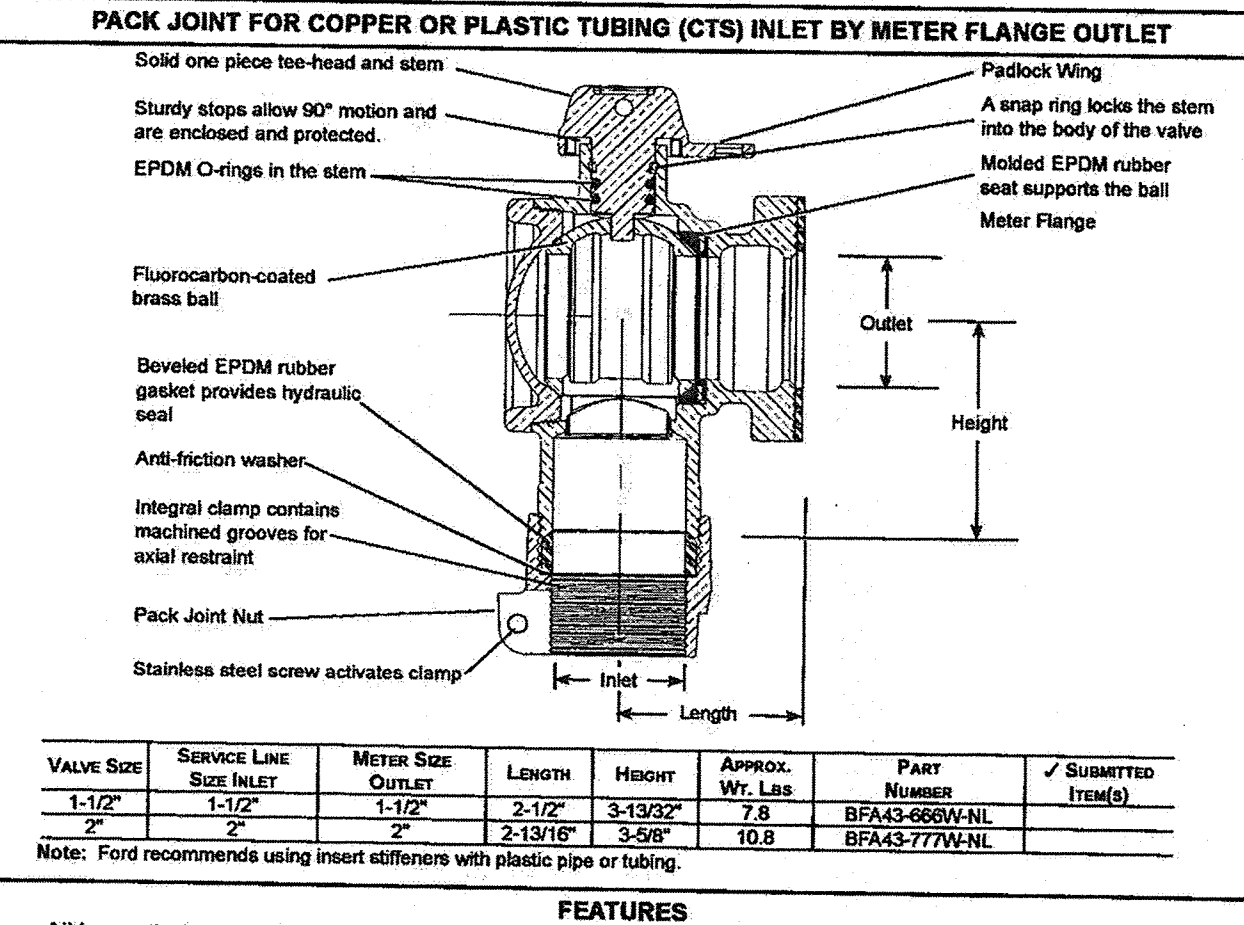
- All brass conforms to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- Ends are integral or secured with adhesive to prevent unintentional disassembly
- Hole for attaching handle is provided in tee-head
- 300 PSI working pressure
- Padlock Wing for locking valve in closed position
- Conforms to AWWA C700 for Meter threads
- Note: Recommended for inlet side shut-off
- Optional full 360° tee-head rotation. Insert "R" into part number.

The Ford Meter Box Company considers the information in this submittal form to be correct at the time of publication. Item and option availability, including specifications, are subject to change without notice. Please verify that your product information is current.

The Ford Meter Box Company, Inc.
P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443
Phone: 260-563-3171 / Fax: 800-828-3487
Overseas Fax: 260-563-0167
http://www.fordmeterbox.com

SUBMITTAL INFORMATION

Angle Ball Flange Meter Valves - (BFA43-xxxWNL style)



- All brass that comes in contact with potable water conforms to AWWA Standard C800 (UNS NO. C89833)
- The product has the letters "NL" cast into the main body for lead-free identification
- Certified to NSF/ANSI Standard 61 and NSF/ANSI Standard 372 where applicable
- Brass components that do not come in contact with potable water conform to AWWA Standard C800 (ASTM B62 and ASTM B584, UNS NO. C83600, 85-5-5-5)
- Padlock Wing for locking valve in closed position
- Hole for attaching handle is provided in the tee head
- 300 PSI working pressure
- Includes EPDM drop-in style meter gasket
- Suitable for customer side shut off (outlet side of meter) up to 300 PSI
- Slotted holes are standard on 2" Flanged Meter Valves, allowing 1-1/2" Flange Meter connection
- Optional: Full 360° tee head rotation. Insert "R" into the part number. Example: BFA43-777WR-NL
- Example: BFA43-777WR-MSB-NL

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www.fordmeterbox.com

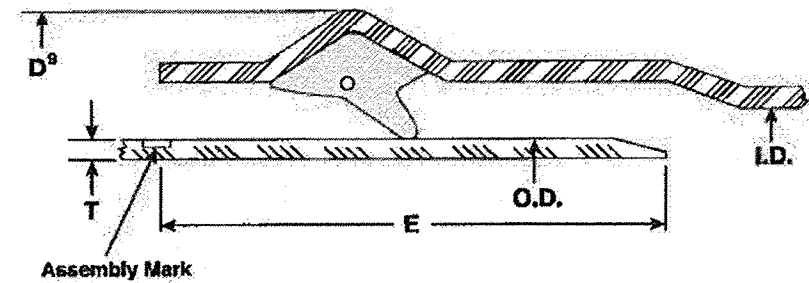


ULTRA BLUE™ PVCO

IPS 200 PSI
ASTM F-1483

SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	APPROX. BELL O.D. (IN)	AVERAGE O.D. (IN)	MIN. T. (IN)	APPROX. I.D. (IN)	STOP LINE DISTANCE MIN. E (IN)	APPROX. WEIGHT (LBS/FT)	APPROX. WEIGHT (LBS/JNT)
Pressure Rating 200							
6	8 1/8	6.625	0.182	6.24	4 1/2	2.5	51
8	10 1/4	8.625	0.236	8.13	4 1/2	4.2	84
10	12 1/4	10.750	0.295	10.13	5 1/2	6.4	127
12	14 3/4	12.750	0.349	12.02	5 1/2	8.9	179



I.D. : Inside Diameter
O.D. : Outside Diameter
T : Wall Thickness
D : Bell Outside Diameter
E : Distance between Assembly Mark to the end of spigot.

Product Standard: ASTM F1483
Pipe Compound: ASTM D1784 Cells Class 12454
Gasket: ASTM F477
Integral Bell Joint: ASTM D3139
Certifications: ANS/NSF Standard 61
Pipe Length: 20 feet laying length
Installation: AWWA C605
JM Eagle™ Installation Guide



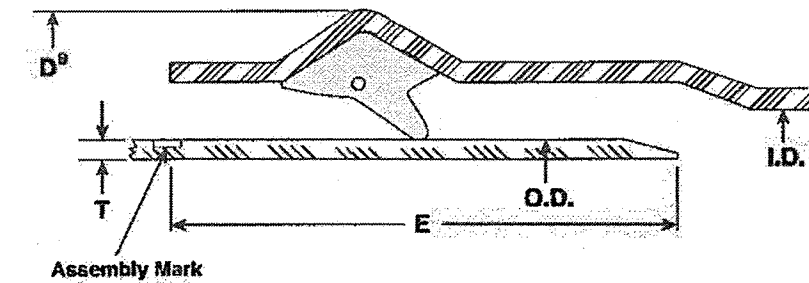
ULTRA BLUE™ PVCO

AWWA C909 PIPE

SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	APPROX. BELL O.D. (IN)	AVERAGE O.D. (IN)	MIN. T. (IN)	APPROX. I.D. (IN)	STOP LINE DISTANCE MIN. E (IN)	APPROX. WEIGHT (LBS/FT)	APPROX. WEIGHT (LBS/JNT)
Pressure Class 235*							
6	8.53	6.90	0.221	6.43	5 3/4	3.21	69
8	10.83	9.05	0.290	8.44	6 1/2	5.50	117
10	13.43	11.10	0.356	10.35	7 1/4	8.36	169
12	15.72	13.20	0.423	12.31	7 3/4	11.87	239
Pressure Class 165							
16	20.05	17.40	0.395	16.56	9 1/2	14.51	300

* UL 1285 Listed - 6"-12" PC 235
* Check for availability.



I.D. : Inside Diameter
O.D. : Outside Diameter
T : Wall Thickness
D : Bell Outside Diameter
E : Distance between Assembly Mark to the end of spigot.

Product Standard: ANSI/AWWA C909
UL1285 6"-12" PC 235
Pipe Compound: ASTM D1784 Cells Class 12454
Gasket: ASTM F477
Integral Bell Joint: ASTM D3139
Certifications: ANS/NSF Standard 61
UL1285 6"-12" PC 235
Pipe Length: 20 feet laying length
Installation: AWWA C605
JM Eagle™ Installation Guide

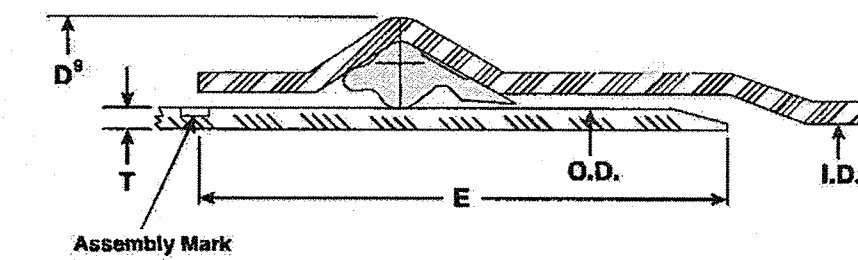


BLUE BRUTE™

SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D ⁸ (IN)	APPROX. WEIGHT (LBS/FT)
PRESSURE CLASS 165 psi (DR 25)						
4	4.80	4.39	0.192	5.25	5.57	1.9
6	6.90	6.31	0.276	6.40	8.00	3.9
8	9.05	8.28	0.362	7.05	10.50	6.7
10	11.10	10.16	0.444	8.20	12.88	10.1
12	13.20	12.08	0.528	8.80	15.31	14.4
PRESSURE CLASS 235 psi (DR 18)*						
4	4.80	4.23	0.267	5.25	5.87	2.6
6	6.90	6.09	0.383	6.40	8.43	5.3
8	9.05	7.98	0.503	7.05	11.06	9.2
10	11.10	9.79	0.617	8.20	13.57	13.9
12	13.20	11.65	0.733	8.80	16.13	19.7
PRESSURE CLASS 305 psi (DR 14)*						
4	4.80	4.07	0.343	5.25	6.17	3.2
6	6.90	5.86	0.493	6.40	8.87	6.7
8	9.05	7.68	0.646	7.05	11.63	11.6
10	11.10	9.42	0.793	8.20	14.27	17.6
12	13.20	11.20	0.943	8.80	16.97	25.1

Consult JM Eagle™ for CSA and other listing availability prior to shipment.
Note: *FM Approvals Pressure Class 150 psi for DR 18 and 200 psi for DR 14.
* Contact your JM Eagle™ sales representative for location availability.



I.D. : Inside Diameter
O.D. : Outside Diameter
T : Wall Thickness
D : Bell Outside Diameter
E : Distance between Assembly Mark to the end of spigot.

Product Standard: ANSI/AWWA C900
Pipe Compound: ASTM D1784 Cells Class 12454
Gasket: ASTM F477
Integral Bell Joint: ASTM D3139
Certifications: ANS/NSF Standard 61
UL Standard 1285
Pipe Length: 20 feet laying length
AWWA C605
JM Eagle™ Installation Guide

JM Eagle™ also manufactures this pipe in green for sewer force main applications and purple, specifically for reclaimed water systems. This pipe is made to the same requirements as our standard products. The only difference is that the pigment used is green or purple. These products will not be marked with UL or NSF listing marks. Additionally, the green pipe will be marked "Forced Sewer" and the purple pipe will be marked "Reclaimed Water... Do Not Drink."



BIG BLUE™

SUBMITTAL AND DATA SHEET

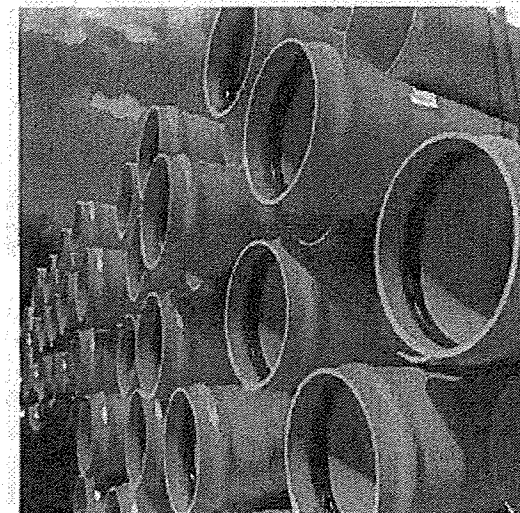
PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	E (IN)	E ₁ (IN)	APPROX. D ⁸ (IN)	APPROX. WEIGHT (LBS/FT)
Rated 305 psi (DR 14)							
16	17.40	14.85	1.242	8 1/2	9 1/2	21.68	43.77
Rated 235 psi (DR 18)							
14	15.30	13.50	0.850	7 1/8	8 1/8	19.00	26.75
16	17.40	15.35	0.967	8 1/8	9 4/8	21.62	34.86
18	19.50	17.20	1.083	8 3/8	9 1/8	24.22	48.95
20	21.60	19.06	1.200	9	10 1/8	26.85	54.22
24	25.80	22.76	1.433	10	11 3/8	32.06	77.97
30	32.00	28.23	1.778	11 7/8	13 1/8	37.81	117.82
Rated 200 psi (DR 21)*							
14	15.30	13.75	0.729	7 1/8	8 1/8	18.22	23.07
16	17.40	15.64	0.829	8 4/8	9 4/8	20.72	30.04
18	19.50	17.53	0.929	8 3/8	9 1/8	23.22	37.27
20	21.60	19.42	1.029	9	10 1/8	25.72	46.71
24	25.80	23.19	1.229	10	11 3/8	30.72	67.53
30	32.00	28.77	1.524	11 7/8	13 1/8	38.10	103.71
36	38.30	34.43	1.824	12 3/8	14 1/8	45.60	152.16
Rated 165 psi (DR 25)							
14	15.30	14.00	0.612	7 1/8	8 1/8	17.94	19.48
16	17.40	15.92	0.696	8 4/8	9 4/8	20.41	25.38
18	19.50	17.85	0.780	8 3/8	9 1/8	22.87	31.99
20	21.60	19.77	0.864	9	10 1/8	25.34	39.46
24	25.80	23.61	1.032	10	11 3/8	30.27	56.98
30	32.00	29.29	1.280	11 7/8	13 1/8	37.12	88.49
36	38.30	35.05	1.532	12 3/8	14 1/8	44.43	128.41
42	44.50	40.73	1.780	14 1/8	16 3/8	51.85	176.02
48*	50.80	46.49	2.032	14 7/8	17 3/8	58.93	231.22
Rated 125 psi (DR 32.5)*							
14	15.30	14.30	0.471	7 1/8	8 1/8	17.48	15.14
16	17.40	16.27	0.535	8 4/8	9 4/8	19.88	18.63
18	19.50	18.23	0.600	8 3/8	9 1/8	22.30	24.75
20	21.60	20.19	0.665	9	10 1/8	24.38	30.54
24	25.80	24.12	0.794	10	11 3/8	29.47	44.11
30	32.00	29.91	0.985	11 7/8	13 1/8	36.55	68.45
36	38.30	35.80	1.178	12 3/8	14 1/8	43.10	99.22
42	44.50	41.60	1.389	14 1/8	16 3/8	50.93	135.49
48	50.80	47.49	1.563	14 7/8	17 3/8	57.61	178.49

Revised 08/01/14. This information may have been updated. Please download the latest version at www.jmeagle.com.

North American Pipe Corporation

www.northamericanpipe.com

Product Description:



AWWA C-905 Municipal Water Pipe

North American Pipe's AWWA C-905 PVC pipe line is manufactured to meet the needs of modern municipal water distribution systems. With top quality raw materials and modern processing technology North American Pipe's C-905 pipe meets all industry standards in addition to our own rigorous quality control standards. North American Pipe's C-905 pipe utilizes Reiber style gaskets throughout the entire product offering. North American Pipe produces a broad range of C-905 pipe in DR-14, DR-18, DR-21, DR-25, DR-32.5, DR-41 and DR-51 classifications. Whether specifying or installing our pipe you can be assured that North American Pipe will provide the pipe - Right, On Time, All the Time™.

This product is made in accordance with the following specifications:

AWWA C905
ASTM F477
PPI TR-3

ASTM D1784
ANS/NSF 14
UL 1285

ASTM D3139
ANS/NSF 61

Short Form Specification for North American Pipe Corporation AWWA C-905 Municipal Water Pipe

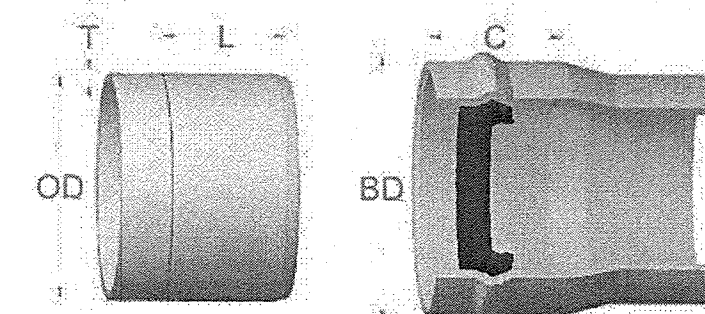
Water main transmission pipe shall be made in accordance with AWWA C905 from a compound conforming to a cell classification of 12454 as defined by ASTM D1784. Integral bells shall incorporate gaskets meeting the requirements of ASTM F477 and be locked into the bell. The assembled joint shall meet the requirements of ASTM D3139. The laying length of the pipe shall be 20 feet. The pipe and gasket must be tested and approved for contact with potable water in accordance with ANS/NSF 61. The pipe and gasket shall be listed by Underwriters Laboratory.



2801 Post Oak Blvd., Suite 600 | Houston, TX 77056
Phone: 713-340-7473 Toll Free 800-999-7473 Fax: 713-552-0087

North American Pipe Corporation

AWWA C900-07: Municipal Water Pipe



PIPE SIZE	OUTSIDE DIA. - NOM. (OD)	*APPROX. BELL DIA. (BD)	**APPROX. BELL DEPTH (C)	INSERT MARK (I)
4"	4.80	6.50	5.00	3.83
6"	6.90	9.25	5.75	5.13
8"	9.05	11.75	7.00	6.13
10"	11.10	14.25	7.25	6.63
12"	13.20	16.75	8.00	7.38
MINIMUM WALL THICKNESS (T)				
	PC 165 DR 25 (I)	PC 235 DR 18 (I)	PC 305 DR 14 (I)	
4"	.192	.267	.343	
6"	.276	.383	.493	
8"	.362	.503	.646	
10"	.444	.617	.793	
12"	.528	.733	.943	

Note: These dimensions are for estimating purposes only. * Dimension given for Approx. Bell Diameter (BD) is for highest pressure class
** Nominal depth, depth will vary by pressure class

Right, On Time, All the Time.

www.northamericanpipe.com

GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
WATER DISTRIBUTION DETAILS (SHEET 3 OF 5)

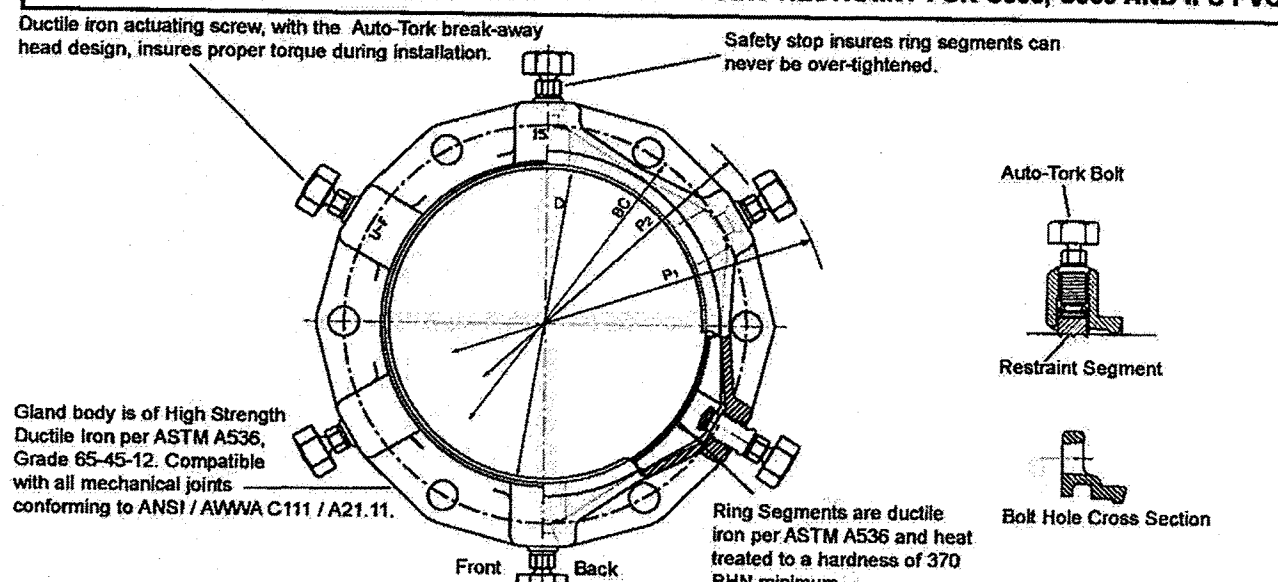
PLAT NO.
21-11800645
JOB NO. 205-4304
DATE: OCTOBER 2021
DRAWN/OM CHECKED/##
SHEET NUMBER:

7.5

SUBMITTAL INFORMATION

Mechanical Joint Retainer (UFR1500-x-U style)

3" - 12" SERIES UFR1500 CIRCLE-LOCK MECHANICAL JOINT RESTRAINT FOR C900, C909 AND IPS PVC



Nom. Pipe Size	O.D.	CATALOG NUMBER	No. of Restraining Rods	Approx. Weight (Lbs.)	P1"	P2"	BC	D	Pressure Rating	Submitted Item(s)
3"	3.50"	UFR1500-3-U	4	9	10.50"	8.00"	8.10"	4.00"	C900	160 PSI
4"	4.50"	UFR1500-4-U	4	10	13.00"	9.40"	9.50"	4.00"	C900	160 PSI
6"	6.63"	UFR1500-6-U	6	14	15.10"	11.60"	11.70"	4.00"	C900	160 PSI
8"	8.63"	UFR1500-8-U	8	18	17.25"	13.75"	13.85"	4.00"	C900	160 PSI
10"	10.75"	UFR1500-10-U	8	25	19.30"	15.80"	15.90"	4.00"	C900	160 PSI
12"	12.75"	UFR1500-12-U	8	29	21.50"	18.00"	18.10"	4.00"	C900	160 PSI

*Maximum O.D. of gland on pipe before Auto-Torque heads are removed (as shipped).
*Maximum O.D. of gland on pipe after Auto-Torque heads are removed.

FEATURES

- Fits C900, C909 and ASTM D2241 IPS PVC
- Full circle contact and support of the pipe wall
- "Auto-Torque" actuating screws with heads specially designed to twist off at the correct installation torque, leaving a hex head in case future system maintenance or removal is required
- Restraining segments are mechanically retained in pockets
- Series 1500 eliminates the need to pour expensive and time consuming concrete thrust blocks
- UL/FM approved, 4"-12" nominal size C900 PVC, for use on listed and approved thrust blocks
- Gland, screws and segments are black epoxy coated using the e-coat process
- Gland colored red for identification purposes
- Ductile iron castings are manufactured, assembled, inspected and packaged in the U.S.A.

The Ford Meter Box Company considers the information in this submittal form to be correct at the time of publication. Item and option availability, including specifications, are subject to change without notice. Please verify that your product information is current.

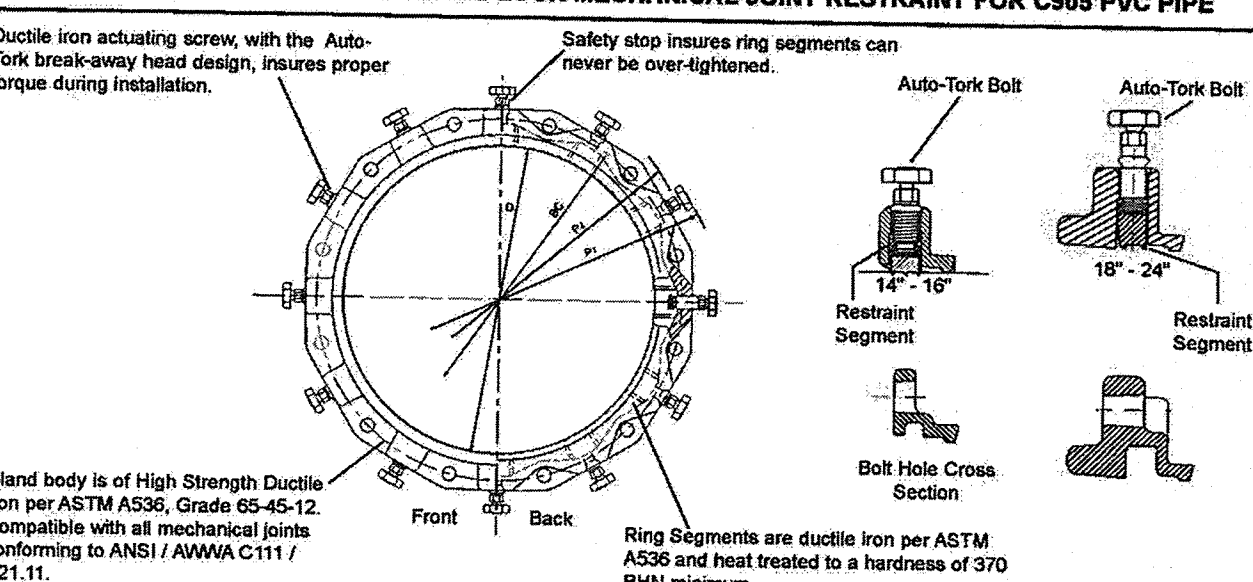
The Ford Meter Box Company, Inc.
P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443
Phone: 260-563-3171 / Fax: 800-826-3487
Overseas Fax: 260-563-0167
http://www.fordmeterbox.com

Submitted By: _____
Date: 03/01/12

SUBMITTAL INFORMATION

Mechanical Joint Retainer (UFR1500-C-xx-U style)

14" - 24" SERIES UFR1500-C CIRCLE LOCK MECHANICAL JOINT RESTRAINT FOR C905 PVC PIPE



Nom. Pipe Size	O.D.	CATALOG NUMBER	No. of Restraining Rods	Approx. Weight (Lbs.)	P1"	P2"	BC	D	Pressure Rating	Submitted Item(s)
14"	15.30"	UFR1500-C-14-U	10	47	23.62"	22.72"	18.75"	15.44"	C905	235 PSI
16"	17.40"	UFR1500-C-16-U	12	63	26.18"	25.28"	21.0"	17.54"	C905	235 PSI
18"	19.50"	UFR1500-C-18-U	12	70	28.28"	27.38"	23.25"	19.64"	C905	235 PSI
20"	21.60"	UFR1500-C-20-U	14	86	30.38"	29.48"	25.5"	21.74"	C905	235 PSI
24"	25.80"	UFR1500-C-24-U	16	128	34.58"	33.68"	30.0"	25.94"	C905	235 PSI

*Maximum O.D. of gland on pipe before Auto-Torque heads are removed (as shipped).
*Maximum O.D. of gland on pipe after Auto-Torque heads are removed.

FEATURES

- Full circle contact and support of the pipe wall. The Series 1500 can be used on any thickness class of AWWA C-905 PVC pipe without any point loading.
- "Auto-Torque" actuating screws with heads specially designed to twist off at the correct installation torque, leaving a hex head in case future system maintenance or removal is required.
- Restraining segments are mechanically retained in pockets.
- Series 1500 eliminates the need to pour expensive and time consuming concrete thrust blocks.
- Gland, screws and segments are black epoxy coated using the e-coat process
- Gland colored red for identification purposes
- Ductile iron castings are manufactured, assembled, inspected and packaged in the U.S.A.

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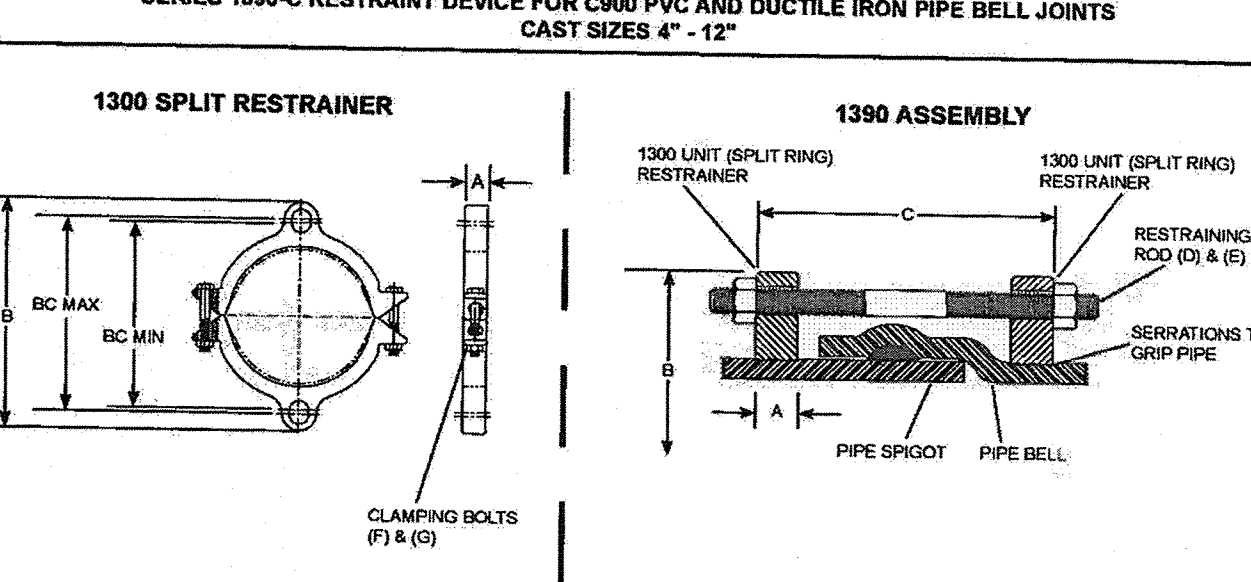
The Ford Meter Box Company, Inc.
P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443
Phone: 260-563-3171 / Fax: 800-826-3487
Overseas Fax: 260-563-0167
http://www.fordmeterbox.com

Submitted By: _____
Date: 10/18/13

SUBMITTAL INFORMATION

Uni-Flange Restraint (UFR1390-C-x-U style)

SERIES 1390-C RESTRAINT DEVICE FOR C900 PVC AND DUCTILE IRON PIPE BELL JOINTS CAST SIZES 4" - 12"



PVC Pipe with DI Pipe OD Style 1390-C		C		RESTRAINING RODS		CLAMPING BOLTS		BC Max	BC Min	✓ Submitted Items
Nom. Pipe Size	Catalog No.	A	B	No. D	Size E	No. F	Size G			
4.00	UFR1390-C-4-U	1-1/8"	3-1/8"	12"	2	3/4" x 17"	4	5/8" x 3-1/2"	7.50"	7.14"
6.00	UFR1390-C-6-U	1-1/8"	3-1/8"	12"	2	3/4" x 17"	4	5/8" x 3-1/2"	9.50"	9.14"
8.00	UFR1390-C-8-U	1-1/4"	4-5/8"	15"	2	3/4" x 17"	4	3/4" x 4"	12.98"	11.38"
10.00	UFR1390-C-10-U	1-3/8"	5-5/8"	16"	4	3/4" x 24"	4	7/8" x 5"	15.00"	13.50"
12.00	UFR1390-C-12-U	1-3/8"	5-5/8"	16"	4	3/4" x 24"	4	7/8" x 5"	17.62"	15.62"

FEATURES

- 4" - 12" Sizes: Cast Ductile Iron per ASTM A536 Grade 65-45-12.
- 360° contact and support of the pipe wall.
- Restraining rods are high strength, low alloy steel per ANSI / AWWA C111 / A21.11.
- Rated at full rated pressure of any class of PVC Pipe, minimum 2:1 safety factor.
- Ductile Iron Pipe shall have the following pressure ratings: 4" through 8" = 250 PSI
10" and 12" = 200 PSI.
- Castings are manufactured in the United States of America.
- Black e-coat epoxy coating

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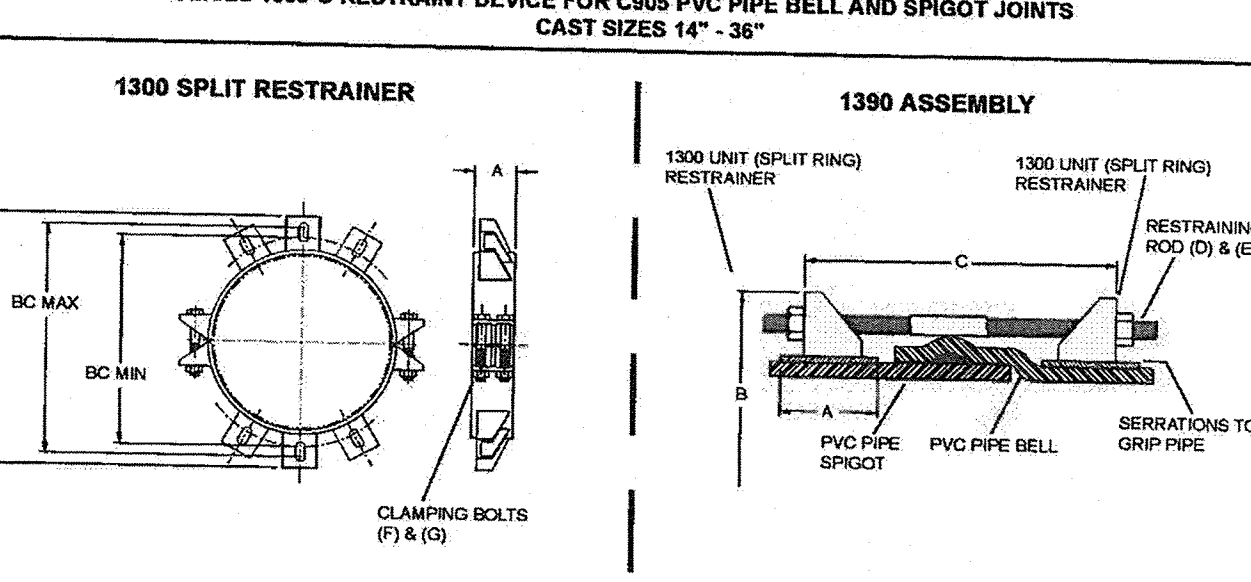
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Overseas Fax: 260-563-0167
http://www.fordmeterbox.com

Submitted By: _____
Date: 09/13/13

SUBMITTAL INFORMATION

Restrainer (UFR1390-C-xx-U style)

SERIES 1390-C RESTRAINT DEVICE FOR C905 PVC PIPE BELL AND SPIGOT JOINTS CAST SIZES 14" - 36"



Nom. Pipe Size	PVC Pipe with DI Pipe OD Style 1390-C	A	B	C	RESTRAINING RODS		CLAMPING BOLTS		BC Max	BC Min	Approx. Wt. Lbs.	/Submitted Item(s)
					Qty. D	Size E	Qty. G	Size H				
14"	UFR1390-C-14-U	4"	22-1/2"	24"	6	3/4" x 30"	8	7/8" x 7"	20.50"	18.50"	138	
16"	UFR1390-C-16-U	4"	24-1/2"	26"	6	3/4" x 30"	8	7/8" x 7"	22.50"	20.50"	147	
18"	UFR1390-C-18-U	4"	26-1/2"	28"	6	3/4" x 30"	8	1" x 7"	24.50"	22.50"	156	
20"	UFR1390-C-20-U	6"	29-3/16"	28"	8	3/4" x 36"	8	1-1/8" x 5-1/2"	27.00"	25.00"	208	
24"	UFR1390-C-24-U	6"	33-7/8"	28"	12	3/4" x 36"	8	1-1/8" x 5-1/2"	31.50"	29.50"	263	
30"	UFR1390-C-30-U	7"	40-7/8"	38"	12	1" x 48"	12	1-1/8" x 5"	38.10"	36.10"	346	
36"	UFR1390-C-36-U	7"	48-1/4"	38"	12	1" x 48"	12	1-1/8" x 5"	45.50"	43.50"	401	

FEATURES

- 14" - 36" Sizes: Cast Ductile Iron per ASTM A536 Grade 65-45-12
- Side Clamping Bolts and Nuts
- Rods (included) - High strength, low alloy steel per ANSI / AWWA C111/A21.11
- Rated at full rated pressure of any class of C905 PVC Pipe, minimum 2:1 safety factor
- Casting manufactured in the U.S.A.

The Ford Meter Box Company considers the information in this submittal form to be correct at the time of publication. Item and option availability, including specifications, are subject to change without notice. Please verify that your product information is current.

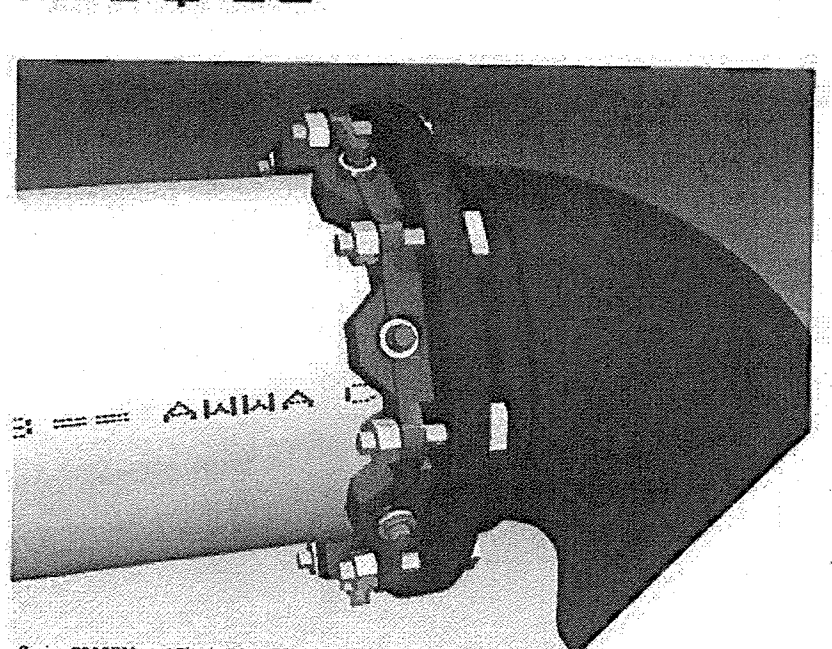
The Ford Meter Box Company, Inc.
P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443
Phone: 260-563-3171 / Fax: 800-826-3487
Overseas Fax: 260-563-0167
http://www.fordmeterbox.com

Submitted By: _____
Date: 01/31/14



Series 2000PV

Mechanical Joint Restraint for PVC Pipe



Features and Applications:

- For restraining plain and PVC pipe at mechanical joint fittings and appurtenances
- Sizes 3 inch through 36 inch
Sizes 42 inch through 48 inch accommodated by Series 2200
- MEGA-BOND® Restraint Coating System
For more information on MEGA-BOND, refer to www.ebaa.com
- Constructed of ASTM A536 Ductile Iron
- The mechanical joint follower gland is incorporated into the restraint
- Accommodates full deflection of the mechanical joint on which it is used
- Heavy duty thick wall design

- Support Products Available:
 - Split mechanical Joint style available for 3 inch through 12 inch EBAA Series 2000SV
 - Solid restraint ring harness available for C905 PVC pipe bells and C900 PVC pipe fittings EBAA Series 1500, 1600 and 2500
 - Split restraint ring harness available for C900 and C905 PVC pipe bells and PVC fittings EBAA Series 1500, 1600 and 2500
- All 2000PV and related restraint products can be furnished as packaged accessories complete with appropriate restraint, gasket, lubrication and bolting hardware

For use on water or wastewater pipelines subject to hydrostatic pressure and tested in accordance with either AWWA C600 or ASTM D2774.

Nominal Pipe Size	Series Number	Shipping Weight
3	2003PV	7.0
4	2004PV	8.8
6	2006PV	12.1
8	2008PV	16.3
10	2010PV	26.0
12	2012PV	31.4
14	2014PV	47.6
16	2016PV	52.8
18	2018PV	61.8
20	2020PV	70.9
24	2024PV	92.9
30	2030PV	128.5
36	2036PV	161.3
42	2242*	652.0
48	2248*	711.1

*Restrainer for pipe size 42 inch and greater, please refer to Series 2200 Product Manual at www.ebaa.com

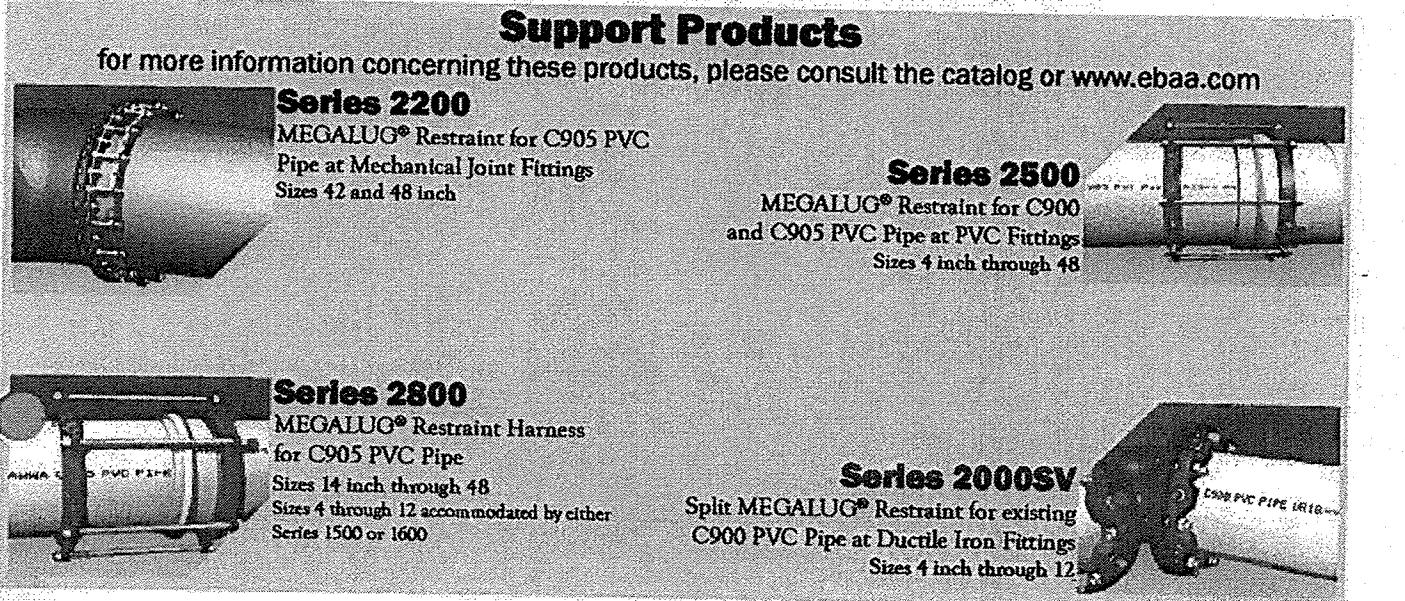
U.S. Patent No.
4627775 4896903 5071175

Mechanical Joint Restraint for AWWA PVC Pipe Sample Specification

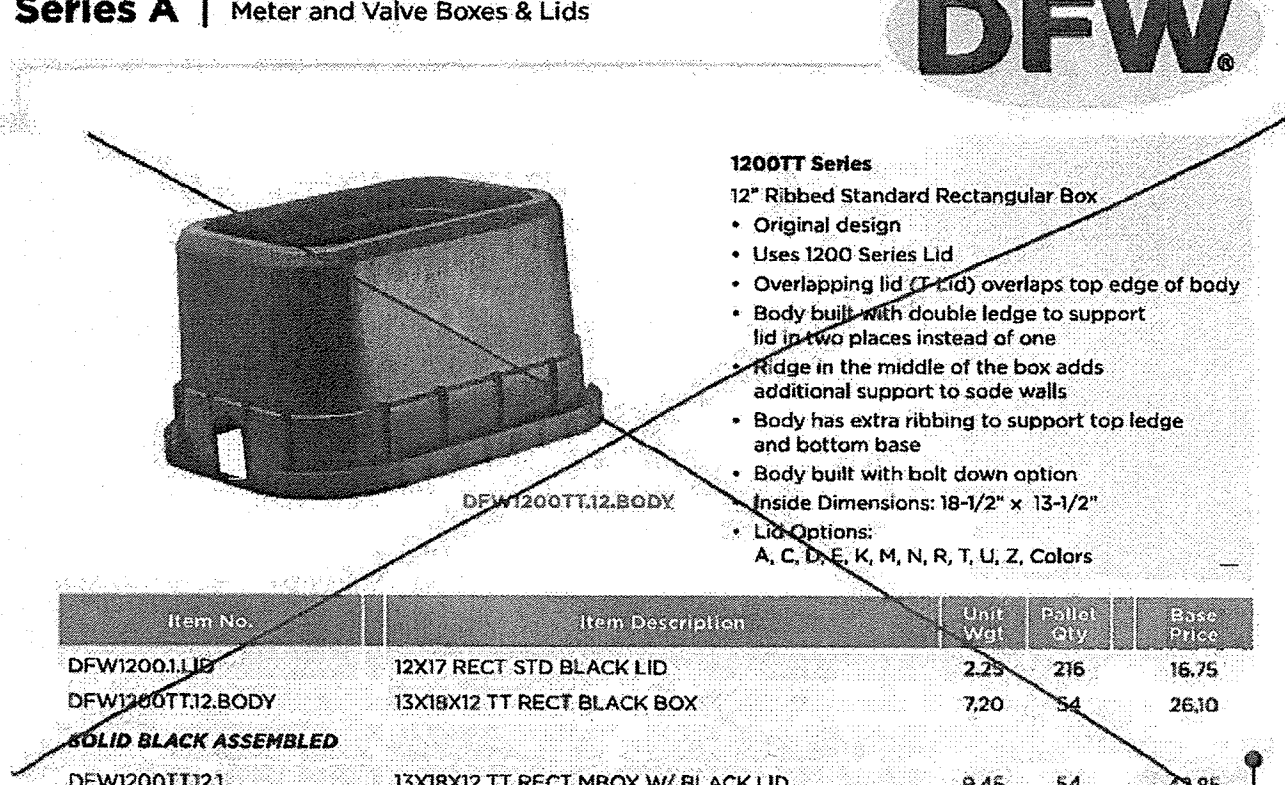
(The text of the specification below can be downloaded as a Microsoft® Word Doc from our website www.ebaa.com)
Restraint devices for mechanical joint fittings and appurtenances conforming to either ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A2153, shall conform to the following:

- Restraint devices for nominal pipe sizes 3 inch through 36 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.
- The devices shall have a working pressure rating equal to that found in the most current product brochure. Ratings are for water pressure and must include a minimum safety factor of 2:1 in all sizes.
- Material
Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536.
- Three (3) test bars shall be incrementally poured per production shift as per Underwriter's Laboratory (U.L.) Specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM B3.
- Physical and nodularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis.
- Traceability
An identification number consisting of year, day, plant and shift (YYDD) (plant designation) (Shift number), shall be cast into each gland body.
- All physical and chemical test results shall be recorded such that they can be accessed via the identification number on the casting. These Material
- Traceability Records (MTR's) are to be made available, in hard copy, to the purchaser that requests such documentation and submits his gland body identification number.
- Production pieces that are too small to accommodate individual numbering, such as fasteners and wedges, shall be controlled in segregate inventory until such time as all quality control tests are passed. These component parts may then be released to a general inventory for final assembly and packaging.
- All components shall be manufactured and assembled in the United States. The purchaser shall, with reasonable notice, have the right to plant visitation at his/her expense.
- Installation
Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly.
- Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts.
- Approvals
Mechanical Joint Restraints shall be listed by Underwriters Laboratories in the 4 inch through 12 inch sizes. Mechanical Joint Restraints shall be Factory Mutual Approved in the 4 inch through 12 inch sizes. Mechanical Joint Restraints, 4 inch through 24 inch, shall meet or exceed the requirements of ASTM F16174 or the
- MEGA-BOND® Restraint Coating System
All wedge assemblies and related parts shall be processed through a phosphate wash, rinse and drying operation prior to coating application. The coating shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat.
- All casting bodies shall be surface pretreated with a phosphate wash, rinse and cooler before drying. The coating shall be electrostatically applied and heat cured. The coating shall be a polyester based powder to provide corrosion, impact and UV resistance.
- The coating system shall be MEGA-BOND by EBAA Iron, Inc. or approved equal. Requests for approved equal must submit coating material and process details for review prior to bid.

For more information concerning these products, please consult the catalog or www.ebaa.com



Series A | Meter and Valve Boxes & Lids



Item No.	Item Description	Unit Wt.	Pallet Qty.	Base Price
DFW1200L1LID	12X17 RECT STD BLACK LID	2.25	216	16.75
DFW1200T12.BODY	13X18X12 TT RECT BLACK BOX	7.20	54	26.10
SOLID BLACK ASSEMBLED				
DFW1200T12J	13X18X12 TT RECT MBOX W/ BLACK LID	9.45	54	42.85
EXAMPLE OF BLACK BODY WITH BLACK AMR PAD LOCATOR LID				
DFW1300L12A	13X18X12 RECT STD MBOX W/ BLACK AMR LID	9.85	54	48.80

01/20/14 8A-01/20/14 Made in the U.S.A. © Resourcelink Recorder For other colors, colors, and options, please contact our Customer Service Department at 1800.808.3291

Series A | Price List Key

Color Key	Color	Cost Body Only	Cost Lid Only	Option Key	Option Description	Cost
1	Black	\$0.00	\$0.00	A	AMR Pad Locator	Add \$5.95
2	Green	\$0.80	\$0.85	C	Cast Iron Reader	Add \$5.70
3	Blue	\$0.80	\$0.85	D	Bolt Down (Add to Body Only)	Add \$1.95
4	Gray	\$1.70	\$1.65	E	Rebar Installed	Add \$2.25
5	Purple	\$1.45	\$1.40	K	Plastic Key Lock	Add \$5.00
6	Sand	\$1.70	\$1.65	M	Magnet Detector	Add \$2.10
7	Red	N/A	\$6.85	N	Houston Key Lock	Add \$5.00
				R	Plastic Reader	Add \$1.40
				T	Molded Touch Read Hole	Add \$1.30
				U	Small AMR Pad Locator	Add \$3.95
				Z	Drilled Touch Read Hole	Add \$2.10

Item No.	Item Description	Base Price	Unit Wt.	Pallet Qty.	Base Price
DFW108L1LID	6X9 ECONO BLACK LID "WATER"	2.90			
DFW1000L1LID	9X15 RECT BLACK LID	9.20			
DFW1000L1LID	10X12 ROUND BLACK LID	6.65			
DFW1200L1LID	12X17 RECT STD BLACK LID	16.75			
DFW1500L1LID	18X22 RECT JUMBO BLACK LID	27.60			

Accessories & Individual Parts	Unit Wt.	Pallet Qty.	Base Price
DFW4X7X1	4X7 BLACK PLASTIC READER ONLY	0.20	1000
DFW4X7X1C	4X7 CAST IRON READER ONLY	2.00	1000
DFW4X7X2	4X7 GREEN PLASTIC READER ONLY	0.20	1000
DFW4X7X3	4X7 BLUE PLASTIC READER ONLY	0.20	1000
DFW4X7X5	4X7 PURPLE PLASTIC READER ONLY	0.20	1000

LC149DEW	12" STD OVERLAPPING SOLID CAST IRON LID FOR 1200/1300 BODY	14.00	1	50.50
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2A-5101-2 Made in the U.S.A. ♻️ Recycle/Reuse/Recycle
 For other sizes, colors, and options, please contact our Customer Service Department at 1.800.806.1251


www.dfwplasticsinc.com

INSTALLATION:

1. ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO ENSURE THAT STRUCTURAL BMP'S ARE INSTALLED WITHIN THE LIMITS OF THE SITE BOUNDARY.
3. CONTRACTOR MAY INSTALL THE BEST MANAGEMENT PRACTICES IN PHASES THAT COINCIDE WITH THE DISTURBANCE OF UP GRADIENT AREAS. THIS PHASING 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 NOTATION IN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

MAINTENANCE AND INSPECTION:

1. CONTRACTOR SHOULD LIMIT CONSTRUCTION ACTIVITIES TO ONLY THOSE AREAS SHOWN TO BE DISTURBED ON THIS PLAN. IF ADDITIONAL VEGETATED AREAS ARE DISTURBED, THEY SHOULD BE PROTECTED WITH APPROPRIATE BEST MANAGEMENT PRACTICES UNTIL THE AREAS HAVE BEEN STABILIZED AS PER THE SPECIFICATIONS OF THE SWPPP. THE AREAS OF THIS ADDITIONAL SOIL DISTURBANCE AND THE MEASURES USED SHOULD BE SHOWN ON THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF BMP'S AS PER THE SPECIFICATIONS OF THE SWPPP. THE CONTRACTOR MAY MODIFY THE CONTROLS AS NECESSARY TO PREVENT SEDIMENT RUNOFF. THESE MODIFICATIONS SHOULD BE SHOWN AND THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

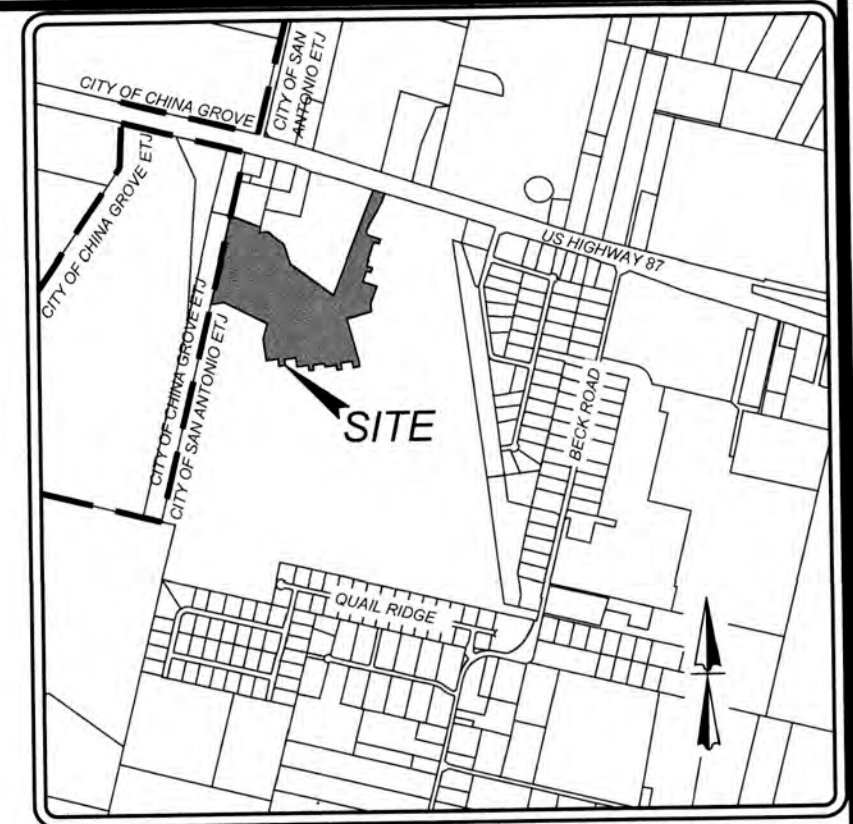
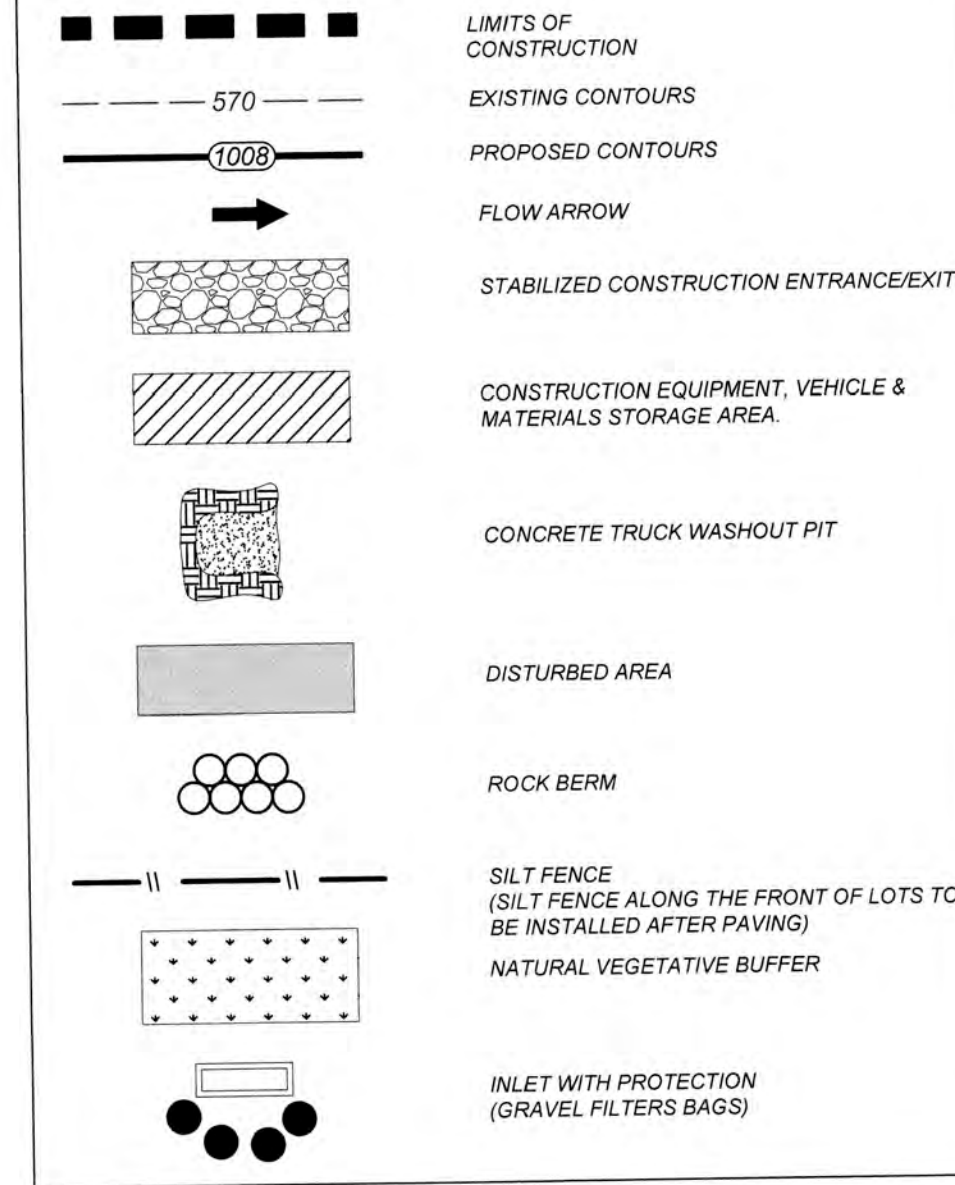
PROJECT COMPLETION:

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).

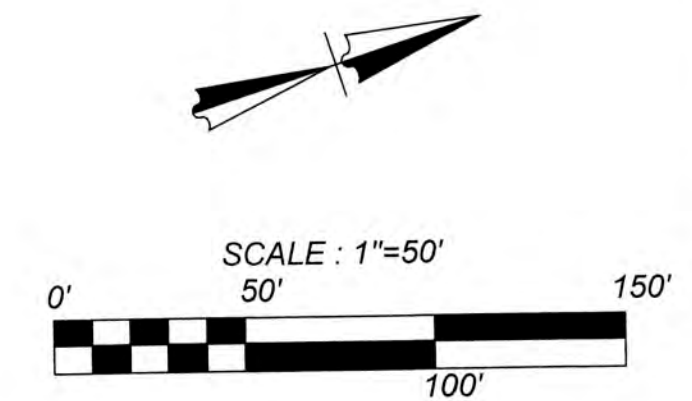
GENERAL:

1. THIS EXHIBIT IS TO BE USED FOR THE PURPOSES OF STORMWATER POLLUTION PREVENTION ONLY. ALL OTHER CIVIL ENGINEERING INFORMATION SHOULD BE OBTAINED FROM THE APPROPRIATE CONSTRUCTION DOCUMENTS.
2. THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TPDES STORMWATER POLLUTION PREVENTION PLAN REGULATIONS ONLY.
3. ALL OWNERS/OPERATORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE STORMWATER POLLUTION PREVENTION PLAN AND COMPLYING WITH THE REGULATIONS CONTAINED WITHIN IT.

LEGEND



LOCATION MAP
NOT-TO-SCALE

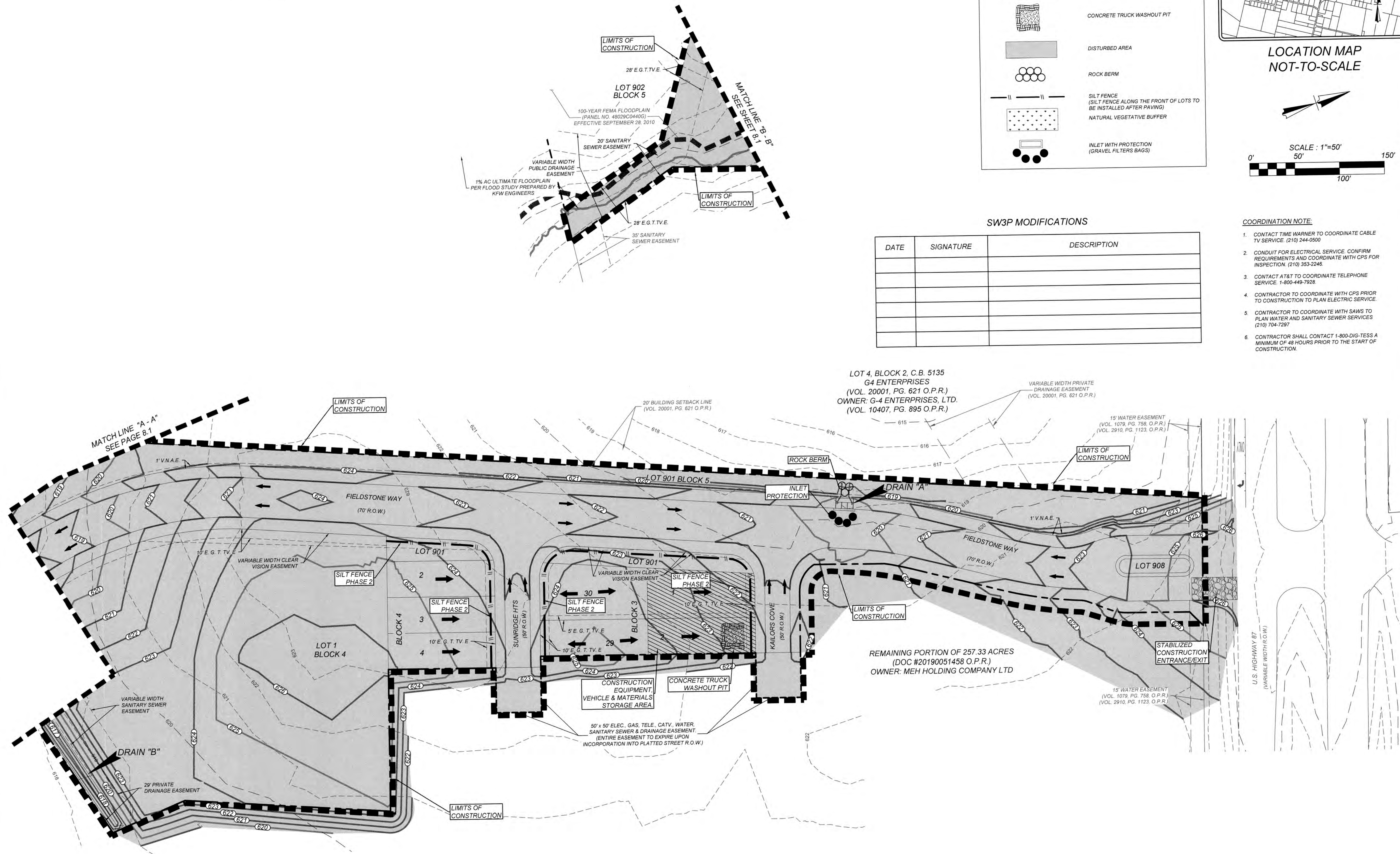


SW3P MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

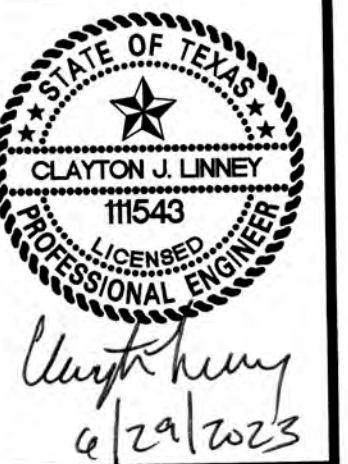
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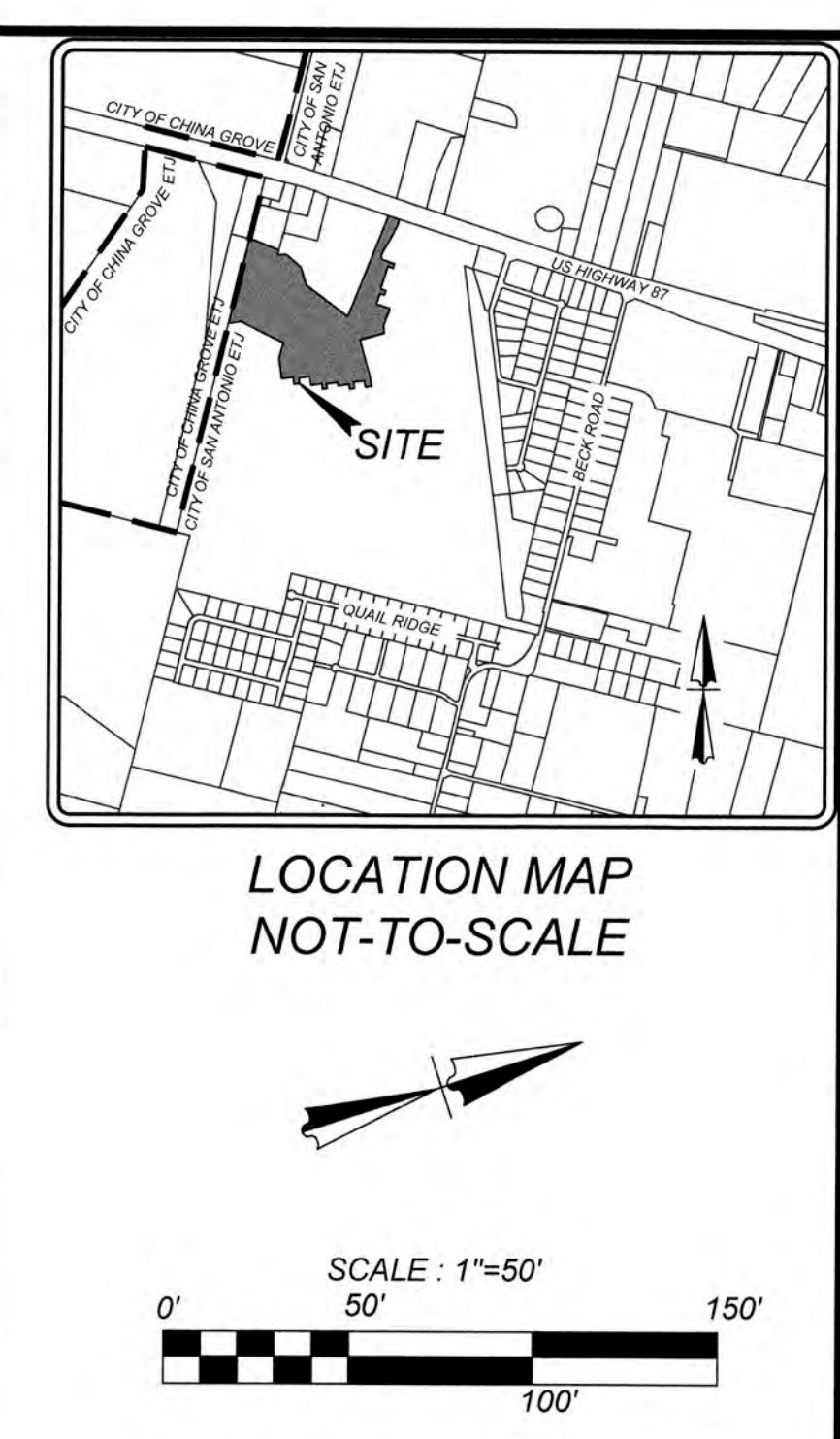
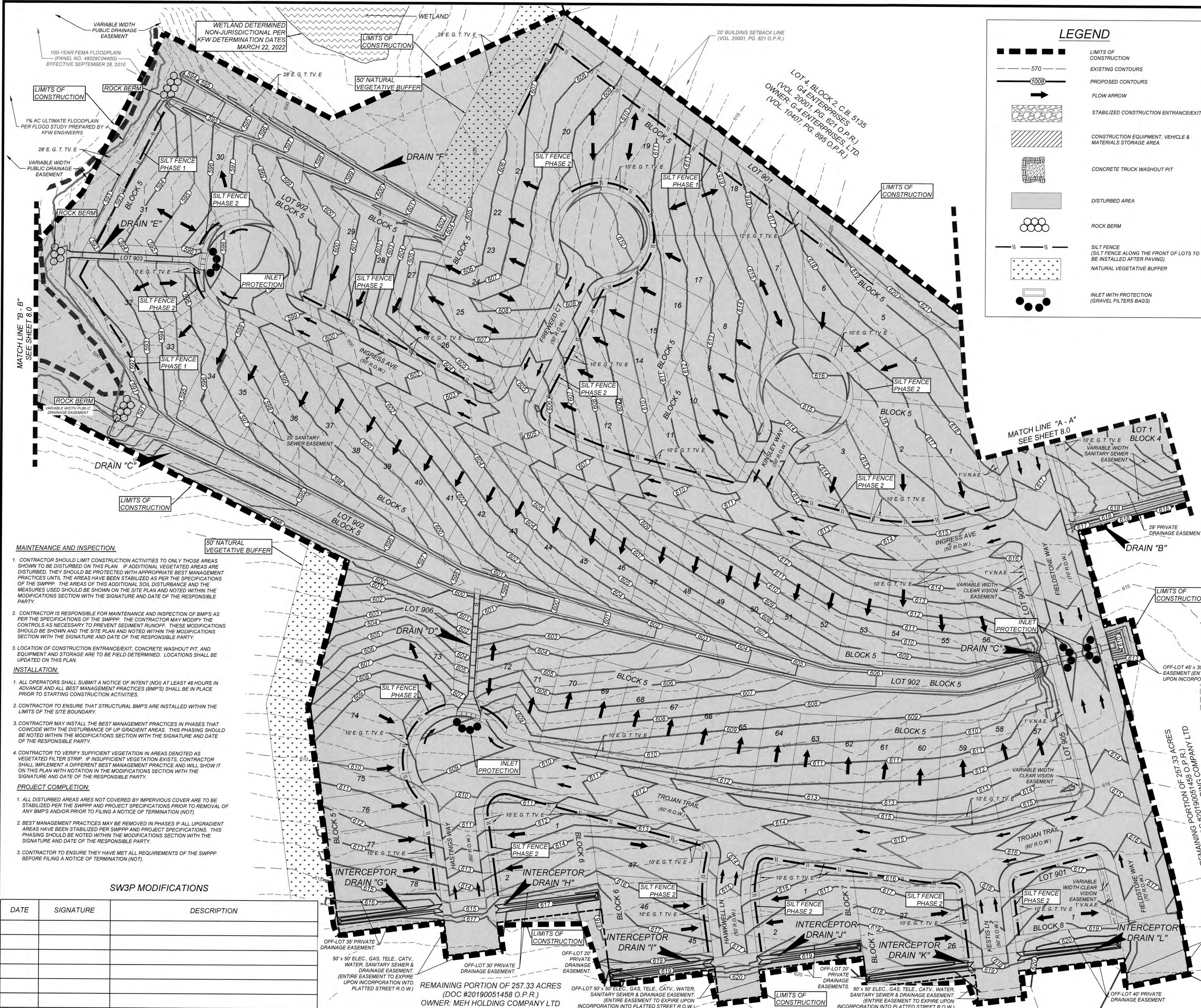
1. CONTACT TIME WARNER TO COORDINATE CABLE TV SERVICE. (210) 244-0500
2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH CPS FOR INSPECTION. (210) 353-2246
3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928
4. CONTRACTOR TO COORDINATE WITH CPS PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.
5. CONTRACTOR TO COORDINATE WITH SAWS TO PLAN WATER AND SANITARY SEWER SERVICES (210) 704-7297
6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX
STORM WATER POLLUTION PREVENTION PLAN
(SHEET 1 OF 2)

PLAT NO.
21-11800645
JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: CM CHECKED: CL
SHEET NUMBER:
8.0





LEGEND

- LIMITS OF CONSTRUCTION
- - - EXISTING CONTOURS
- - - PROPOSED CONTOURS
- FLOW ARROW
- [Pattern] STABILIZED CONSTRUCTION ENTRANCE/EXIT
- [Pattern] CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA
- [Pattern] CONCRETE TRUCK WASHOUT PIT
- [Pattern] DISTURBED AREA
- [Pattern] ROCK BERM
- [Pattern] SILT FENCE (SILT FENCE ALONG THE FRONT OF LOTS TO BE INSTALLED AFTER PAVING)
- [Pattern] NATURAL VEGETATIVE BUFFER
- [Pattern] INLET WITH PROTECTION (GRAVEL FILTER BAGS)

- COORDINATION NOTE:**
1. CONTACT TIME WARNER TO COORDINATE CABLE TV SERVICE. (210) 244-0500
 2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH CPS FOR INSPECTION. (210) 353-2246
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 2. THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TDES 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.

- MAINTENANCE AND INSPECTION:**
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 3. LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.
- INSTALLATION:**
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- PROJECT COMPLETION:**
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 3. CONTRACTOR TO ENSURE THEY HAVE MET ALL REQUIREMENTS OF THE SWPPP BEFORE FILING A NOTICE OF TERMINATION (NOT).

SW3P MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

REMAINING PORTION OF 257.33 ACRES
(DOC #20190051458 O.P.R.)
OWNER: MEH HOLDING COMPANY LTD

GATES SUBDIVISION UNIT 1
STORM WATER POLLUTION PREVENTION PLAN (SHEET 2 OF 2)

KFW
ENGINEERS + SURVEYING
3421 Pleasanton Pkwy, Suite 200, San Antonio, TX 78231
Phone #: (210) 979-5444 • Fax #: (210) 979-5441
TDEP Form # 5013 - 12/2000

ISSUE DATE
REVISIONS

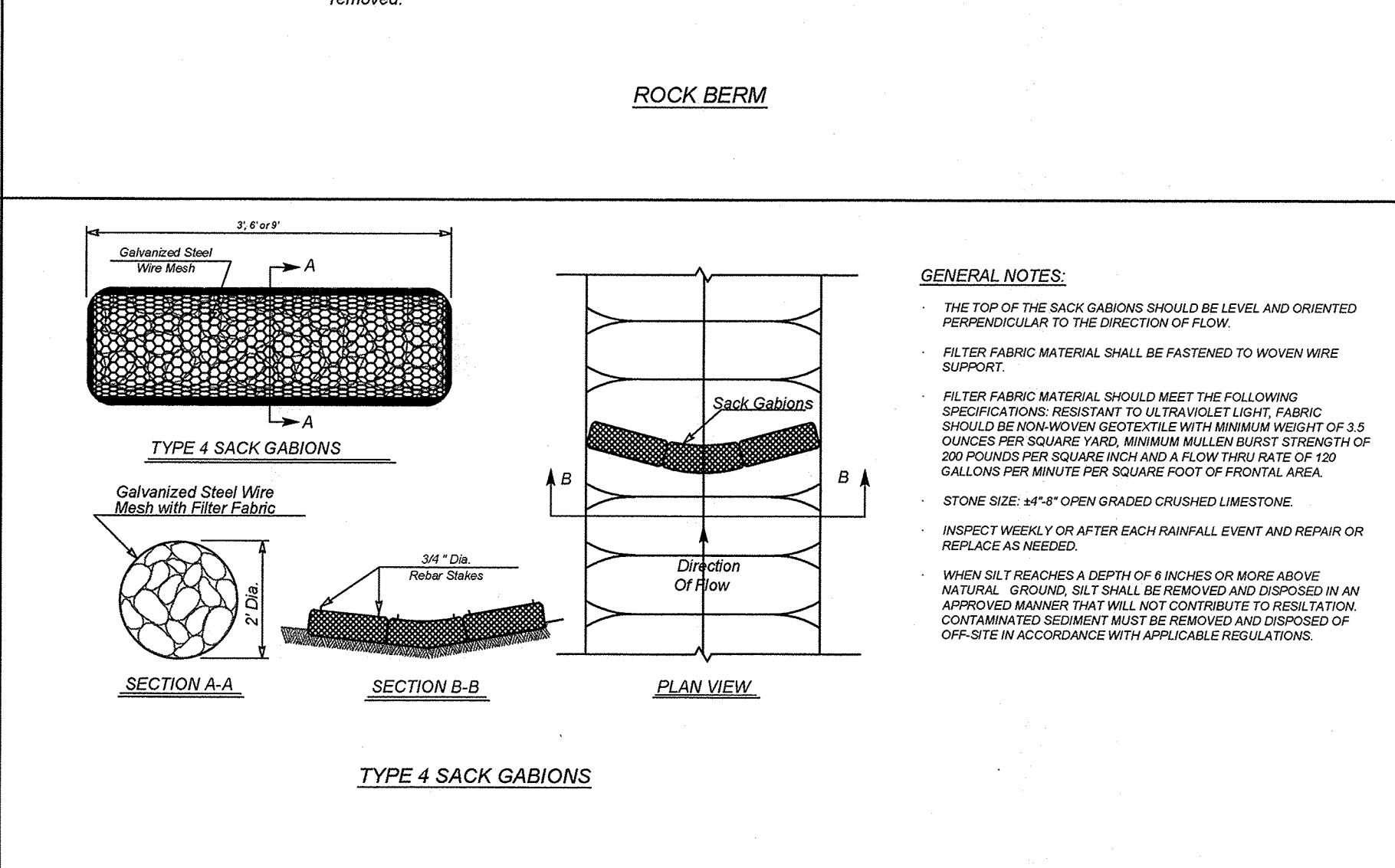
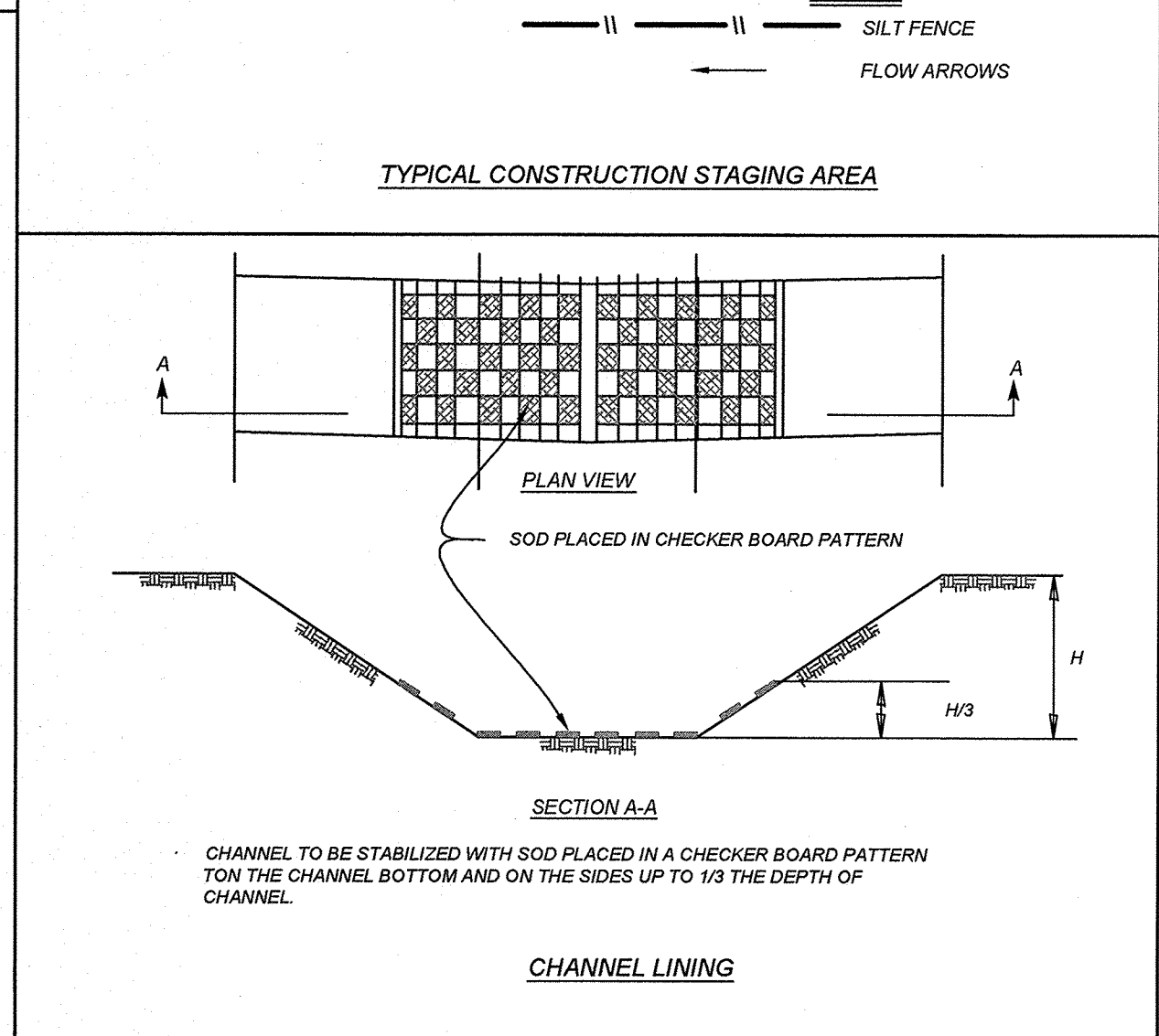
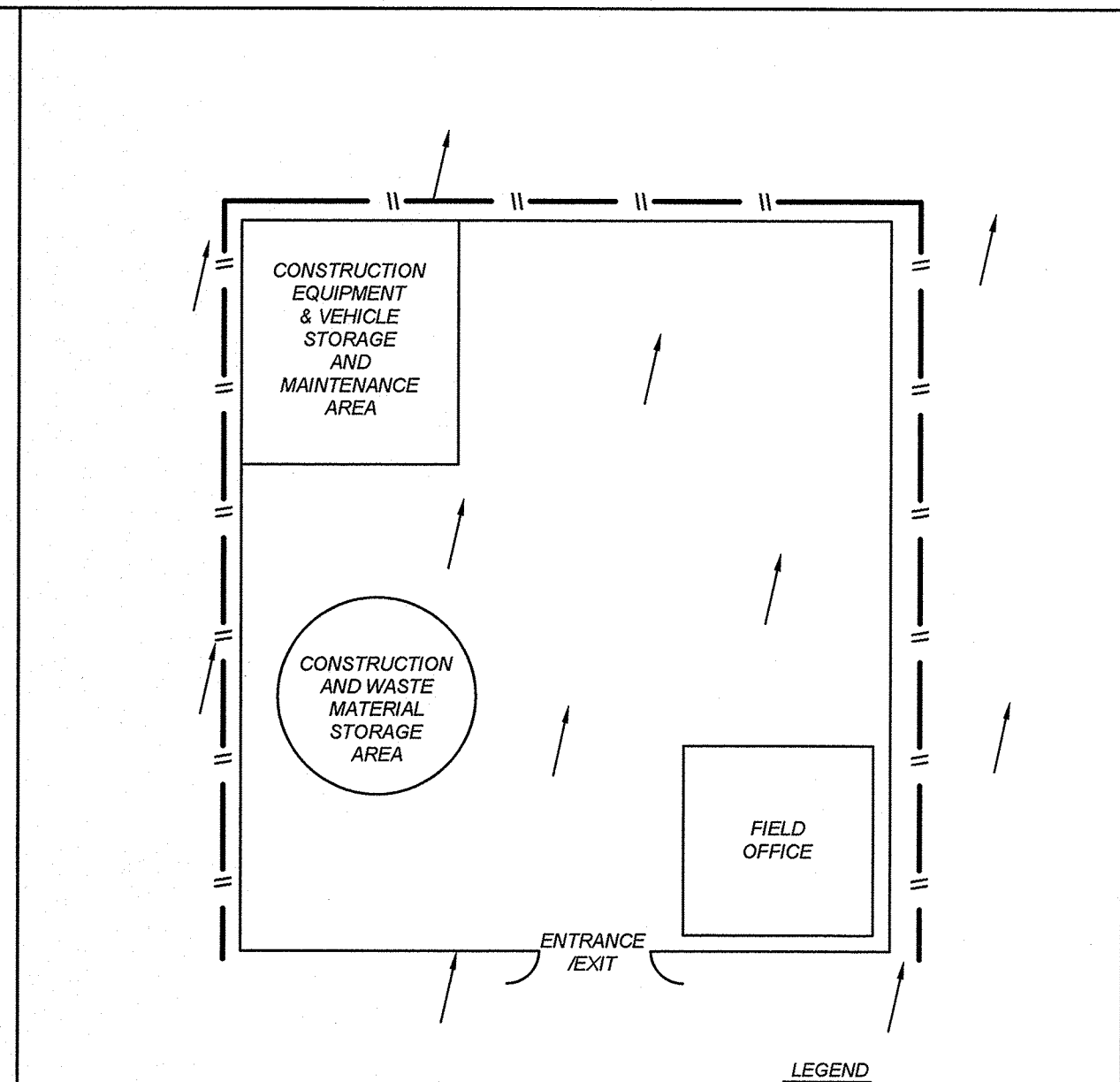
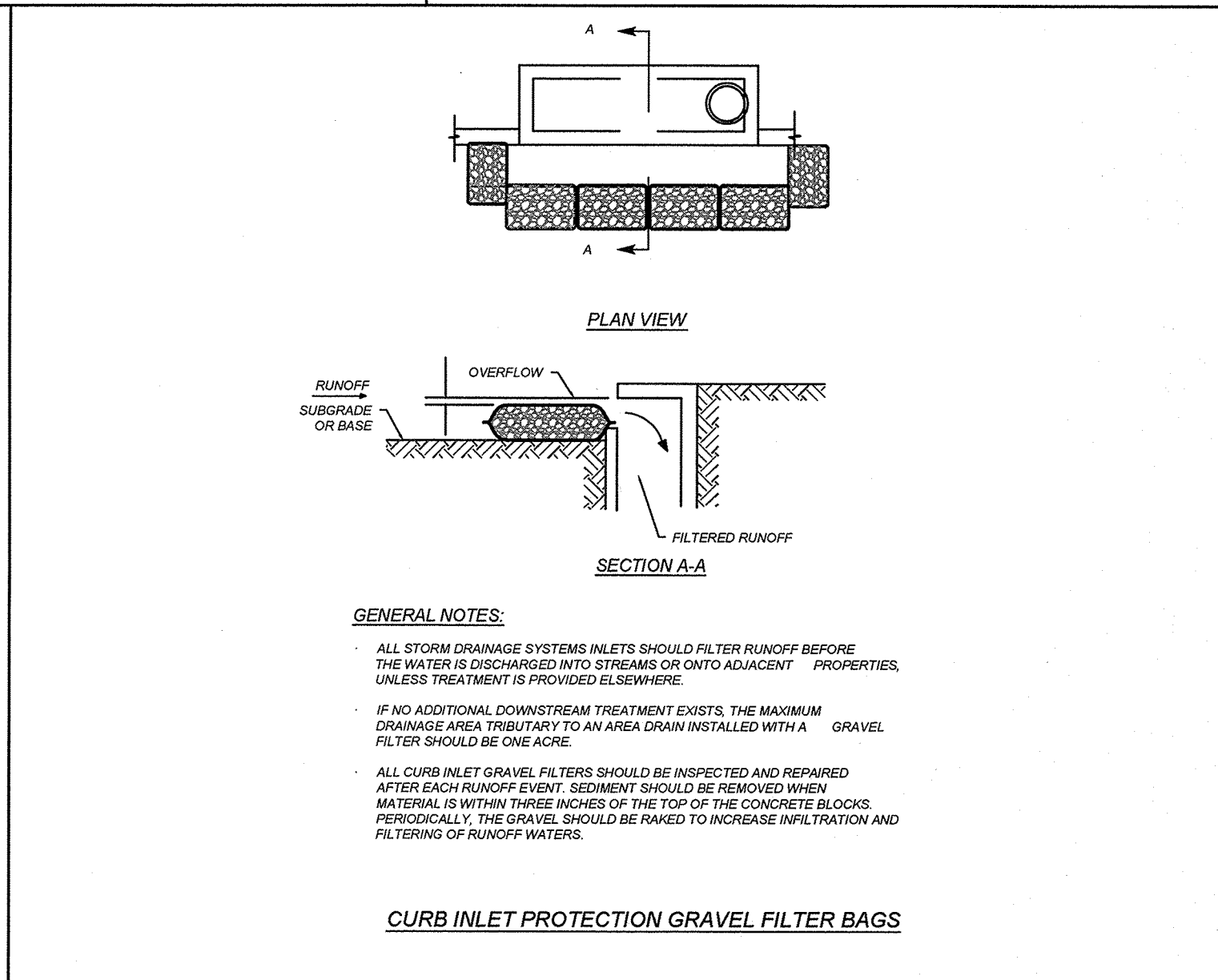
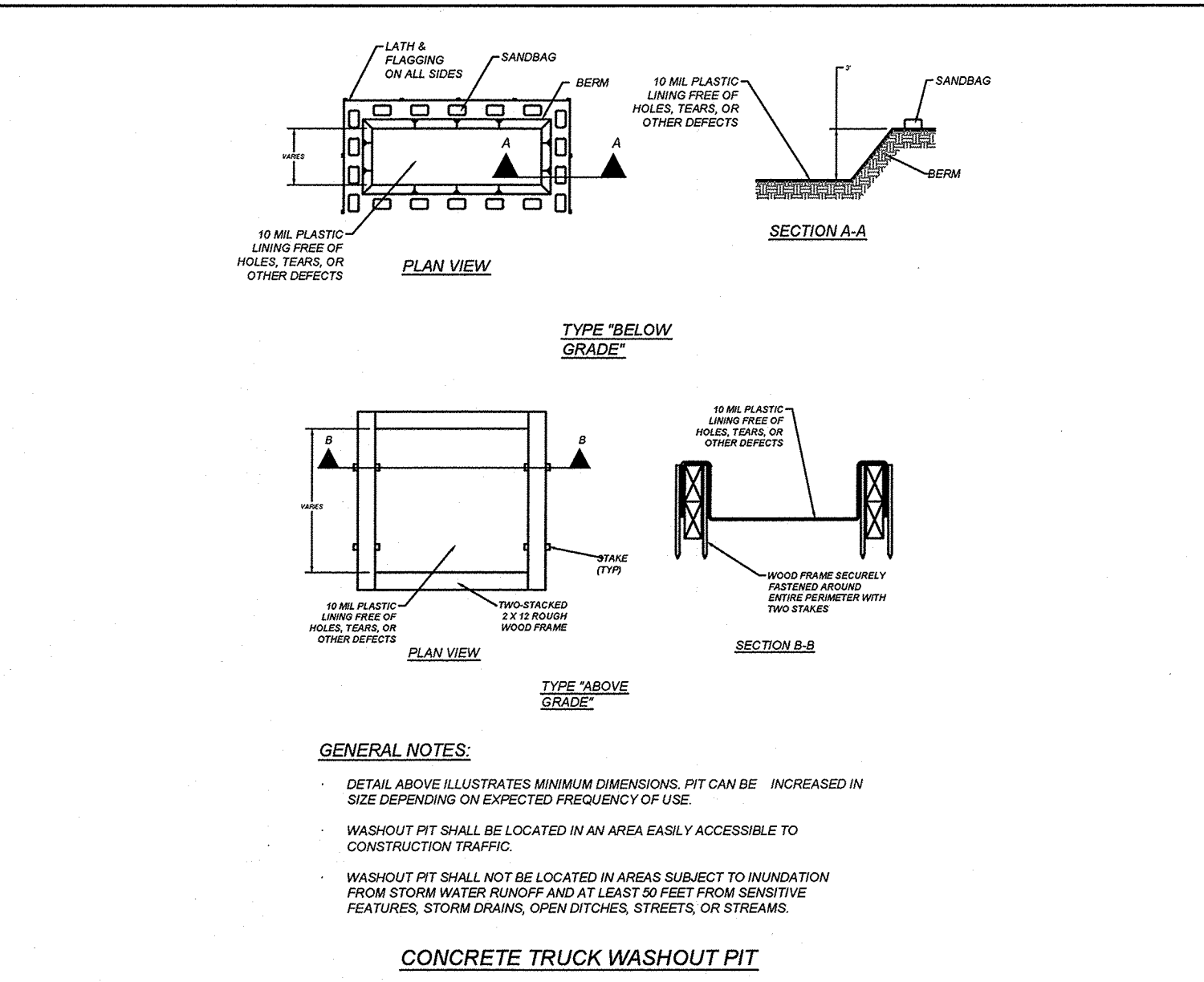
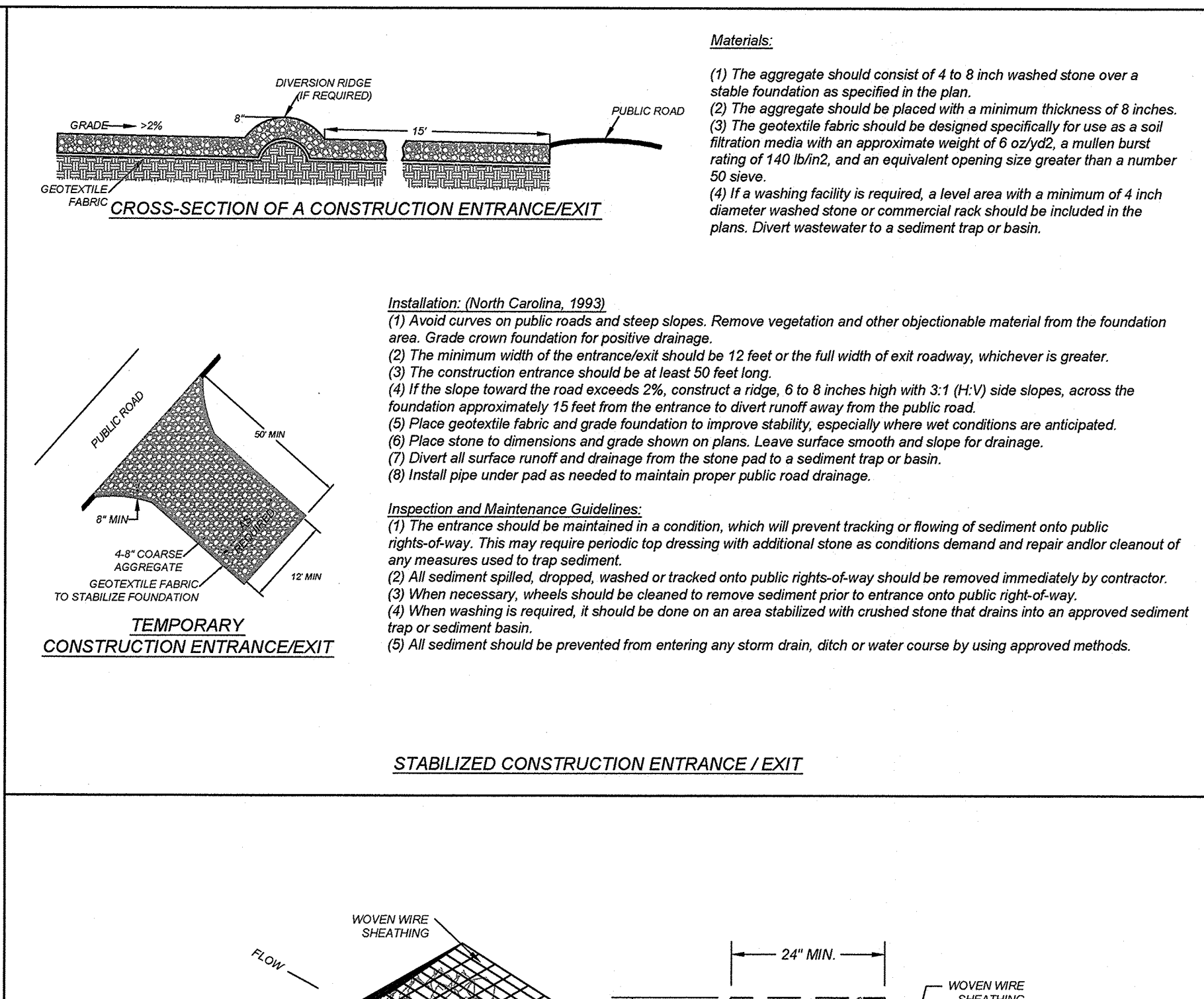
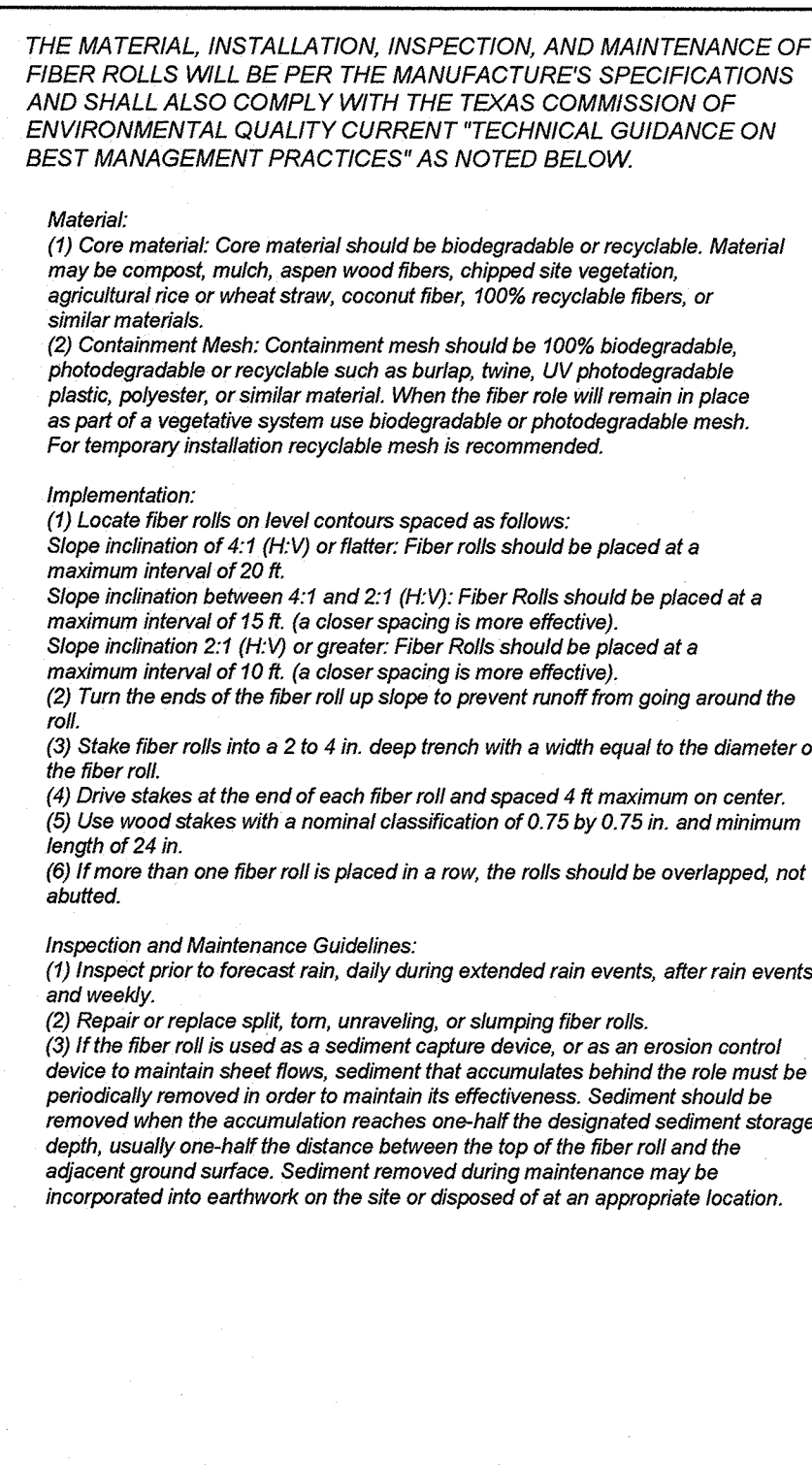
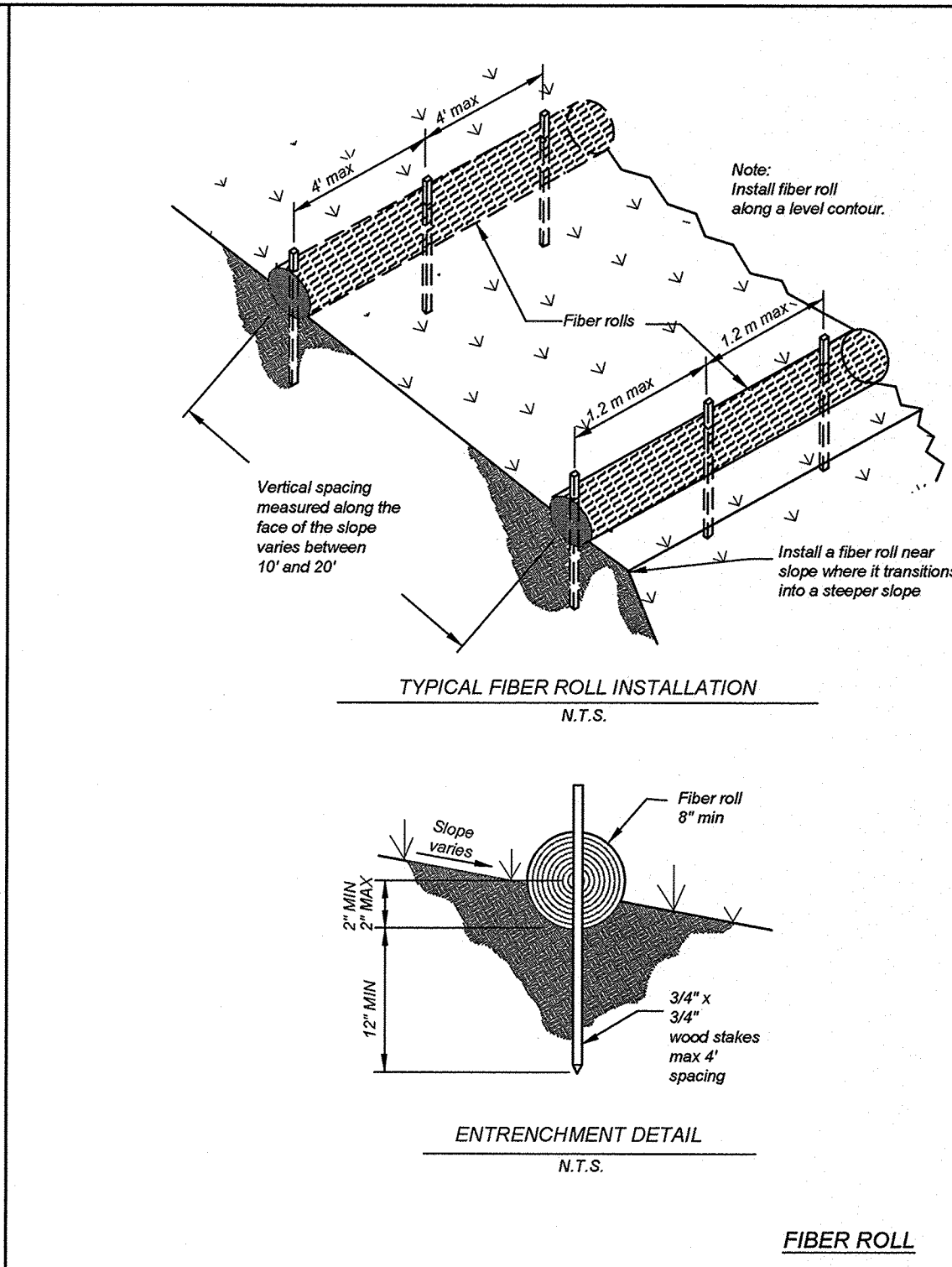
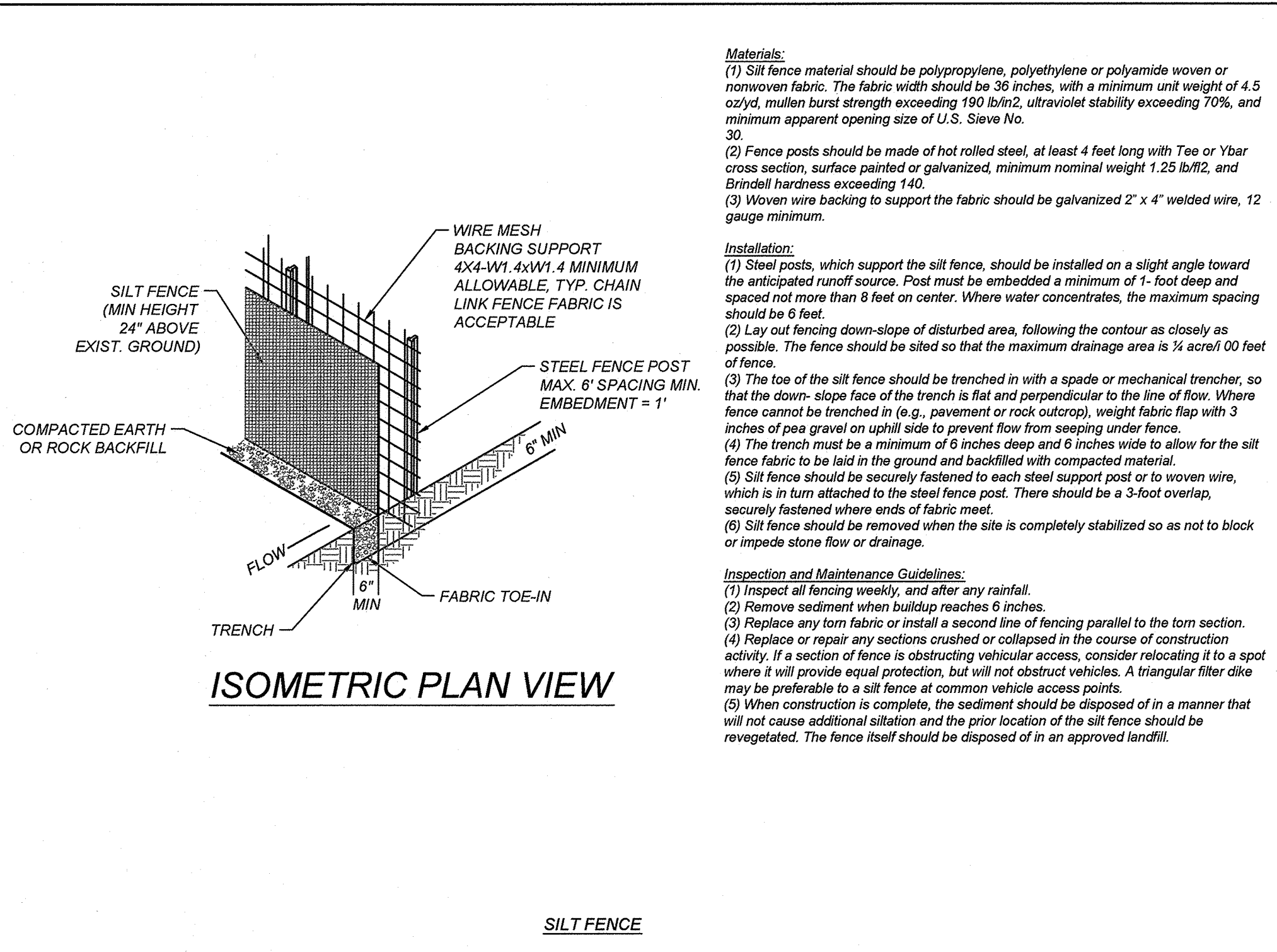
STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER
6/29/2023

PLAT NO.
21-11800645

JOB NO. 205-43-04
DATE: OCTOBER 2021
DRAWN: OM
CHECKED: CL

SHEET NUMBER:
8.1

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARD COPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.



GATES SUBDIVISION UNIT 1
BEXAR COUNTY, TX

STORM WATER POLLUTION PREVENTION DETAILS

K&W
ENGINEERS + SURVEYING
2621 Fairway, Suite 200, San Antonio, TX 78231
Phone: (210) 381-0777 • Fax: (210) 381-0778
TBE Firm # 9519 • TBE License # 10122301

ISSUE DATE: 4/19/2022

REVISIONS:

STATE OF TEXAS
CLAYTON J. LINNEY
11543
PROFESSIONAL ENGINEER

Clayton J. Linney
4/19/2022