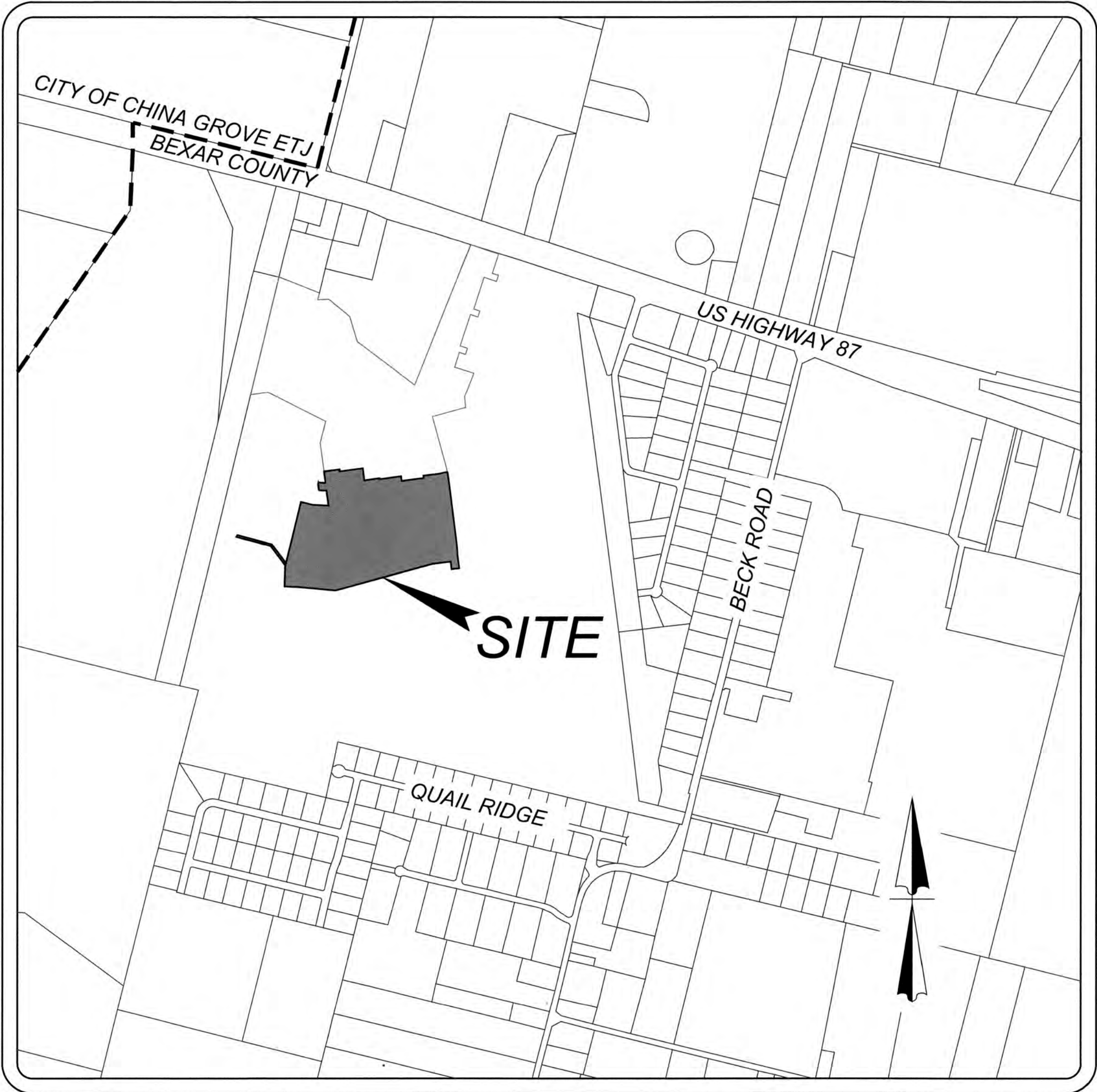


GATES SUBDIVISION UNIT 2
BEXAR COUNTY, TX

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



LOCATION MAP
NOT-TO-SCALE

Table with 4 columns: DATE, SHEET NO., REVISION NO., DESCRIPTION. It is a SHEET REVISION LOG.

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



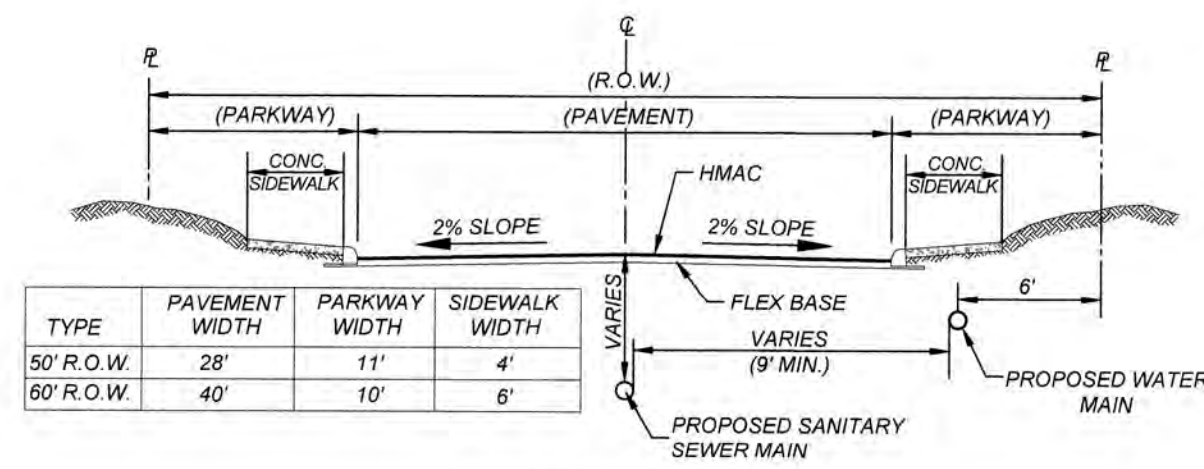
Sheet List Table

SHEET TITLE	SHEET NUMBER
COVER SHEET	0.0
OVERALL UTILITY PLAN (SHEET 1 OF 2)	1.0
OVERALL UTILITY PLAN (SHEET 2 OF 2)	1.1
MASTER DRAINAGE PLAN	2.0
OVERALL GRADING PLAN	3.0
PRIVATE DRAIN "A" PLAN & PROFILE (SHEET 1 OF 3)	4.0
PRIVATE DRAIN "A" PLAN & PROFILE (SHEET 2 OF 3)	4.1
PRIVATE DRAIN "A" PLAN & PROFILE (SHEET 3 OF 3)	4.2
PRIVATE DRAIN "B" PLAN & PROFILE	4.3
FIELDSTONE WAY PLAN & PROFILE	5.0
SKYBROOK DR & KESTIS LN PLAN & PROFILE	5.1
HAWKWEEL LN PLAN & PROFILE	5.2
HASTINGS WAY, DUSKVIEW HILL & TROUT LILY PLAN & PROFILE	5.3
FROSTWOOD HTS PLAN & PROFILE	5.4
CONCRETE DRIVEWAY DETAILS	5.5
WHEELCHAIR RAMP DETAILS	5.6
TXDOT PEDESTRIAN CURB RAMP DETAIL	5.7
TYPICAL STREET DETAILS	5.8
TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN	5.9
TRAFFIC SIGNAGE DETAILS (SHEET 1 OF 2)	5.10
TRAFFIC SIGNAGE DETAILS (SHEET 2 OF 2)	5.11
PAVEMENT MARKING DETAILS (SHEET 1 OF 2)	5.12
PAVEMENT MARKING DETAILS (SHEET 2 OF 2)	5.13
SANITARY SEWER COVER SHEET	6.0
OVERALL SANITARY SEWER PLAN (SHEET 1 OF 2)	6.1
OVERALL SANITARY SEWER PLAN (SHEET 2 OF 2)	6.2
LINE "A" PLAN & PROFILE	6.3
LINE "B" PLAN & PROFILE	6.4
LINE "C", "D", & "E" PLAN & PROFILE	6.5
LINE "F" & "G" PLAN & PROFILE	6.6
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
STORM WATER POLLUTION PREVENTION PLAN (SHEET 1 OF 2)	8.0
STORM WATER POLLUTION PREVENTION PLAN (SHEET 2 OF 2)	8.1
STORM WATER POLLUTION PREVENTION DETAILS	8.2

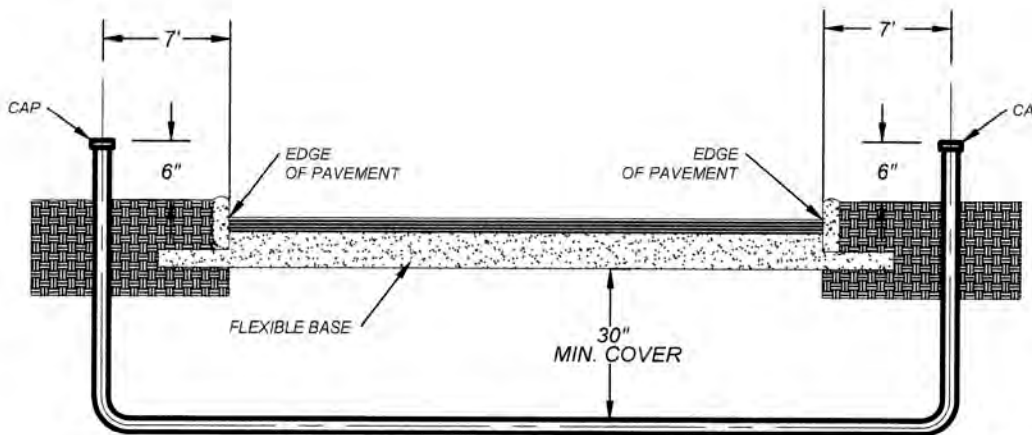
**TRENCH EXCAVATION SAFETY PROTECTION**  
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT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

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



TYPICAL STREET SECTION  
N.T.S.



TYPICAL CONDUIT DETAIL  
NOT-TO-SCALE

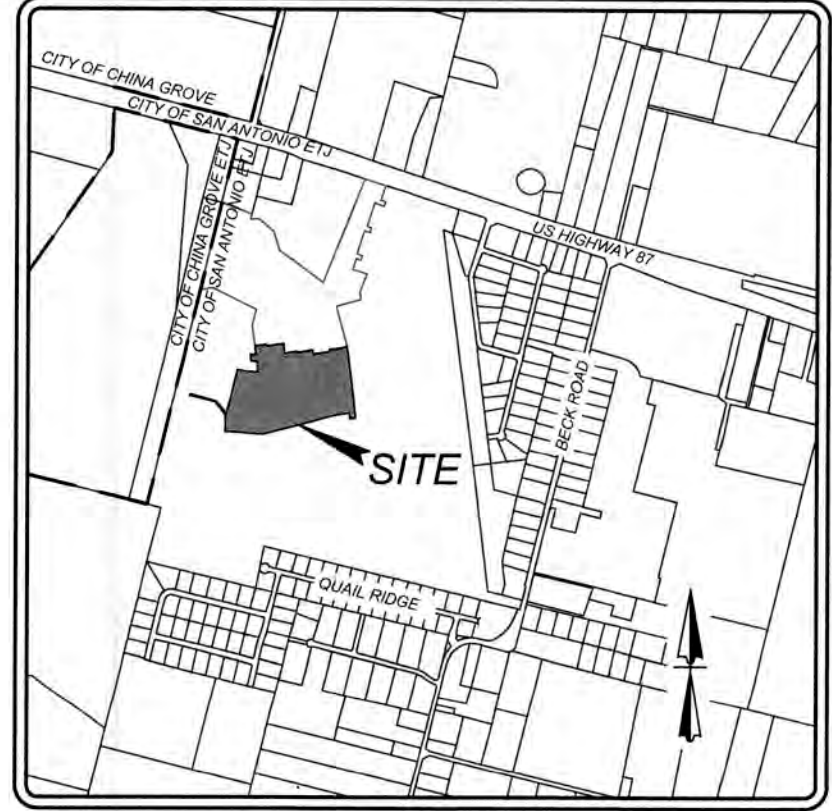
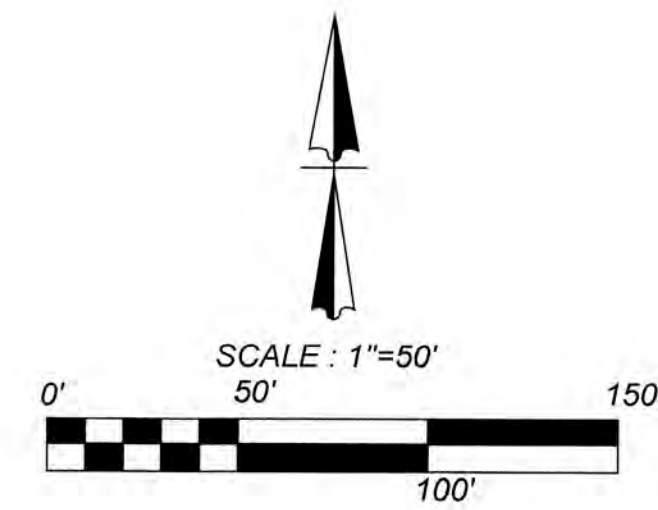
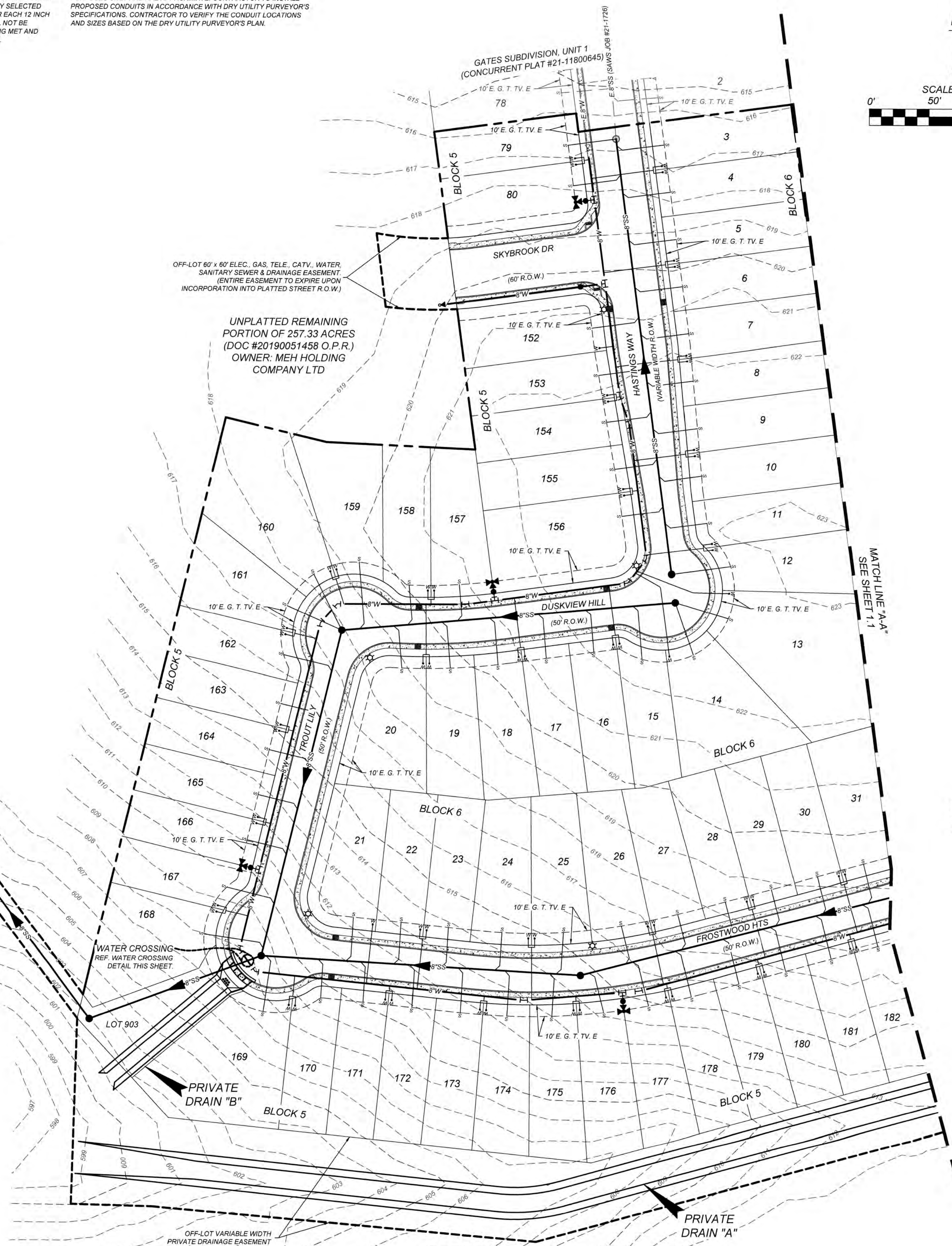
NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSINGS IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS DURING CONSTRUCTION (SEPARATE ITEM). SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.

OFF-LOT 80' x 60' ELEC. GAS, TELE, CATV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET R.O.W.)

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

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

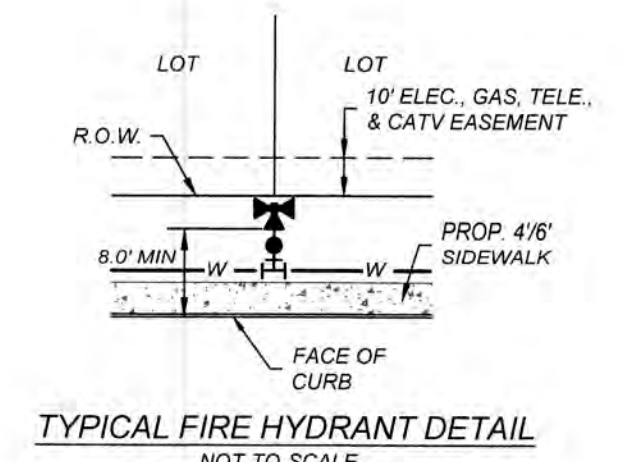
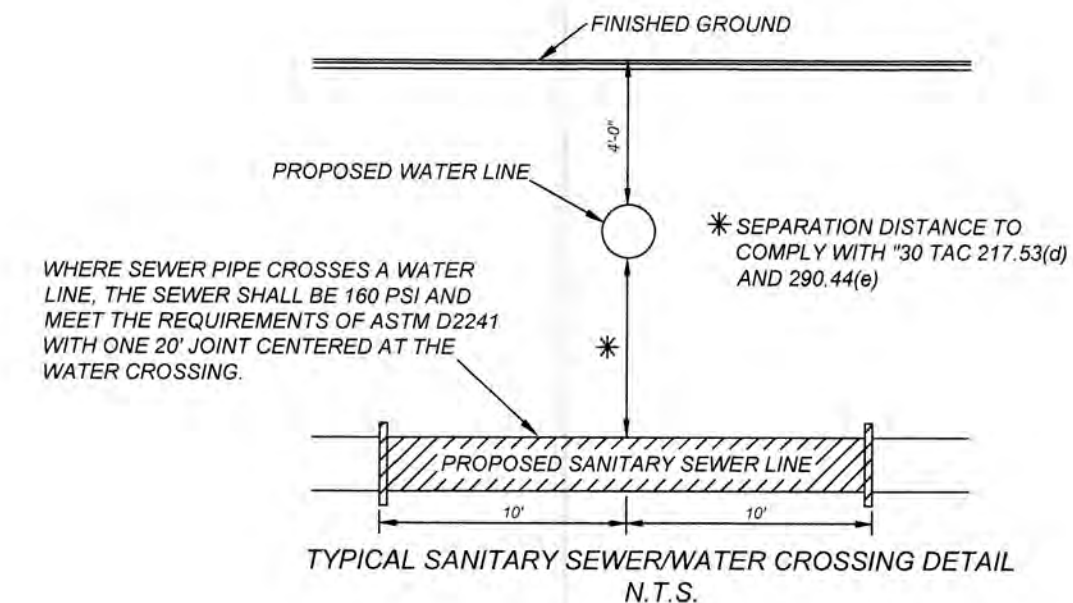
UNPLATTED REMAINING PORTION OF 257.33 ACRES (DOC #20190051458 O.P.R.) OWNER: MEH HOLDING COMPANY LTD



LOCATION MAP  
NOT-TO-SCALE

LEGEND

- PROPOSED WATER MAIN = W
- PROPOSED WATER SERVICE & METER BOX = M.B.
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX = I.B.
- PROPOSED FIRE HYDRANT = F.H.
- PROPOSED WATER VALVE = V.
- PROPOSED 100W STREETLIGHT = S.L.
- PROPOSED 250W STREETLIGHT = S.L.
- PROPOSED SANITARY SEWER MAIN = S.S.
- PROPOSED SANITARY SEWER MANHOLE = M.H.
- PROPOSED SANITARY SEWER LATERAL = S.S.
- PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT = E.G.T.V.E.
- EXISTING WATER MAIN = E.W.
- EXISTING FIRE HYDRANT = F.H.
- EXISTING WATER VALVE = V.
- EXISTING SANITARY SEWER MAIN = E.S.S.
- EXISTING SANITARY SEWER MANHOLE = E.M.H.
- EXISTING OVERHEAD ELECTRIC W/POWER POLE = O.H.E.
- EXISTING GUY WIRE/OVERHEAD ELECTRIC = O.H.E.



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

PLAT NO. 22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER: 1.0

**K&W**  
ENGINEERS & SURVEYING  
3421 Pennington Pkwy, Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-9444 • Fax #: (210) 979-9441  
TBPIS Firm #: 10122300

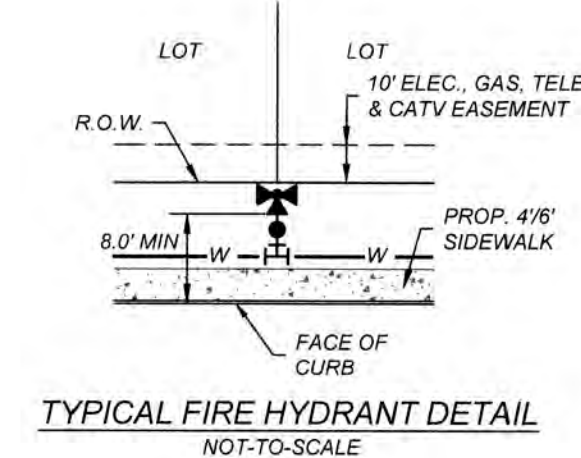
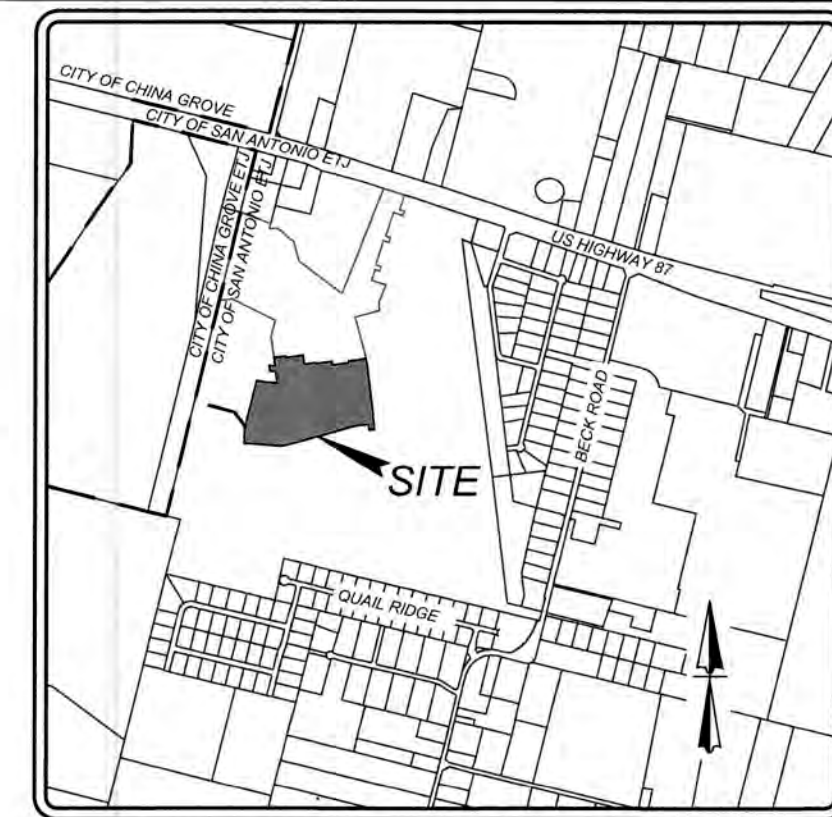
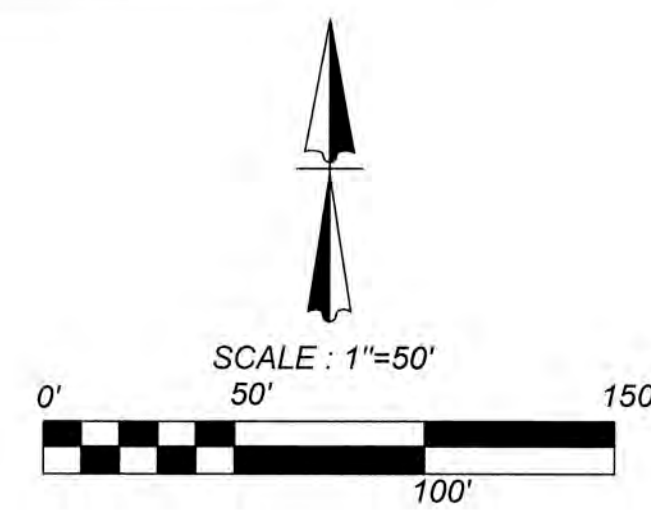
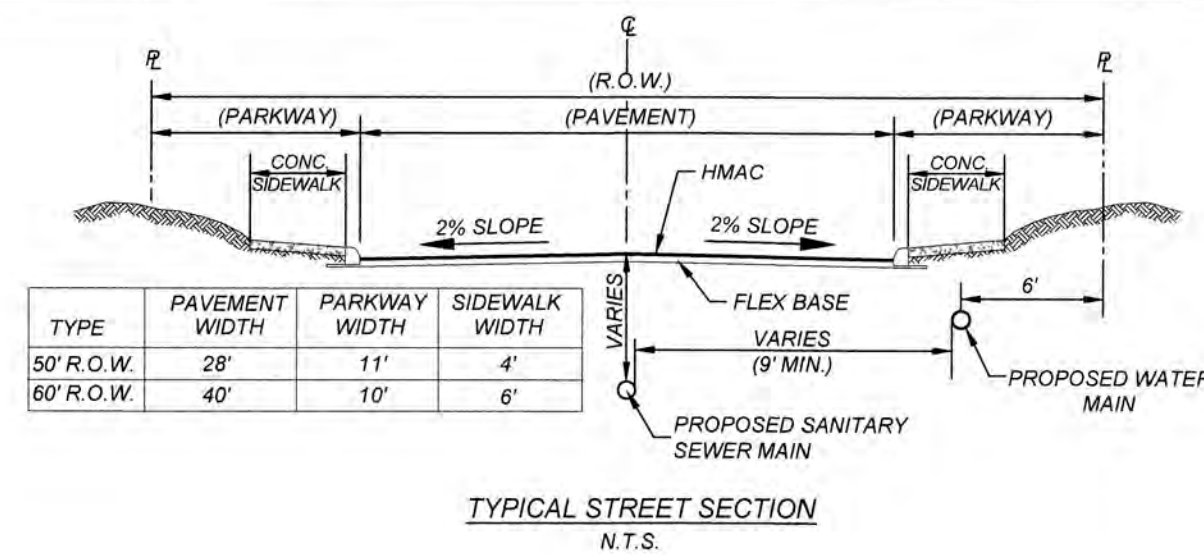
ISSUE DATE: 8/1/2023

STATE OF TEXAS  
CLAYTON J. LINNEY  
11543  
LICENSED PROFESSIONAL ENGINEER

**TRENCH EXCAVATION SAFETY PROTECTION**  
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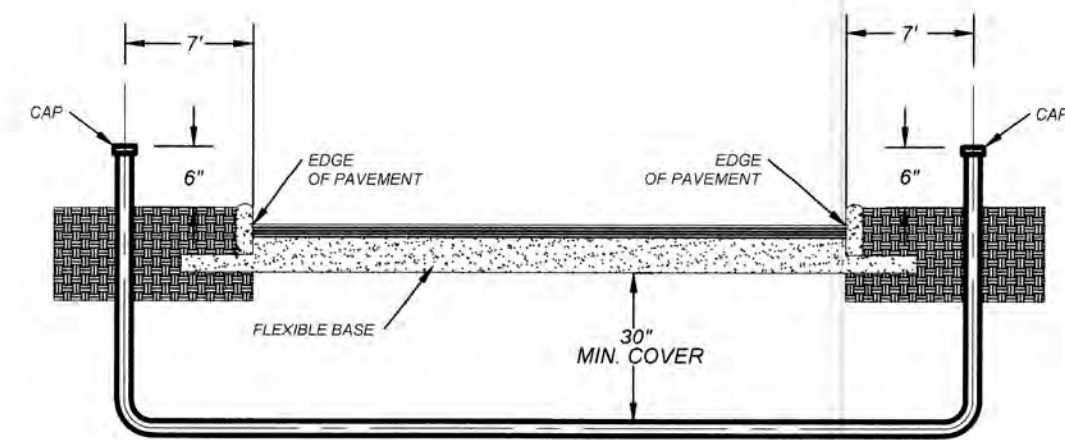
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#### LEGEND

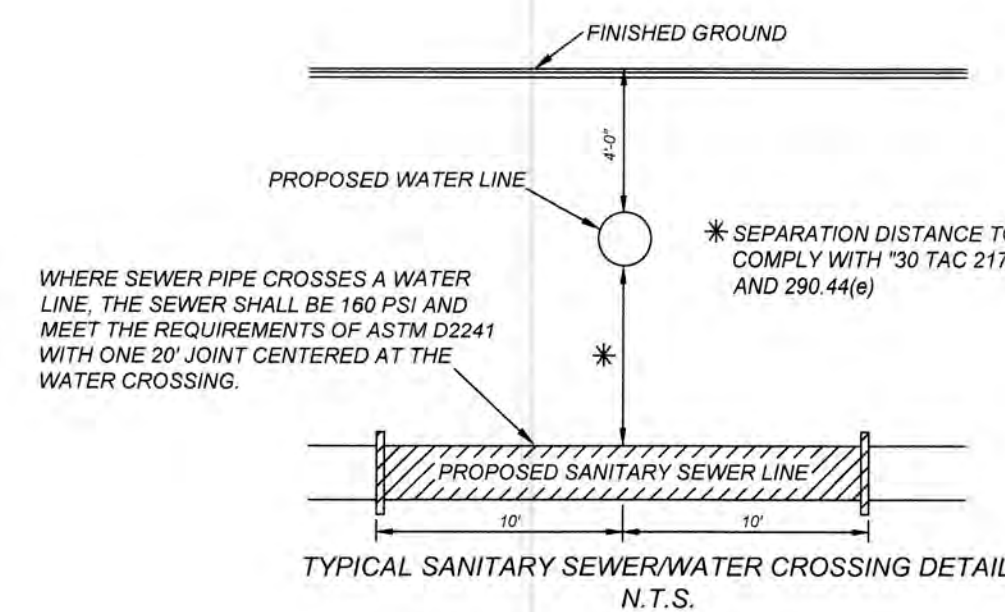
- PROPOSED WATER MAIN = W
- PROPOSED WATER SERVICE & METER BOX = [Symbol]
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX = [Symbol]
- PROPOSED FIRE HYDRANT = [Symbol]
- PROPOSED WATER VALVE = [Symbol]
- PROPOSED 100W STREETLIGHT = [Symbol]
- PROPOSED 250W STREETLIGHT = [Symbol]
- PROPOSED SANITARY SEWER MAIN = SS
- PROPOSED SANITARY SEWER MANHOLE = [Symbol]
- PROPOSED SANITARY SEWER LATERAL = [Symbol]
- PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT = E.G.T.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]

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



TYPICAL CONDUIT DETAIL NOT-TO-SCALE

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



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

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

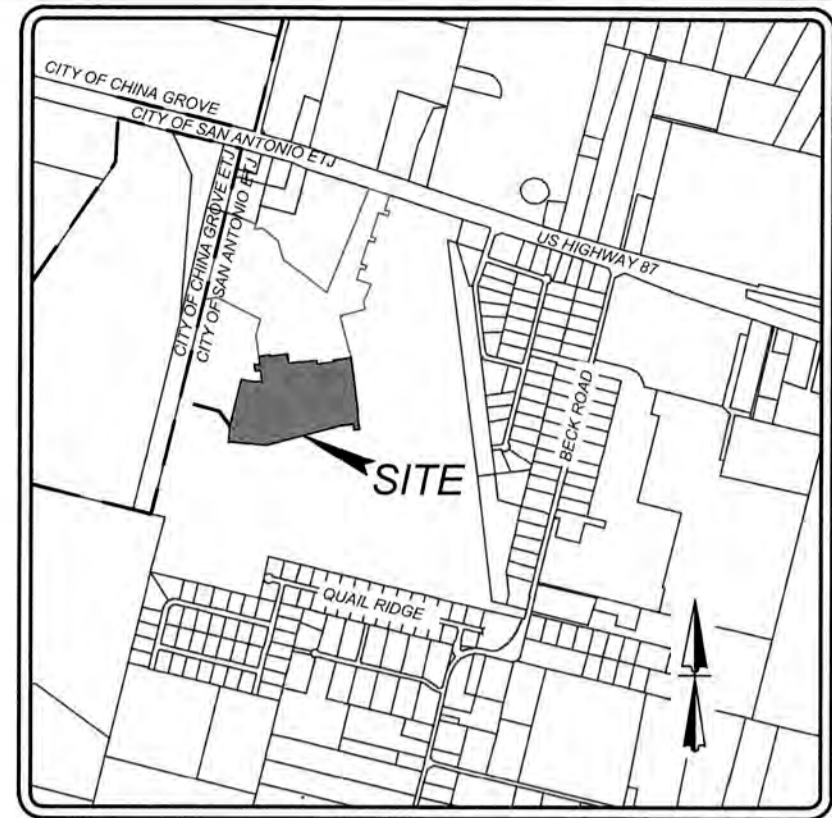
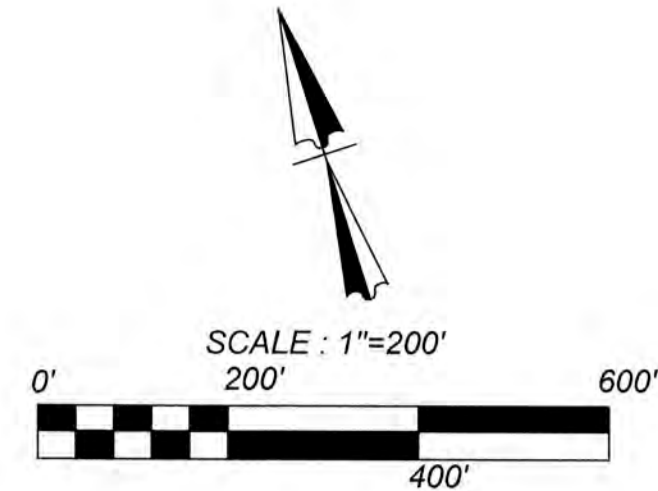


UNPLATTED REMAINING PORTION OF 257.33 ACRES (DOC #20190051458 O.P.R.) OWNER: MEH HOLDING COMPANY LTD

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

PLAT NO. 22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

Drawn by: J. L. 2/22/2022 2:59pm User ID: eaparra  
File: P202043002-DRAINAGE-REVISIONS-REV.dwg



LOCATION MAP  
NOT-TO-SCALE

LEGEND

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

Proposed Conditions:														
Study Point	AREA	(Acres)	C	T <sub>over</sub> (min)		T <sub>c</sub> (min)	T <sub>ch</sub> (min)	T <sub>tot</sub> (min)	I <sub>s</sub> (in/hr)	I <sub>25</sub> (in/hr)	I <sub>100</sub> (in/hr)	Q <sub>c</sub> (ft <sup>3</sup> /s)	Q <sub>25</sub> (ft <sup>3</sup> /s)	Q <sub>100</sub> (ft <sup>3</sup> /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
14	A-14	6.28	0.82	9.00		6	2	17	4.91	6.76	8.42	25.12	34.62	43.11
15	A-15	7.57	0.75	9.00		6	2	17	4.91	6.76	8.42	27.86	38.39	47.80
16	A-16	6.44	0.75	9.00		5	1	15	5.24	7.24	9.03	25.31	34.97	43.60
17	A-17	9.00	0.75	9.00		4	0	13	5.61	7.82	9.76	37.88	52.77	65.88
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	0.79	10.00	CARRYOVER FROM PT. 29	6	1	17	4.91	6.76	8.42	58.01	79.95	99.54
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

GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
MASTER DRAINAGE PLAN

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:  
2.0

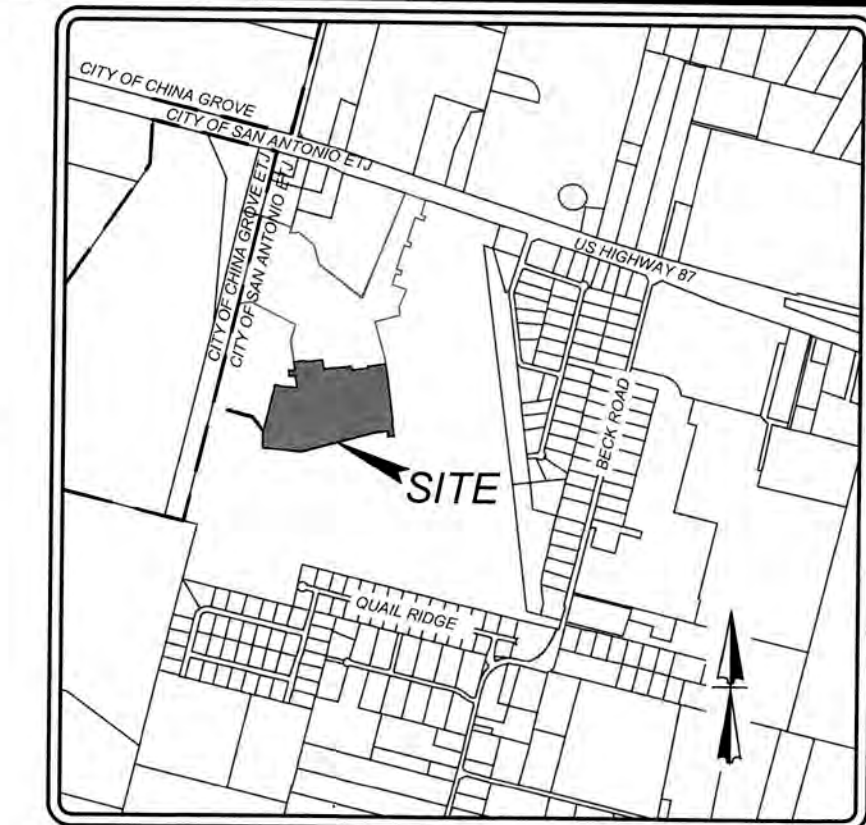
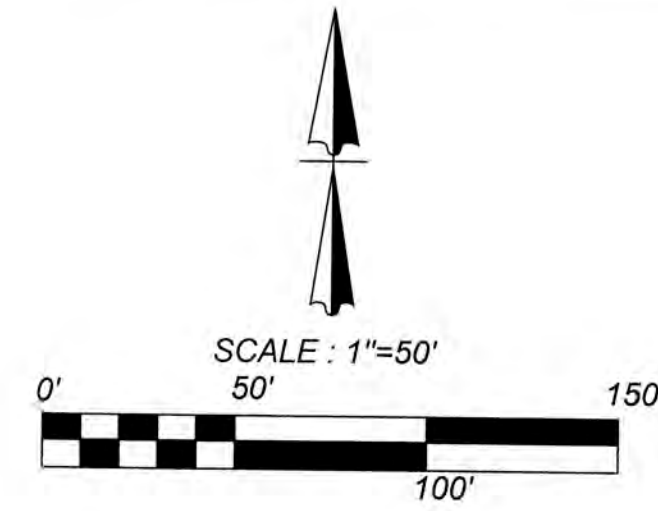
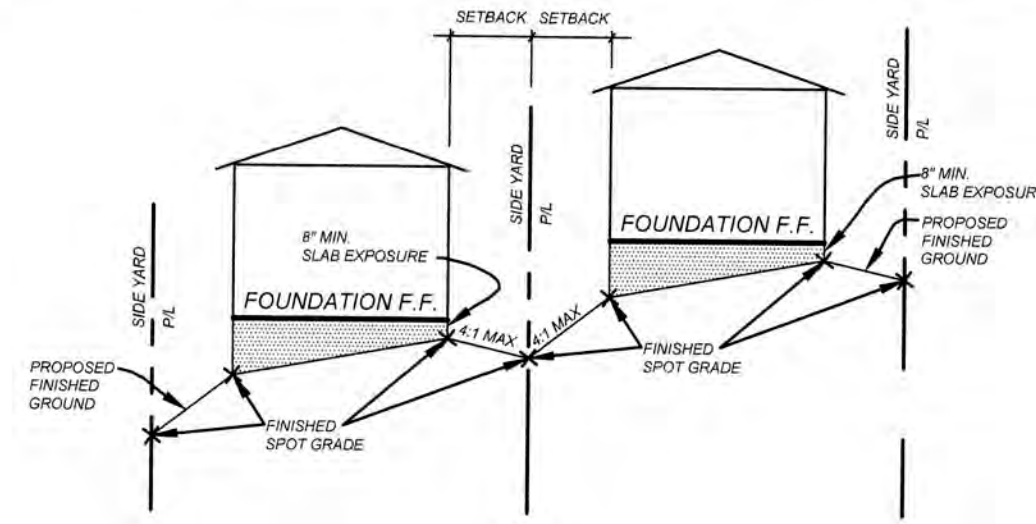
**KFW**  
ENGINEERS & SURVEYING  
3421 Pennington Drive, Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-8444 • Fax #: (210) 979-8441  
TBP# Firm #: 9513 • TBP#S Firm #: 1012200

ISSUE DATE  
REVISIONS

STATE OF TEXAS  
CLAYTON J. LINNEY  
11543  
LICENSED PROFESSIONAL ENGINEER  
Clayton Linney  
6/5/2023

GENERAL NOTES:

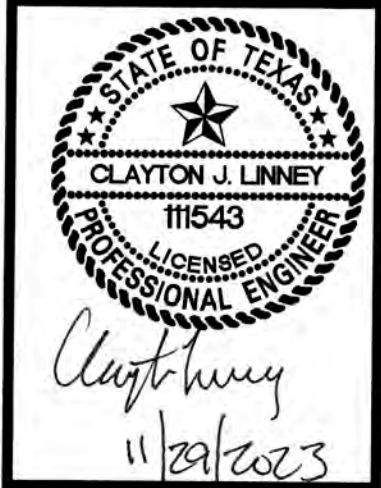
- ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.
- CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
- HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
- AS SOON AS 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 POUNDS.
- CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.



LOCATION MAP  
NOT-TO-SCALE

LEGEND

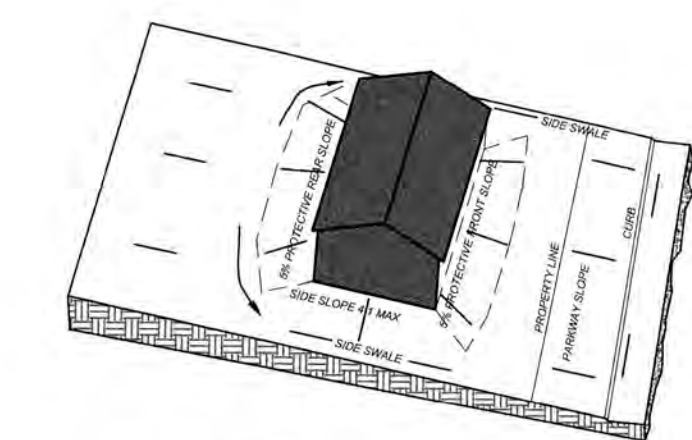
- E, G, T, & TV. E. = GAS, ELECTRIC, TELEPHONE, CABLE T.V. EASEMENT
- = FLOW ARROW
- (A) = LOT GRADE TYPE
- = PROPOSED DRIVEWAY LOCATION
- H.P. = HIGH POINT



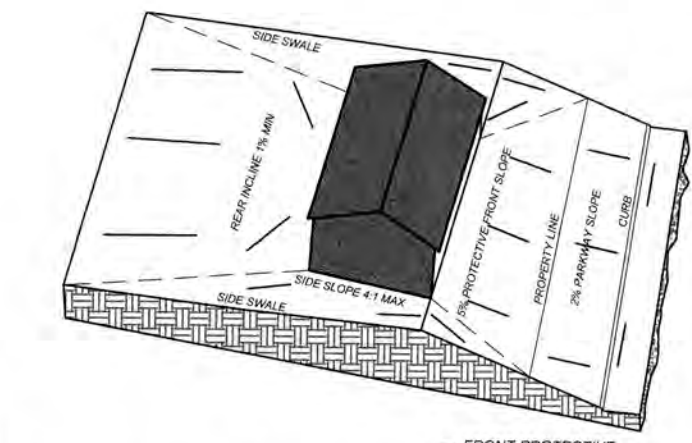
OFF-LOT 60' x 60' ELEC. GAS, TELE, CATV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET R.O.W.)

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

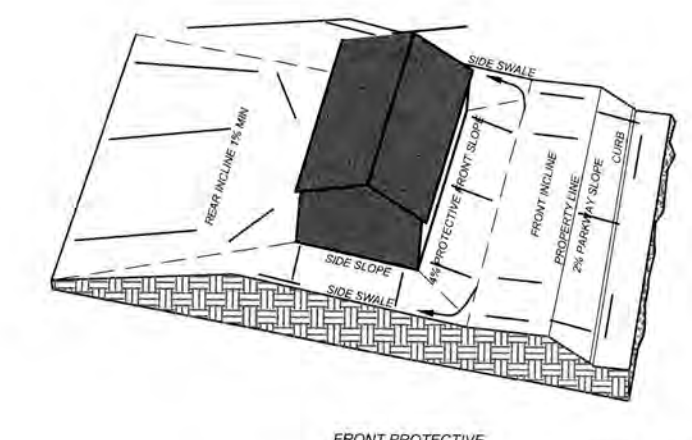
UNPLATTED REMAINING PORTION OF 257.33 ACRES (DOC #20190051458 O.P.R.) OWNER: MEH HOLDING COMPANY LTD



TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING

GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
OVERALL GRADING PLAN

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

3.0

**TRENCH EXCAVATION SAFETY PROTECTION**

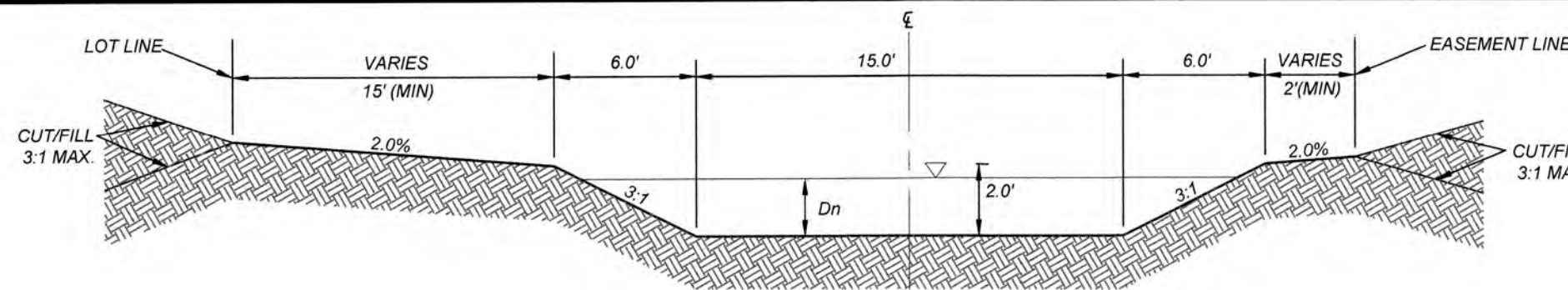
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

**CAUTION!!**

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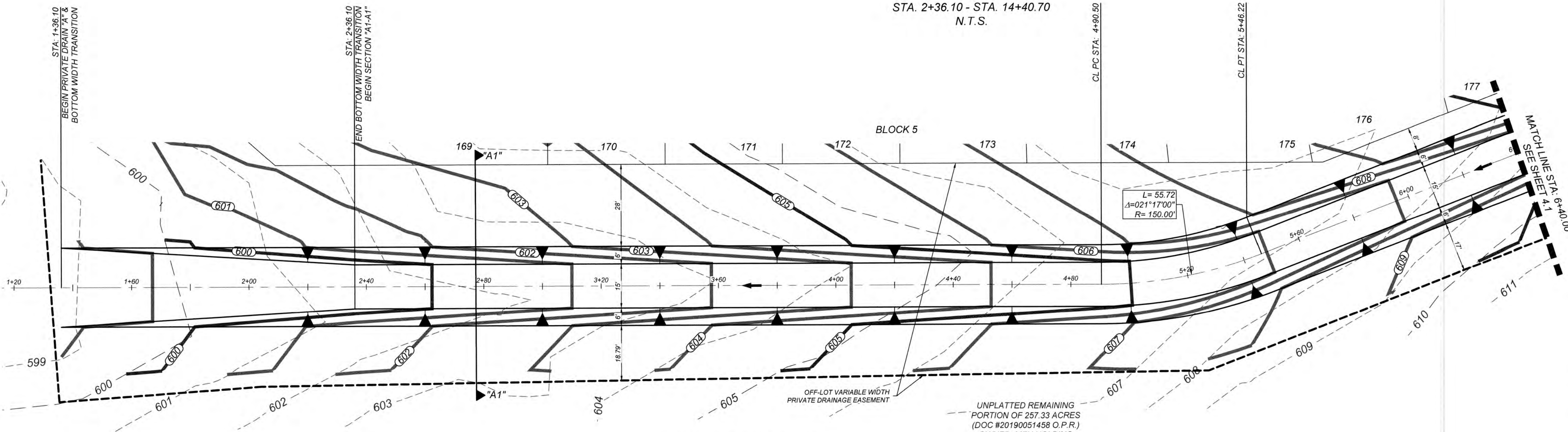
**NOTE:**

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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.



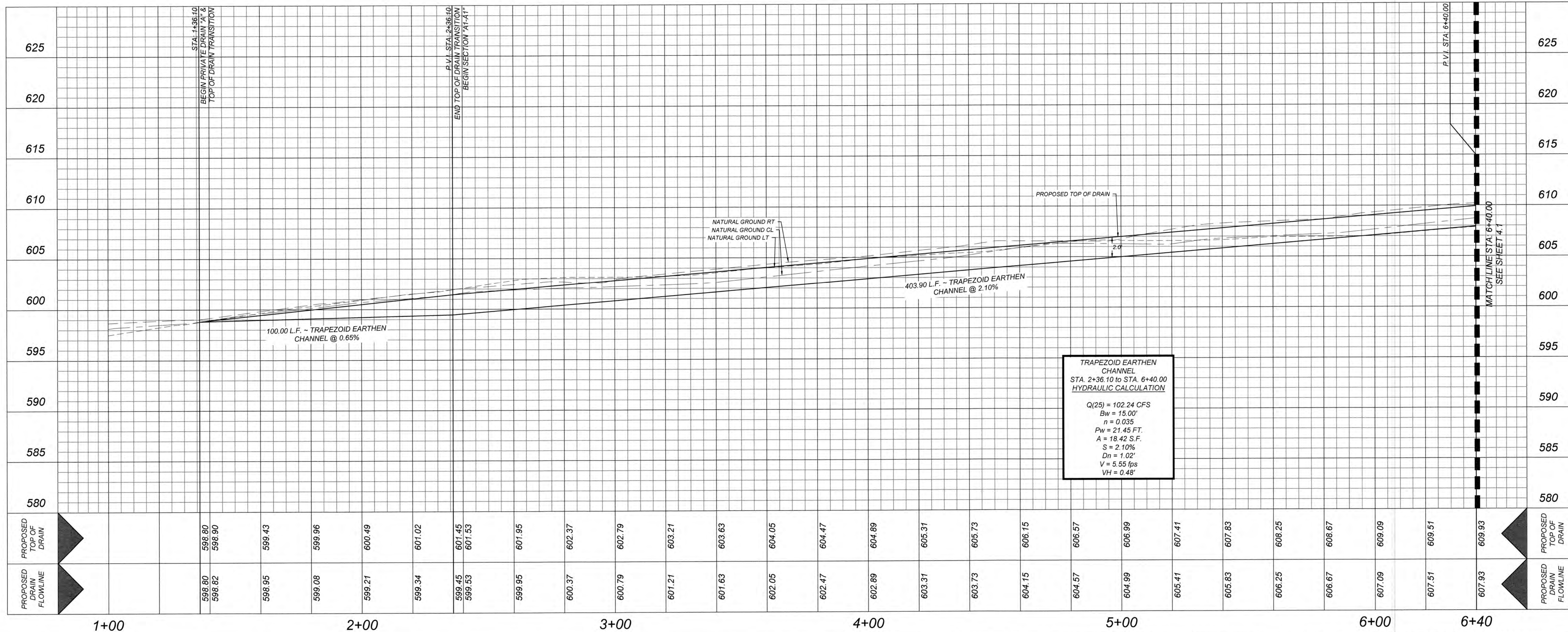
**EARTHEN CHANNEL**

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.



**PRIVATE DRAIN "A"**  
STA. 1+36.10 - STA. 6+40.00

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



**GATES SUBDIVISION UNIT 2**  
BEXAR COUNTY, TX  
**PRIVATE DRAIN "A" PLAN & PROFILE (SHEET 1 OF 3)**

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: CM CHECKED: CL  
SHEET NUMBER:

**4.0**

# TRENCH EXCAVATION SAFETY PROTECTION

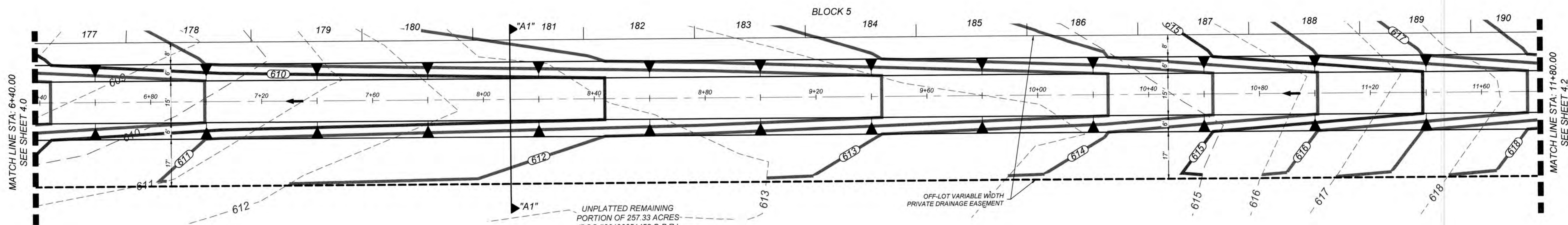
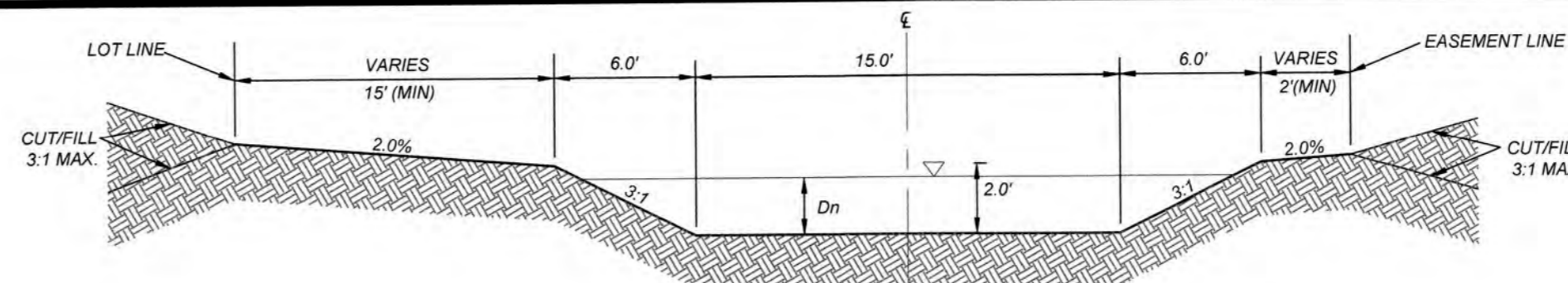
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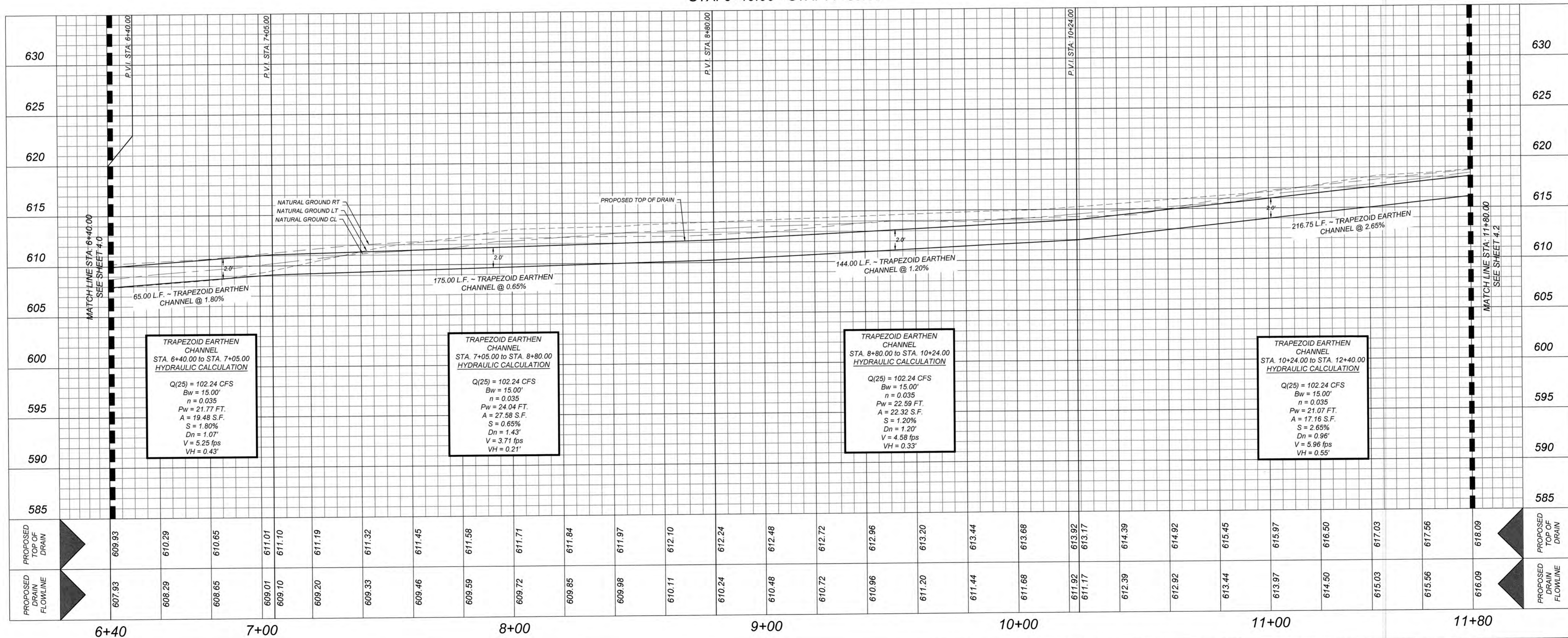
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PRIVATE DRAIN "A"  
STA: 6+40.00 - STA: 11+80.00

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



GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
PRIVATE DRAIN "A" PLAN & PROFILE (SHEET 2 OF 3)

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

TRENCH EXCAVATION SAFETY PROTECTION

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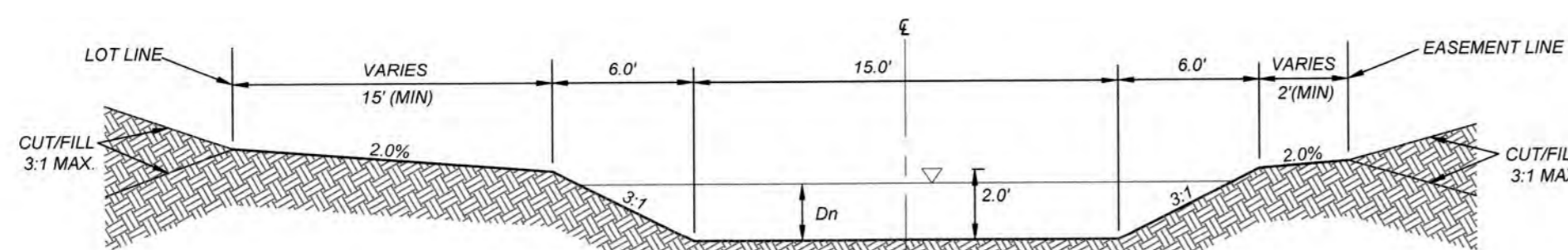
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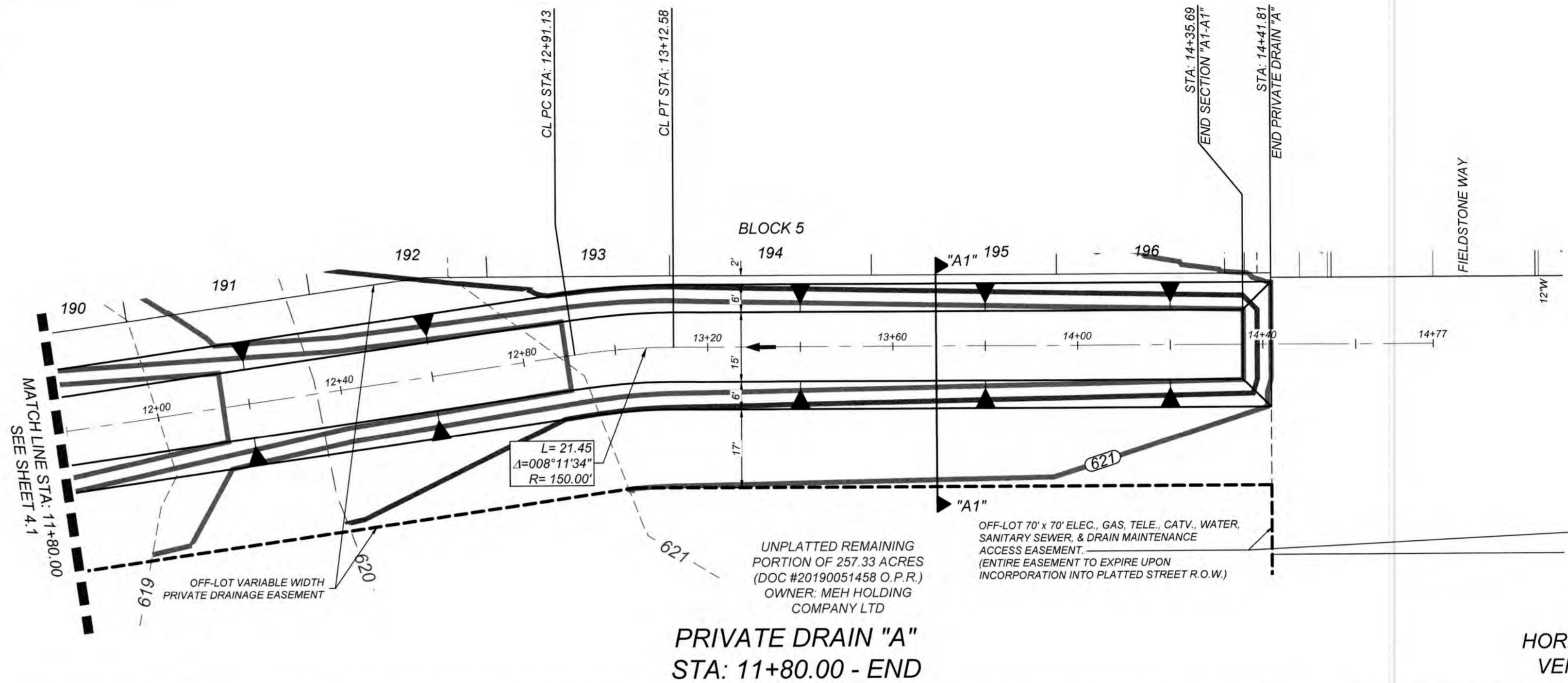
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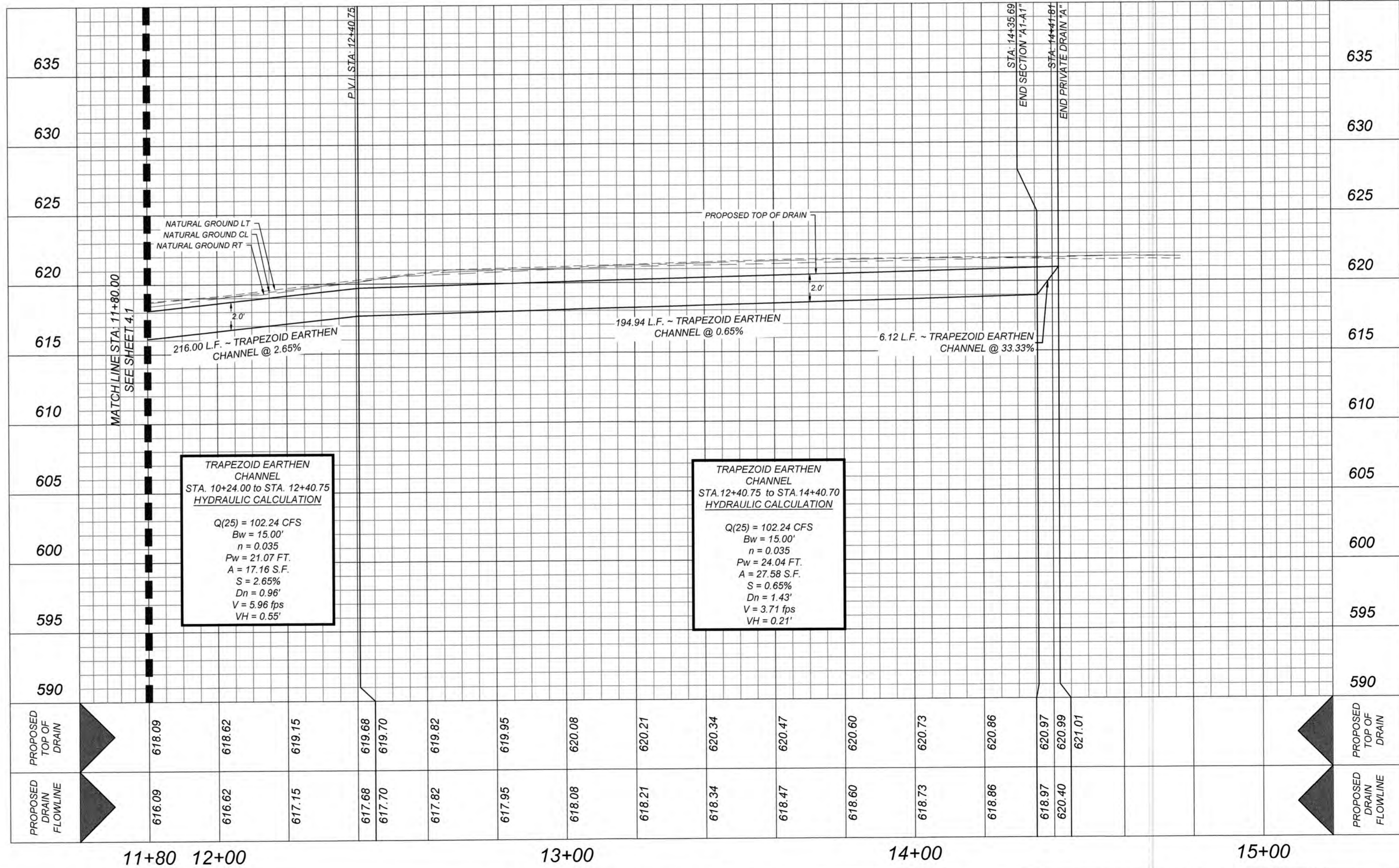
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SECTION "A1-A1"  
STA. 2+36.10 - STA. 14+40.70  
N.T.S.



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



GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
PRIVATE DRAIN "A" PLAN & PROFILE (SHEET 3 OF 3)

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

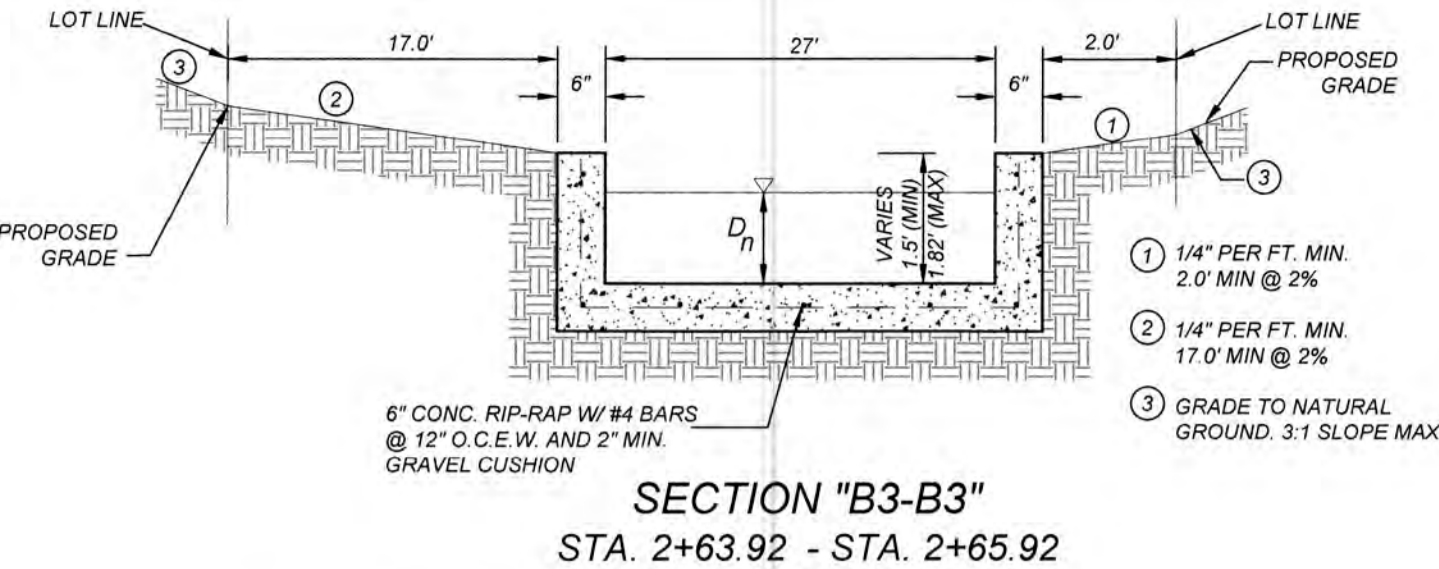
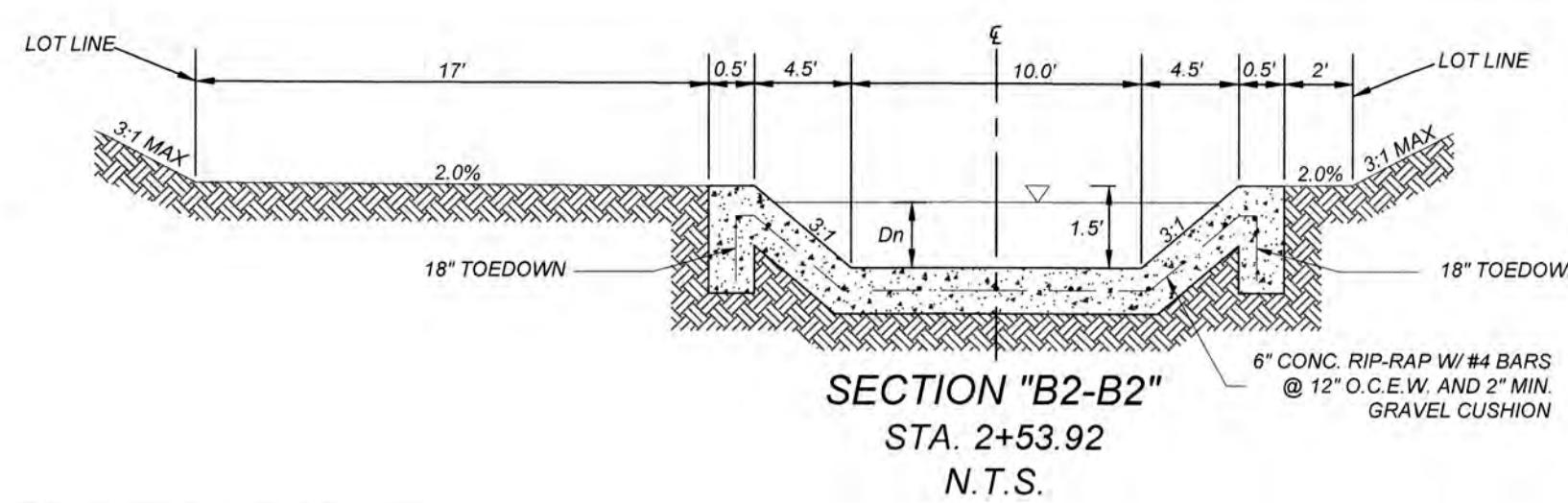
4.2

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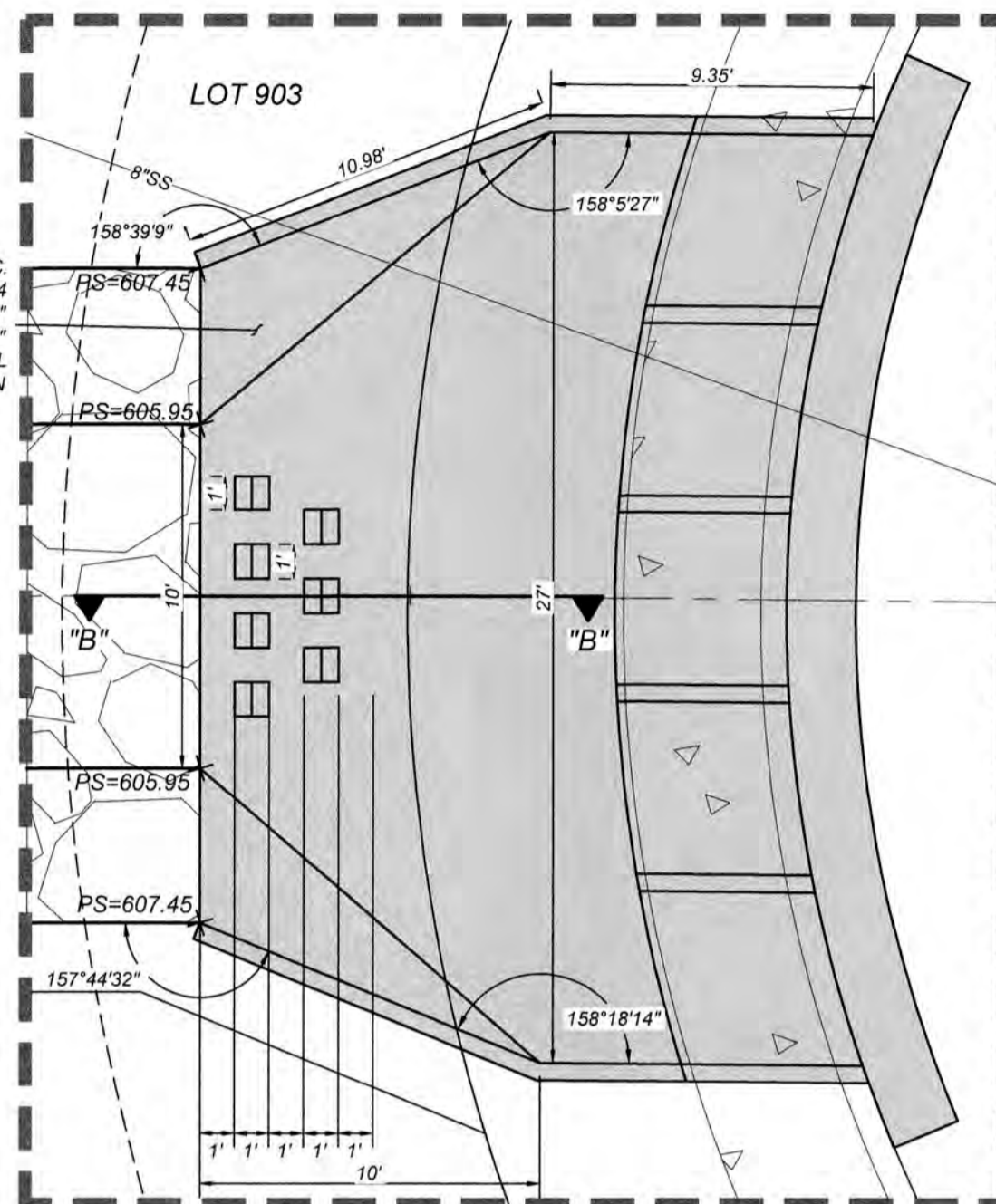
Q(25) = 52.66 CFS  
 BOTTOM WIDTH UPSTREAM = 10.0 FT  
 BOTTOM WIDTH DOWNSTREAM = 10.0 FT  
 Y1 = 0.45' (DEPTH BEFORE JUMP)  
 Y2 = 1.46' (DEPTH AFTER JUMP)

WIDTH OF BLOCKS =  $0.75(Y_1) = 0.34 \text{ FT. (USE 1.0 FT.)}$   
 SPACE BETWEEN BLOCKS =  $0.75(Y_1) = 0.34 \text{ FT. (USE 0.50 FT.)}$   
 HEIGHT OF BLOCKS =  $Y_1 = 0.45 \text{ FT. (USE 0.50 FT.)}$   
 # OF BLOCKS ACROSS BOTTOM = 4  
  
 % OF FLOOR COVERED WITH BLOCKS =  $4 (1.0 \text{ FT}) / 10.0 \text{ FT} = 40\%$   
 (% MUST BE BETWEEN 40% AND 55%)

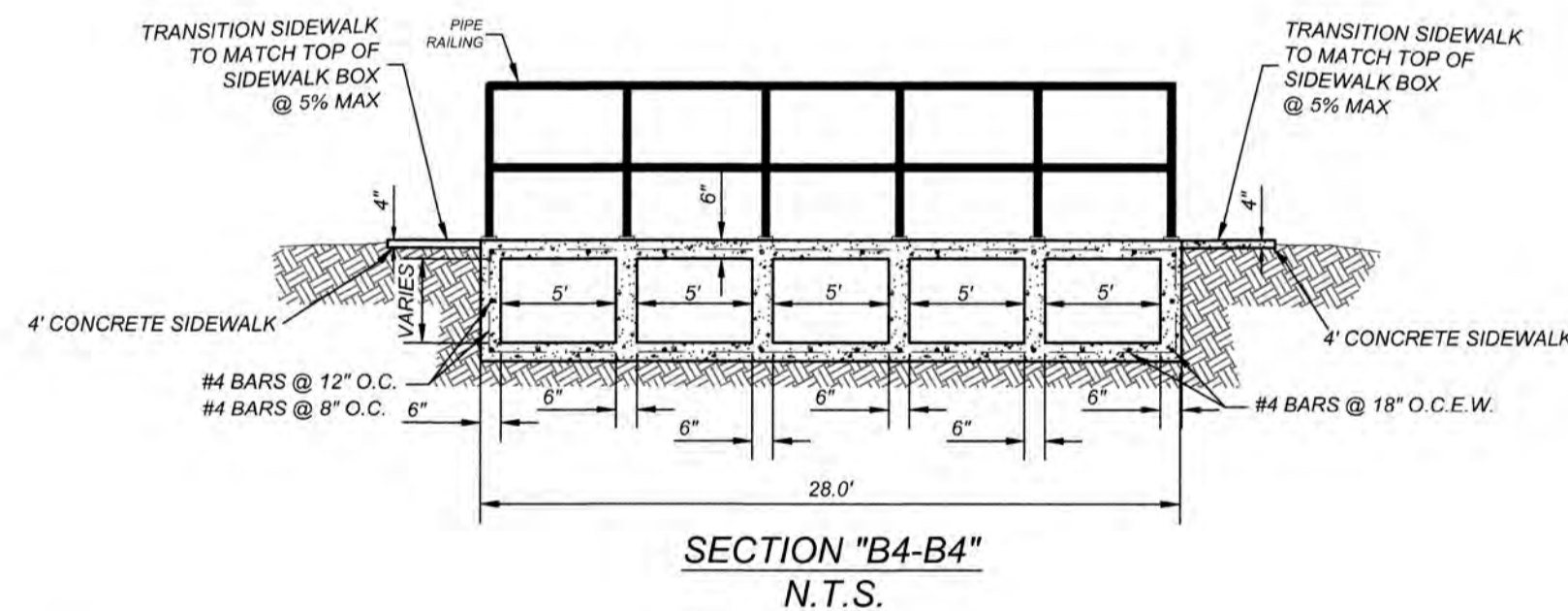
DEPTH OF TAILWATER (Y2)  
FROUDE NUMBER BEFORE JUMP =  $F_1 = 2.87$   
FROUDE NUMBER AFTER JUMP =  $F_2 = 0.42$   
LENGTH OF BASIN =  $LB = 4.5(Y2)/F_1^{0.76} = 2.95 \text{ FT. (USE } 10.0 \text{ FT.)}$   
DISTANCE TO FLOOR BLOCKS =  $LB/3 = 0.98 \text{ FT. (USE } 1.0 \text{ FT.)}$

HEIGHT OF MAX TAILWATER DEPTH:  
 $Z = Y2/3 = 0.49 \text{ FT.}$   
 $Y2' = (1.10 - F1^2 / 120) * Y2 = H = Z + Y2' = 1.51 \text{ FT.}$

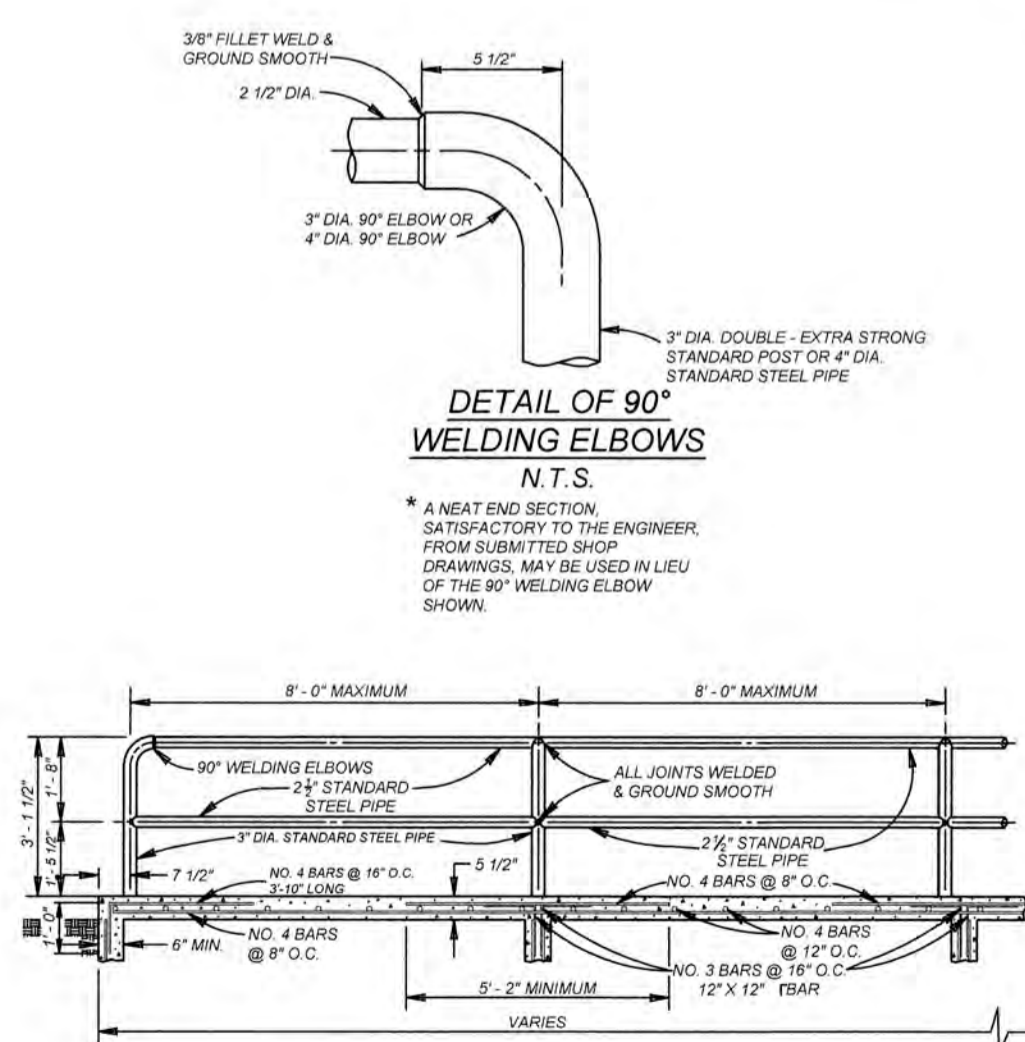
VELOCITY AFTER JUMP:  
 $V = Q/A$   
 $A = Y2 * [(B + T) / 2] = 14.60 \text{ SQ. FT.}$   
 $V = 52.68 / 14.60 = 3.61 \text{ F.P.S.}$



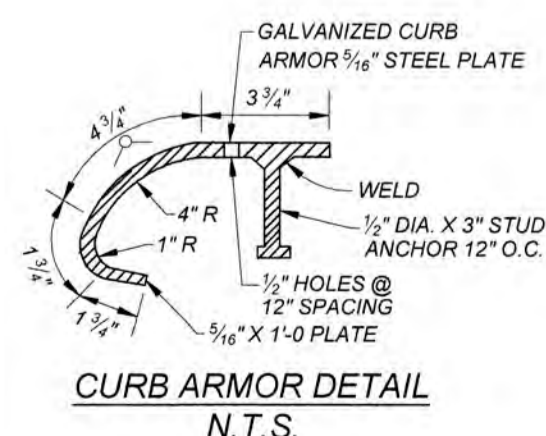
TYPICAL BAFFLE BLOCK DETAIL  
N.T.S.  
SECTION B-B



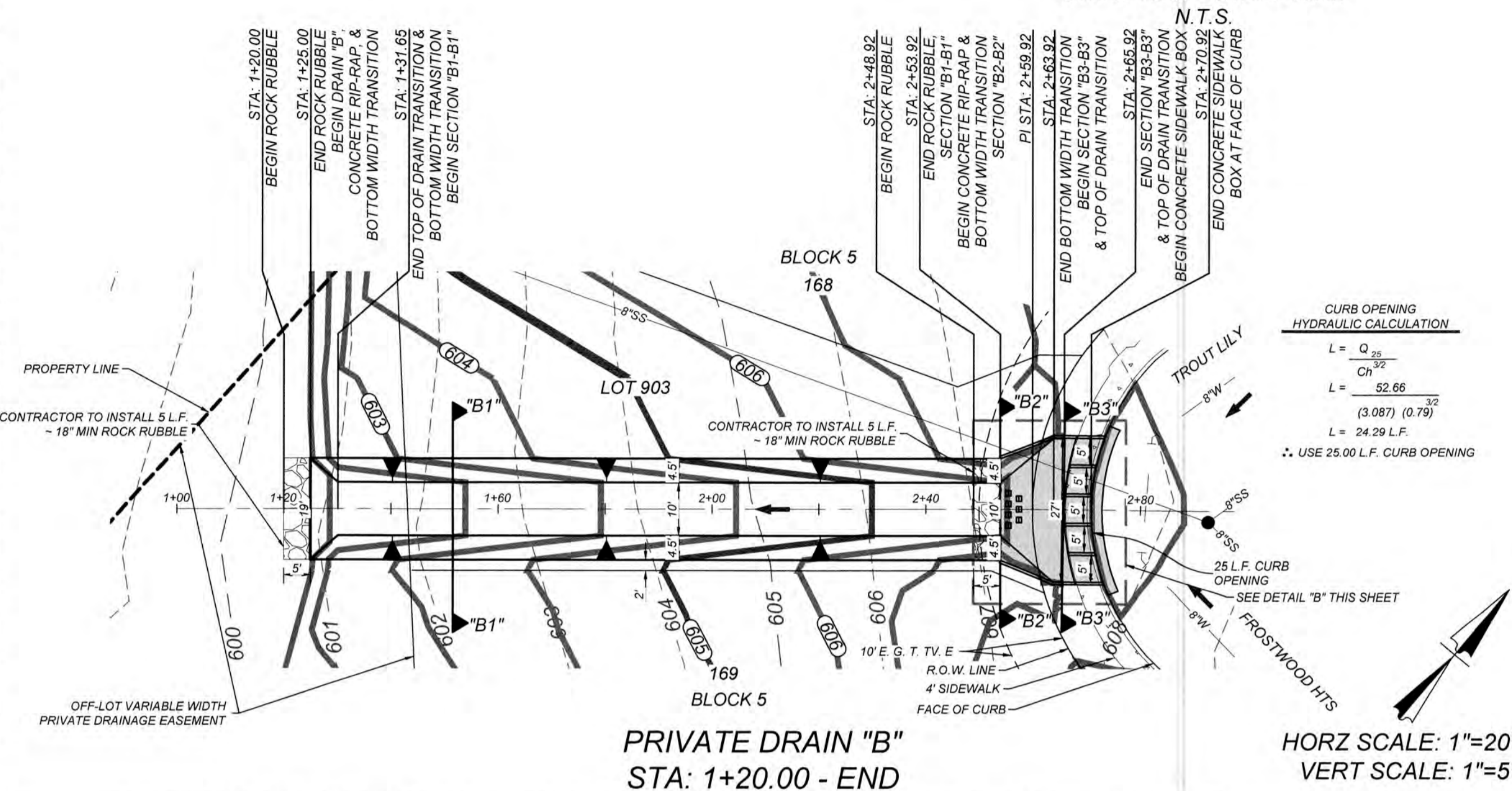
SIDEWALK BOX DETAIL  
N.T.S.



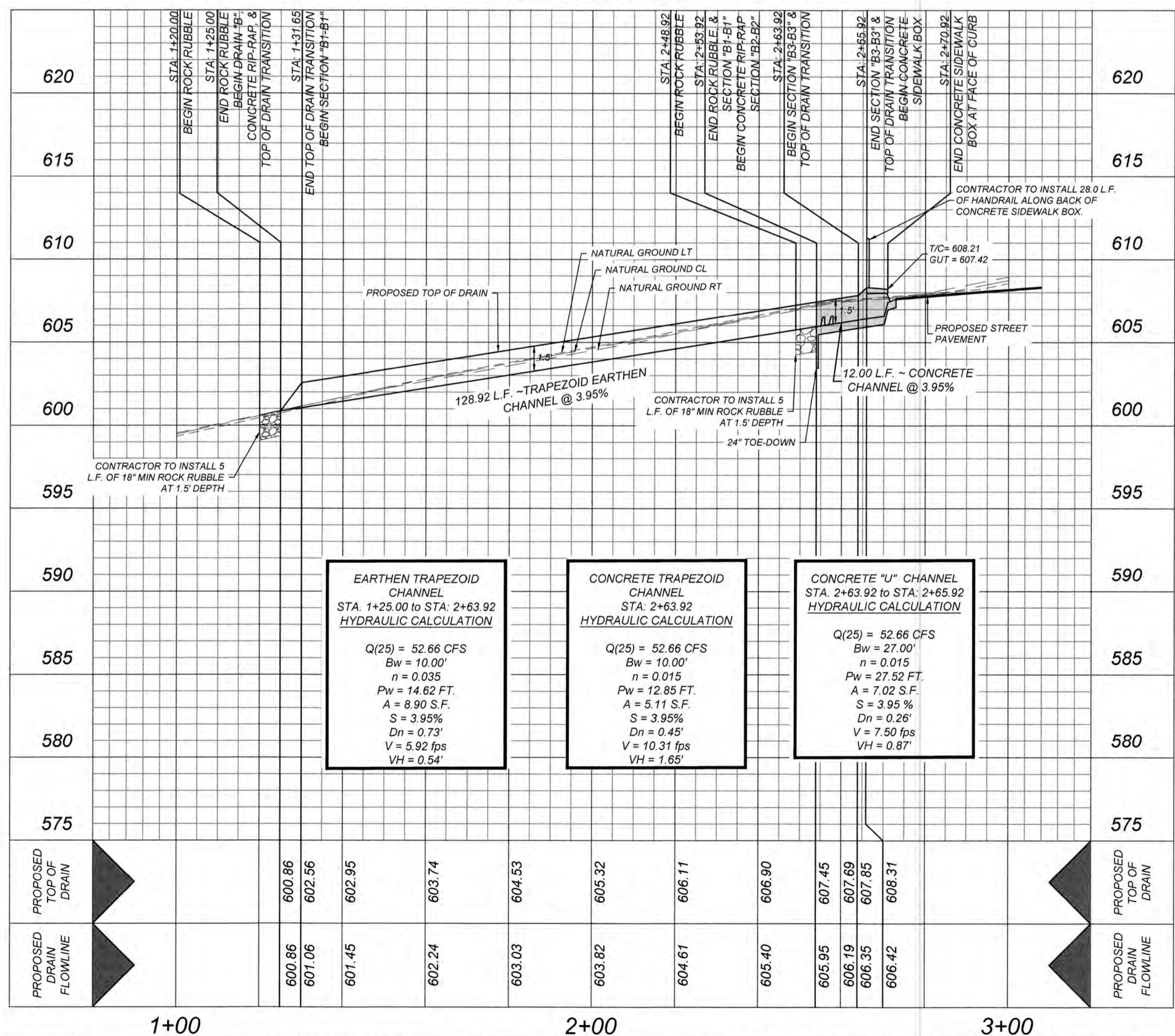
PIPE ANCHORAGE DETAILS  
N.T.S.



CURB ARMOR DETAIL  
N.T.S.



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



**GATES SUBDIVISION UNIT 2**  
BEXAR COUNTY, TX  
**PRIVATE DRAIN "B" PLAN & PROFILE**

PLAT NO.  
22-11800017

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JOB NO. 205-43-05

DATE: NOVEMBER 2021

DRAWN: OM      CHECKED: C

SHEET NUMBER

### 4.3

**KIEWIT ENGINEERS + SURVEYING**  
4421 Pacesanos Pkwy, Suite 200, San Antonio, TX 78231

ISSUE DATE

## REVISIONS



Clayton  
8/1/2023

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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## STREETSCAPE TREE PLANTING NOTES

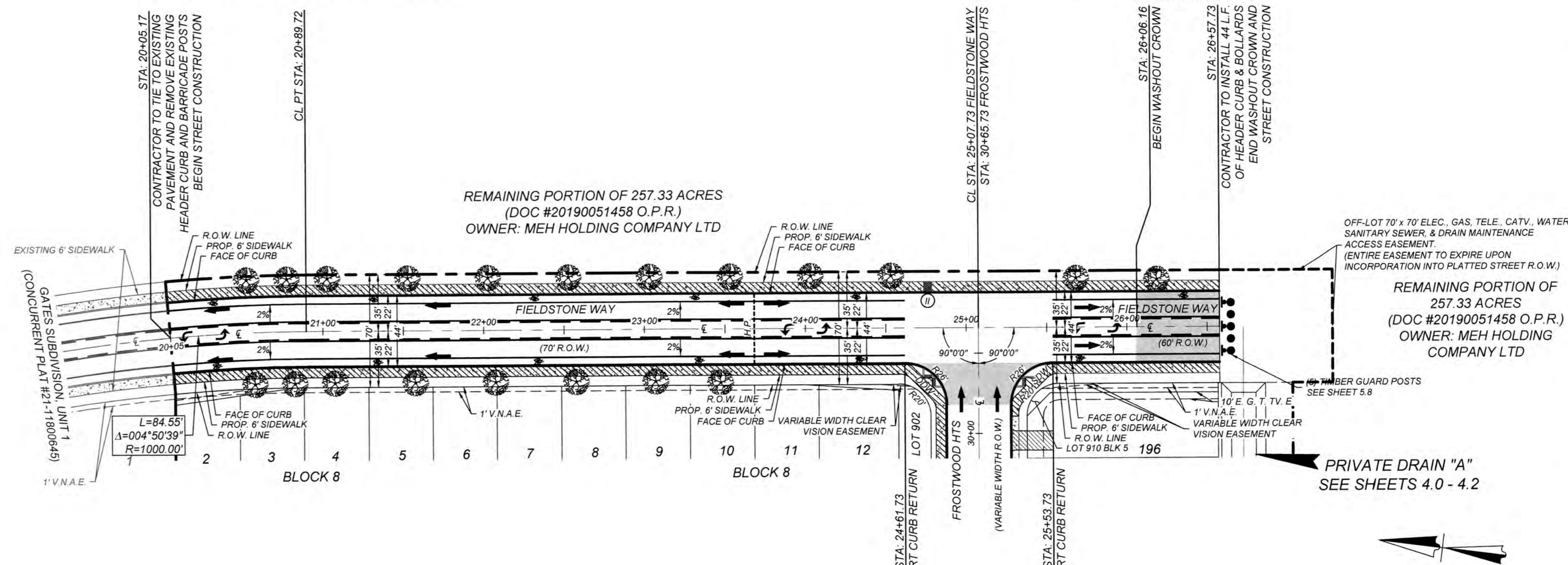
- LARGE TREES (PER UDC) TO BE PLANTED EVERY 50 FEET OR CLUSTERS ALONG FIELDSTONE WAY R.O.W. PER "NEW TREE PLANTING DETAIL ON SHEET 5.9."
- SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFIRM WITH THE STREETSCAPE PLANTING STANDARDS.
- DEVELOPER TO PROVIDE MAINTENANCE 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 CPS, PLANS WILL BE REVISED TO REFLECT CHANGES IN SIZE, TYPE, AND SPACING OF TREE, PER THE UDC.

## BEXAR COUNTY R.O.W. NOTE

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

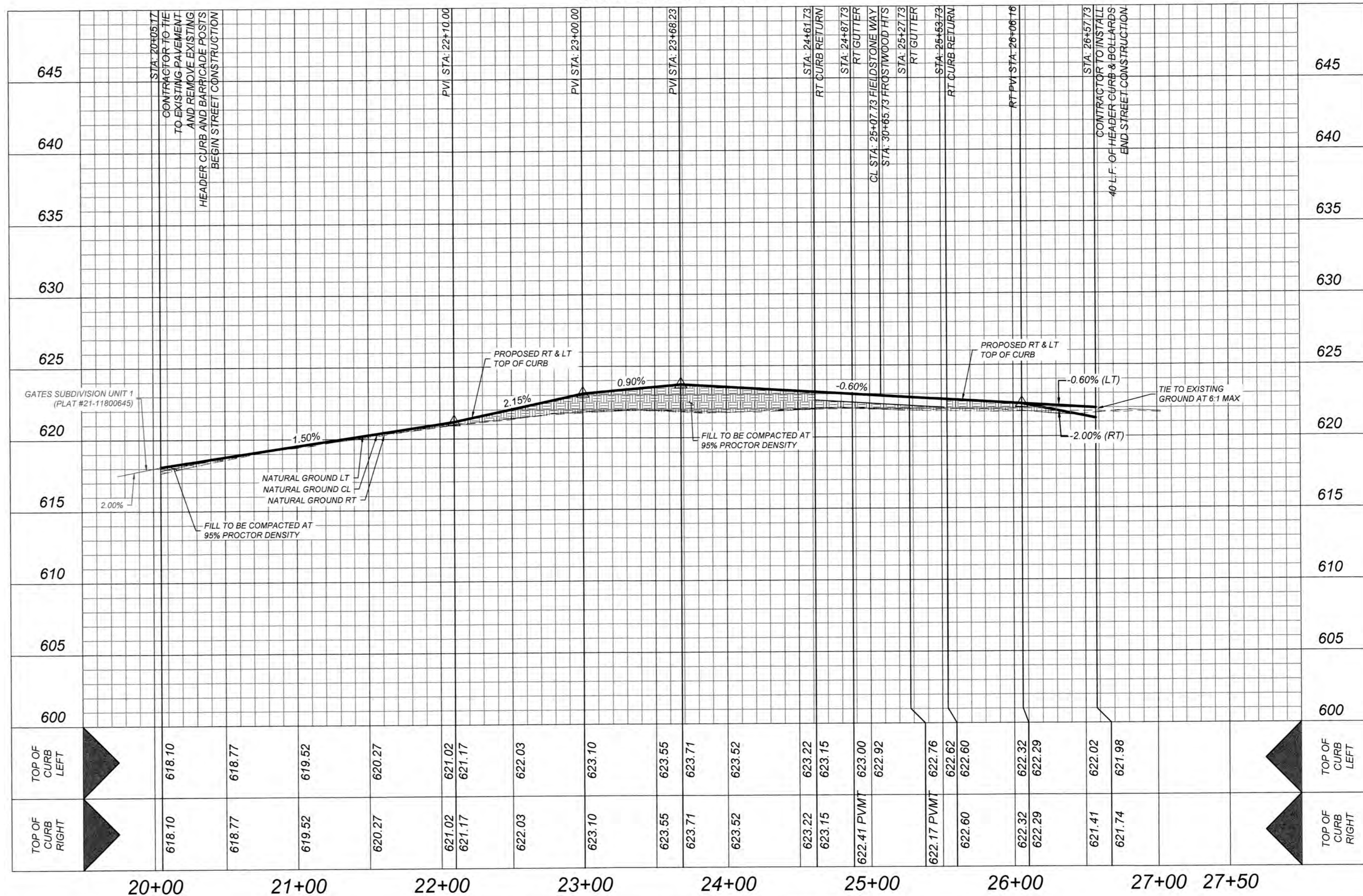
## LEGEND

- R.O.W. = RIGHT OF WAY
- G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
- = FLOW ARROW
- WASHOUT CROWN
- ① = WHEELCHAIR RAMP TYPE I SEE SHEET 5.6
- ② = WHEELCHAIR RAMP TYPE II SEE SHEET 5.6
- 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
- ===== = PROPOSED TOP OF CURB ELEVATION



FIELDSTONE WAY  
STA: 20+05.17 - END

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



GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
FIELDSTONE WAY PLAN & PROFILE

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
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DRAWN: OM CHECKED: CL  
SHEET NUMBER:

5.0

# TRENCH EXCAVATION SAFETY PROTECTION

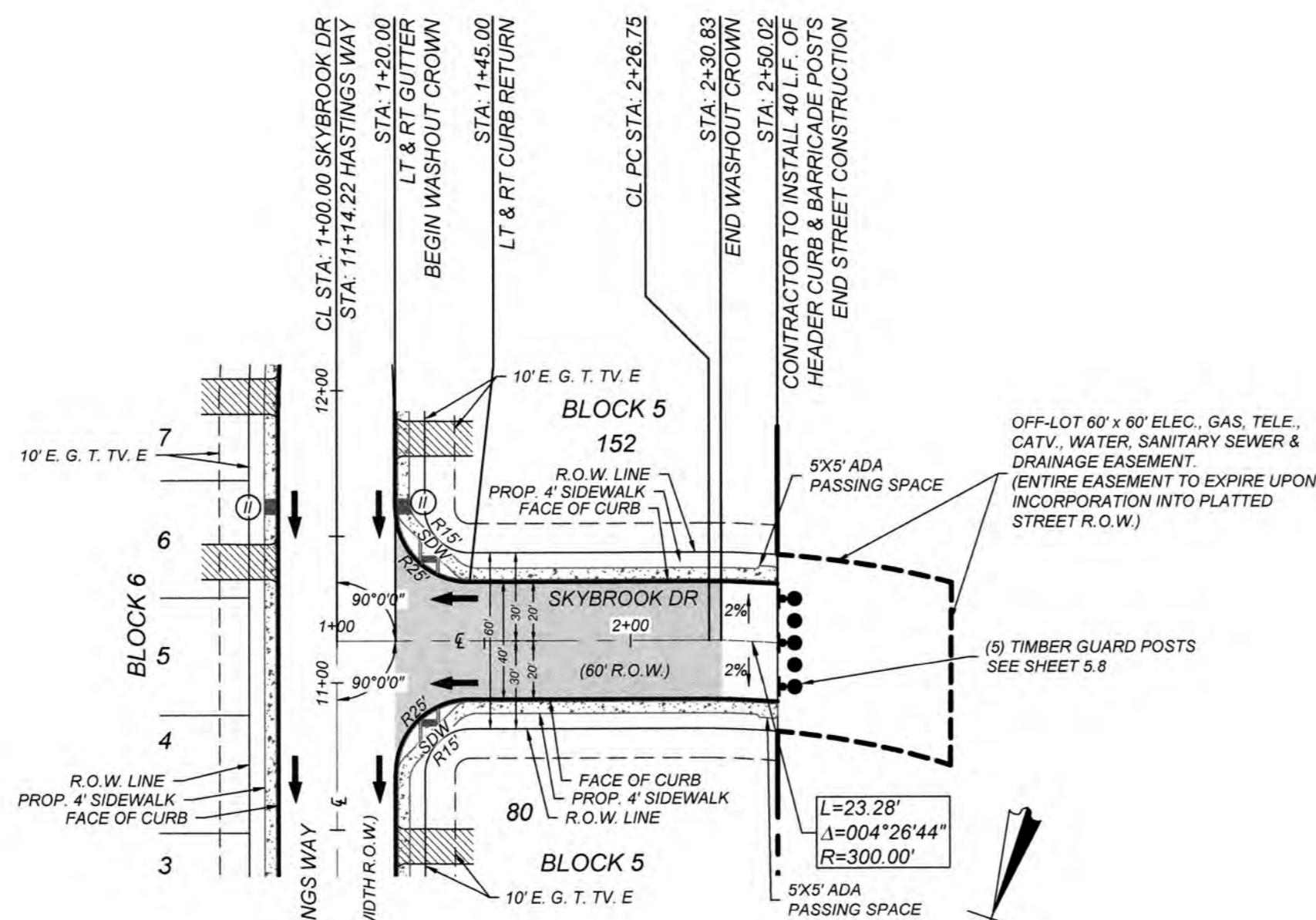
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

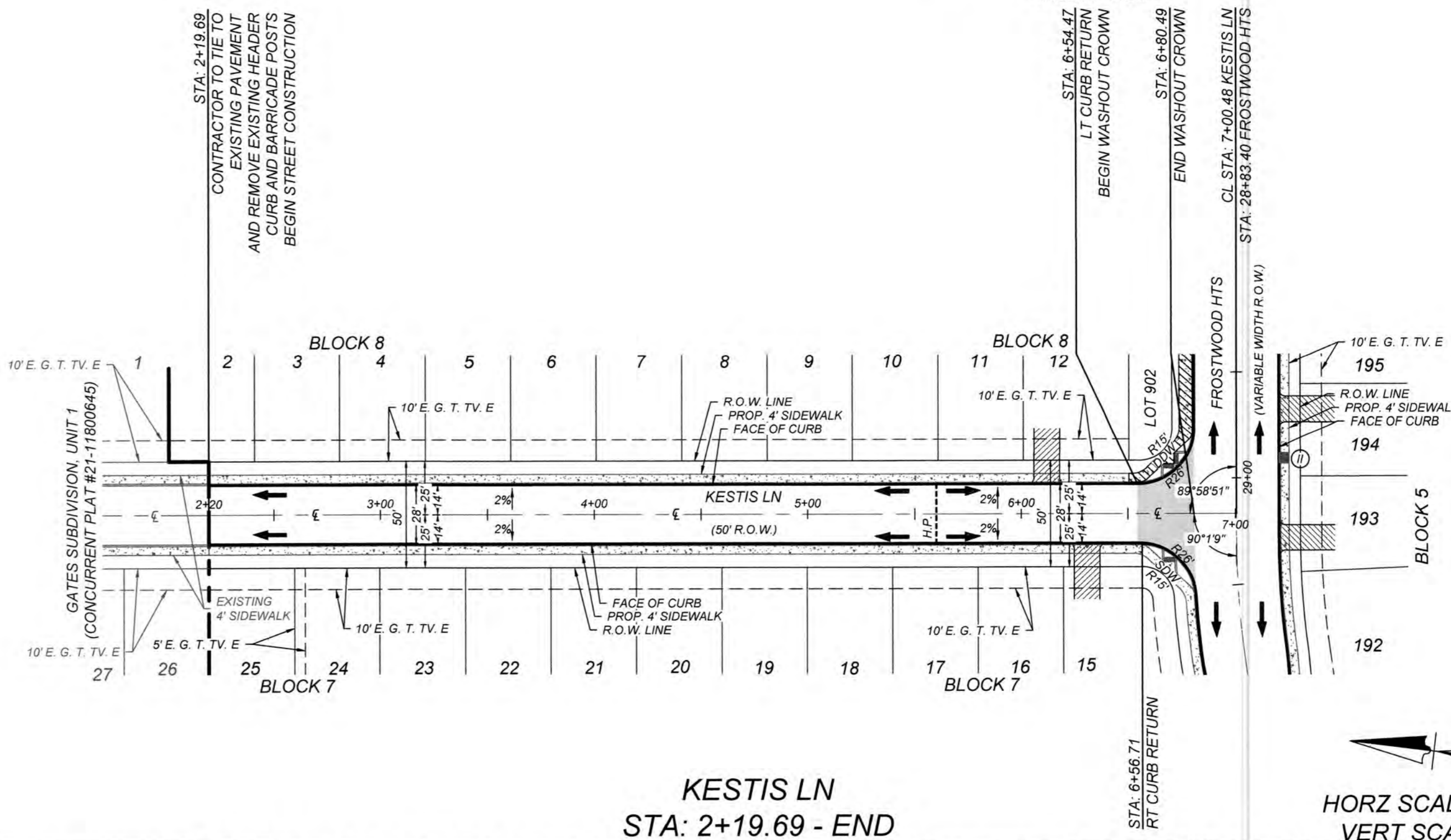
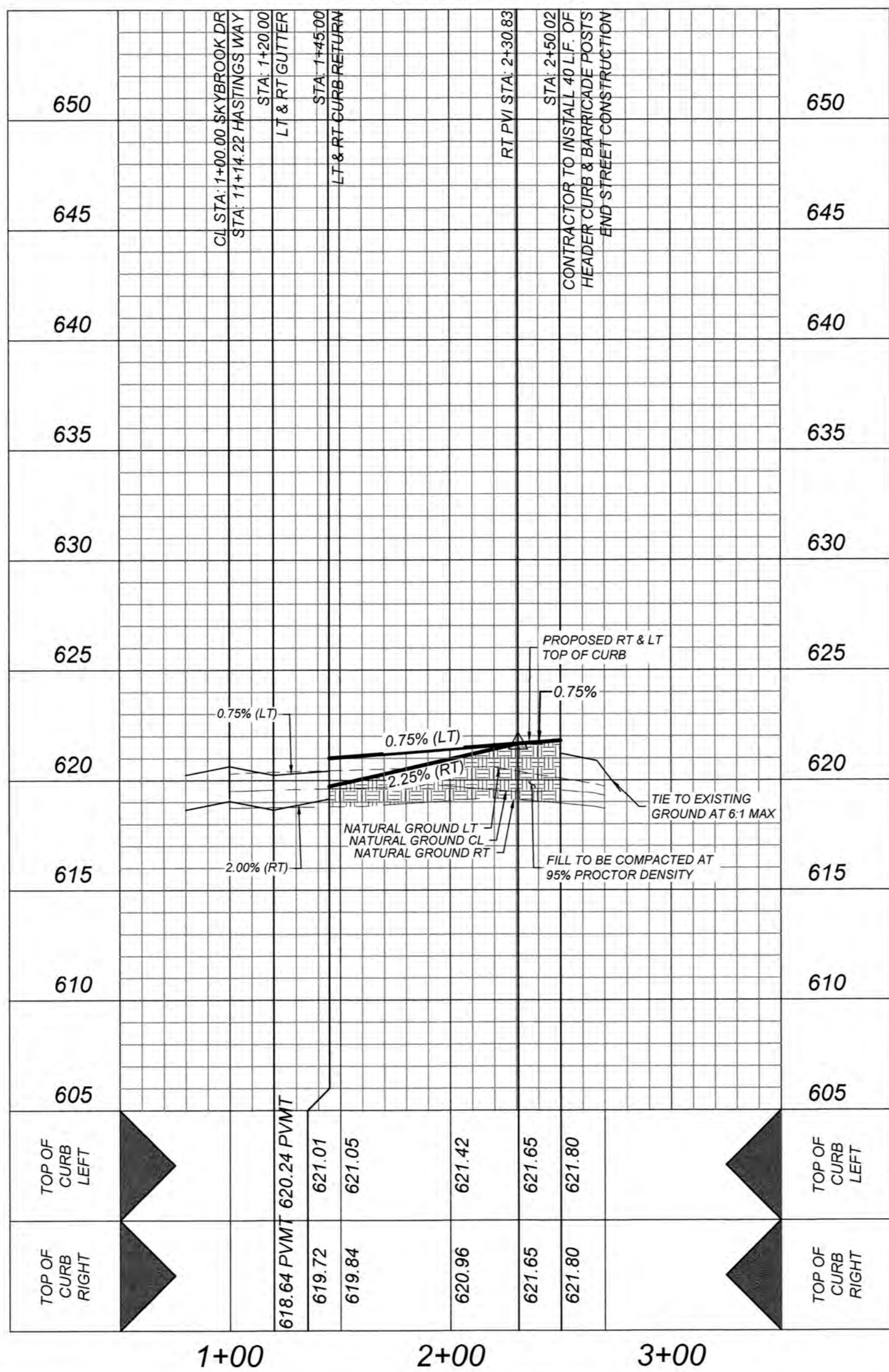
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESTS 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

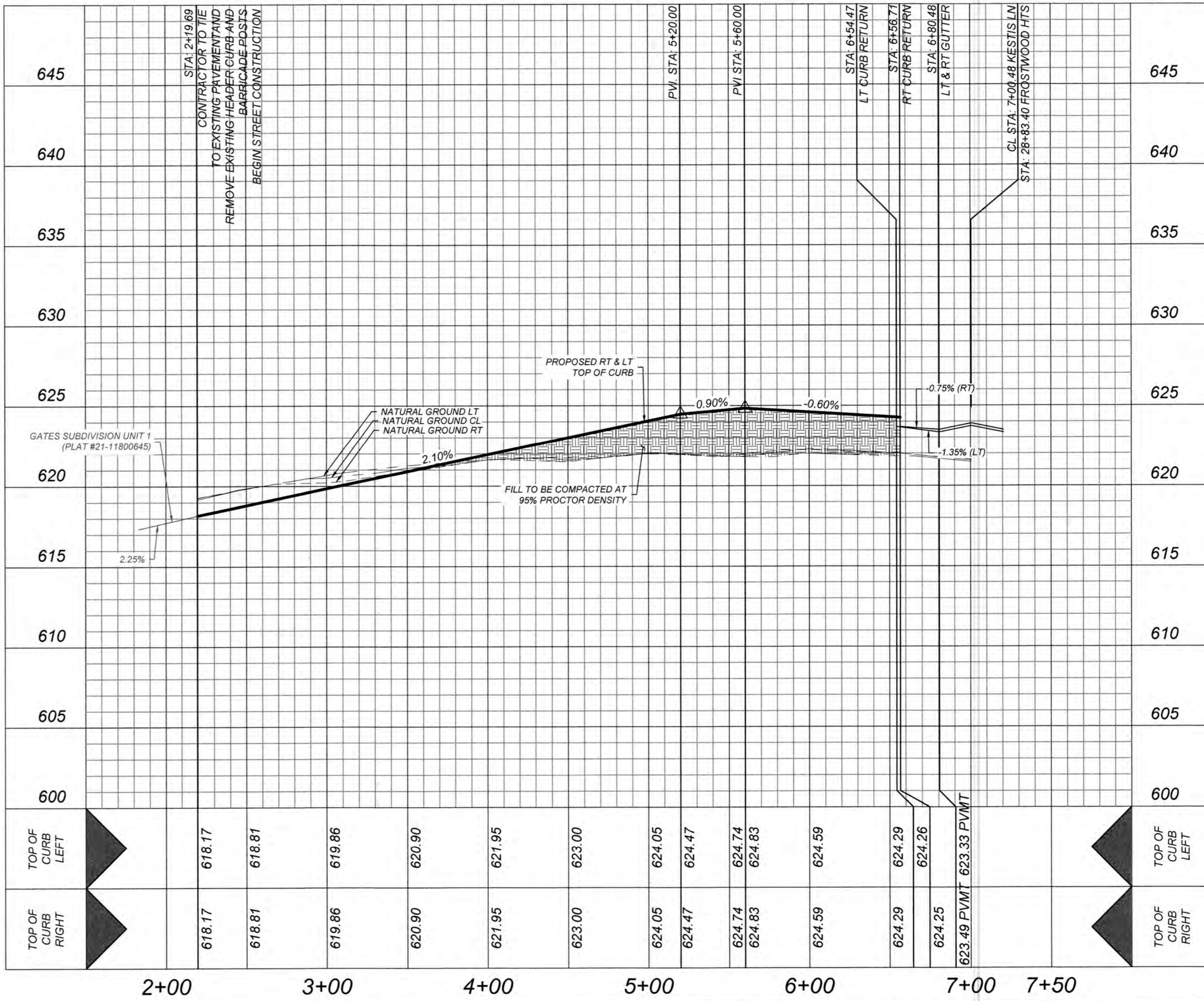
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY R.O.W.



SKYBROOK DR  
STA: 1+00.00 - END



KESTIS LN  
STA: 2+19.69 - END



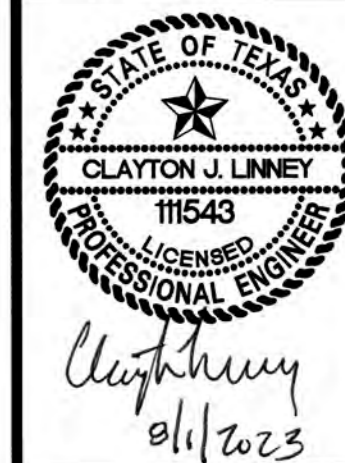
# LEGEND

- R.O.W. = RIGHT OF WAY
- G.E.T.V.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
- FLOW ARROW = FLOW ARROW
- WASHOUT CROWN = WASHOUT CROWN
- WHEEL CHAIR RAMP TYPE I SEE SHEET 5.6
- WHEEL CHAIR RAMP TYPE II SEE SHEET 5.4
- SDW = SINGLE DIRECTIONAL WHEEL CHAIR RAMP
- DDW = DUAL DIRECTIONAL WHEEL CHAIR 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
- PROPOSED TOP OF CURB ELEVATION



ISSUE DATE

REVISIONS



GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
SKYBROOK DR & KESTIS LN PLAN & PROFILE

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

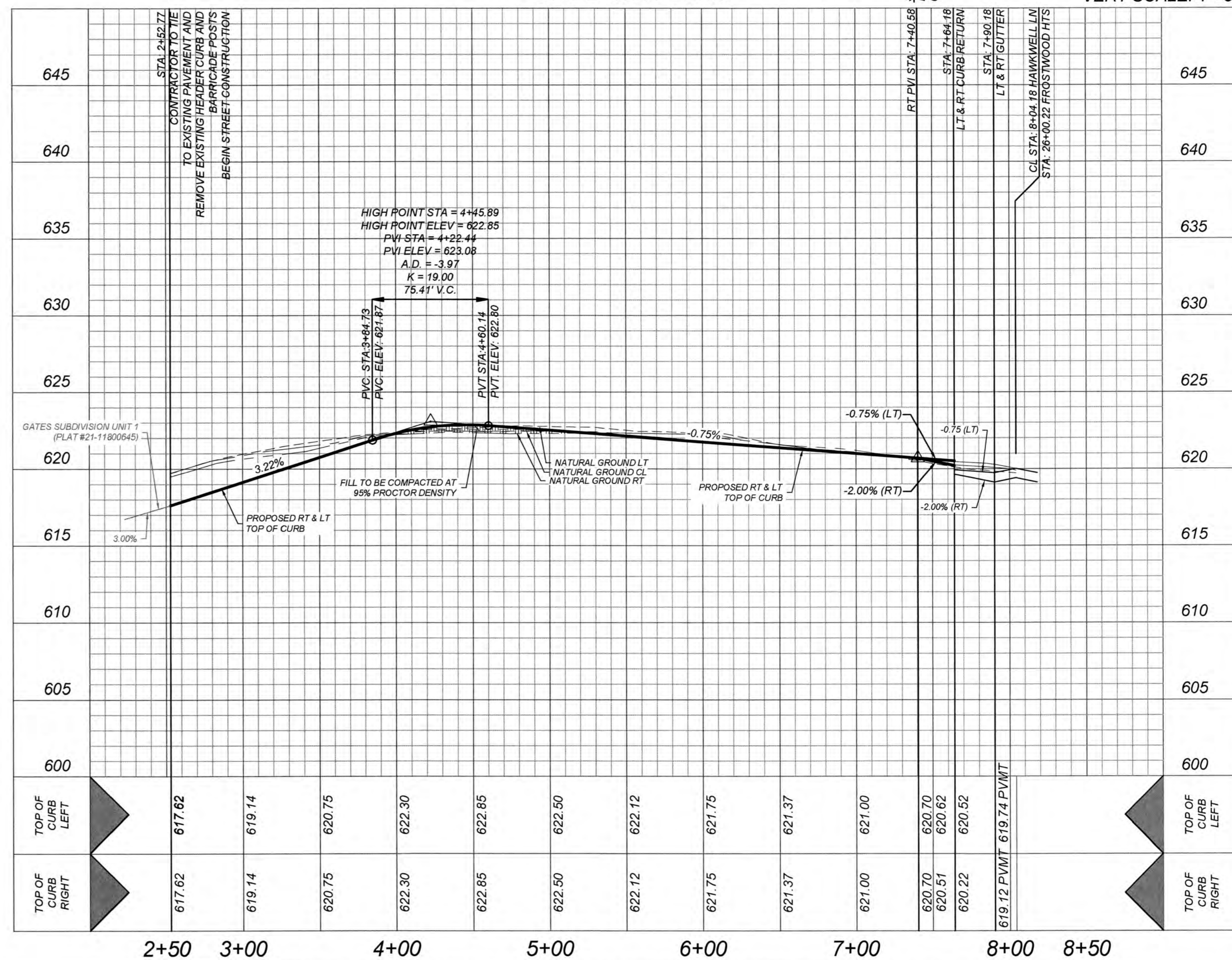
5.1

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT IF ANY, SHALL REVIEW THE PLANS AND AVAILABLE 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. SURETIES, SUBSIDIARIES, AND AFFILIATES OF THE CONTRACTOR SHALL INDEMNIFY EMPLOYEE OR CONSULTANT, SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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

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

ROW	=	RIGHT OF WAY		=	SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
G.E.T.V.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT		=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
		FLOW ARROW			
	=	WASH-OUT CROWN		=	PROPOSED DRIVEWAY LOCATION
①	=	WHEELCHAIR RAMP TYPE I SEE SHEET 5.6	H.P.	=	HIGH POINT
②	=	WHEELCHAIR RAMP TYPE II SEE SHEET 5.6	L.P.	=	LOW POINT
SDW	=	SINGLE DIRECTIONAL WHEELCHAIR RAMP		=	PROPOSED TOP OF CURB ELEVATION
DDW	=	DUAL DIRECTIONAL WHEELCHAIR RAMP			



Date: Feb 08, 2023, 11:02am User ID: ecorona  
File: P:\205143\05Design\Civil\STREET\SIST2054305.dwg

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.

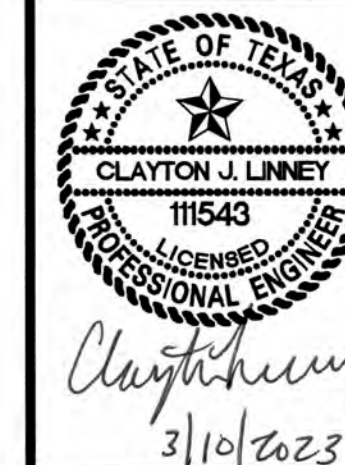
**GATES SUBDIVISION UNIT 2**  
BEXAR COUNTY, TX  
**HAWKSWELL LN PLAN & PROFILE**

PLAT NO.  
22-11800017

JOB NO.:205-43-05  
DATE: NOVEMBER 2021  
DRAWN:OM CHECKED:C

SHEET NUMBER

## 5.2



# TRENCH EXCAVATION SAFETY PROTECTION

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## CAUTION!!

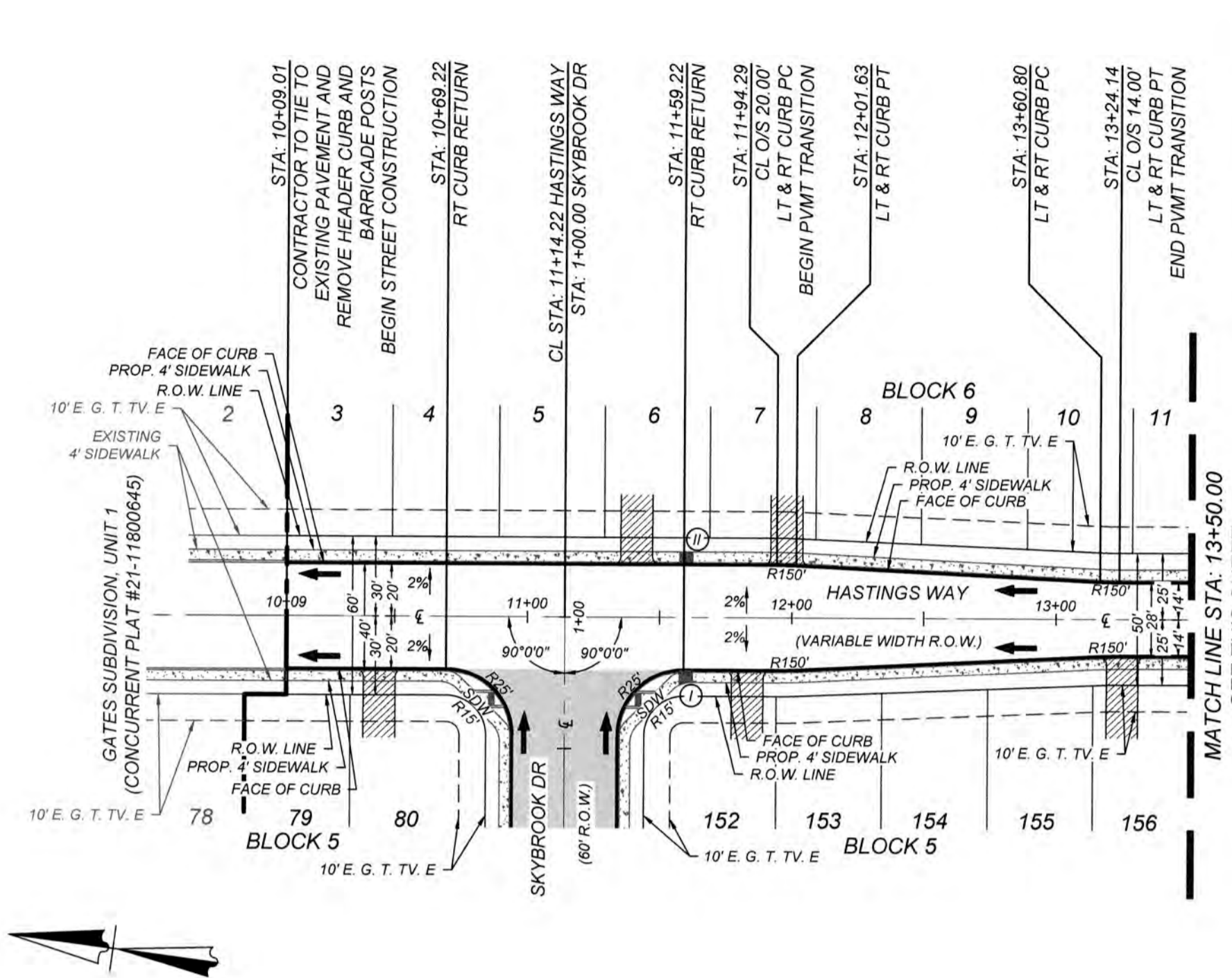
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## BEXAR COUNTY R.O.W. NOTE

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

## LEGEND

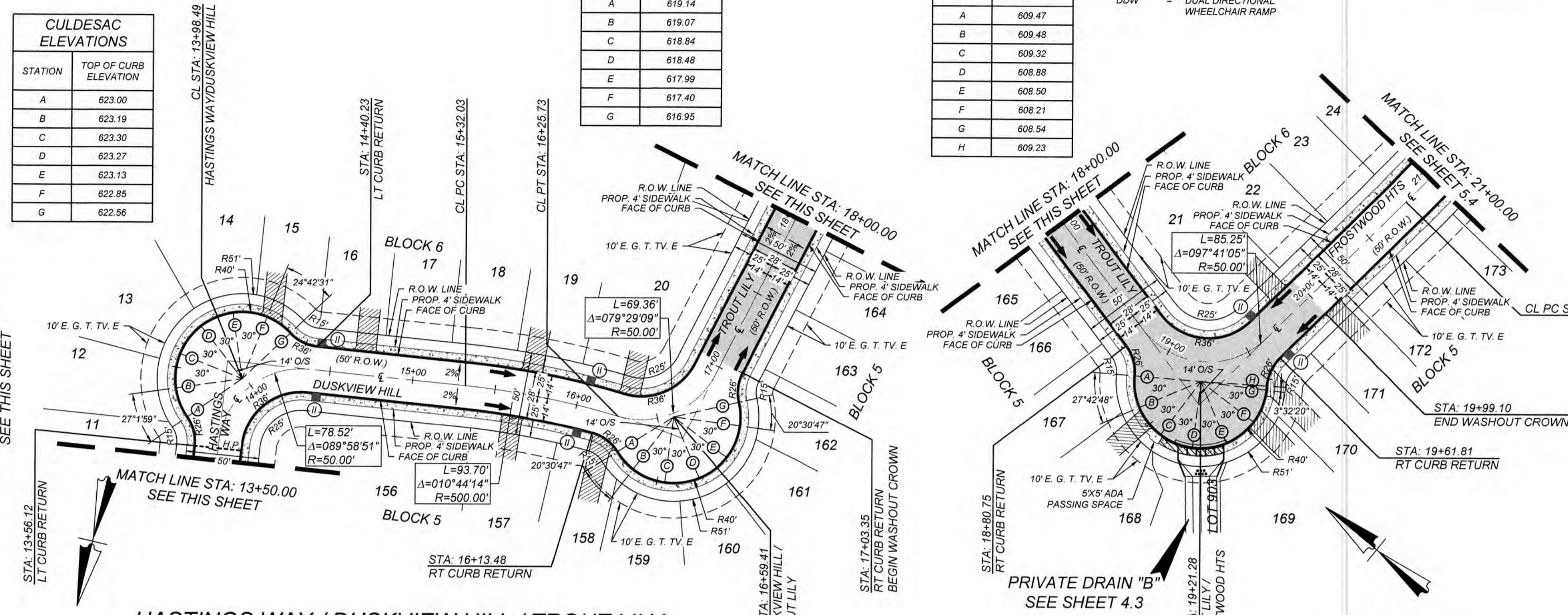
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- H.P. = HIGH POINT
- L.P. = LOW POINT
- ===== = PROPOSED TOP OF CURB ELEVATION



STATION	TOP OF CURB ELEVATION
A	623.00
B	623.19
C	623.30
D	623.27
E	623.13
F	622.85
G	622.56

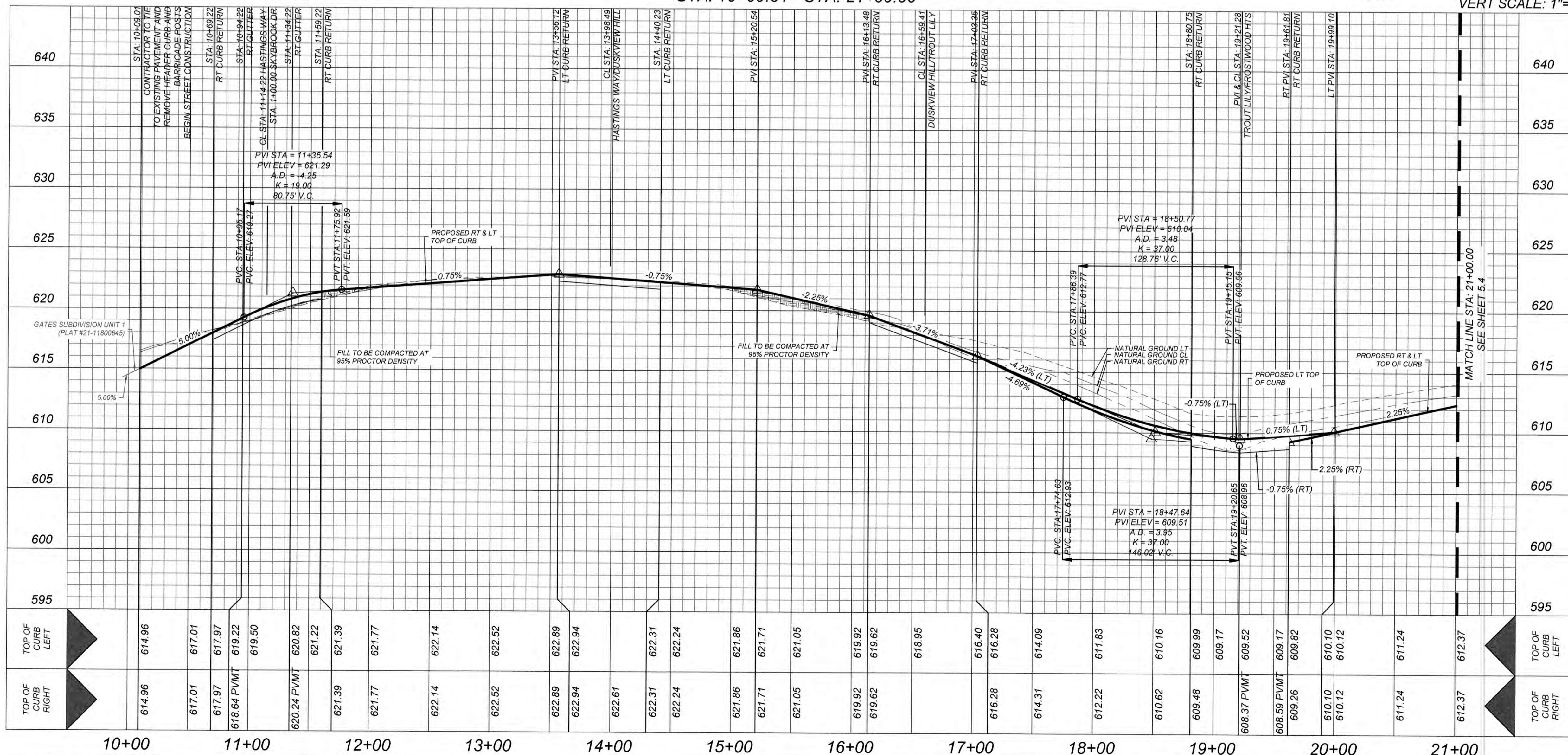
STATION	TOP OF CURB ELEVATION
A	619.14
B	619.07
C	618.84
D	618.48
E	617.99
F	617.40
G	616.95

STATION	TOP OF CURB ELEVATION
A	609.47
B	609.48
C	609.32
D	608.88
E	608.50
F	608.21
G	608.54
H	609.23



HASTINGS WAY / DUSKVIEW HILL / TROUT LILY  
STA: 10+09.01 - STA: 21+00.00

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



## GATES SUBDIVISION UNIT 2 BEXAR COUNTY, TX

## HASTINGS WAY, DUSKVIEW HILL & TROUT LILY PLAN & PROFILE

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN/OM CHECKED/CL  
SHEET NUMBER:

TRENCH EXCAVATION SAFETY PROTECTION

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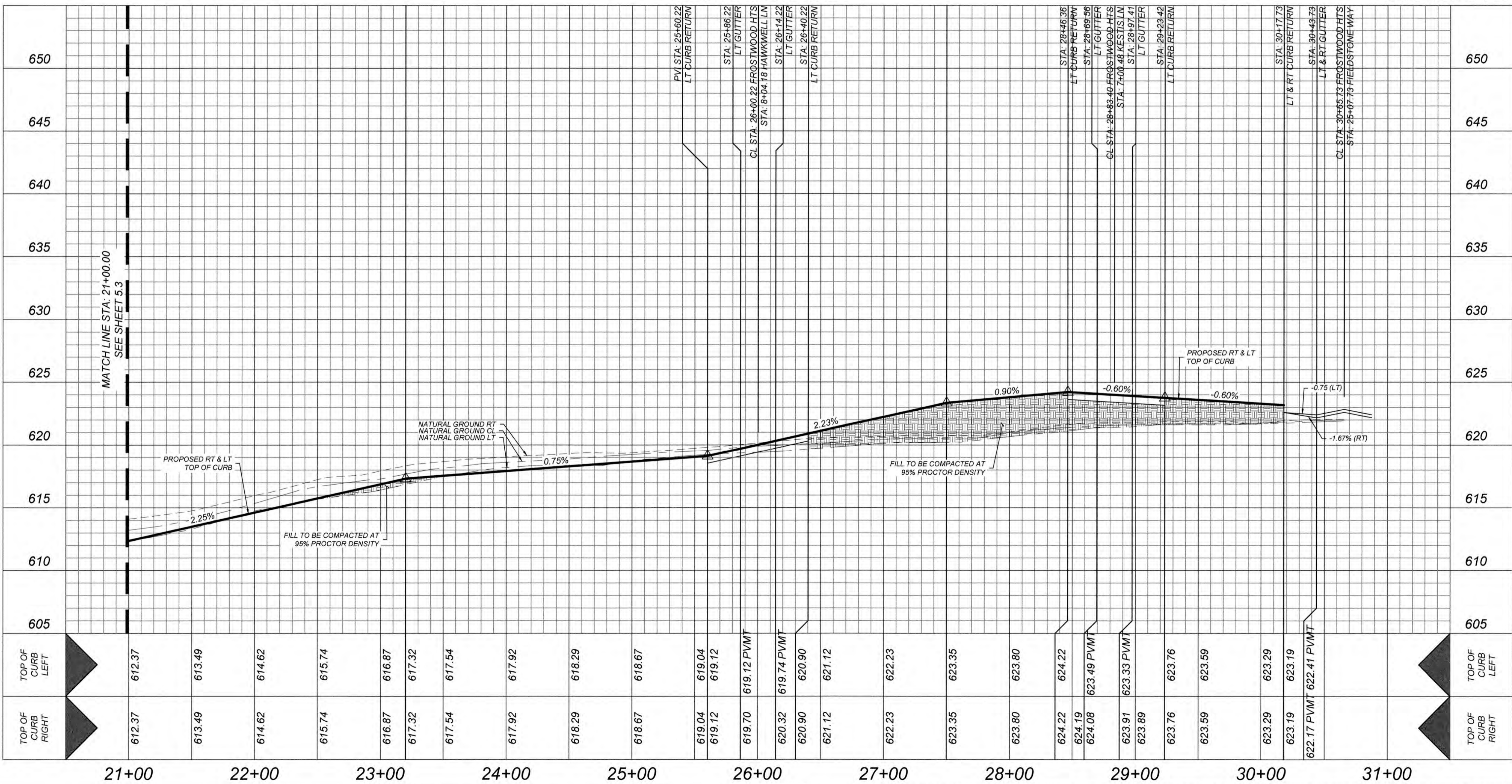
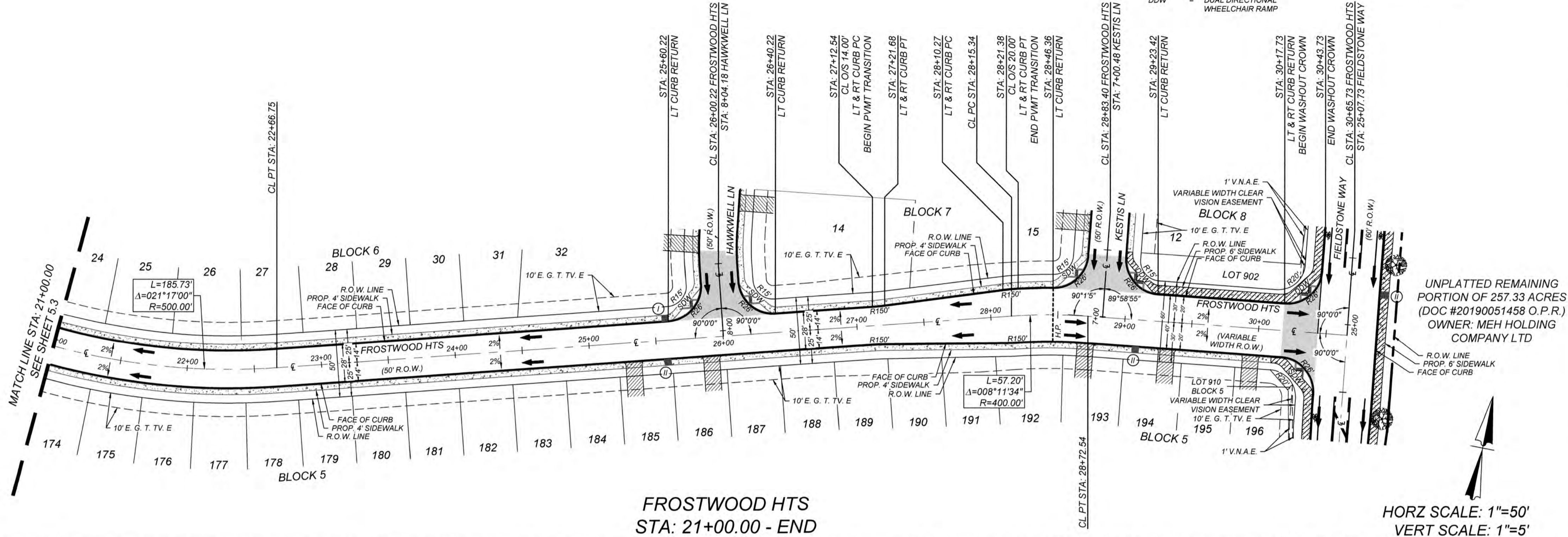
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LEGEND

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GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
FROSTWOOD HTS PLAN & PROFILE

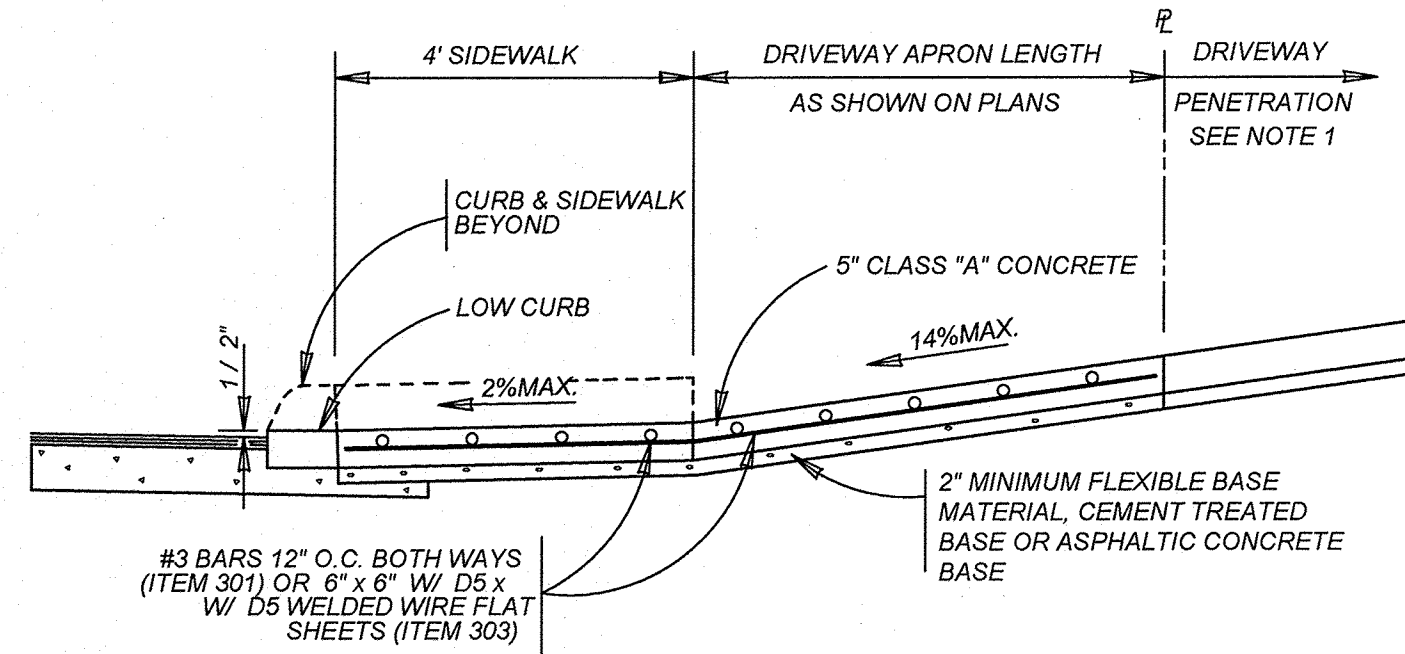
PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:  
5.4



ISSUE DATE

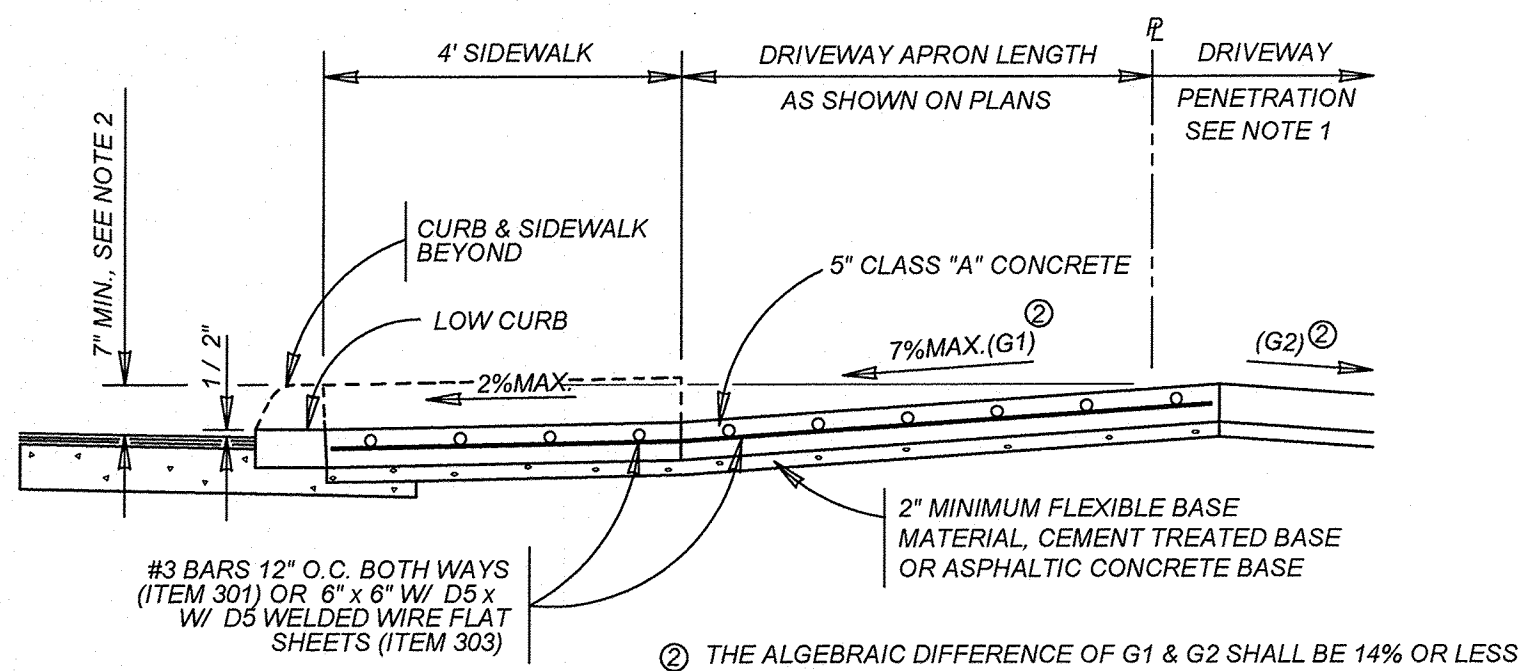
REVISIONS

**K&W**  
**ENGINEERS + SURVEYING**  
3421 Pasadena Pkwy, Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-8444 • Fax #: (210) 979-8441  
TBP# 111543 • TBP# 111543 • TBP# 111543



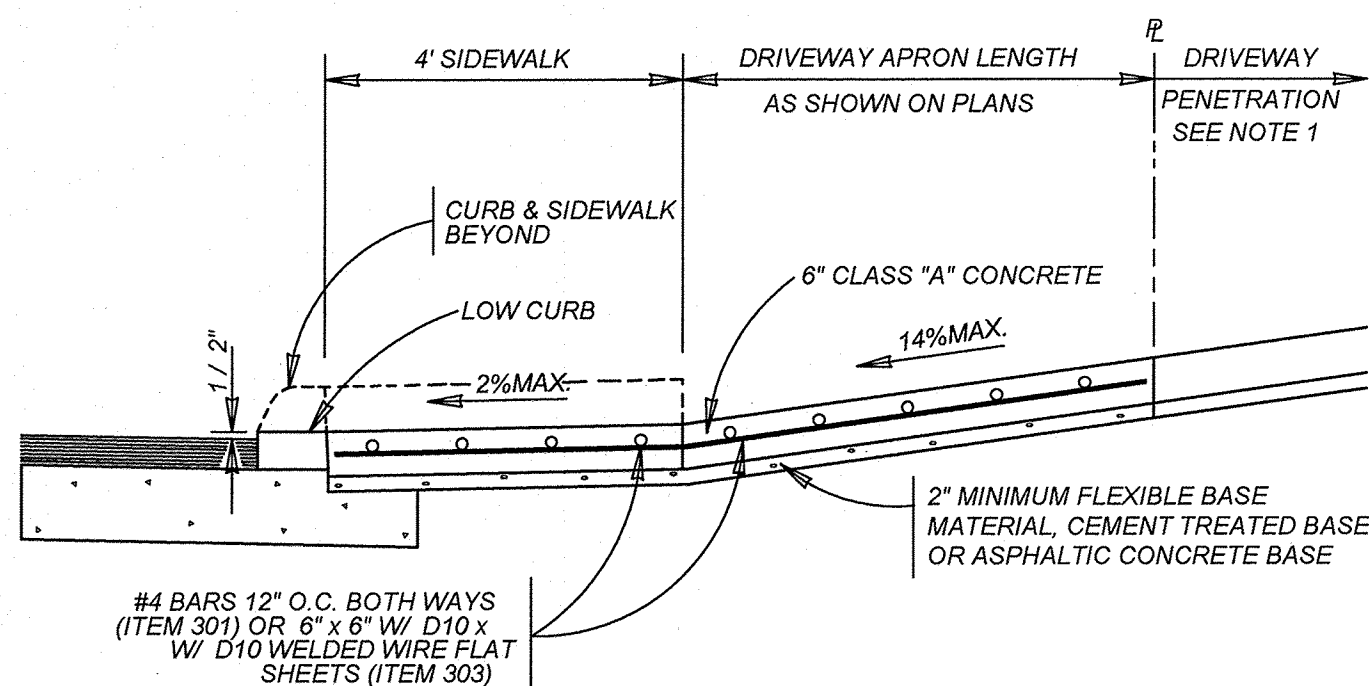
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

WITH SIDEWALK ABUTTING CURB  
ITEM 503.1



**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

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



**TYPICAL COMMERCIAL DRIVEWAY SECTION**

WITH SIDEWALK ABUTTING CURB  
ITEM 503.2

**CONCRETE DRIVEWAY NOTES**

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:  
A) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2  
B) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE  
C) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE

2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.

3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

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

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

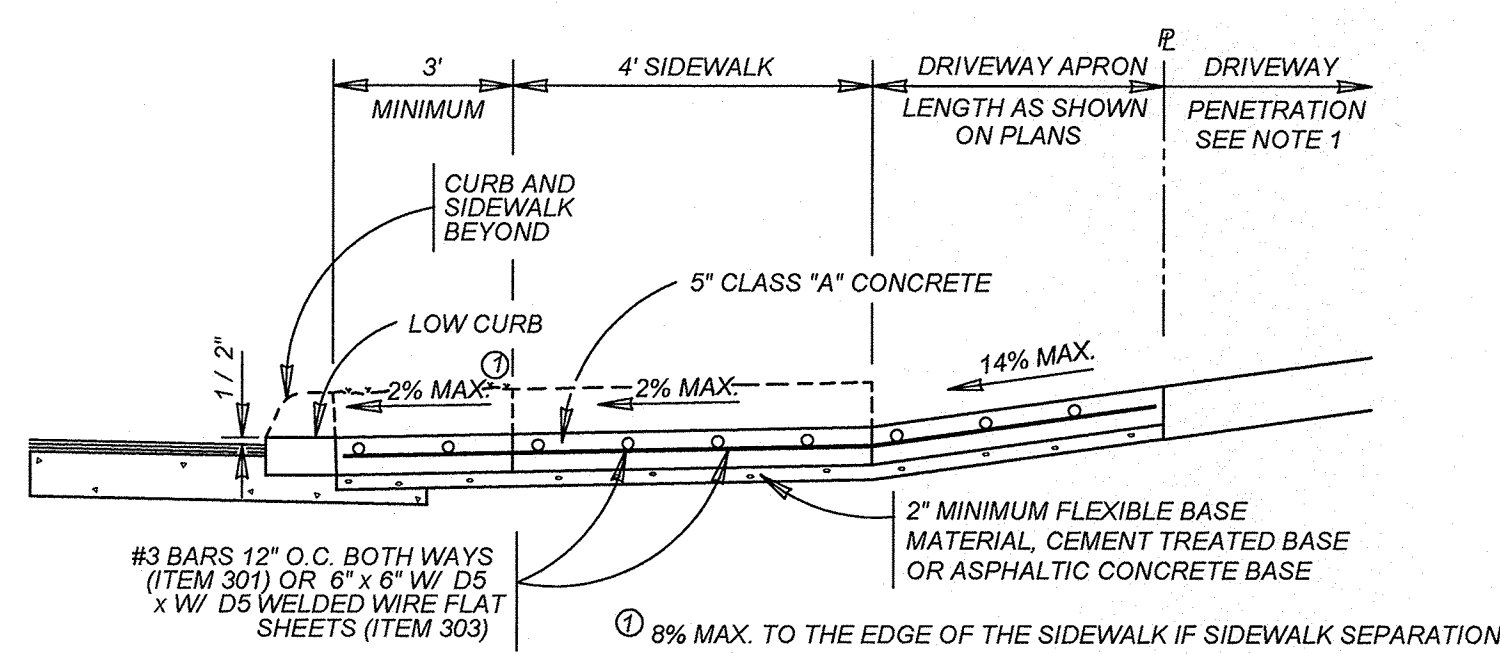
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.

6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.

7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.

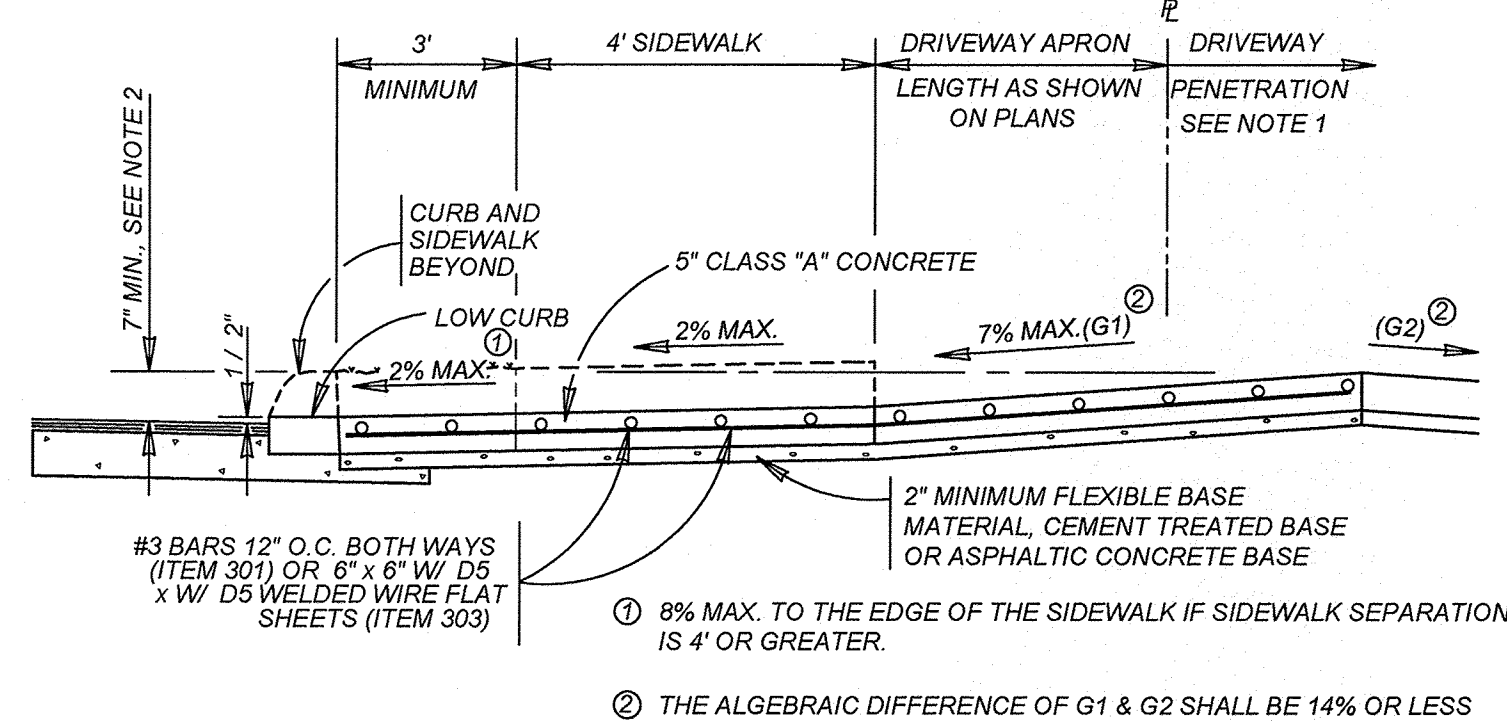
8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



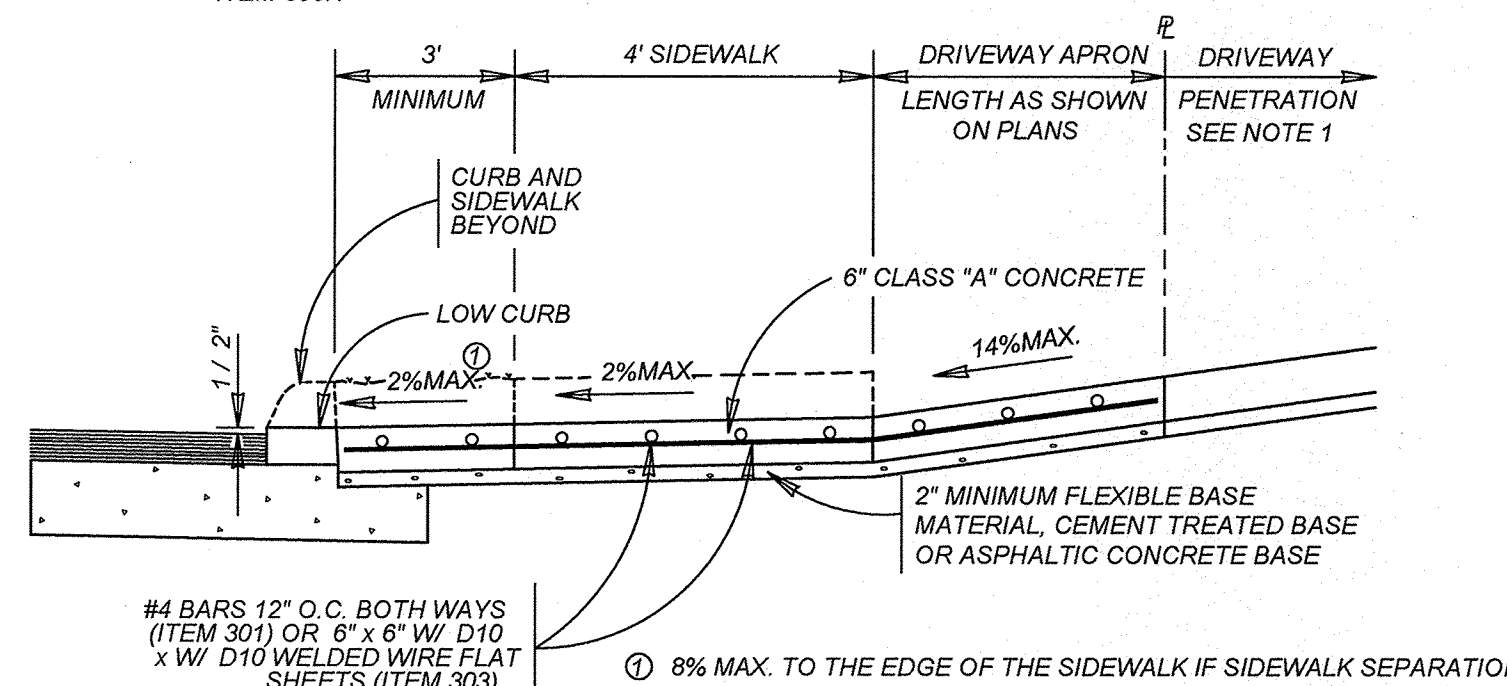
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

WITH SIDEWALK SEPARATED FROM CURB  
ITEM 503.1



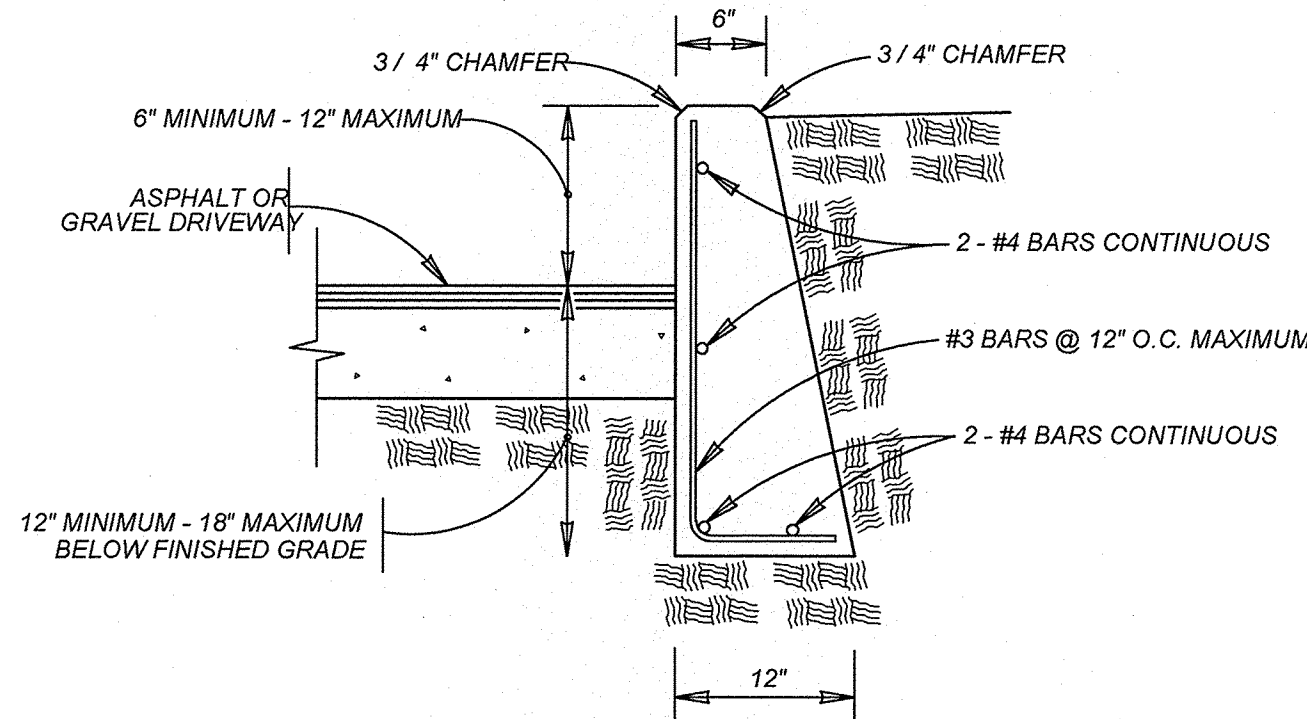
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

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



**TYPICAL COMMERCIAL DRIVEWAY SECTION**

WITH SIDEWALK SEPARATED FROM CURB  
ITEM 503.2

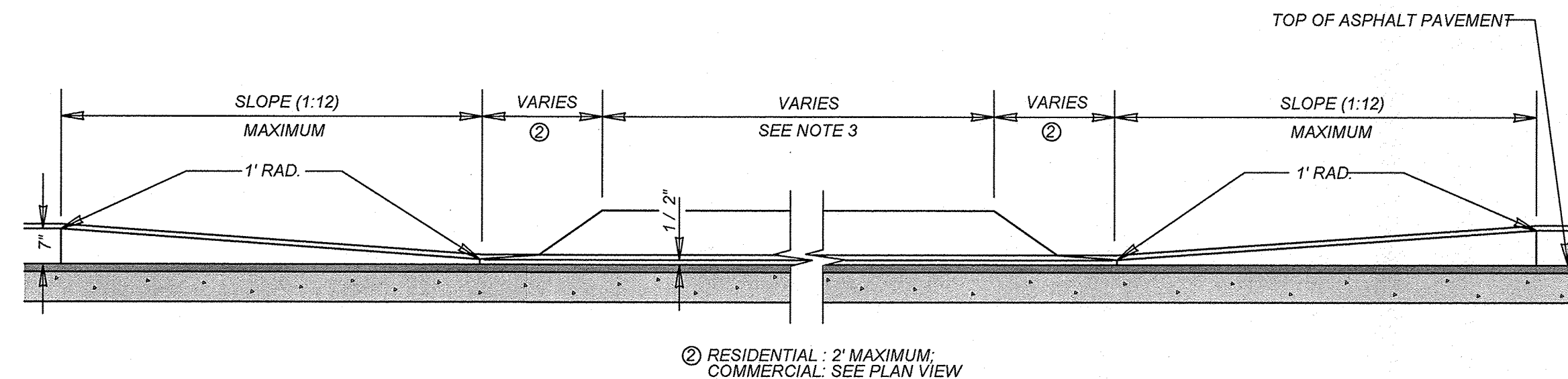


NOTE:

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.

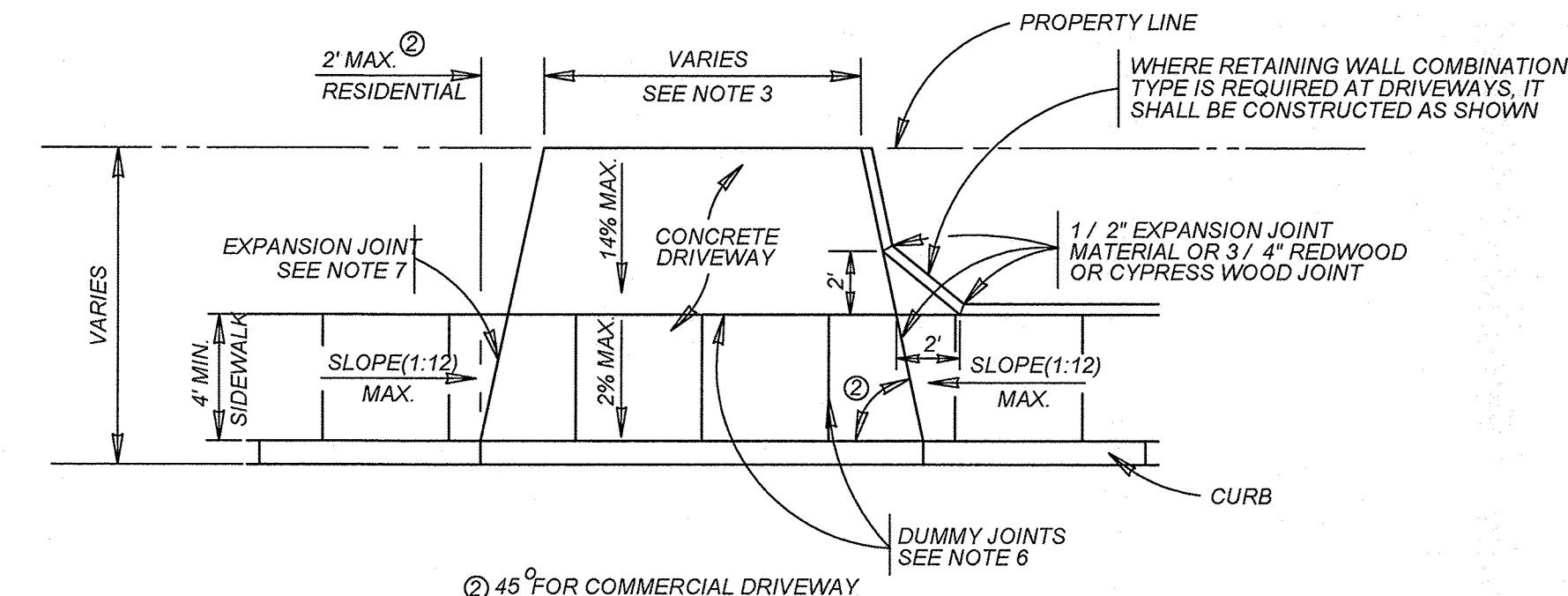
**DRIVEWAY - CONCRETE RETAINING WALL**

ON COMPACTED SUBGRADE  
ITEM 307.1



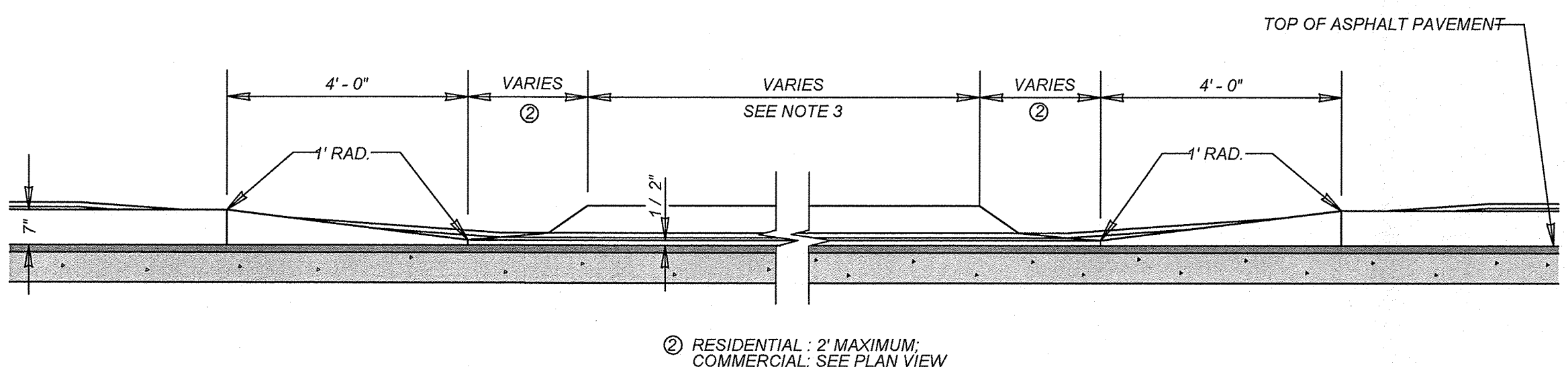
**CURB PROFILE AT DRIVEWAY**

WITH SIDEWALK ABUTTING CURB



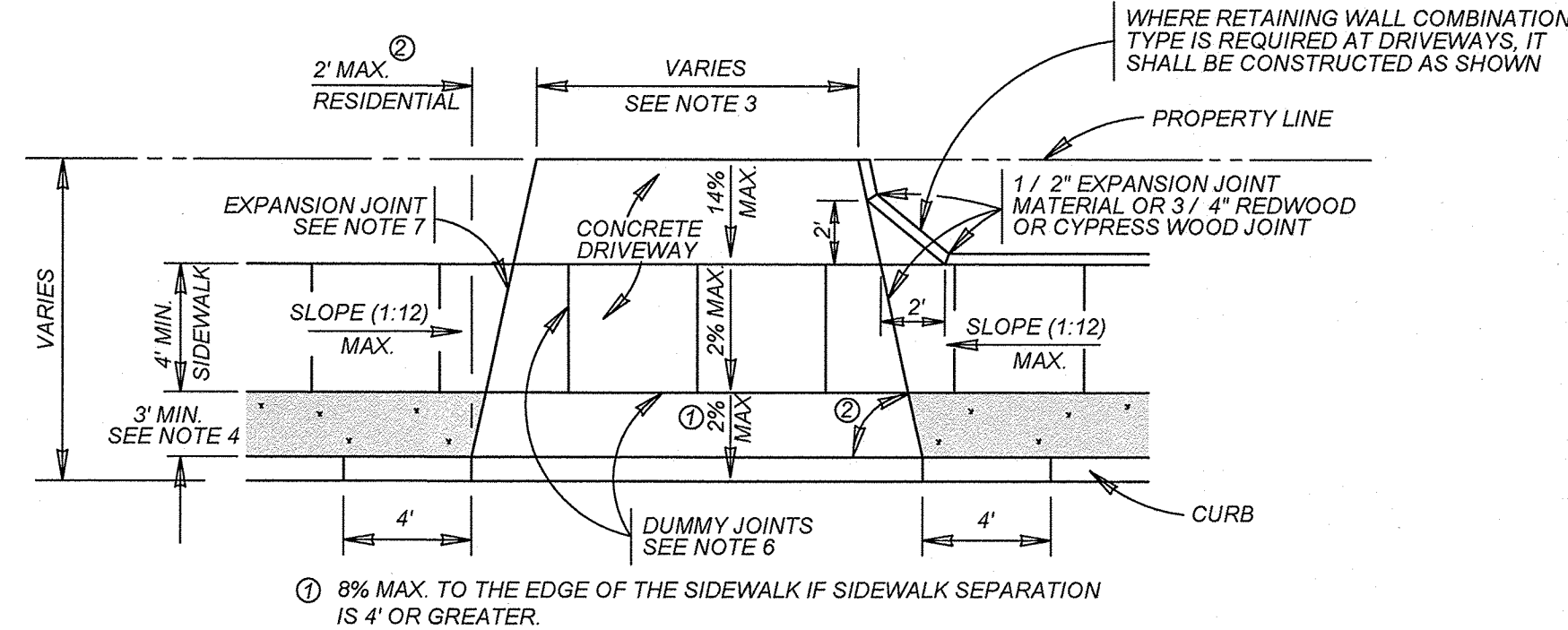
**TYPICAL DRIVEWAY PLAN VIEW**

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

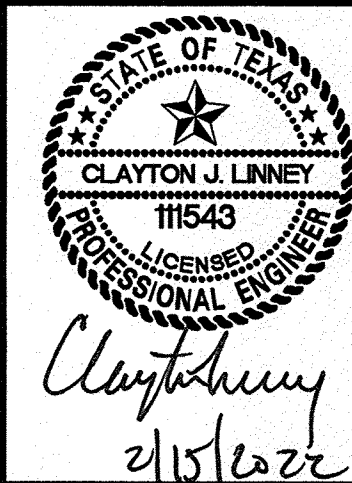
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

**CONCRETE DRIVEWAY STANDARDS**

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

ISSUE DATE

REVISIONS



GATES SUBDIVISION UNIT 2

SAN ANTONIO, TX

CONCRETE DRIVEWAY DETAILS

PLAT NO.  
22-11800017

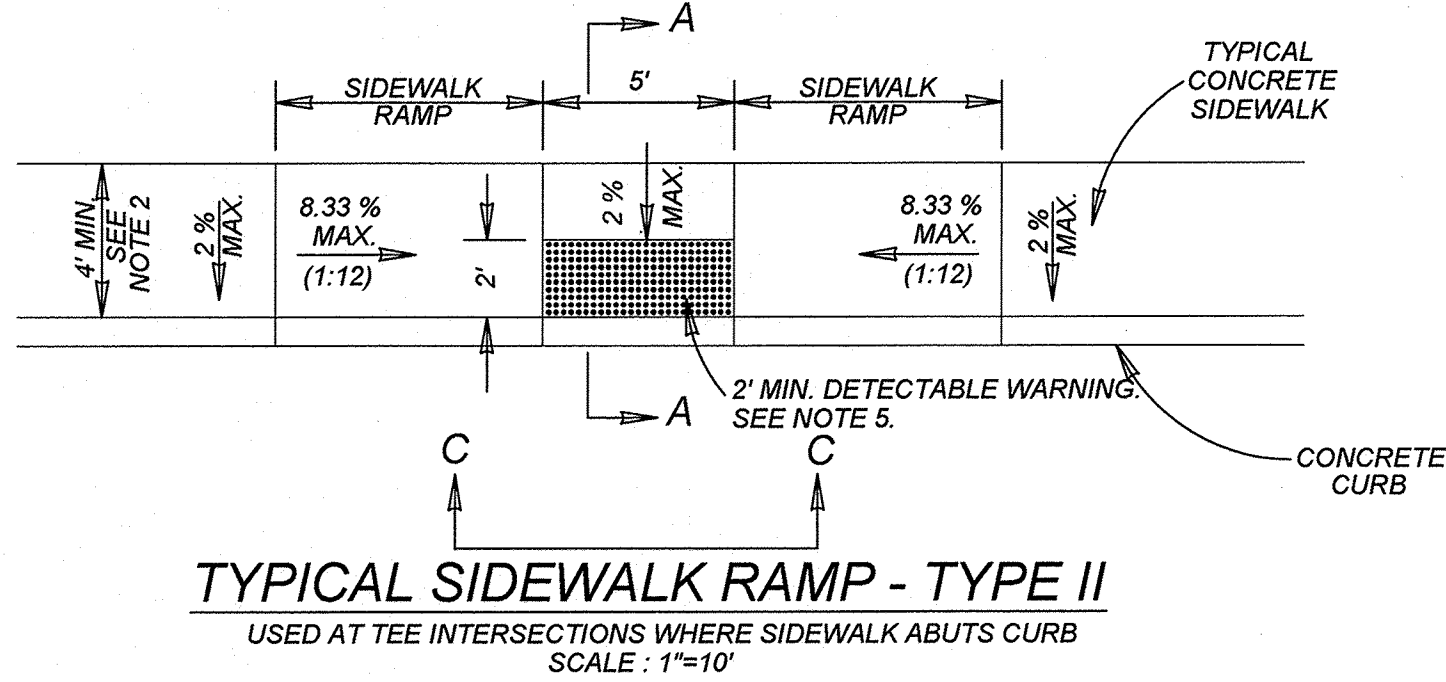
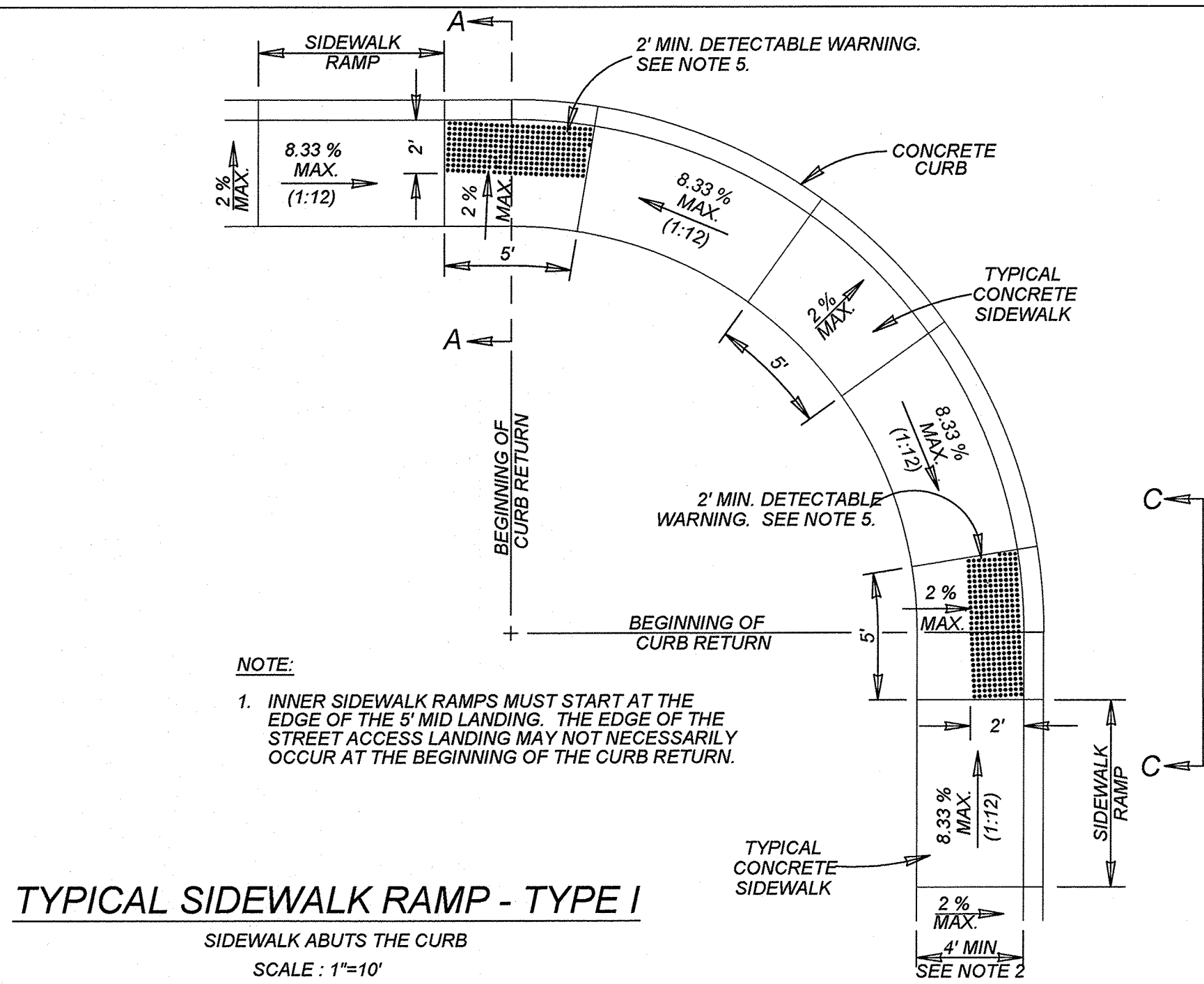
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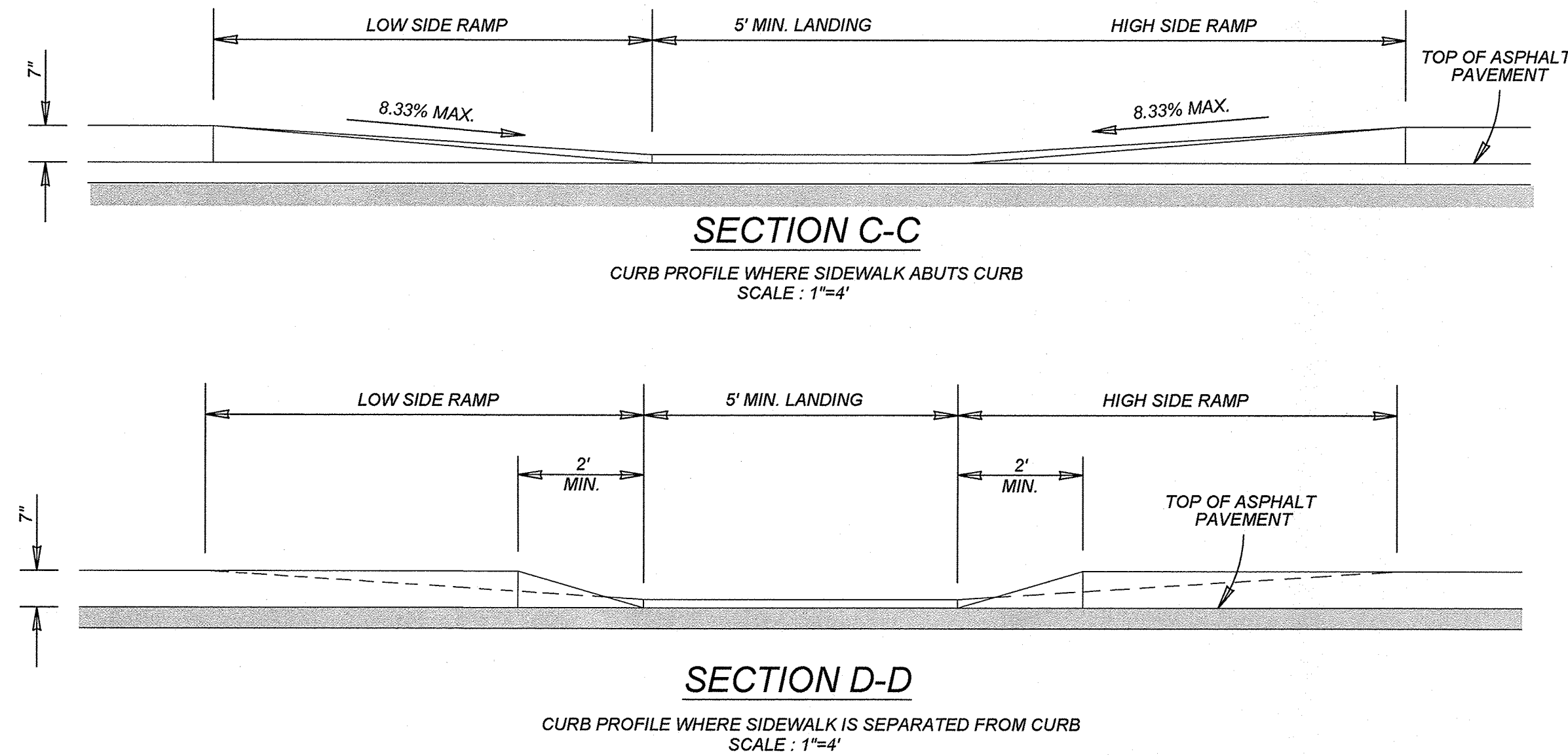
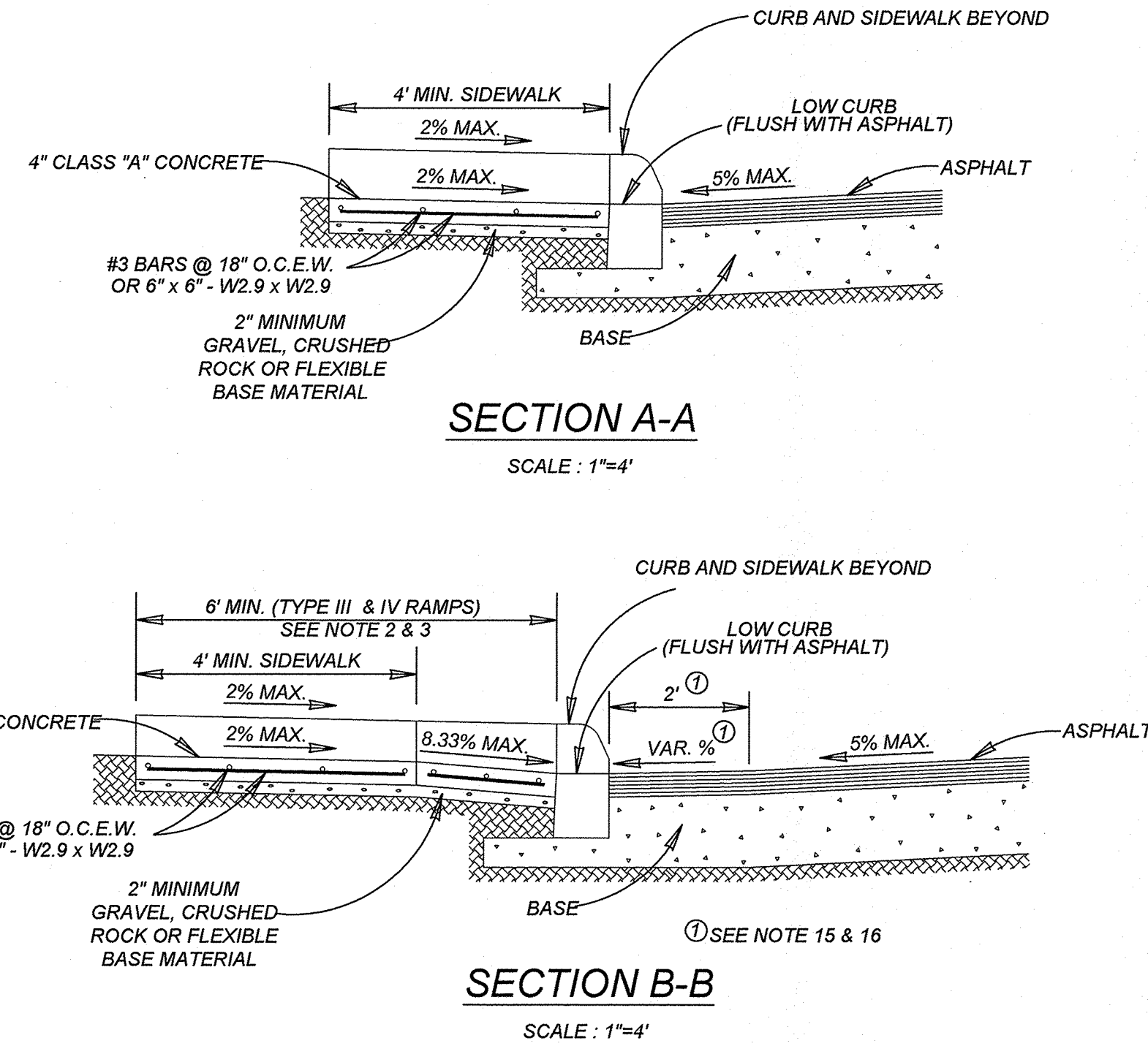
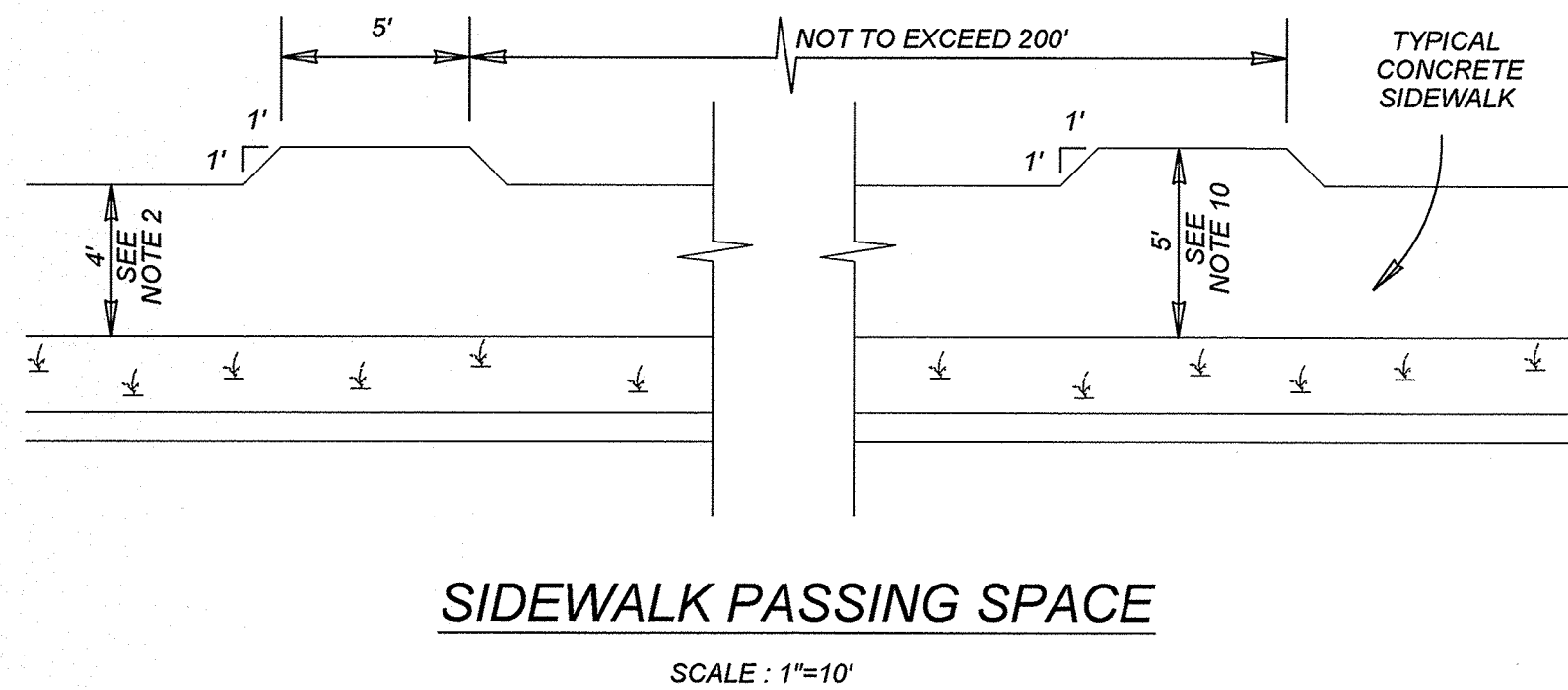
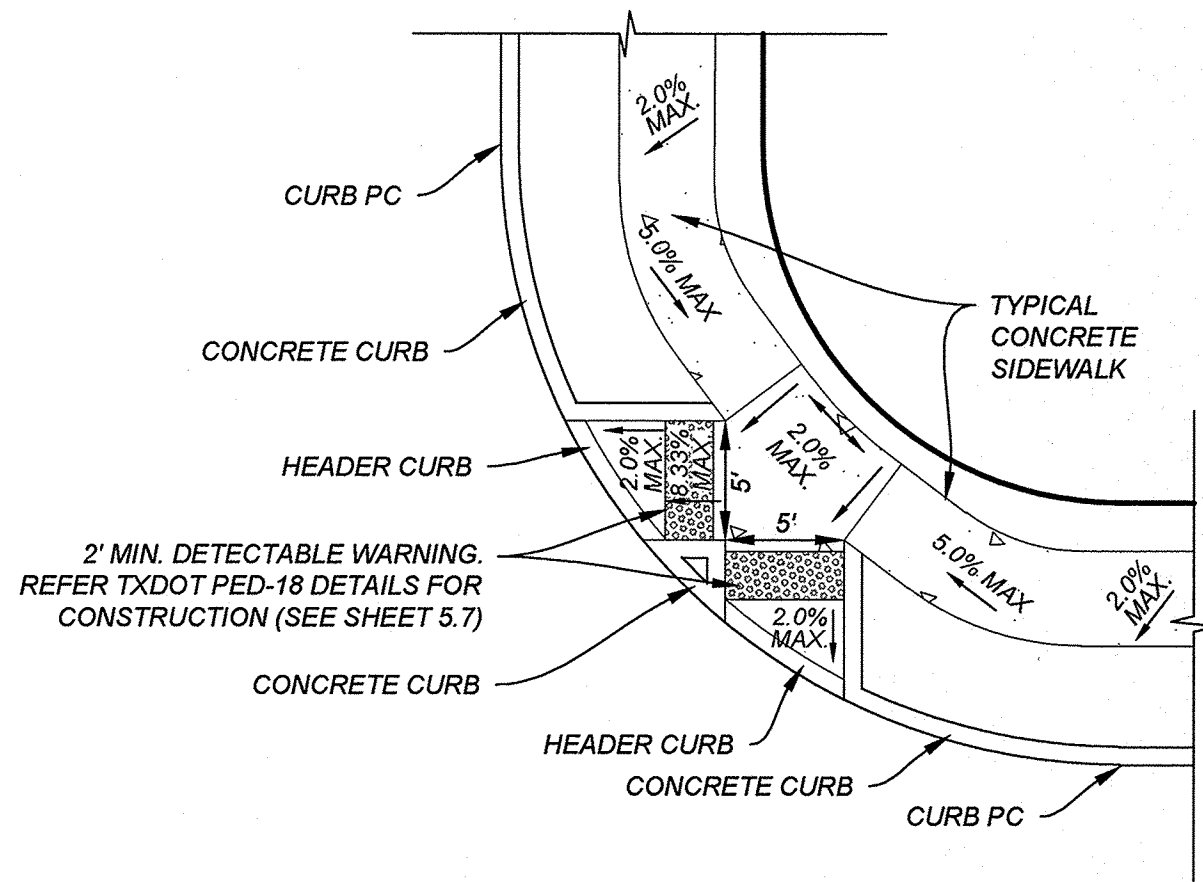
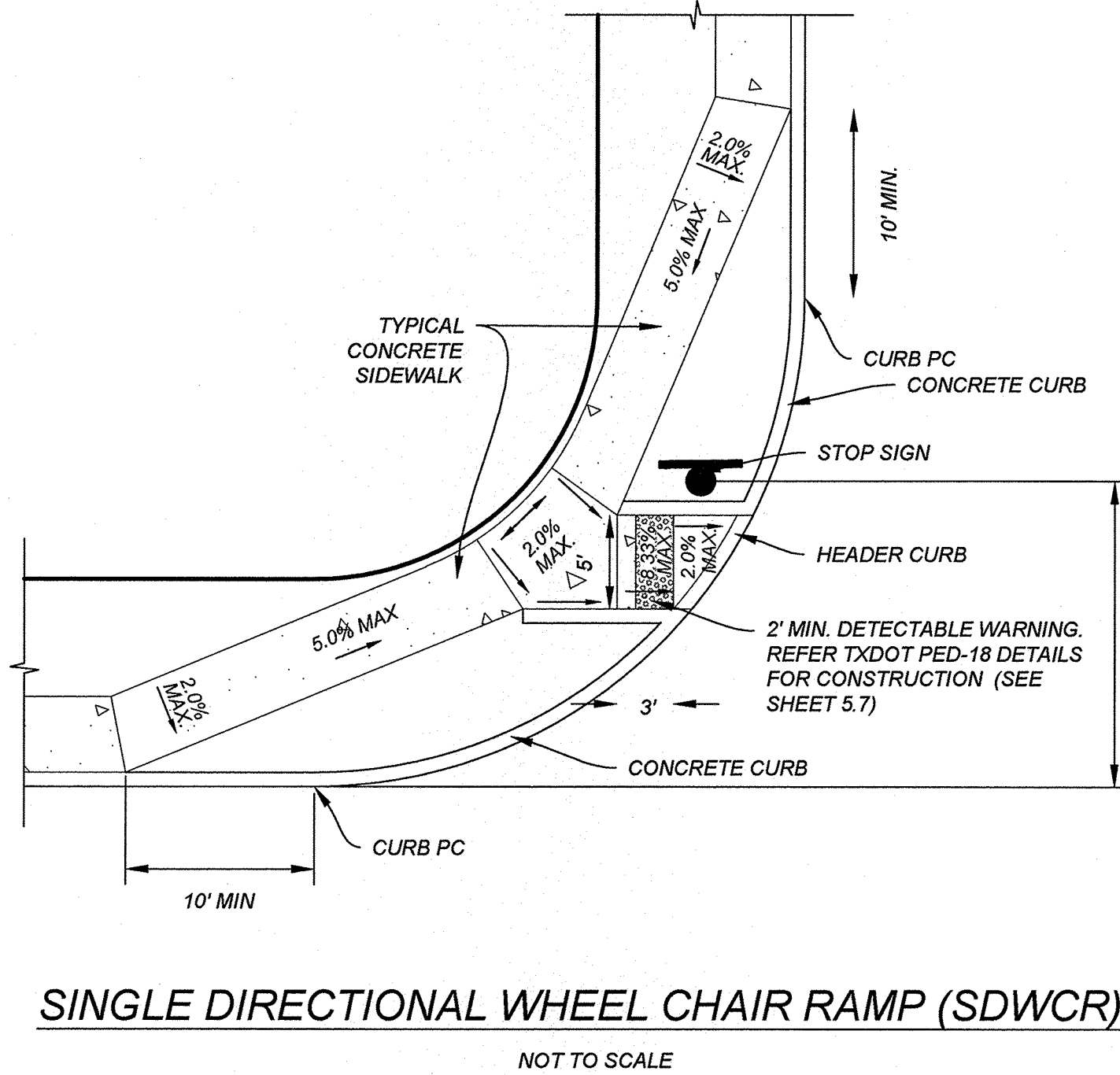
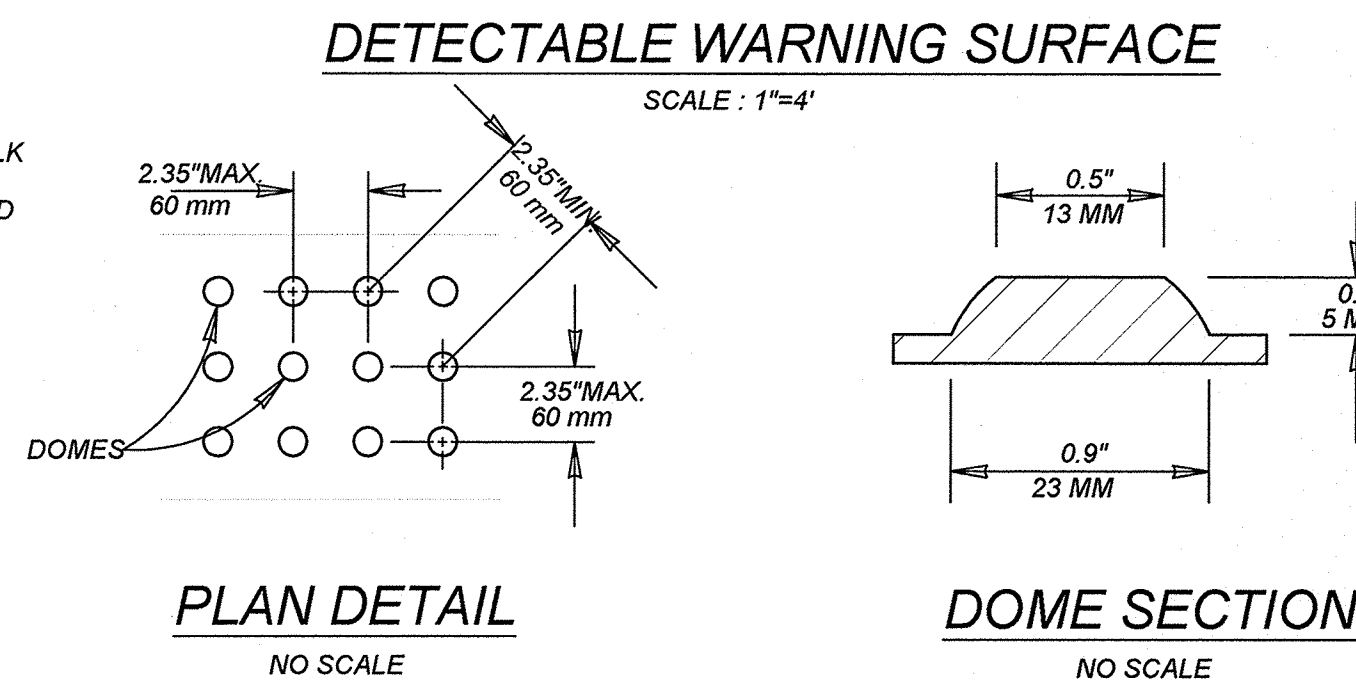
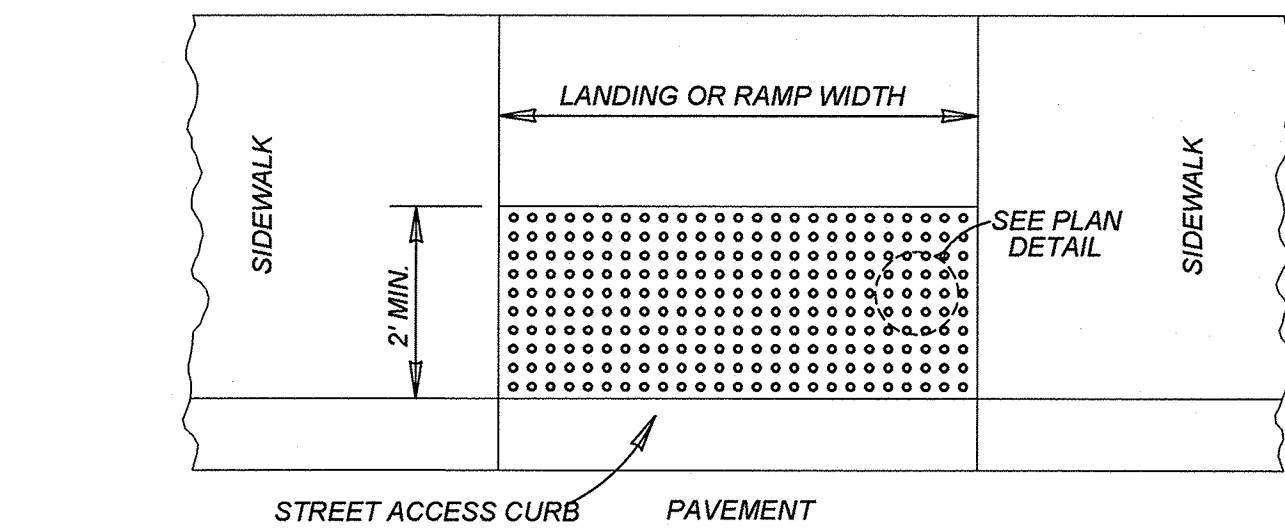
SHEET NUMBER:

5.5



### 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% / 3 = 2.77%). 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.



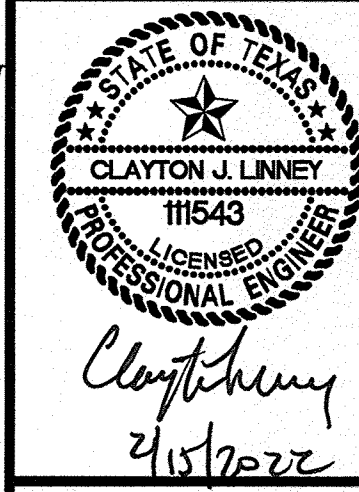
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

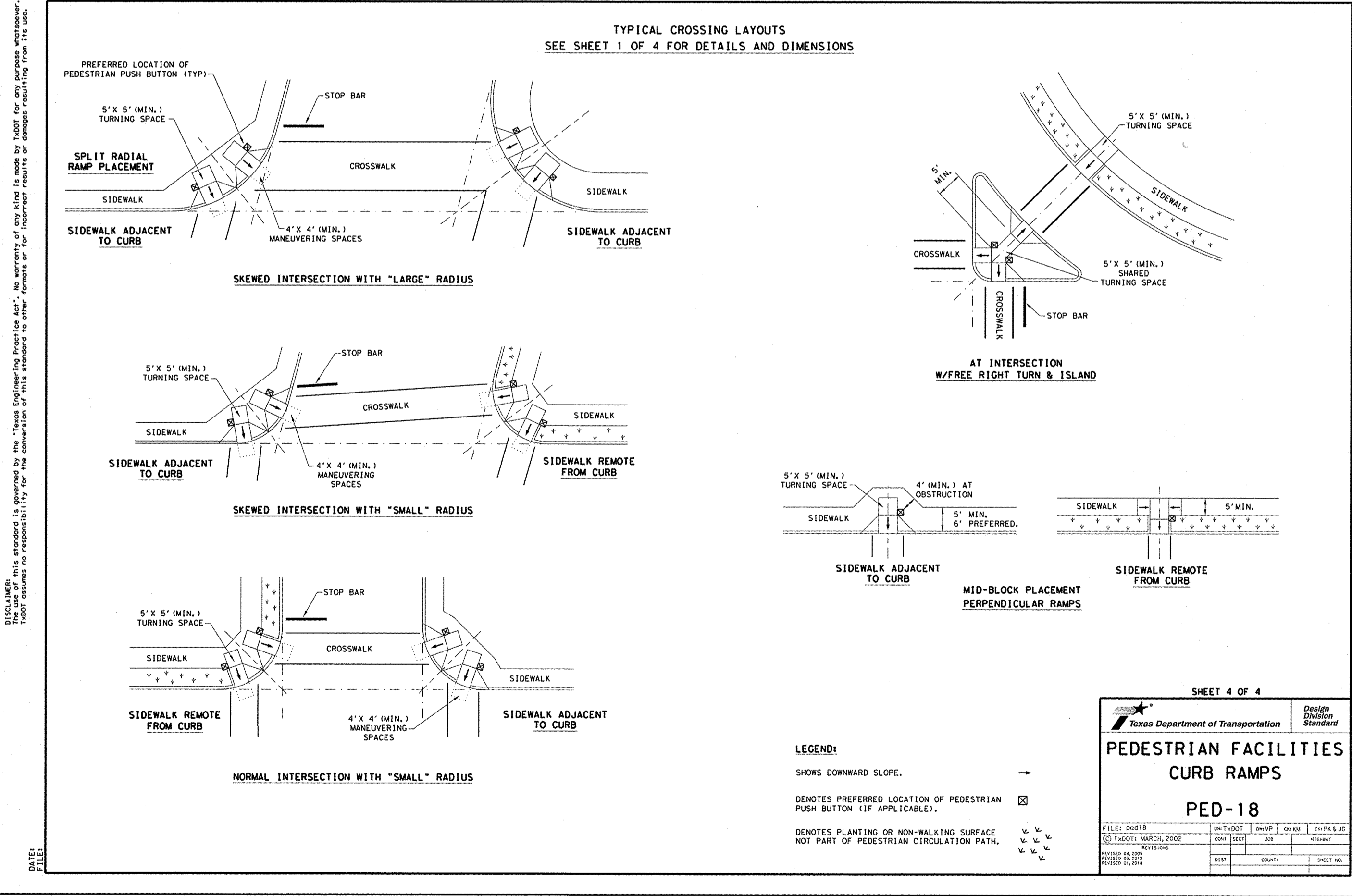
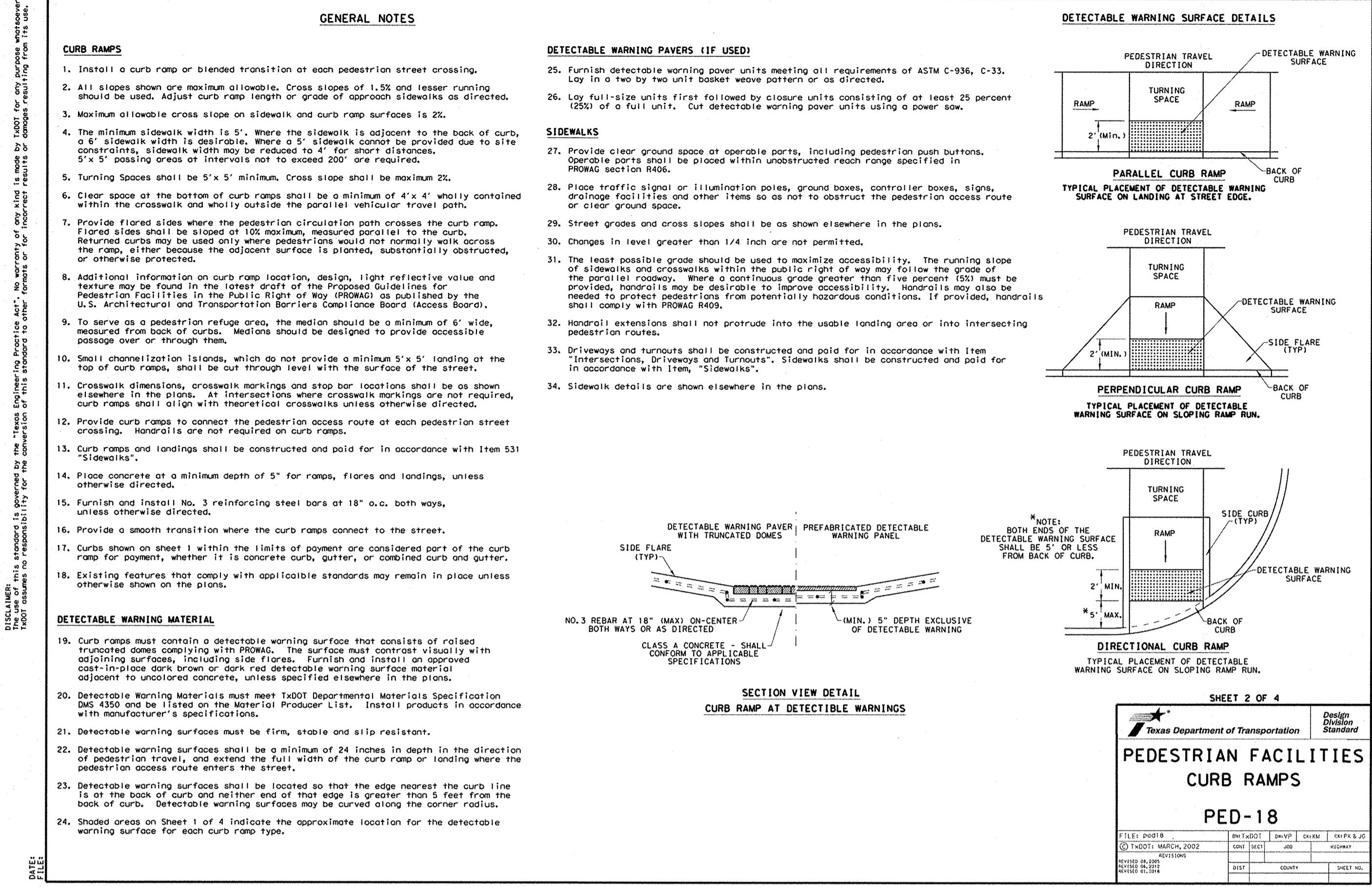
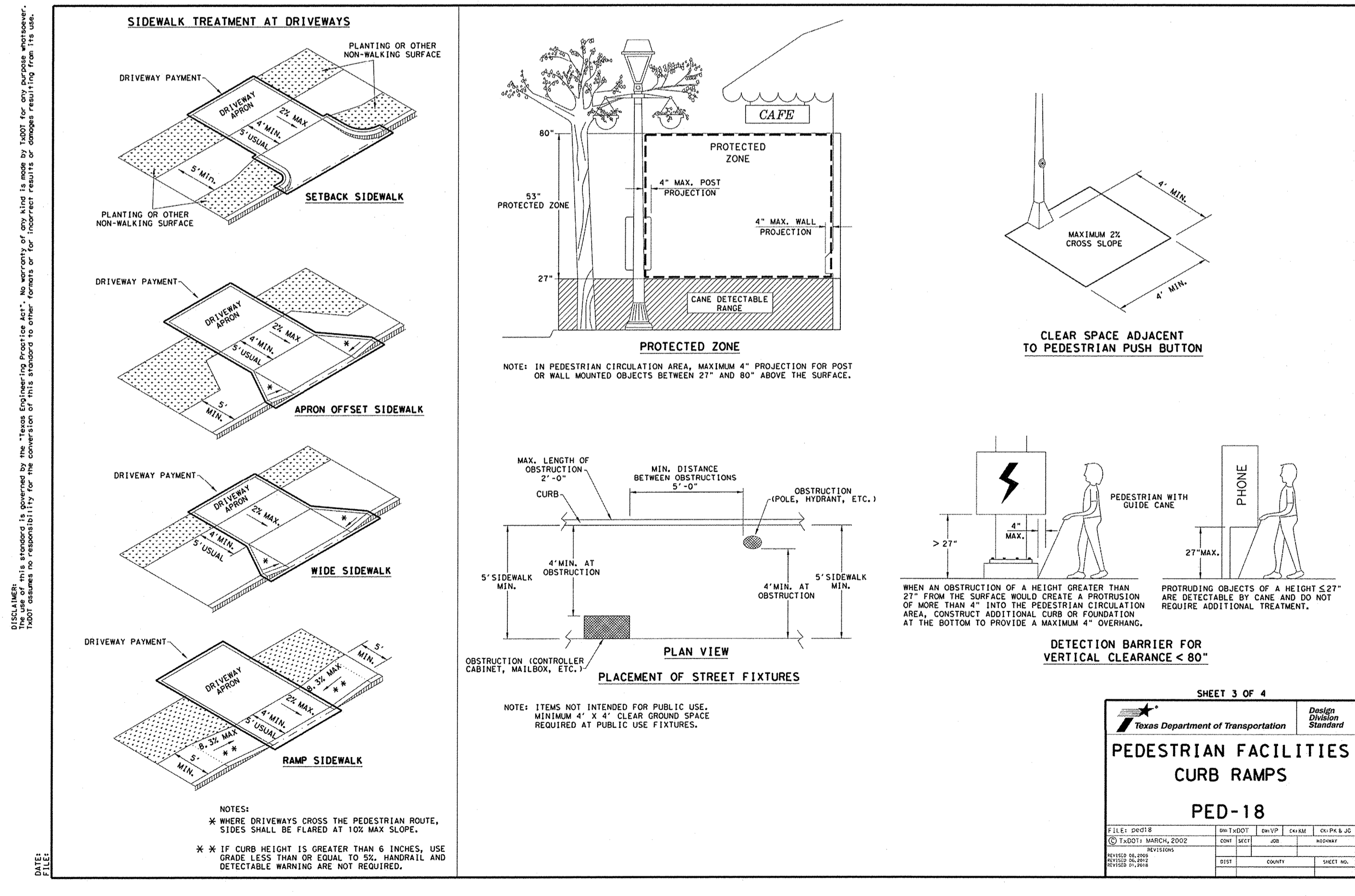
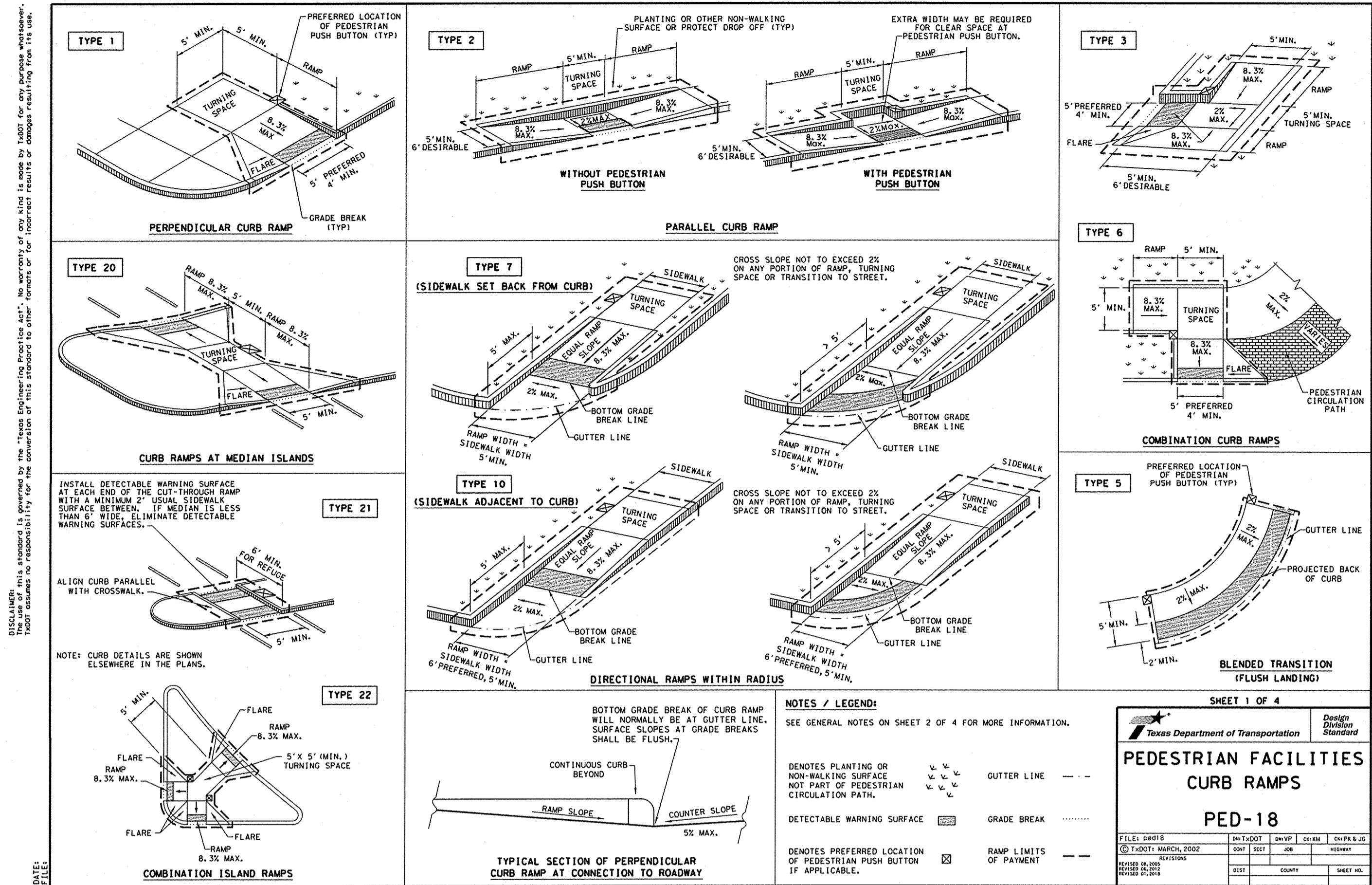
MAY 2009

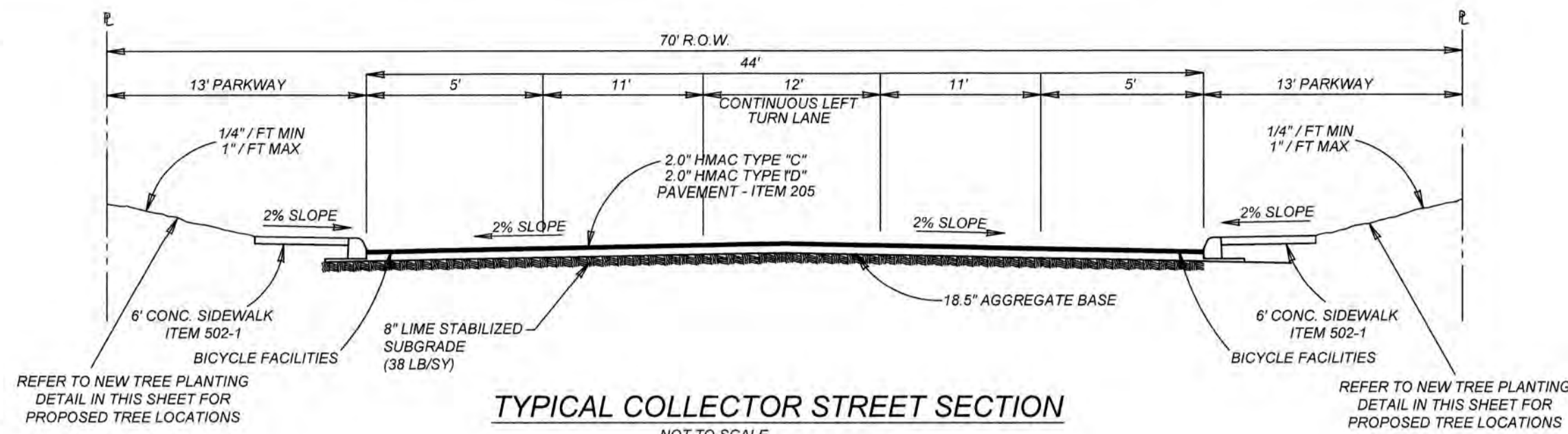
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

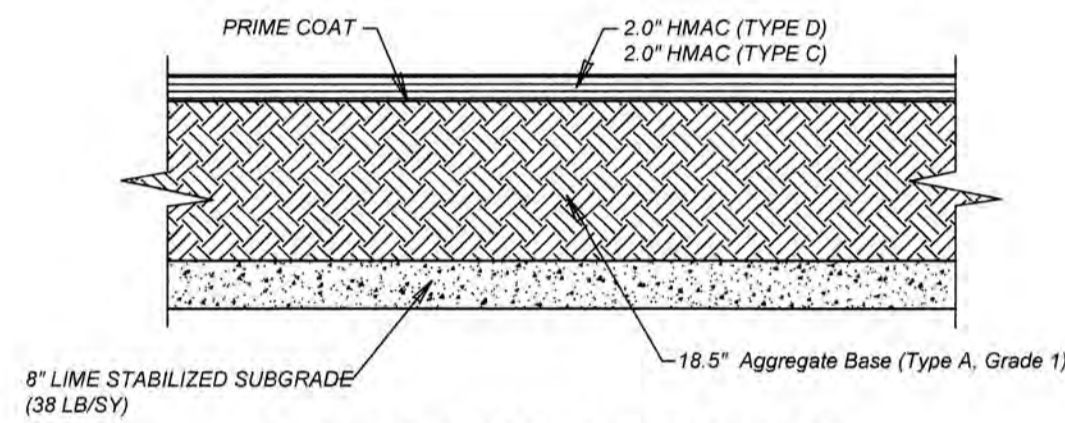
% SUBMITTAL	PROJECT NO.	DATE
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.
		SHEET NO. OF



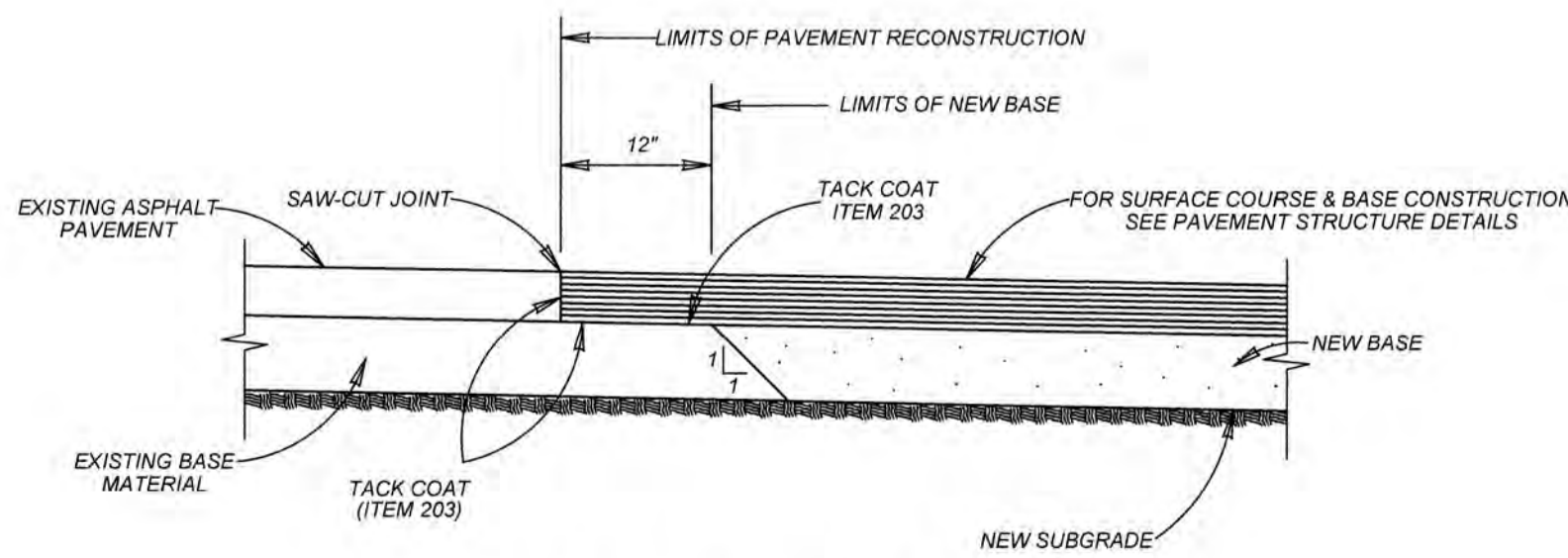
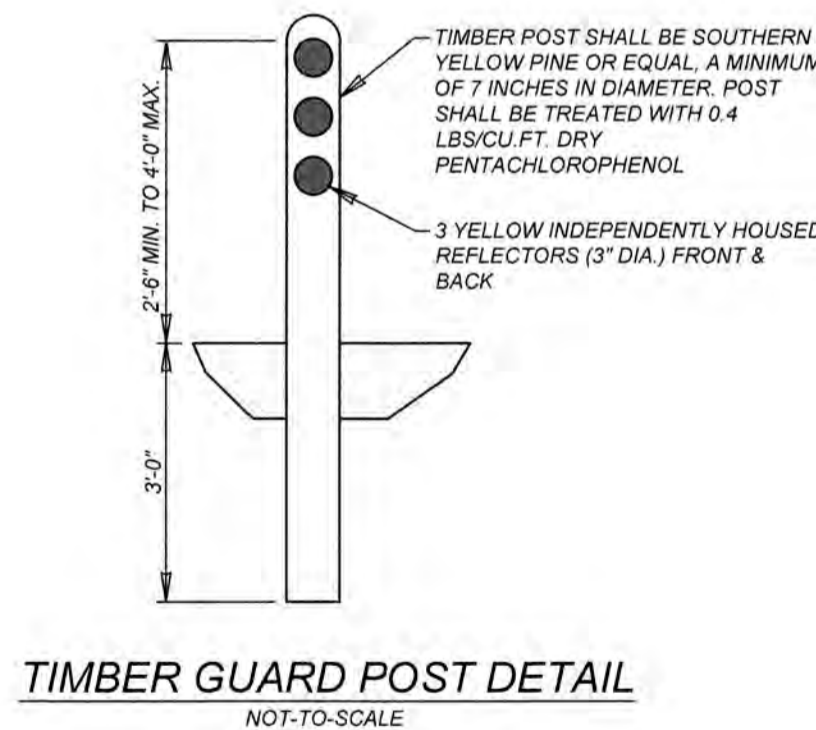
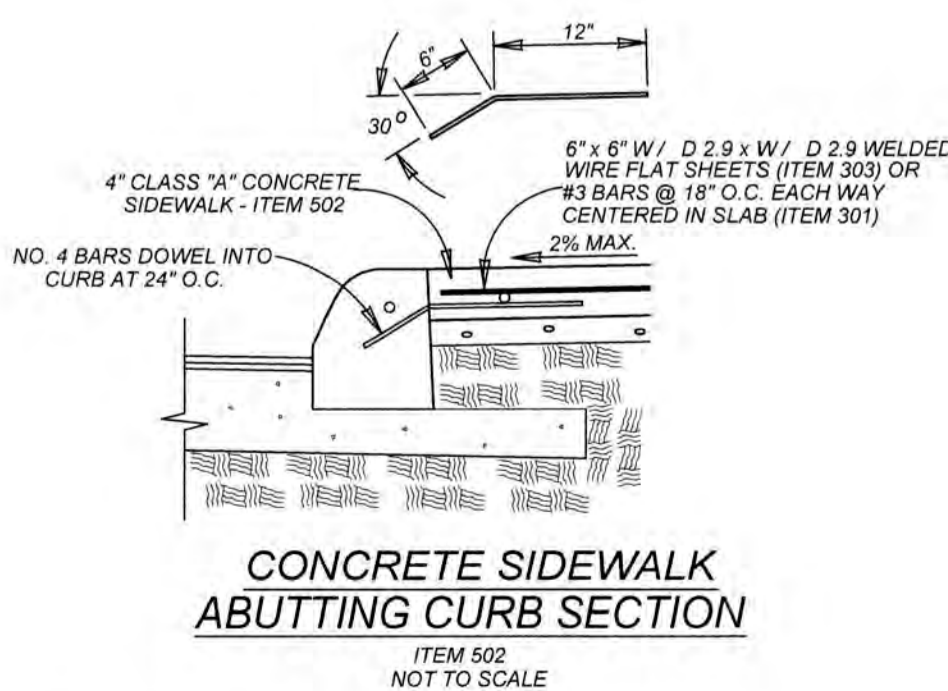
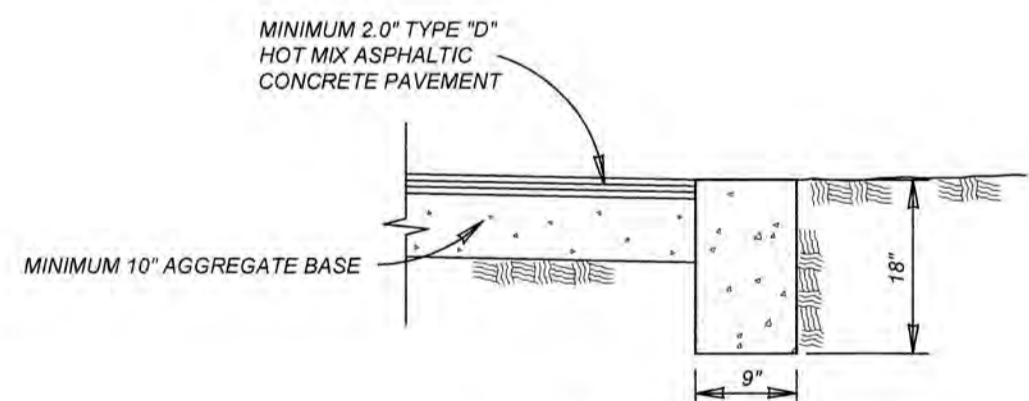
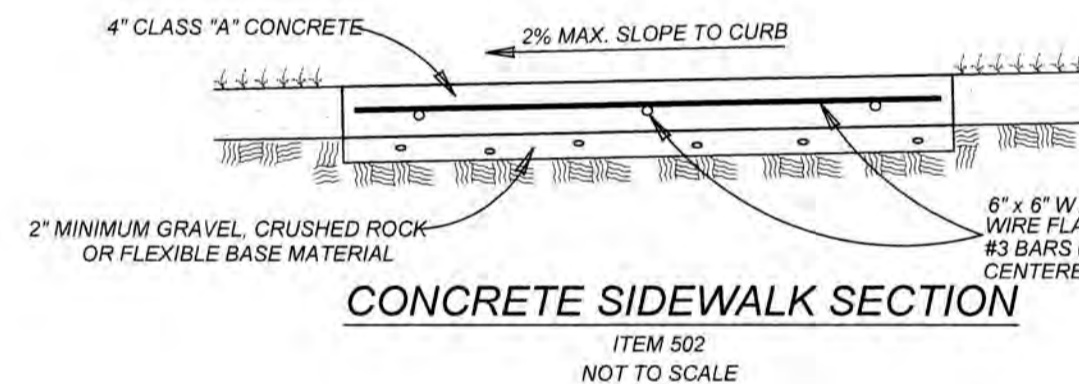




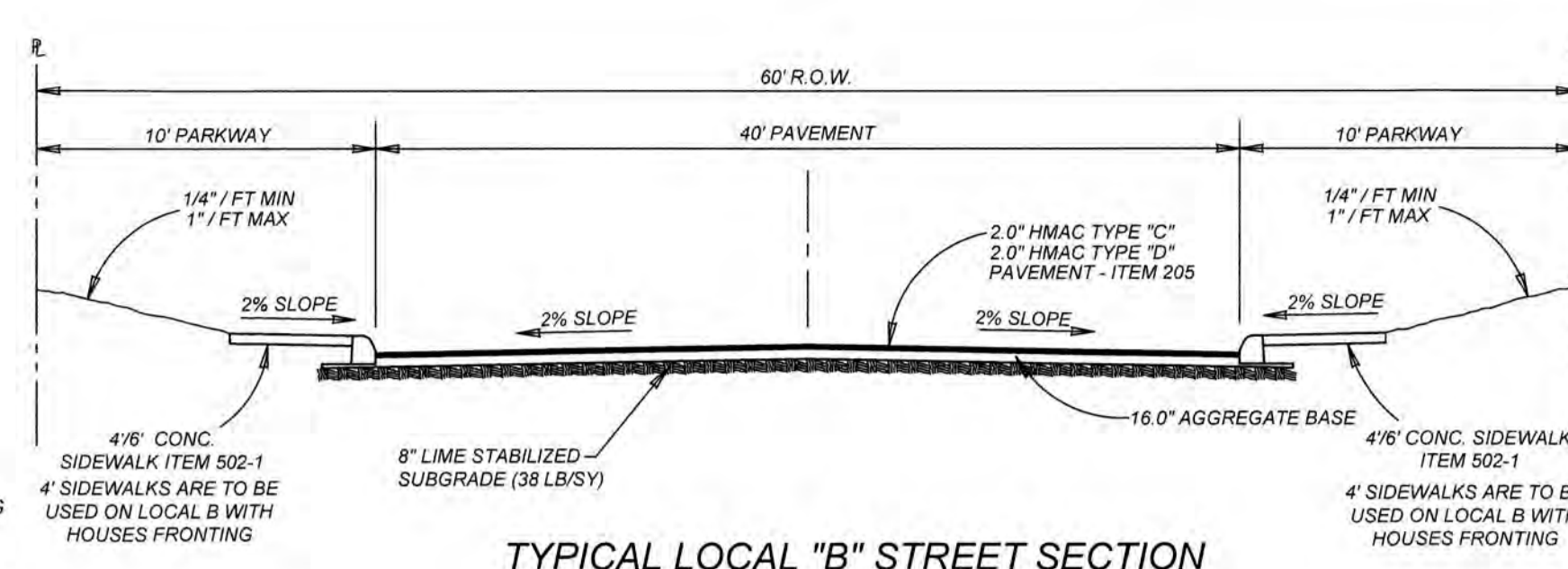
**Pavement Section**  
2.0" HMA Type "D"  
2.0" HMA Type "C"  
18.5" Aggregate Base (Type A, Grade 1)  
8.0" Lime Stabilized Subgrade(38 LB/SY)  
Total: 30.5"  
Structural No: 4.99  
CBR: 2.5



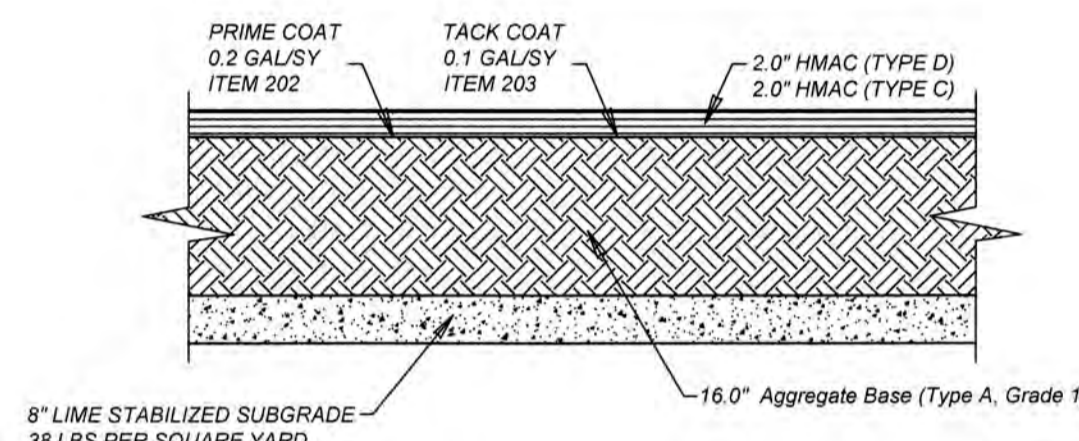
- NOTES:
- PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, LLC. PROJECT NO. S211512 DATED DECEMBER 18, 2021.
  - REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING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



**PAVEMENT JUNCTION DETAILS**  
NOT TO SCALE



**Pavement Section**  
2.0" HMA Type "D"  
2.0" HMA Type "C"  
16.0" Aggregate Base (Type B, Grade 2)  
8.0" Lime Stabilized Subgrade(38 LB/SY)  
Total: 28"  
Structural No: 4.64  
CBR: 2.5



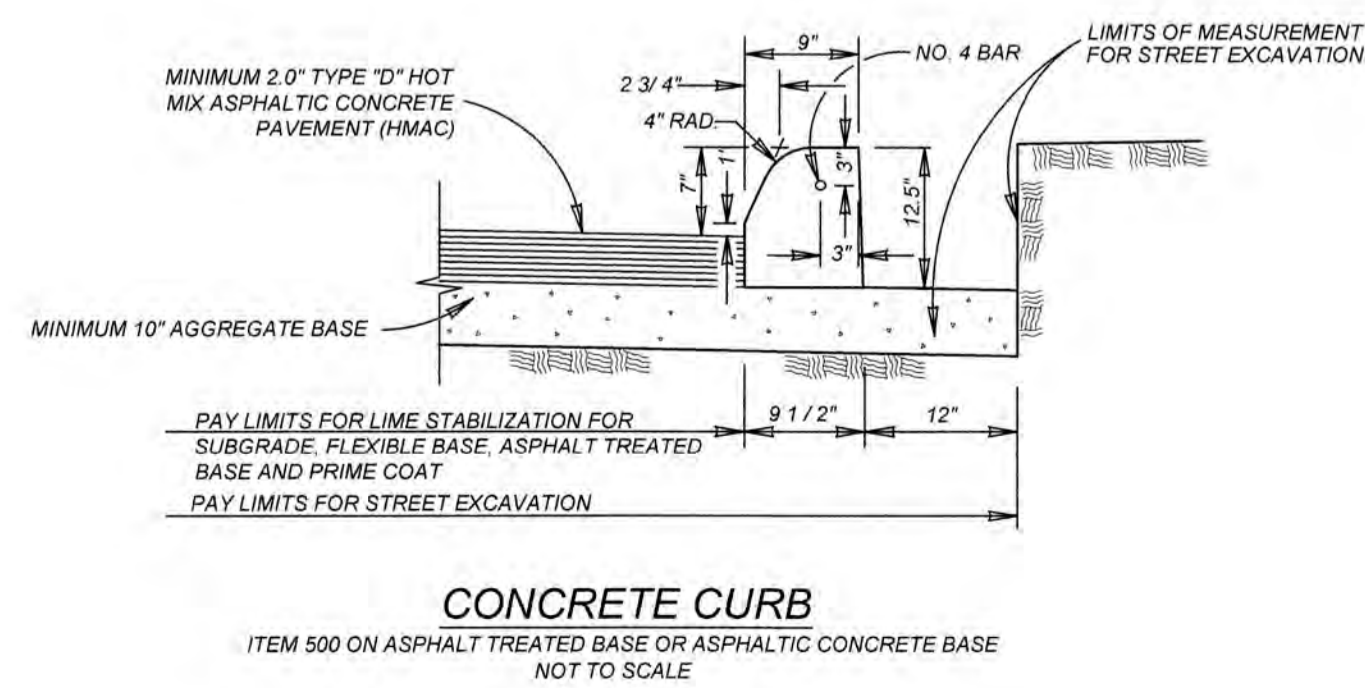
- NOTES:
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  - REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
  - CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.

**GENERAL NOTES:**

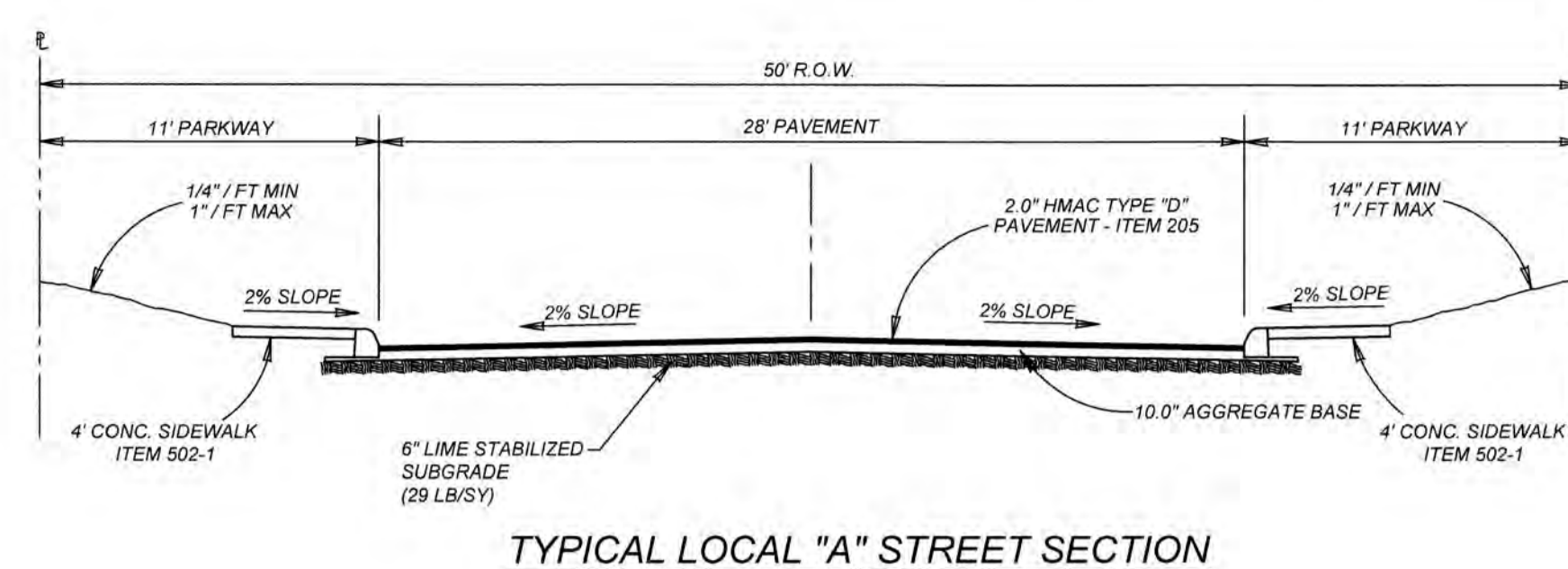
- THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
  - THE APPLICATION RATE OF LIME SHALL BE DETERMINED BASED ON LABORATORY TESTING AND SHALL BE THE LOWEST PERCENTAGE OF LIME THAT PROVIDES AN UNCONFINED COMPRESSIVE STRENGTH (UCS) AT 7-DAYS OF AT LEAST 160 PSI IN ACCORDANCE WITH ASTM D5102 STANDARD TEST METHODS FOR UNCONFINED COMPRESSIVE STRENGTH OF COMPACTED SOIL-LIME MIXTURES (PROCEDURE B) (IN ADDITION, CURING SHOULD OCCUR FOR 7 DAYS AT 40° AND SPECIMENS SHOULD BE SUBJECT TO 24-HR CAPILLARY SOAK PRIOR TO TESTING).
- FOR CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED IN THE FIELD:
- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2 - 3) DAYS. MAINTAIN MOISTURE DURING MELLOWING.
  - AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE 1/2 INCH SIEVE FROM THE SAMPLE):

MINIMUM PASSING 1 1/2" SIEVE	100
MINIMUM PASSING 3/4" SIEVE <td>85</td>	85
MINIMUM PASSING NO. 4 SIEVE <td>60</td>	60
  - SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD) IN THE LABORATORY. MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
  - COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED)
  - CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS)
  - VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ± 1.0 INCH.

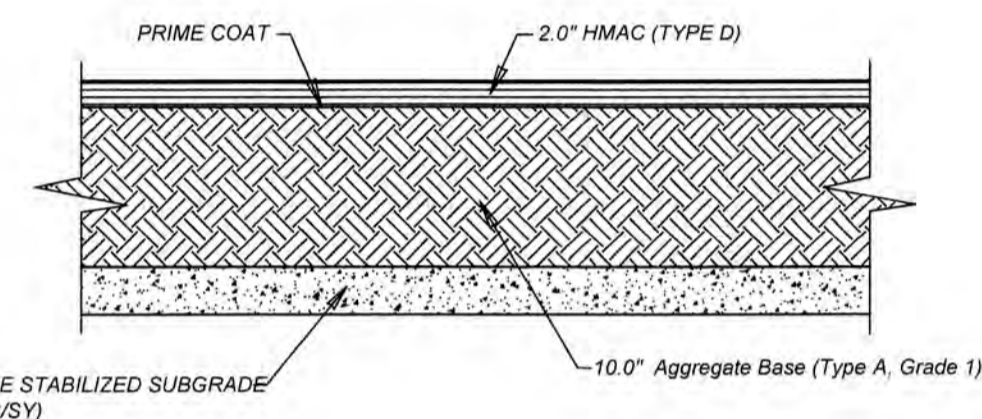
- NOTES:
- ANY FILL USED TO RAISE THE SUBGRADE:
  - SHOULD NOT CONTAIN ANY DELETERIOUS MATERIAL.
  - SHOULD HAVE A CBR VALUE OF 2.5 OR GREATER
  - SHOULD HAVE THE LIME PERCENTAGE/APPLICATION RATE" RE-EVALUATED AND TESTED PRIOR TO INSTALLATION
  - PI SHOULD BE A MAXIMUM OF 50



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



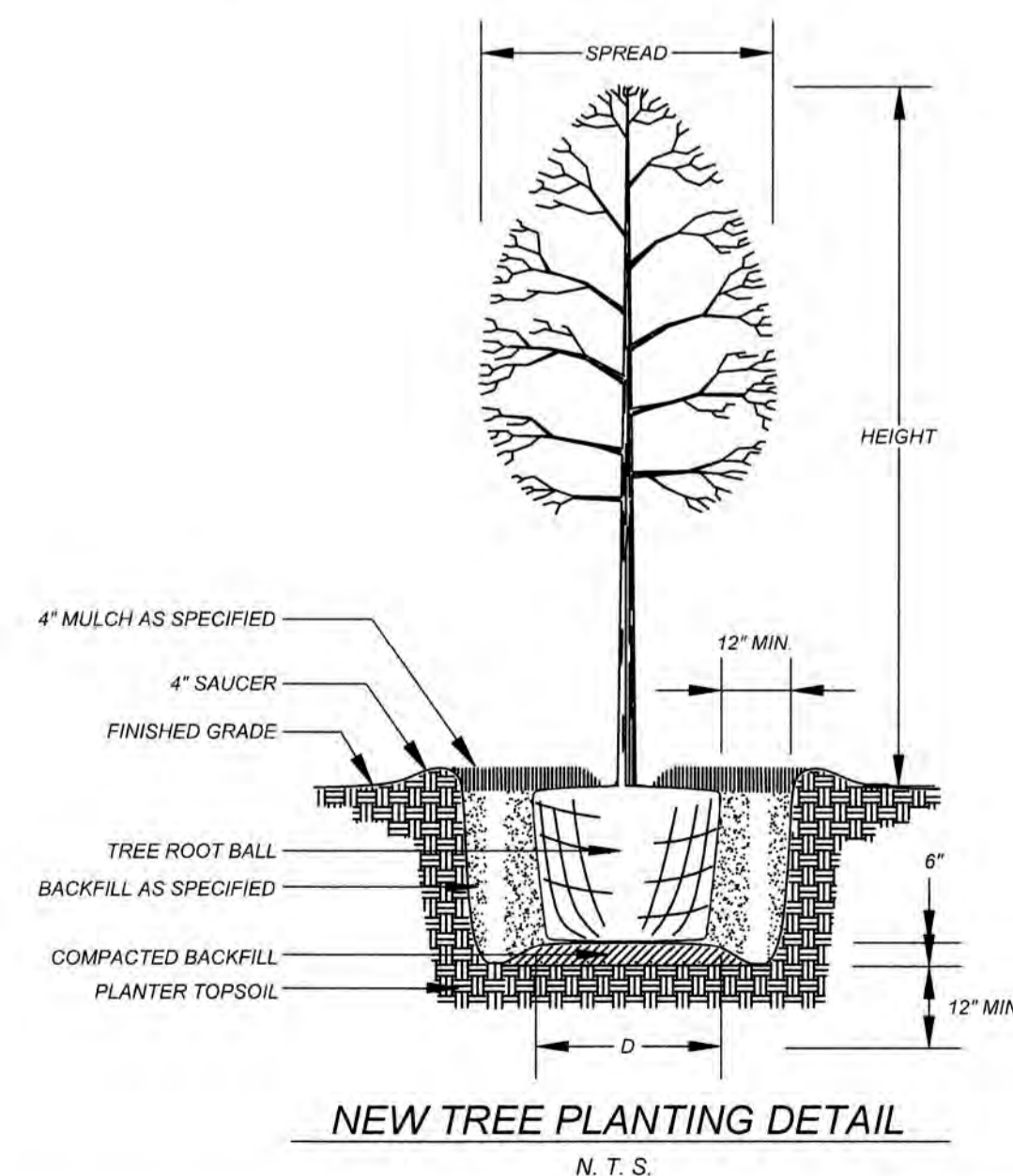
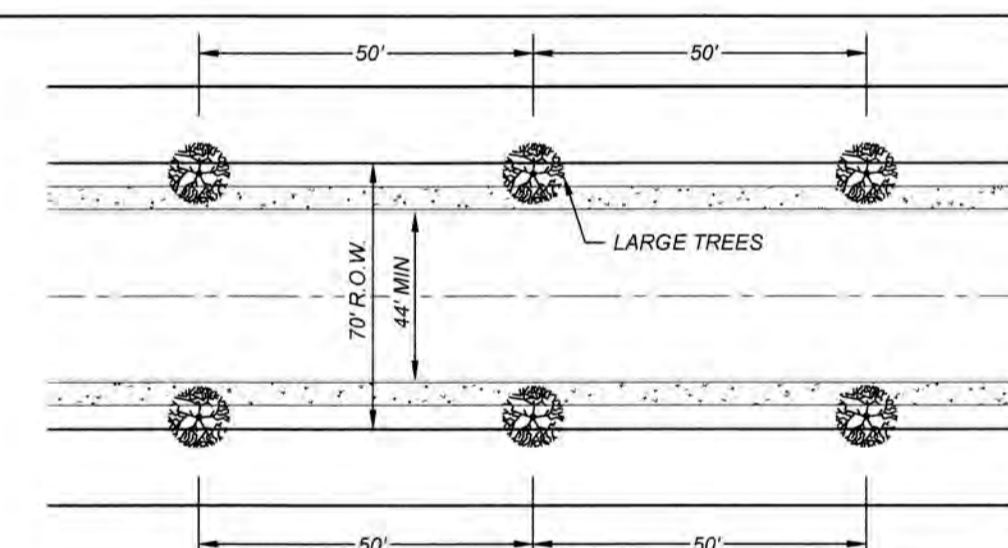
**Pavement Section**  
2.0" HMA Type "D"  
10.0" Aggregate Base (Type A, Grade 1)  
6.0" Lime Stabilized Subgrade (29 LB/SY)  
Total: 18.0"  
Structural No: 2.76  
CBR: 2.5



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

**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.
- SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFIRM 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 CPS, PLANS WILL BE REVISED TO REFLECT CHANGES IN SIZE, TYPE, AND SPACING OF TREE, PER THE UDC.

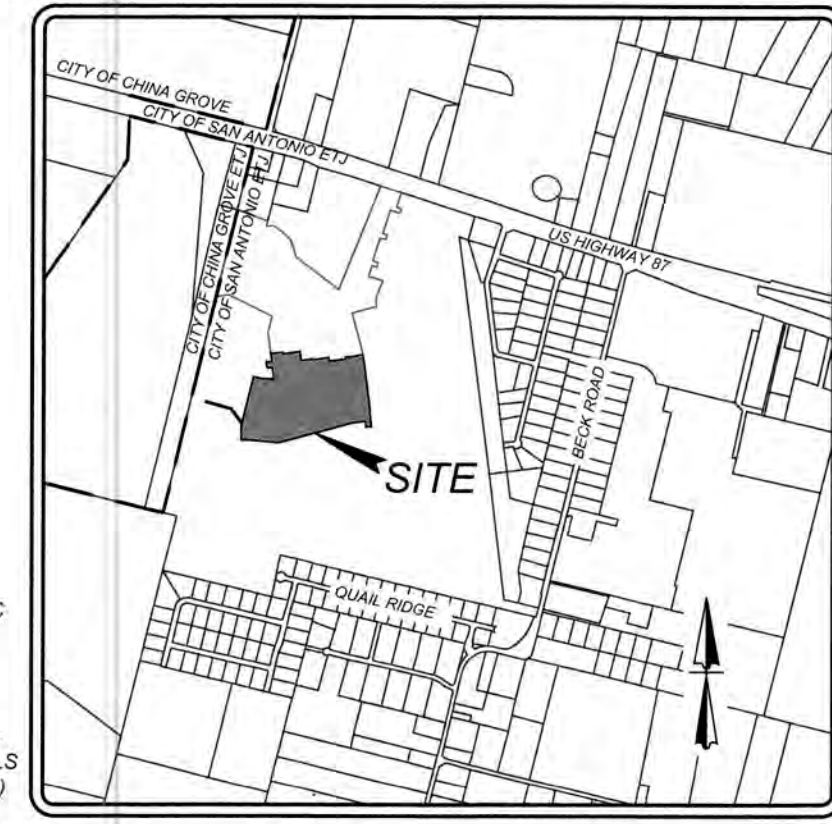
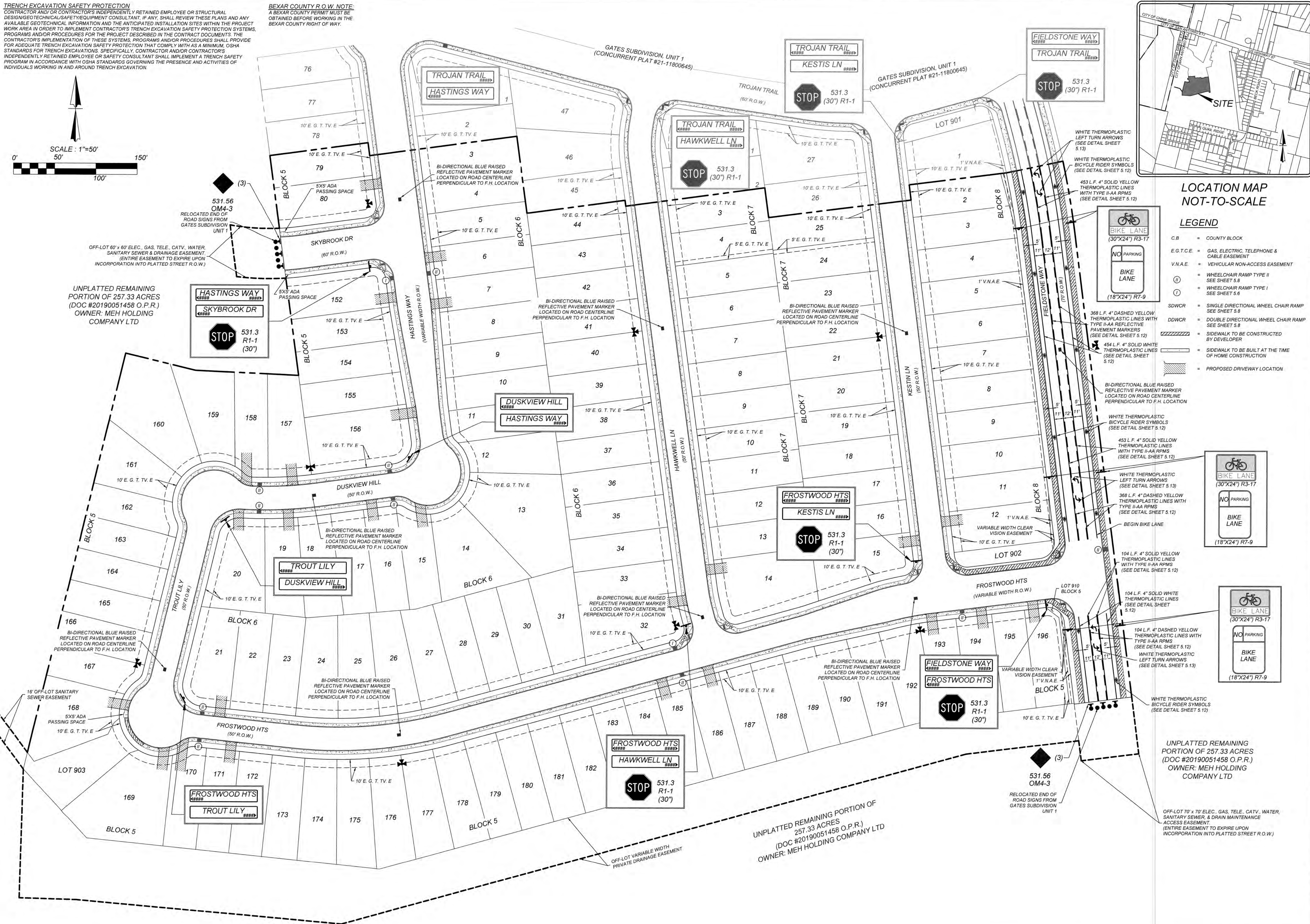
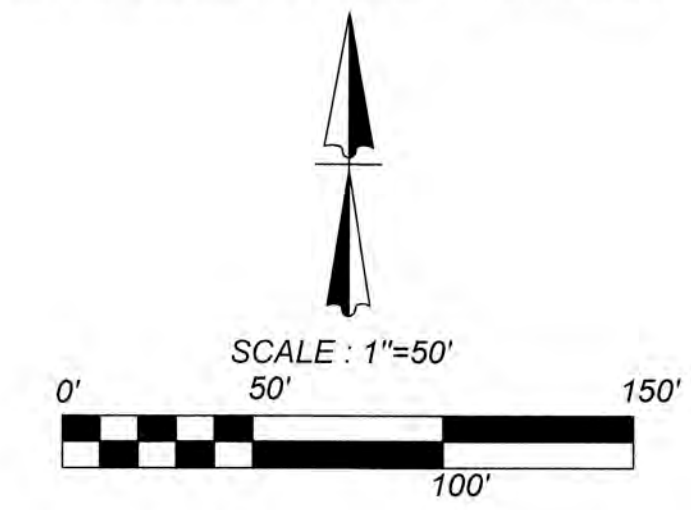


**GATES SUBDIVISION UNIT 2**  
SAN ANTONIO, TX  
TYPICAL STREET DETAILS

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 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 ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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



- 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
  - II = WHEELCHAIR RAMP TYPE II SEE SHEET 5.8
  - I = WHEELCHAIR RAMP TYPE I SEE SHEET 5.6
  - SDWCR = SINGLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.8
  - DDWCR = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.8
  - ===== = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
  - ===== = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
  - ===== = PROPOSED DRIVEWAY LOCATION

**K&W**  
**ENGINEERS & SURVEYING**  
3421 Pasadena Pkwy, Suite 200, San Antonio, TX 78231  
(214) 341-1111  
TBPES Firm # 9513 • TBPES Firm # 1012300

ISSUED DATE: 11/2023

REVISIONS:

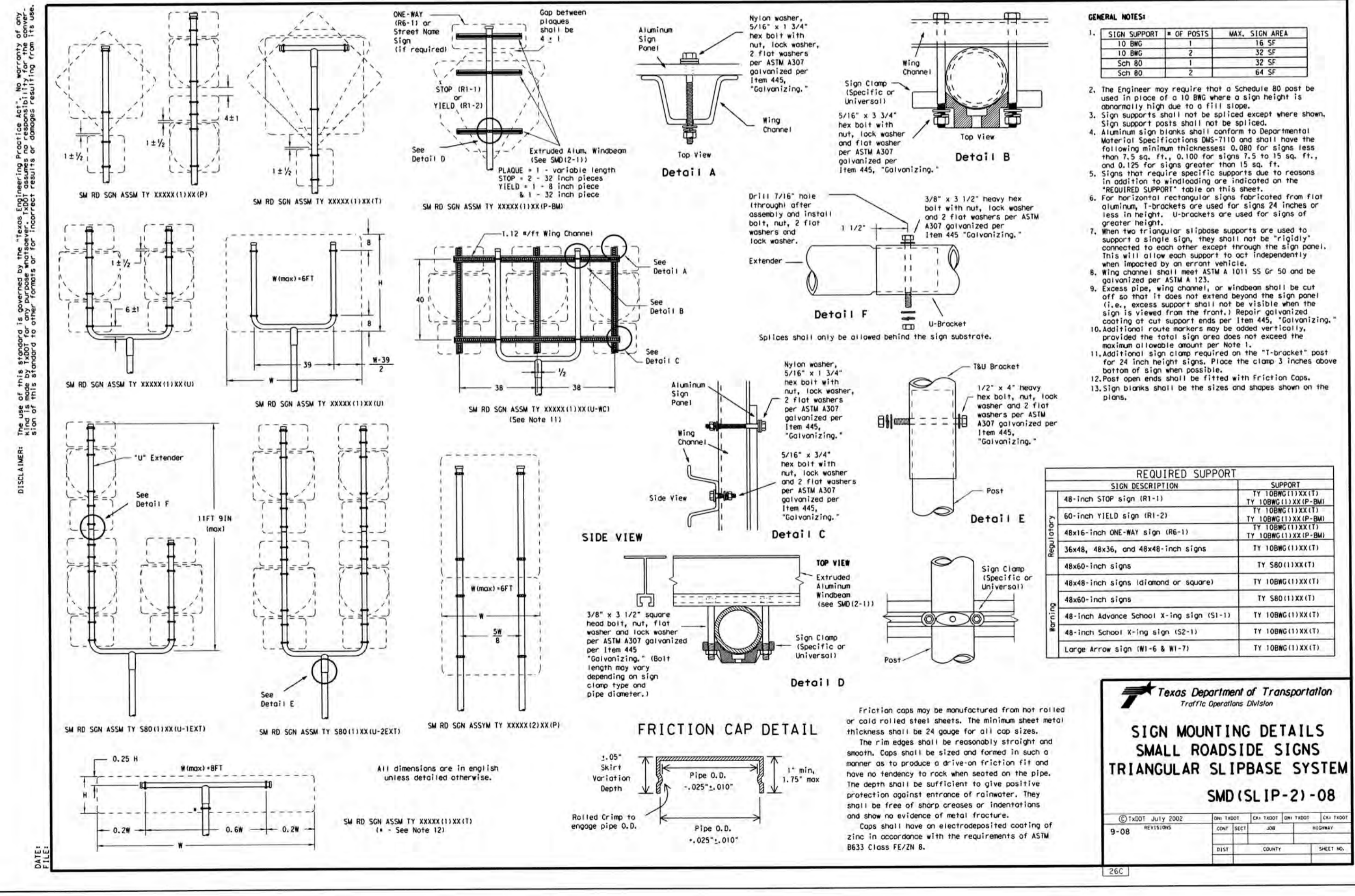
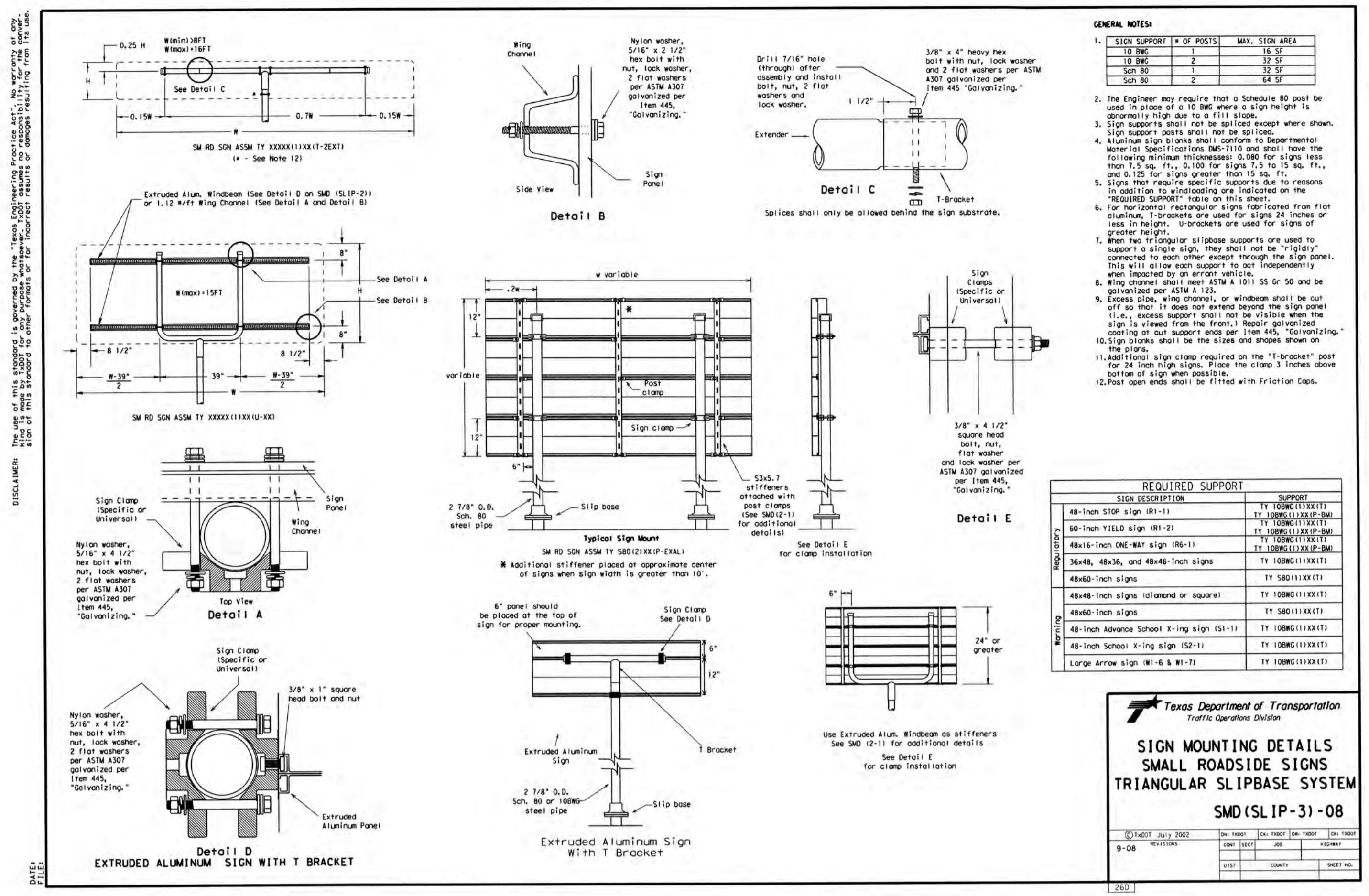
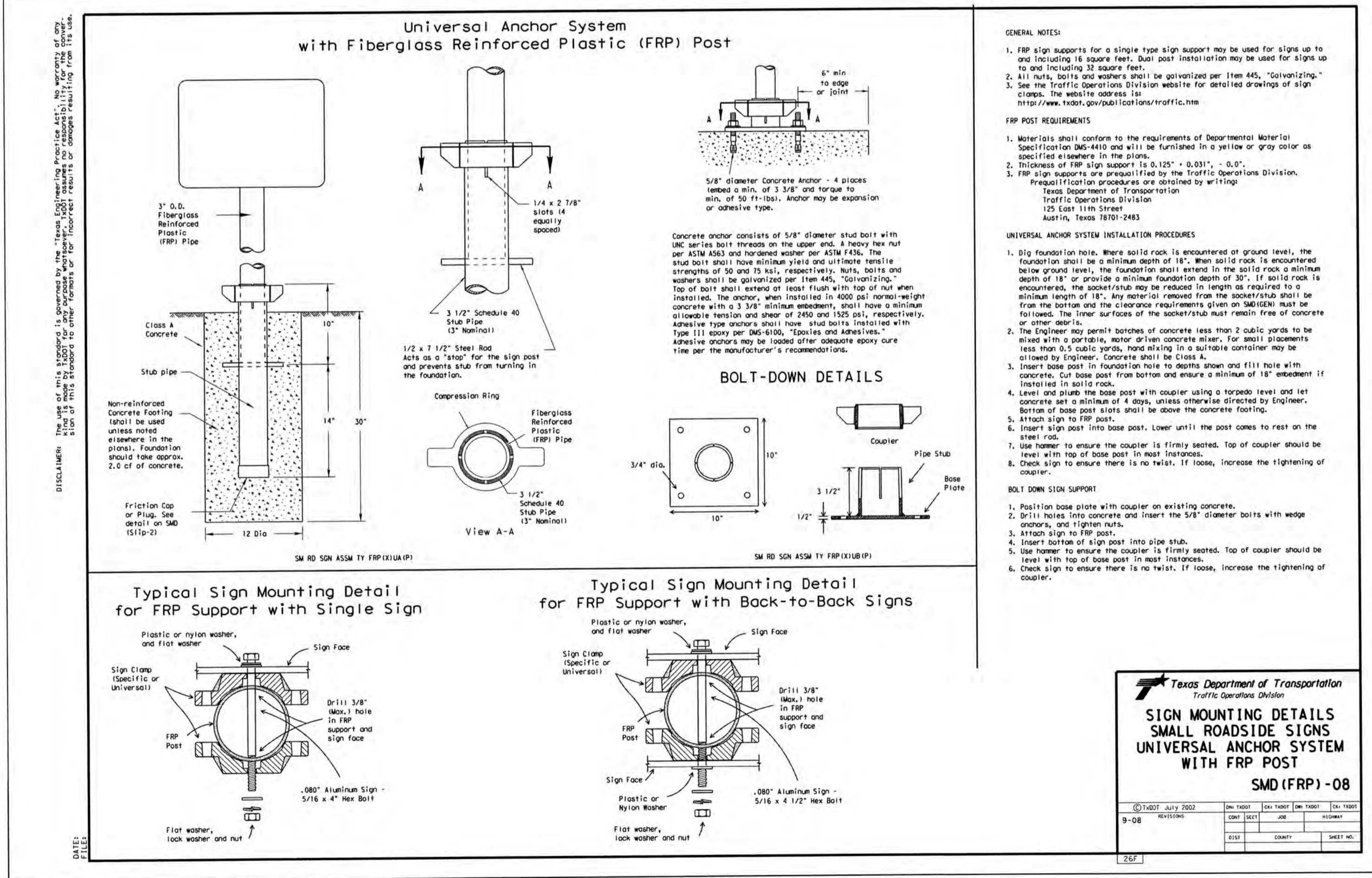
STATE OF TEXAS  
CLAYTON J. LINNEY  
111543  
LICENSED PROFESSIONAL ENGINEER  
Clayton J. Linney  
11/2023

**GATES SUBDIVISION UNIT 2**  
**BEXAR COUNTY, TX**  
**TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN**

PLAT NO.  
22-11800017

JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM  
CHECKED: CL

SHEET NUMBER:  
**5.9**



### TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS

**NOTE**  
There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. [http://www.txdot.gov/newsroom/producer\\_list.htm](http://www.txdot.gov/newsroom/producer_list.htm)  
The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

**CONCRETE ANCHOR**

Concrete anchor consists of 5/8" diameter stud bolt with UNC series flat threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM A436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per ASTM A153. Adhesive type anchors shall be installed with Type III epoxy per ASTM D100. "Lockies" and adhesives shall have a minimum ultimate tensile strength of 3900 and 3100 psi, respectively.

**GENERAL NOTES:**

- Slip base shall be permanently marked to indicate manufacturer, method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
- Material used in slip base shall conform to the following specifications:
  - 10.8K tubing (2.875" outside diameter)
  - 0.14" nominal wall thickness
  - Seamless or electric-resistance welded steel tubing or pipe
  - Steel shall be A500 or 50 per ASTM A500 or ASTM A501
  - Other steels may be used if they meet the following:
    - 50,000 PSI minimum yield strength
    - 70,000 PSI minimum tensile strength
    - 205 minimum elongation in 2"
  - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
  - Outside diameter (uncoated) shall be within the range of 2.867" to 2.887"
  - Galvanization per ASTM A123 or ASTM A653 D40. For pre-painted steel tubing (ASTM A653), recoat the outside diameter weld seam by re-priming with zinc wire per ASTM A653.
- See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: <http://www.txdot.gov/publications/traffic.htm>
- Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

**ASSEMBLY PROCEDURE**

- Foundation:
  - 1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
  - 2. The sign support post shall be placed in the hole and the hole shall be filled with concrete. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
  - 3. Push the pipe and the slip base into the center of the concrete. Rotate the stub and forth while pushing it down into the concrete to ensure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the curb.
  - 4. Place the stub, allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
  - 5. The triangular slipbase system is self-aligning and is designed to release when struck from any direction.
- Support:
  - 1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the roadway (i.e., edge of the closest lane when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the roadway. The cut shall be plane and straight).
  - 2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign type.

**DISCLAIMER:** The information contained herein is for informational purposes only. It is not intended to be used as a basis for design or construction. The user assumes all liability for any use of this information.

**TEXAS DEPARTMENT OF TRANSPORTATION**  
Traffic Operations Division  
**SIGN MOUNTING DETAILS**  
SMALL ROADSIDE SIGNS  
TRIANGULAR SLIPBASE SYSTEM  
**SMD (SLIP-1) - 08**

REV	DATE	BY	CHKD	APP	DESCRIPTION
1	07/01/2002	JDA	JDA	JDA	ISSUED
2	09/08/2002	JDA	JDA	JDA	REVISED

### SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

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

**Post Type**  
FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))  
TW = Thin-Walled Tubing (see SMD(TW))  
HDB = 10 BMS Tubing (see SMD(SLIP-1) to (SLIP-3))  
SDB = Schedule 40 Pipe (see SMD(SLIP-1) to (SLIP-3))

**Anchor Type**  
UA = Universal Anchor - Concrete (see SMD(FRP) and (TW))  
UB = Universal Anchor - Bolted Down (see SMD(FRP) and (TW))  
WC = Wedge Anchor Steel - (see SMD(TW))  
WP = Wedge Anchor Plastic - (see SMD(TW))  
SA = Slabbase - Concrete (see SMD(SLIP-1) to (SLIP-3))  
SB = Slabbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

**Sign Mounting Designation**  
P = Prefab, "Pilot" (see SMD(SLIP-1) to (SLIP-3), (TW))  
T = Prefab, "T" (see SMD(SLIP-1) to (SLIP-3), (TW))  
U = Prefab, "U" (see SMD(SLIP-1) to (SLIP-3))  
IF REQUIRED  
EXT or EXT+ = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TW))  
BL = Extruded Ribbed Beam (see SMD(SLIP-1) to (SLIP-3))  
WC = 1/2 x 1/2 Wing Channel (see SMD(SLIP-1) to (SLIP-3))  
DAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

### REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 50-inch chord (i.e., typical space between wheel paths).

### SIGN LOCATION

**PAVED SHOULDERS**

**LESS THAN 6 FT. WIDE**

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

**GREATER THAN 6 FT. WIDE**

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

**T-INTERSECTION**

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

**BEHIND BARRIER**

**BEHIND GUARDRAIL**

**BEHIND CONCRETE BARRIER**

\*Sign clearance based on distance required for proper guard rail or concrete barrier performance.

**SIGNS WITH PLAQUES**

**RESTRICTED RIGHT-OF-WAY (when 6 ft. min. is not possible.)**

Maximum possible

When a supplemental plaque or secondary sign is used, the 7 ft. sign height is measured to the bottom of the supplemental plaque or secondary sign.

**CURB & GUTTER OR RAISED ISLAND**

Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

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

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

### SIGN MOUNTING DETAILS

#### SMALL ROADSIDE SIGNS

#### GENERAL NOTES & DETAILS

#### SMD (GEN) - 08

REV	DATE	BY	CHKD	APP	DESCRIPTION
1	07/01/2002	JDA	JDA	JDA	ISSUED
2	09/08/2002	JDA	JDA	JDA	REVISED

### SIGN MOUNTING DETAILS

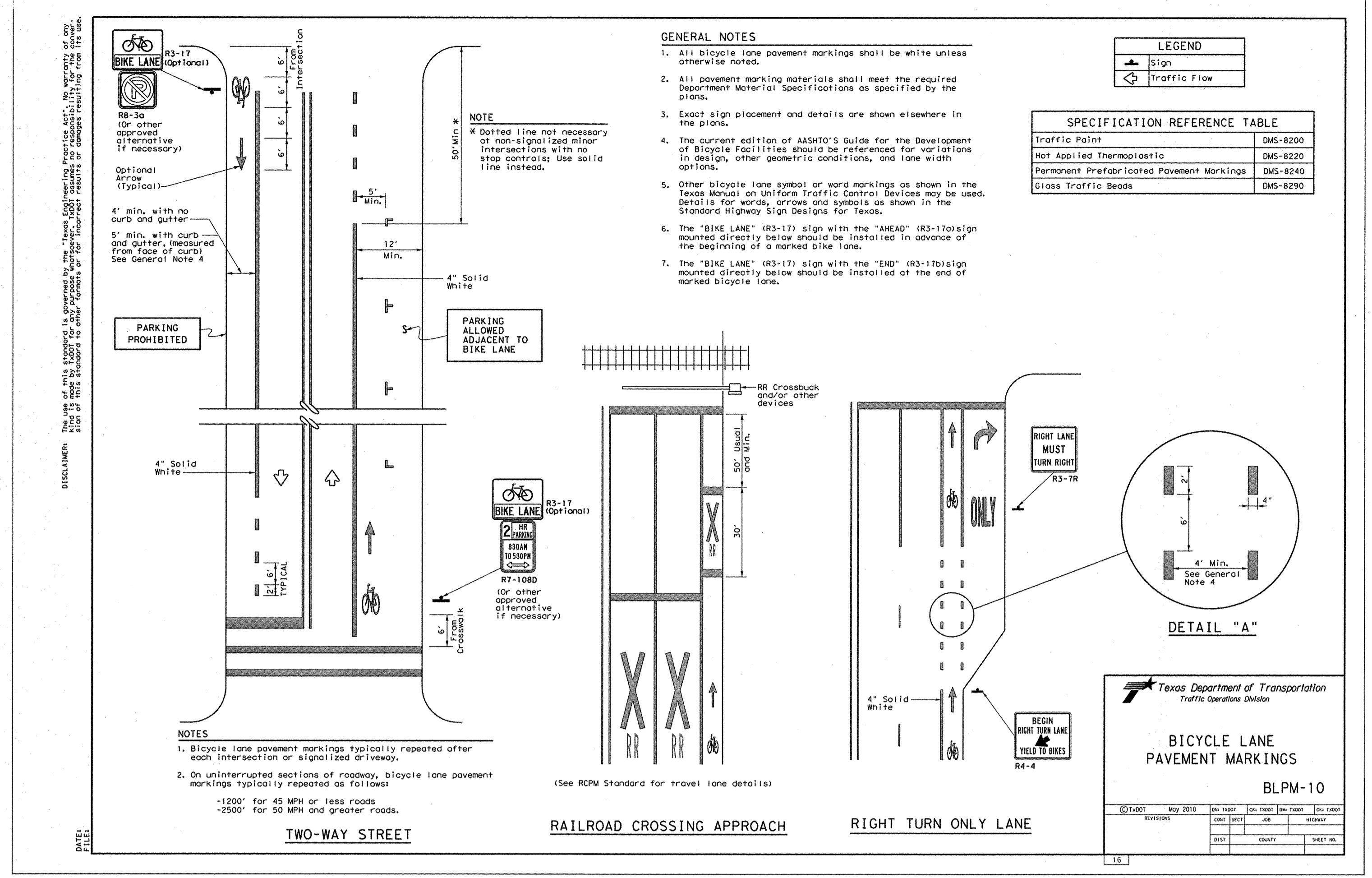
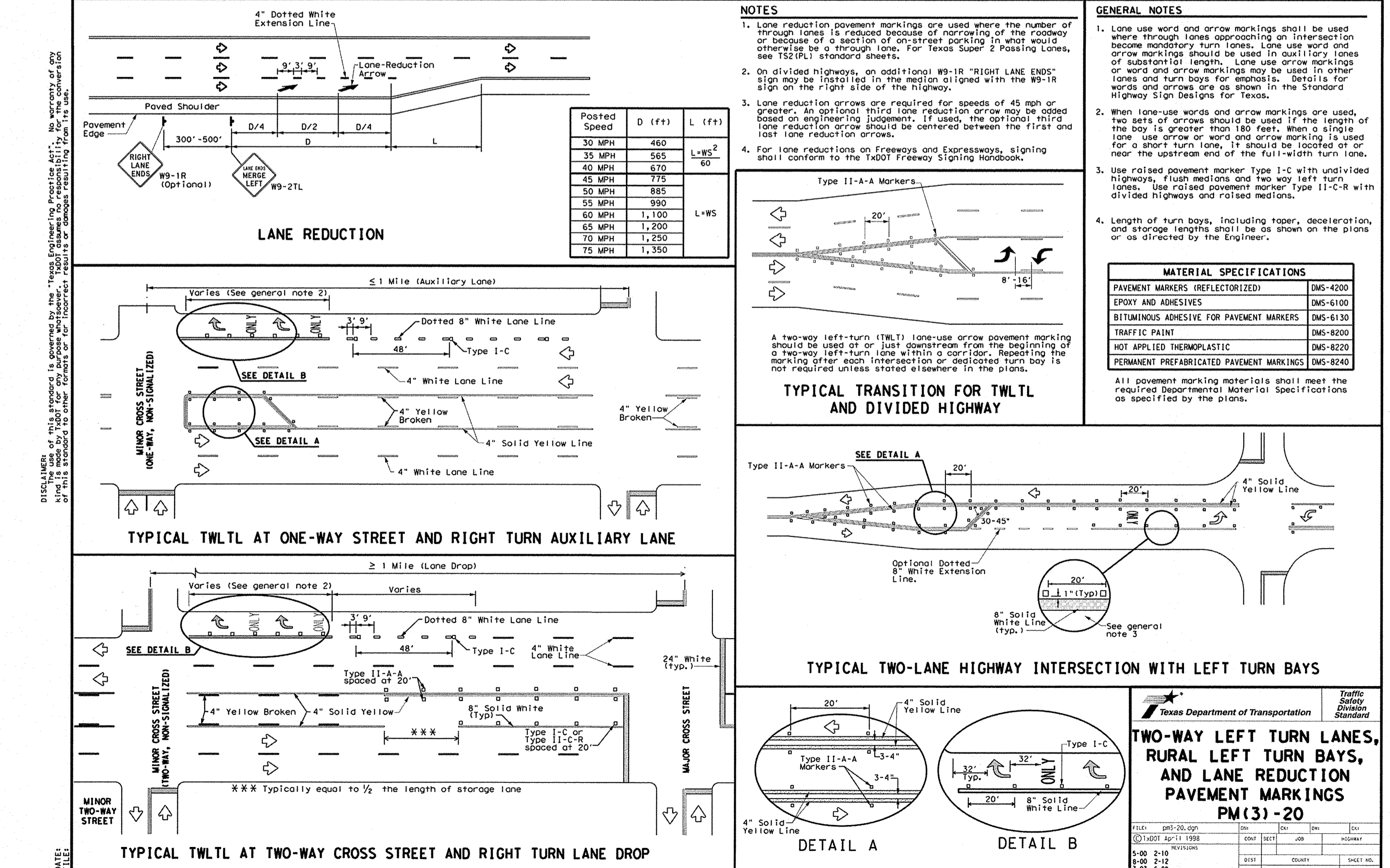
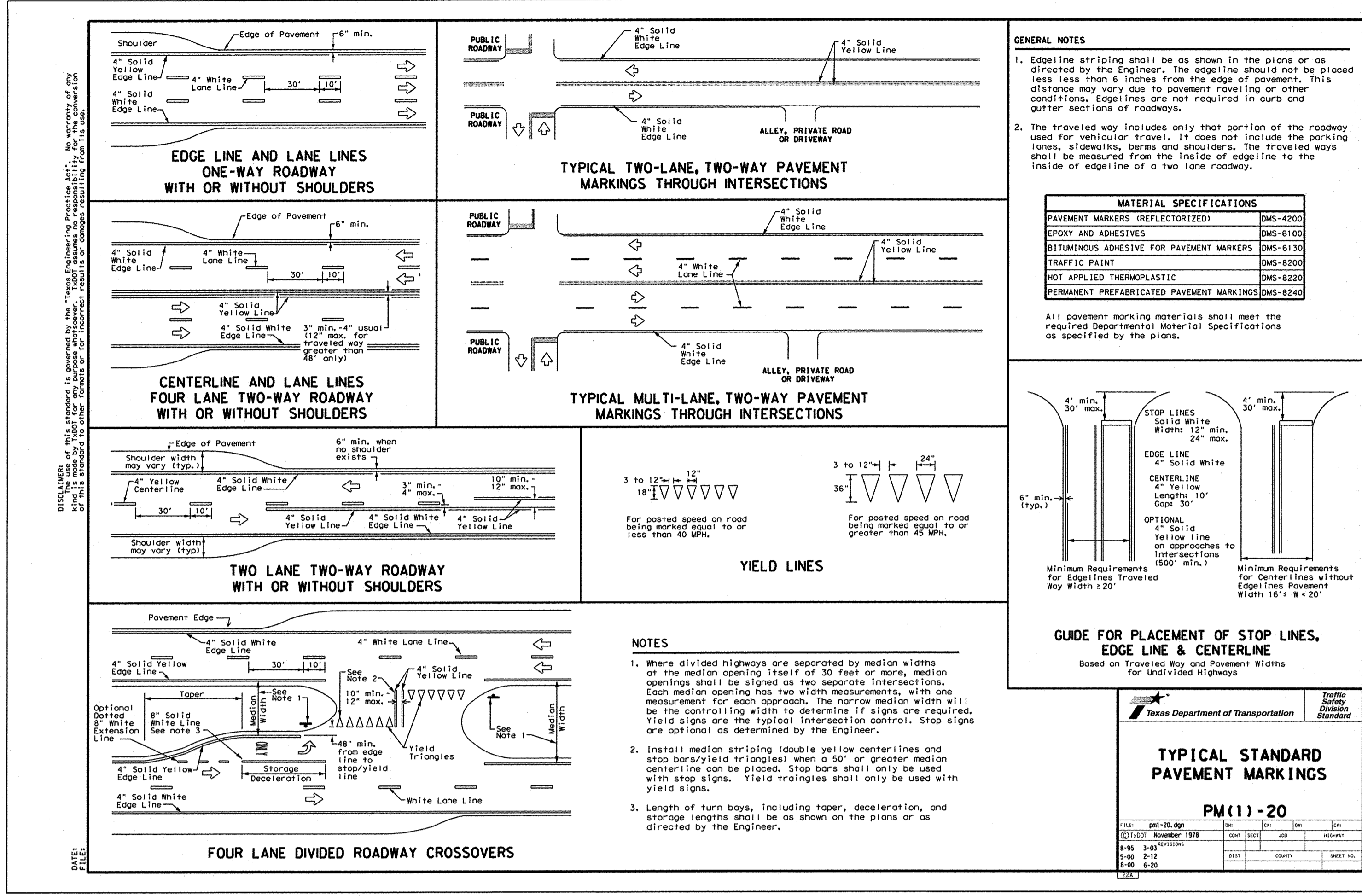
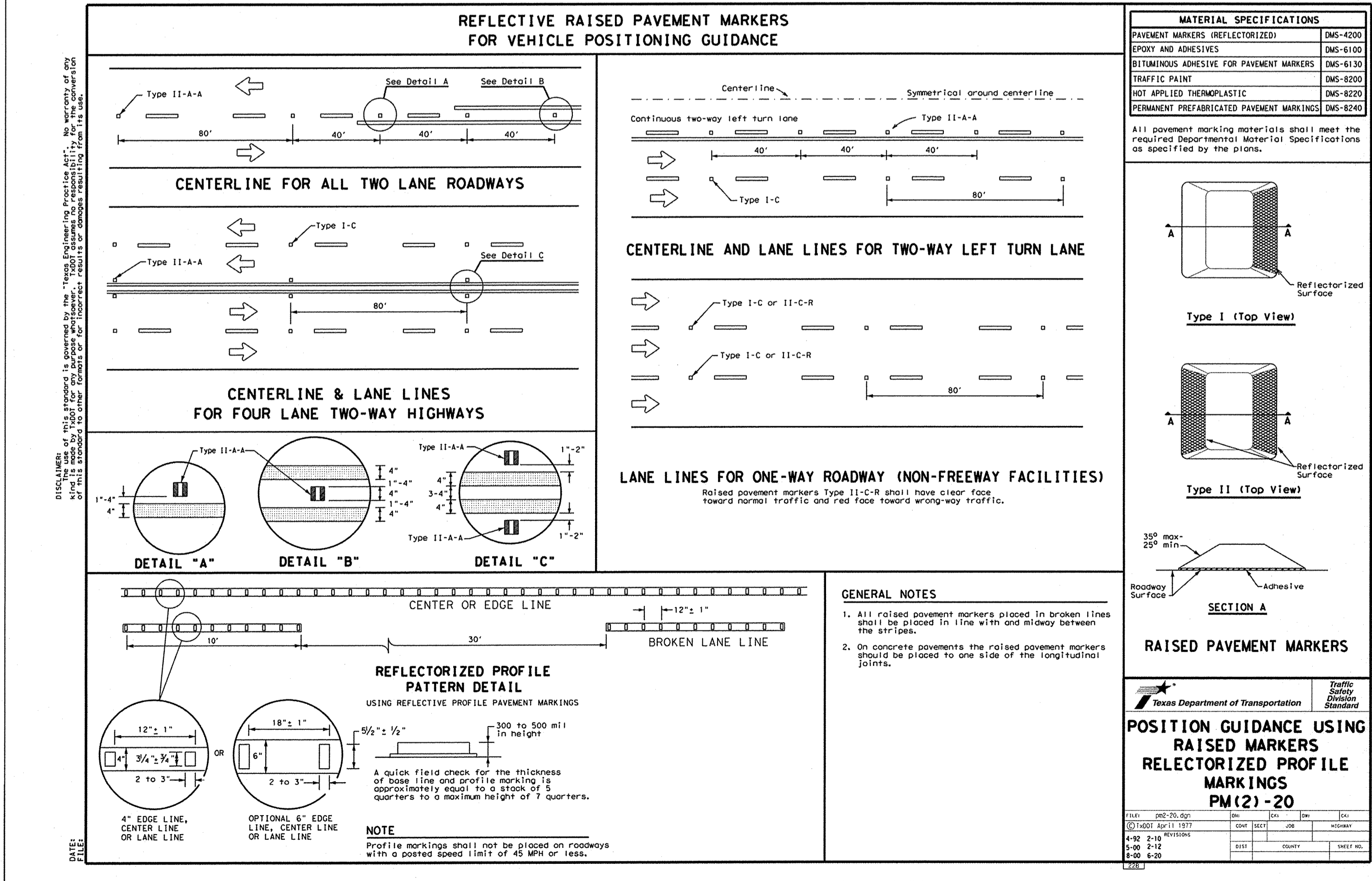
#### SMALL ROADSIDE SIGNS

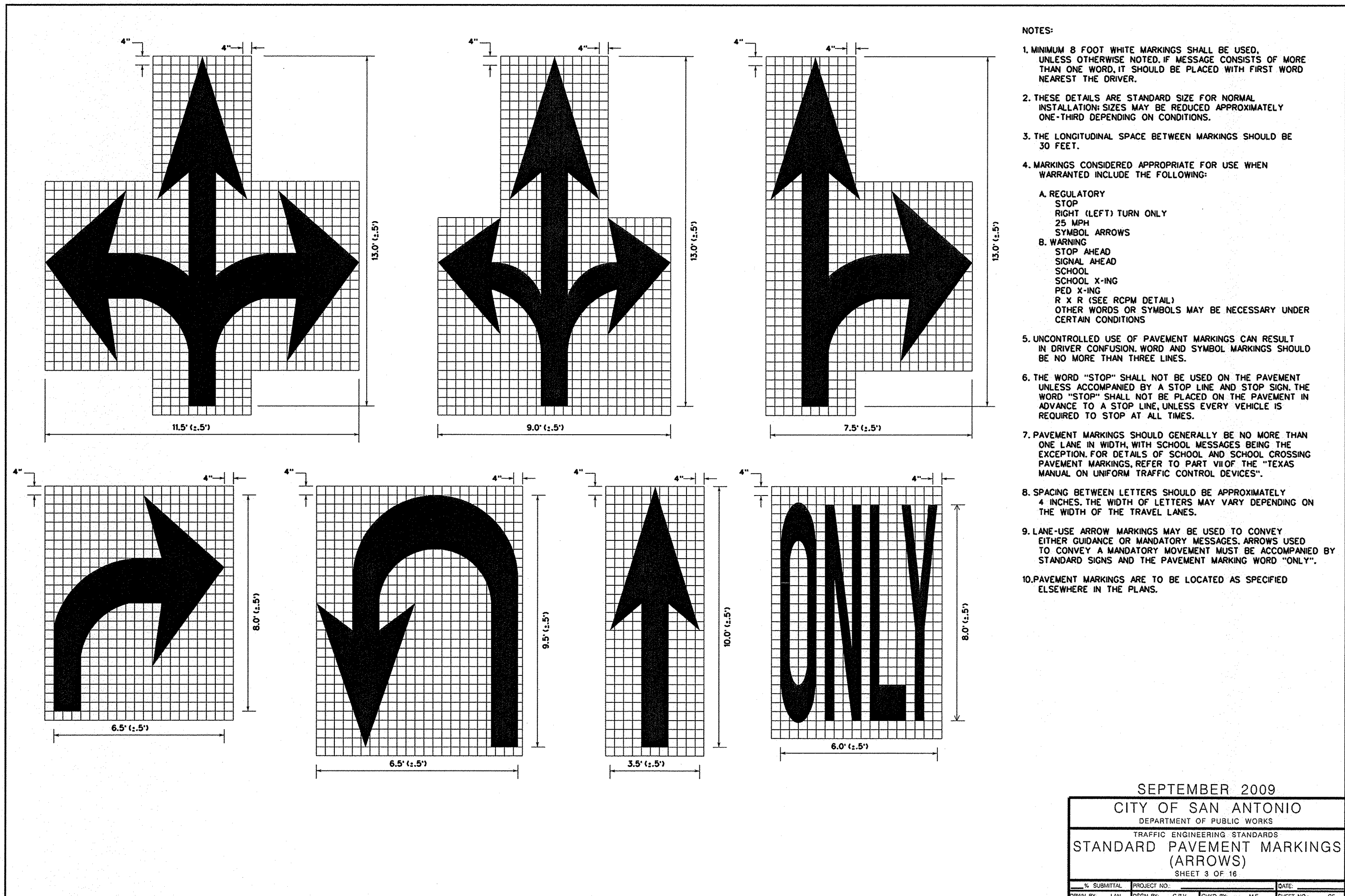
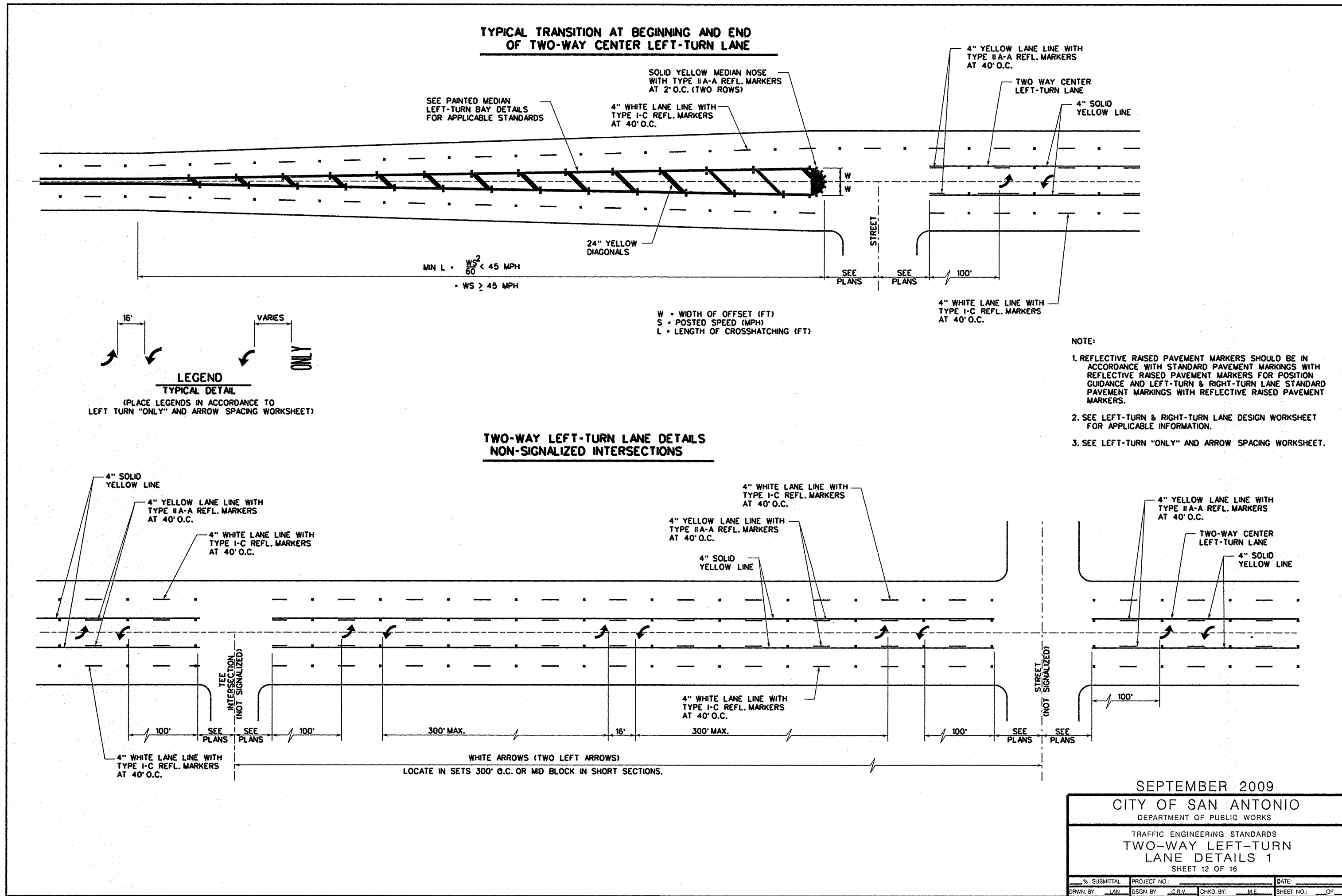
#### WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST

#### SMD(TWT)-08

**GENERAL NOTES:**

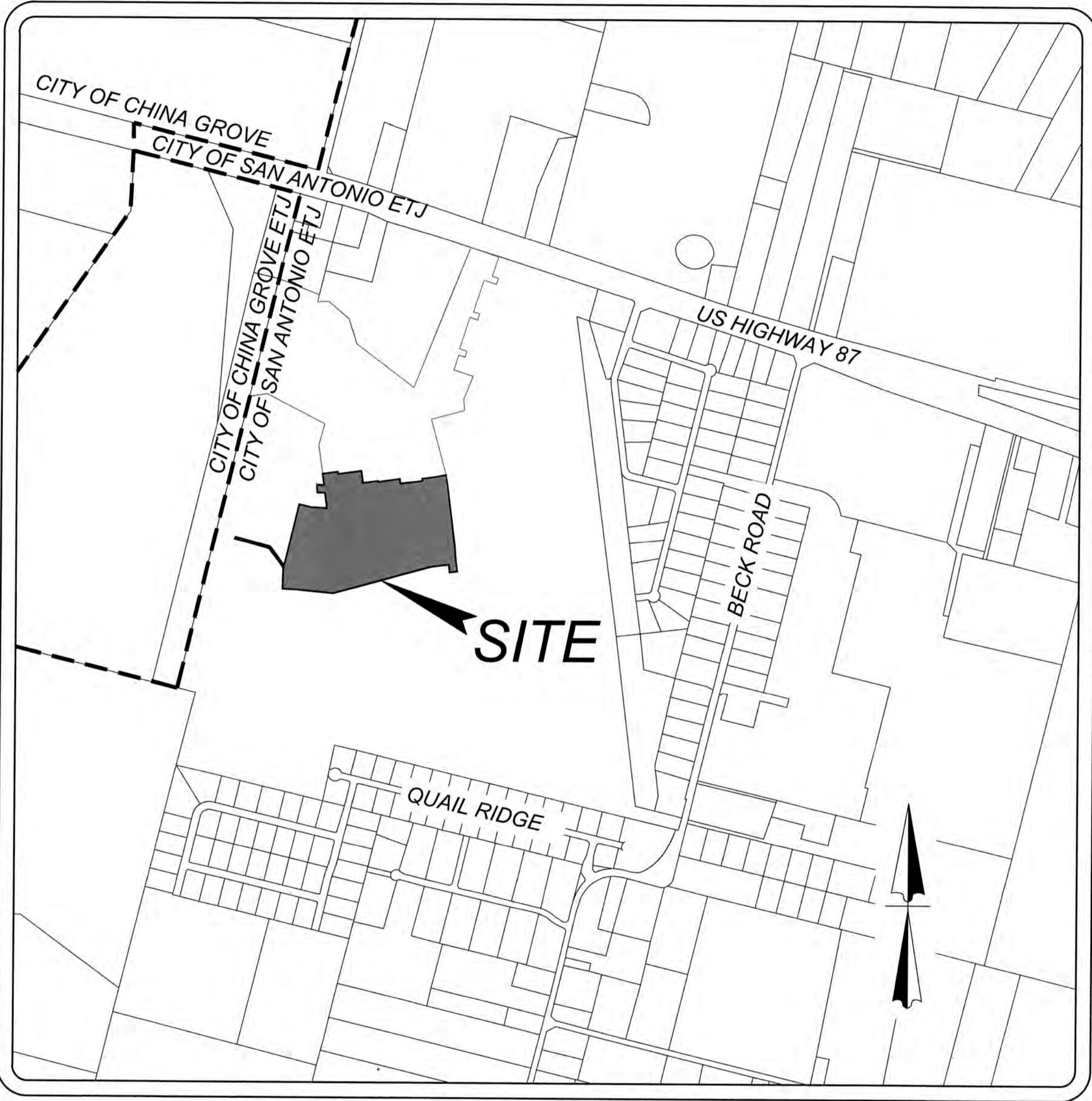
- The Wedge Anchor System and the Universal Anchor System with this wall tubing post may be used to support up to 90 square feet of sign area.
- The tubular socket, wedge and precast T-bracket shall be permanently marked to indicate manufacturer, method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
- Signs for posts (1) BMS Tubing, (2) HDB Tubing, and (3) SDB Tubing, all components shall be pre-painted. A list of pre-painted vendors may be obtained from the Material Producer List.
- Additional sign clamps required for "T-bracket" for 25 mph signs. Place clamp at least 2 inches below bottom of sign when possible.
- Sign supports shall be used if they meet the following:
  - 50,000 PSI minimum yield strength
  - 70,000 PSI minimum tensile strength
  - 205 minimum elongation in 2"
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  - Outside diameter (uncoated) shall be within the range of 2.867" to 2.887"
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- Sign supports shall be used if they meet the following:
  - 50,000 PSI minimum yield strength
  - 70,000 PSI minimum tensile strength
  - 205 minimum elongation in 2"
  - Wall thickness (uncoated) shall be within the range of 0.087" to 0.094"
  - Outside diameter (uncoated) shall be within the range of 2.867" to 2.887"
  - Galvanization per ASTM A123 or ASTM A653 D40. For pre-painted steel tubing (ASTM A653), recoat the outside diameter weld seam by re-priming with zinc wire per ASTM A653.
- Sign details shall be the same and shapes shown on the plans.
- Sign supports shall be used if they meet the following:
  - 50,000 PSI minimum yield strength
  - 70,000 PSI minimum tensile strength
  - 205 minimum elongation in 2"
  - Wall thickness (uncoated) shall be within the range of 0.087" to 0.094"
  - Outside diameter (uncoated) shall be within the range of 2.867" to 2.887"
  - Galvanization per ASTM A123 or ASTM A653 D40. For pre-painted steel tubing (ASTM A653), recoat the outside diameter weld seam by re-priming with zinc wire per ASTM A653.
- Sign details shall be the same and shapes shown on the plans.
- Sign supports shall be used if they meet the following:
  - 50,000 PSI minimum yield strength
  - 70,000 PSI minimum tensile strength
  - 205 minimum elongation in 2"
  - Wall thickness (uncoated) shall be within the range of 0.087" to 0.094"
  - Outside diameter (uncoated) shall be within the range of 2.867" to 2.887"
  - Galvanization per ASTM A123 or ASTM A653 D40. For pre-painted steel tubing (ASTM A653), recoat the outside diameter weld seam by re-priming with zinc wire per ASTM A653.
- Sign details shall be the same and shapes shown on the plans.
- Sign supports shall be used if they meet the following:
  - 50,000 PSI minimum yield strength
  - 70,000 PSI minimum tensile strength
  - 205 minimum elongation in 2"
  - Wall thickness (uncoated) shall be within





GATES SUBDIVISION UNIT 2
BEXAR COUNTY, TX
SANITARY SEWER IMPROVEMENTS

GENERAL SEWER NOTES (REVISED JULY 2017)
1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Waste Water System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
B. Current TxDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
D. Current City of San Antonio "Standard Specifications for Public Works Construction".
E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
3. The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business\_center/specs. Unless otherwise noted within the design plans.
4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
SAWS Utility Locates: http://www.saws.org/Service/Locates
COSA Drainage (210) 207-0724 or (210) 207-6026
COSA Traffic Signal Operations (210) 206-8480
COSA Traffic Signal Damages (210) 207-3651
Texas State Wide One Call Locator 1-800-645-6005 or 811
7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
12. Compaction note (Item 804). The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.
Sewer Notes:
1. The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
A. Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and an estimated volume or flow.
B. Attempt to eliminate the source of the SSO.
C. Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
D. Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
E. Clean the affected sewer mains and remove any debris.
F. Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours.
Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all cost incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies.
No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by TCEQ and SAWS.
2. If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864, "Bypass Pumping".
3. Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor sequence the work accordingly.
4. Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(Ee)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY. It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NGP).
6. Spills, Overflows, or Discharges of Wastewater: All Spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.
7. Manhole and all pipe testing (including the TV inspection) must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division, as per SAWS Specifications For Water and Sanitary Sewer Construction.
8. All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.



SHEET LIST TABLE

Sheet Title	Sheet Number
SANITARY SEWER COVER SHEET	6.0
OVERALL SANITARY SEWER PLAN (SHEET 1 OF 2)	6.1
OVERALL SANITARY SEWER PLAN (SHEET 2 OF 2)	6.2
LINE "A" PLAN & PROFILE	6.3
LINE "B" PLAN & PROFILE	6.4
LINE "C", "D", & "E" PLAN & PROFILE	6.5
LINE "F" & "G" PLAN & PROFILE	6.6

LOCATION MAP
NOT-TO-SCALE

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

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: 22.38 AC.
SAWS BLOCK MAP#: 216562, 216560, 214560 TOTAL EDU'S: 123
TOTAL LINEAR FOOTAGE OF PIPE: 3,827.5 L.F. ~ 8" SDR 26 PLAT NO.: 22-11800017
NUMBER OF LOTS: 123 SAWS JOB#: 22-1547



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

SHEET REVISION LOG

DATE	SHEET NO.	REVISION NO.	DESCRIPTION
10/17/2023	6.1, 6.3	1	REVISED SEWER MAIN & ADDED MANHOLE

**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 PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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

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

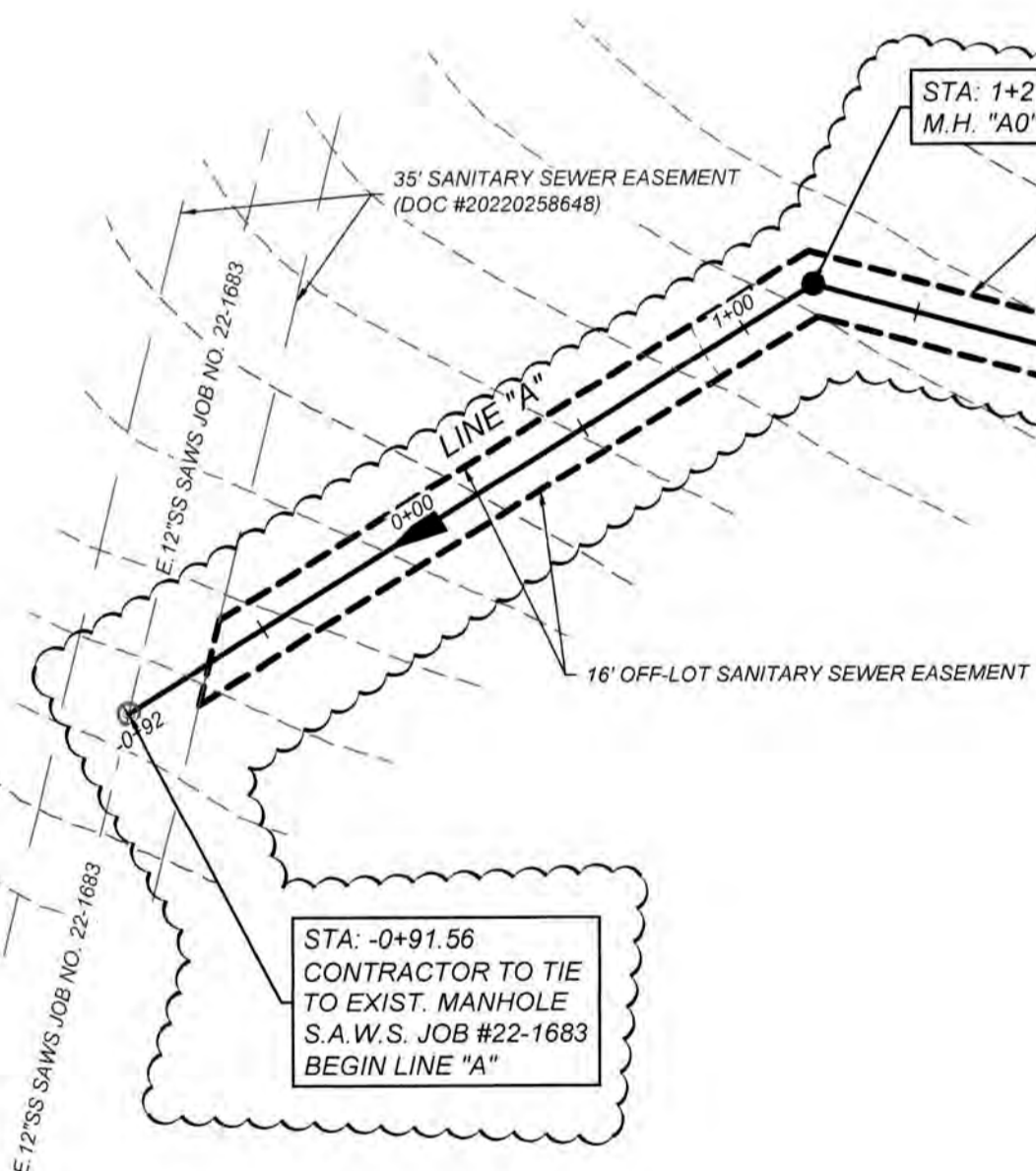
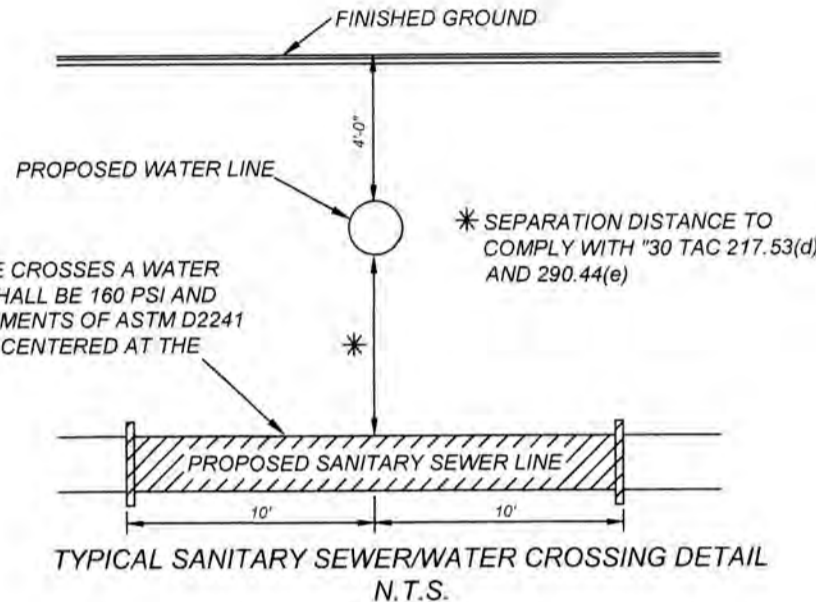
**REFERENCE S.A.W.S. DETAILS**

DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH  
DD-804-02 TRENCH COMPACTION DETAIL  
DD-848-01 GO, NO GO DEFLECTION TESTING MANDEL  
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-ERZD HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)  
DD-858-01 TYPICAL CONCRETE ENCASUREMENT DETAILS  
DD-859-02 TYPICAL CONCRETE DETAILS  
DD-860-01 TYPICAL VERTICAL STACK DETAILS  
DD-852-08 PRECAST MANHOLE BASE 45° ANGLE  
DD-852-09 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.

**OPEN SPACE NOTE:**  
LOT 80 IS DESIGNATED AS A PRIVATE DRAINAGE AND SANITARY SEWER EASEMENT. LOT 808 BLOCK 5 IS DESIGNATED AS OPEN SPACE. PRIVATE DRAINAGE AND SANITARY SEWER EASEMENT, LOT 802 BLOCK 6 IS DESIGNATED AS OPEN SPACE AND AS A COMMON AREA AND A DRAINAGE, SEWER, WATER, ELECTRIC, GAS, TELEPHONE AND CABLE TV EASEMENT.

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



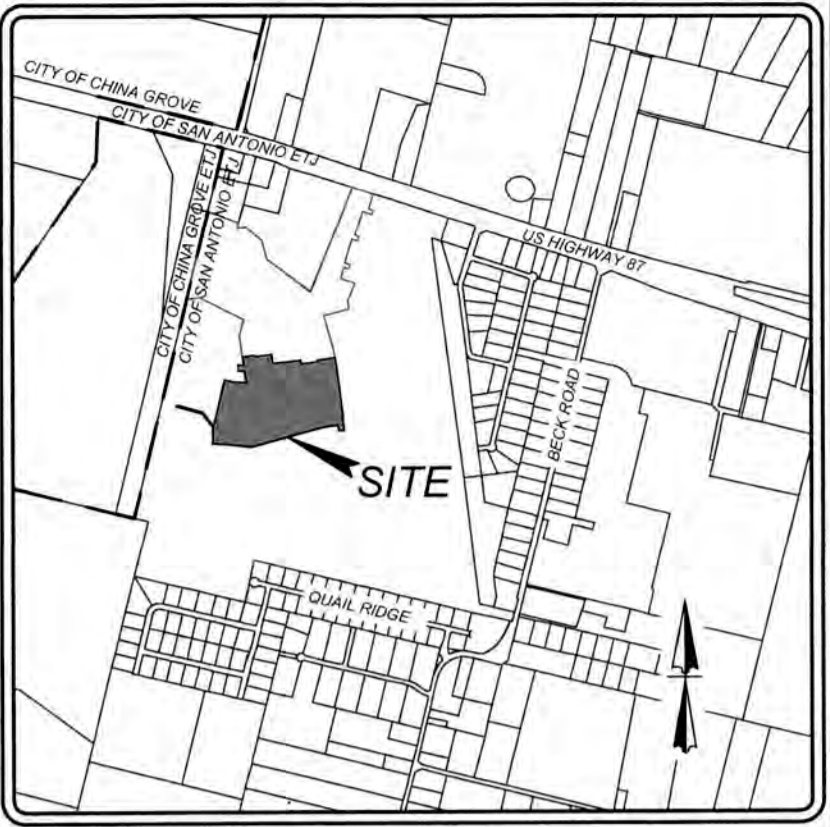
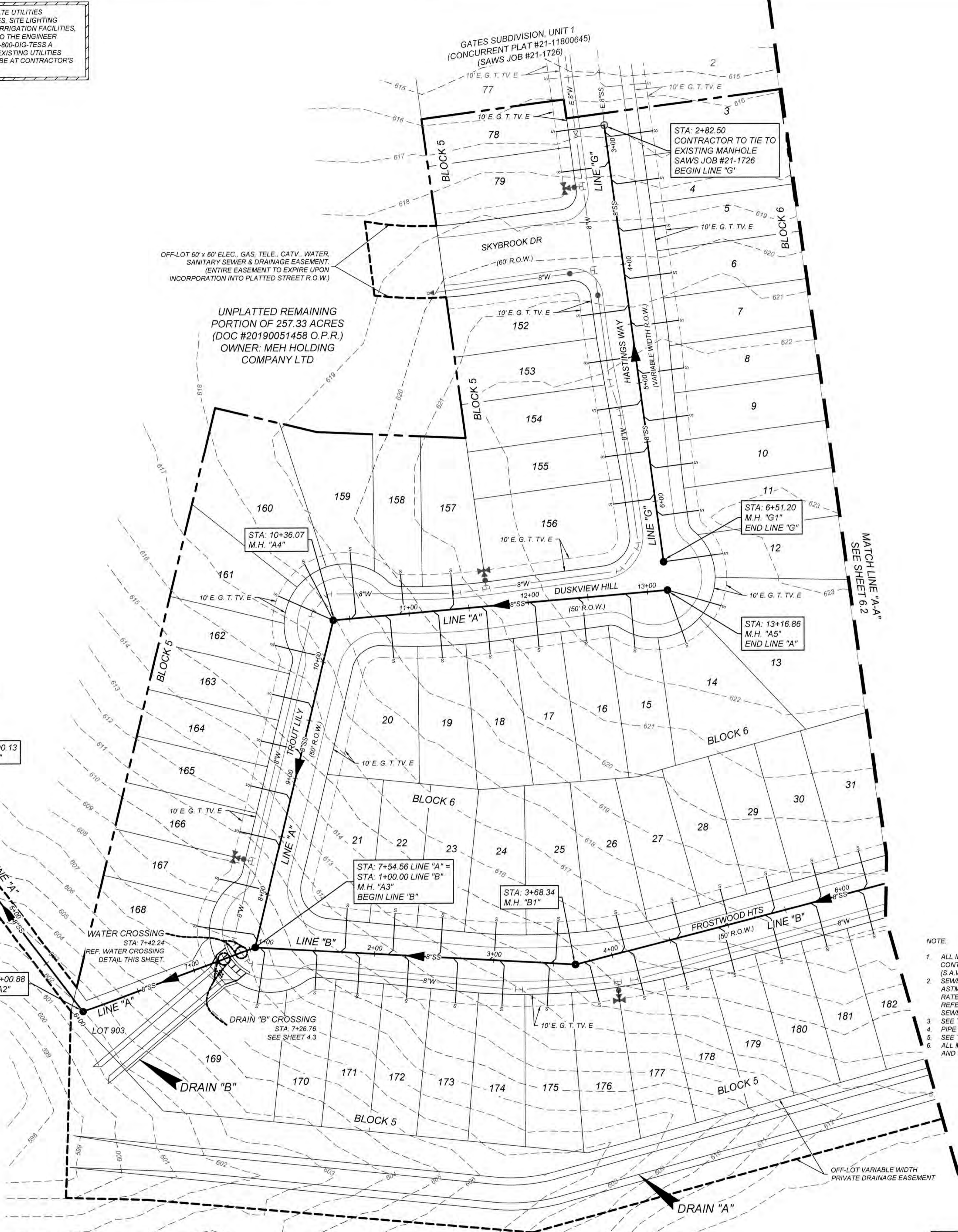
UNPLATTED REMAINING PORTION OF 257.33 ACRES (DOC #20190051458 O.P.R.) OWNER: MEH HOLDING COMPANY LTD

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

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

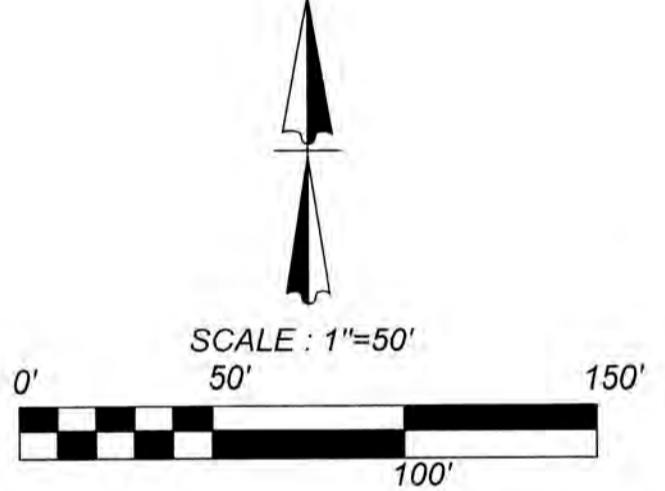
OFF-LOT 80' x 60' ELEC. GAS, TELE. CATV, WATER, SANITARY SEWER & DRAINAGE EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED STREET R.O.W.)

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



**LEGEND**

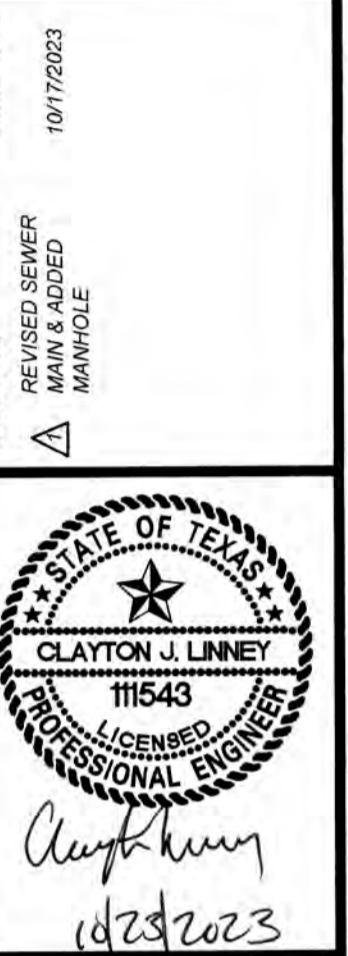
PROPOSED WATER MAIN	W
PROPOSED WATER SERVICE & METER BOX	W.M.B.
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	W.M.B.
PROPOSED FIRE HYDRANT	F.H.
PROPOSED WATER VALVE	W.V.
PROPOSED SANITARY SEWER MAIN	SS
PROPOSED SANITARY SEWER MANHOLE	S.S.M.H.
PROPOSED SANITARY SEWER LATERAL	S.S.L.
PROPOSED ELECTRIC,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



- NOTE:**
- 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.
  - SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM).
  - SEE THIS SHEET FOR BENCHMARK INFORMATION.
  - PIPE TYPE DESIGNATIONS ARE SDR 26.
  - SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
  - ALL MANHOLES SHALL HAVE CONCRETE RING 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#: FAX#: TOTAL ACRES: 22.38 AC  
SAWS BLOCK MAP#: 216562, 216560, 214560 TOTAL EDU'S: 123  
TOTAL LINEAR FOOTAGE OF PIPE: 3,827.5 L.F. - 8" SDR 26 PLAT NO.: 22-11800017  
NUMBER OF LOTS: 123 SAWS JOB#: 22-1547

**K&W**  
ENGINEERS & SURVEYING  
P&T # 2101 979-8444 • Fax # 2101 979-8441  
TBP# Firm # 59513 • TBP#LS Firm # 10122300



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

PLAT NO. 22-11800017  
JOB NO. 206-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER: 6.1

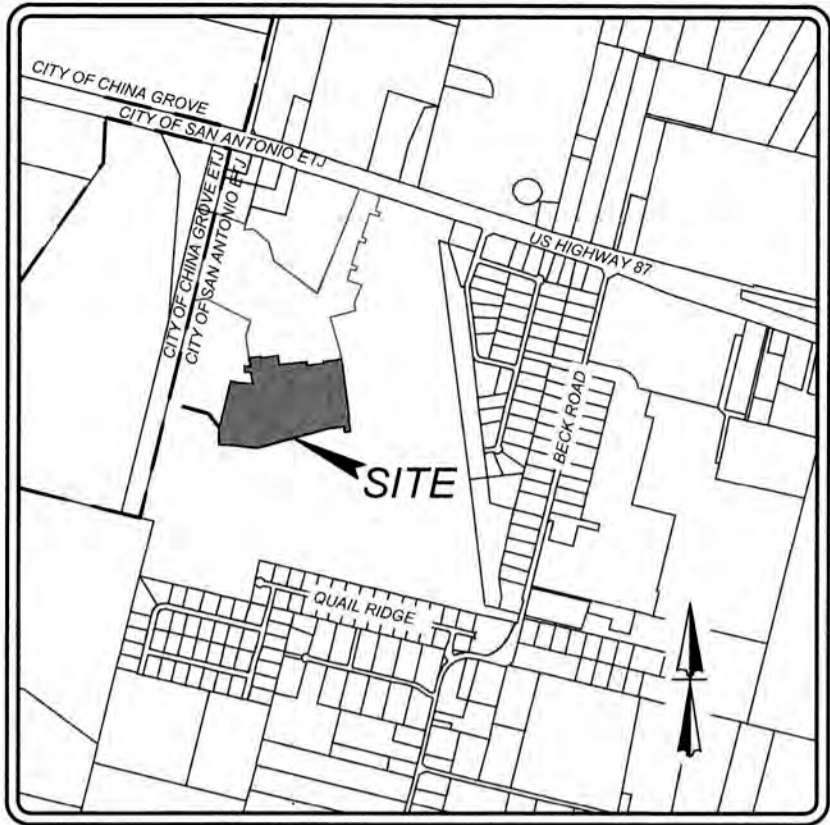
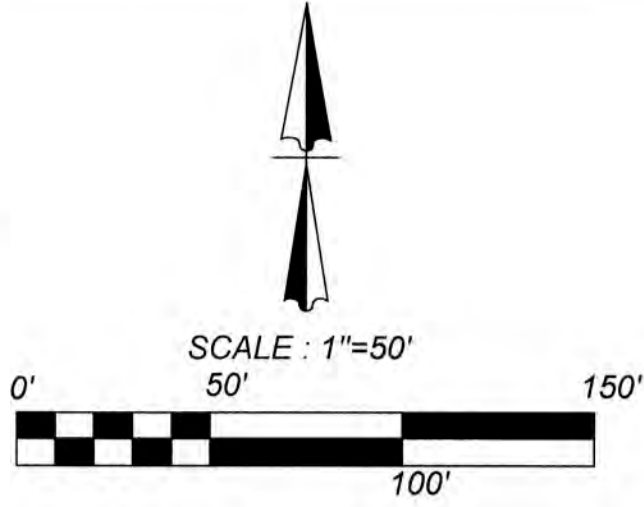
**TRENCH EXCAVATION SAFETY PROTECTION**  
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DD-804-02 TRENCH COMPACTION DETAIL  
DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL  
DD-852-01 STANDARD PRECAST MANHOLE  
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)  
DD-852-03 MANHOLE RING ENCASEMENT DETAIL  
DD-854-ERZD HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)  
DD-858-01 TYPICAL CONCRETE ENCASEMENT DETAILS  
DD-858-02 TYPICAL CONCRETE DETAILS  
DD-860-01 TYPICAL VERTICAL STACK DETAILS  
DD-855-06 PRECAST MANHOLE BASE 45° ANGLE  
DD-852-08 DROP MANHOLE DETAIL  
DD-852-07 MANHOLE RING AND COVER DETAIL



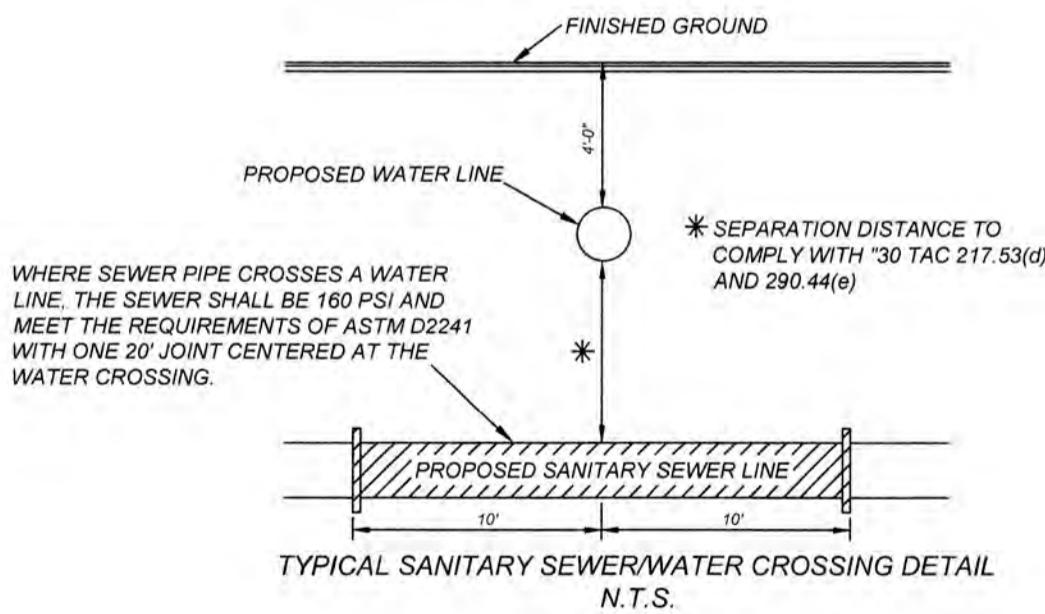
**LOCATION MAP  
NOT-TO-SCALE**

**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.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- -OHE-
EXISTING GUY WIRE/OVERHEAD ELECTRIC	= -OHE- -OHE-

**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 ENCASEMENT AND A WATER TIGHT RING AND COVER.



**MANHOLE NOTE:**  
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**CAUTION!!** THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL 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.



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

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

**GATES SUBDIVISION UNIT 2**

BEXAR COUNTY, TX

**OVERALL SANITARY SEWER PLAN (SHEET 2 OF 2)**



PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

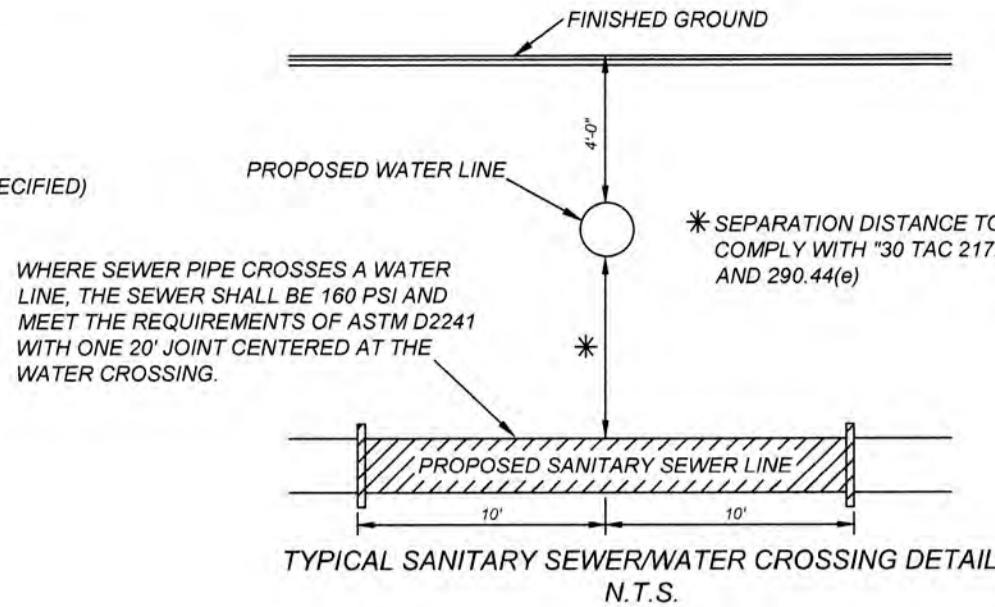
**TRENCH EXCAVATION SAFETY PROTECTION**  
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT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

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

- 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 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET --- 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 ENCASEMENT 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-946-01 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 ENCASEMENT DETAIL  
DD-854-02 HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)  
DD-858-01 TYPICAL CONCRETE ENCASEMENT DETAILS  
DD-858-02 TYPICAL CONCRETE DETAILS  
DD-860-01 TYPICAL VERTICAL STACK DETAILS  
DD-852-08 PRECAST MANHOLE BASE 45° ANGLE  
DD-852-08 DROP MANHOLE DETAIL  
DD-852-07 MANHOLE RING AND COVER DETAIL

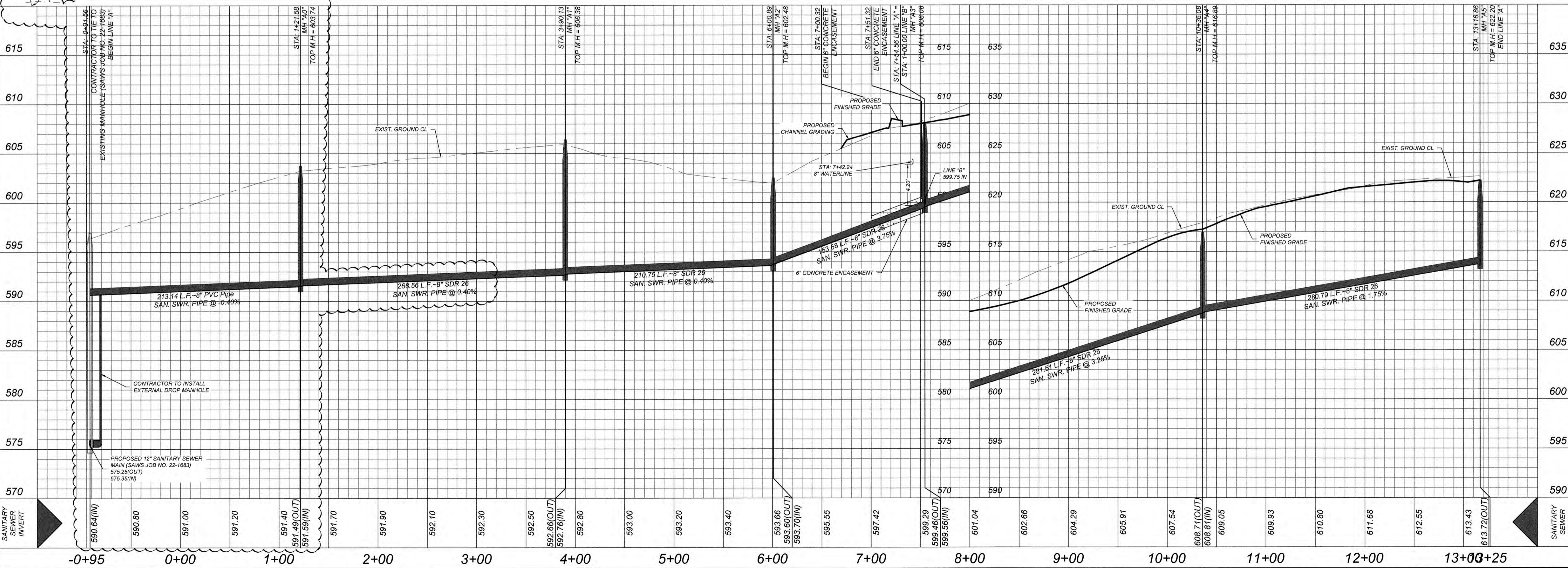
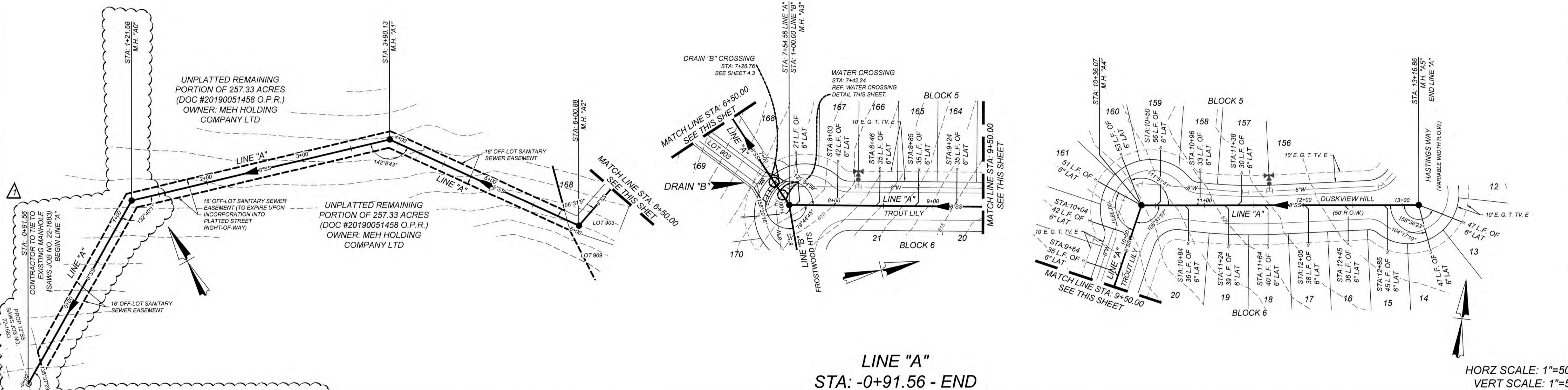


**CAUTION:** THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS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

**OPEN SPACE:**  
LOT NOT DESIGNATED AS A PRIVATE DRAINAGE AND SANITARY SEWER ENCASEMENT. LOT 808 BLOCK 6, IS DESIGNATED AS OPEN SPACE. PRIVATE DRAINAGE AND SANITARY SEWER ENCASEMENT. LOT 808 BLOCK 6, IS DESIGNATED AS OPEN SPACE AND AS A COMMON AREA AND A DRAINAGE, SEWER, WATER, ELECTRIC, GAS TELEPHONE AND CABLE TV ENCASEMENT.

**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 ACRES: 22.38 AC.  
SAWS BLOCK MAP#: 216562, 216560, 214560 TOTAL EDU'S: 123  
TOTAL LINEAR FOOTAGE OF PIPE: 3,827.5 L.F. - 8" SDR 26 PLAT NO.: 22-11800017  
NUMBER OF LOTS: 123 SAWS JOB#: 22-1547



**ENGINEERS & SURVEYING**  
CLAYTON J. LINNEY  
111543  
PROFESSIONAL ENGINEER  
10/23/2023

ISSUE DATE: 10/17/2023  
REVISIONS: REVISED SEWER MAIN & ADDED MANHOLE

STATE OF TEXAS  
CLAYTON J. LINNEY  
111543  
PROFESSIONAL ENGINEER  
10/23/2023

GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
LINE "A" PLAN & PROFILE

PLAT NO.: 22-11800017  
JOB NO.: 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER: 6.3

# TRENCH EXCAVATION SAFETY PROTECTION

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

## COMPACTION NOTE:

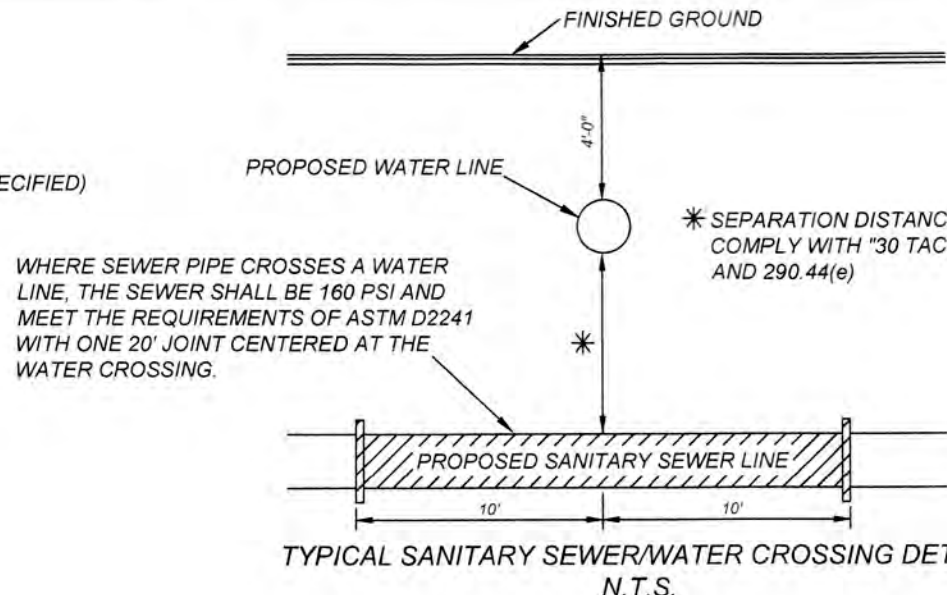
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT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

## NOTE:

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- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET ---, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
- SEE THIS SHEET FOR BENCHMARK INFORMATION.
- PIPE TYPE DESIGNATIONS ARE SDR 26.
- SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
- ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

# REFERENCE S.A.W.S. DETAILS

DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH  
DD-804-02 TRENCH COMPACTION DETAIL  
DD-849-01 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 ENCASEMENT DETAIL  
DD-854-ER2D HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)  
DD-858-01 TYPICAL CONCRETE ENCASEMENT 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

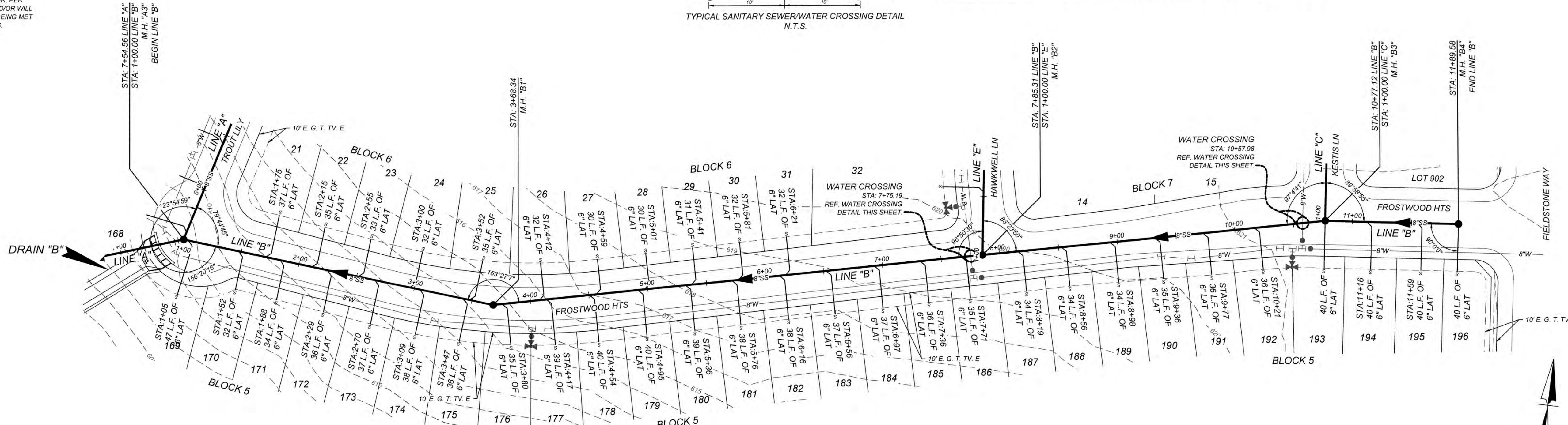


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OPEN SPACE  
LOT 903 IS DESIGNATED AS A PRIVATE DRAINAGE AND SANITARY SEWER EASEMENT. LOT 909 BLOCK 5 IS DESIGNATED AS OPEN SPACE. PRIVATE DRAINAGE AND SANITARY SEWER EASEMENT. LOT 902 BLOCK 5 IS DESIGNATED AS OPEN SPACE AND AS A COMMON AREA AND A DRAINAGE, SEWER, WATER, ELECTRIC, GAS TELEPHONE AND CABLE TV EASEMENT.

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: 22.38 AC.  
SAWS BLOCK MAP#: 216562, 216560, 214560 TOTAL EDU'S: 123  
TOTAL LINEAR FOOTAGE OF PIPE: 3,827.5 L.F. ~ 8" SDR 26 PLAT NO.: 22-11800017  
NUMBER OF LOTS: 123 SAWS JOB#: 22-1547



# TRENCH EXCAVATION SAFETY PROTECTION

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## COMPACTION NOTE:

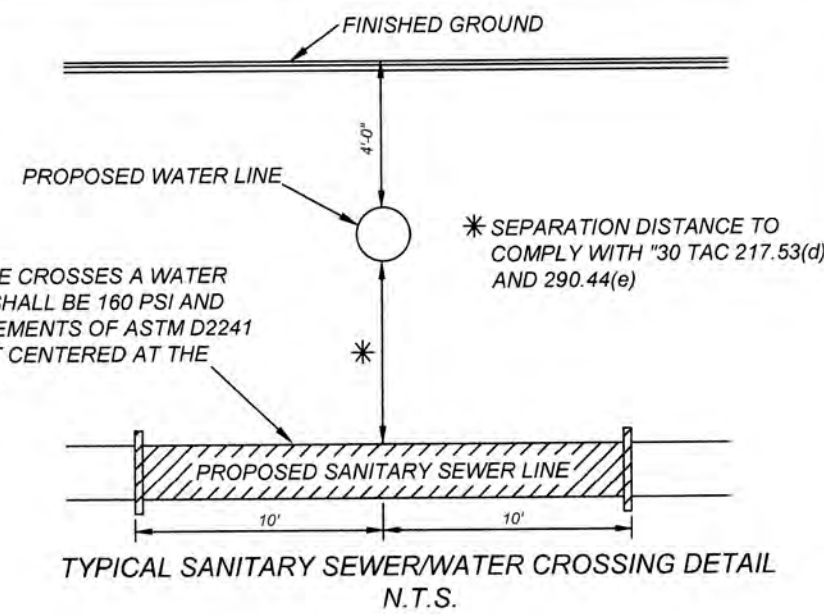
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## NOTE:

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3. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
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

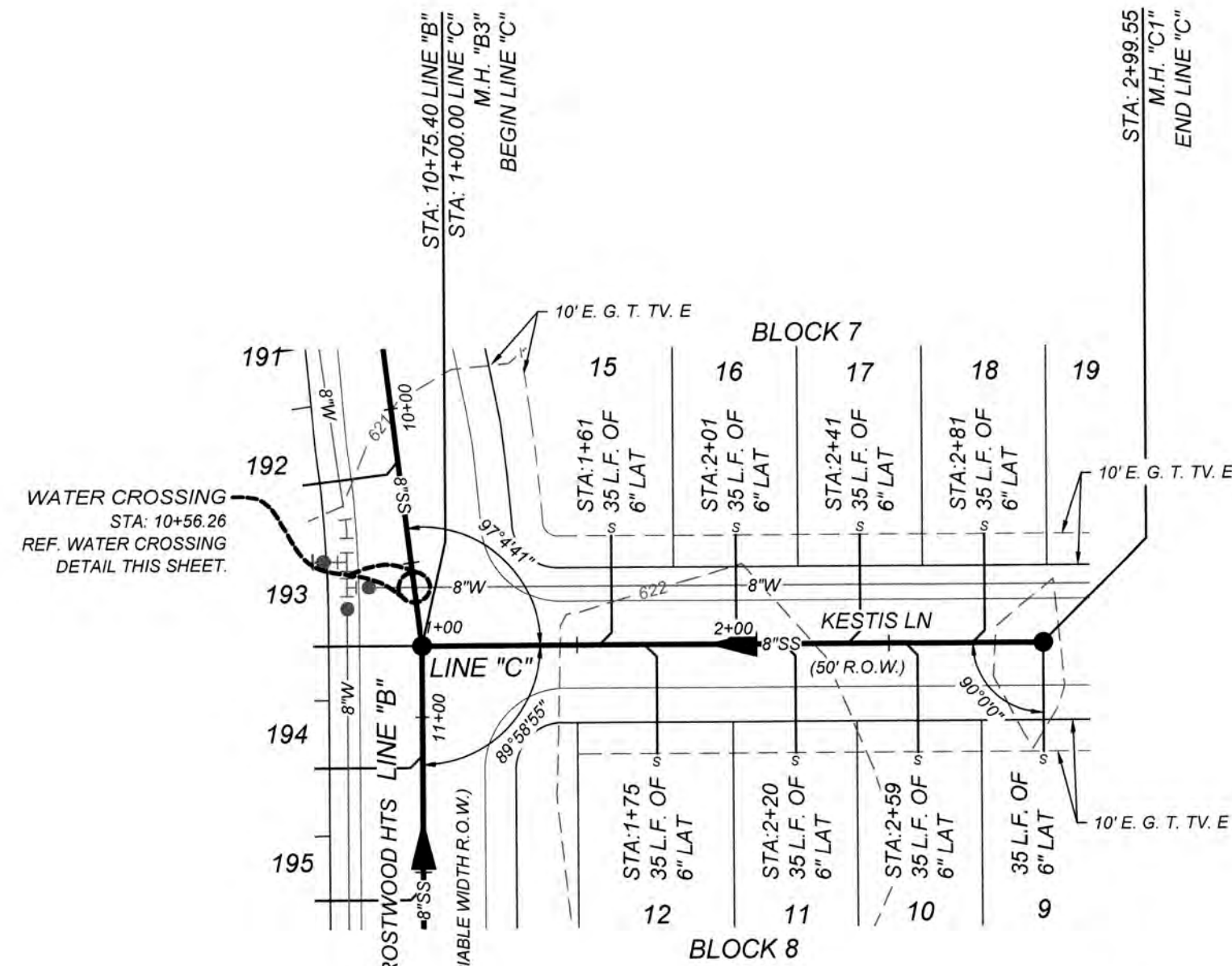
DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH  
DD-804-02 TRENCH COMPACTION DETAIL  
DD-845-01 GO, NO GO DEFLECTION TESTING DETAIL  
DD-855-01 STANDARD PRECAST MANHOLE  
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)  
DD-852-03 MANHOLE RING ENCASMENT DETAIL  
DD-854-ER2D HOUSE LATERAL 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-855-06 PRECAST MANHOLE BASE 45° ANGLE  
DD-855-08 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.

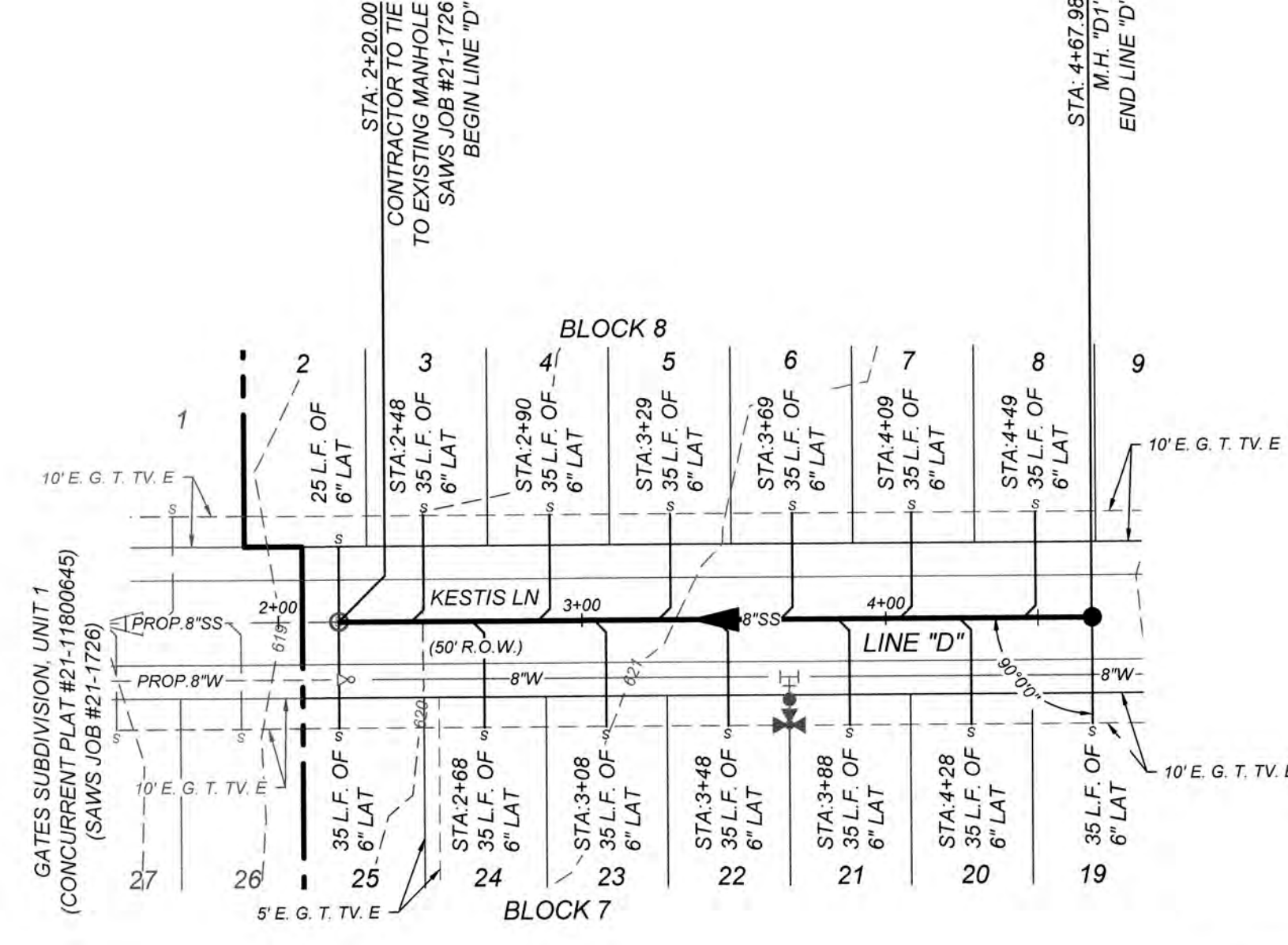
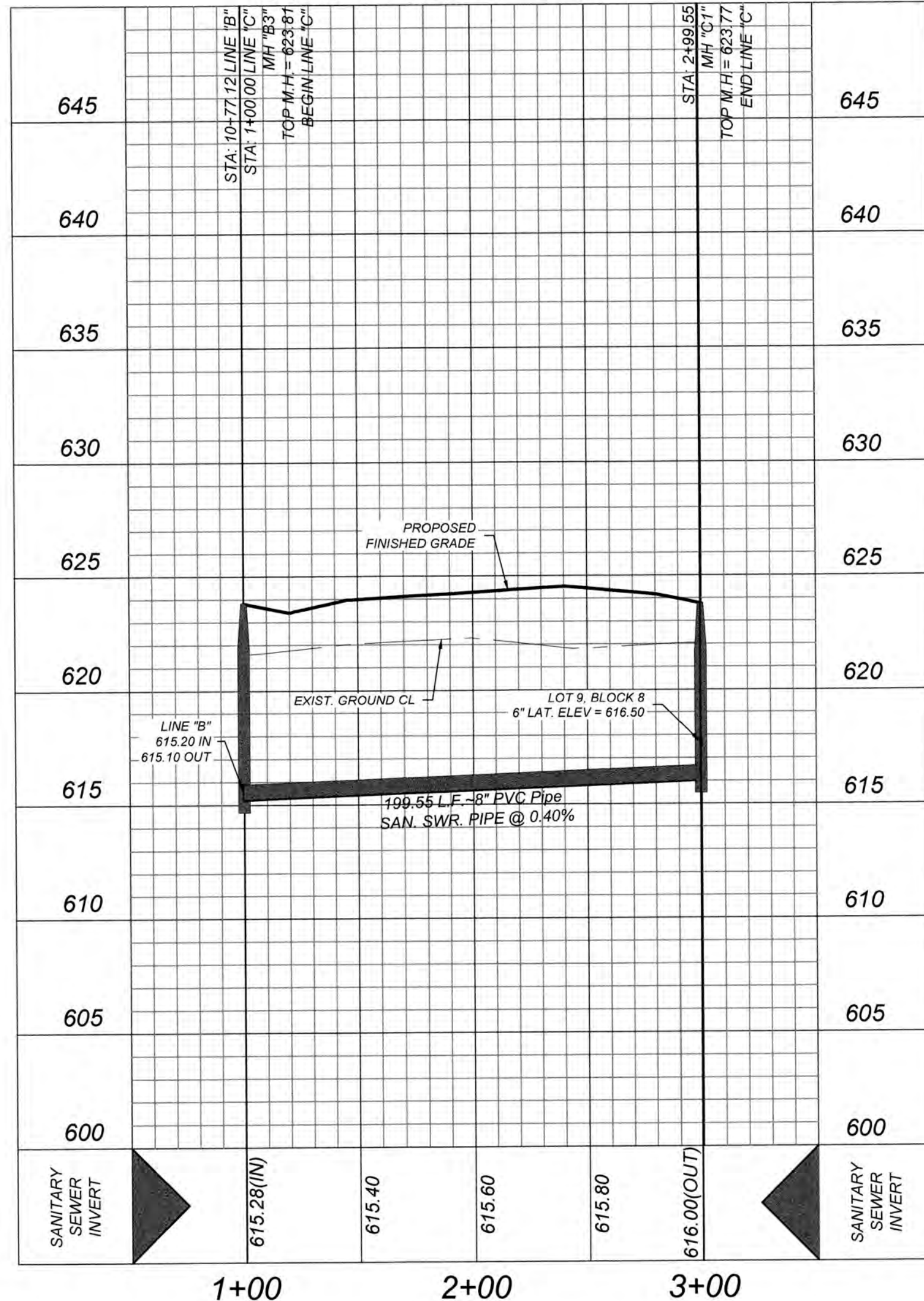
MANHOLE NOTE  
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

DEVELOPER'S NAME: MEH HOLDING COMPANY LTD  
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD. BUILDING 1, SUITE 1200  
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78228  
PHONE: FAX: TOTAL ACREAGE: 22.38 AC.  
SAWS BLOCK MAP#: 216562, 214560 TOTAL EDU'S: 123  
TOTAL LINEAR FOOTAGE OF PIPE: 3,827.5 L.F. ~ 8" SDR 26 PLAT NO.: 22-1180017  
NUMBER OF LOTS: 123 SAWS JOB#: 22-1547



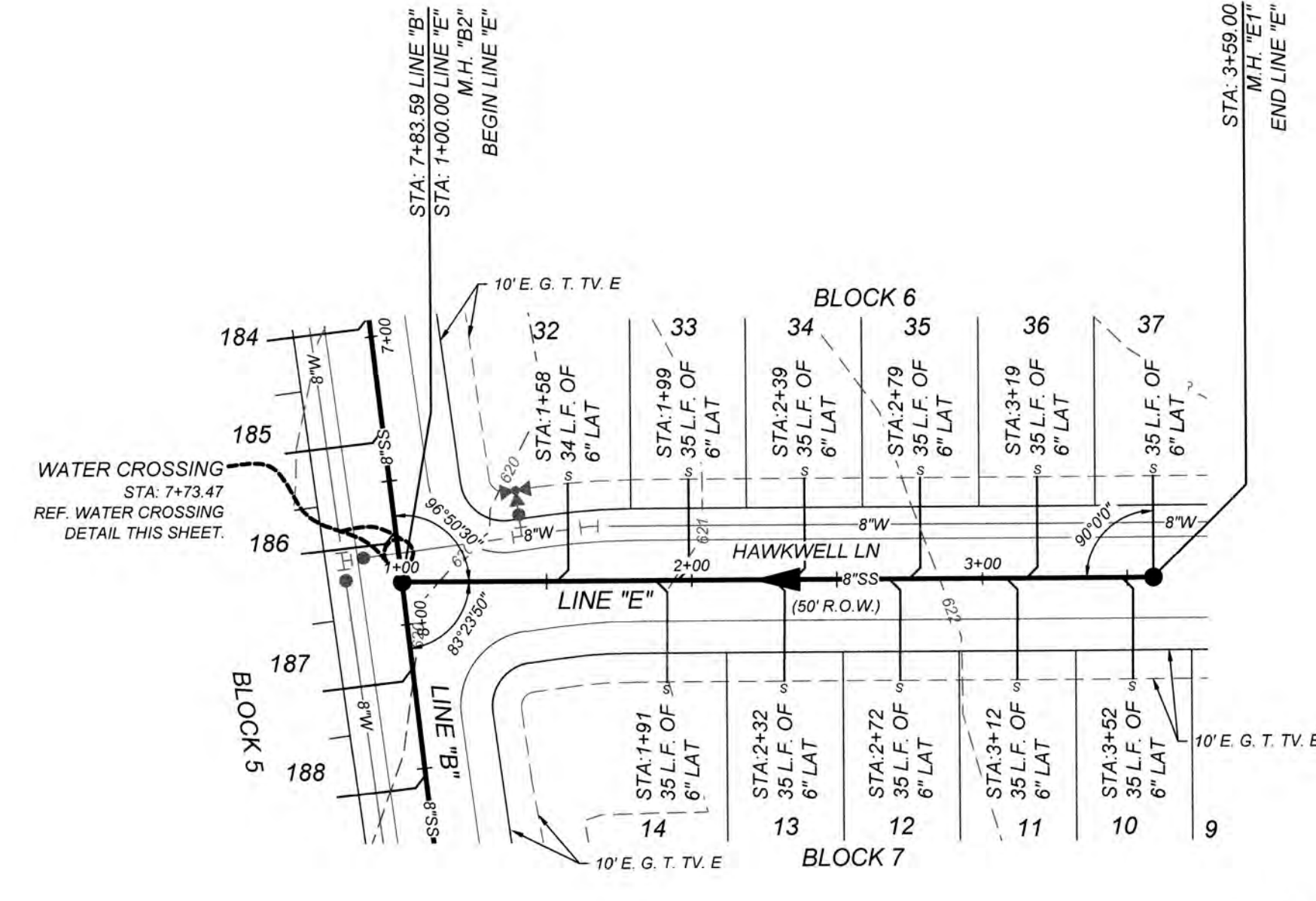
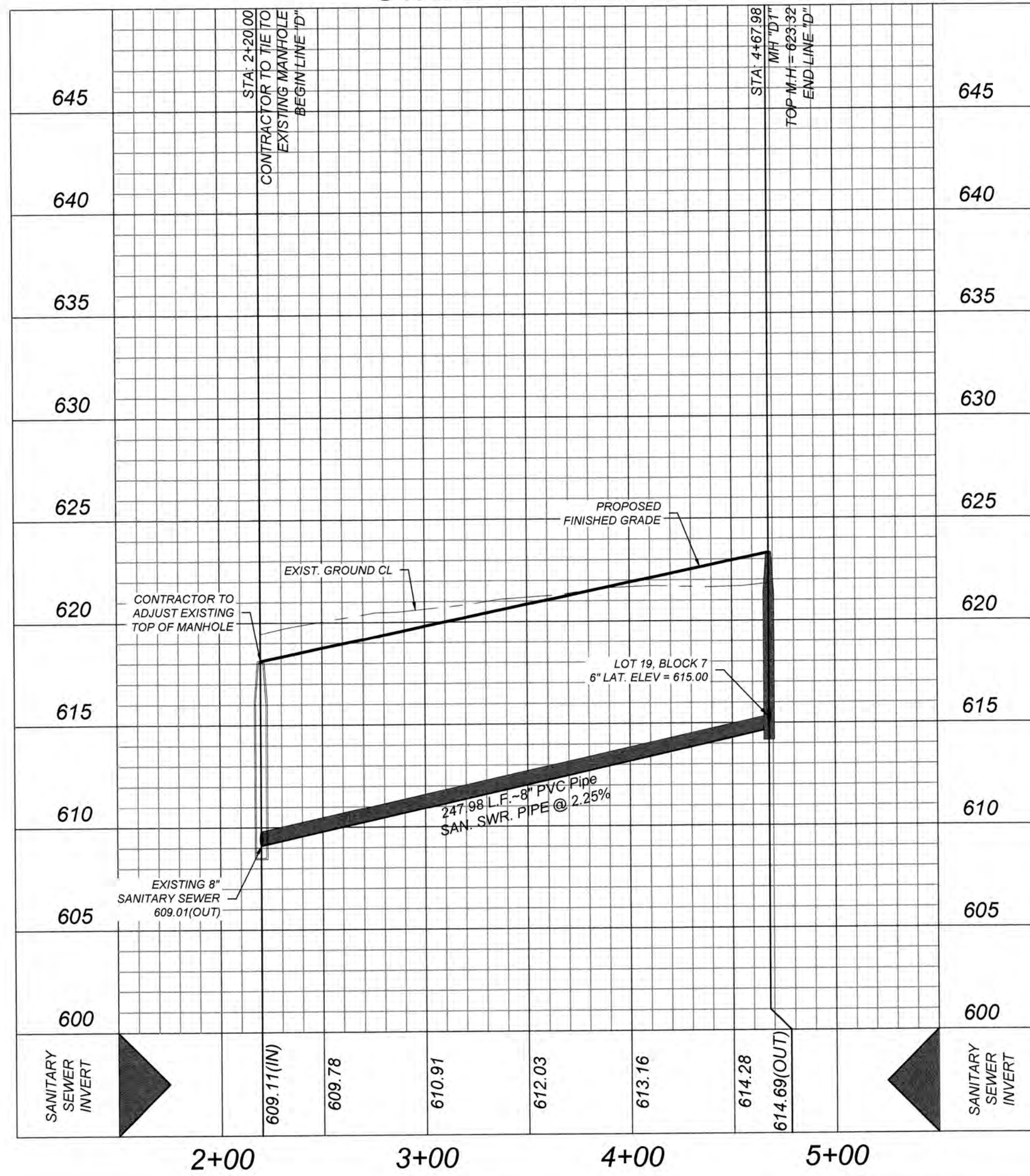
LINE "C"  
STA: 1+00.00 - END

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



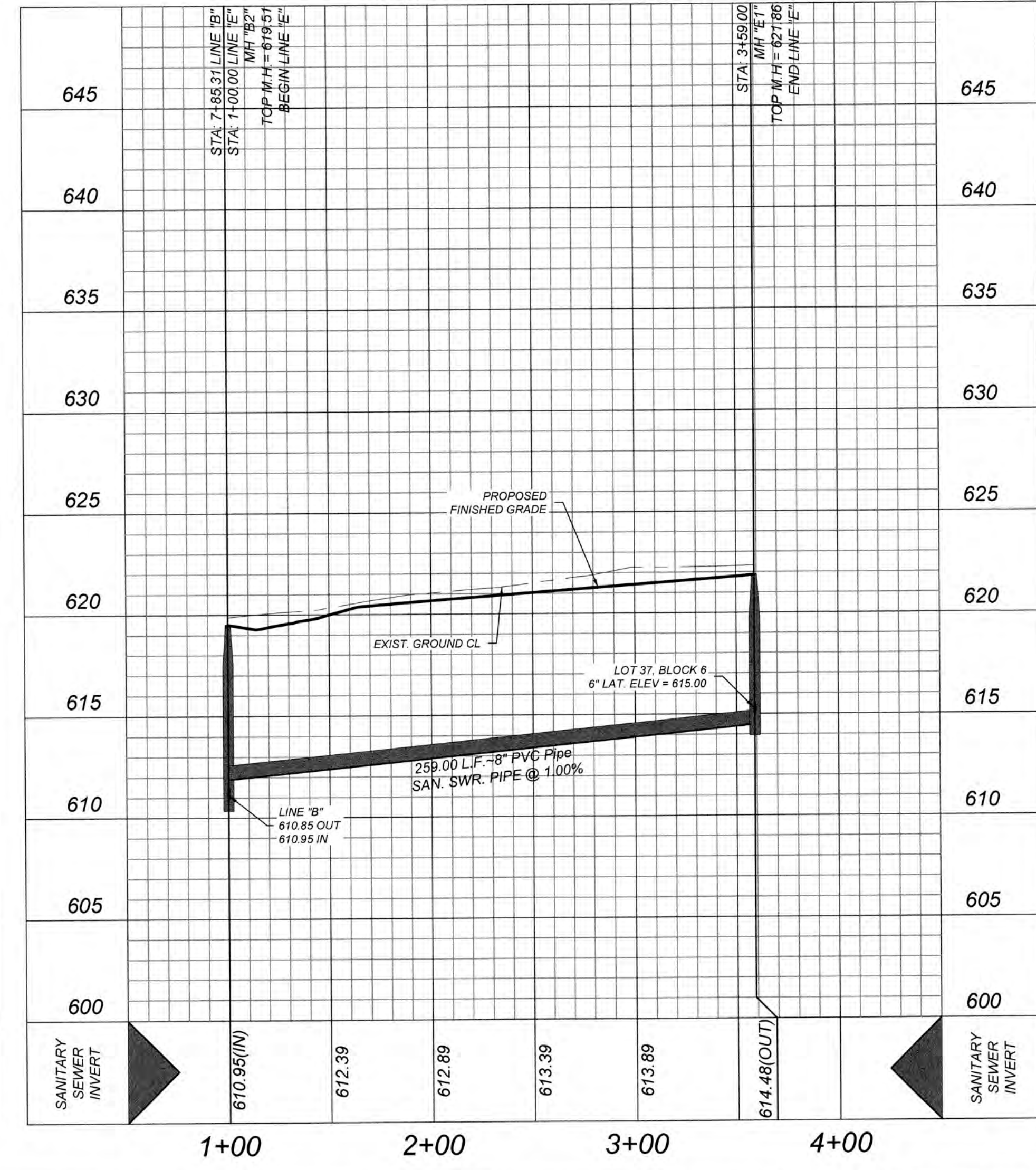
LINE "D"  
STA: 2+20.00 - END

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 2  
BEXAR COUNTY, TX

LINE "B" PLAN & PROFILE

PLAT NO.  
22-1180017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN/OM CHECKED/CL  
SHEET NUMBER:

6.5

# TRENCH EXCAVATION SAFETY PROTECTION

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

## COMPACTION NOTE:

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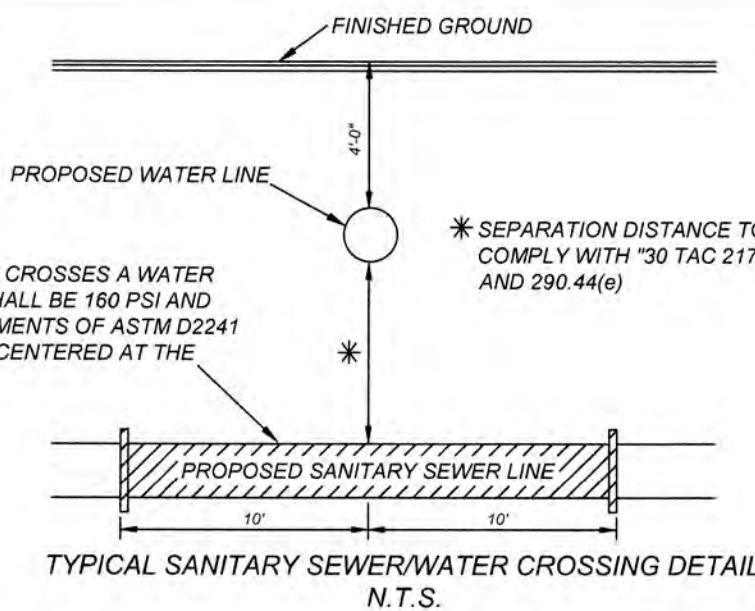
## NOTE:

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- 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 SHEET ---, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
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# REFERENCE S.A.W.S. DETAILS

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DD-804-02 TRENCH COMPACTION DETAIL  
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DD-852-01 STANDARD PRECAST MANHOLE  
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)  
DD-852-03 MANHOLE RING ENCASEMENT DETAIL  
DD-854-ERZD HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)  
DD-858-01 TYPICAL CONCRETE ENCASEMENT DETAILS  
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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

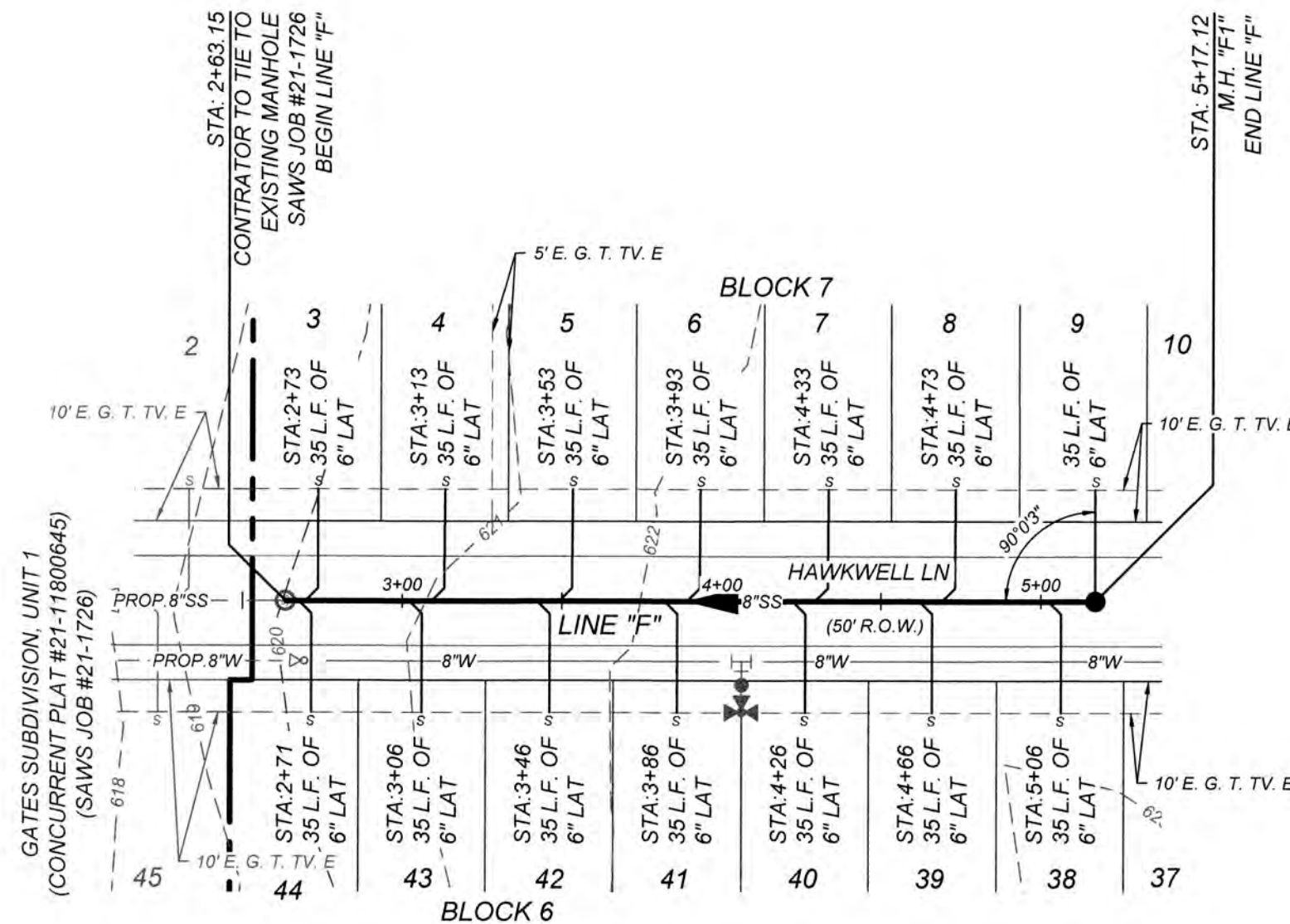
WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.



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.

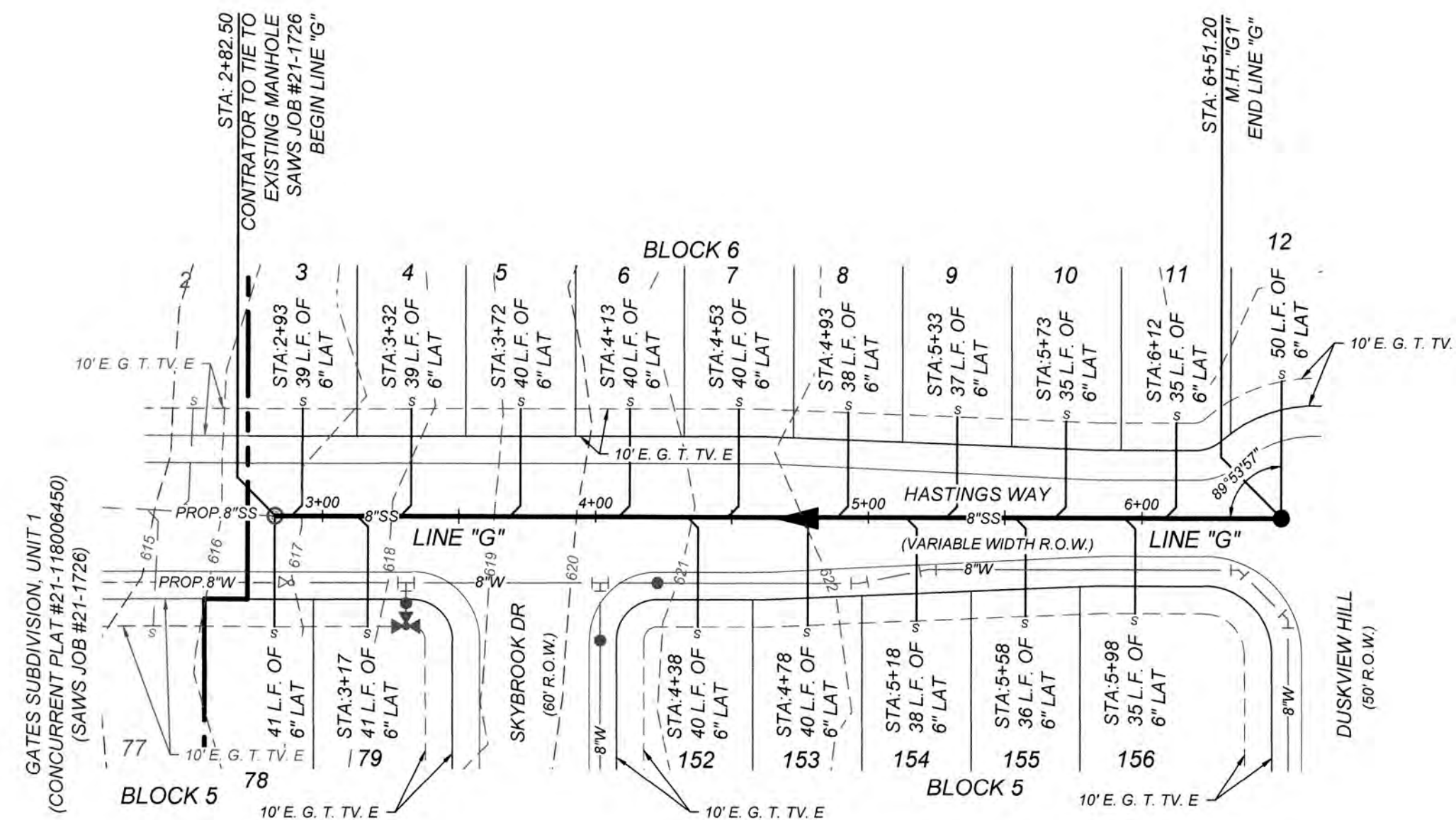
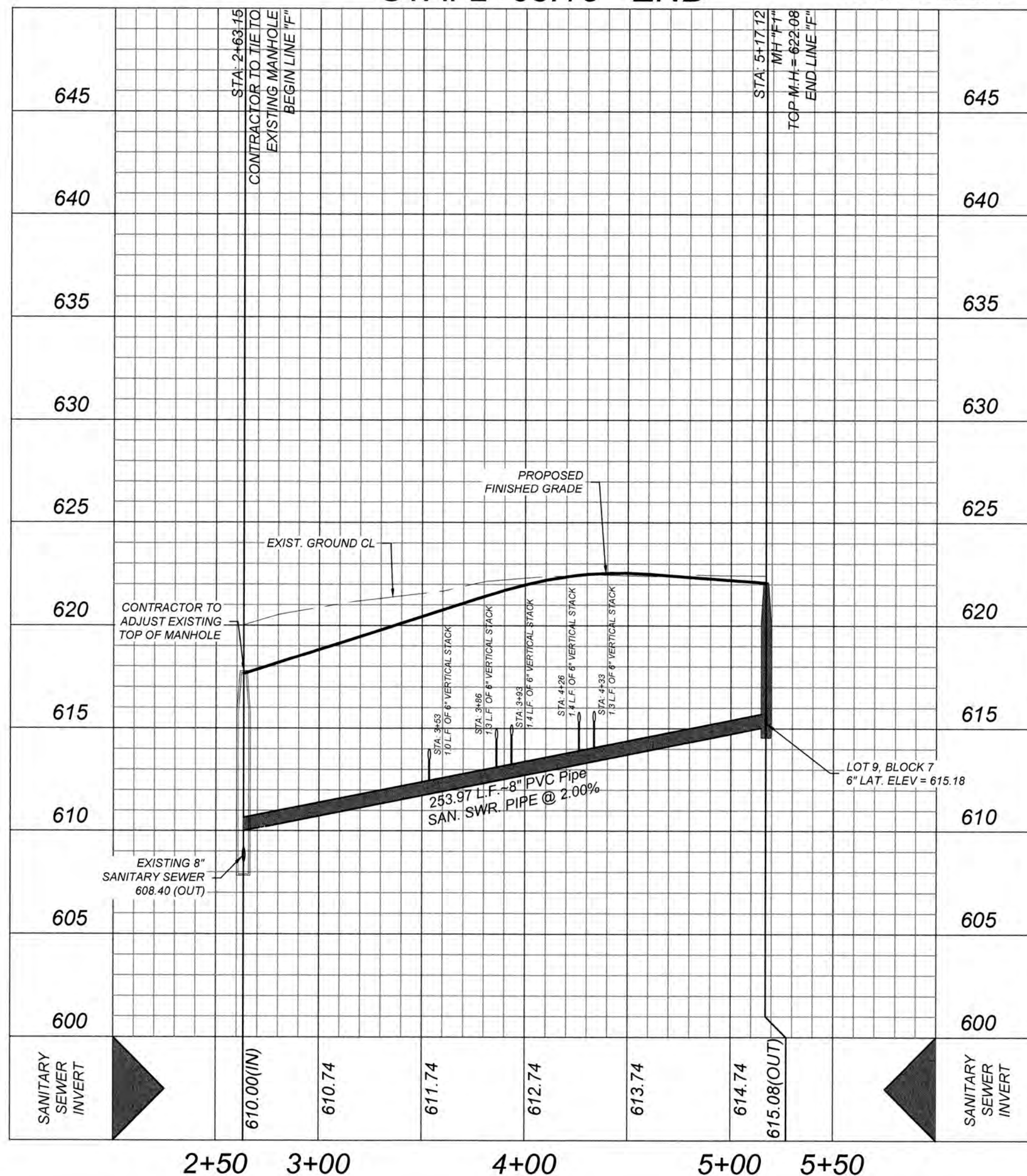
MANHOLE NOTE:  
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DEVELOPER'S NAME: MEH HOLDING COMPANY LTD  
DEVELOPER'S ADDRESS: 1202 W. BITTERS RD., BUILDING 1, SUITE 1200  
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78258  
PHONE#: FAX#: TOTAL ACREAGE: 22.38 AC.  
SAWS BLOCK MAP#: 216582, 216560, 214560 TOTAL EDU'S: 123  
TOTAL LINEAR FOOTAGE OF PIPE: 3,827.5 L.F. ~ 8" SDR 26 PLAT NO.: 22-11800017  
NUMBER OF LOTS: 123 SAWS JOB#: 22-1547



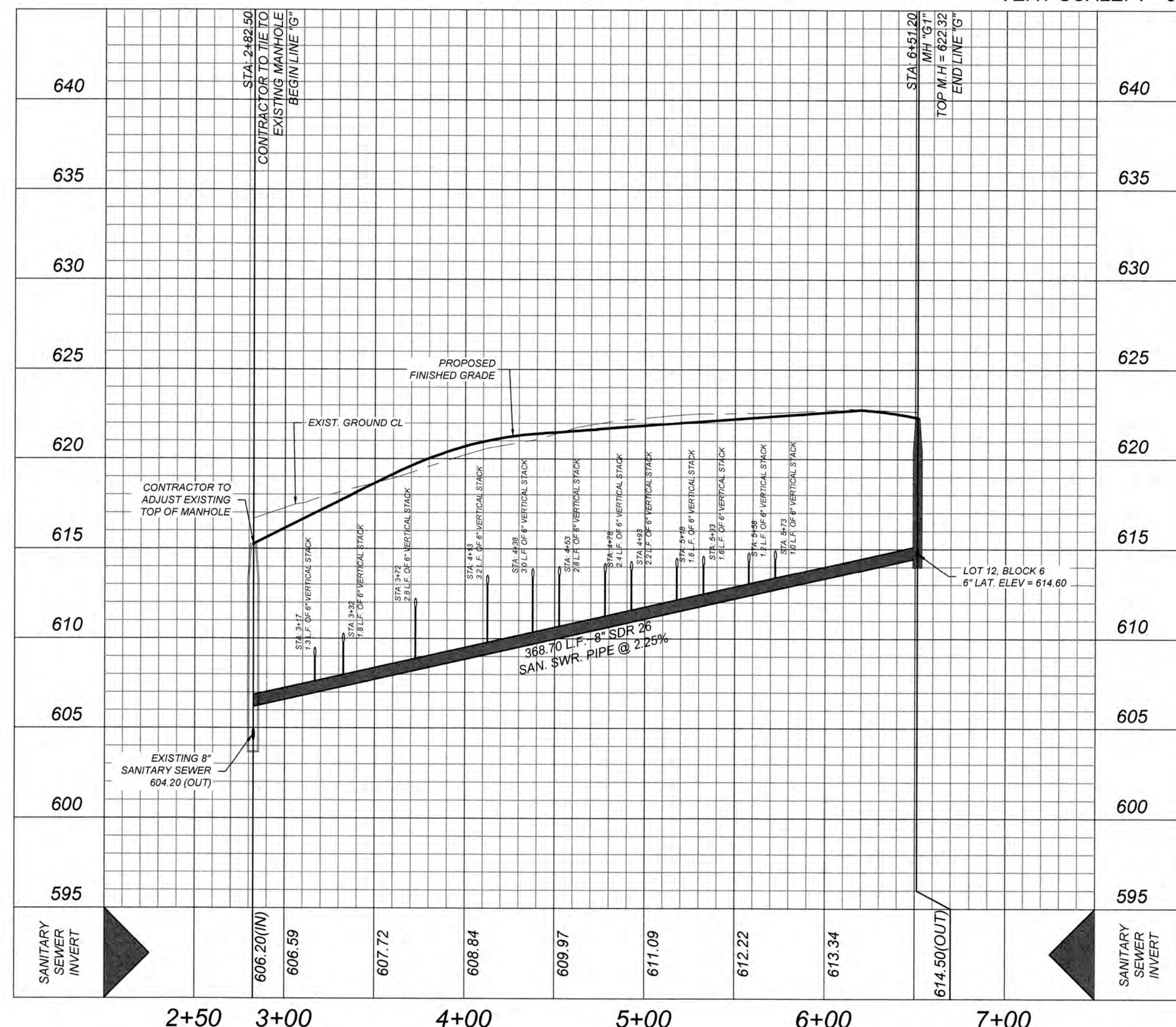
LINE "F"  
STA: 2+63.15 - END

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



LINE "G"  
STA: 2+82.50 - END

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



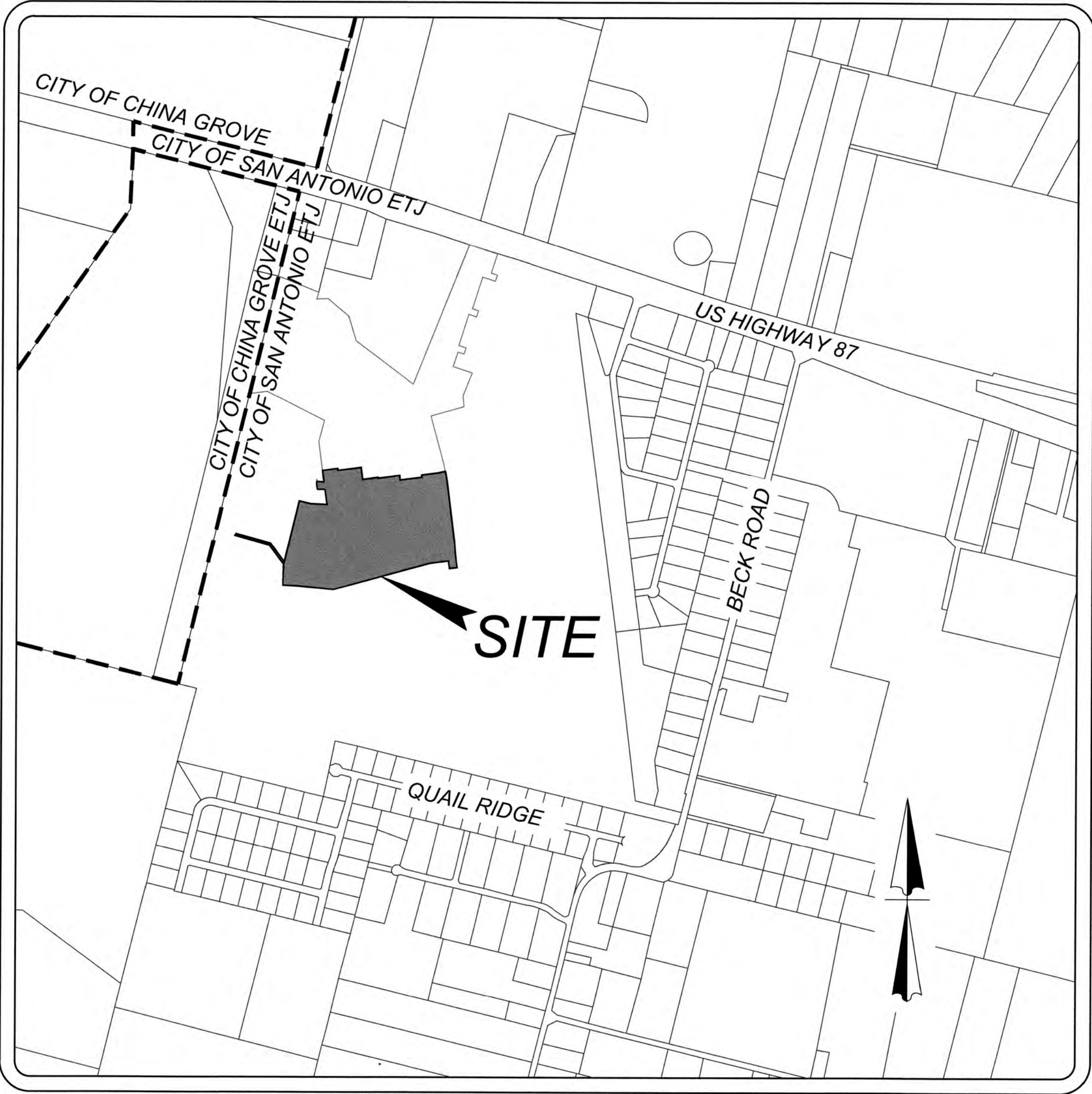
GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX

LINE "C", "D", & "E" PLAN & PROFILE

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN/OM CHECKED/CL  
SHEET NUMBER:

6.6

GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
WATER IMPROVEMENTS



LOCATION MAP  
NOT-TO-SCALE

SHEET REVISION LOG			
DATE	SHEET NO.	REVISION NO.	DESCRIPTION
11/14/2023	7.1-7.2	1	ADDED GATE VALVES
11/14/2023	7.3-7.6	1	REVISED WATER DETAILS

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

SHEET LIST TABLE

Sheet Title	Sheet Number
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 PLAN DETAILS (SHEET 1 OF 4)	7.3
WATER DISTRIBUTION PLAN DETAILS (SHEET 2 OF 4)	7.4
WATER DISTRIBUTION PLAN DETAILS (SHEET 3 OF 4)	7.5
WATER DISTRIBUTION PLAN DETAILS (SHEET 4 OF 4)	7.6



**KFW**  
ENGINEERS + SURVEYING  
has joined Colliers Engineering & Design  
3421 Paerosos Pkwy., Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-8444 • Fax #: (210) 979-8441  
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

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

**COMPACTION NOTE:**  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAL 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.

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

CONTRACTOR TO REMOVE EXISTING 2" END BLOWOFF AND TIE NEW 8" PVC PIPE TO EXISTING 8" PVC AFTER CHLORINATION AND ACCEPTANCE BY S.A.W.S. (SAWS JOB #19-1675)

INSTALL FOR CHLORINATION INJECTION  
2 - 1" CORP. STOP C.C. x I.P.  
2 - 1" COMP. x 1 1/2" CPL. CURB STOP  
2 - 1 1/2" SOLID CAP, THD.  
2 - 1" COPPER TUBING, CUT AS REQUIRED  
1 - 2" BLOWOFF (TEMP.)

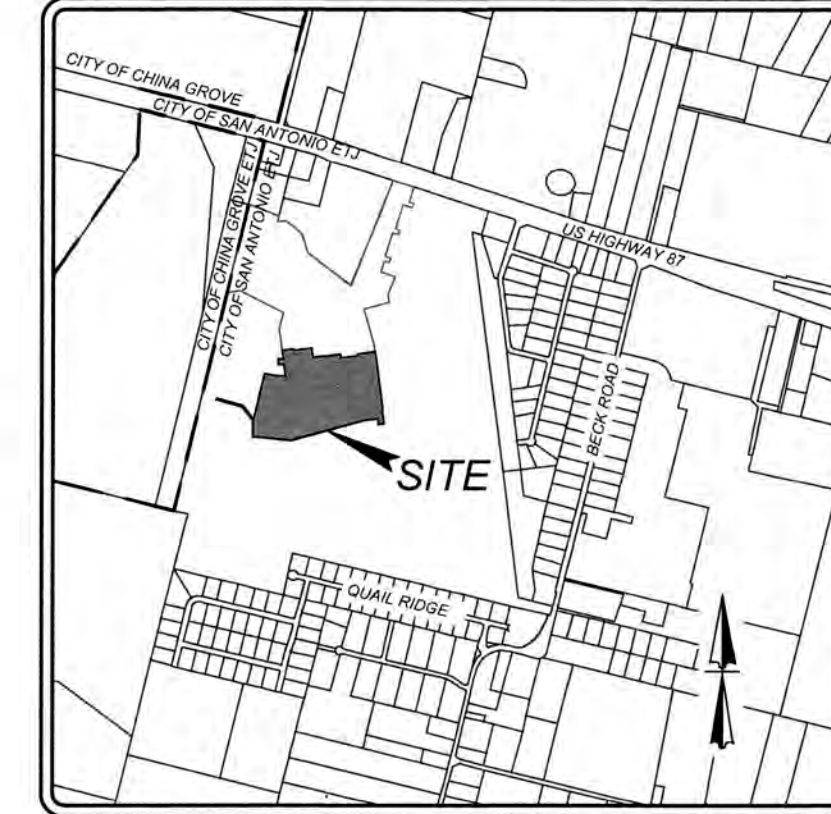
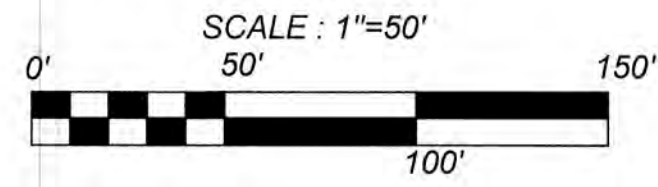
1 - 8" x 6" ANCHOR TEE, M.J.  
1 - 6" GATE VALVE, M.J.  
1 - 6" VALVE BOX, COMPLETE  
1 - 6" ANCHOR BEND, M.J.  
1 - STANDARD FIRE HYDRANT  
6" DI PIPE, CUT AS REQUIRED

1 - 8" x 2" ECCENTRIC REDUCER, M.J.  
1 - 2" BLOWOFF (PERM)

1 - 8" x 6" ANCHOR TEE, M.J.  
1 - 6" GATE VALVE, M.J.  
1 - 6" VALVE BOX, COMPLETE  
1 - 6" ANCHOR BEND, M.J.  
1 - STANDARD FIRE HYDRANT  
6" DI PIPE, CUT AS REQUIRED

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1 - 6" GATE VALVE, M.J.  
1 - 6" VALVE BOX, COMPLETE  
1 - 6" ANCHOR BEND, M.J.  
1 - STANDARD FIRE HYDRANT  
6" DI PIPE, CUT AS REQUIRED

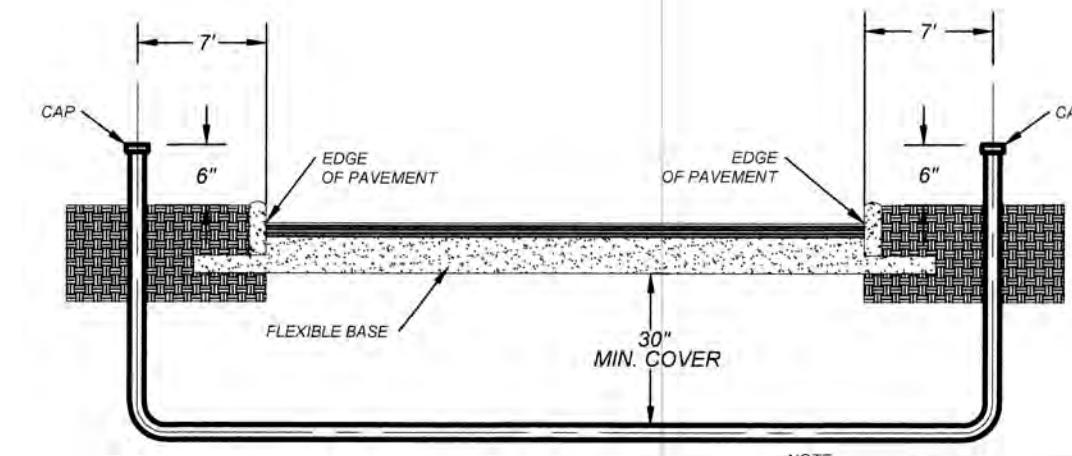
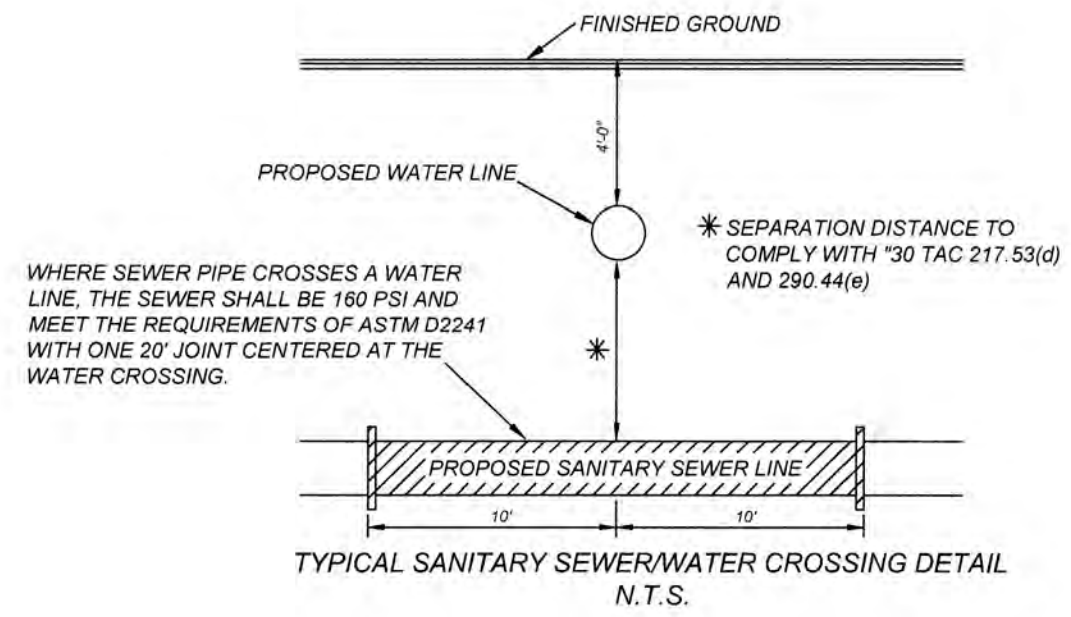
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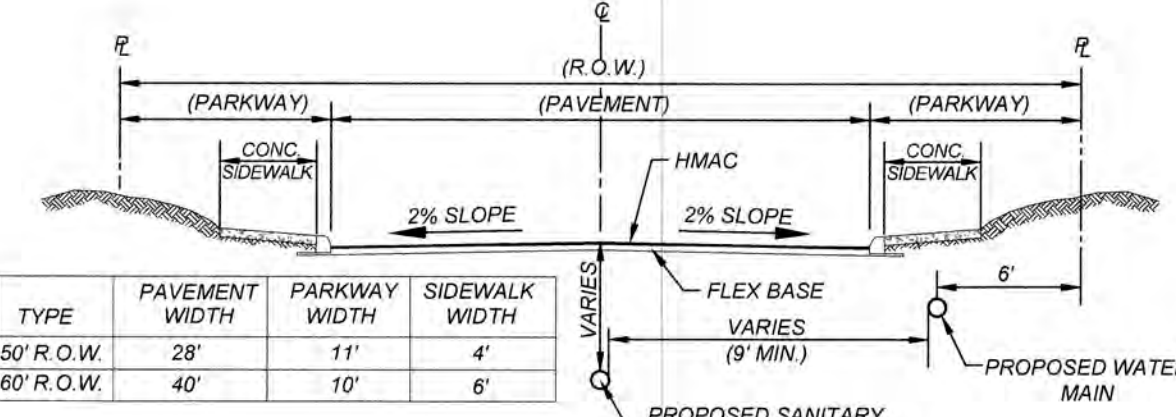
LOCATION MAP  
NOT-TO-SCALE

**LEGEND**

- PROPOSED WATER MAIN = W  
PROPOSED WATER SERVICE & METER BOX = M.B.  
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX = 3/4" IRR.  
PROPOSED FIRE HYDRANT = F.H.  
PROPOSED WATER VALVE = W.V.  
PROPOSED SANITARY SEWER MAIN = S.S.  
PROPOSED SANITARY SEWER MANHOLE = S.S.M.  
PROPOSED ELECTRIC, GAS, TELE., & CABLE TV EASEMENT = E, G, T, & TV ESMT  
EXISTING WATER MAIN = E.W.  
EXISTING FIRE HYDRANT = F.H.  
EXISTING WATER VALVE = W.V.  
EXISTING SANITARY SEWER MAIN = E.S.S.  
EXISTING SANITARY SEWER MANHOLE = E.S.S.M.  
EXISTING OVERHEAD ELECTRIC W/POWER POLE = OHE  
EXISTING GUY WIRE/OVERHEAD ELECTRIC = OHE



TYPICAL CONDUIT DETAIL  
NOT-TO-SCALE



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)

**FIRE FLOW NOTE:**

IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

**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.

**GATES SUBDIVISION UNIT 2**  
BEXAR COUNTY, TX  
**WATER DISTRIBUTION PLAN (SHEET 1 OF 2)**

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

**TRENCH EXCAVATION SAFETY PROTECTION**  
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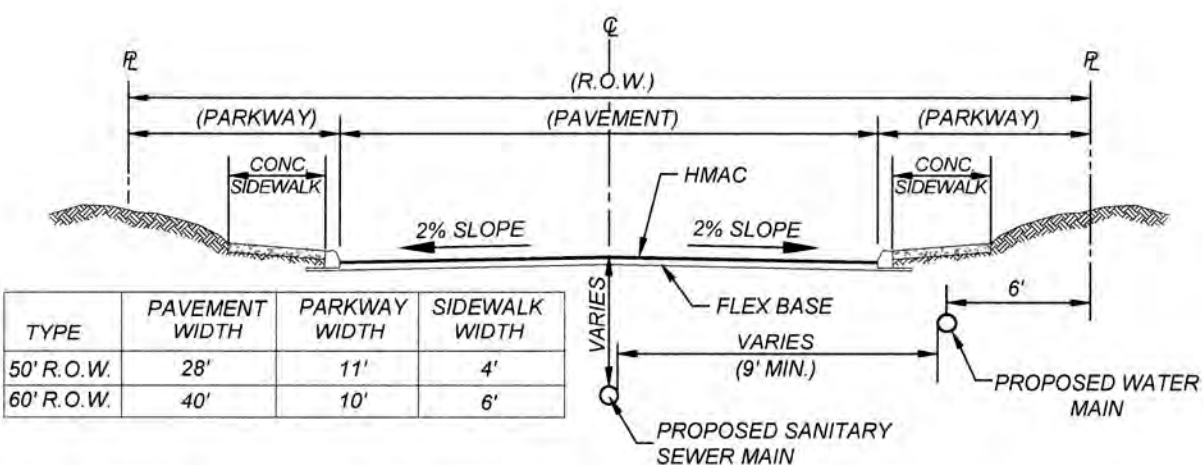
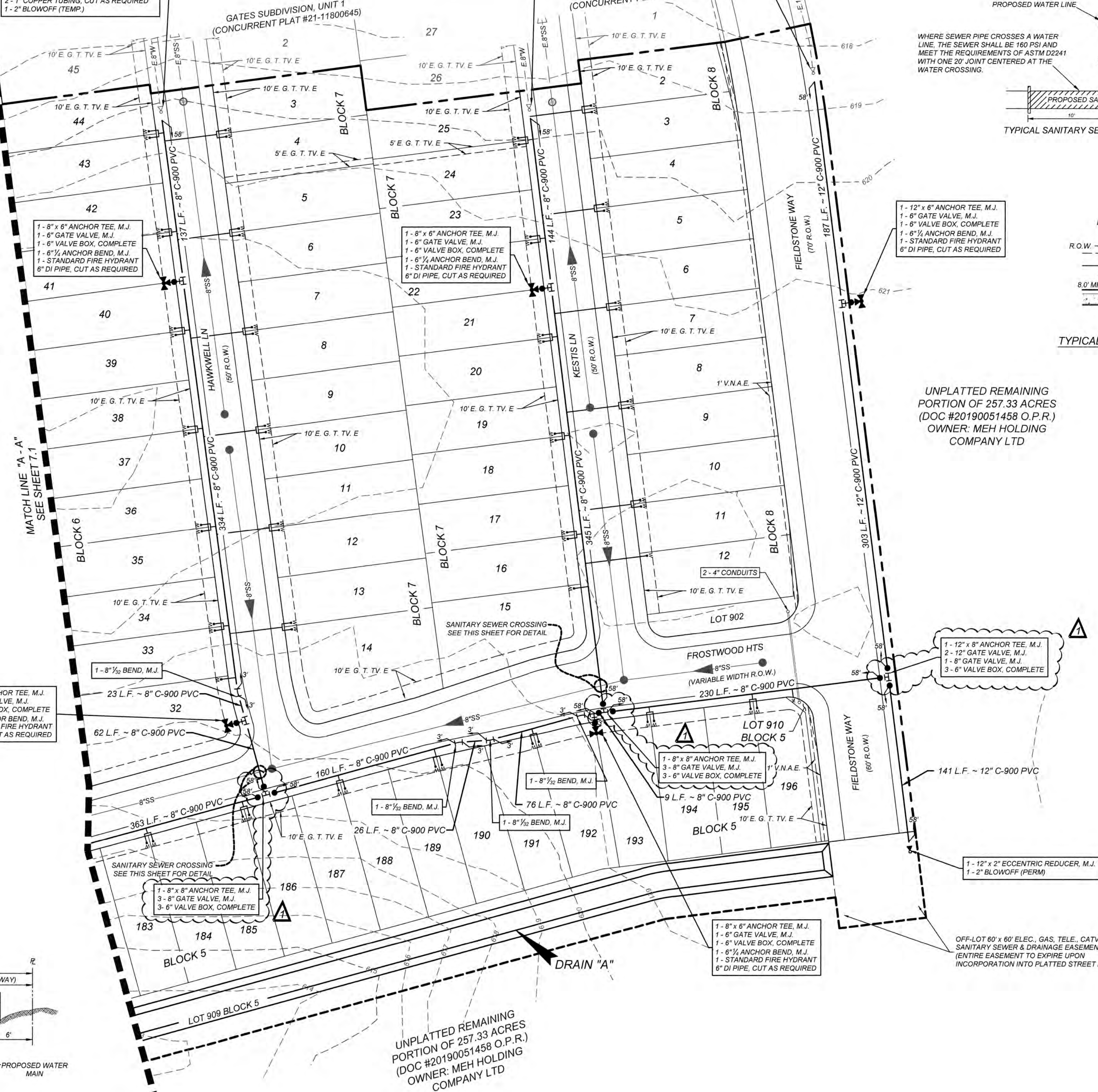
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CONTRACTOR TO REMOVE EXISTING 2" END BLOWOFF AND TIE NEW 8" PVC PIPE TO EXISTING 8" PVC AFTER CHLORINATION AND ACCEPTANCE BY S.A.W.S. (SAWS JOB #21-0000)  
INSTALL FOR CHLORINATION INJECTION  
2 - 1" CORP. STOP C.C. x I.P.  
2 - 1" COMP. x 1 1/2" CPL CURB STOP  
2 - 1 1/2" SOLID CAP. THD.  
2 - 1" COPPER TUBING, CUT AS REQUIRED  
1 - 2" BLOWOFF (TEMP.)

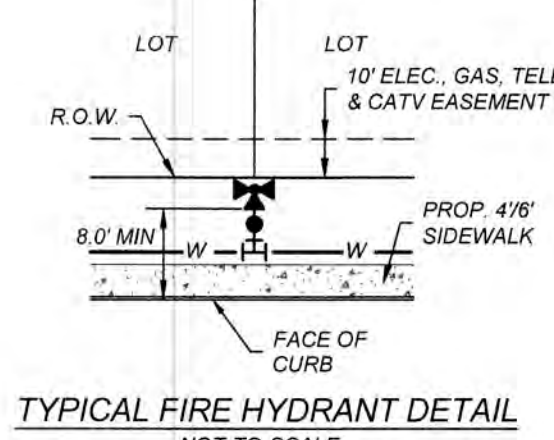
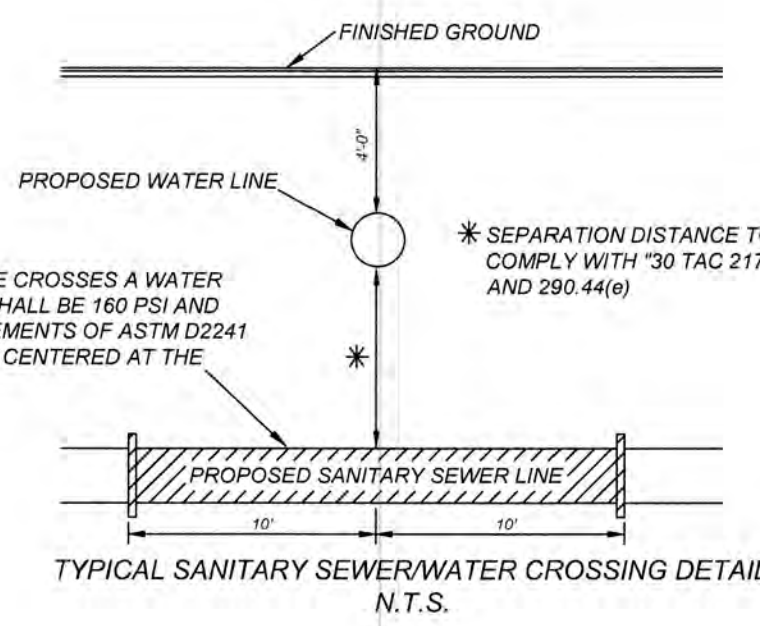
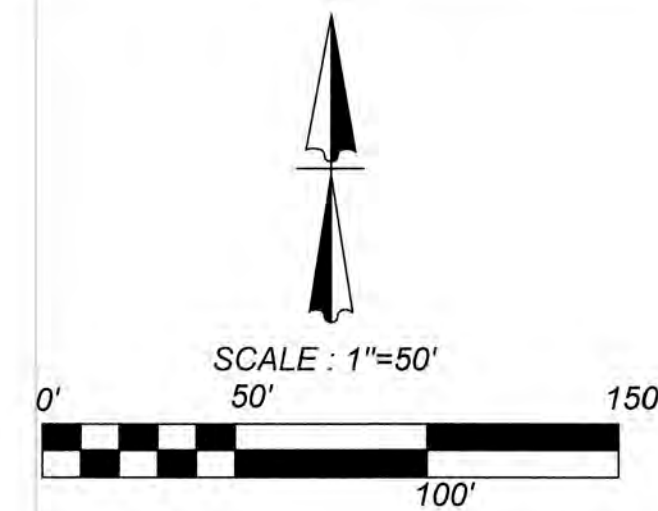
CONTRACTOR TO REMOVE EXISTING 2" END BLOWOFF AND TIE NEW 12" PVC PIPE TO EXISTING 12" PVC AFTER CHLORINATION AND ACCEPTANCE BY S.A.W.S. (SAWS JOB #21-0000)  
INSTALL FOR CHLORINATION INJECTION  
2 - 1" CORP. STOP C.C. x I.P.  
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2 - 1 1/2" SOLID CAP. THD.  
2 - 1" COPPER TUBING, CUT AS REQUIRED  
1 - 2" BLOWOFF (TEMP.)

CONTRACTOR TO REMOVE EXISTING 2" END BLOWOFF AND TIE NEW 12" PVC PIPE TO EXISTING 12" PVC AFTER CHLORINATION AND ACCEPTANCE BY S.A.W.S. (SAWS JOB #21-0000)  
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2 - 1 1/2" SOLID CAP. THD.  
2 - 1" COPPER TUBING, CUT AS REQUIRED  
1 - 2" BLOWOFF (TEMP.)

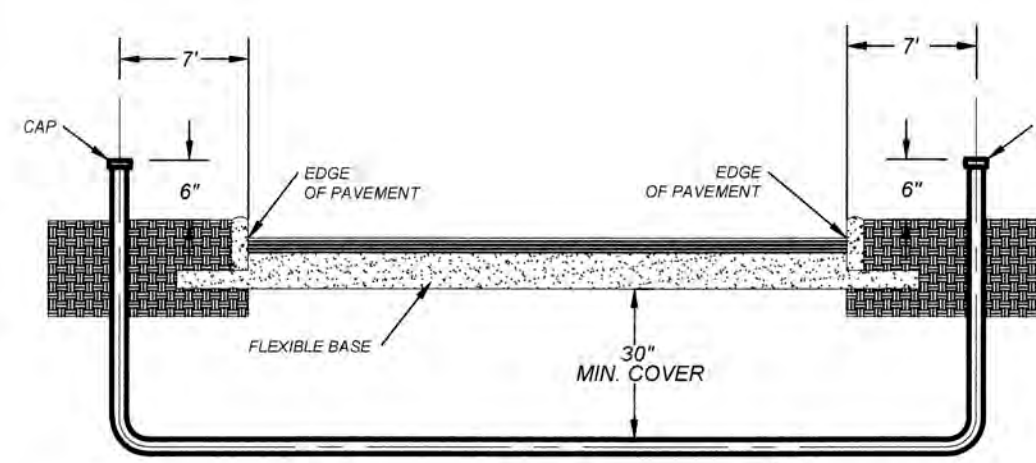


TYPE	PAVEMENT WIDTH	PARKWAY WIDTH	SIDEWALK WIDTH
50' R.O.W.	28'	11'	4'
60' R.O.W.	40'	10'	6'

TYPICAL STREET SECTION  
N.T.S.



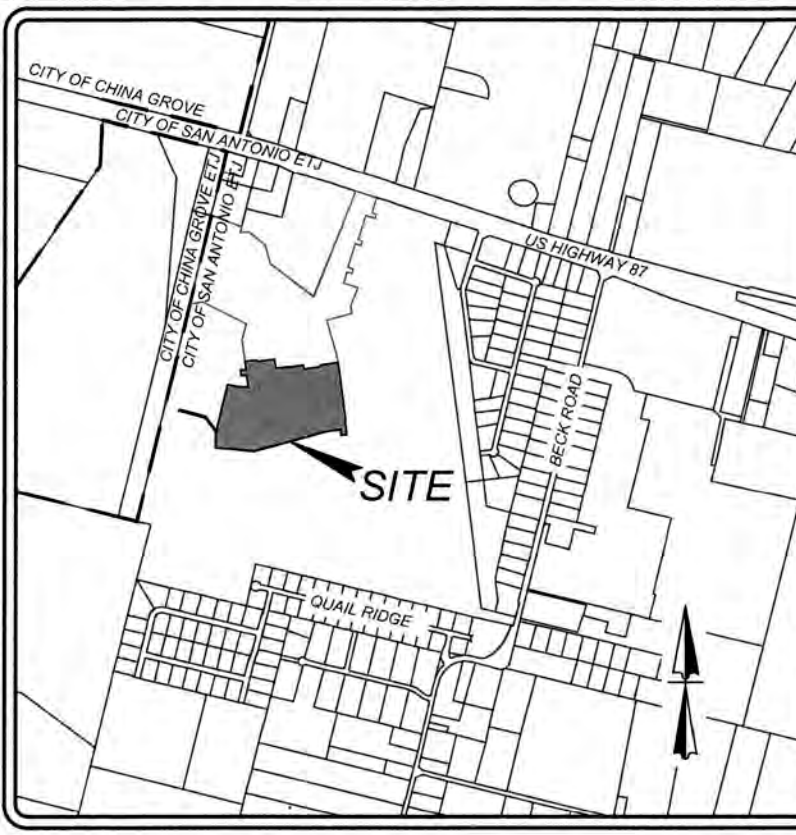
UNPLATTED REMAINING PORTION OF 257.33 ACRES (DOC #20190051458 O.P.R.) OWNER: MEH HOLDING COMPANY LTD



**WATER PLAN NOTES:**  
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2. ALL PVC PIPE TO BE C-900 CLASS 235 (DR 18)

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TESTING OF PRESSURE PIPELINES

1.0 DESCRIPTION

This item shall govern the furnishing of all labor, materials, tools, equipment and related items required to perform hydrostatic testing of Ductile Iron and Polyvinyl Chloride (PVC) pressure pipelines for integrity and leakage.

2.0 MATERIALS

Not applicable.

3.0 CONSTRUCTION METHODS

A. For Ductile Iron Pipe, make hydrostatic pressure and leakage tests on entire pipeline in accordance with AWWA Standard C600-99, Section 5.2.

B. For PVC Pipe, make hydrostatic pressure and leakage tests on entire pipeline in accordance with AWWA Standard C605-94, Section 7.3.

C. Furnish all labor equipment, including test pump with regulated by-pass meters and gauges required for conducting pipeline tests. Furnish equipment and necessary piping as required to transport water used in testing from source to test location.

D. Schedule time and sequence of testing, subject to observation and approval by the Owner or Owner's Representative. Provide adequate labor, tools and equipment to operate valves and to locate and repair leaks discovered during the initial filling of the pipeline prior to actual testing or during the course of the tests.

E. After the pipe has been laid and backfilled and the backfill has been jettied or otherwise consolidated, subject all newly laid pipe or valved section thereof to the hydrostatic pressure specified below for the particular type of pipe. The duration of each pressure test shall be at least four hours, unless otherwise specified or noted on the plans. Disconnect all meters, fixtures, devices or appliances which are connected to the pipeline system and which might be damaged if subjected to the specified test pressure. Cap or plug the ends of the branch lines during the testing procedure.

F. Fill each valved (capped or plugged) section of pipe slowly with water and expel all air. If permanent air vents are not located at all high points, install corporation or blow-off cocks at such points so that the air can be expelled as filling takes place. After verification that all air has been expelled, close the cocks and keep the pipe filled until tested. Examine unopened pipe, fittings, valves, hydrants and joints while under test pressure. Visible leaks shall be stopped. Remove and replace cracked or defective pipe, fittings, valves or hydrants discovered during testing. Replacement shall be with sound material. Repeat the test until specified requirements are achieved.

G. Where any section of a pipeline is proved with concrete thrust blocking, do not make hydrostatic pressure test until at least five days have elapsed after installation of the blocking.

H. Pressure/Leakage Tests

1. The duration of the hydrostatic test shall be a minimum of four (4) hours.

2. The pipeline shall be tested so that the pressure at the highest point in the test section is not less than 200 psi.

3. The maximum allowable leakage is the number of gallons per hour as determined by the following formulas.

a. For Ductile Iron Pipe:

$L = \frac{SD\sqrt{P}}{133,200}$

Where:

L = allowable leakage, in gallons per hour

S = length of pipe tested, in feet

D = nominal diameter of the pipe, in inches

P = 200, in psi

b. For PVC Pipe:

$L = \frac{ND\sqrt{P}}{7,400}$

Where:

L = allowable leakage, in gallons per hour

N = number of joints in the length of pipeline tested

D = nominal diameter of the pipe, in inches

P = 200, in psi

H. Final Acceptance

1. No pipe installation will be accepted until known leaks have been repaired, whether or not leakage is within allowable limits. Locate and repair leaks at no additional cost to the Owner.

2. The Contractor will certify that all required pressure and leakage tests have been successfully completed before the pipeline is accepted.

I. Special Project Requirements

Water Source: Obtaining water for testing purposes shall be the responsibility of the Contractor. The Contractor shall provide all equipment and labor required to transport water from the source to the test point.

4.0 MEASUREMENT AND PAYMENT

No direct measurement or payment will be made for the work to be done or the equipment to be furnished under this item, but shall be considered subsidiary to the particular items of work for which unit prices are required in the proposal.

East Central

SD

TESTING FOR PRESSURE PIPELINES

APPROVED  
JULY 2022

REVISED

DET-100-01

SHEET  
1 OF 1

PIPE TAPPING SCHEDULE

PIPE DIAMETER	SERVICE SIZE		
	1"	1 1/2"	2"
6" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
6" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
16" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
16" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle

\* Tailpieces Supplied by ECSUD w/ Cost of Meter

Water Main

1" x 3/4" Flanged Angle Valve (Ball-type only See Note)

Concrete Base (Where Required)

1" CORPORATION STOP I.P. x Polyethylene

Bedding with Pit Sand

Nominal Pipe Size x 1" Min. Tapped Boss Tee

1" POLYETHYLENE TUBING

Customer Cut-Off Valve

Property Line

SCH 80 PVC 3/4" Brass Dual Check Valve & 3/4" x 1" Bell Reducer (District Supplied)

1 1/2" & 2" SERVICE TAPPED TEE

NOTE:  
1. No Direct Tap to Main, Saddle Required  
2. Anything Under 1 1/2" will use a angle valve with meter  
3. Anything Greater Than 1 1/2" Will Use a Angle x Flange  
FOR PERFERED MANUFACTURERS SEE STANDARD SPECIFICATIONS

East Central

SD

SERVICE INSTALLATION TAPPING SCHEDULE

APPROVED  
JULY 2022

REVISED

DET-824-01

SHEET  
1 OF 1

SINGLE SERVICE LINE - SINGLE METER

Property Line

Lot "E"

2'

Property Line

Lot "F"

Property Line

Property Line

Curb

Water Main

Meters

2'

Property Line

Lot "C"

2'

Property Line

Lot "D"

Property Line

(B) Blue Color - Polyethylene w/ 2" schedule 40 PVC Casing Under Pavement Width

NOTE:  
1. All Services to have Tracer Wire Installed.  
2. All Service to be Sand Bedded with Pit Sand.  
3. Service Casing Pipe Shall Extend Outside the Curb and End 3' Prior to Main.

East Central

SD

TYPICAL SERVICE ARRANGEMENT

APPROVED  
JULY 2022

REVISED

DET-824-05

SHEET  
1 OF 1

SINGLE SERVICE LINE - DUAL METER

Property Line

Lot "E"

2'

Property Line

Lot "F"

4' - 0"

Meter

(A) Polyethylene

(C) Tee

Property Line

Curb

(B) Blue Color - Polyethylene w/ 2" Schedule 40 PVC Casing Under Pavement Width

Water Main

Property Line

(C) Tee

(A) Polyethylene

Meters

4' - 0"

Meters

(B) Polyethylene

(A) Polyethylene

Property Line

Lot "G"

2'

Property Line

Lot "H"

2'

Property Line

(A) Angle Valves (Ball-type only)

(A) Polyethylene

(C) Tee

(B) Polyethylene

DETAIL

SINGLE SERVICE LINE - DUAL METER

Type of Service	A	B	C
1" Service 2 - 3/4" Meters	3/4"	1"	3/4"x3/4"x1"
1 1/2" Service 2 - 1" Meters	1"	1 1/2"	1" x 1" x 1 1/2"

East Central

SD

TYPICAL RURAL SERVICE ARRANGEMENT

APPROVED  
JULY 2022

REVISED

DET-824-05

SHEET  
2 OF 4

SINGLE SERVICE LINE - DUAL METER

Property Line

Lot "E"

2'

Property Line

Lot "F"

2'

Meters

7 1/2"

Meters

(A) Ford Dual Meter Manifold UVB43-42W-NL

Property Line

(B) Polyethylene

Curb

(B) Blue Color - Polyethylene w/ 2" schedule 40 PVC Casing Under Pavement Width

Water Main

Property Line

(A) Ford Dual Meter Manifold UVB43-42W-NL

(B) Polyethylene

Meters

7 1/2"

Meters

Property Line

Lot "G"

2'

Property Line

Lot "H"

2'

Property Line

(A) Angle Ball Meter Valves With Saddle Nuts

(C) Pack Joint Nut

(B) Polyethylene

(A) Ford Dual Meter Manifold UVB43-42W-NL

DETAIL

SINGLE SERVICE LINE - DUAL METER

Type of Service	A	B	C
Dual Meter 2 - 3/4" Meters	1"	1"	1"

East Central

SD

TYPICAL HIGH DENSITY RESIDENTIAL SERVICE ARRANGEMENT

APPROVED  
JULY 2022

REVISED

DET-824-05

SHEET  
3 OF 4

SINGLE SERVICE LINE - DUAL METER W/ EASEMENT

Property Line

Lot "E"

2'

Property Line

Lot "F"

7'

Property Line

Meter

4' - 0"

Meter

(A) Polyethylene

(C) Tee

Curb

(B) Blue Color - Polyethylene w/ 2" Schedule 40 PVC Casing Under Pavement Width

Water Main

Property Line

(B) Polyethylene

(A) Copper

Meters

14' - 0"

Meters

Property Line

Lot "G"

7'

Property Line

Lot "H"

7'

Property Line

5" Elec. Tele. Gas & Cable Easmt

5" Elec. Tele. Gas & Cable Easmt

DETAIL

SINGLE SERVICE LINE W/ EASEMENT

Type of Service	A	B	C
1" Service 2 - 3/4" Meters	3/4"	1"	3/4"x3/4"x1"
1 1/2" Service 2 - 1" Meters	1"	1 1/2"	1" x 1" x 1 1/2"

East Central

SD

TYPICAL SERVICE ARRANGEMENT

APPROVED  
JULY 2022

REVISED

DET-824-05

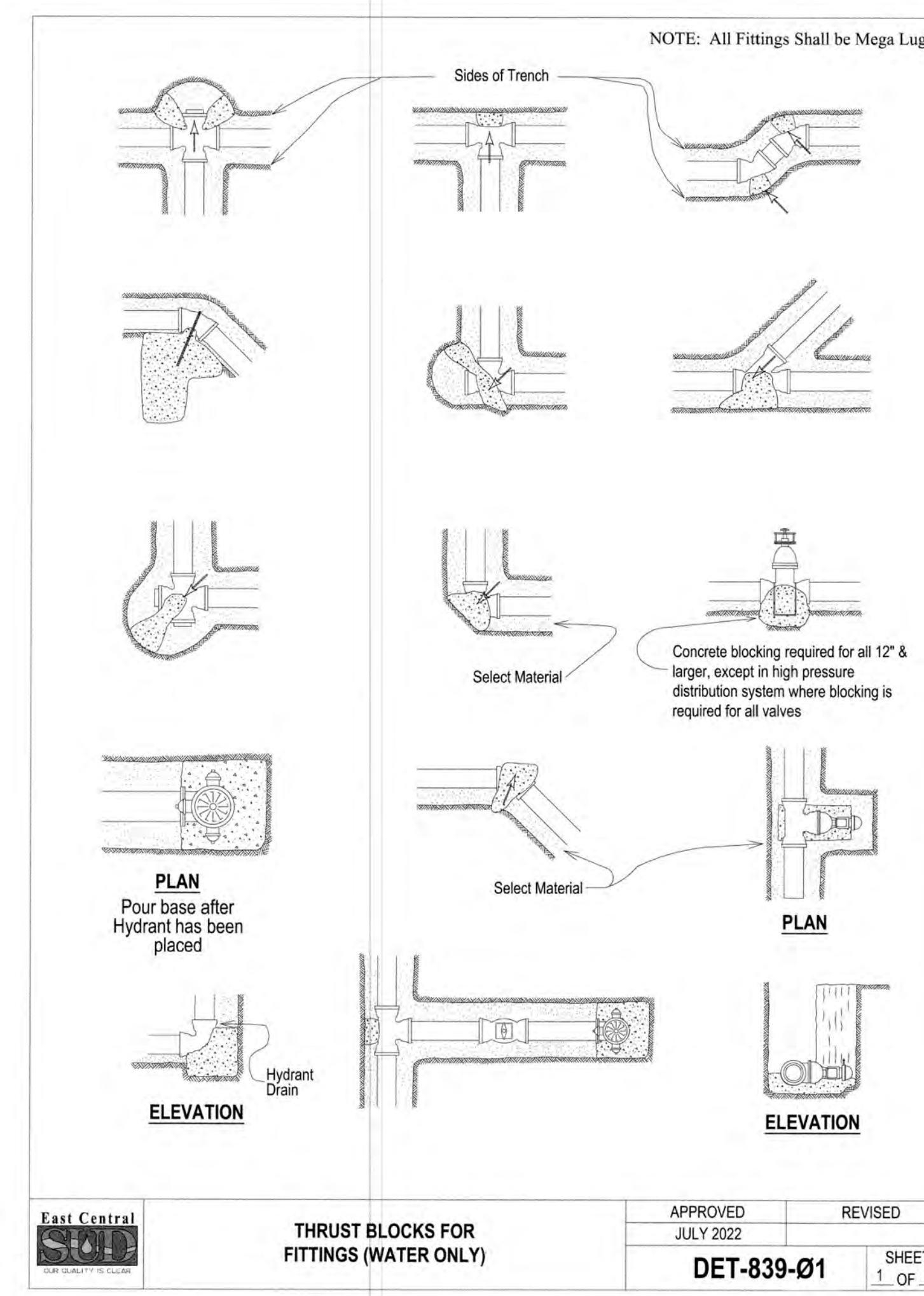
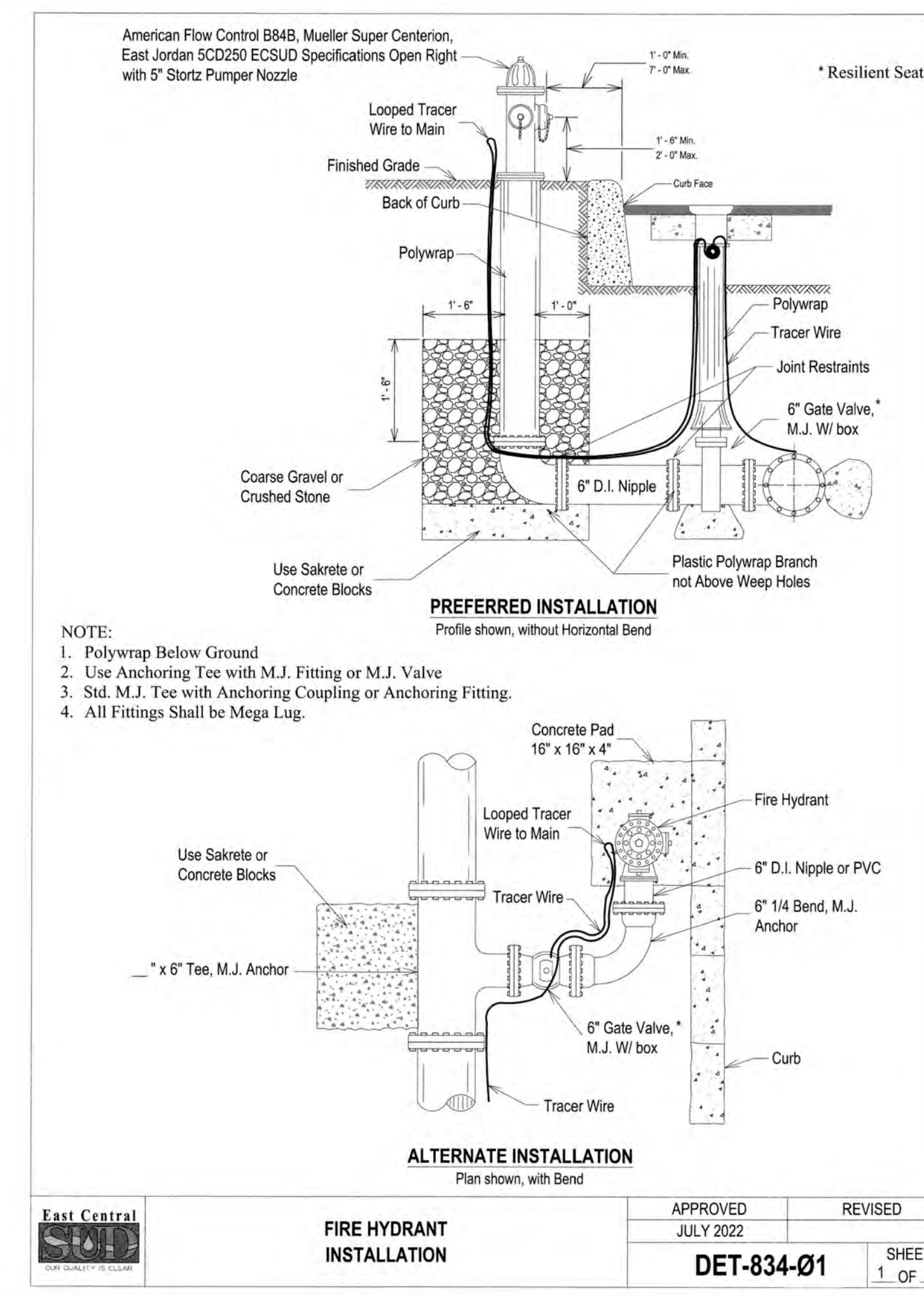
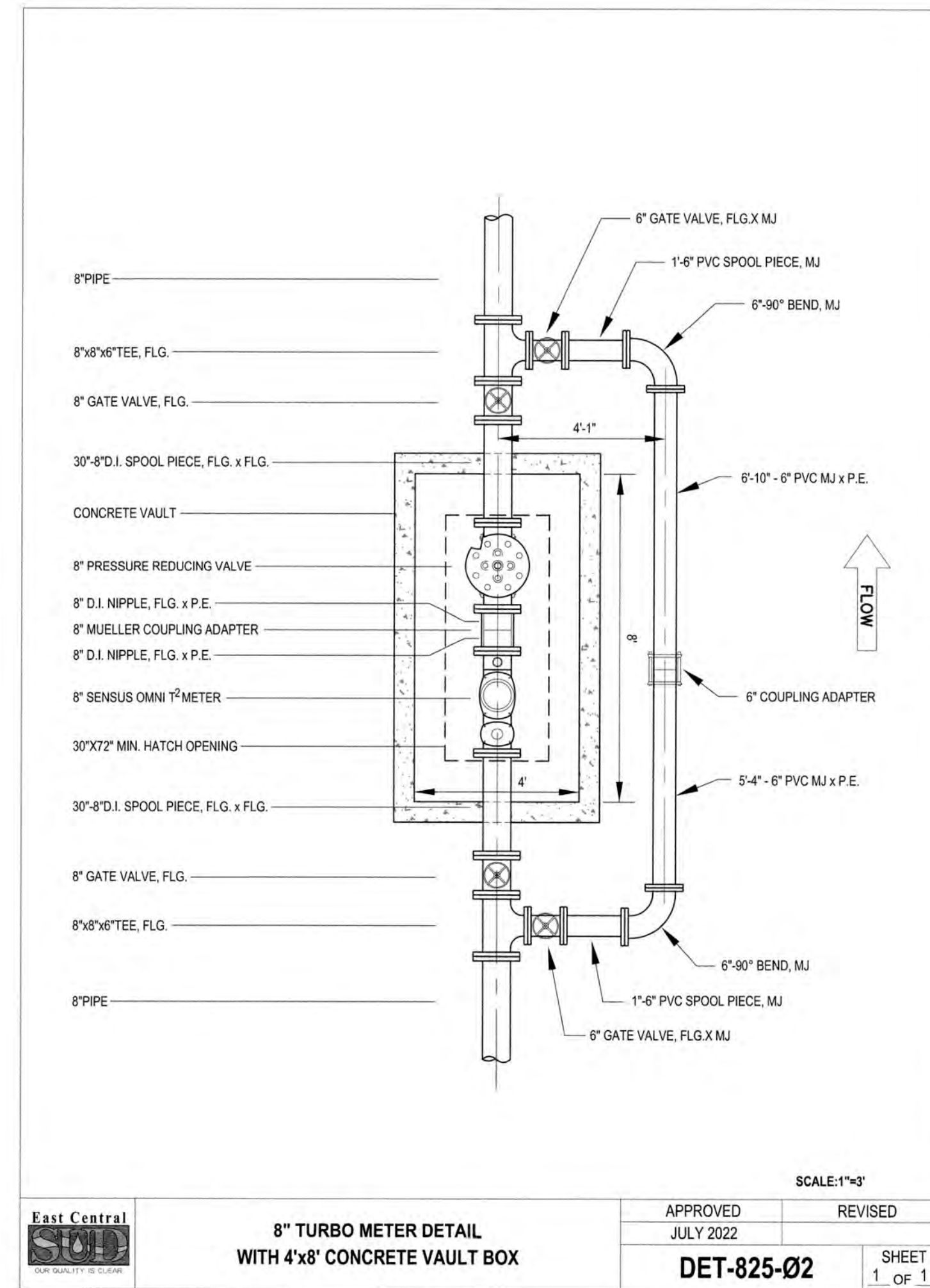
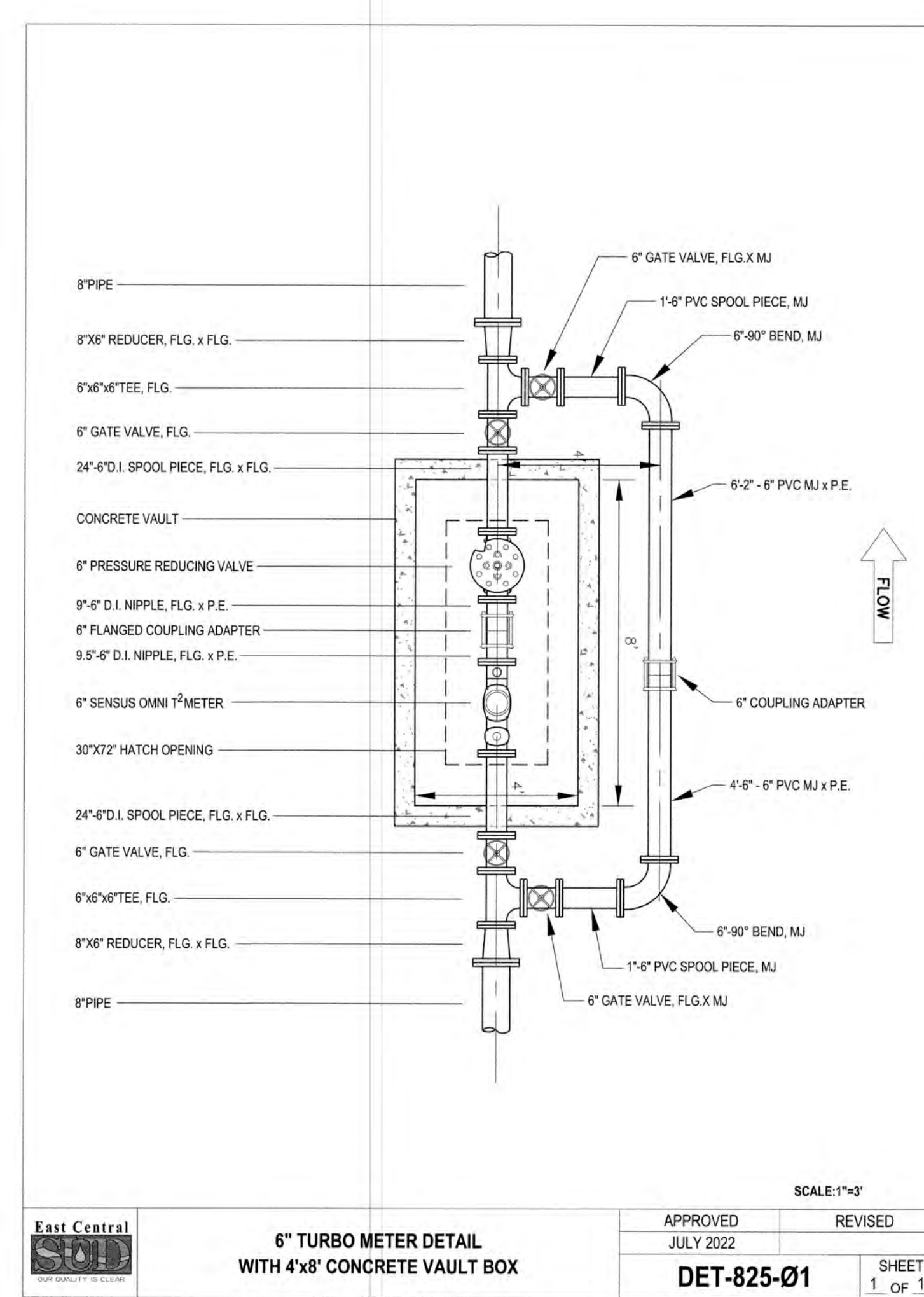
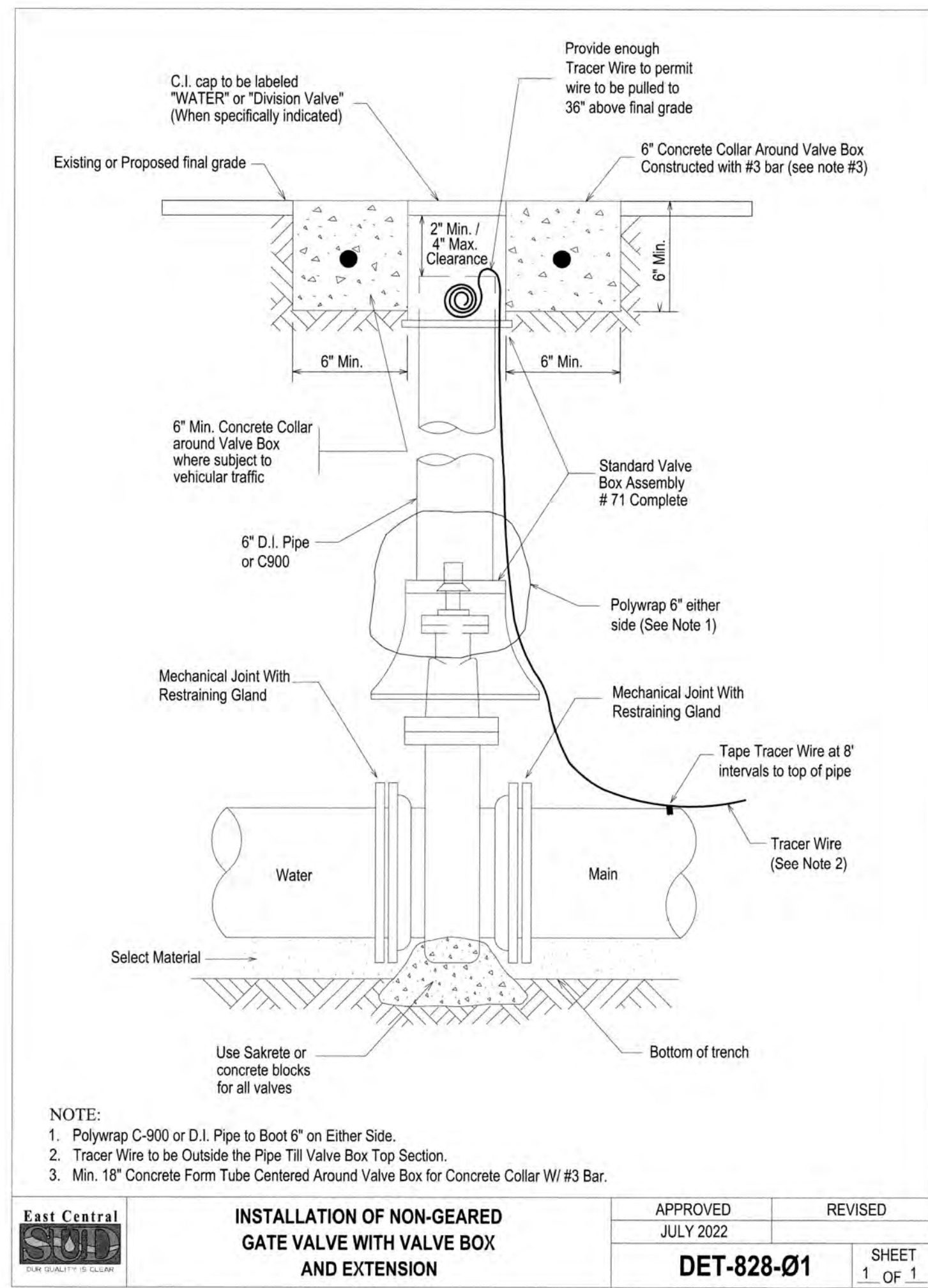
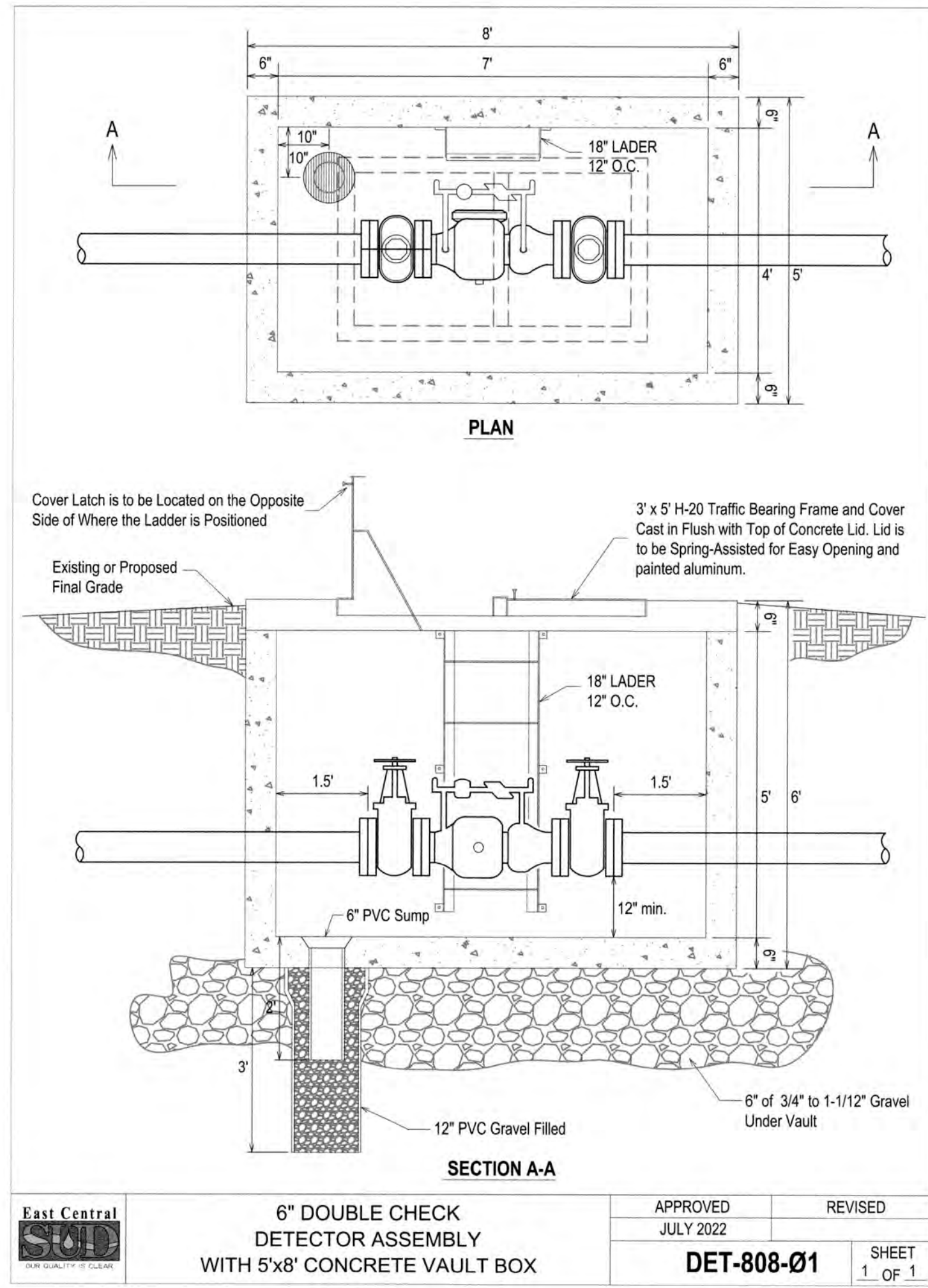
SHEET  
4 OF 4

GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
WATER DISTRIBUTION PLAN DETAILS (SHEET 1 OF 4)

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:

7.3

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.

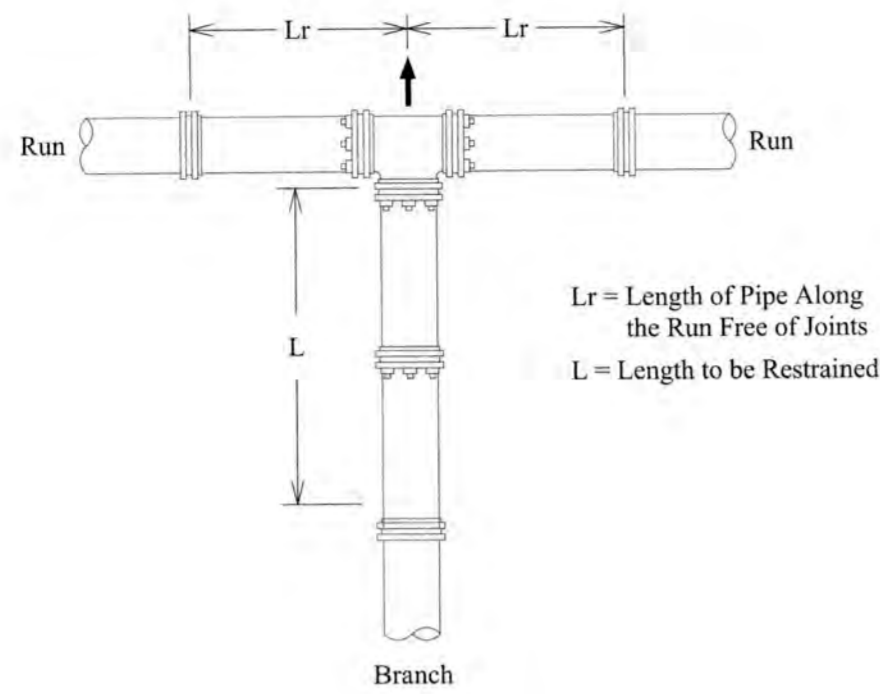


GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
WATER DISTRIBUTION PLAN DETAILS (SHEET 2 OF 4)

PLAT NO. 22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER: 7.4

KFW  
ENGINEERS + SURVEYING  
3421 Passano Pkwy, Suite 200, San Antonio, TX 78231  
Phone #: (210) 978-8444 • Fax #: (210) 978-8441  
TBP# Firm #: 9513 • TBP#S Firm #: 1012300

STATE OF TEXAS  
CLAYTON J. LINNEY  
11543  
LICENSED PROFESSIONAL ENGINEER  
11/14/2023



RESTRAINED LENGTH FOR TEES				
PIPE SIZE (Inch)	BRANCH SIZE (Inch)	LENGTH OF RUN (Feet)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
6	4	0	42	31
6	4	5	7	1
6	4	10	1	1
6	6	0	59	44
6	6	5	35	20
6	6	10	11	1
8	4	0	42	31
8	4	5	1	1
8	6	0	59	44
8	6	5	28	13
8	6	10	1	1
8	8	0	77	58
8	8	5	53	34
8	8	10	30	11
8	8	15	6	1

#### RESTRAINED LENGTH DESIGN

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

##### NOTE:

- These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
- All joints within the calculated length must be restrained.
- If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.

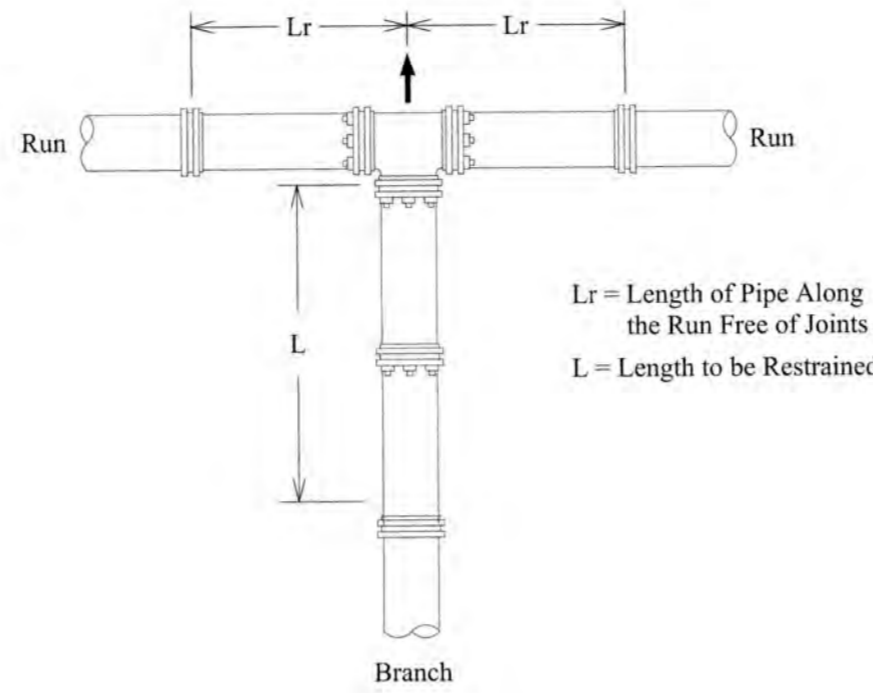


#### RESTRAINED LENGTHS FOR TEES

APPROVED  
MARCH 2020

SHEET  
1 OF 2

DET-839-04



RESTRAINED LENGTH FOR TEES				
PIPE SIZE (Inch)	BRANCH SIZE (Inch)	LENGTH OF RUN (Feet)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
12	4	0	42	31
12	4	5	1	1
12	6	0	59	44
12	6	5	13	1
12	6	10	1	1
12	8	0	77	58
12	8	5	42	23
12	8	10	7	1
12	8	15	1	1
12	12	0	109	82
12	12	5	86	59
12	12	10	63	35
12	12	15	39	12

#### RESTRAINED LENGTH DESIGN

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

##### NOTE:

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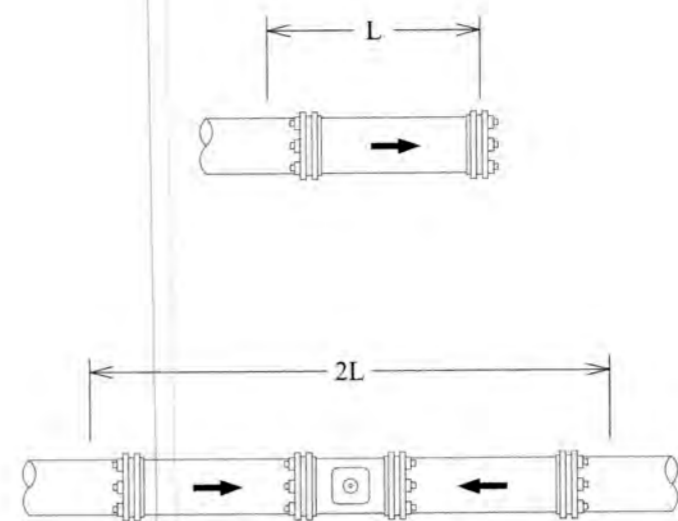


#### RESTRAINED LENGTHS FOR TEES

APPROVED  
MARCH 2020

SHEET  
2 OF 2

DET-839-04



PIPE SIZE (Inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
6	59	44
8	77	58
10	93	69
12	109	82

#### RESTRAINED LENGTH DESIGN

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

##### NOTE:

- These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
- All joints within the calculated length must be restrained.
- If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.

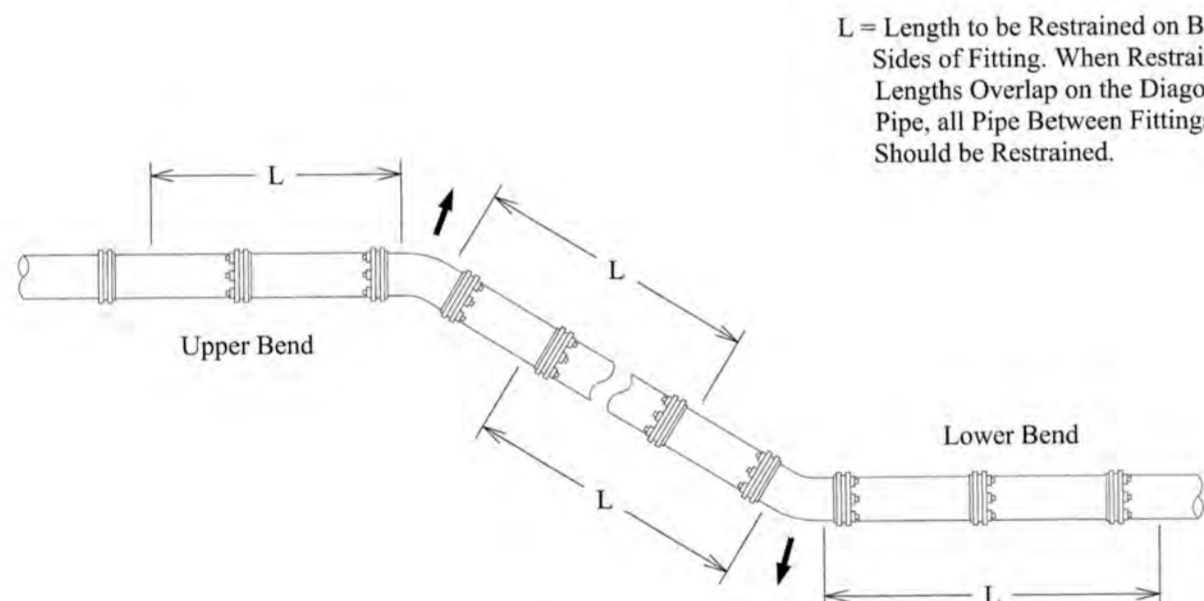


#### RESTRAINED LENGTHS FOR DEAD ENDS / INLINE VALVES

APPROVED  
JULY 2022

SHEET  
1 OF 1

DET-839-05



PIPE SIZE (Inch)	BEND ANGLE (deg)	LOW SIDE DEPTH	UPPER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	LOWER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	UPPER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi	LOWER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
6	45	5	24	8	18	6
6	22.5	5	12	4	9	3
6	11.25	5	6	2	4	1
6	45	10	24	5	18	4
6	22.5	10	12	2	9	2
6	11.25	10	6	1	4	1
8	45	5	32	11	24	8
8	22.5	5	15	5	11	4
8	11.25	5	8	3	6	2
8	45	10	32	7	24	5
8	22.5	10	15	3	11	2
8	11.25	10	8	2	6	1
12	45	5	45	16	34	12
12	22.5	5	22	7	16	6
12	11.25	5	11	4	8	3
12	45	10	45	10	34	7
12	22.5	10	22	5	16	3
12	11.25	10	11	2	8	2

#### RESTRAINED LENGTH DESIGN

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

##### NOTE:

- These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
- All joints within the calculated length must be restrained.
- If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.

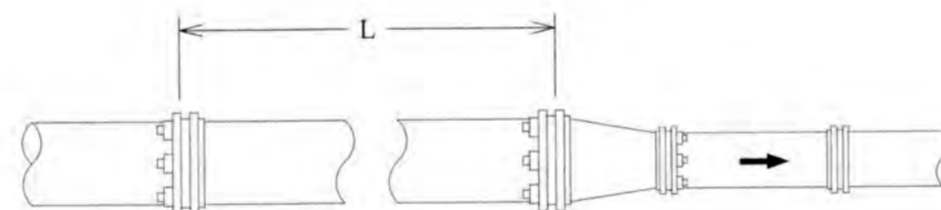


#### RESTRAINED LENGTHS VERTICAL OFFSETS

APPROVED  
JULY 2022

SHEET  
1 OF 1

DET-839-06



PIPE SIZE (Inch)	SMALL SIZE (Inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
6	4	30	23
8	4	55	42
8	6	32	24
12	4	95	71
12	6	80	60
12	8	58	43

#### RESTRAINED LENGTH DESIGN

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

##### NOTE:

- These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
- All joints within the calculated length must be restrained.
- If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.

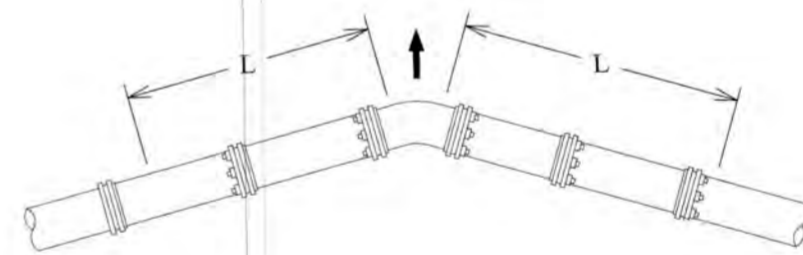


#### RESTRAINED LENGTHS FOR REDUCERS

APPROVED  
JULY 2022

SHEET  
1 OF 1

DET-839-07



PIPE SIZE (Inch)	BEND ANGLE (deg)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
6	90	23	17
6	45	9	7
6	22.5	5	3
6	11.25	2	2
8	90	30	22
8	45	12	9
8	22.5	6	4
8	11.25	3	2
12	90	43	32
12	45	18	13
12	22.5	8	6
12	11.25	4	3

#### RESTRAINED LENGTH DESIGN

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

##### NOTE:

- These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
- All joints within the calculated length must be restrained.
- If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.



#### RESTRAINED LENGTHS FOR HORIZONTAL BENDS

APPROVED  
JULY 2022

SHEET  
1 OF 1

DET-839-08

GATES SUBDIVISION UNIT 2

BEXAR COUNTY, TX

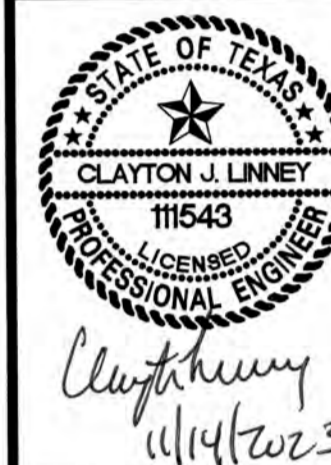
WATER DISTRIBUTION PLAN DETAILS (SHEET 3 OF 4)

PLAT NO.  
22-11800017

JOB NO: 205-43-05  
DATE: NOVEMBER 2021  
DRAWN/OM CHECKED/CL

SHEET NUMBER:

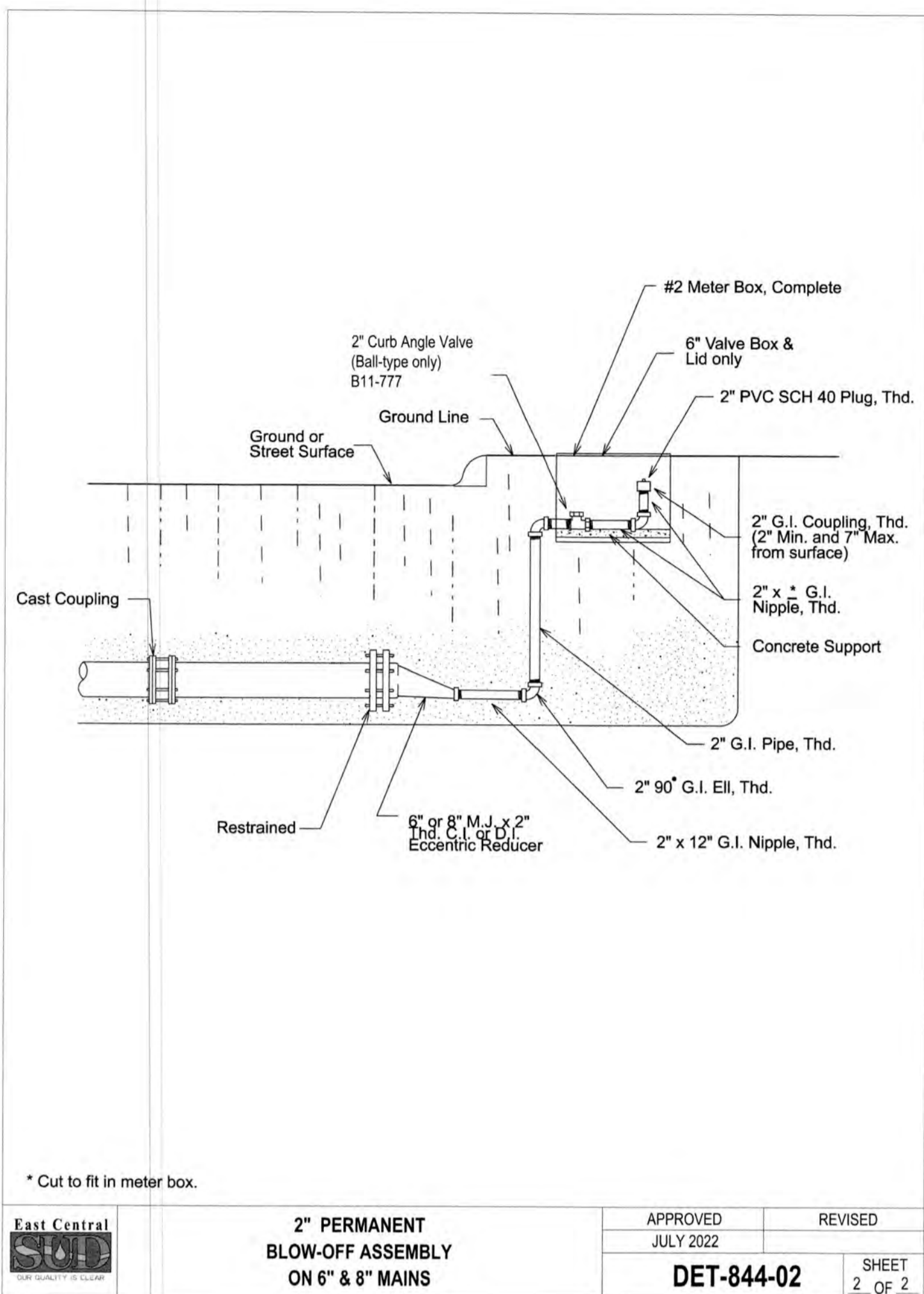
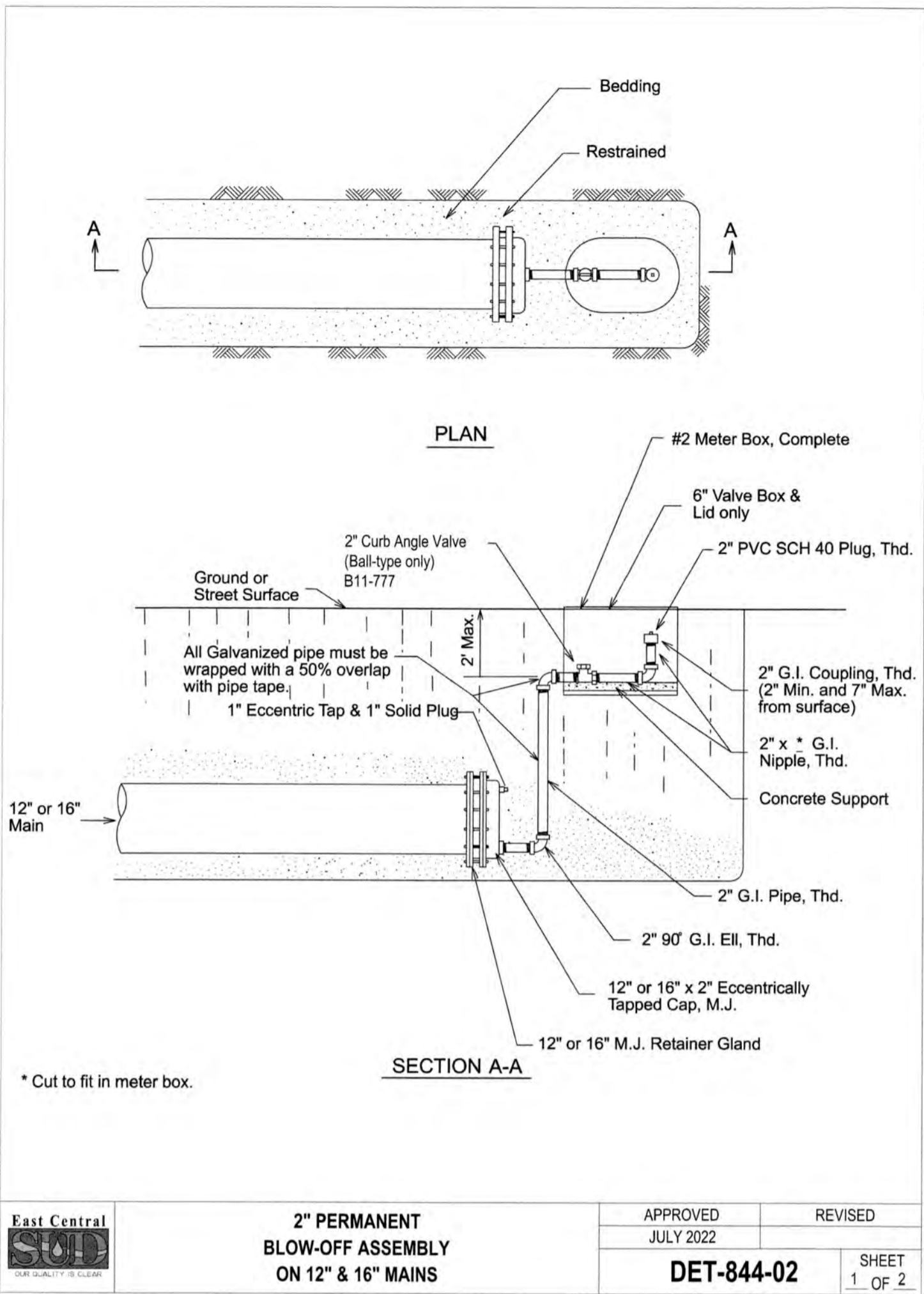
7.5



ISSUE DATE

REVISIONS

**KFW**  
ENGINEERS + SURVEYING  
3421 Passano Pkwy, Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-8444 • Fax #: (210) 979-8441  
TBP# Firm #: 9513 • TBP# LS Firm #: 1012200

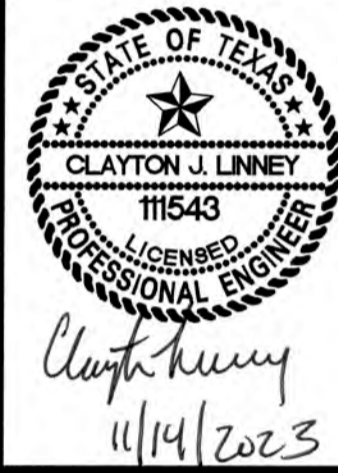


GATES SUBDIVISION UNIT 2  
BEXAR COUNTY, TX  
WATER DISTRIBUTION PLAN DETAILS (SHEET 4 OF 4)

PLAT NO.  
22-11800017

JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: CM CHECKED: CL

SHEET NUMBER:  
7.6



ISSUE DATE

REVISIONS

**KFW**  
**ENGINEERS + SURVEYING**  
3421 Passanios Pkwy, Suite 200, San Antonio, TX 78231  
Phone #: (210) 979-8444 • Fax #: (210) 979-8441  
TAPC Firm #: 9513 • TAPC License #: 10122000

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 THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

1. CONTRACTOR SHOULD LIMIT CONSTRUCTION ACTIVITIES TO ONLY THOSE AREAS SHOWN TO BE DISTURBED ON THIS PLAN. IF ADDITIONAL VEGETATED AREAS ARE DISTURBED, THE CONTRACTOR SHOULD SUBMIT A MODIFICATION WITH THE 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 TO BE TAKEN TO PREVENT SOIL EROSION SHALL BE 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 NOTED WITHIN THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

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

1. 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 TYPES 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.

 LIMITS OF CONSTRUCTION  
 EXISTING CONTOURS  
 PROPOSED CONTOURS  
 FLOW ARROW  
 STABILIZED CONSTRUCTION ENTRANCE/EXIT  
 CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.  
 CONCRETE TRUCK WASHOUT PIT  
 DISTURBED AREA  
 ROCK BERM  
 SILT FENCE PHASE 1  
 (SILT FENCE PHASE 2 ALONG THE FRONT OF LOTS TO BE INSTALLED AFTER PAVING)  
 NATURAL VEGETATIVE BUFFER  
 INLET WITH PROTECTION  
 (GRAVEL FILTER BAGS)

1. **CONTACT TIME WARRNER 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) 704-7227**
6. **CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.**

DATE	SIGNATURE	DESCRIPTION

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

PLAT NO.  
22-11800017

JOB NO. 205-43-05

DATE: NOVEMBER 2021

DRAWN:OM CHECKED:CL

SHEET NUMBER:

8.0

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 CONCOIDE 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.

PROJECT COMPLETION:

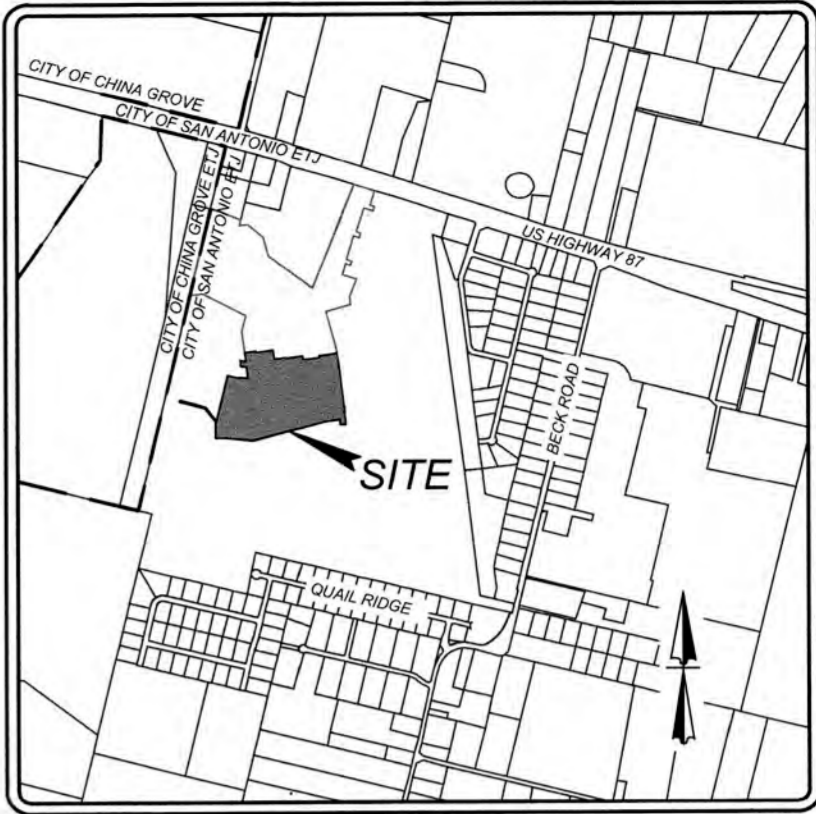
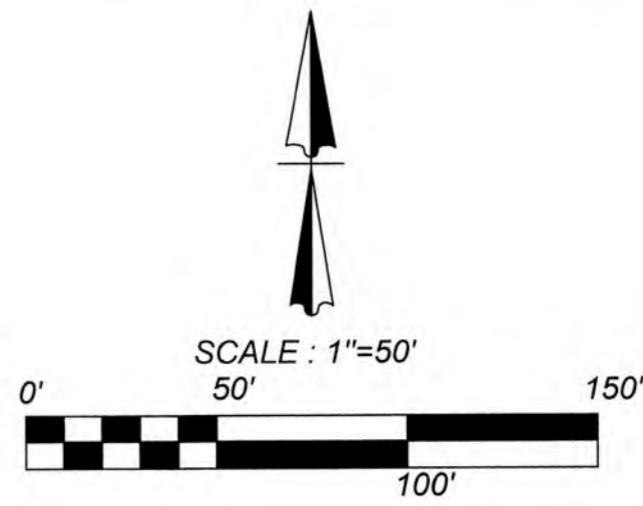
1. ALL DISTURBED AREAS ARE NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMP'S AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).
2. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN PHASES IF ALL UPGRADE AREAS HAVE BEEN STABILIZED 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:

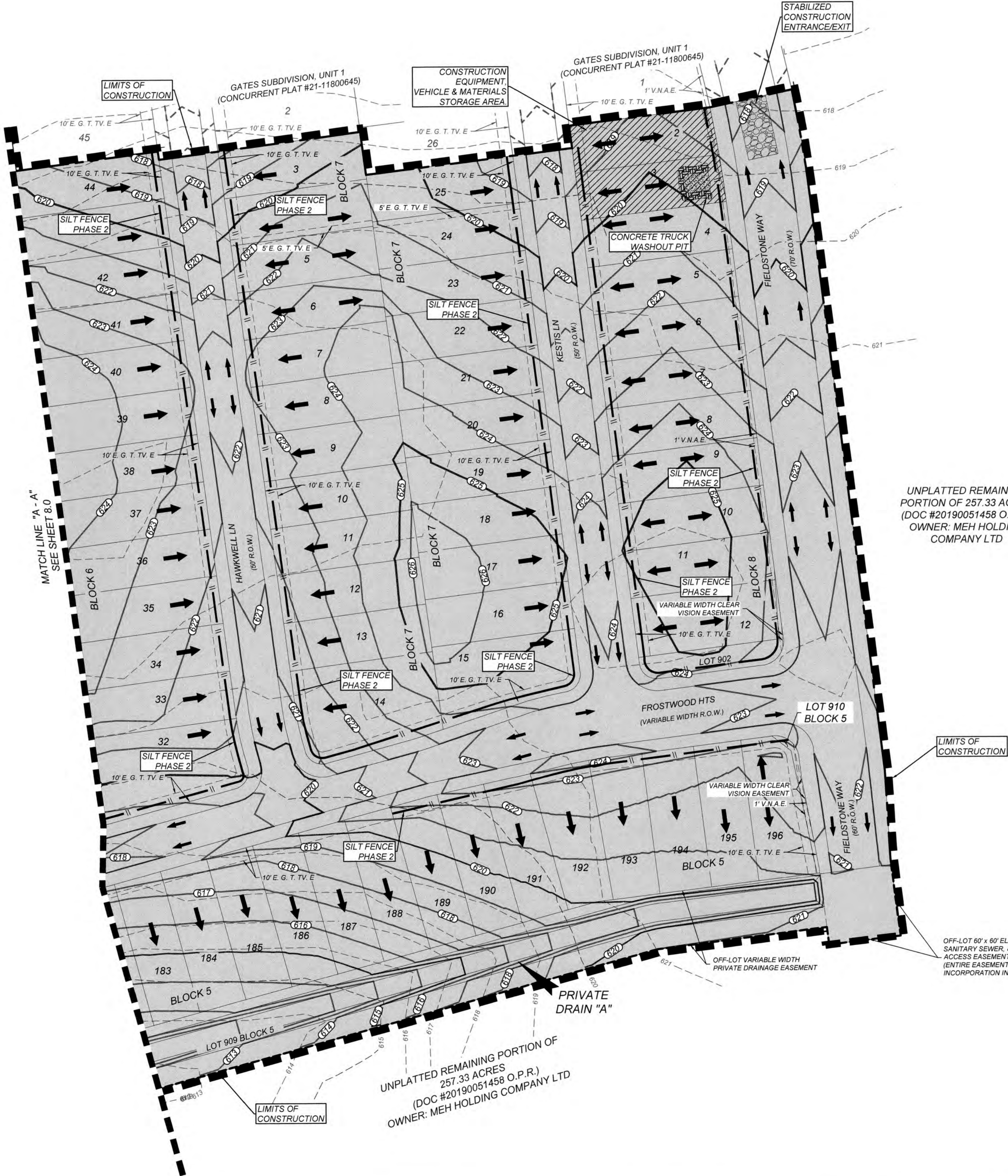
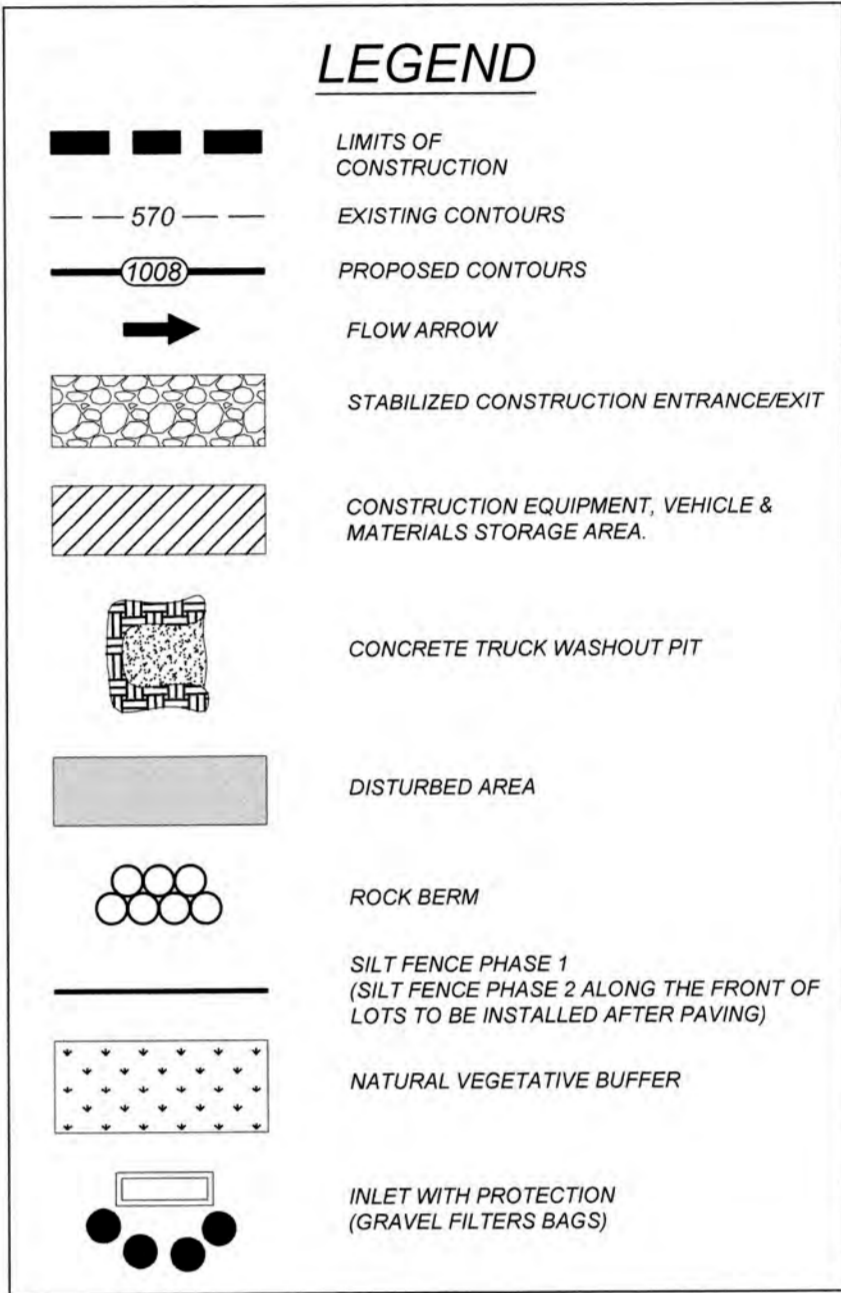
1. THIS EXHIBIT IS TO BE USED FOR THE PURPOSES OF STORMWATER POLLUTION PREVENTION ONLY. ALL OTHER CIVIL ENGINEERING INFORMATION SHOULD BE OBTAINED FROM THE APPROPRIATE CONSTRUCTION DOCUMENTS.
2. THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE 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.

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.



LOCATION MAP  
NOT-TO-SCALE



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

COORDINATION NOTE:

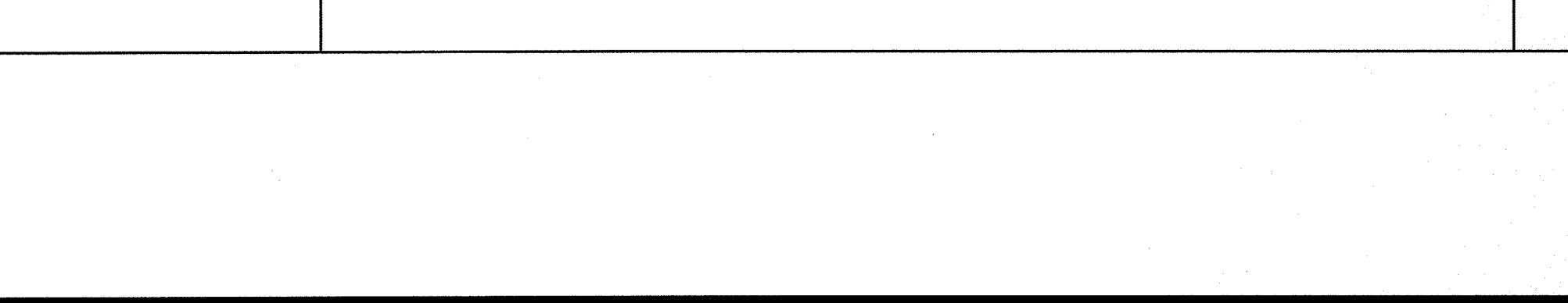
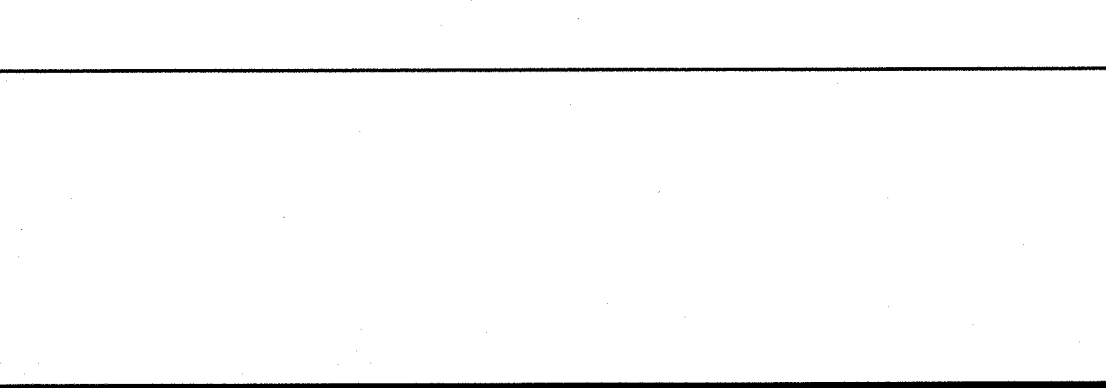
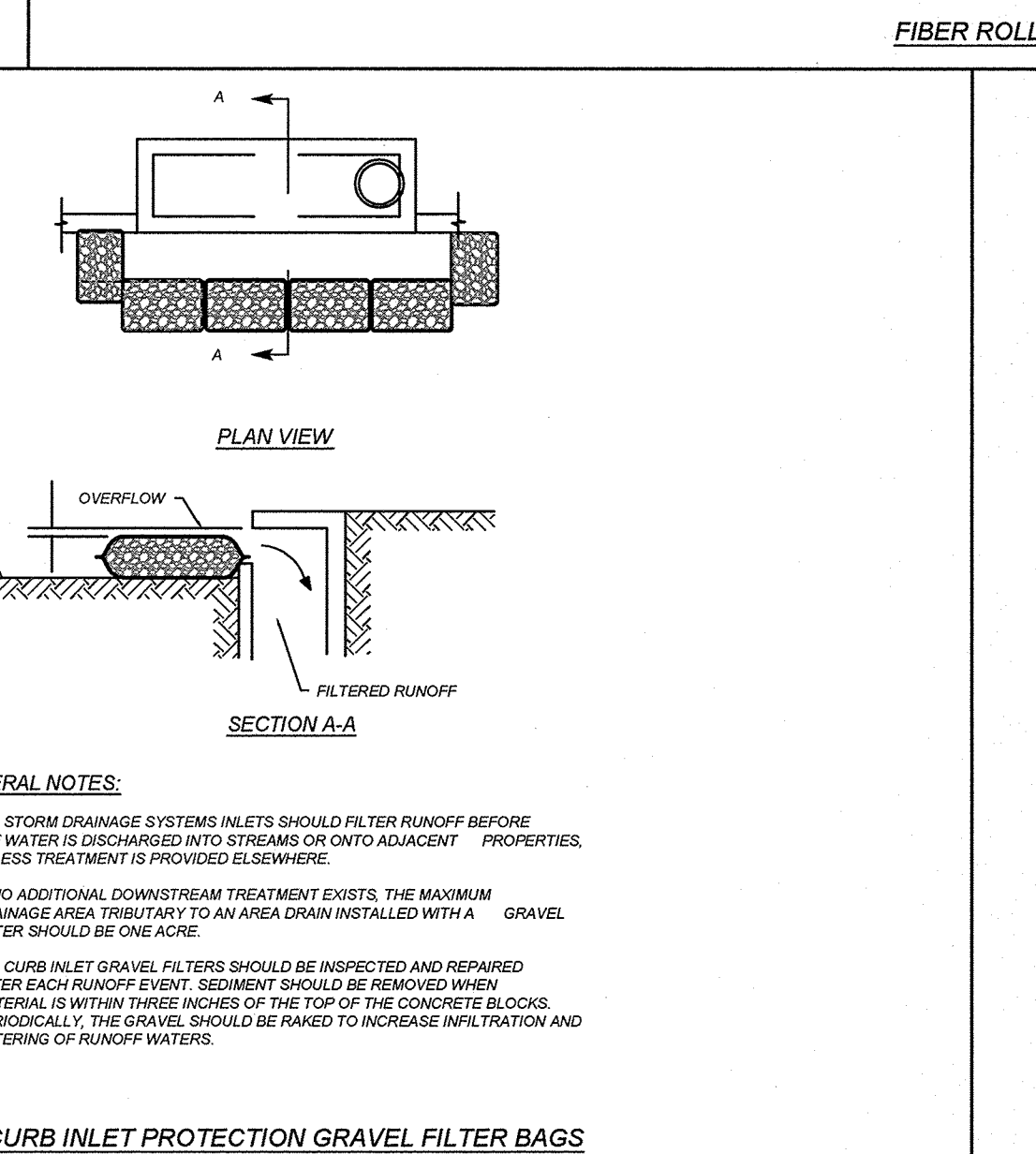
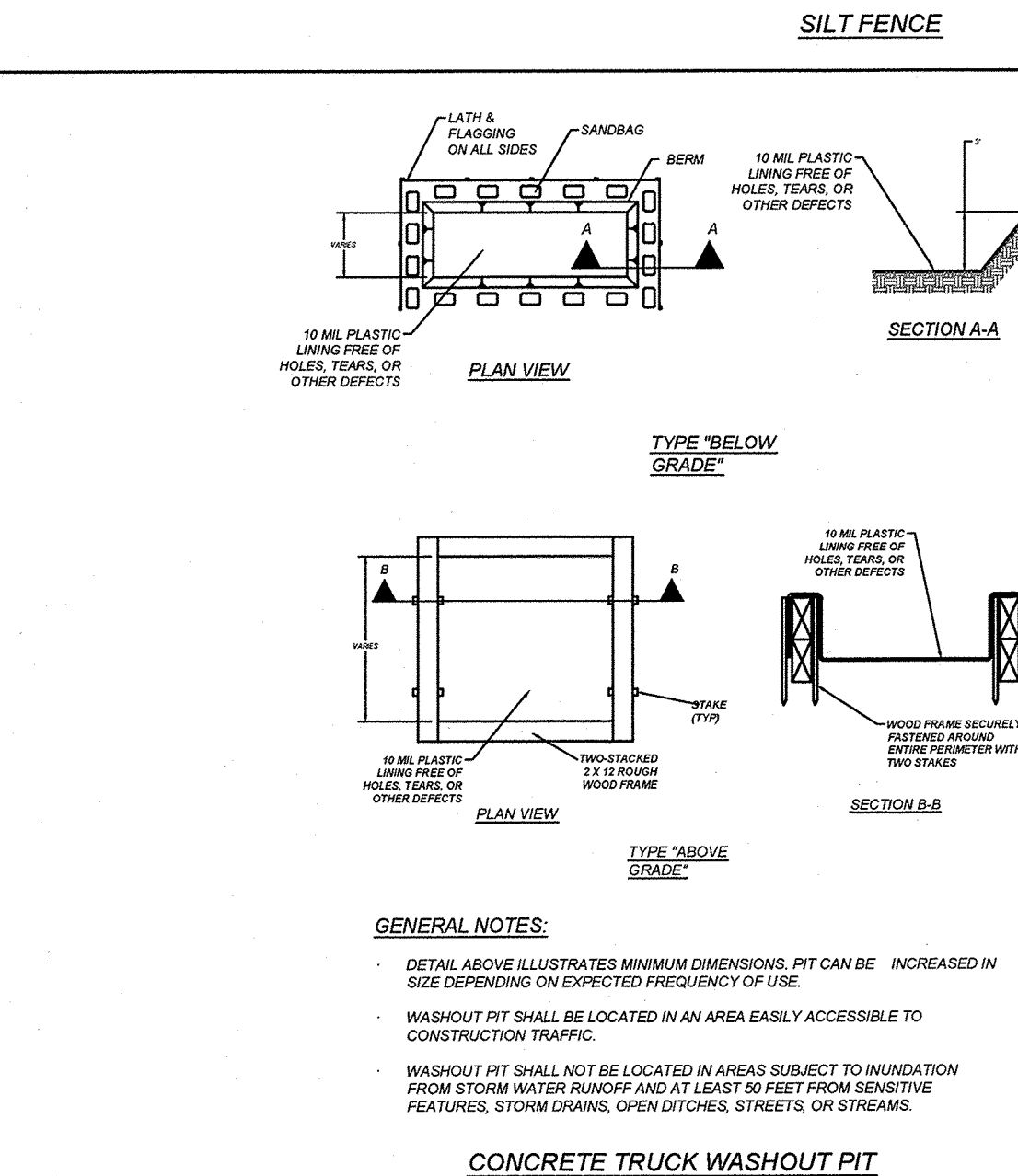
1. CONTACT TIME WARNER TO COORDINATE CABLE TV SERVICE. (210) 244-0500
2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH CPS FOR INSPECTION. (210) 353-2246
3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928
4. CONTRACTOR TO COORDINATE WITH CPS PRIOR TO CONSTRUCTION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

SW3P MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

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

PLAT NO.  
22-11800017  
JOB NO. 205-43-05  
DATE: NOVEMBER 2021  
DRAWN: OM CHECKED: CL  
SHEET NUMBER:  
8.1



The diagram illustrates a typical construction staging area enclosed by a silt fence. The area is divided into several functional zones:

- CONSTRUCTION EQUIPMENT & VEHICLE STORAGE AND MAINTENANCE AREA:** A rectangular zone in the top-left corner.
- CONSTRUCTION AND WASTE MATERIAL STORAGE AREA:** A circular zone on the left side.
- FIELD OFFICE:** A rectangular zone in the bottom-right corner.

Flow arrows indicate the movement of materials and equipment throughout the site. An **ENTRANCE/EXIT** is located at the bottom center. A **LEGEND** defines the symbols used:

- SILT FENCE:** Represented by a line with double vertical bars (==).
- FLOW ARROW:** Represented by a single arrow pointing in the direction of flow.

