

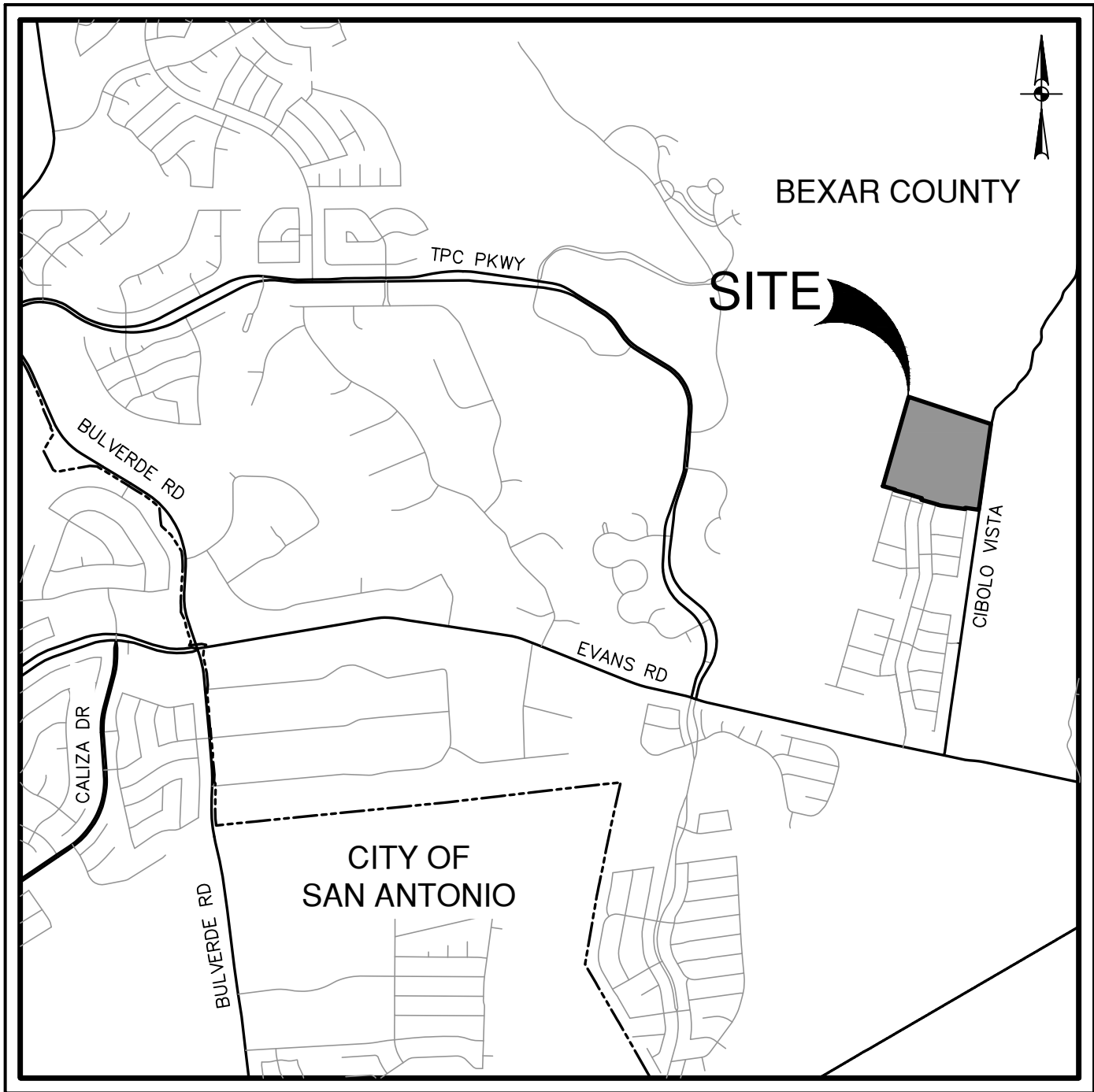
LANGDON -UNIT 11, 12, 13

SAN ANTONIO, TEXAS

CIVIL CONSTRUCTION PLANS

Civil Sheet Index

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LOCATION MAP
NOT-TO-SCALE

PREPARED FOR:

CONTINENTAL HOMES OF TEXAS, LP
5419 NORTH LOOP 1604 EAST
SAN ANTONIO, TEXAS 78247

JUNE 2022

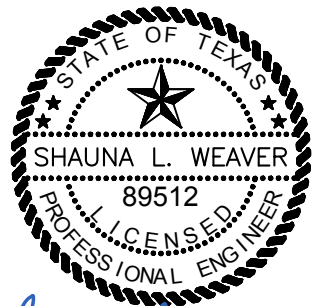


SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

Civil Sheet Index

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STORM WATER POLLUTION PREVENTION PLAN DETAILS		C8.10
EXISTING CONDITIONS & DEMOLITION PLAN		C9.00

6/24/22



Shauna L. Weaver

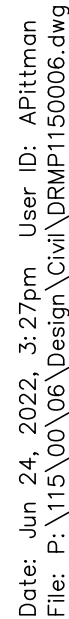
SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME:	CONTINENTAL HOMES OF TEXAS, LP
ADDRESS:	5419 NORTH LOOP 1604 EAST
CITY:	SAN ANTONIO
STATE:	TEXAS
ZIP:	78247
PHONE#	(210) 496-2668
FAX#	(210) 496-2504
SAWS BLOCK MAP#	192-660
TOTAL EDU'S	219
TOTAL ACREAGE	43.14
TOTAL LINEAR FOOTAGE OF PIPE	6,763 LF 8"
PLAT NO.	21-11800179
NUMBER OF LOTS	219
SAWS JOB NO.	22-11601

PRESSURE ZONE 10

DEVELOPER'S NAME:	CONTINENTAL HOMES OF TEXAS, LP
ADDRESS:	5419 NORTH LOOP 1604 EAST
CITY:	SAN ANTONIO
STATE:	TEXAS
ZIP:	78247
PHONE#	(210) 496-2668
EMAIL:	LKOSTRADER@ORHORTON.COM
SAWS BLOCK MAP#	192-660
TOTAL EDU'S	219
TOTAL ACREAGE	43.14
TOTAL LINEAR FOOTAGE OF PIPE	1,162 (16") 1,885 (12")
PLAT NO.	21-11800179
NUMBER OF LOTS	219
SAWS JOB NO.	22-11601

SHEET C0.00



LANGDON
SUBDIVSION

DRAINAGE EXHIBIT
PD#: 11500-00

Rational Method Time of Concentration
 *See Eyr Chart or TR-55 Egn. 3-3
 **As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s

$$T_o = \frac{\{0.007(n+1)^{0.88}\}}{(P2^{-1.49} S^{4.93})} * 60 = \frac{k}{n} R^{2/3} S_o^{-1/2}$$

$k = 1.486 \text{ ft}^{1/3}/\text{s}$

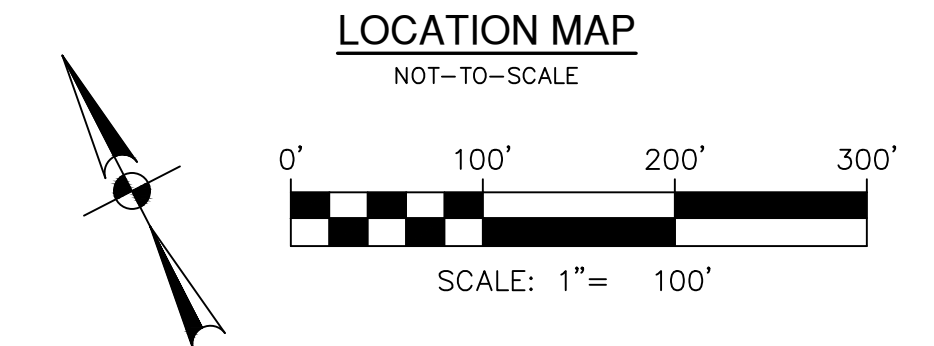
From TR-55 Figure 3-1**

S: For Streets: $n = 0.018$, $R = 0.2$ (Adapted from Mannings)
P: For Paved: $n = 0.025$, $R = 0.2$
U: For Unpaved: $n = 0.05$, $R = 0.4$
D: For Default: $v = 6 \text{ fps}$

LANGDON
SUBDIVSION

PD#: 11500-00

Reference Point	Structure / Description	Return Year	Contributing Watershed		Accumulated Flow from Upstream				
			Ref. Point	Q _{WATERSHED} (cfs)	Ref. Point	Q _{UPSTREAM} (cfs)	Q _{CAPTURED} (cfs)	Q _{BYPASS} (cfs)	Q _{SYSTEM} (cfs)
37A	Combined Inlet & Street Capacity	5	37A	29.9	-	29.1	0.8	29.1	
		25		41.5	-	37.4	4.1	37.4	
		100		51.9	-	43.5	8.4	43.5	
37B	Combined Inlet & Street Capacity	5	37B	18.9	-	16.2	2.7	16.2	
		25		26.2	-	19.9	6.3	19.9	
		100		32.7	-	22.7	10.0	22.7	
38	Combined Inlet & Street Capacity	5	38	5.6	3.5	9.1	-	54.4	
		25		7.8	10.4	18.2	-	75.5	
		100		9.3	18.4	26.5	1.7	92.7	
39	Storm Drain	5	38	9.1	45.3	54.4	-	54.4	
		25		18.5	57.3	75.5	-	75.5	
		100		26.2	66.2	92.7	-	92.7	
42	Street Capacity	5	42	12.9	-	12.9	-	12.9	
		25		17.9	-	17.9	-	17.9	
		100		22.5	1.7	24.2	-	24.2	
43	Storm Drain	5	41,42	44.0	-	77.6	-	121.6	
		25		61.2	-	107.8	-	169.0	
		100		78.5	-	133.3	-	211.8	



PROJECT LIMITS

EXISTING CONTOUR

100 YR FLOODPLAIN

OVERLAND FLOW PATH

SHALLOW CONCENTRATED FLOW PATH

CHANNELIZED FLOW PATH

DRAINAGE AREA BOUNDARY

FHA LOT GRADING TYPE

PROPOSED DIRECTION OF FLOW

DRAINAGE CALCULATION POINT

DRAINAGE AREA

690

A,B,C

11

A

[illegible]

6/24/22

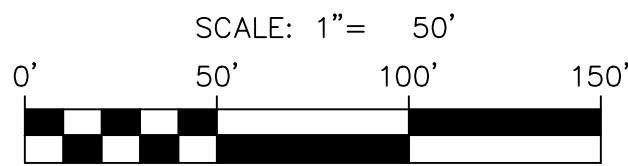
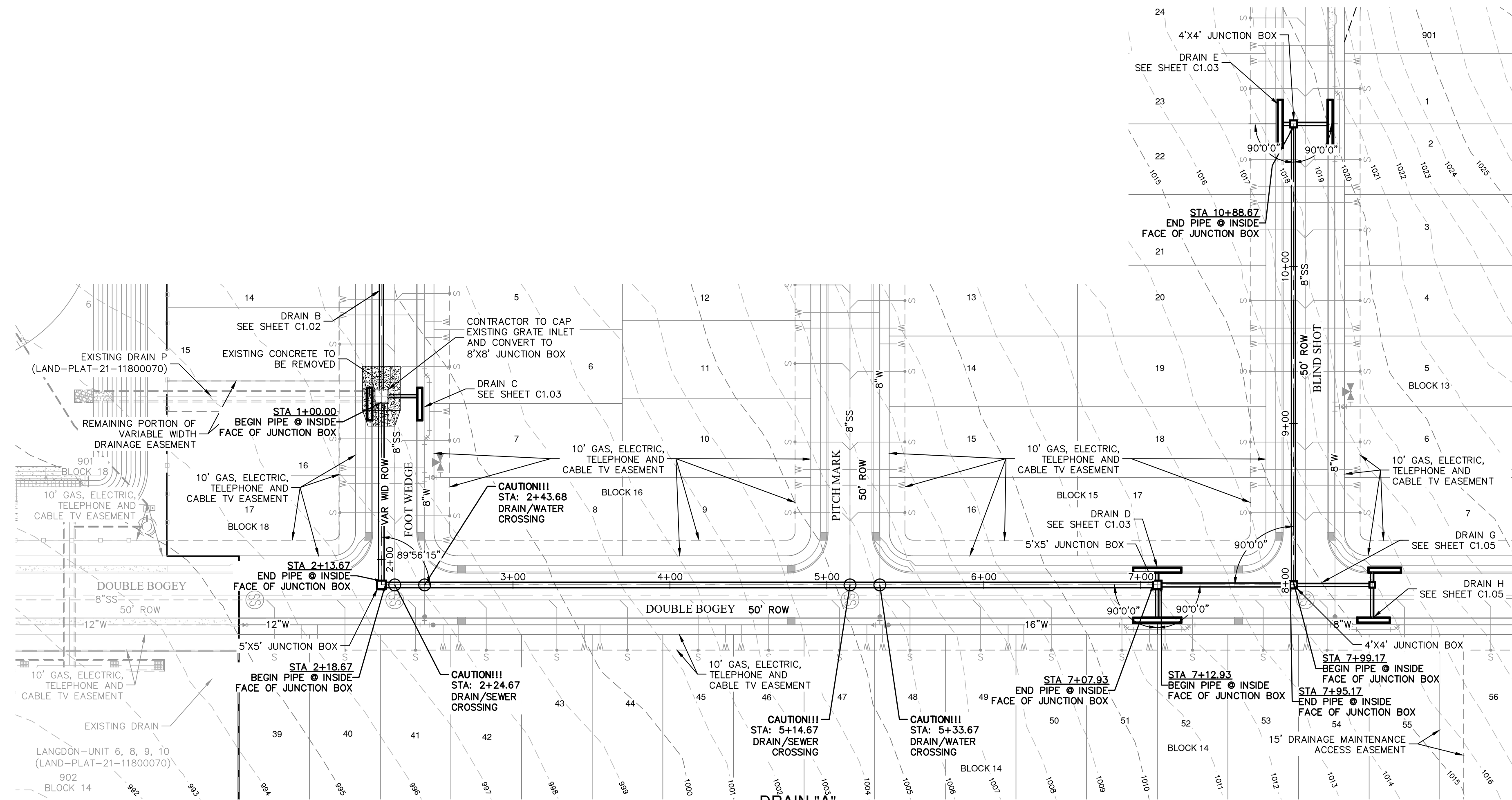


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ENGINEERS**

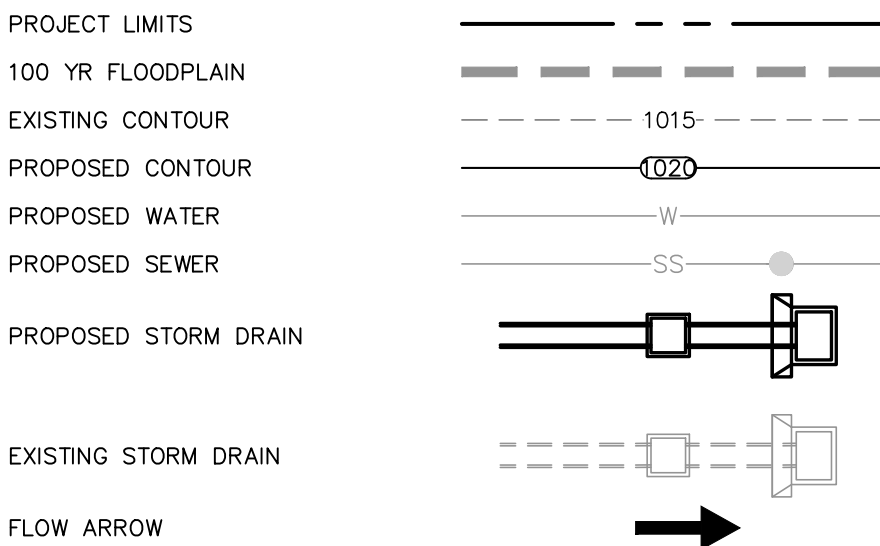
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TYPE FIRM REGISTRATION 4470 | TBP&L FIRM REGISTRATION #10328800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JQ
C1.00
SHEET



DRAINAGE LEGEND



NO.	REVISION

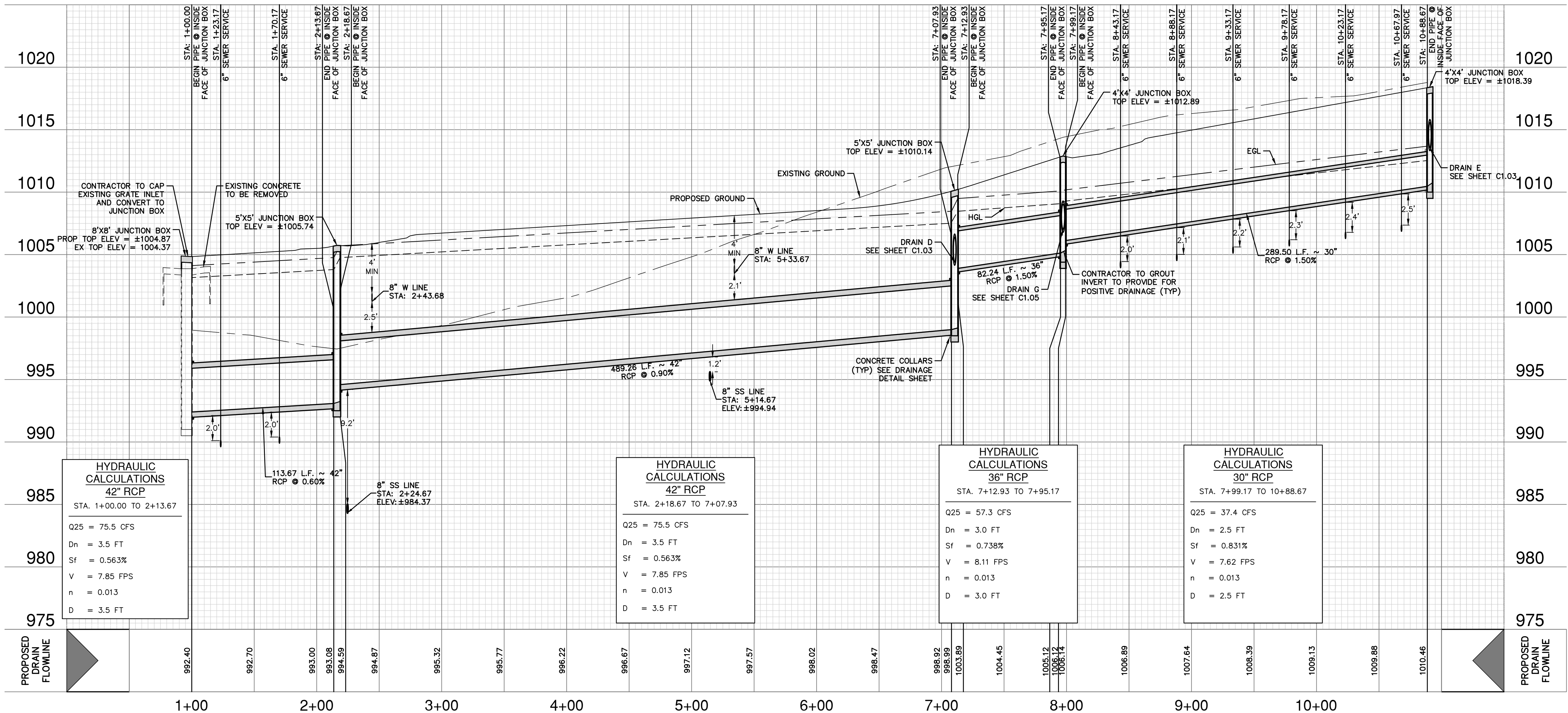
7/25/22



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TXPE FIRM REGISTRATION #4270 | TBPUS FIRM REGISTRATION #10028800

STA. 1+00.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



DRAINAGE & GRADING NOTES:

- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
- REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
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- EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
- CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

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

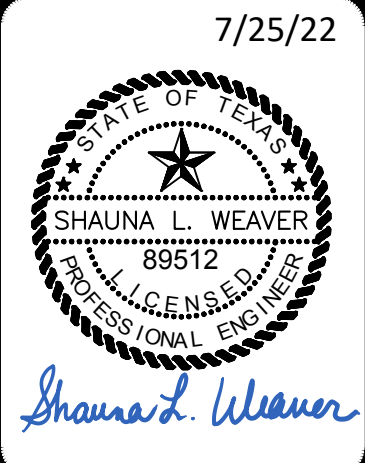
CAUTION!!

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LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
DRAIN A
PLAN AND PROFILE

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JULY 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JQ
SHEET	C1.01

DATE	
NO.	
REVISION	



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TPE FIRM REGISTRATION #470 | TPE FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

DRAIN B
PLAN AND PROFILE

PLAT NO. 21-11800179

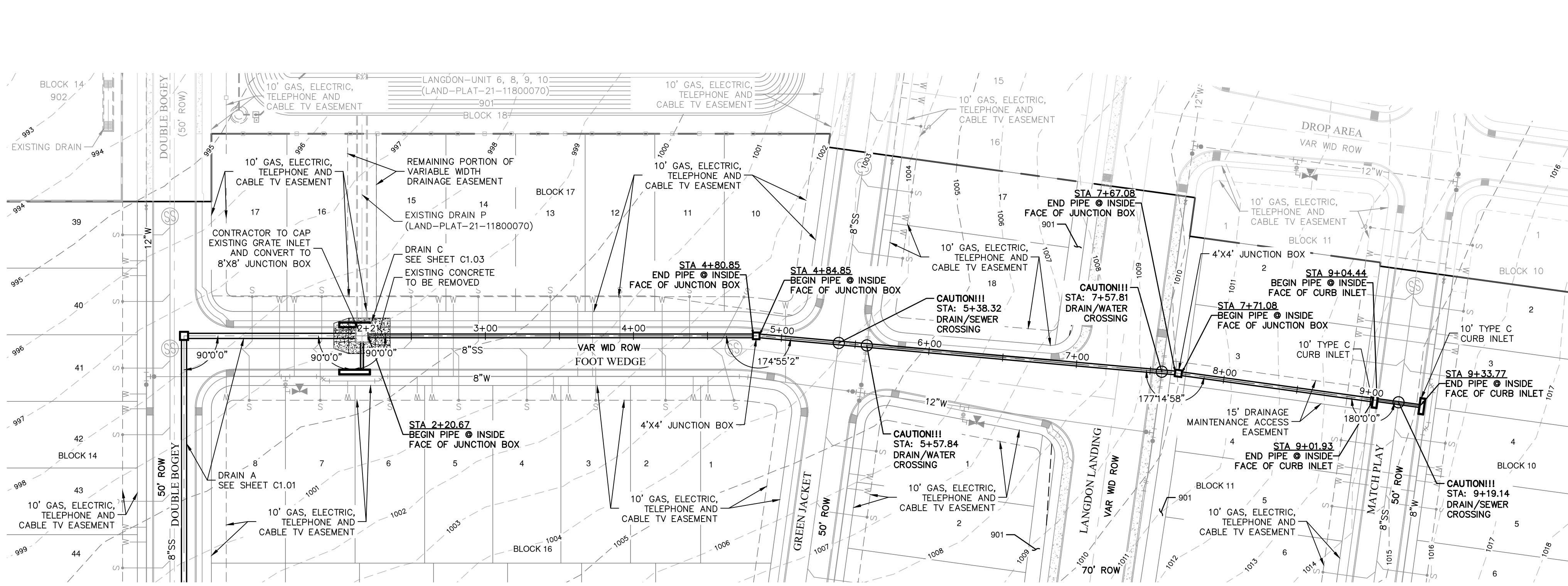
JOB NO. 11500-06

DATE JULY 2022

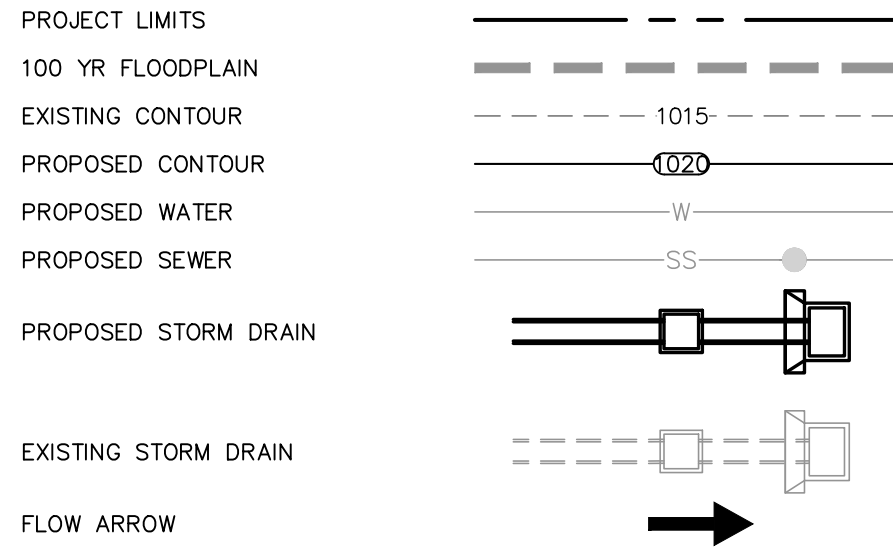
DRAWN CK

CHECKED CK

SHEET C1.02



DRAINAGE LEGEND



HYDRAULIC CALCULATIONS-DRAIN "B"

TOTAL Q₂₅ = 32.30 CFS (16.15 CFS EACH INLET)

Q = 16.15 CFS

Q = Cw x L x H^{3/2} (WEIR FORMULA)

Cw = 3.087, H = 0.79

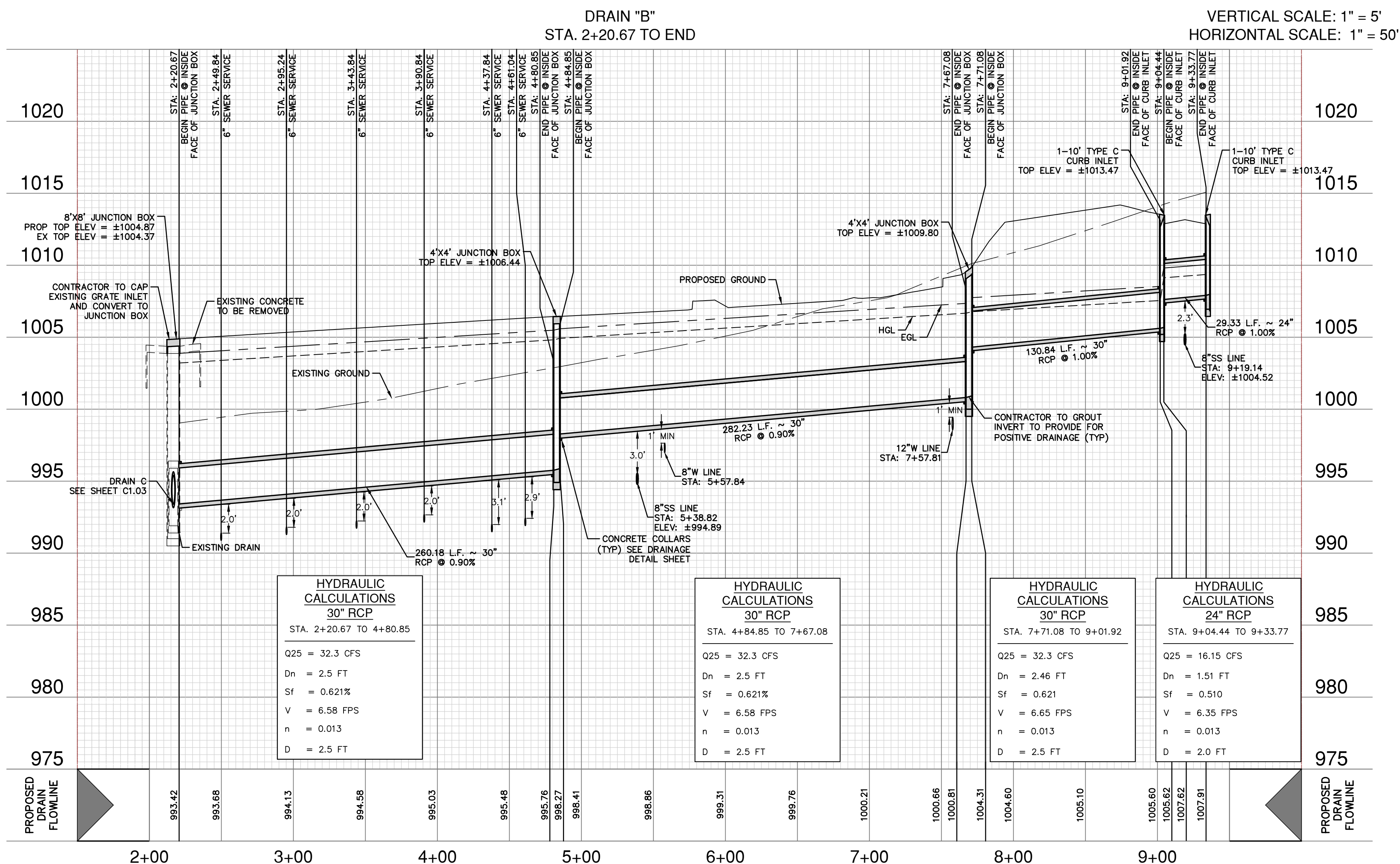
16.15 CFS

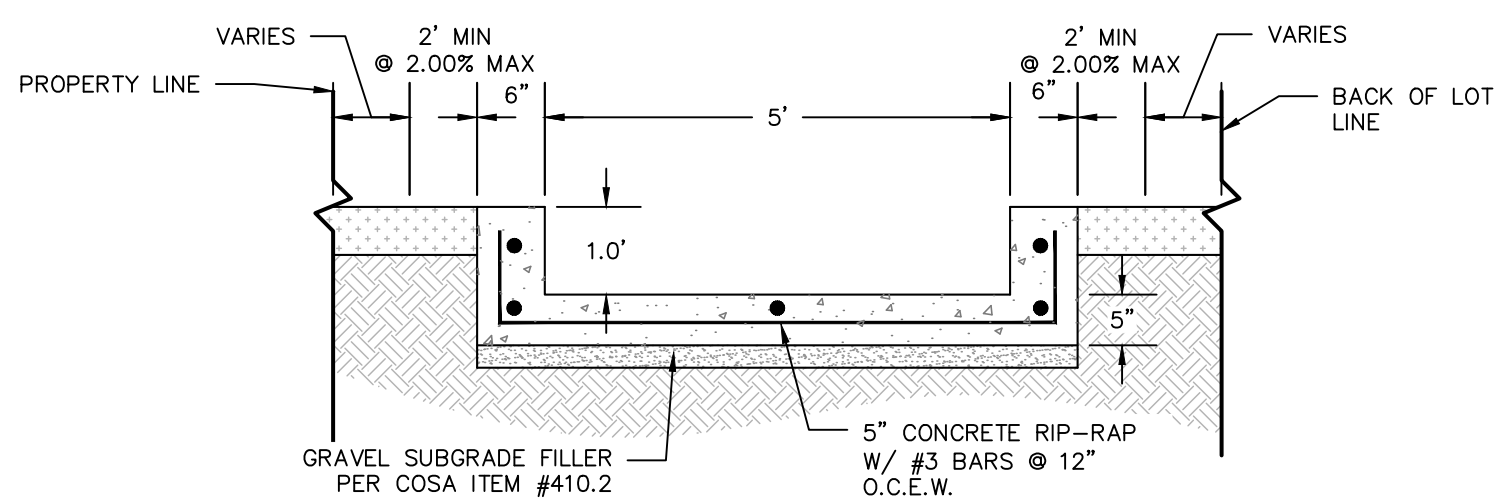
(3.087)(0.79)^{3/2}

L = 7.45 FT USE 2 ~ 10 FT CURB INLETS

CHECK WITH WEIR FORMULA
 $\left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{16.15}{(3.087)(10)}\right)^{2/3} = 0.65 \text{ FT.}$

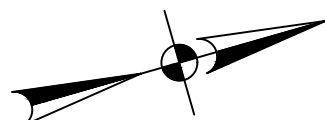
H = 0.65 < 0.79 OK





SECTION B-B

STA: 33+75.00 TO 37+25.00
NOT-TO-SCALE



PROPOSED STORM DRAIN

FLOW ARROW

FLOW ARROW



NO	REVISION
----	----------

6/24/22



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ENGINEERS**

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

INTERCEPTOR CHANNEL F PLAN AND PROFILE

PLAT NO. 21-11800175

JOB NO. 11500-06

DATE JUNE 2022

DESIGNER _____ CK _____

CHECKED CK DRAWN JQ

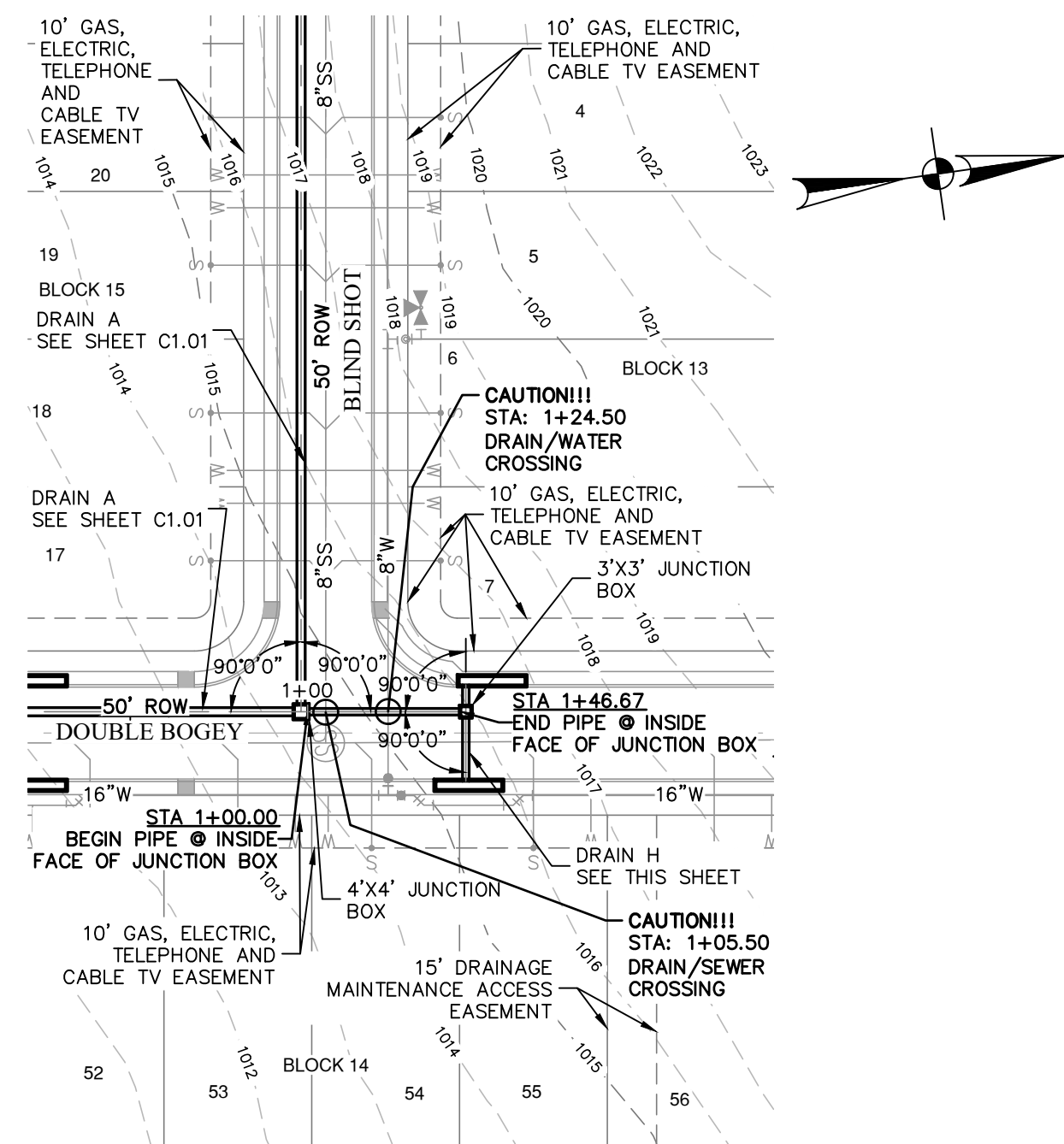
C1.04

SHEET 01.01

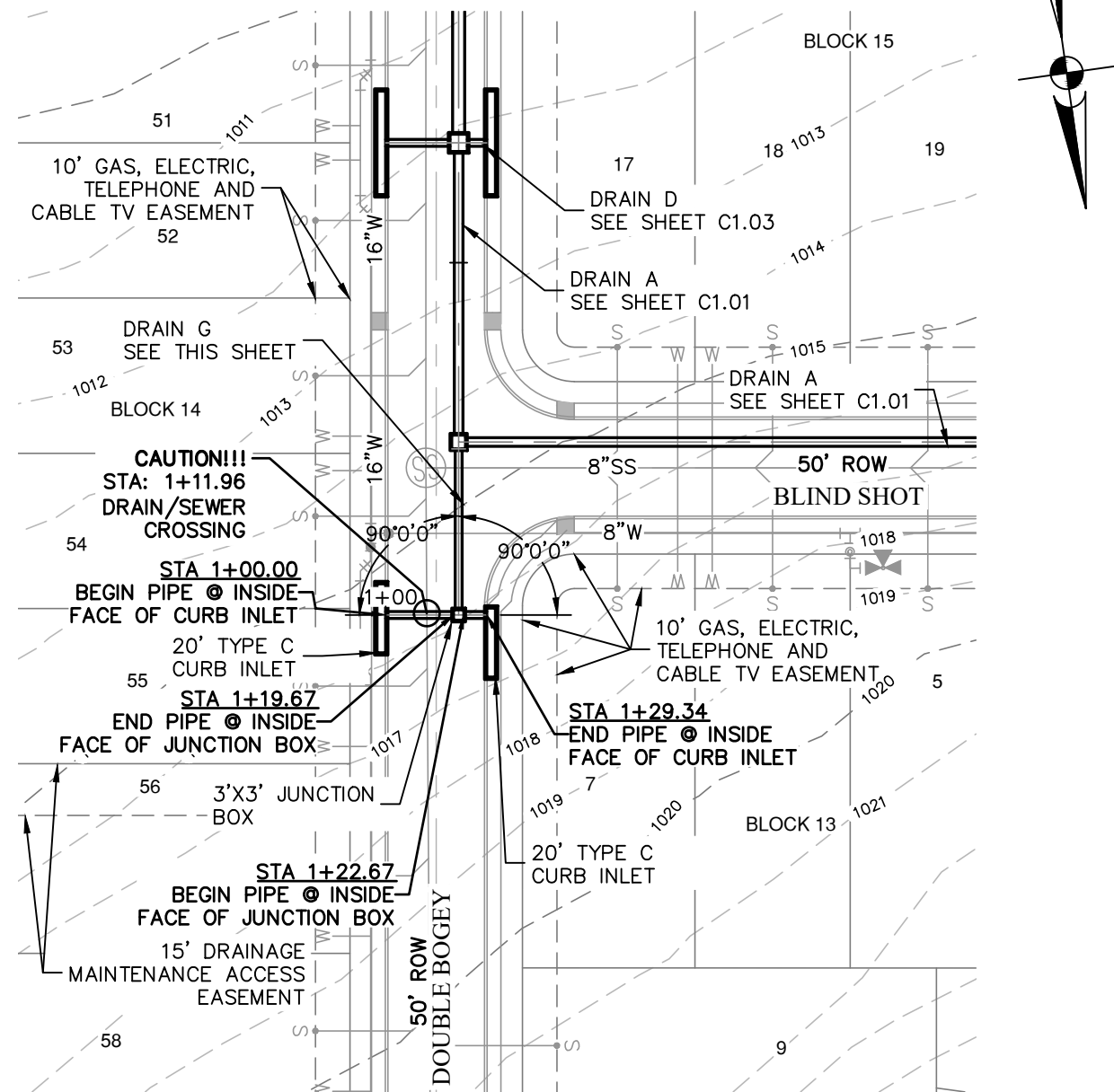
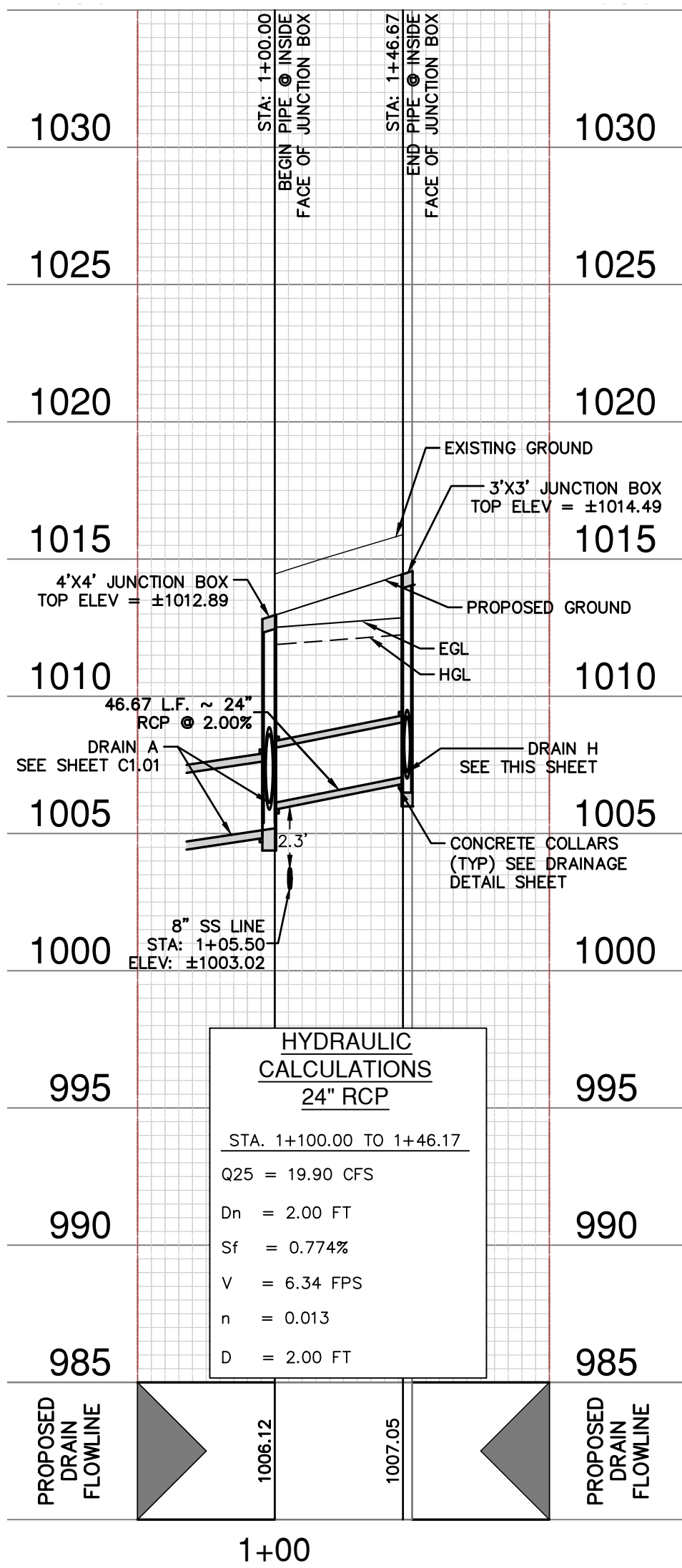
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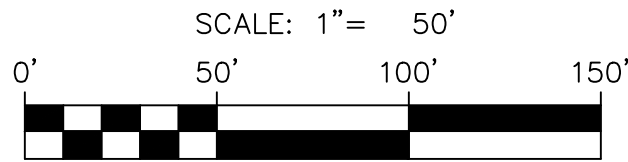
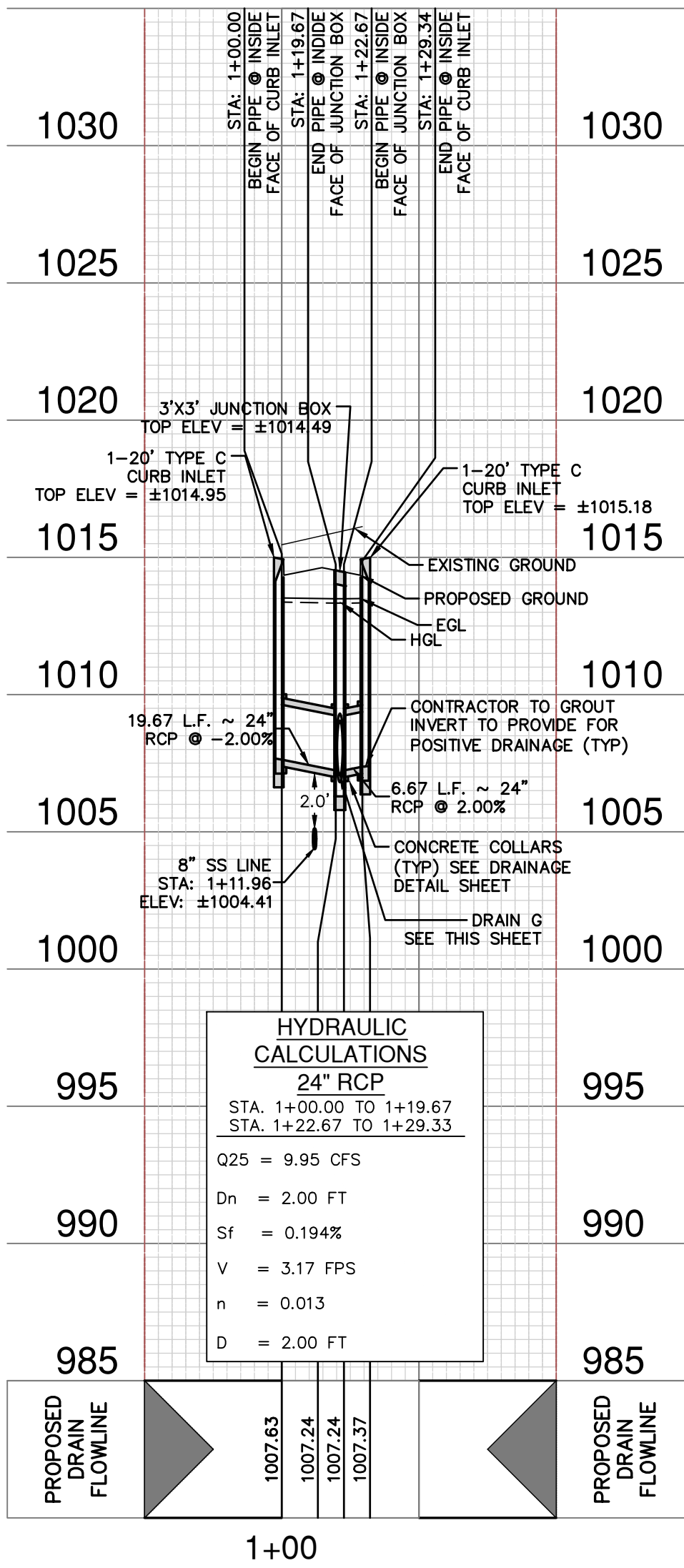
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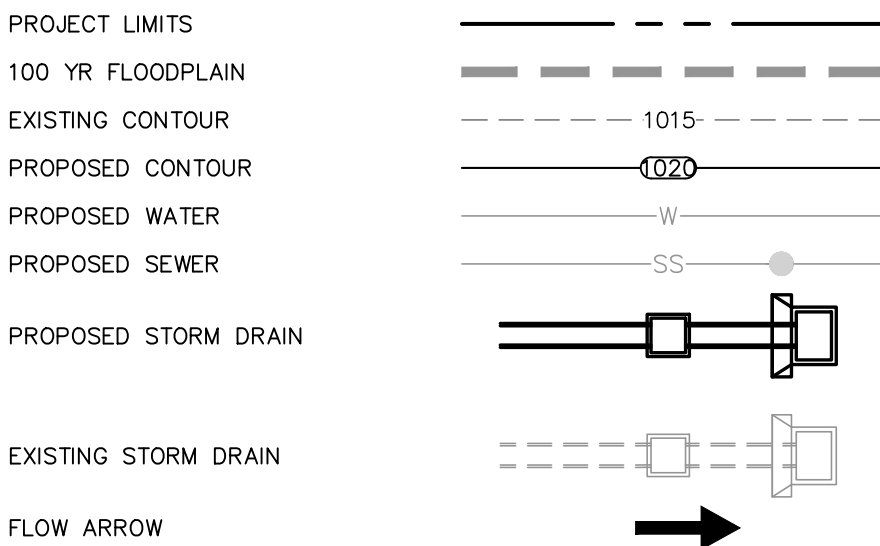
DRAIN "G" VERTICAL SCALE: 1" = 5'
STA. 1+00.00 TO END HORIZONTAL SCALE: 1" = 50'



DRAIN "H" VERTICAL SCALE: 1" = 5'
STA. 1+00.00 TO END HORIZONTAL SCALE: 1" = 50'



DRAINAGE LEGEND



HYDRAULIC CALCULATIONS-DRAIN "H"

TOTAL Q₂₅ = 26.2 CFS (Q_{25/2} = 13.10 CFS)

Q = 13.10 CFS

S = 2.00%

L = 2-20' INLETS

Q_{captured} = 9.95 CFS

Bypass = 3.15 CFS

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NO.	REVISION	DATE

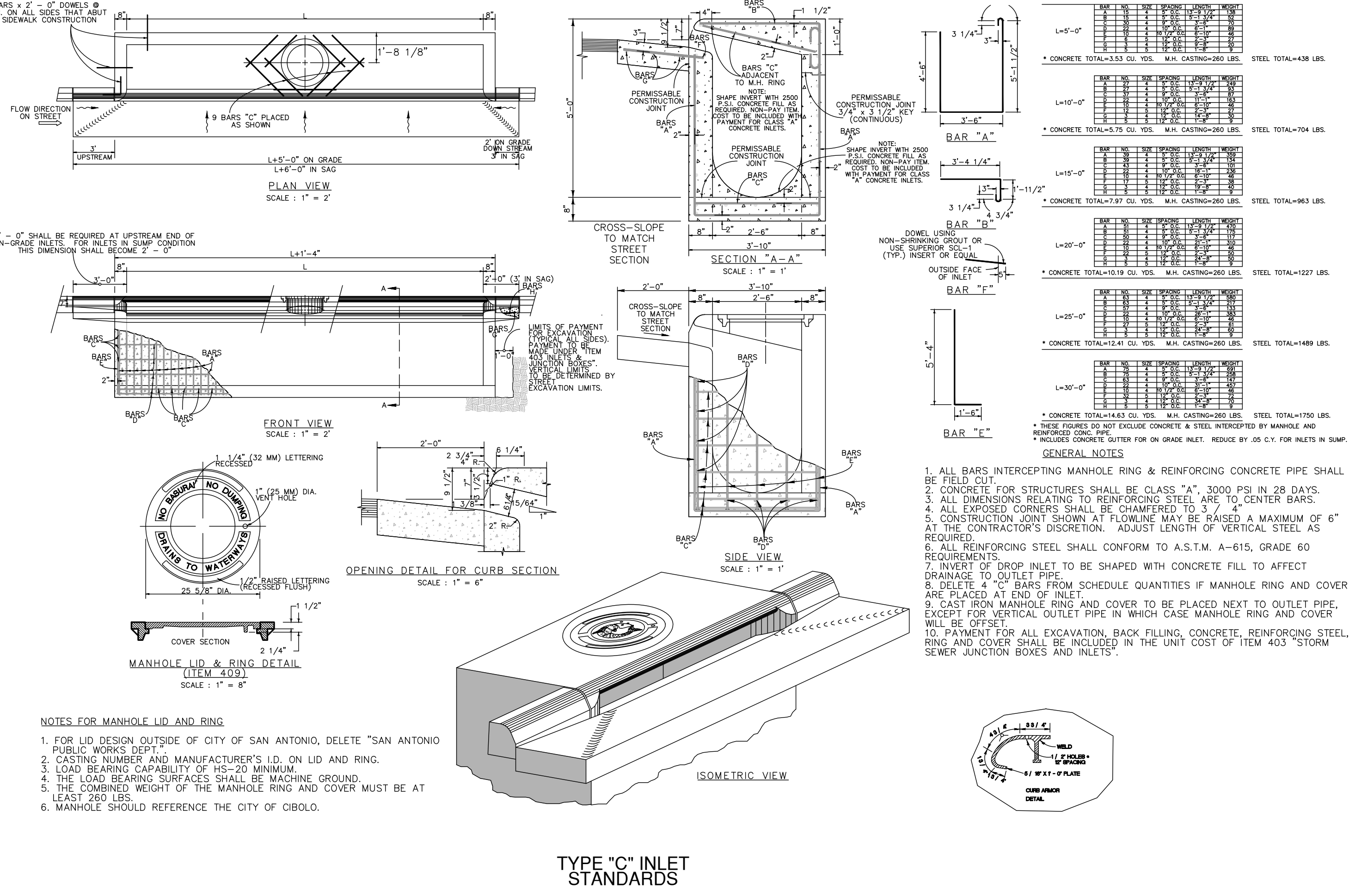
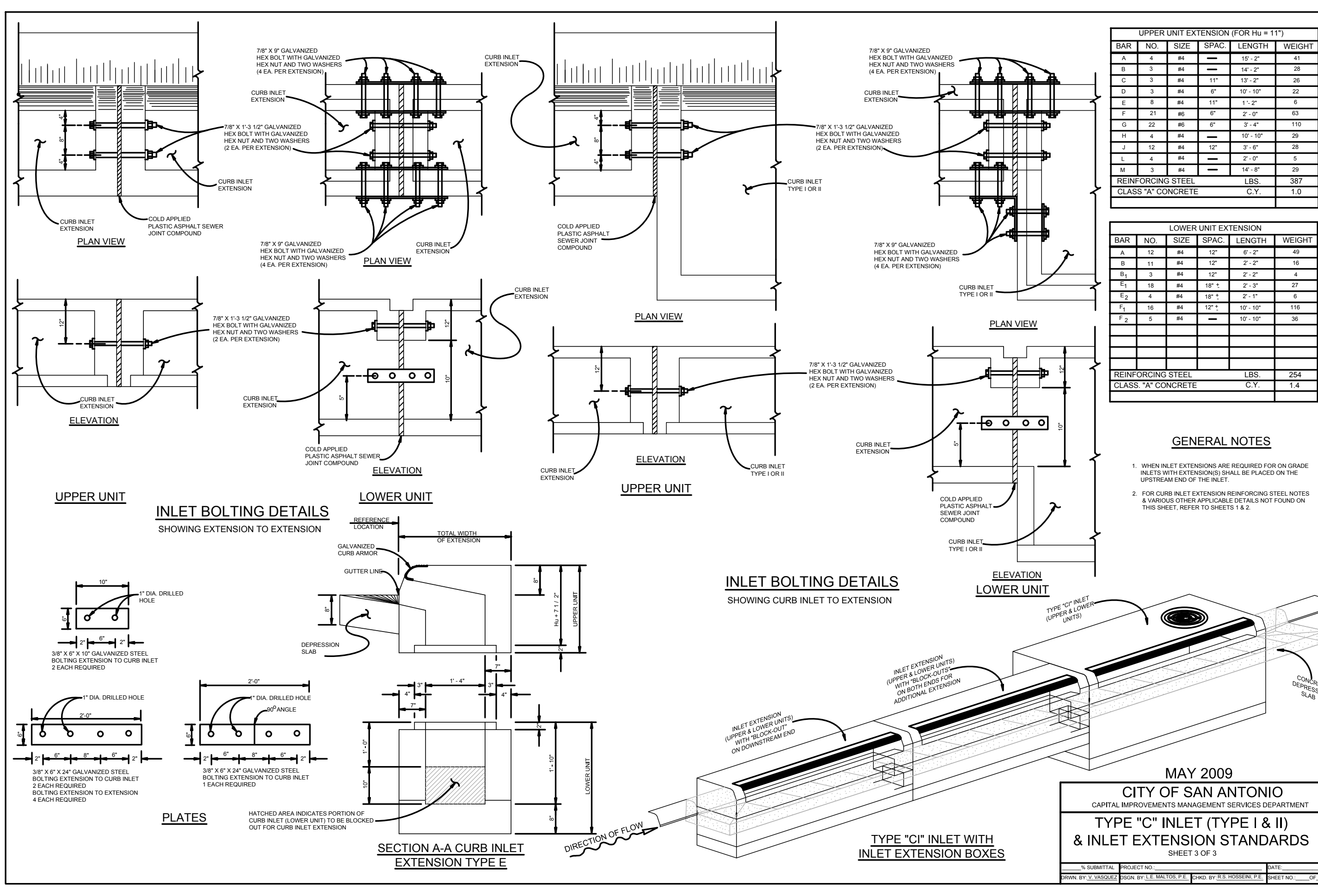
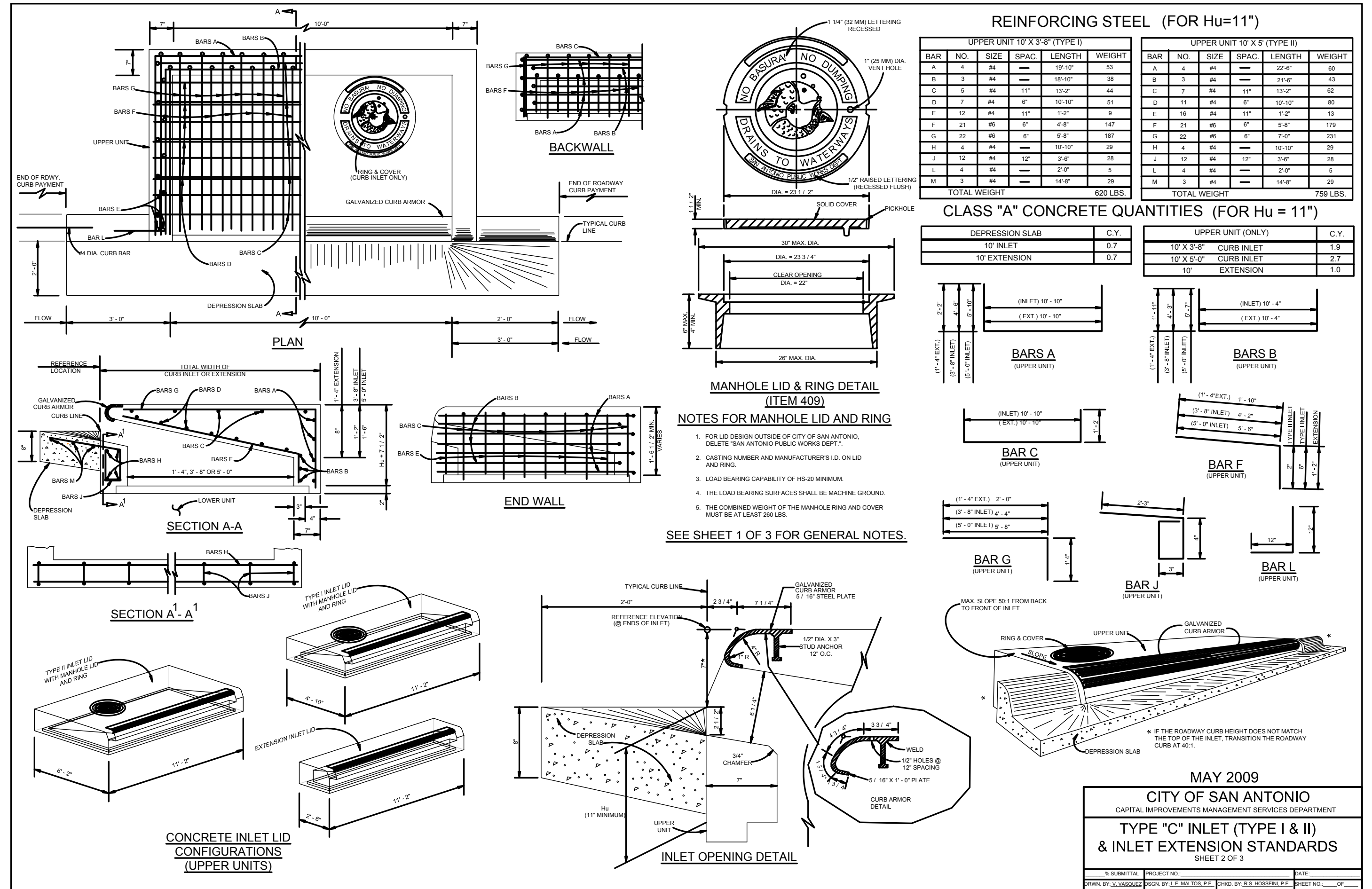
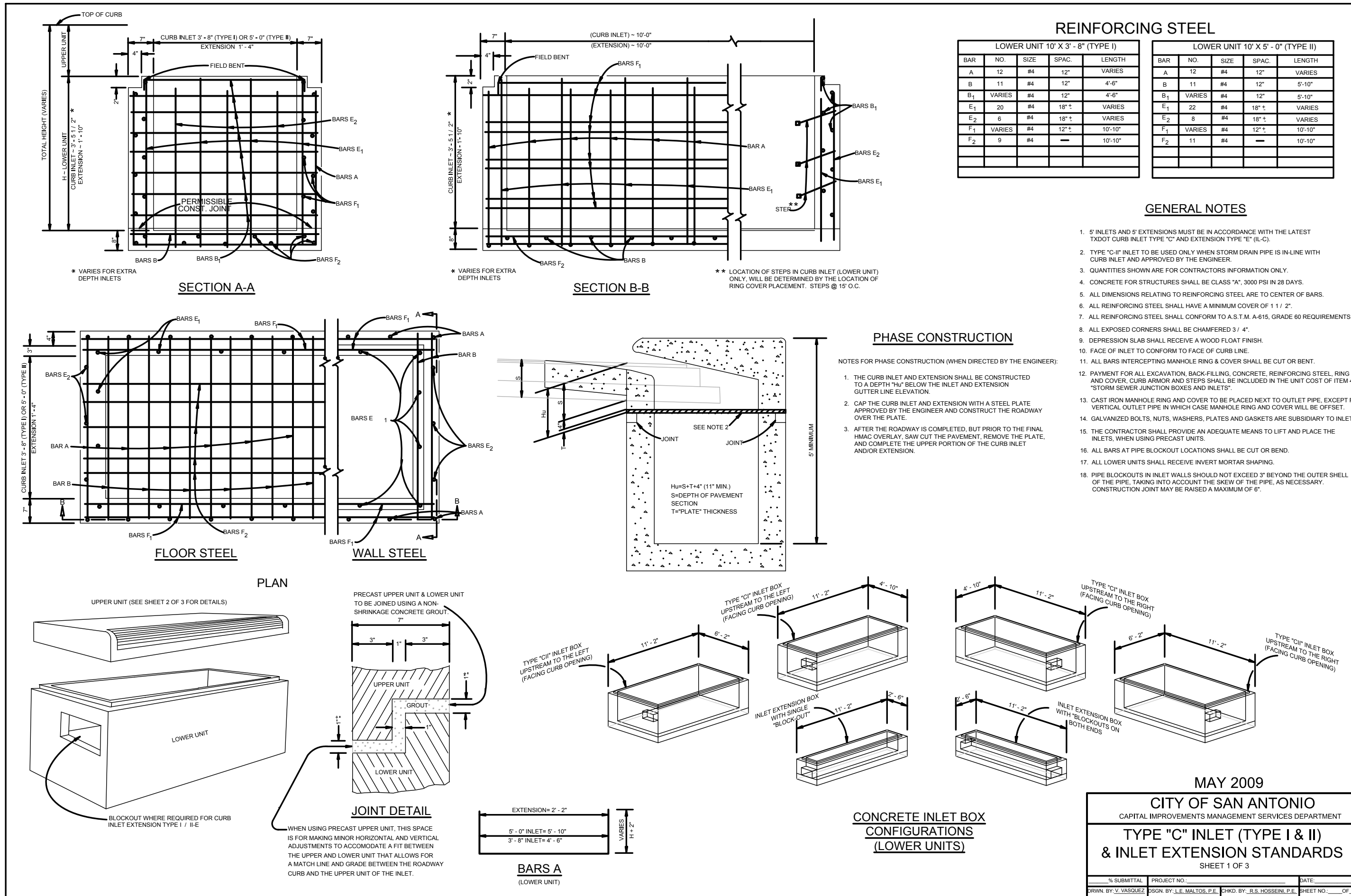
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SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
DRAIN G, H
PLAN AND PROFILES

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JULY 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JQ
SHEET	C1.05



DATE

NO. REVISION

6/24/22

STATE OF TEXAS

SHAUNA L. WEAVER

89512

PROFESSIONAL ENGINEER

Shauna L. Weaver

PAPE-DAWSON

ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TEPE FIRM REGISTRATION #4270 | TBPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13

SAN ANTONIO, TEXAS

DRAINAGE DETAILS

SHEET 1 OF 2

PLAT NO. 21-11800179

JOB NO. 11500-06

DATE JUNE 2022

DESIGNER CK


CHECKED CK DRAWN JO

SHEET C1.10

Dates: Jun 24, 2022 3:32pm User: ID: APH/uram
 File: P:\15\00\06\Langdon\Langdon Unit 11-13.dwg

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CURVED DEFLECTOR
DETAIL
(NOT TO SCALE)


TYPICAL DETAIL FOR C.M.P. AND S.R.C.M.P.

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JULY 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C1.20

**PAPE-DAWSON
ENGINEERS**

[illegible]

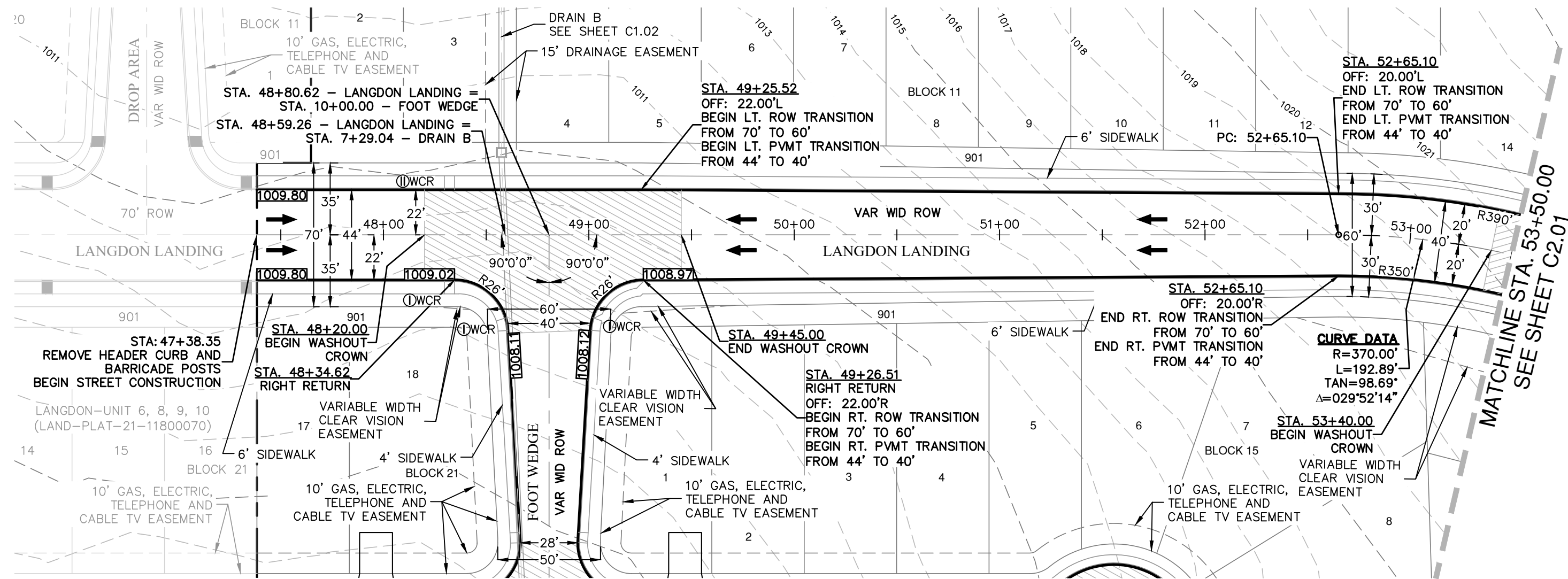
7/25/22



Shauna L. Weaver

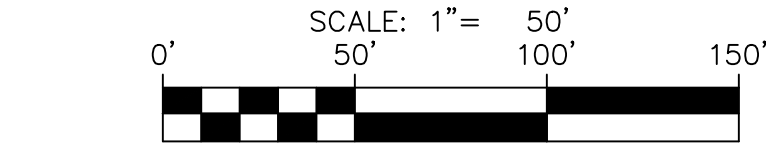
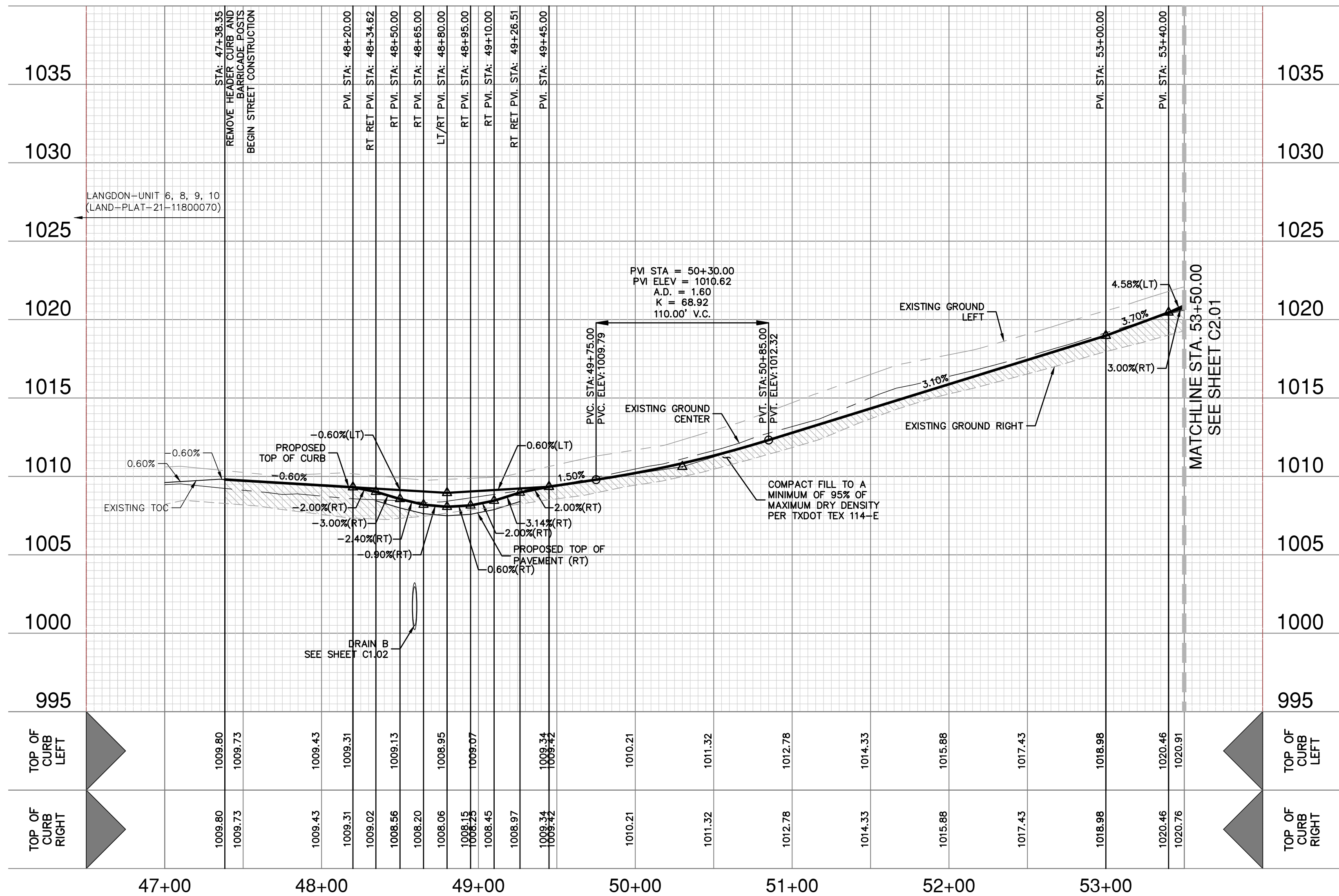
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LANGDON LANDING
STA. 47+38.35 TO 53+50.00

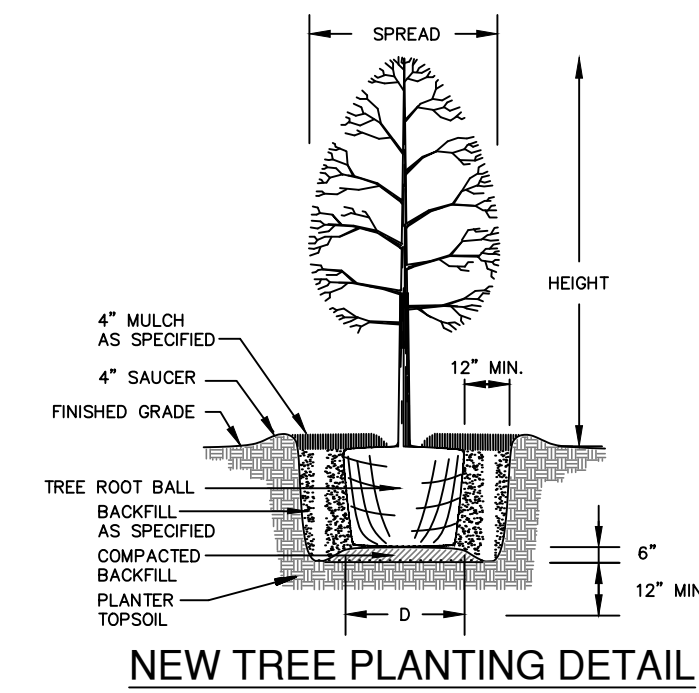
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



STREET LEGEND

PROJECT LIMITS	---
MAINTAIN GUTTER	→
EXISTING CONTOUR	--- 1020 ---
WHEELCHAIR RAMP	⊕WCR
CENTERLINE	CL
RADIUS POINT	RP
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
RETURN	RET
DRAINAGE FLOW ARROW	→
TOP OF CURB SPOT ELEVATION	1022.50
PAVEMENT ELEVATION	1021.75 (PWT) x
WASHOUT CROWN SECTION	1022.50
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	1021.75 (PWT) x
DRIVEWAY	---

7/25/22



STREETSCAPE TREE PLANTING NOTES:

1. LARGE TREES (PER UDC) TO BE PLANTED EVERY 50 FEET PER DETAIL.

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

STREET NOTES:

- A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
- NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
- DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
- CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (D)(6).

DATE	
NO.	
REVISION	

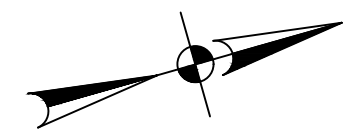
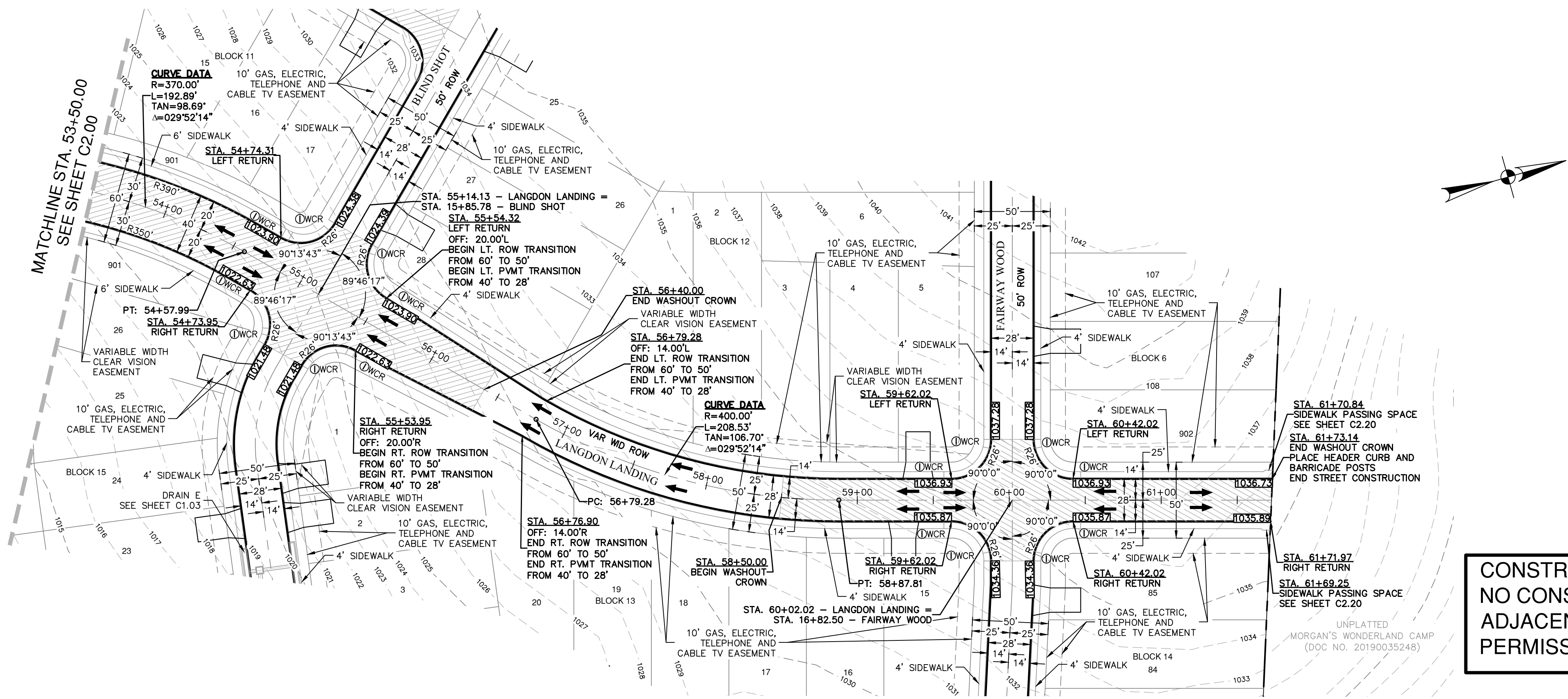
7/25/22



PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TXPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
LANGDON LANDING
PLAN AND PROFILE

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JULY 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JQ
SHEET	C2.00

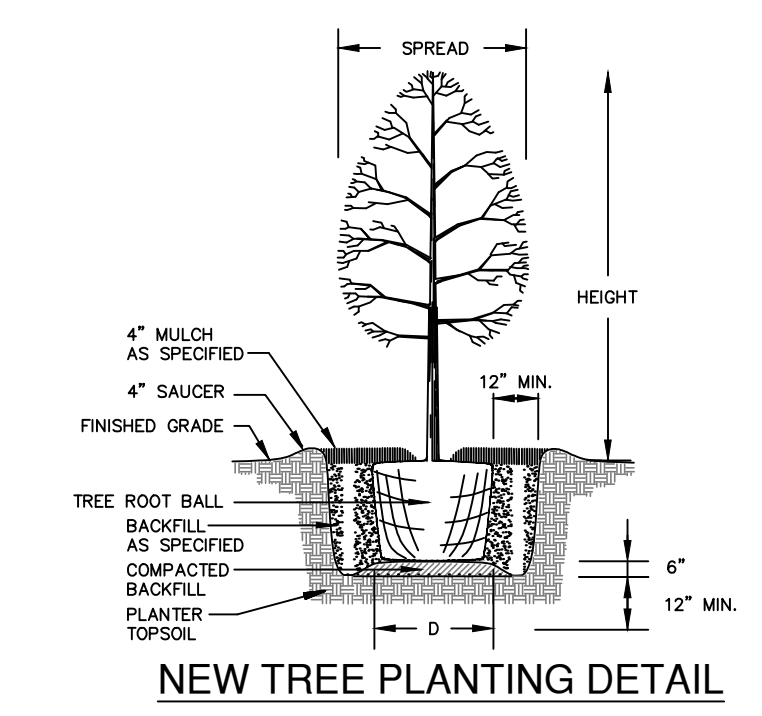
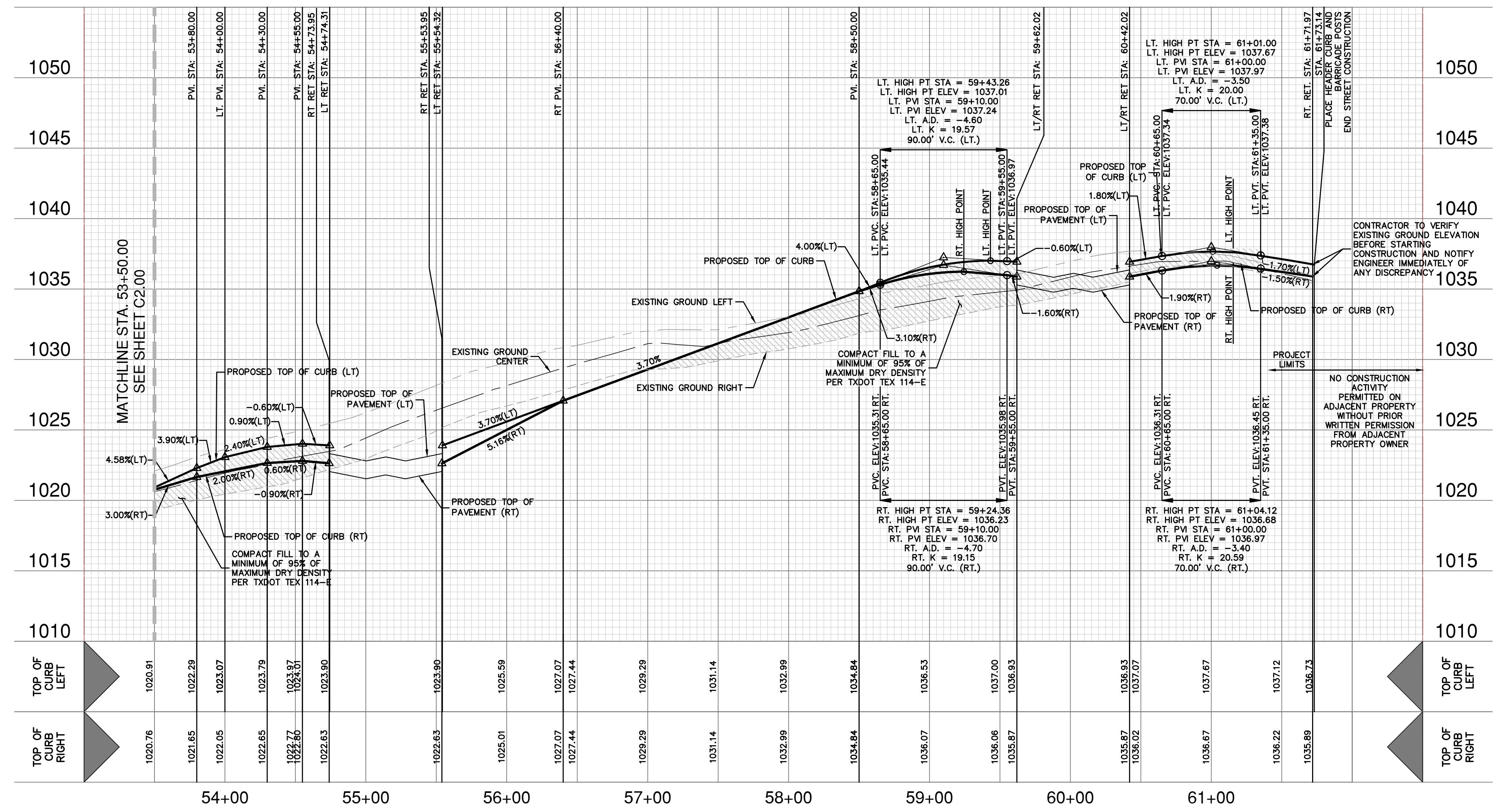


STREET LEGEND

- PROJECT LIMITS
MAINTAIN GUTTER
EXISTING CONTOUR
WHEELCHAIR RAMP
CENTERLINE
RADIUS POINT
POINT OF CURVATURE
POINT OF TANGENCY
RETURN
DRAINAGE FLOW ARROW
TOP OF CURB SPOT ELEVATION
PAVEMENT ELEVATION
WASHOUT CROWN SECTION
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)
DRIVEWAY

CONSTRUCTION NOTE:
NO CONSTRUCTION ACTIVITY PERMITTED ON ADJACENT PROPERTY WITHOUT PRIOR WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNER.

LANGDON LANDING
STA. 53+50.00 TO END
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



- STREETSCAPE TREE PLANTING NOTES:
- LARGE TREES (PER UDC) TO BE PLANTED EVERY 50 FEET PER DETAIL.
 - SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFORM WITH THE STREETSCAPE PLANTING STANDARDS.
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- STREET NOTES:
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DATE

NO. REVISION

8/30/22

STATE OF TEXAS

SHAUNA L. WEAVER

89512

PROFESSIONAL ENGINEER

Shauna L. Weaver

PAPE-DAWSON

ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TXPE FIRM REGISTRATION #070 | TBPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13

SAN ANTONIO, TEXAS

LANGDON LANDING

PLAN AND PROFILE

PLAT NO. 21-11800179

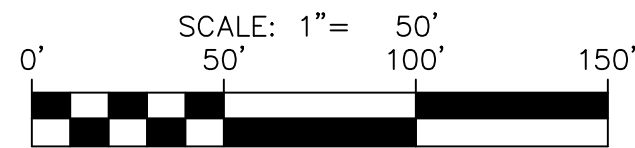
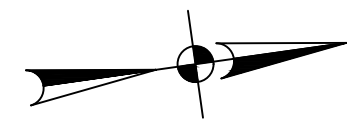
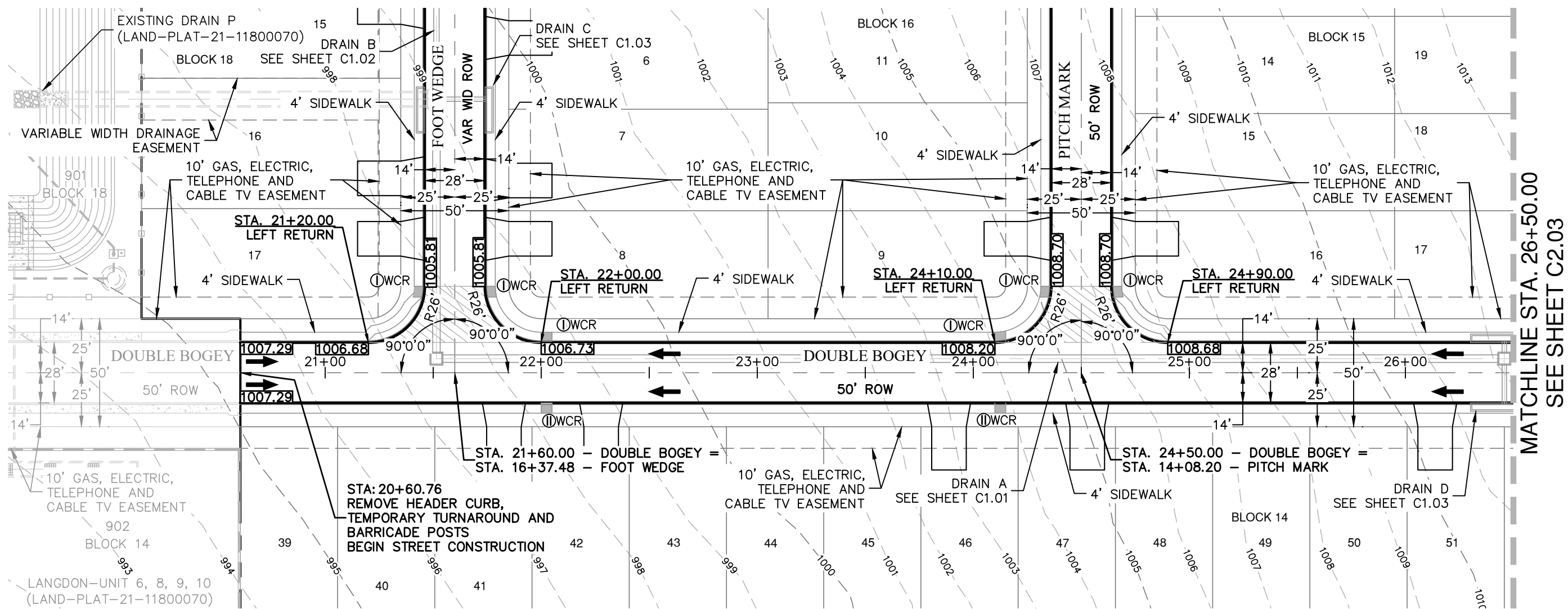
JOB NO. 11500-06

DATE AUGUST 2022

DESIGNER CK

CHECKED CK DRAWN JO

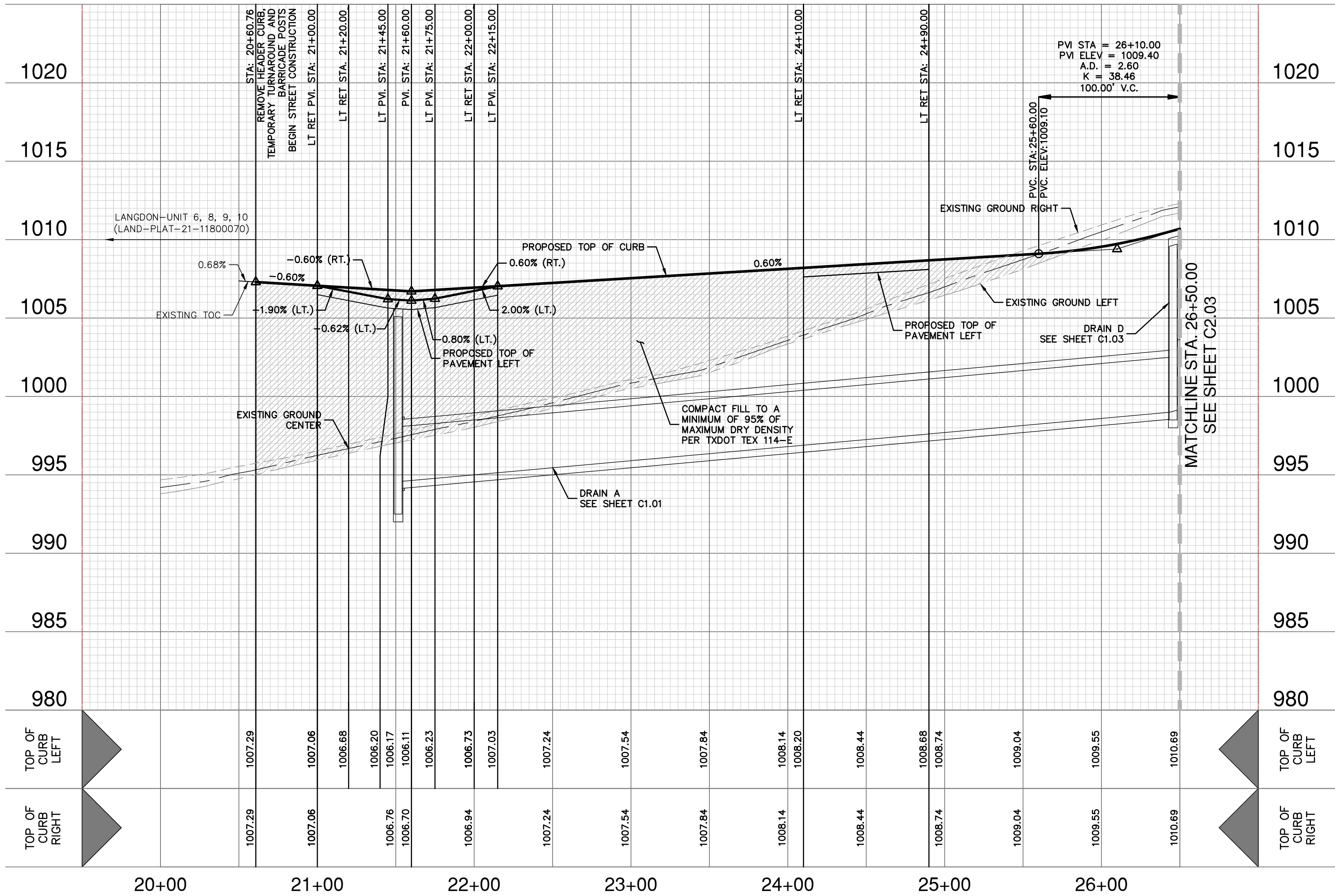
SHEET C2.01



STREET LEGEND

- PROJECT LIMITS
MAINTAIN GUTTER
EXISTING CONTOUR
WHEELCHAIR RAMP
CENTERLINE
RADIUS POINT
POINT OF CURVATURE
POINT OF TANGENCY
RETURN
DRAINAGE FLOW ARROW
TOP OF CURB SPOT ELEVATION
PAVEMENT ELEVATION
WASHOUT CROWN SECTION
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)
DRIVEWAY

DOUBLE BOGEY
STA. 20+60.76 TO 26+50.00
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



STREET NOTES:

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LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
DOUBLE BOGEY
PLAN AND PROFILE

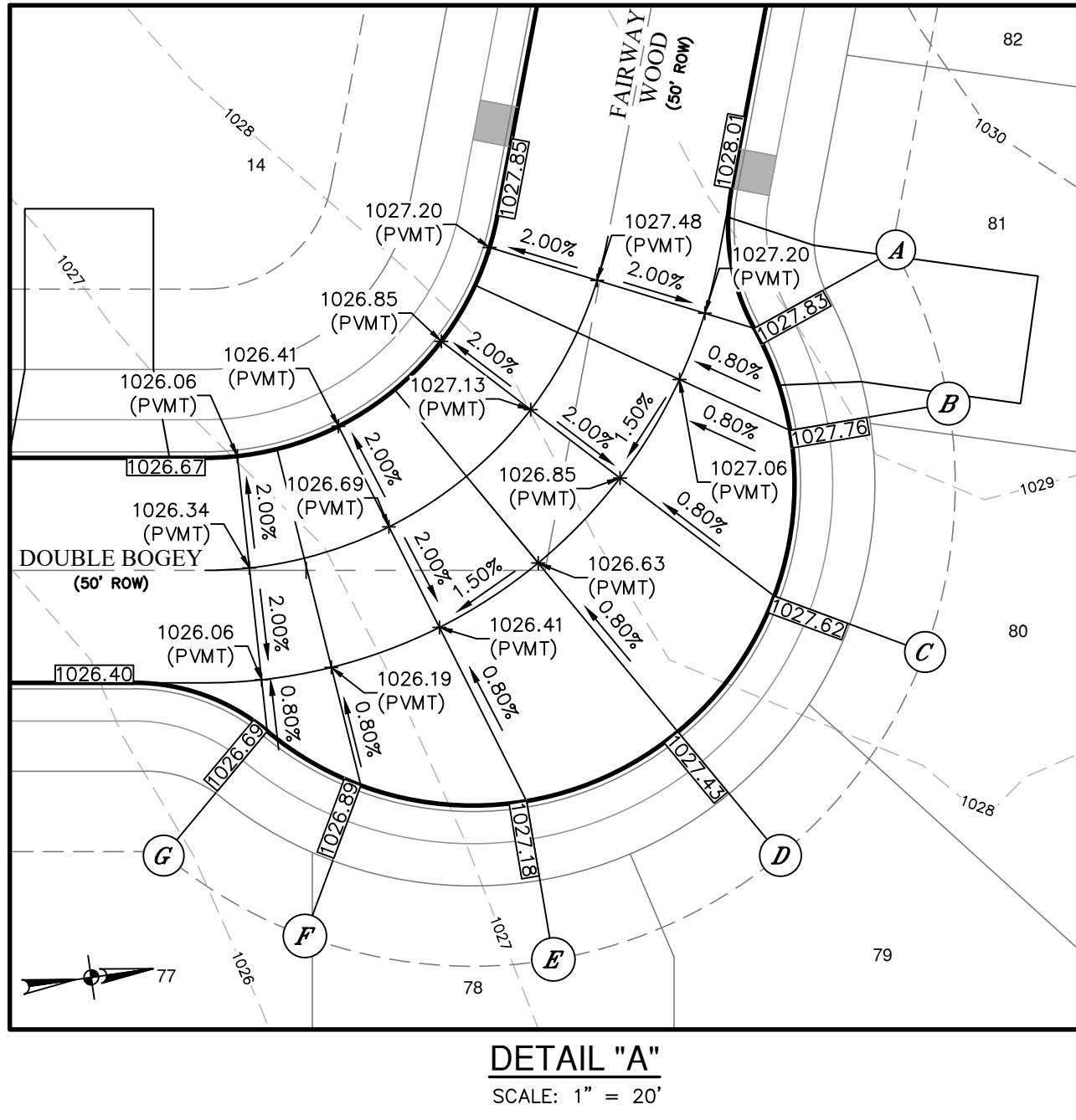
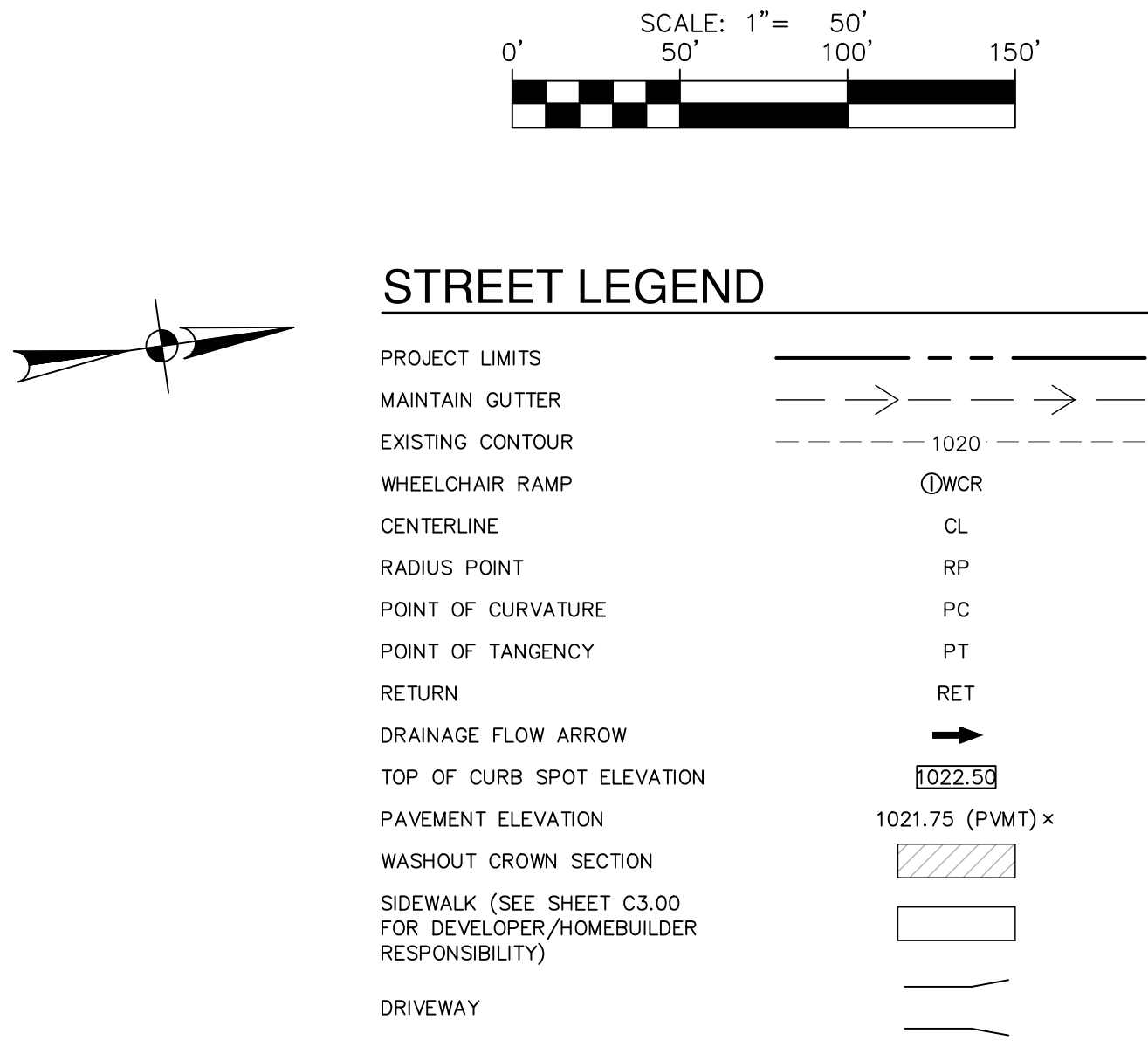
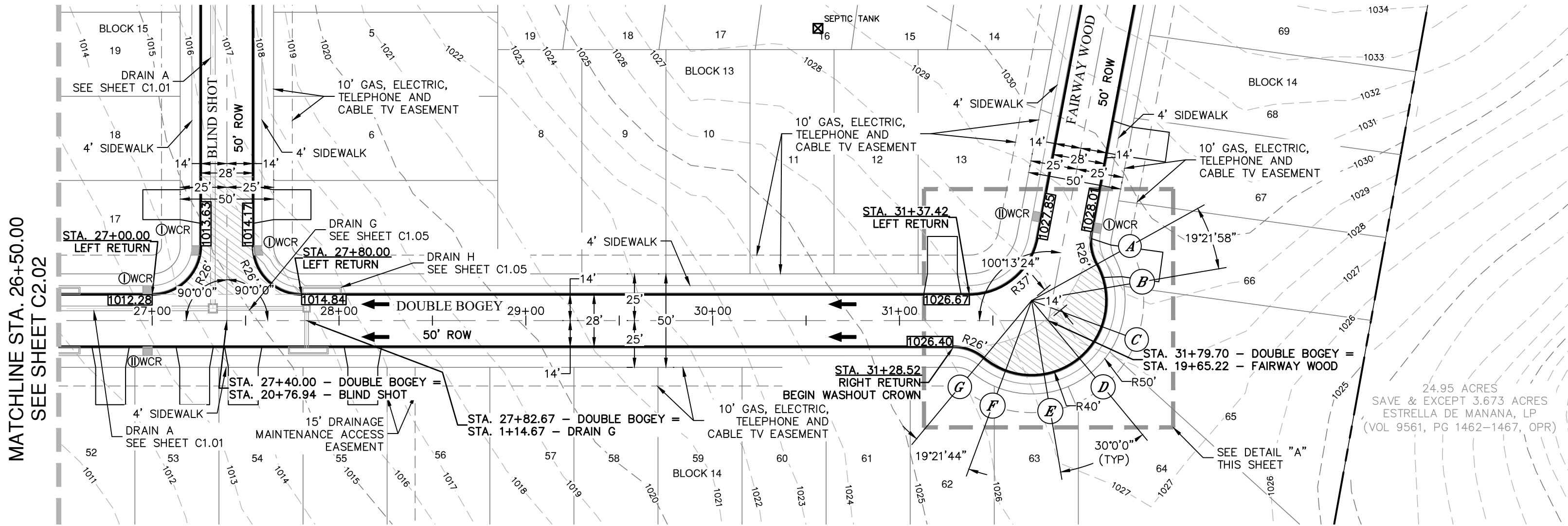
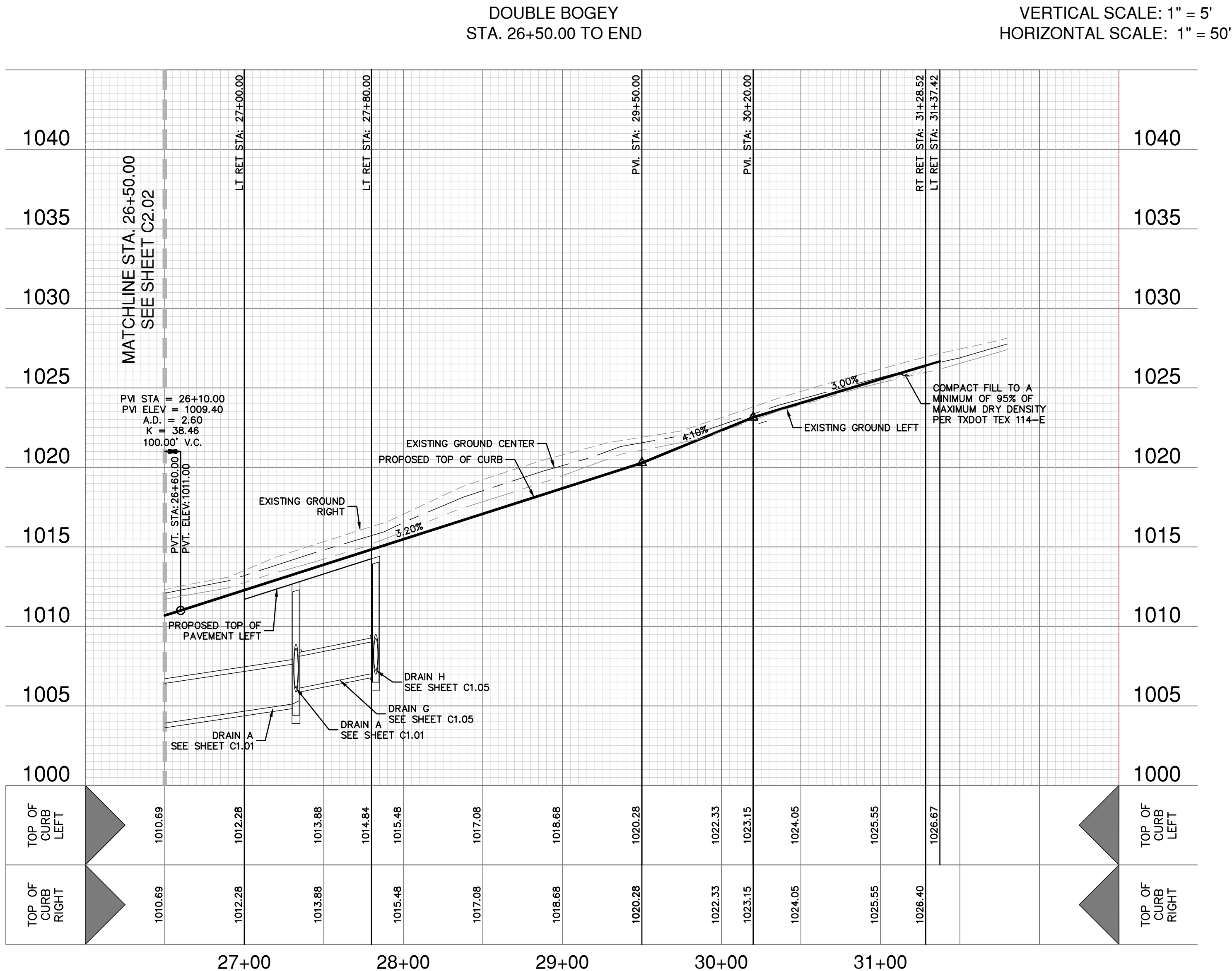
PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JO
SHEET C2.02

PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #0028890

6/24/22
SHAUNA L. WEAVER
89512
LICENSED PROFESSIONAL ENGINEER
Shauna L. Weaver

Dates: Jun 24, 2022 3:34pm User: ID: AP11mccr
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DATE

NO. REVISION

6/24/22

SHAUNA L. WEAVER
89512
PROFESSIONAL ENGINEER

SHAUNA L. WEAVER

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #470 | TPE FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

DOUBLE BOGEY
PLAN AND PROFILE

PLAT NO. 21-11800179

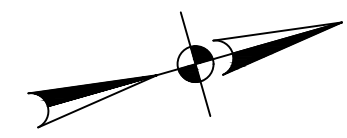
JOB NO. 11500-06

DATE JUNE 2022

DESIGNER CK

CHECKED CK DRAWN JO

SHEET C2.03

[illegible]

Shauna L. Weaver

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
GREEN JACKET
PLAN AND PROFILE



VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'

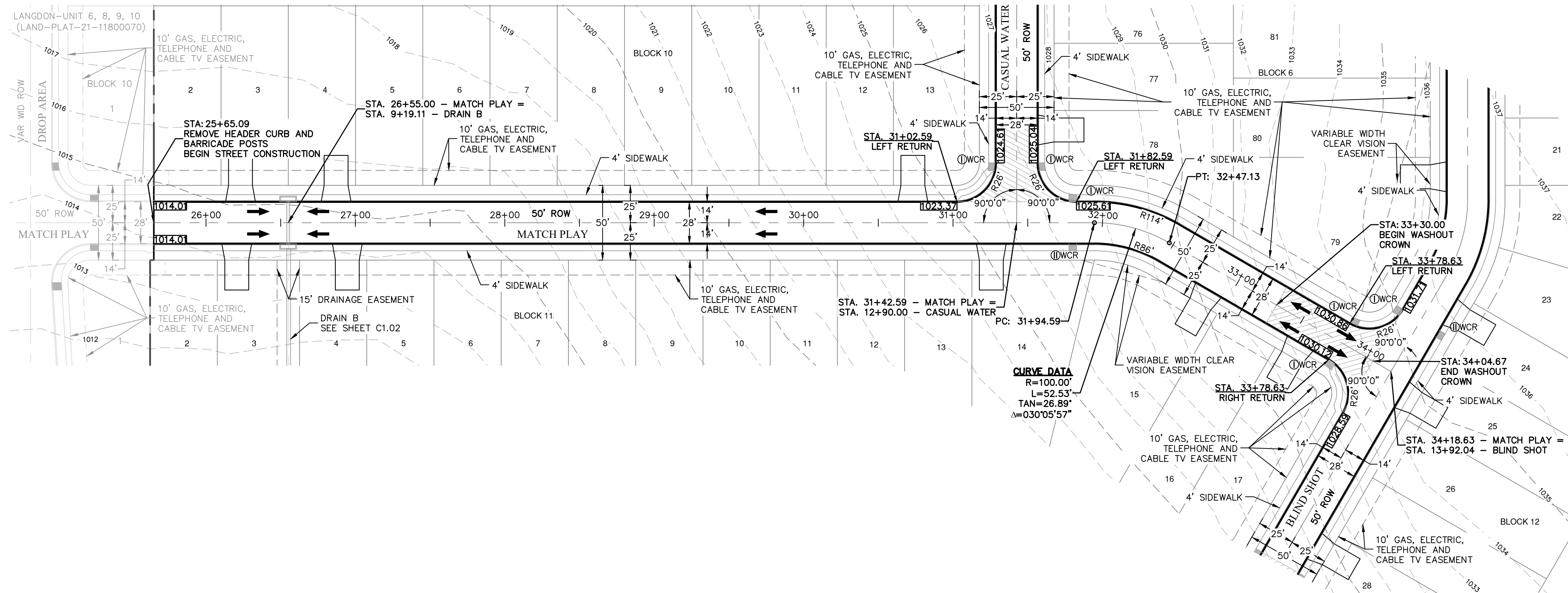


1. A BEYAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEYAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MUST BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TE-IN, IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
3. SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSHORE. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES AND SIGNAGE, SHALL BE CONSTRUCTED WITHIN THE ALLOWED WIDTH OF CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE EASEMENT ON EACH SIDE OF THE ROAD NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY AND INSPECTED BY THE ENGINEER. THE STREET PLAN, STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (Q(6)).

PLAT NO. 21-1180017
JOB NO. 11500-06
DATE JULY 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C2.04

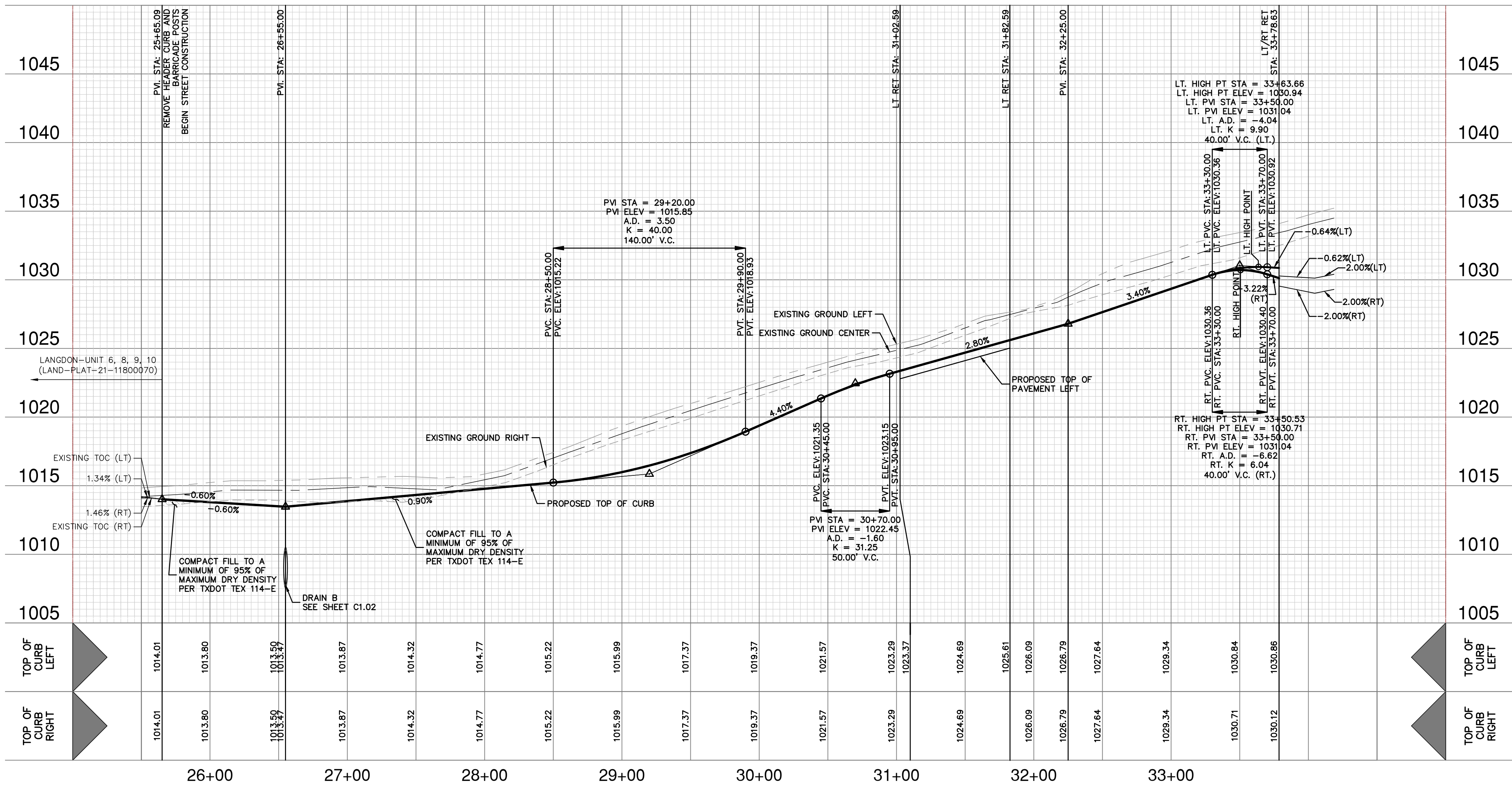
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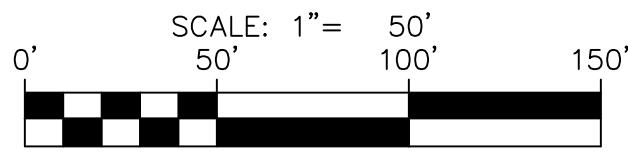
MATCH PLAY
STA. 25+65.09 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



STREET NOTES:

- A BEAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
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STREET LEGEND

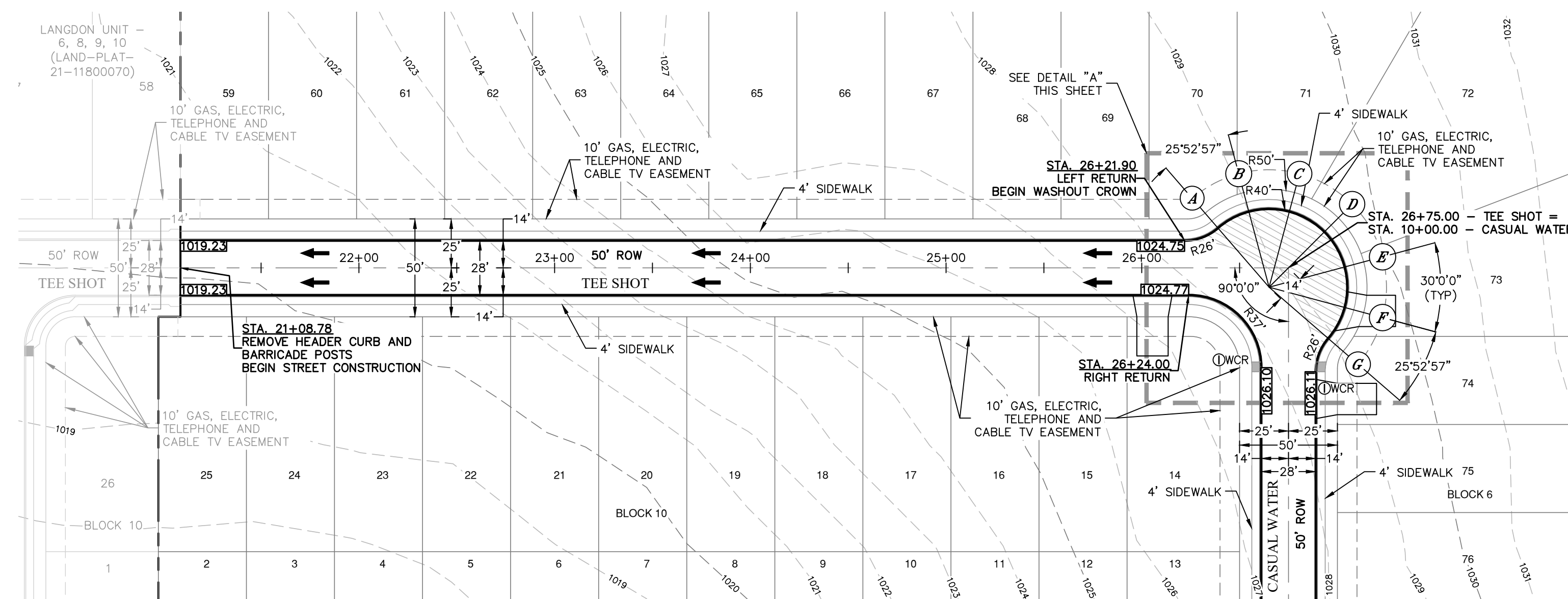
- PROJECT LIMITS
MAINTAIN GUTTER
EXISTING CONTOUR
WHEELCHAIR RAMP
CENTERLINE
RADIUS POINT
POINT OF CURVATURE
POINT OF TANGENCY
RETURN
DRAINAGE FLOW ARROW
TOP OF CURB SPOT ELEVATION
PAVEMENT ELEVATION
WASHOUT CROWN SECTION
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)
DRIVEWAY

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
MATCH PLAY
PLAN AND PROFILE

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JO
SHEET C2.05

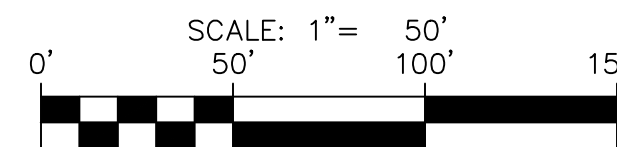
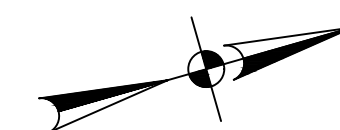
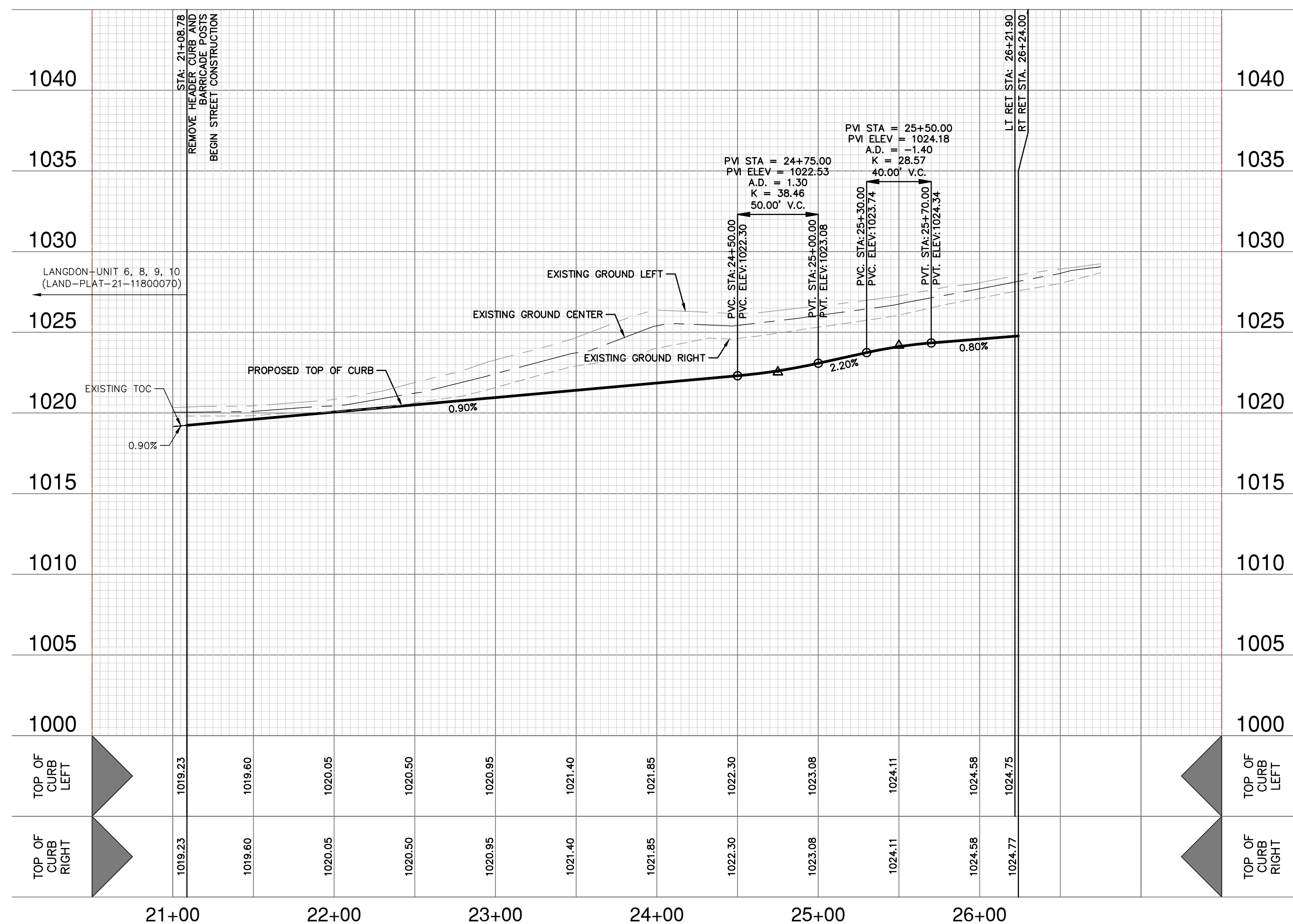
PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #470 | TPE FIRM REGISTRATION #10028800

6/24/22
SHAUNA L. WEAVER
89512
PROFESSIONAL ENGINEER
Shauna L. Weaver



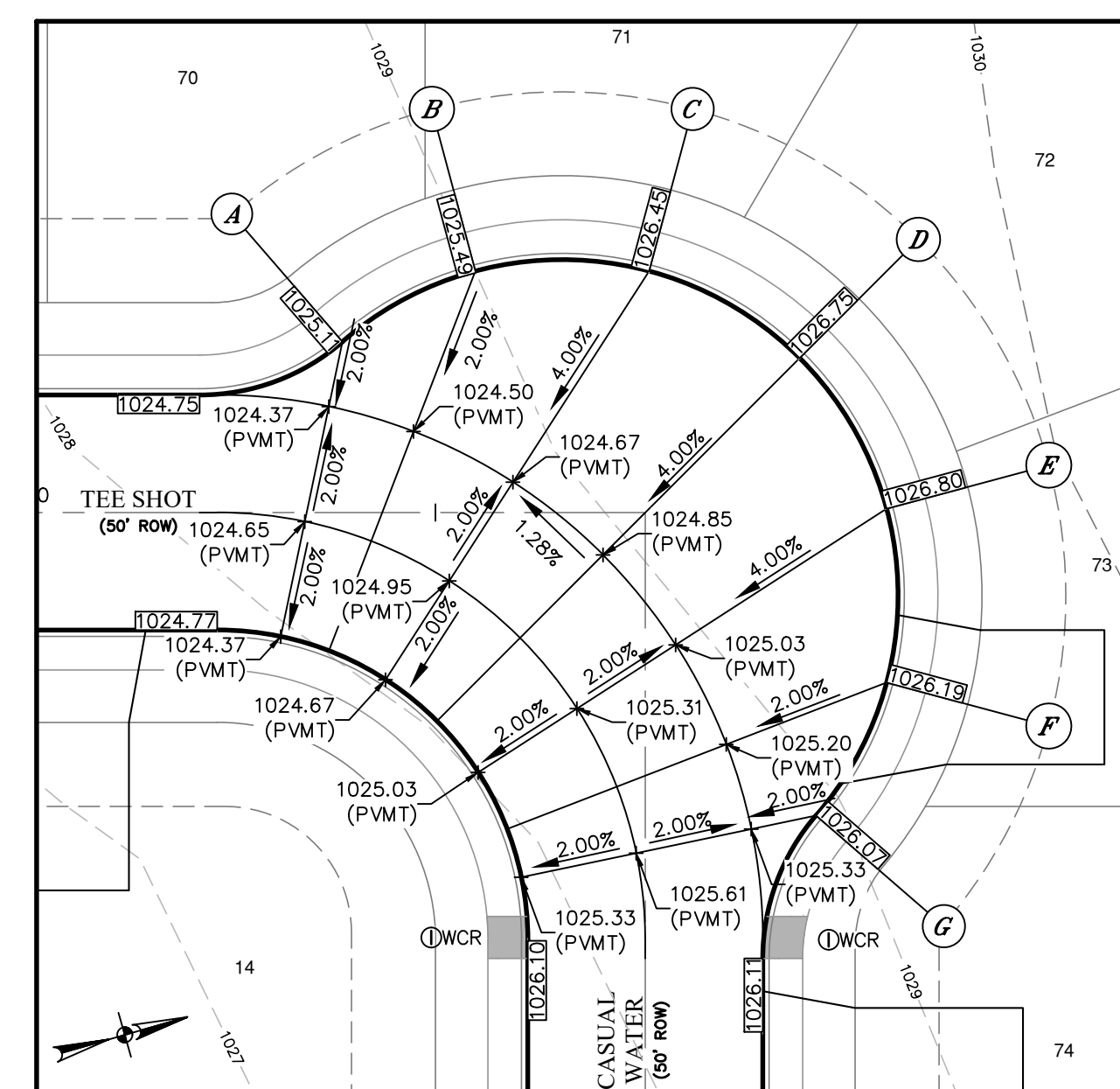
TEE SHOT
STA. 21+08.78 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



STREET LEGEND

PROJECT LIMITS	
MAINTAIN GUTTER	
EXISTING CONTOUR	
WHEELCHAIR RAMP	
CENTERLINE	
RADIUS POINT	
POINT OF CURVATURE	
POINT OF TANGENCY	
RETURN	
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	
PAVEMENT ELEVATION	
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	
DRIVEWAY	



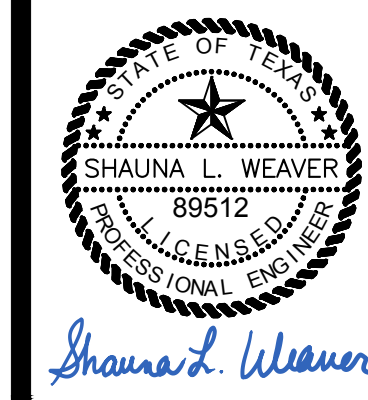
DETAIL "A"
SCALE: 1" = 20'

- STREET NOTES:

1. A BEARX COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEARX COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MUST BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TI-IN, IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
3. SIDEWALKS SHALL BE CONSTRUCTED 3-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFF-SHEET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES AND SIGNAGE, SHALL BE ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT SHALL NOT BE HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHIN THE STREET PLAN, STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 355-506 (Q(6)).

[illegible]

6/24/22

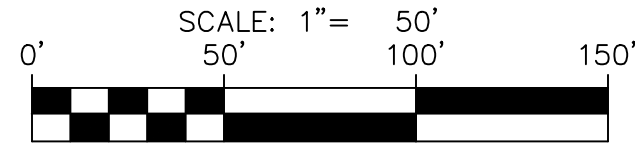
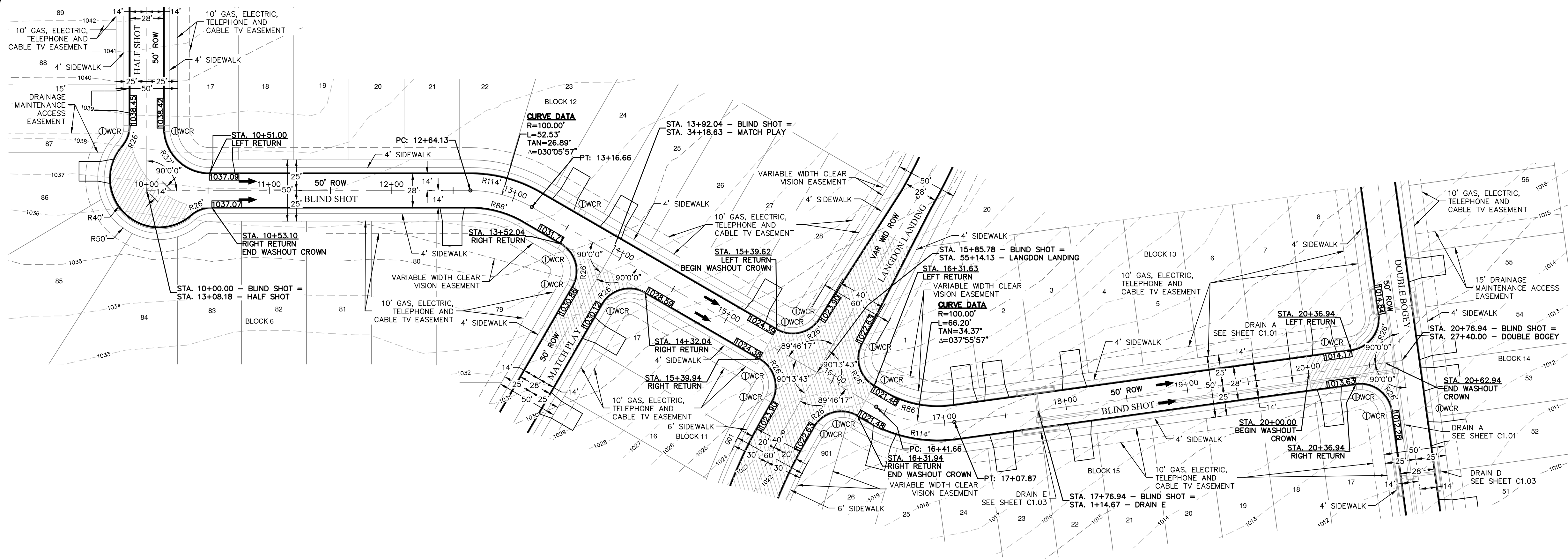


**PAPE-DAWSON
ENGINEERS**
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
202000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TXBPE FIRM REGISTRATION #4270 | TXBLS FIRM REGISTRATION #10028600

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

TEE SHOT
PLAN AND PROFILE

PLAT NO. 21-1180017
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C2.06

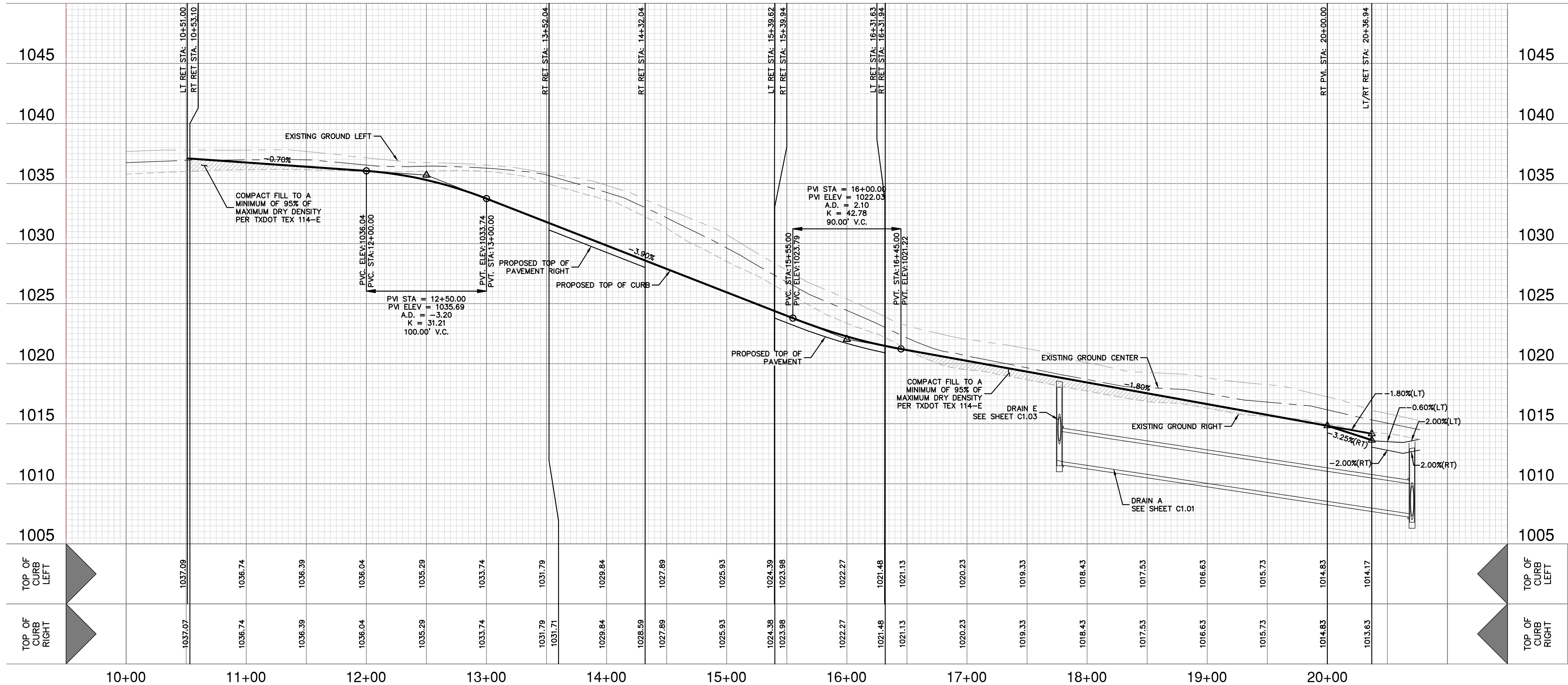


STREET LEGEND

- PROJECT LIMITS
MAINTAIN GUTTER
EXISTING CONTOUR
WHEELCHAIR RAMP
CENTERLINE
RADIUS POINT
POINT OF CURVATURE
POINT OF TANGENCY
RETURN
DRAINAGE FLOW ARROW
TOP OF CURB SPOT ELEVATION
PAVEMENT ELEVATION
WASHOUT CROWN SECTION
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)
DRIVEWAY

BLIND SHOT
STA. 10+00.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



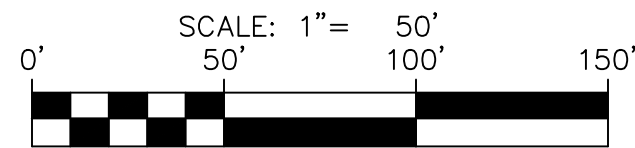
STREET NOTES:

- A BEAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT THE IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
- NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
- DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
- CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (C)(6).

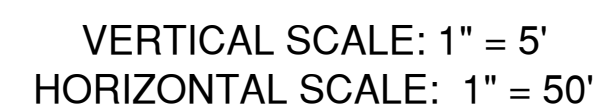
**PAPE-DAWSON
ENGINEERS**
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #270 | TPE FIRM REGISTRATION #10028890

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
BLIND SHOT
PLAN AND PROFILE

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE AUGUST 2022
DESIGNER CK
CHECKED CK DRAWN JO
SHEET C2.07



PROJECT LIMITS	
MAINTAIN GUTTER	
EXISTING CONTOUR	
WHEELCHAIR RAMP	
CENTERLINE	
RADIUS POINT	
POINT OF CURVATURE	
POINT OF TANGENCY	
RETURN	
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	
PAVEMENT ELEVATION	
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	
DRIVEWAY	



1. A BEARX COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEARX COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MUST BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TE-IN, IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
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6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY AND UNDER INSPECTION OF THE ENGINEER. SEE STREET PLAN FOR UTILITY LAUNCH PER UDC SECTION 355-506 (Q)(6).

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
CASUAL WATER
PLAN AND PROFILE

PLAT NO. 21-11800179
 JOB NO. 11500-06
 DATE JUNE 2022
 DESIGNER CK
 CHECKED CK DRAWN JQ
 SHEET C2.09

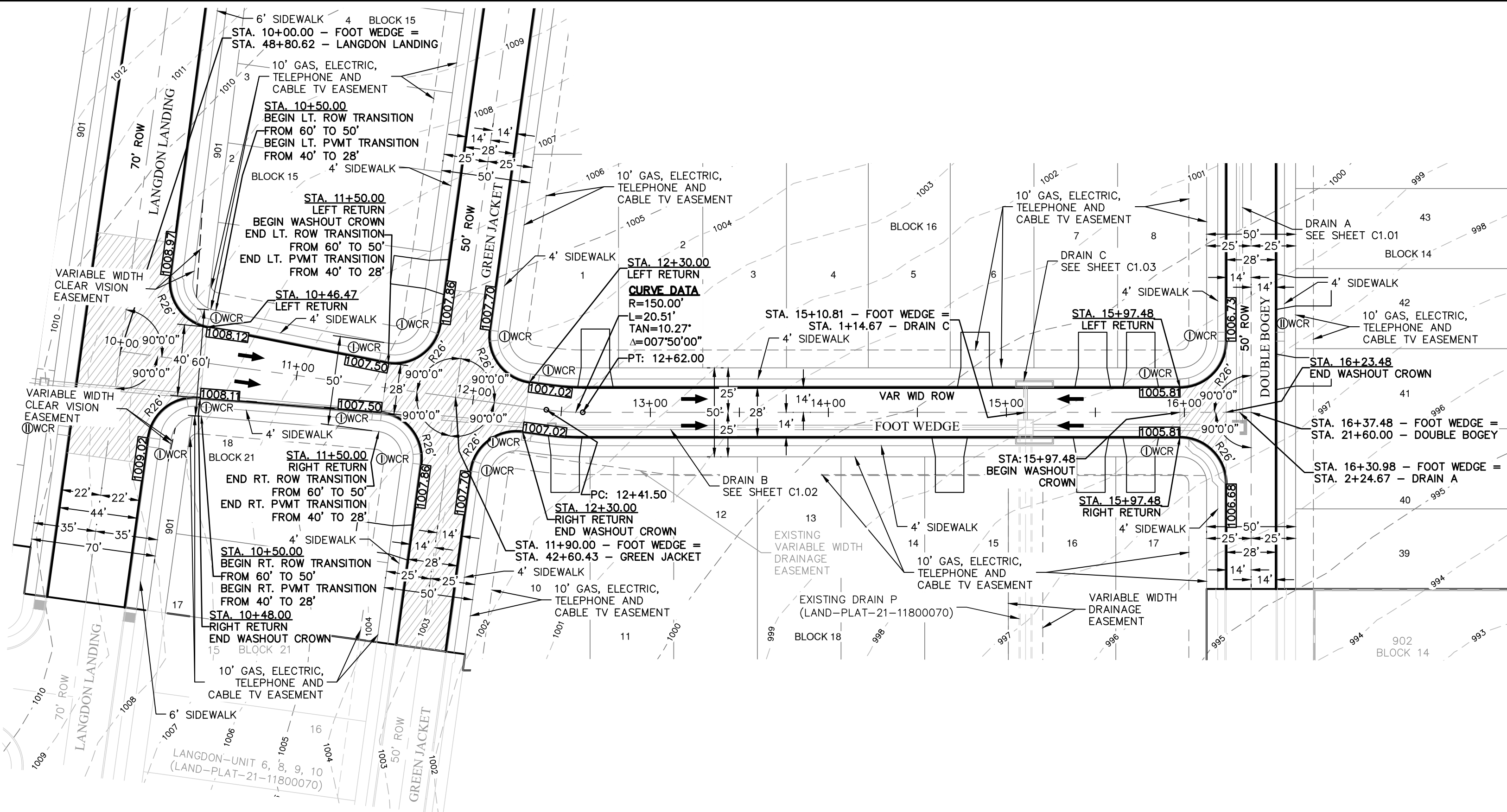
6/24/22



PAPE-DAWSON
ENGINEERS

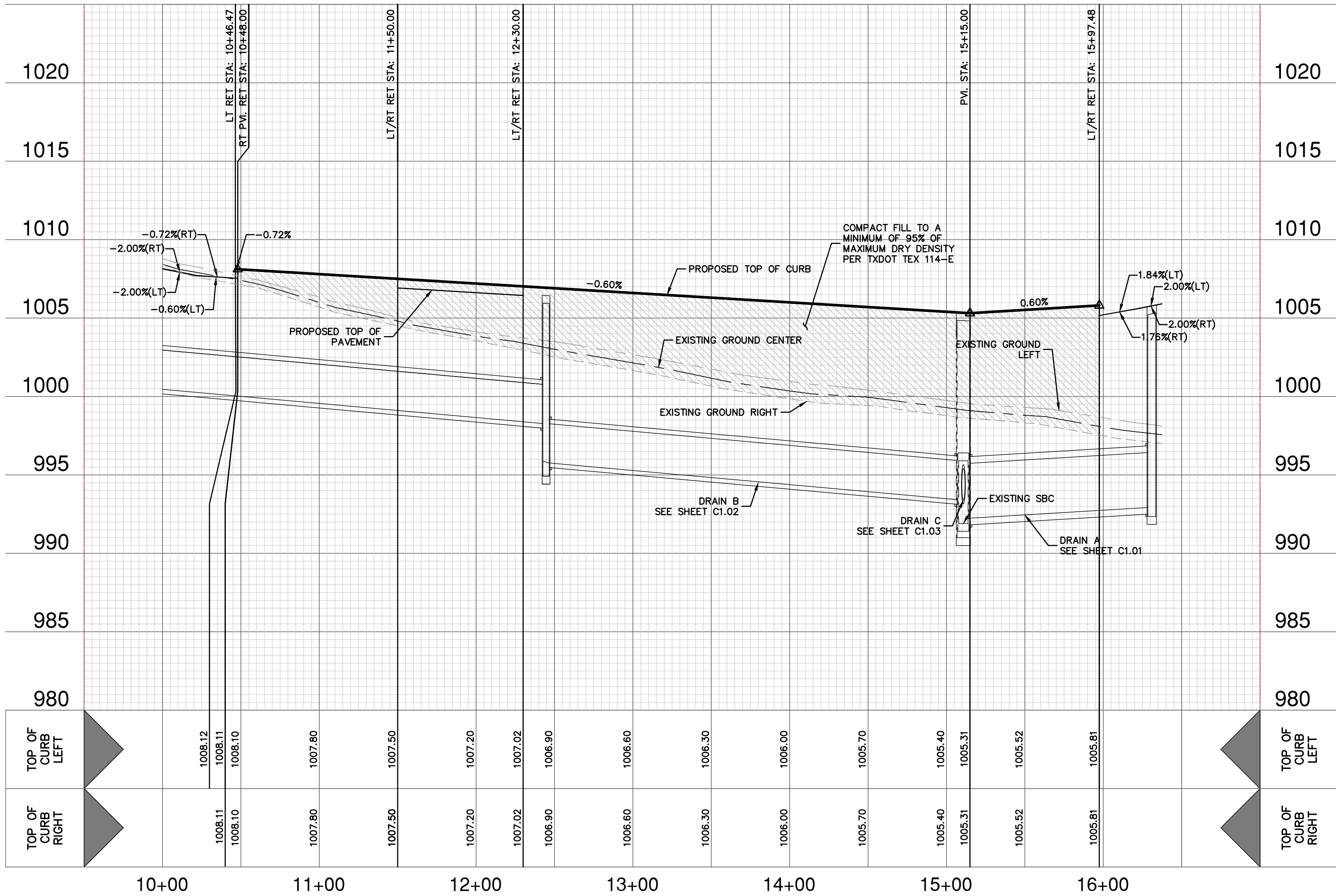
SAW ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPB FIRM REGISTRATION #470 | TBPB FIRM REGISTRATION #1028860

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FOOT WEDGE
STA. 10+00.00 TO END

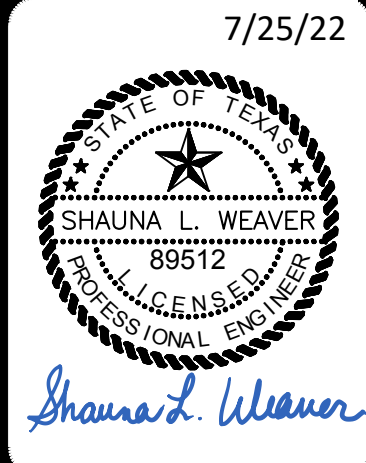
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



STREET LEGEND

- PROJECT LIMITS
MAINTAIN GUTTER
EXISTING CONTOUR
WHEELCHAIR RAMP
CENTERLINE
RADIUS POINT
POINT OF CURVATURE
POINT OF TANGENCY
RETURN
DRAINAGE FLOW ARROW
TOP OF CURB SPOT ELEVATION
PAVEMENT ELEVATION
WASHOUT CROWN SECTION
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)
DRIVEWAY

DATE	
NO.	
REVISION	



PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #4270 | TPELS FIRM REGISTRATION #10028800

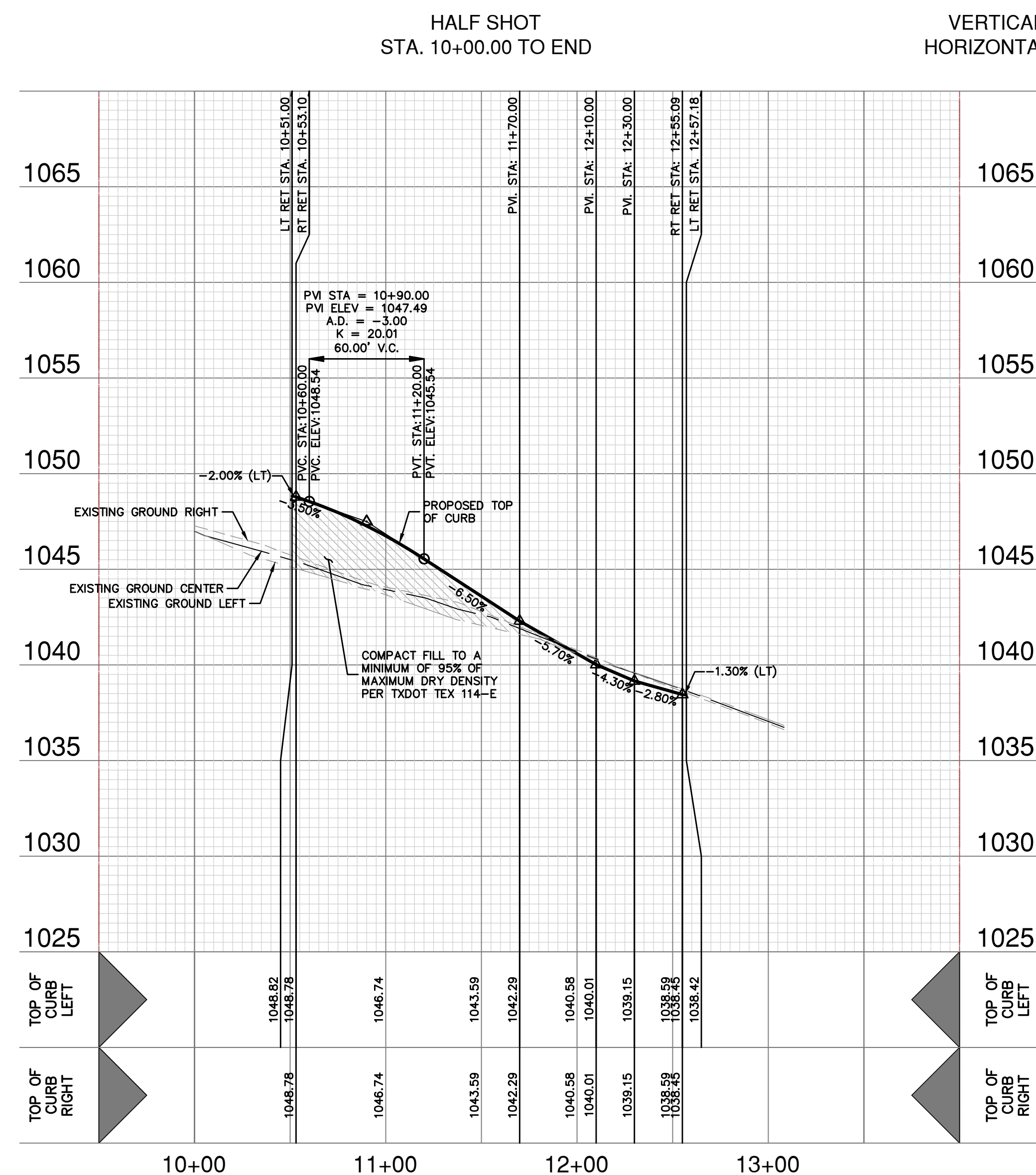
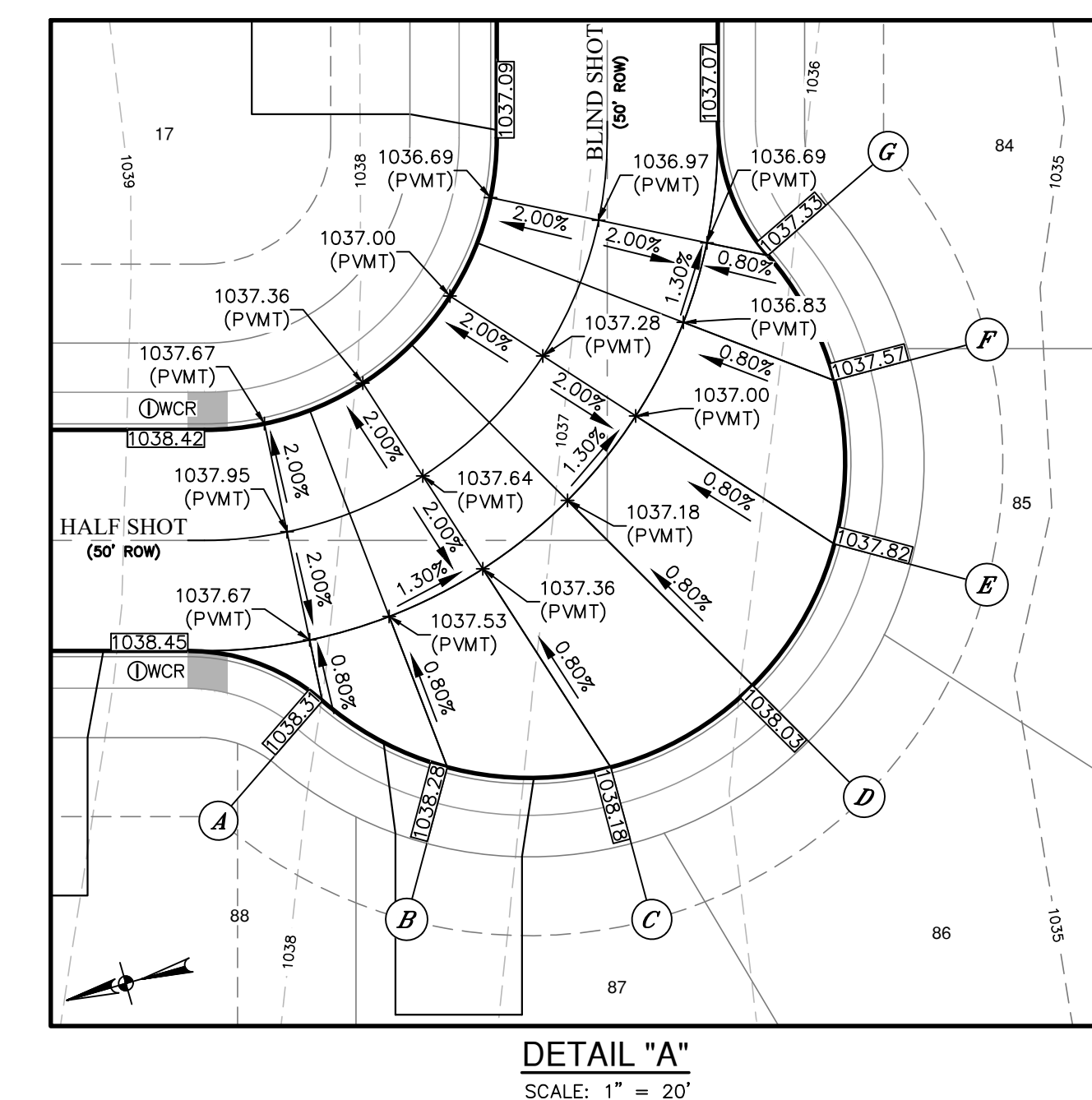
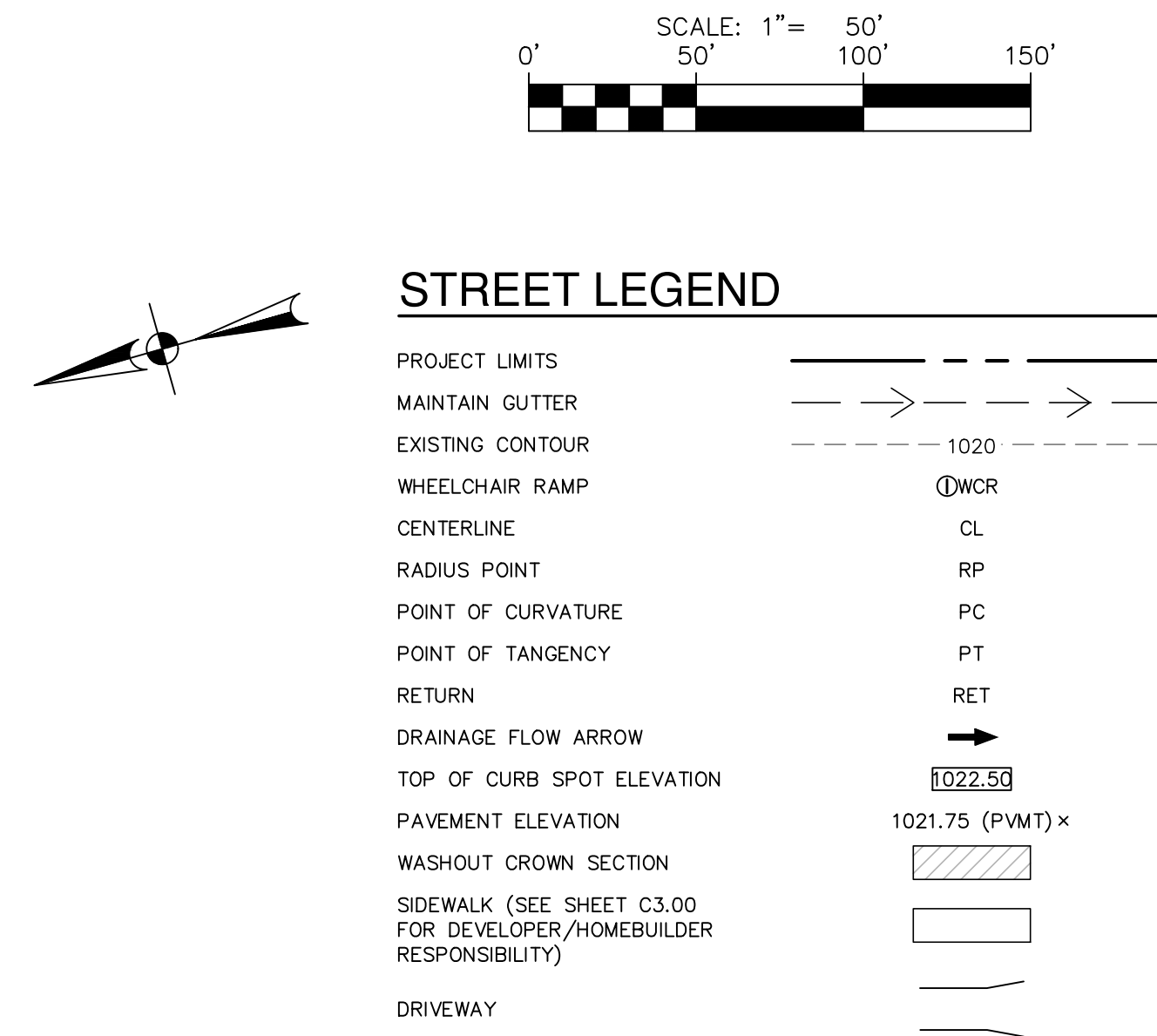
LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

FOOT WEDGE
PLAN AND PROFILE

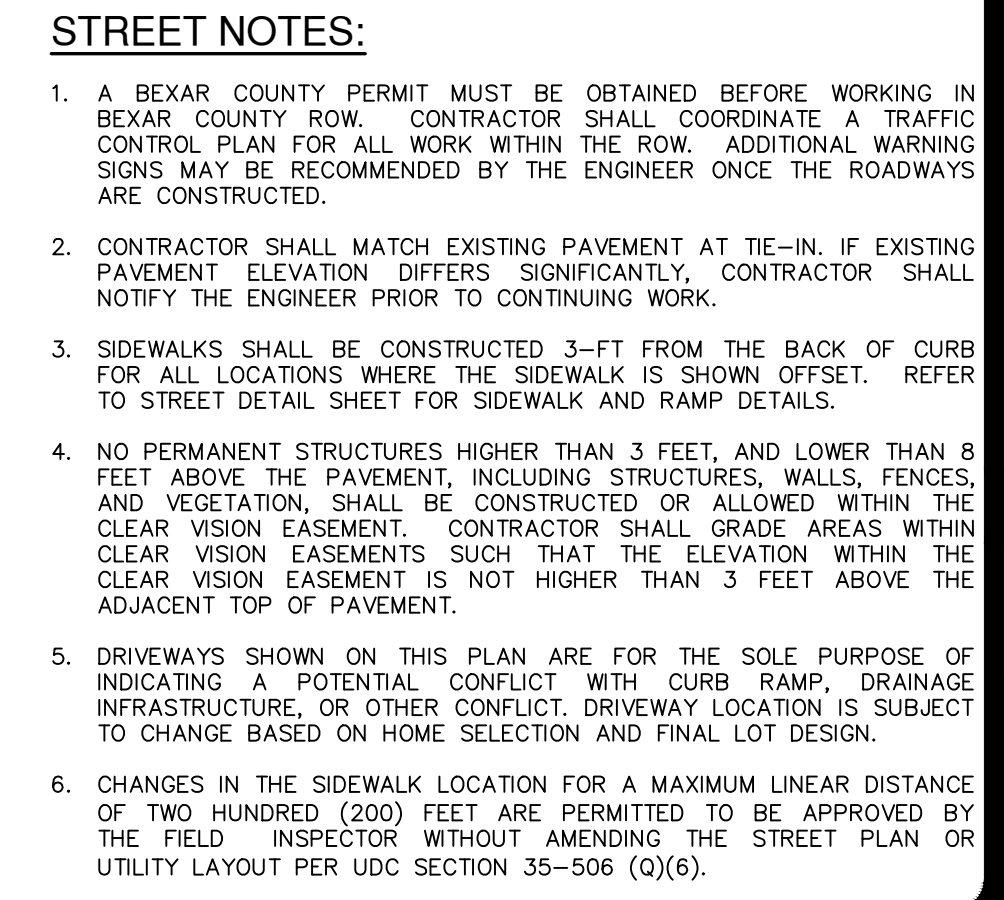
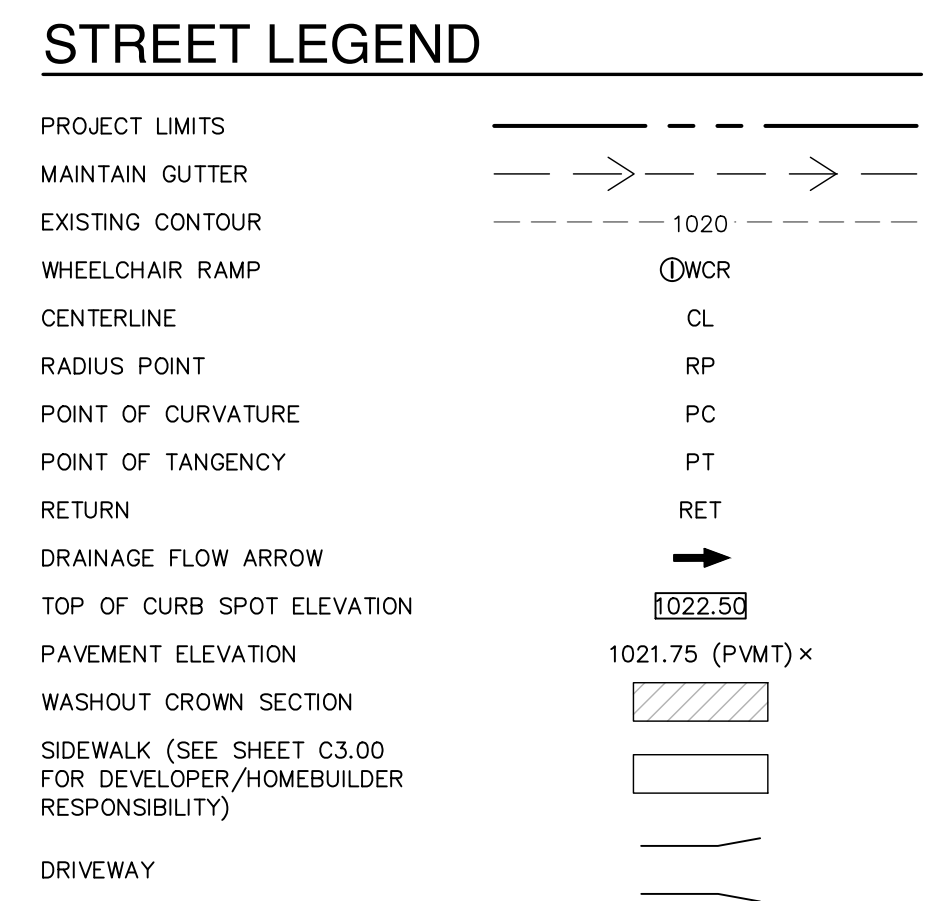
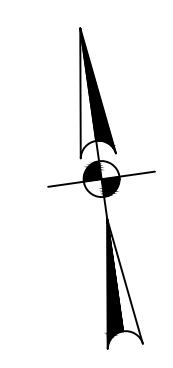
STREET NOTES:

- A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
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- CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (D)(6).

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JULY 2022
DRAWN	CK
CHECKED	CK
SHEET	C2.10



- ## **STREET NOTES:**
1. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MUST BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
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 4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND RETENTION WALLS, WILL BE CONSTRUCTED OR ALLOWED WITHIN CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT SHALL NOT BE HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
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 6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE INSPECTOR WITHIN THE EXISTING STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 355-506 (Q(6)).

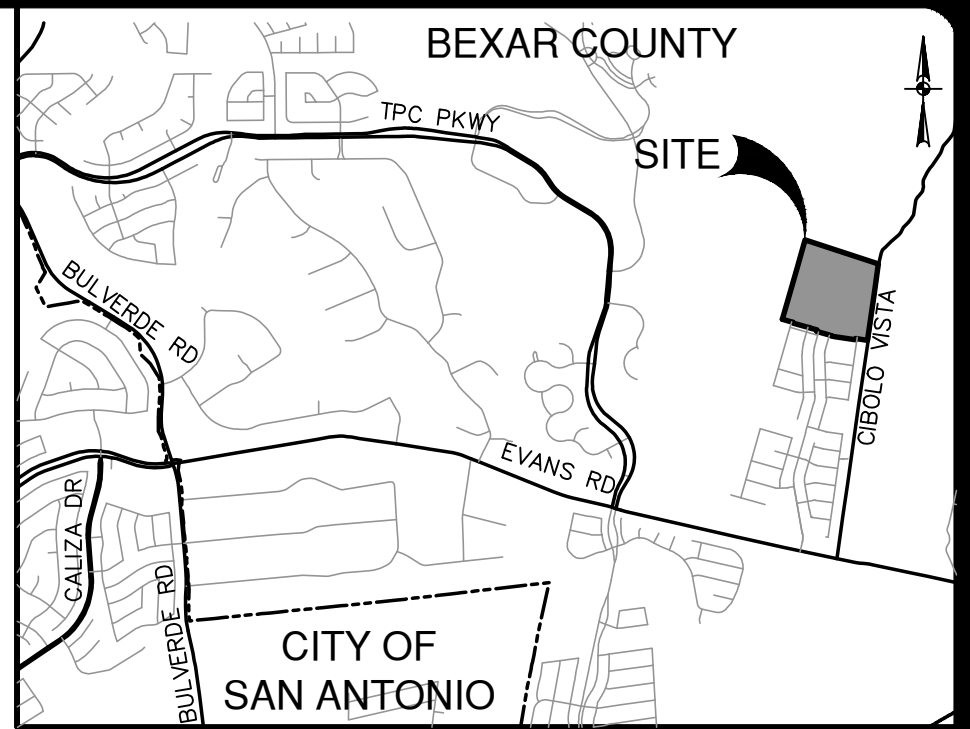
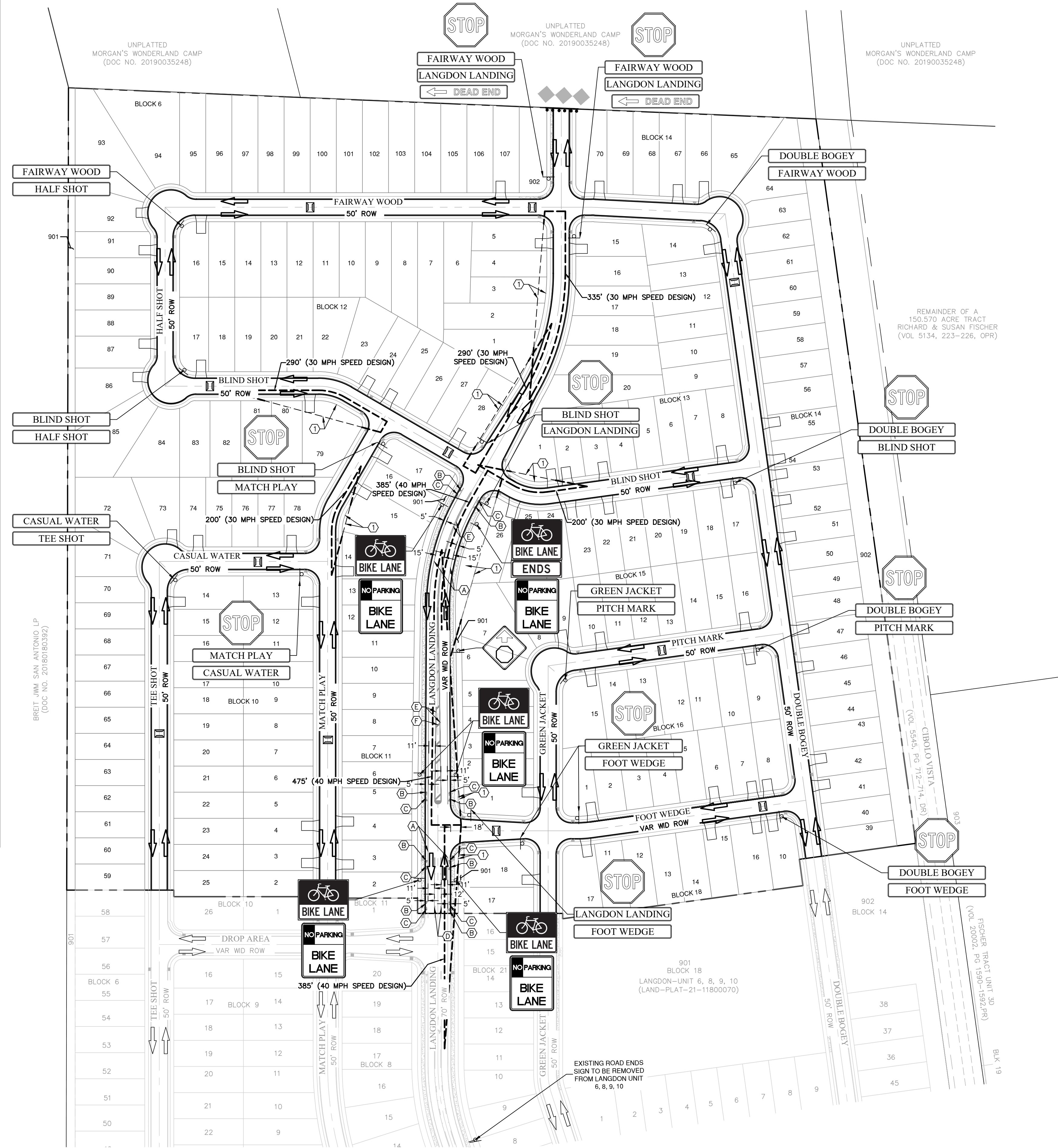


Date: Jun 24, 2022, 3:41pm User ID: APTtman
File: P:\15\GIS\GIS\Design\GIS\ATCH MARK 1150006.dwg

THIS DOCUMENT HAS BEEN PROVIDED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADEQUATELY ALTERED. RELY ONLY ON ENCL. HARD COPY MATERIAL'S BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. Aerial Imagery Provided by Google Earth/USFSS. (USFSS:USFSS:NOTED: Invoiced © 2016/CARTO/United Digital Team Orthorectification Program: USDA, Farm Service Agency)

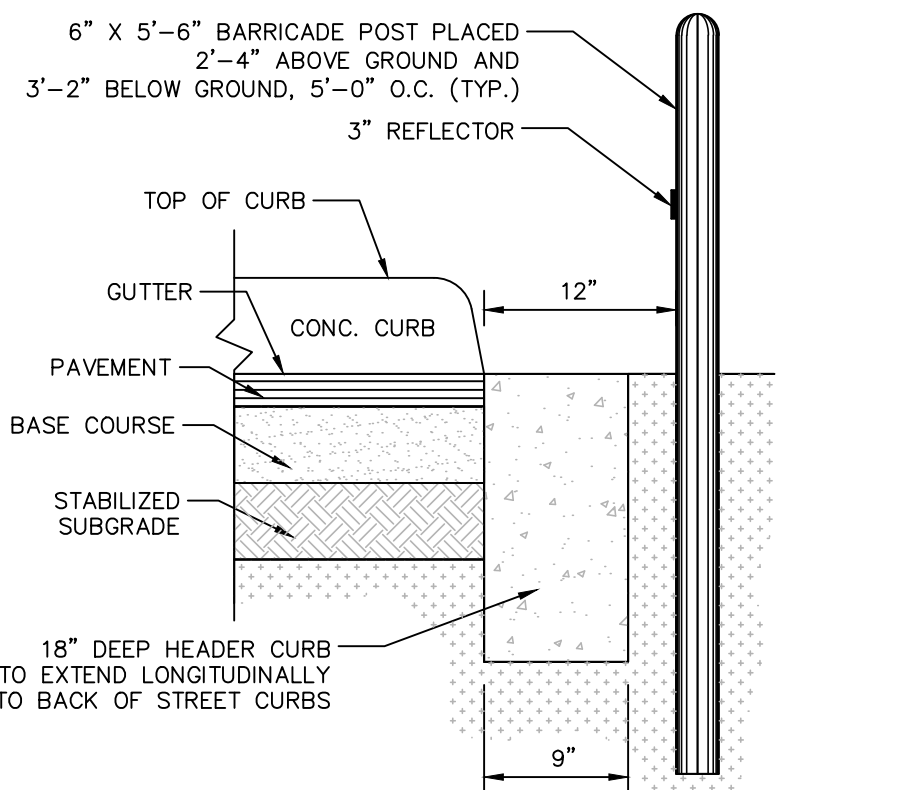
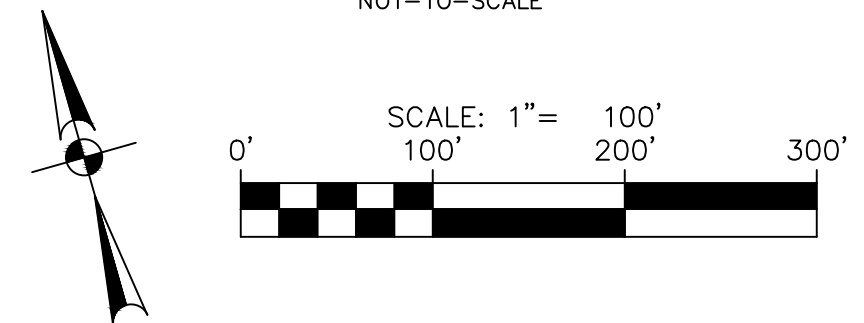
The plan view shows a road intersection with stationing 10+00, 11+00, and 12+00. The road is oriented vertically. At station 10+00, there is a curb on the right with an elevation of 1010.92 and a curb on the left with an elevation of 1010.87. At station 11+00, there is a curb on the right with an elevation of 1010.63 and a curb on the left with an elevation of 1010.63. At station 12+00, there is a curb on the right with an elevation of 1009.55 and a curb on the left with an elevation of 1009.55. The road is shown as a series of parallel lines with a grid overlay.

SYMBOL	ITEM NUMBER
---	UNIT BOUNDARY
	PROPOSED DRIVEWAY
	TRAFFIC FLOW ARROW
	SIDEWALK (HOMEBUILDER RESPONSIBILITY)
	SIDEWALK (SEWORK CONTRACTOR RESPONSIBILITY)
	TYPE II BLUE RAISED PAVEMENT MARKERS - NO SEPARATE PAY ITEM (N.T.S.)
	END OF ROAD MARKER OM4-3
	HEADER CURB W/ BARRICADE POSTS
	8" SOLID WHITE THERMOPLASTIC LINE
	BICYCLE LANE THERMOPLASTIC RIDER SYMBOL
	STRAIGHT WHITE THERMOPLASTIC ARROW BICYCLE FACILITY
	4 INCH WIDE YELLOW THERMOPLASTIC SOLID (REFL) & 4 INCH WIDE YELLOW THERMOPLASTIC BROKEN (REFL) & TYPE II A-A @ 40' C-C REFL. PVMT MARKING
	4 INCH WIDE DOUBLE YELLOW THERMOPLASTIC SOLID (REFL) TYPE II A-A @ 40' C-C REFL. PVMT MARKING
	24 INCH WIDE YELLOW DIAGONAL THERMOPLASTIC SOLID (REFL)
	VARIABLE WIDTH CLEAR VISION EASEMENT
	STREET SIGN
	R7-9
	R1-1 30"x30"
	W14-2A
	R3-17
	R3-17B
	W14-1A
	W3-1



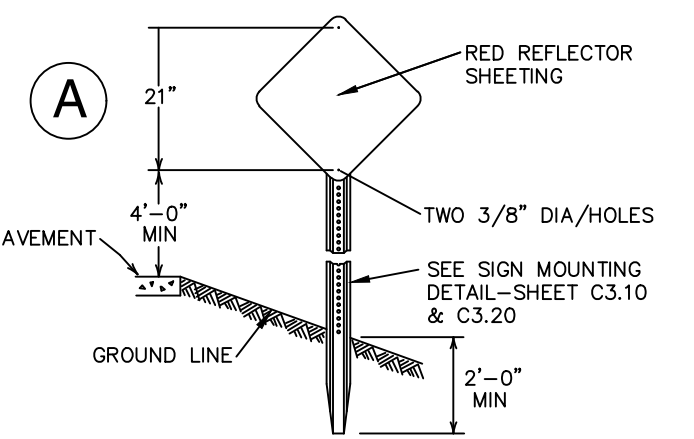
LOCATION MAP

NOT-TO-SCALE



HEADER CURB & BARRICADE POST DETAIL

NOT-TO-SCALE



UNITS MOUNTED ON 0.080" THICK SHEET ALUMINUM CONFORMING WITH ASTM B-209 ALLOY 6061-T6.
TYPE 4 OM4-3
18" x 18"

OBJECT MARKER TYPE 4

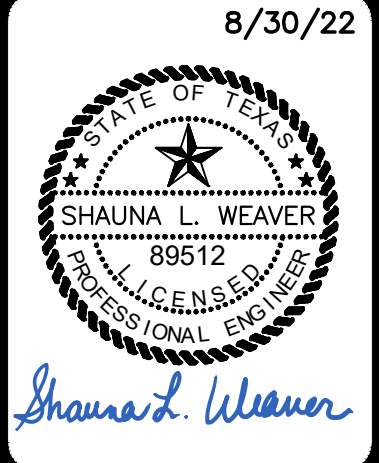
NOT-TO-SCALE

BEXAR COUNTY ROW NOTES:
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.

DRIVEWAY NOTE:
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

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

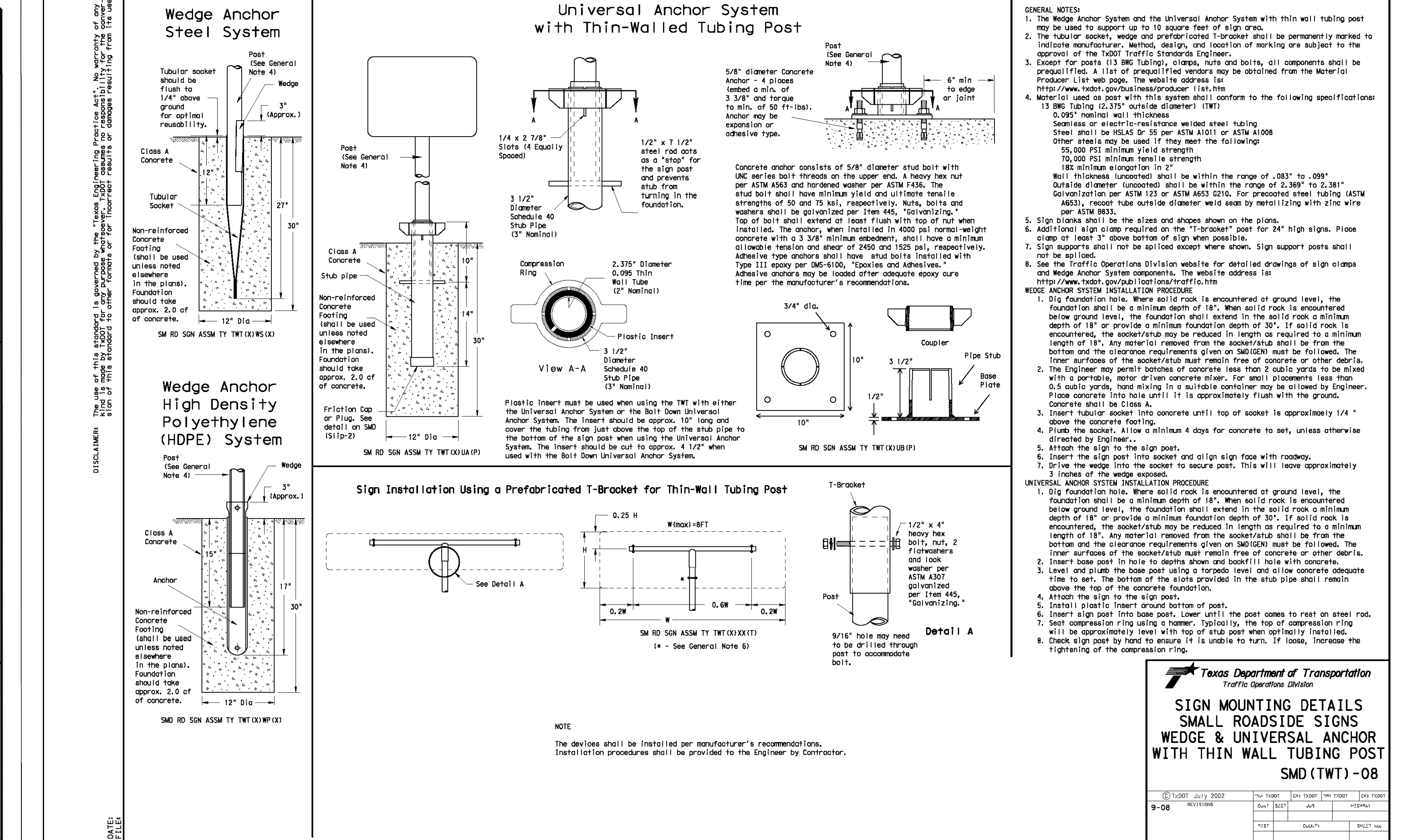
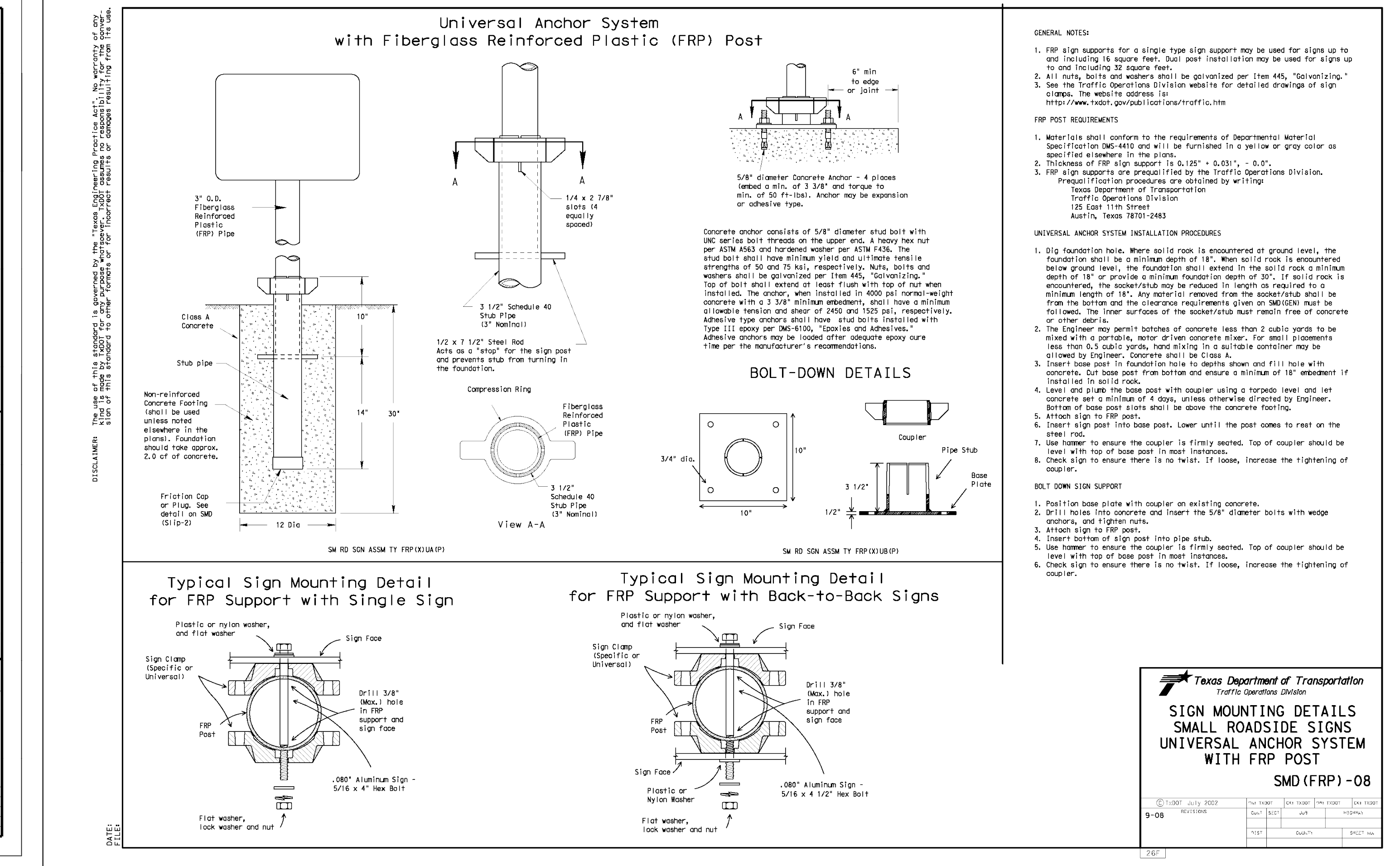
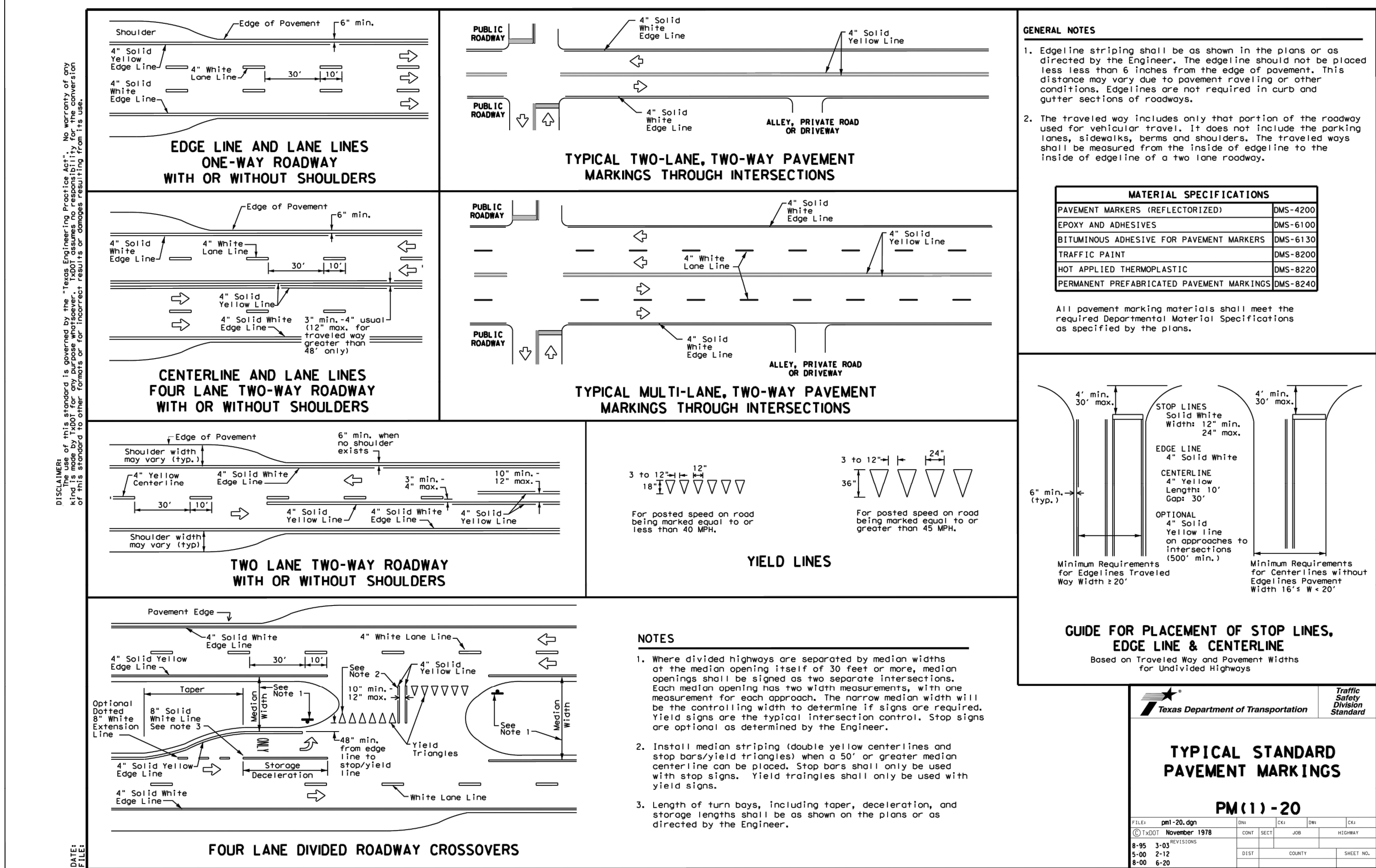
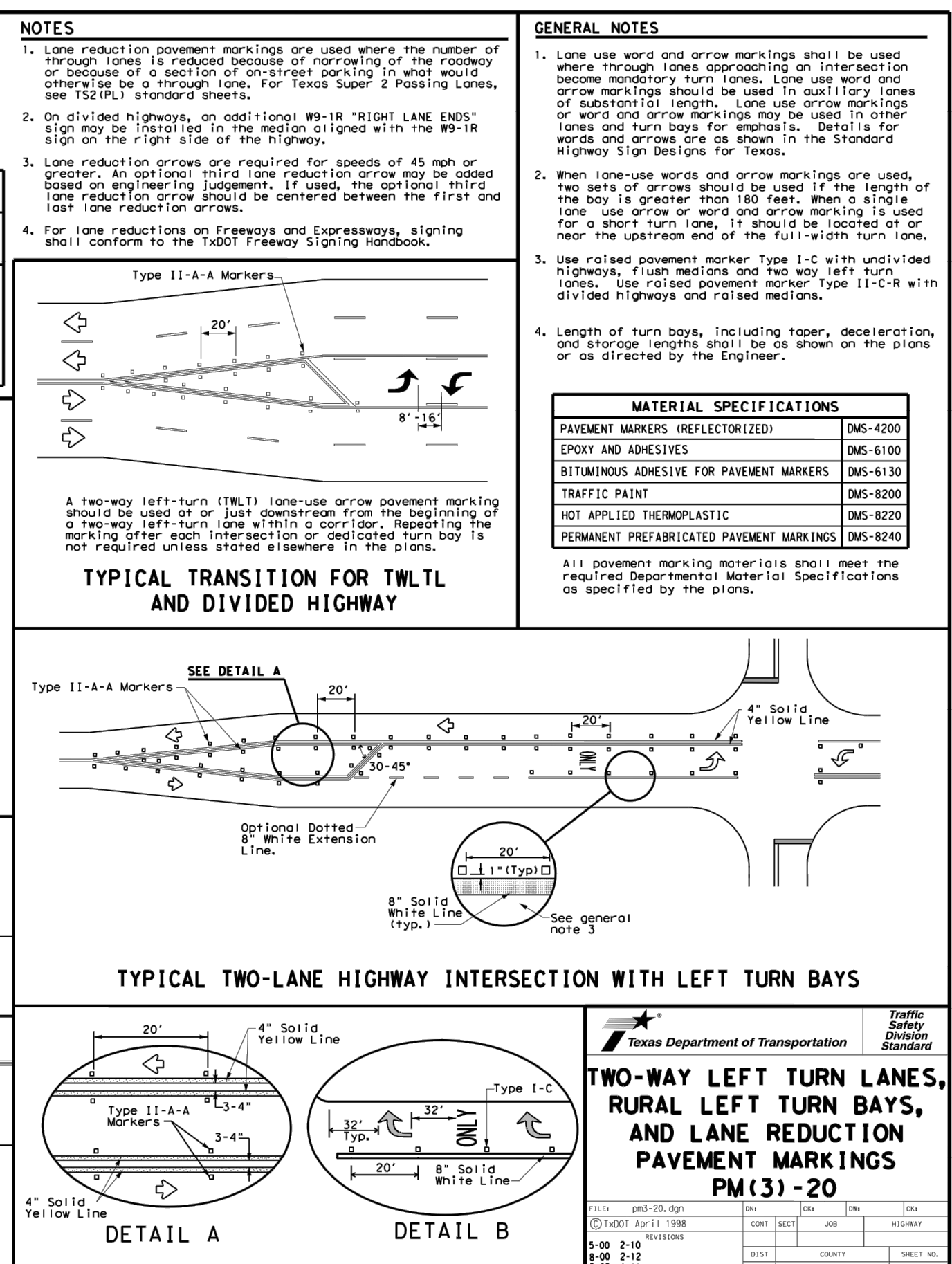
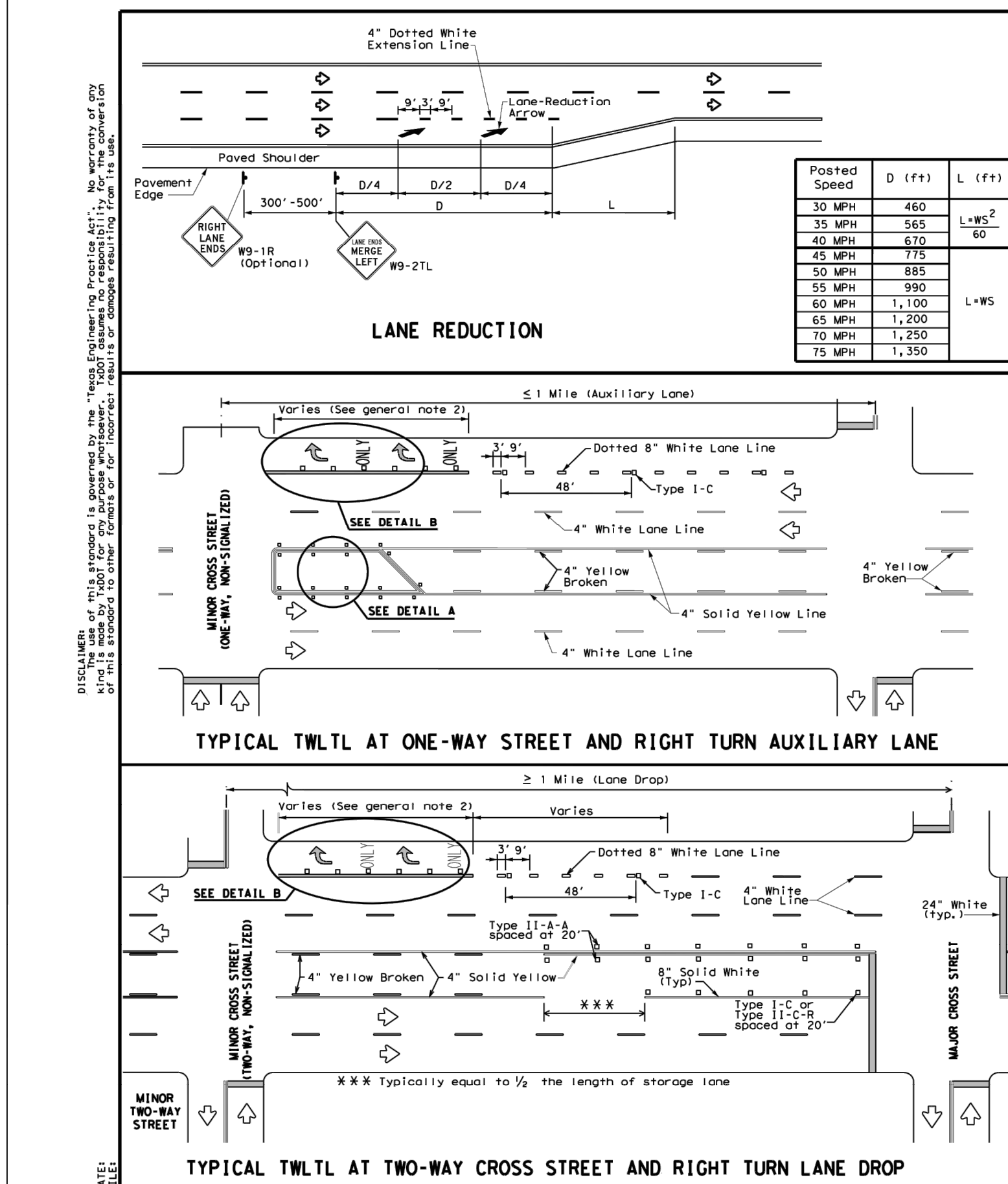
DATE	NO.	REVISION

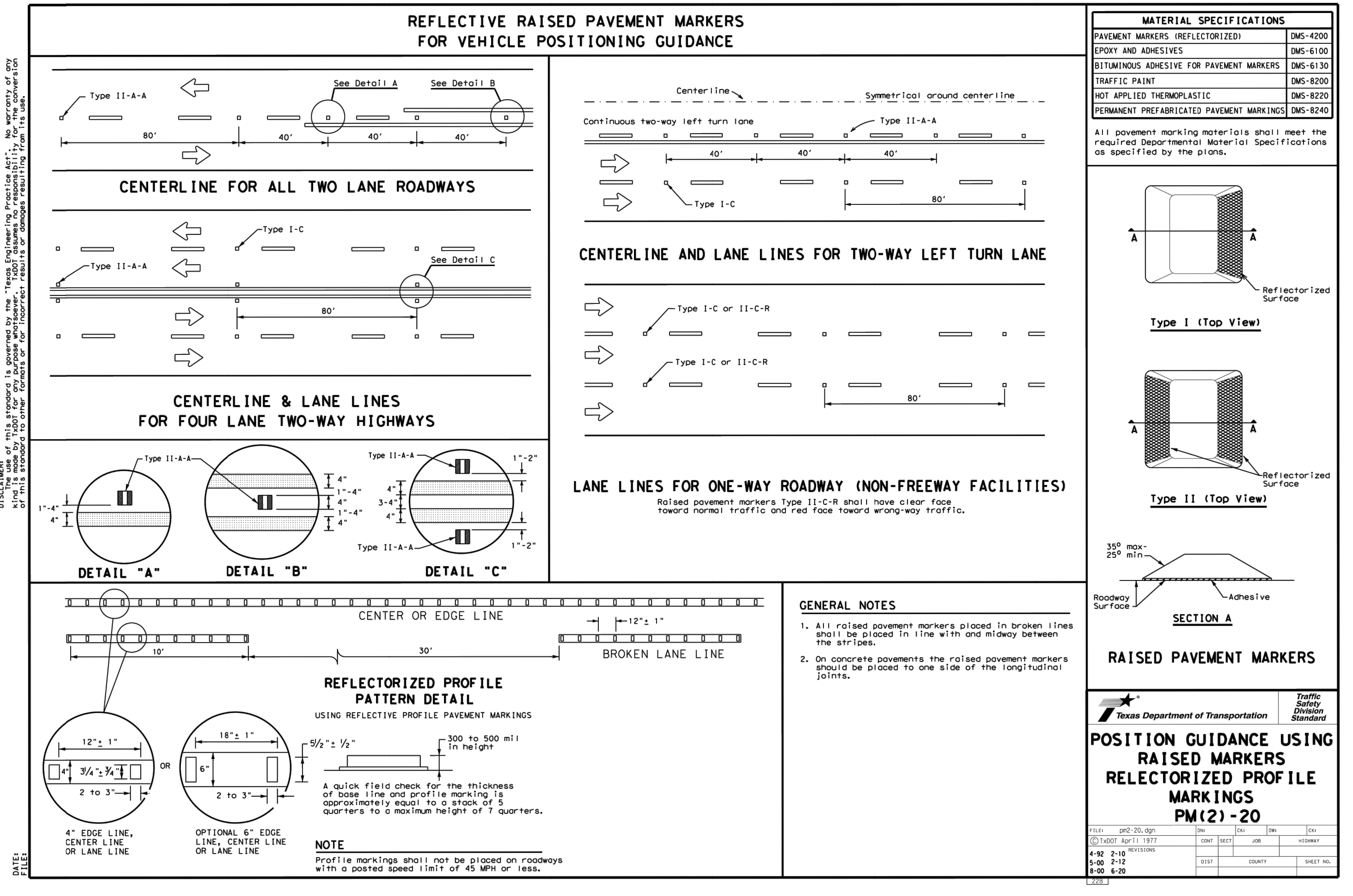
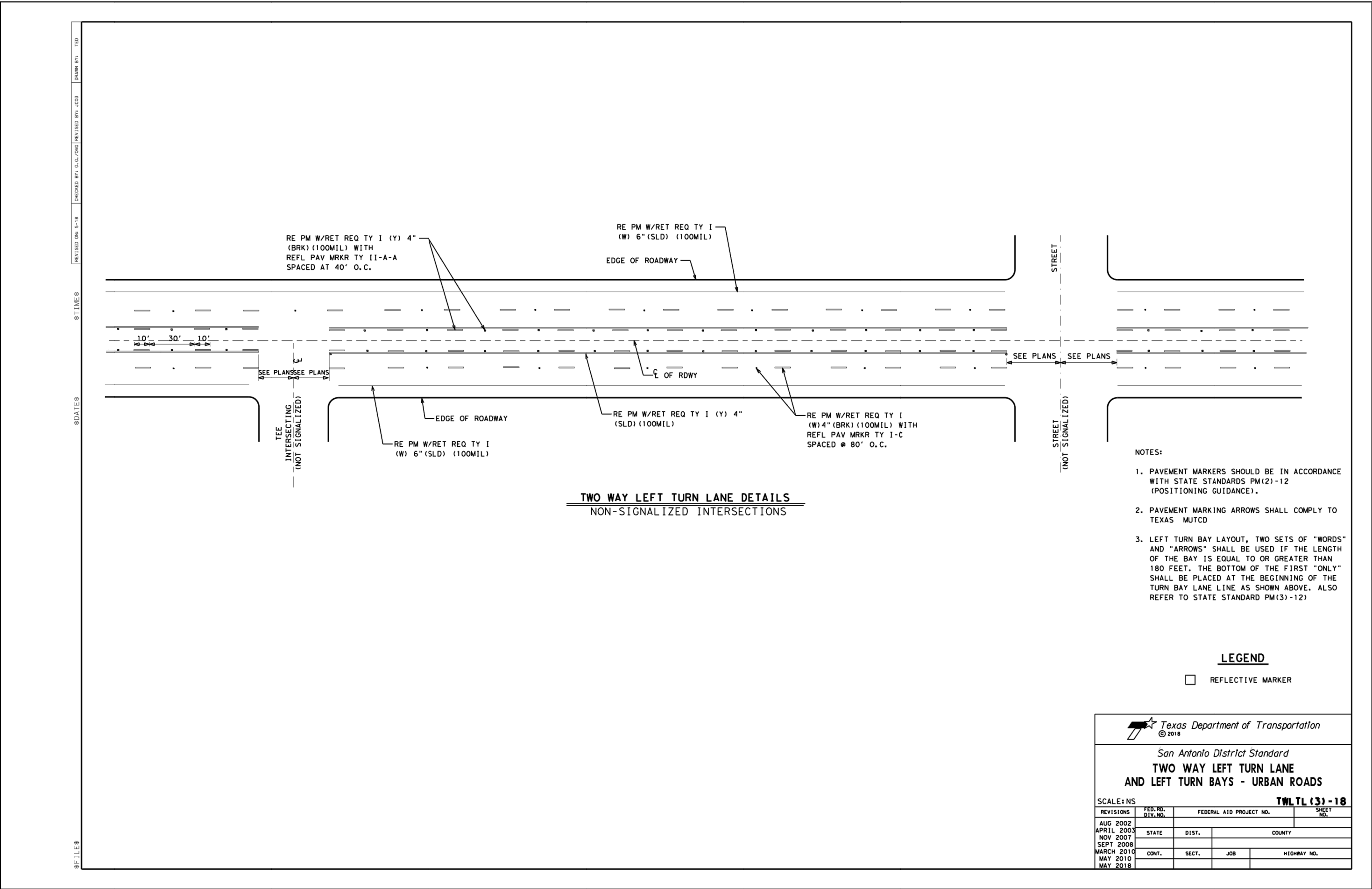
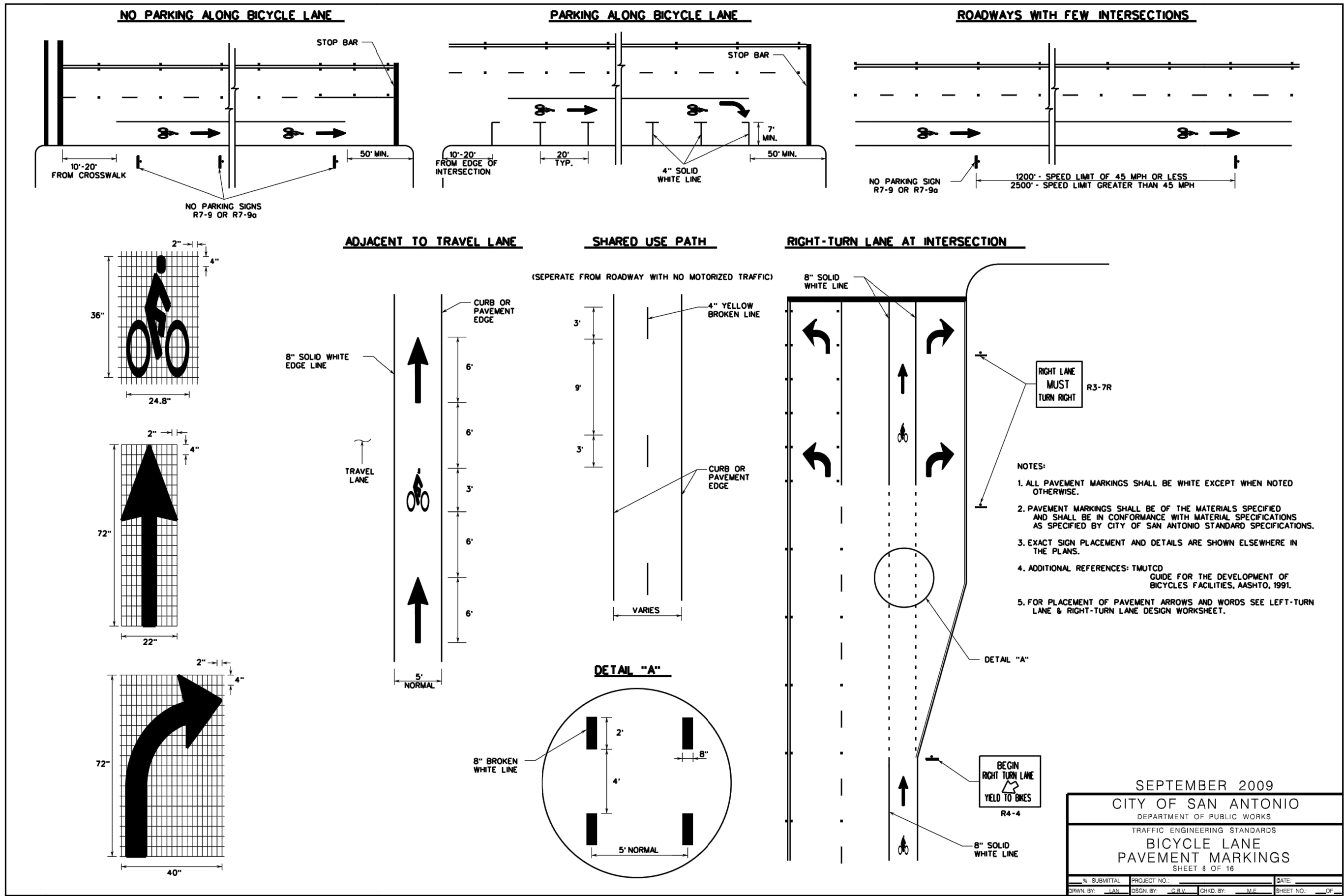
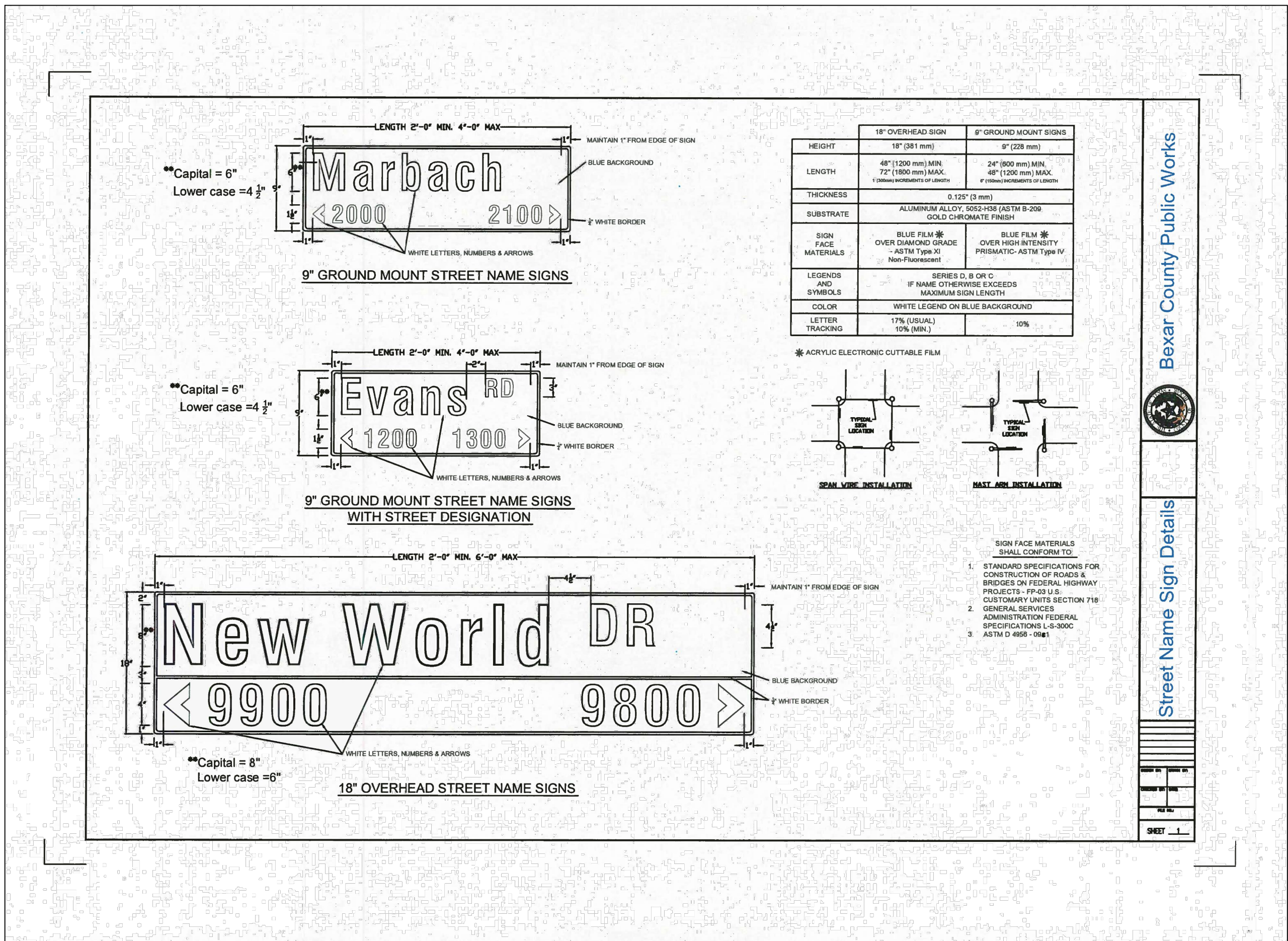


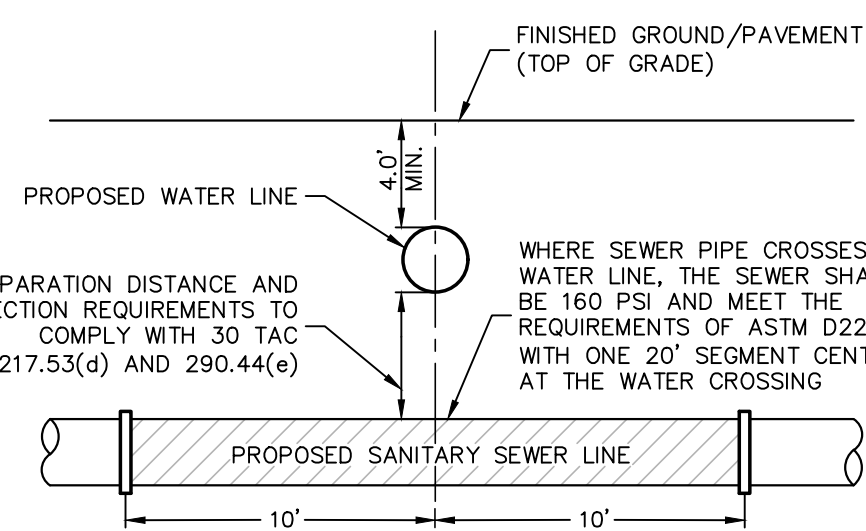
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
SIGNAGE PLAN

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	AUGUST 2022
DRAWN	CK
CHECKED	CK
DRAWN	JD
SHEET	C3.00

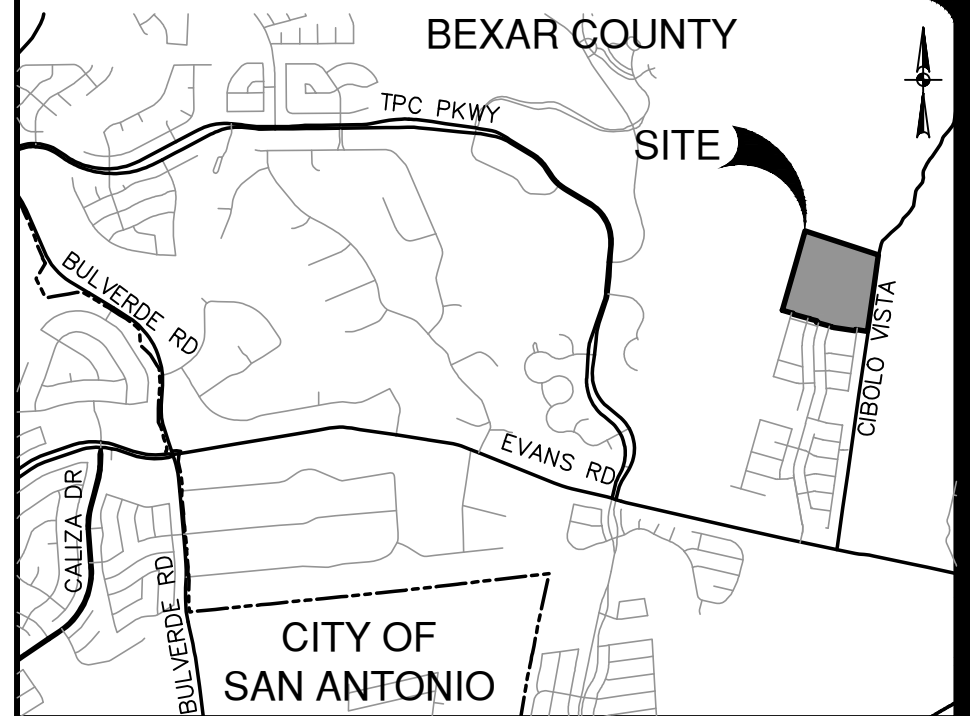






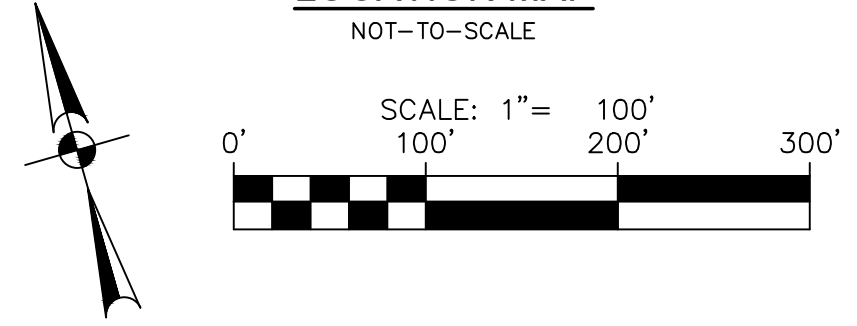
TYPICAL SANITARY
SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE



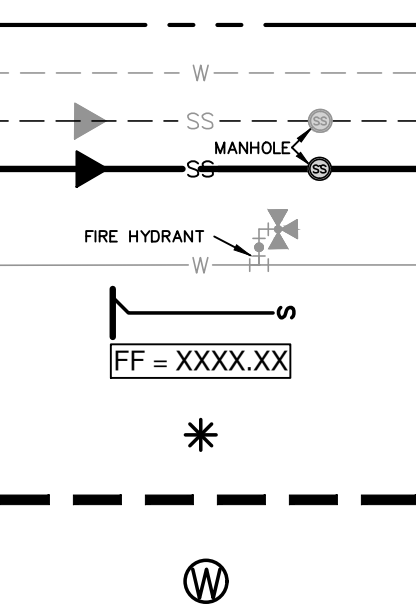
LOCATION MAP

NOT-TO-SCALE



SEWER LEGEND

PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEW



KEY NOTES:

- 1 10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- 2 1' VEHICULAR NON-ACCESS EASEMENT
- 3 VARIABLE WIDTH GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- 4 15' DRAINAGE EASEMENT
- 5 15' DRAINAGE MAINTENANCE ACCESS EASEMENT
- 6 VARIABLE WIDTH CLEAR VISION EASEMENT
- 7 10' GAS, ELECTRIC, TELEPHONE, CABLE TV AND WATER EASEMENT
LOT 79, BLOCK 6, LOTS 3 & 4, BLOCK 10, LOTS 2 & 3, BLOCK 12,
LOTS 1 & 2, BLOCK 13, LOTS 51, 52, 54 & 55, BLOCK 14,
LOTS 6 & 7, BLOCK 16.
- 8 REMAINING PORTION OF VARIABLE WIDTH DRAINAGE EASEMENT

FINISHED FLOOR NOTES:

1. THE FINISHED FLOOR ELEVATIONS (FF) REPRESENT THE MINIMUM POSSIBLE FLOOR ELEVATION TO PROVIDE SANITARY SEWER SERVICE TO THE FINISHED STRUCTURE. THE FINISHED FLOOR ELEVATION FOR EACH LOT ARE TO BE DETERMINED BY THE BUILDER AND SHALL TAKE INTO CONSIDERATION AS-BUILT CONDITIONS FOR FOUND SEWER SERVICES AND ACTUAL LATERAL PLACEMENT. IT IS THE BUILDER'S SOLE RESPONSIBILITY TO VERIFY THE ACTUAL LATERAL PLACEMENT OF THE EXISTING SEWER PRIOR TO THE START OF HOME FOUNDATION CONSTRUCTION TAKING INTO CONSIDERATION SITE DRAINAGE, STREET ACCESS AND SANITARY SEWER SERVICE ELEVATIONS.
2. THE MINIMUM SANITARY SEWER LATERAL GRADES WERE BASED UPON THE FINISHED FLOOR ELEVATIONS FOR THE LOTS LOCATED ON THE DOWNHILL SIDES OF THE PROPOSED ROADWAYS.

ROW PERMIT NOTE:

A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHTS-OF-WAY.

TRENCH EXCAVATION SAFETY PROTECTION:

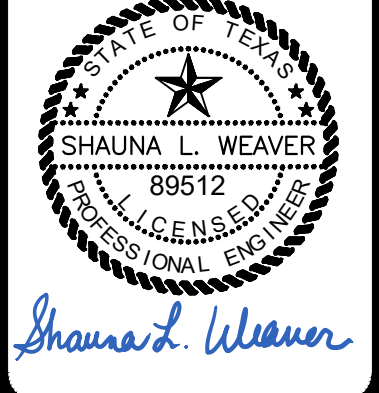
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL DATA AND RECORDS AND SHALL BE RESPONSIBLE FOR THE DESIGN OF THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND PROCEDURES SHALL BE SUBJECT TO THE FOLLOWING REQUIREMENTS: 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 TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS FOR TRENCH EXCAVATION AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP
ADDRESS: 5419 NORTH LOOP 1604 EAST
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
PHONE# (210) 496-2668 FAX# (210) 495-2504
SAWS BLOCK MAP# 192-660 TOTAL EDU'S 220 TOTAL ACREAGE 43.14
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-186097
NUMBER OF LOTS 220 SAWS JOB NO. 22-1601

[illegible]

8/30/22



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

OVERALL SANITARY SEWER PLAN

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE AUGUST 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C4.00



PIPE NOTE:

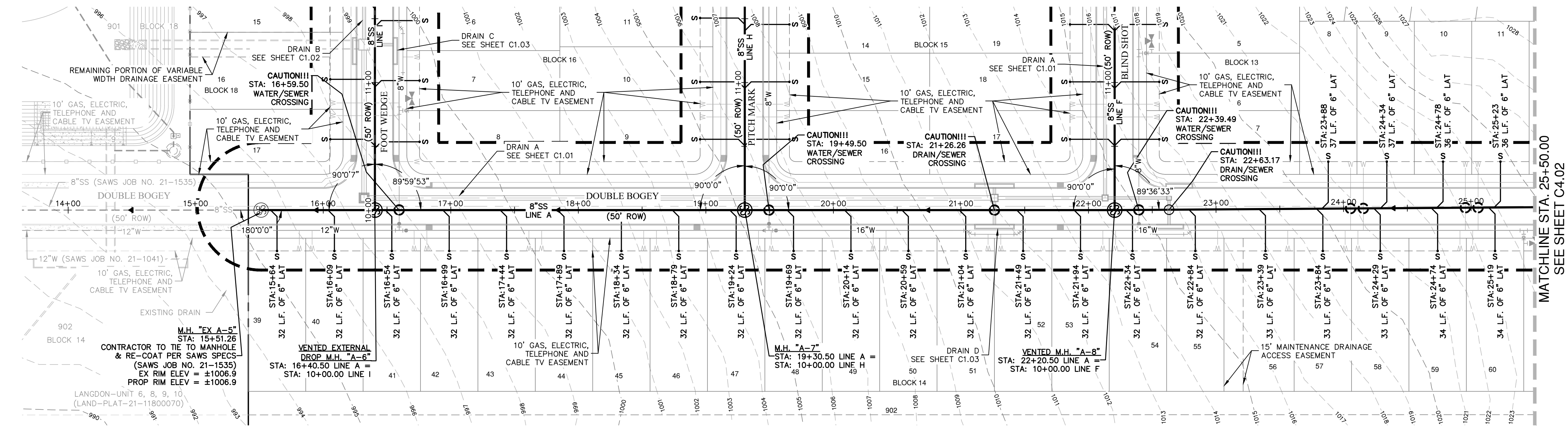
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE
(WHITE) FOR 8" PVC PIPE

CAUTION!!

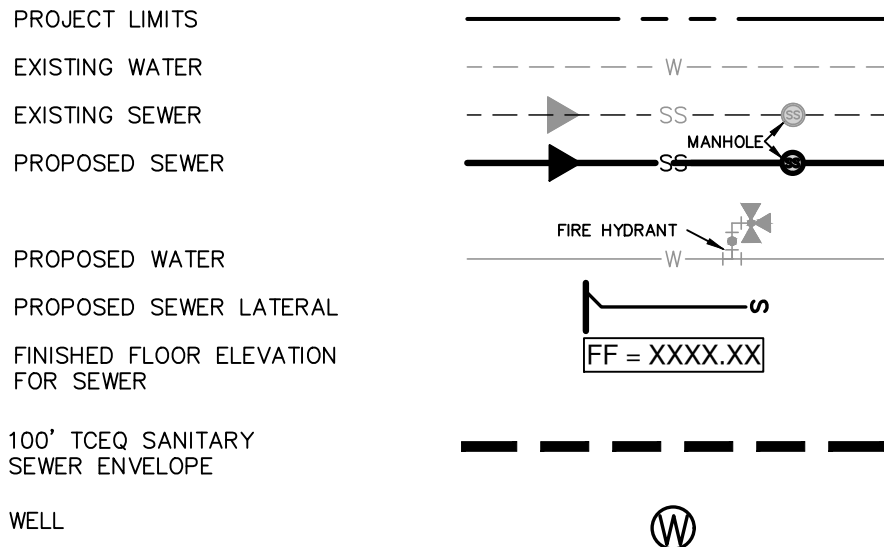
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A MINIMUM OF FOUR WEEKS NOTICE TO 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.

Dates: Jun. 24, 2022, 3:45pm User: ID: JPH/haman
File: P:\15\100\06\Design\City\San115006.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. AERIAL IMAGERY PROVIDED BY GOOGLE/UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOOL/Digital Globe, Texas Orthoregistry Program, USDA Farm Service Agency.



SEWER LEGEND



NO.	REVISION	DATE

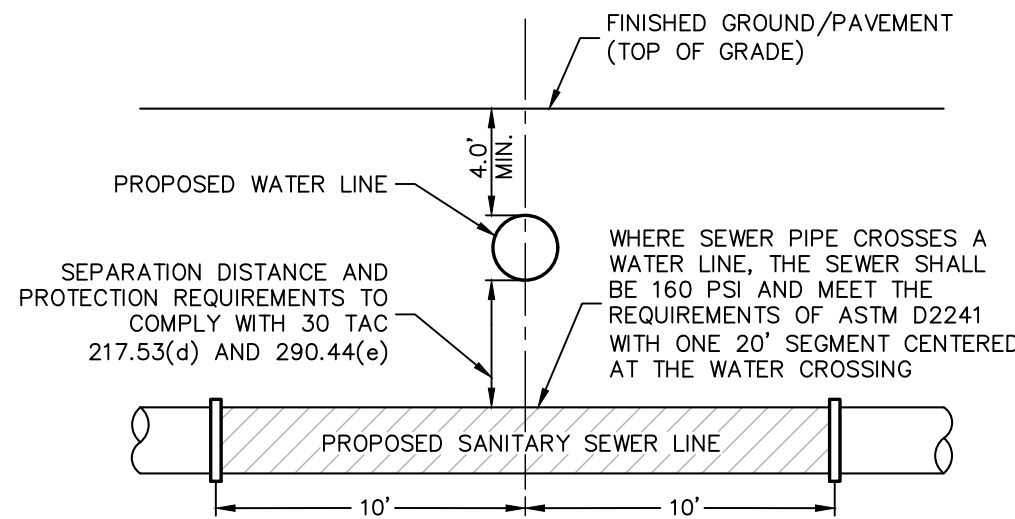
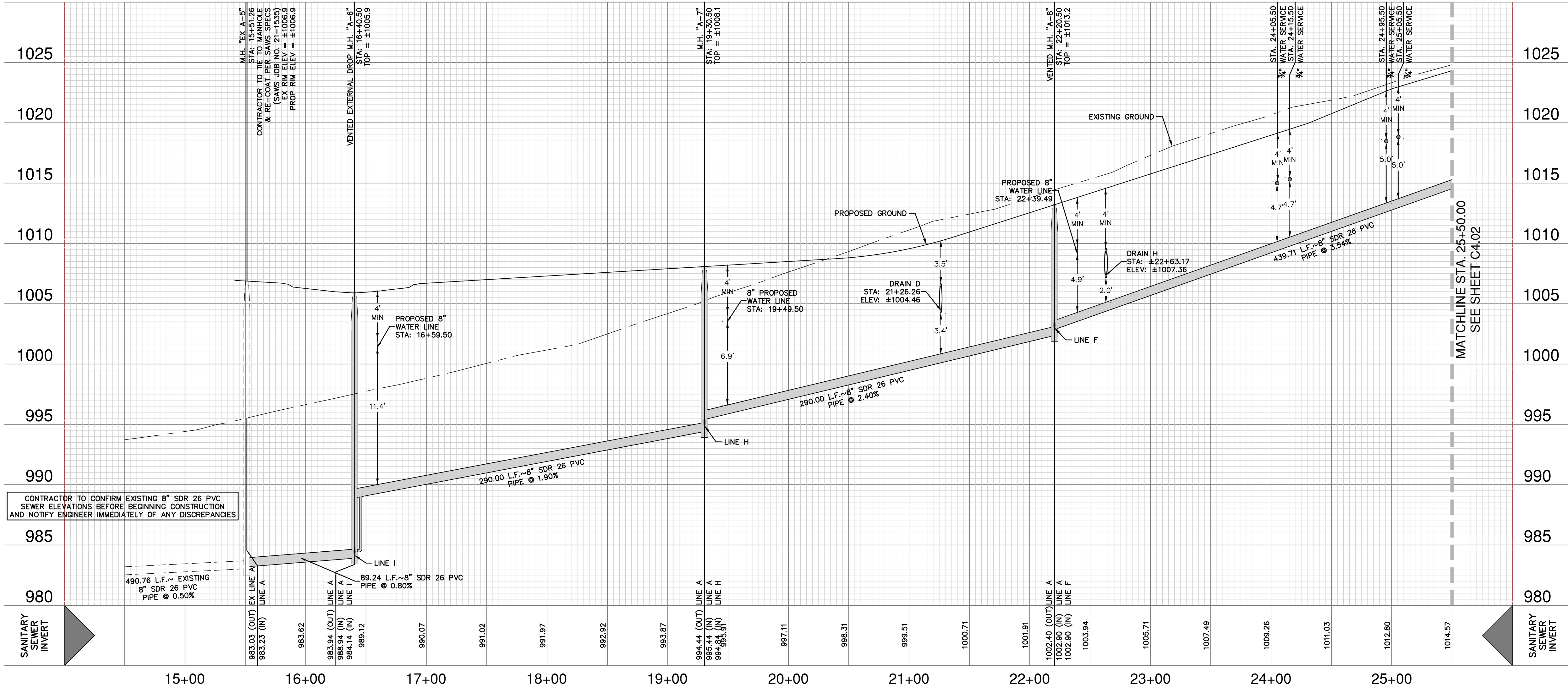
6/24/22



PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TXPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #1008800

SANITARY SEWER LINE "A"
STA. 15+51.26 TO 25+50.00

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

PIPE NOTE:
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

CAUTION!!
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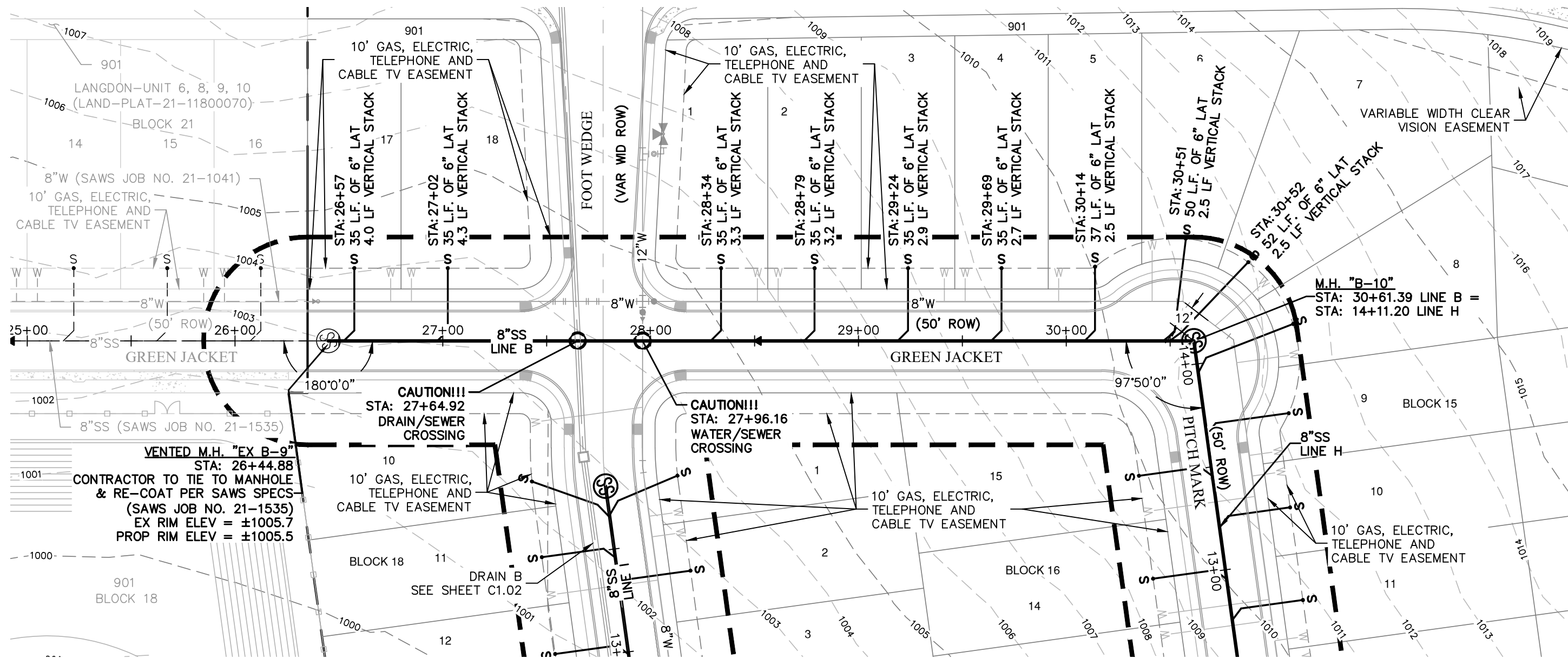
TRENCH EXCAVATION SAFETY PROTECTION:
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SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

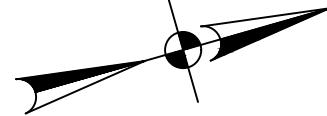
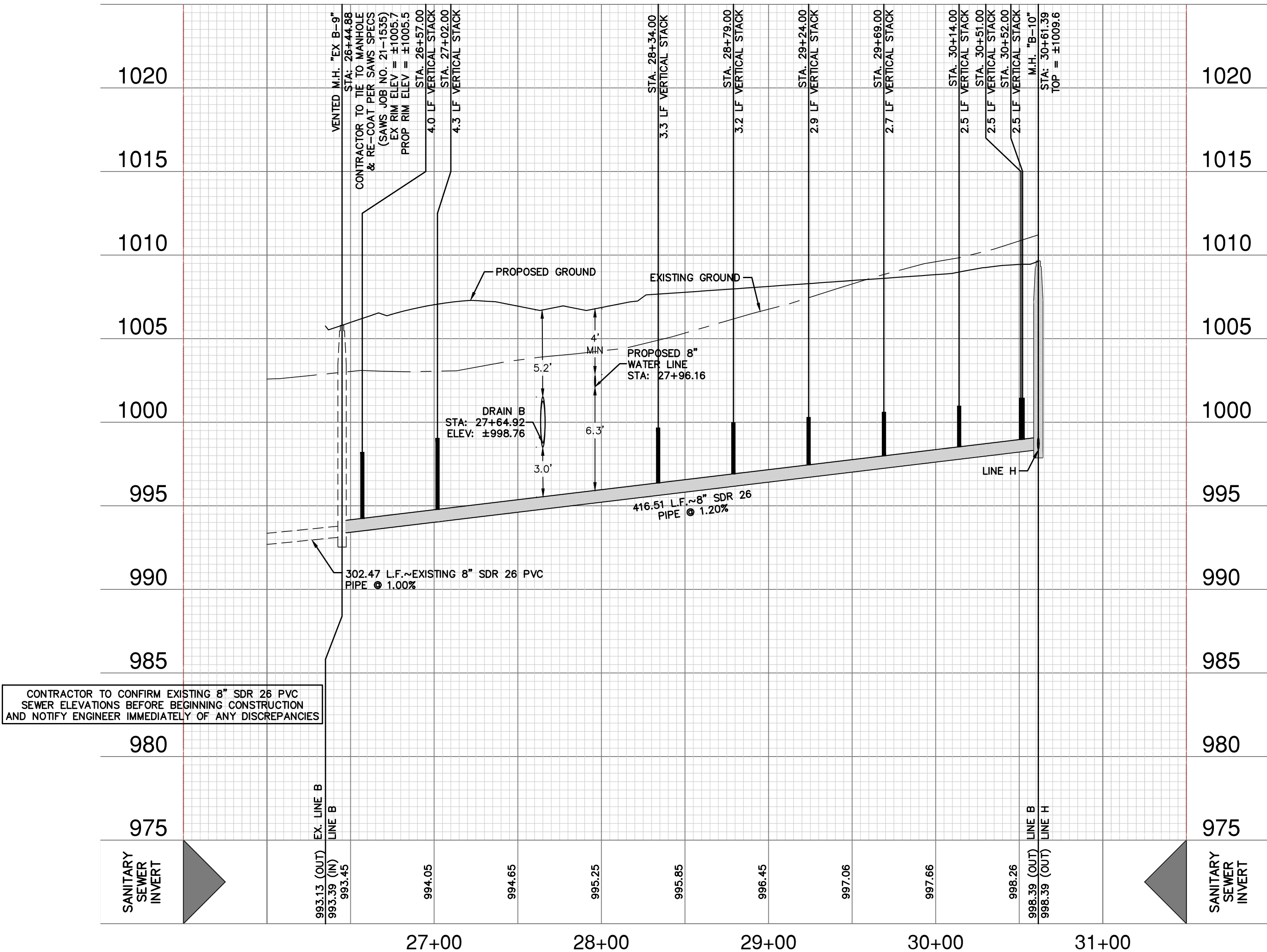
DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .219 TOTAL ACREAGE 43.14			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS .219 SAWS JOB NO. 22-1601			

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
SANITARY SEWER LINE A
PLAN AND PROFILE

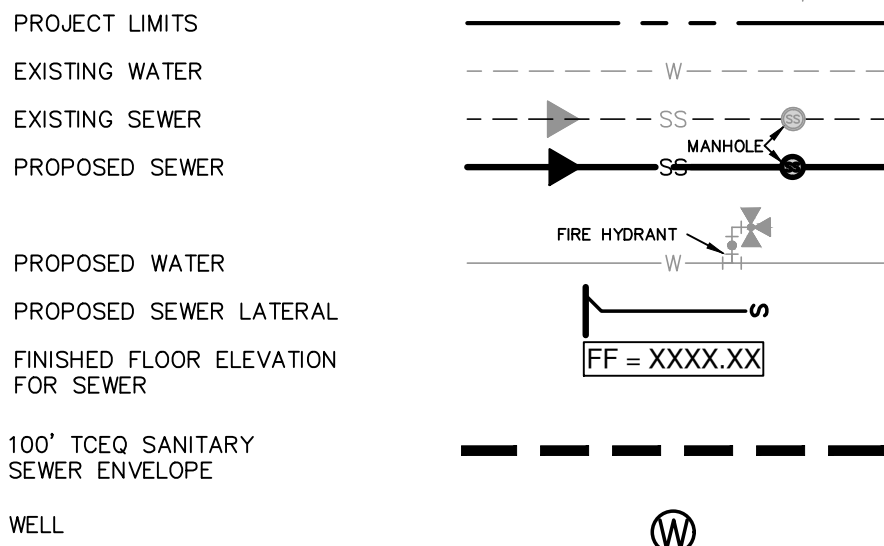
PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JUNE 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JQ
SHEET	C4.01



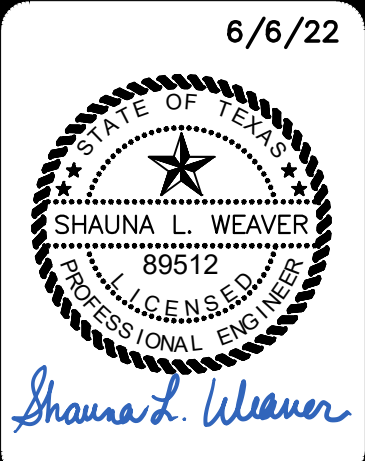
SANITARY SEWER LINE "B"
STA. 26+44.88 TO END
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



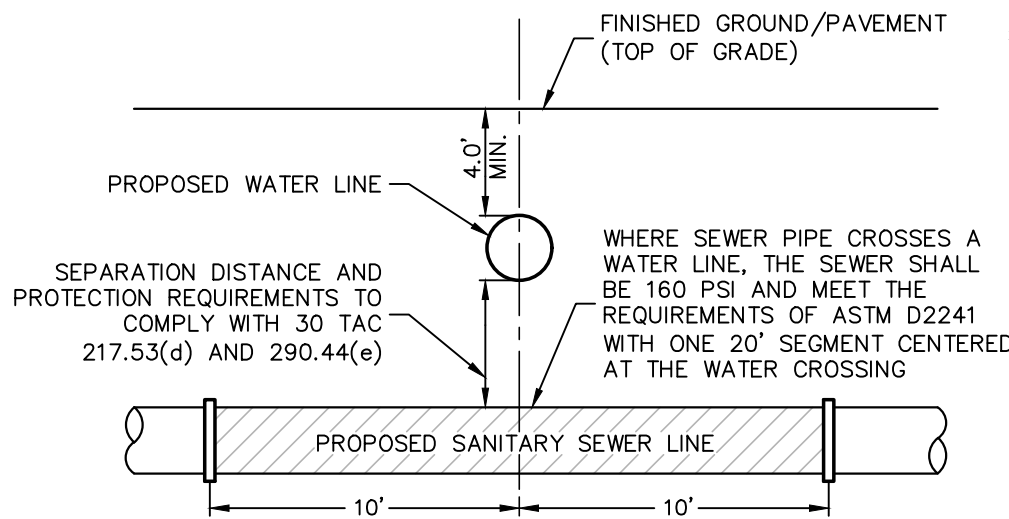
SEWER LEGEND



NO.	REVISION	DATE



PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

PIPE NOTE:
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

CAUTION!!
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING 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.

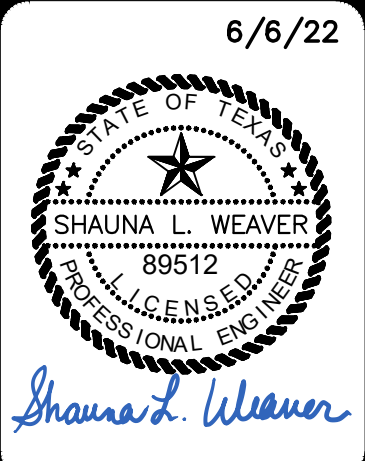
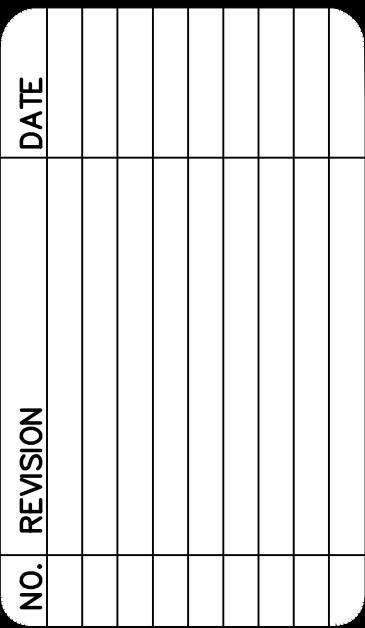
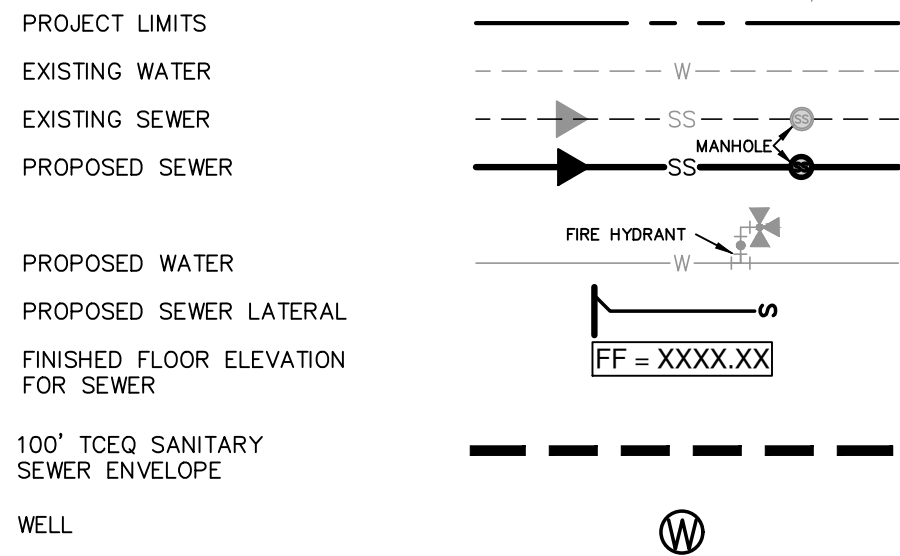
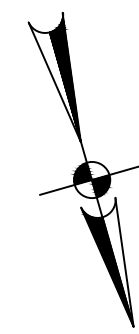
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SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .219 TOTAL ACREAGE .4314			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS 219 SAWS JOB NO. 22-1601			

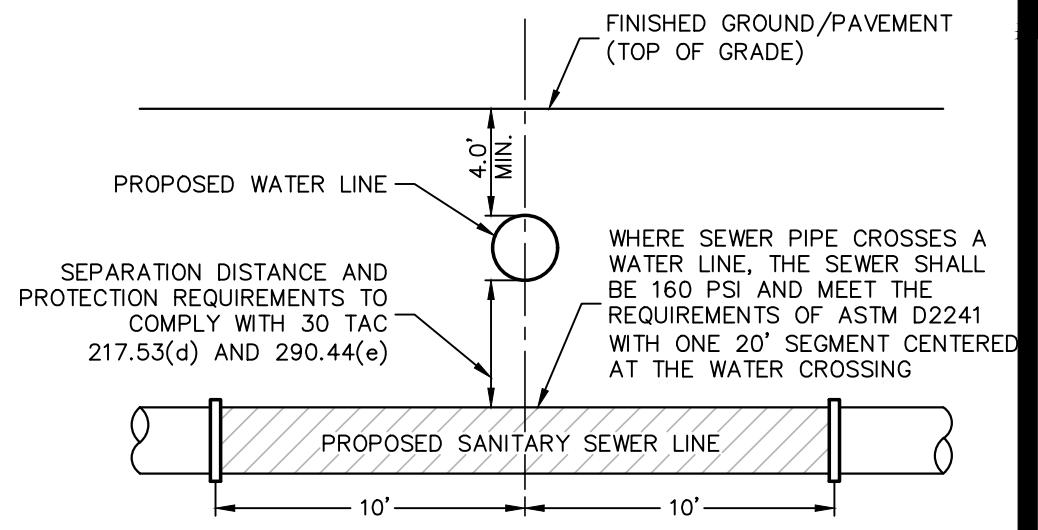
LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
SANITARY SEWER LINE B
PLAN AND PROFILE

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JUNE 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JD
SHEET	C4.03



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.0000
TPE FIRM REGISTRATION #470 | TPE FIRM REGISTRATION #10028600



TYPICAL SANITARY
SEWER/WATER CROSSING DETAIL

PIPE NOTE:
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE
(WHITE) FOR 8" PVC PIPE

CAUTION!!

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TRENCH EXCAVATION SAFETY PROTECTION:

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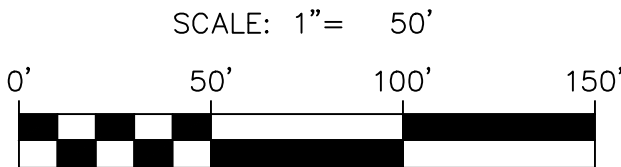
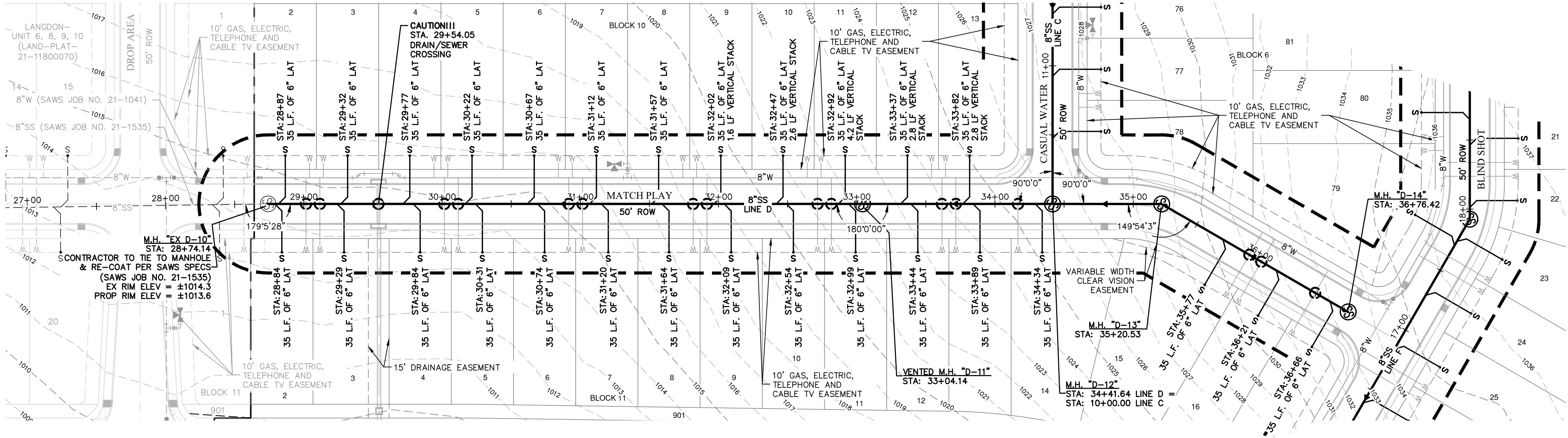
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EWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

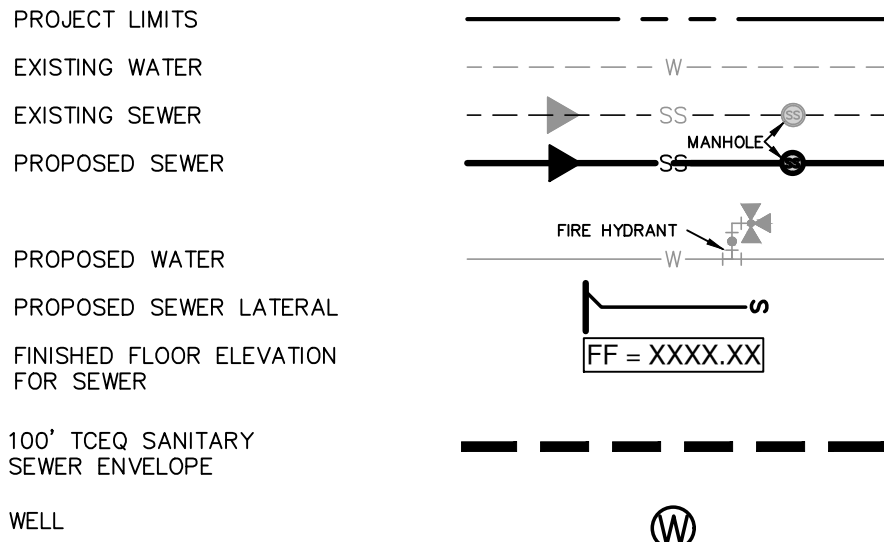
DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP
ADDRESS: 5419 NORTH LOOP 1604 EAST
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
PHONE# (210) 496-2668 FAX# (210) 495-2504
SAWS BLOCK MAP# 192-660 TOTAL EDU'S 219 TOTAL ACREAGE 43.14
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800219
NUMBER OF LOTS 219 SAWS JOB NO. 22-1601

GDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
SANITARY SEWER LINE C
PLAN AND PROFILE

PLAT NO. 21-11800179
 JOB NO. 11500-06
 DATE JUNE 2022
 DESIGNER CK
 CHECKED CK DRAWN JQ
 SHEET C4.04

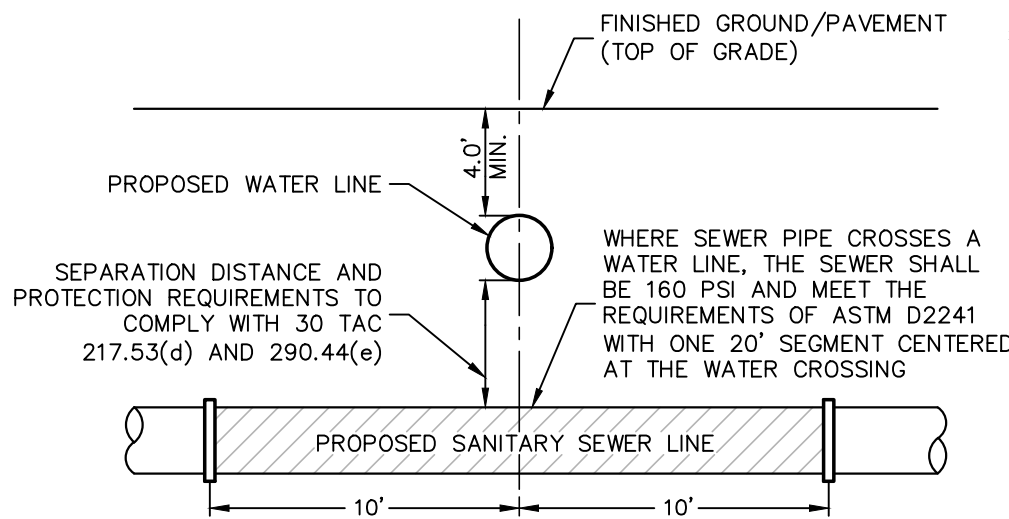
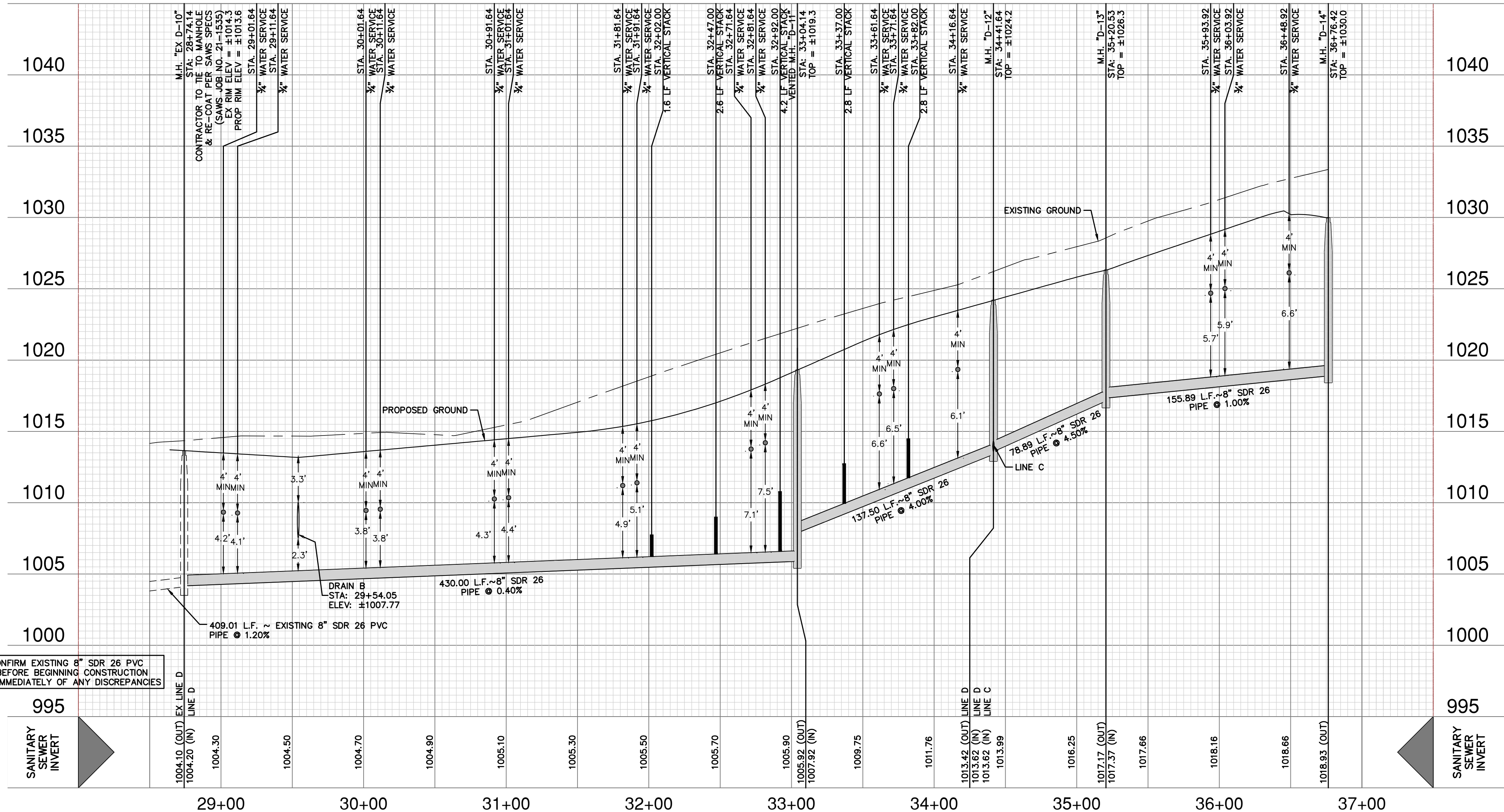


SEWER LEGEND



SANITARY SEWER LINE "D" STA. 28+74.14 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

PIPE NOTE:

PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

CAUTION!!

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DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
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CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .219 TOTAL ACREAGE 43.14			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS .219 SAWS JOB NO. 22-1601			

NO.	REVISION	DATE

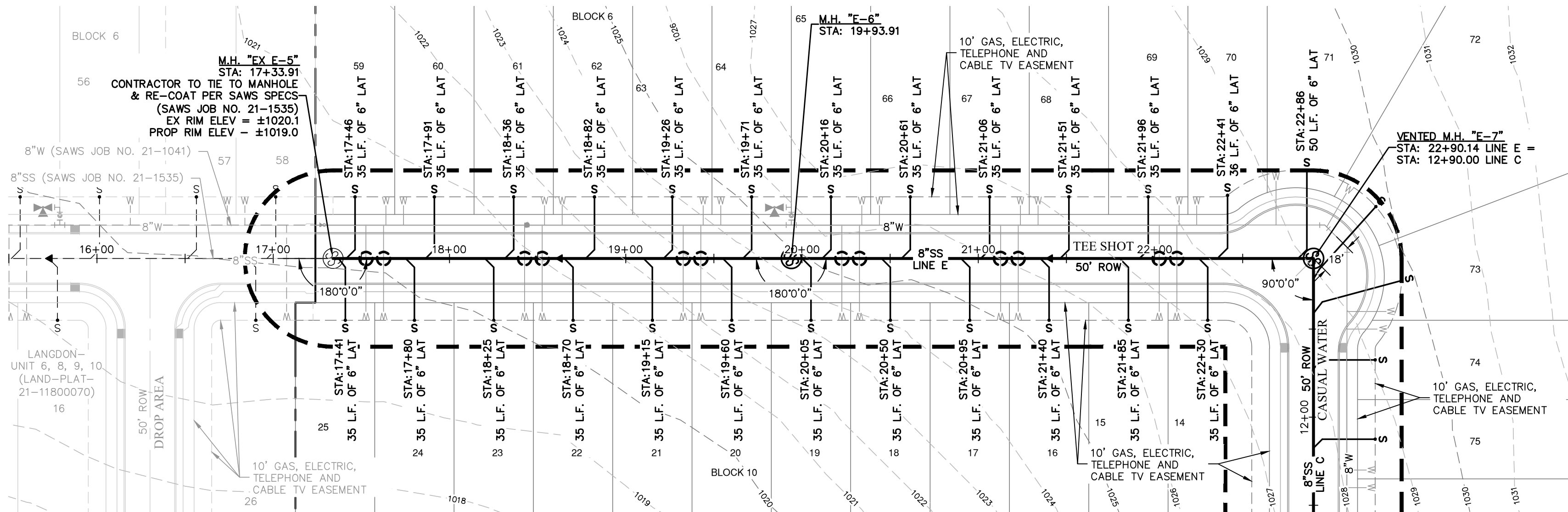
6/6/22



**PAPE-DAWSON
ENGINEERS**
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800

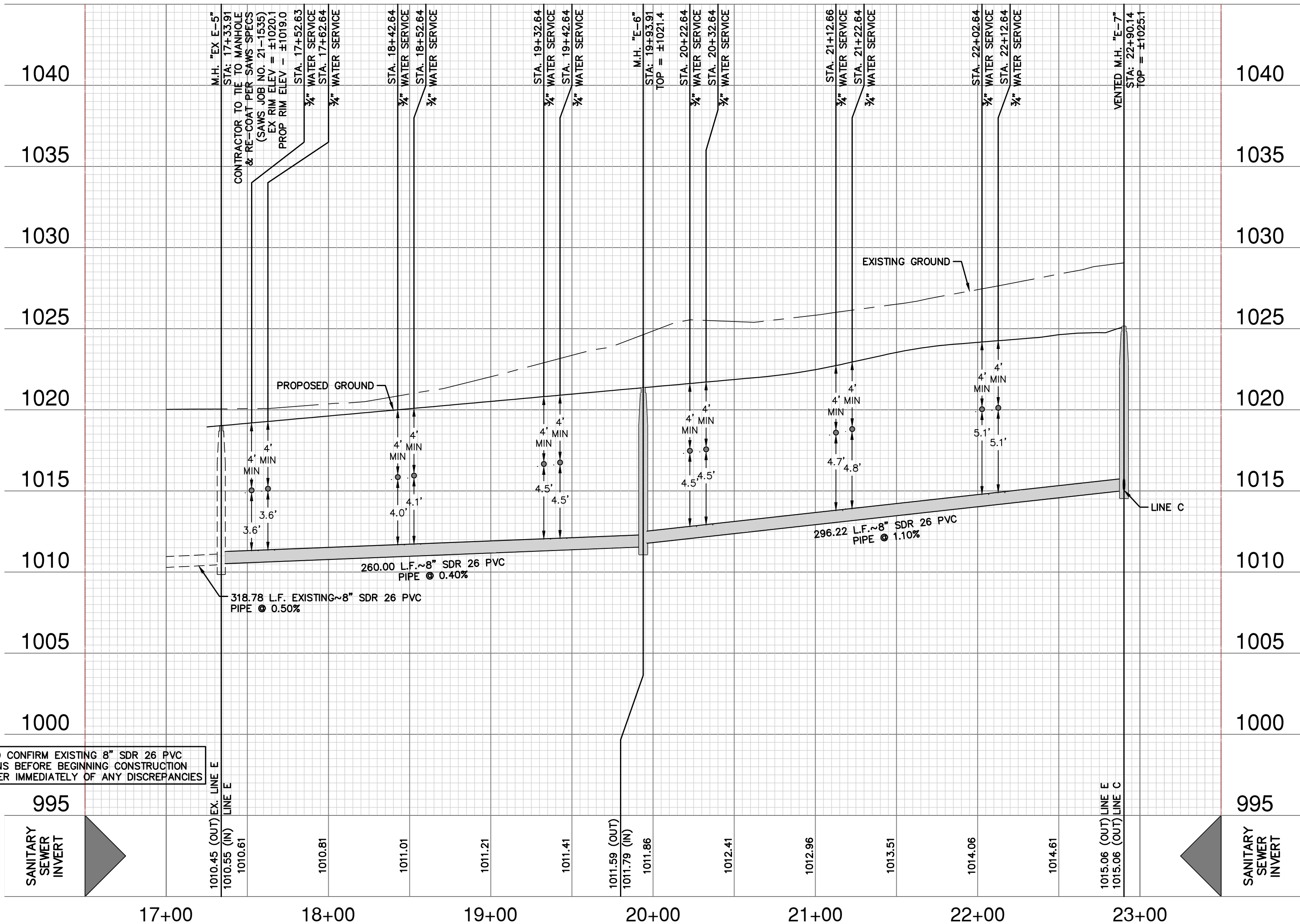
LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
**SANITARY SEWERLINE D
PLAN AND PROFILE**

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JUNE 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JQ
SHEET	C4.05

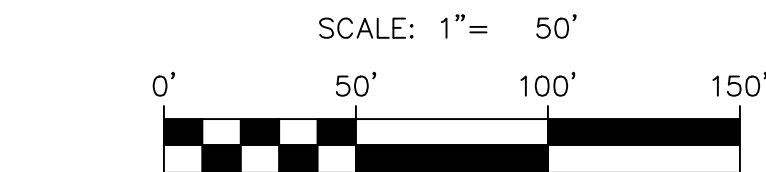


SANITARY SEWER LINE "E"
STA. 17+33.91 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'

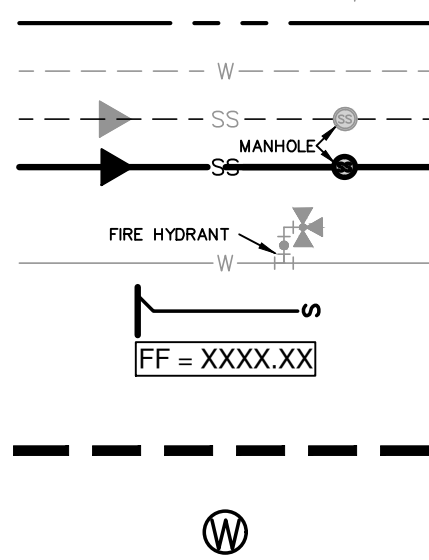


CONTRACTOR TO CONFIRM EXISTING 8" SDR 26 PVC
SEWER ELEVATIONS BEFORE BEGINNING CONSTRUCTION
AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES

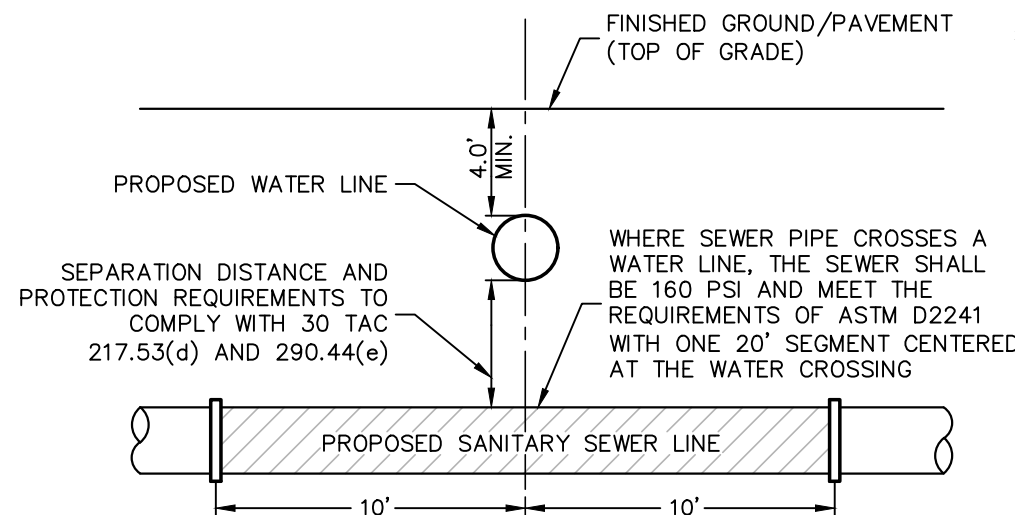


SEWER LEGEND

PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEWER



PROPOSED WATER
PROPOSED SEWER LATERAL
FINISHED FLOOR ELEVATION
FOR SEWER
100' TCEO SANITARY
SEWER ENVELOPE
WELL



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

PIPE NOTE:

PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

CAUTION!!

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

TRENCH EXCAVATION SAFETY PROTECTION:

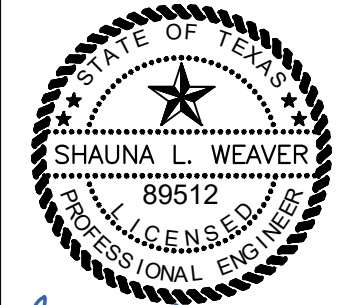
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .219 TOTAL ACREAGE .4314			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS 219 SAWS JOB NO. 22-1601			

NO.	REVISION	DATE

6/6/22



Shauna L. Weaver

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPEF FIRM REGISTRATION #470 | TPELUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

**SANITARY SEWER LINE E
PLAN AND PROFILE**

PLAT NO. 21-11800179

JOB NO. 11500-06

DATE JUNE 2022

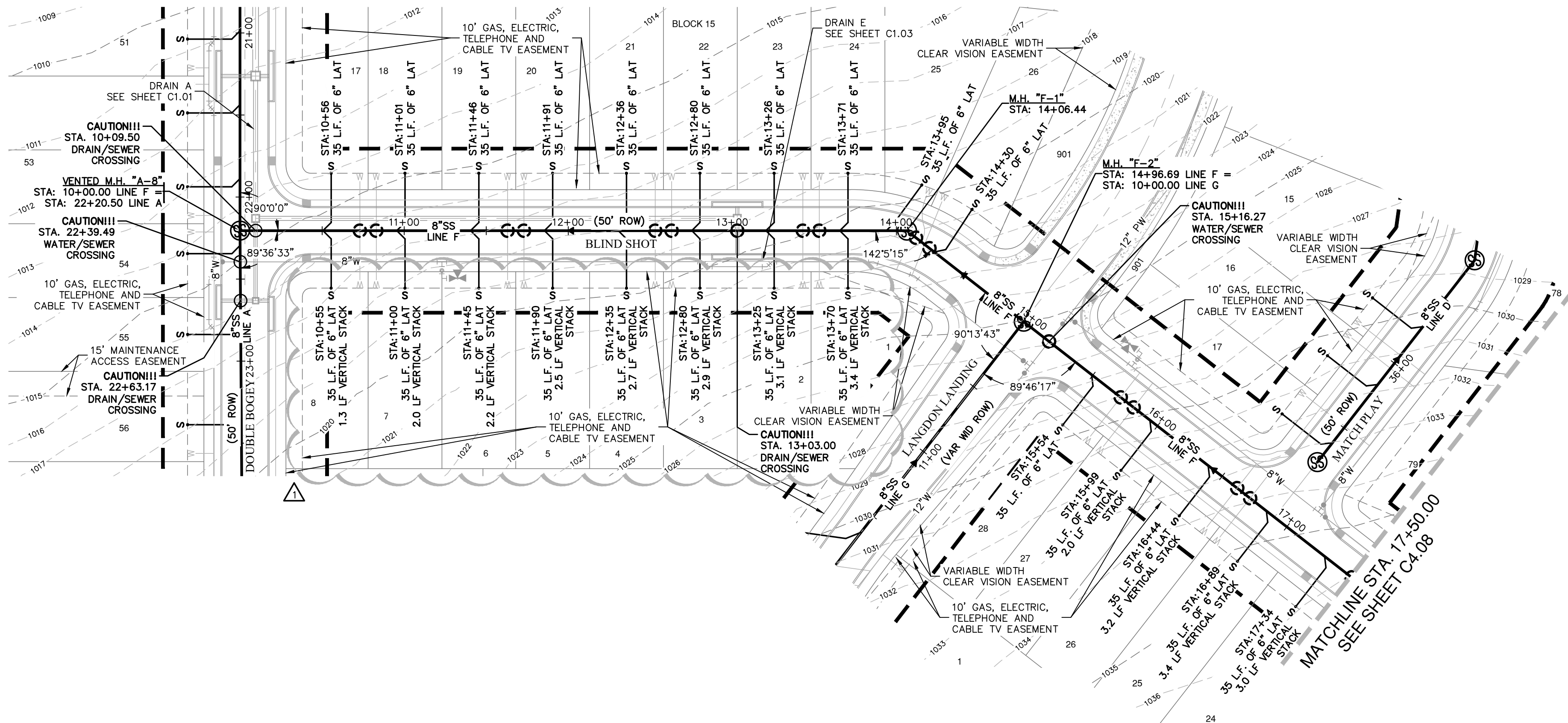
DESIGNER CK

CHECKED CK DRAWN JD

SHEET C4.06

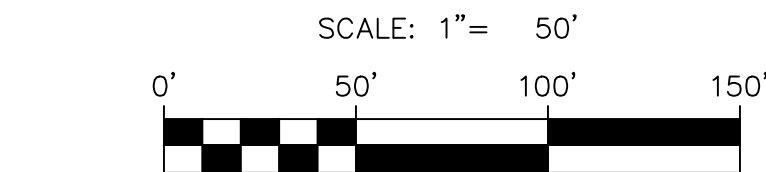
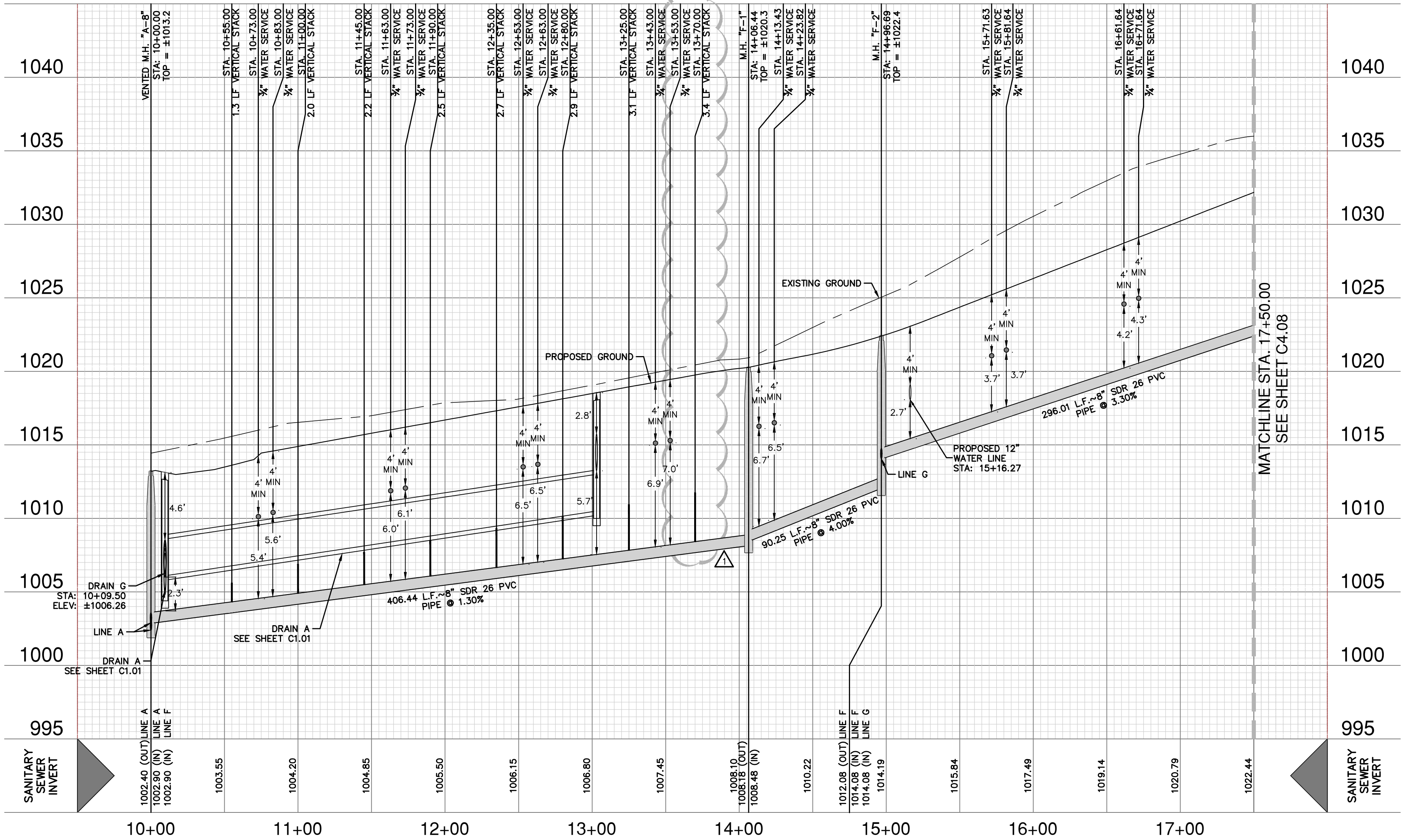
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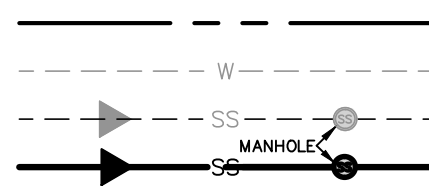
SANITARY SEWER LINE "F"
STA. 10+00.00 TO 17+50.00

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'

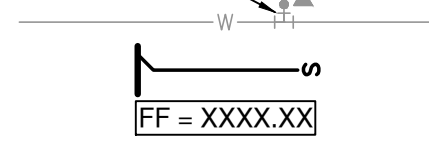


SEWER LEGEND

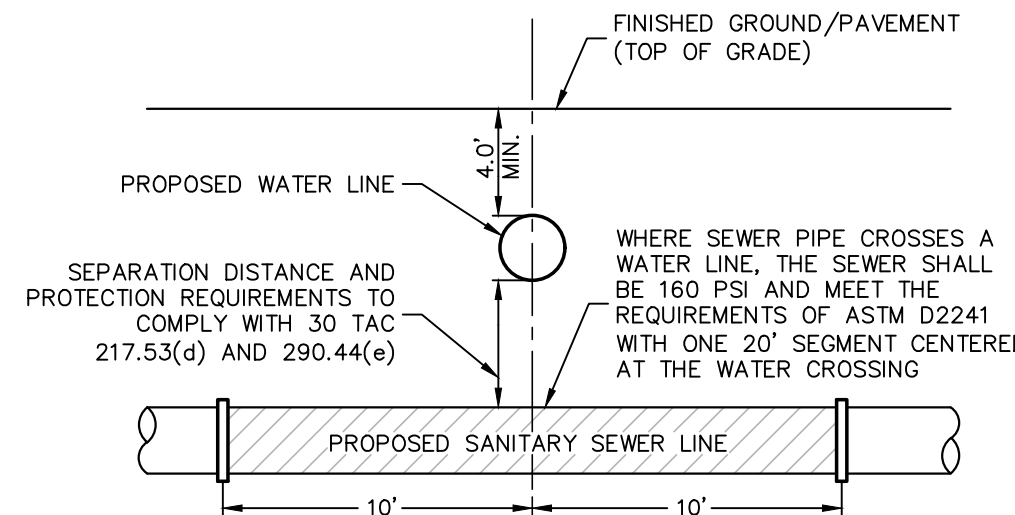
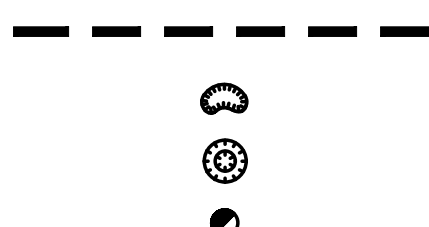
PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEWER



PROPOSED WATER
PROPOSED SEWER LATERAL
FINISHED FLOOR ELEVATION
FOR SEWER



100' TCEO SANITARY
SEWER ENVELOPE
NON-KARST CLOSED
DEPRESSION
SINKHOLE
SOLUTION CAVITY



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

PIPE NOTE:

PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

CAUTION!!

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

TRENCH EXCAVATION SAFETY PROTECTION:

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

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARR)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .220 TOTAL ACREAGE .4314			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS .220 SAWS JOB NO. 22-1601			

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #470 | TPE FIRM REGISTRATION #1008800

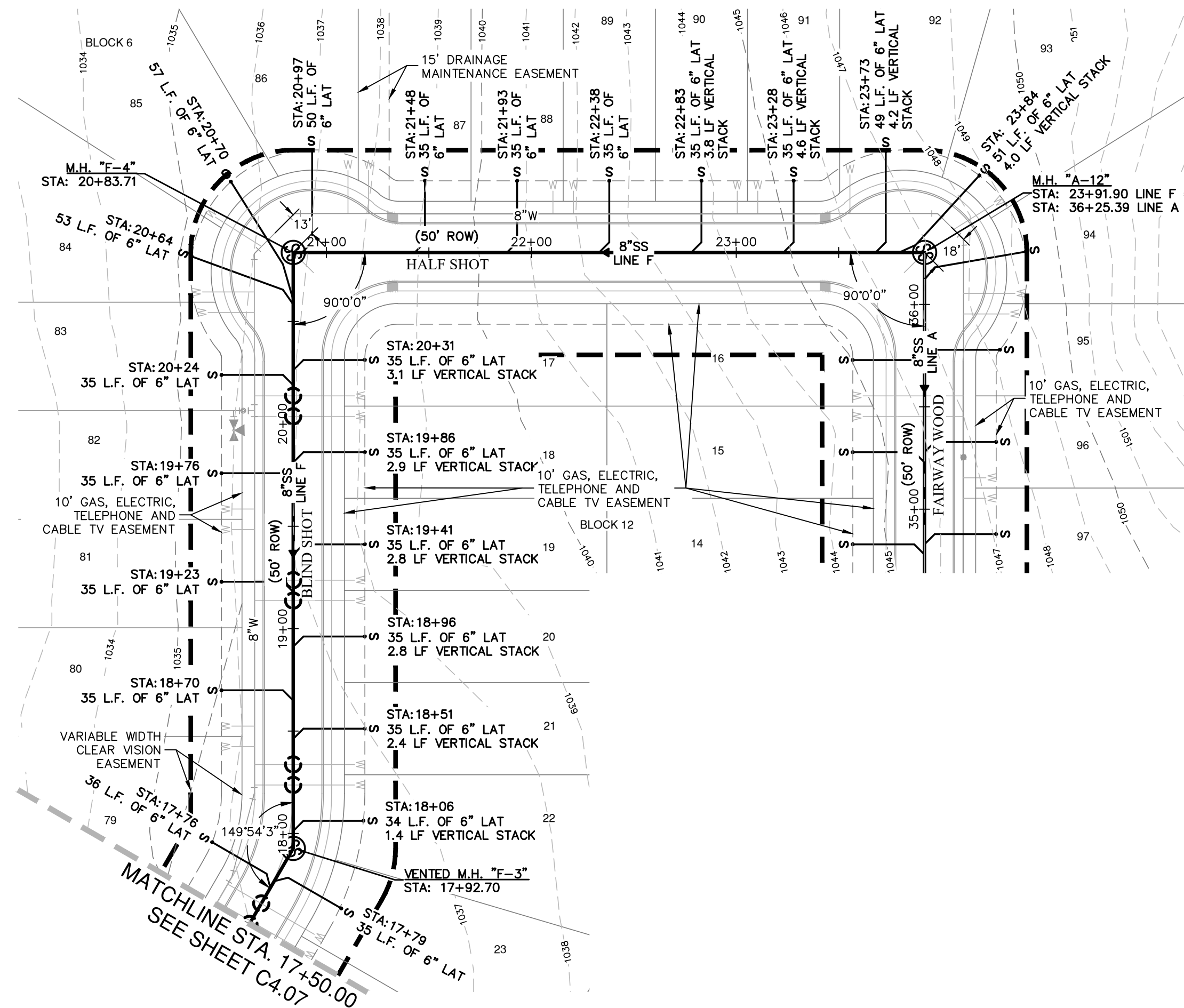
LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

**SANITARY SEWER LINE F
PLAN AND PROFILE**

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE AUGUST 2022
DESIGNER CK
CHECKED CK DRAWN JO
SHEET C4.07

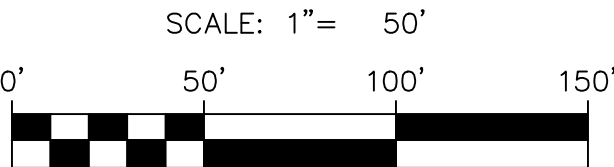
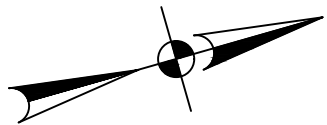
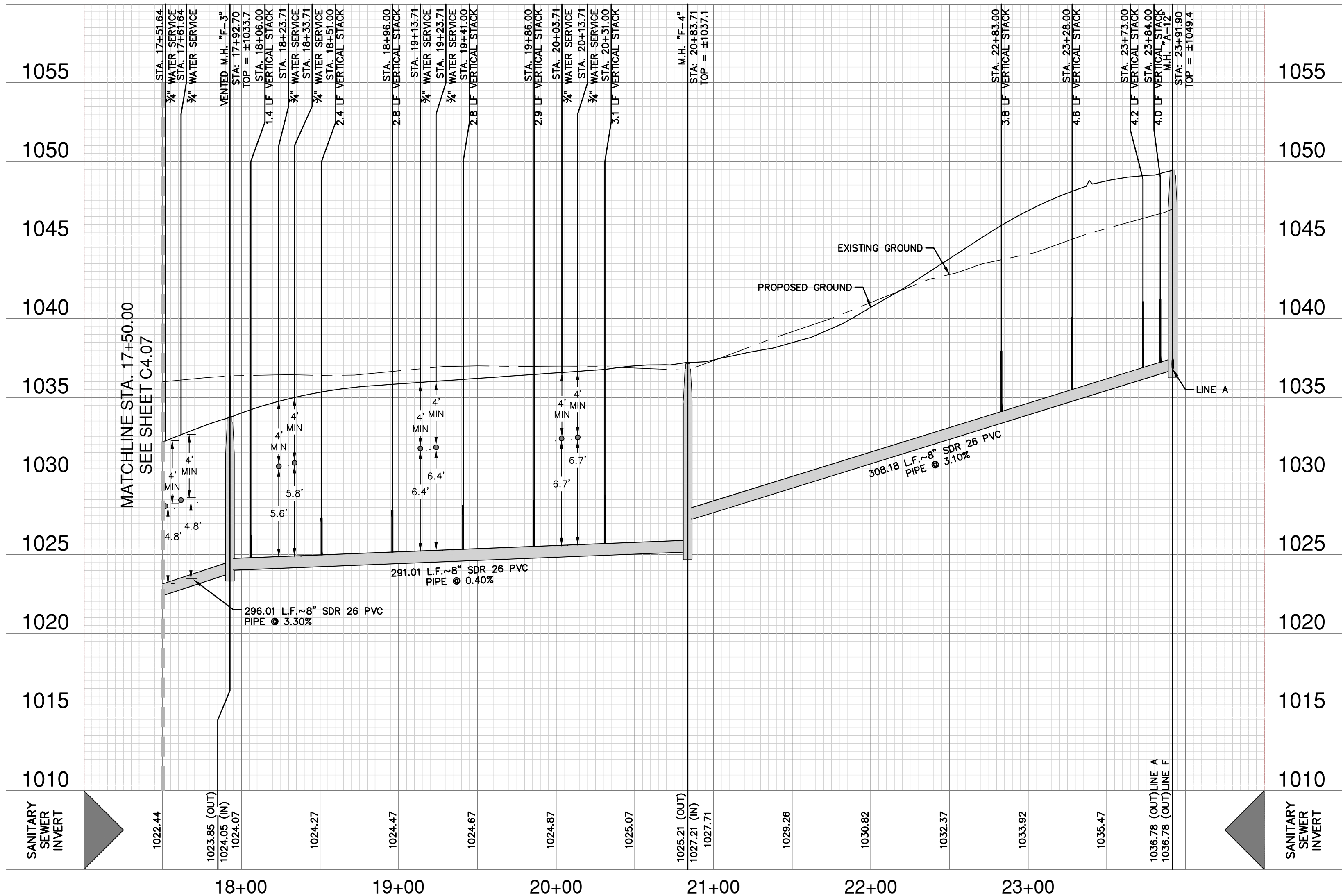
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THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016, CARCO, Digital Globe, Texas Orthorectification Program, USDA Farm Service Agency.



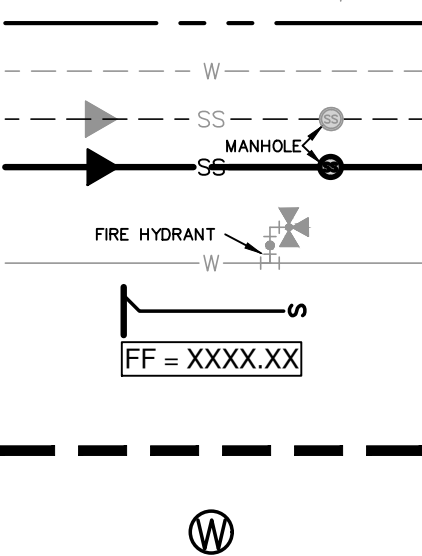
SANITARY SEWER LINE "F"
STA. 17+50.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



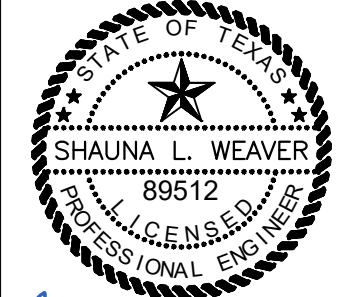
SEWER LEGEND

PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEWER

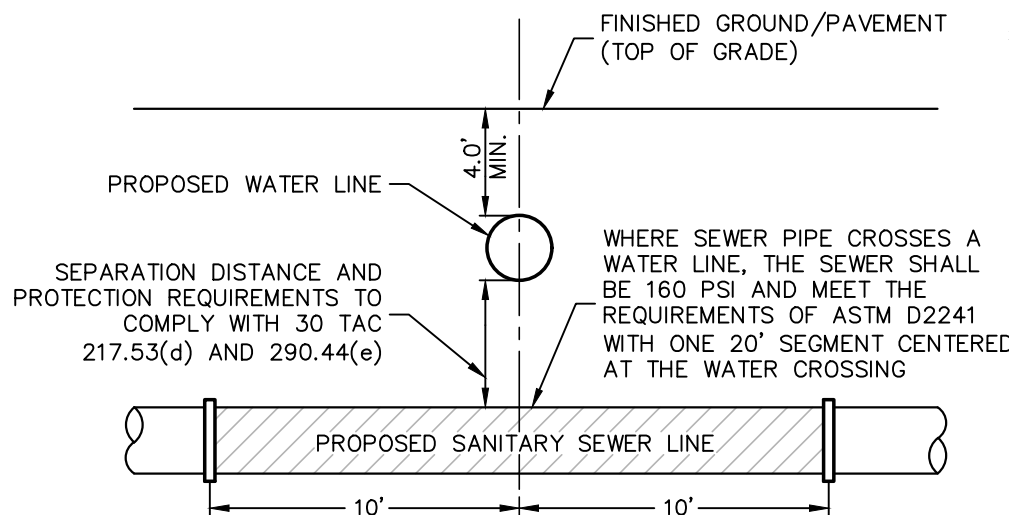


NO.	REVISION	DATE

6/6/22



PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

PIPE NOTE:
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

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

TRENCH EXCAVATION SAFETY PROTECTION:

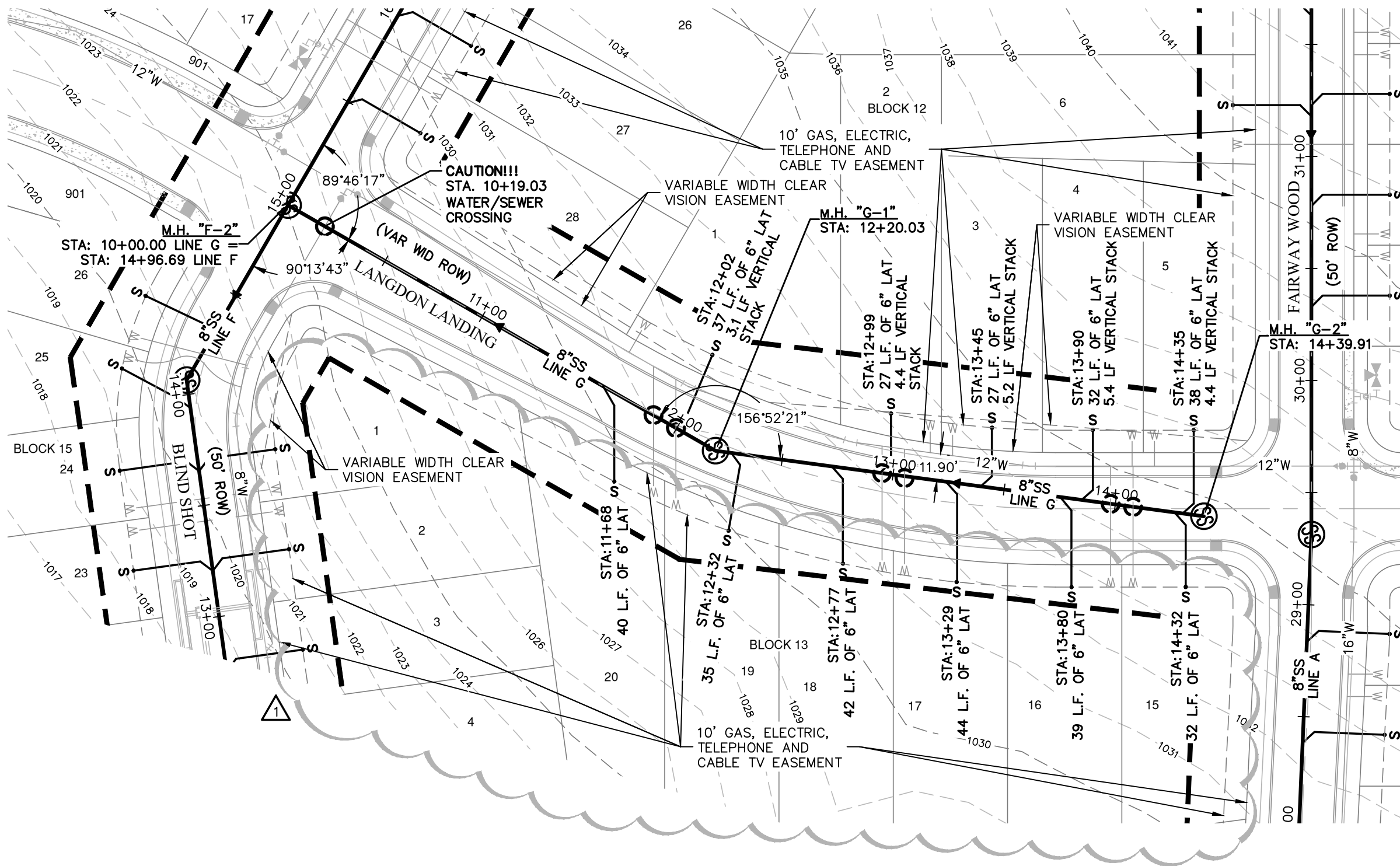
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .219 TOTAL ACREAGE .4314			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS .219 SAWS JOB NO. 22-1601			

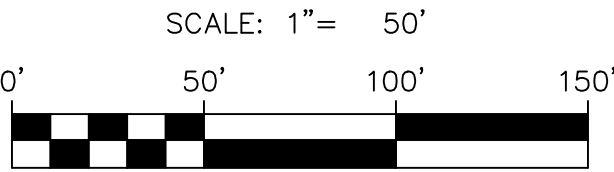
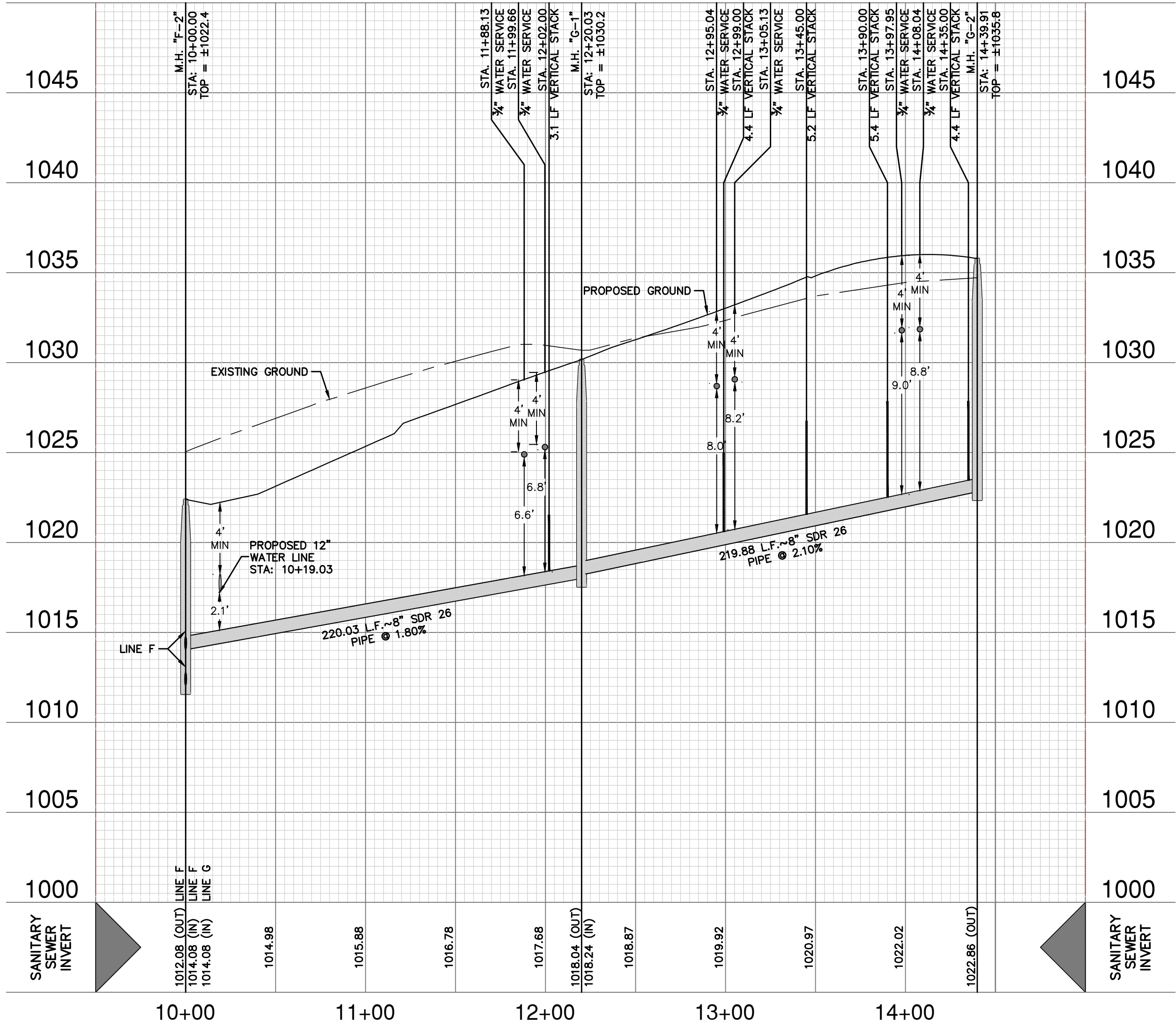
LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
SANITARY SEWER LINE F
PLAN AND PROFILE

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JO
SHEET C4.08

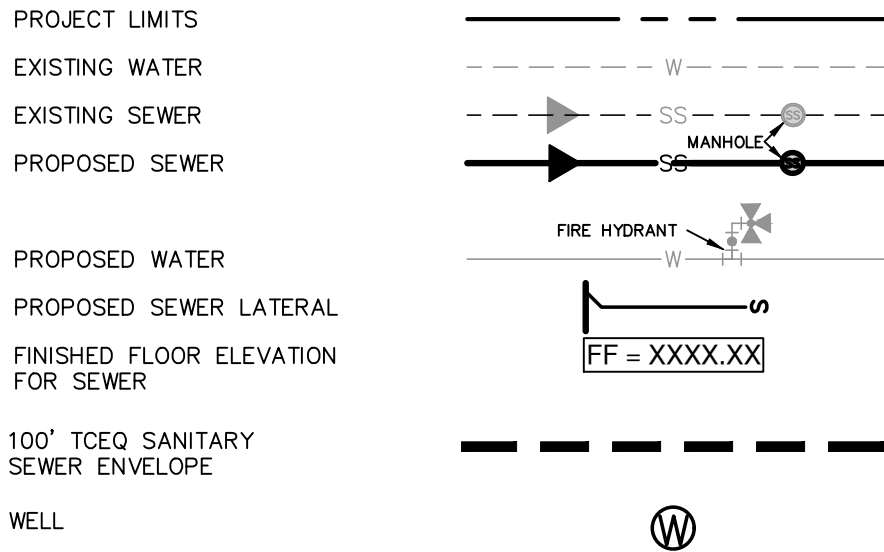


SANITARY SEWER LINE "G"
STA. 10+00.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



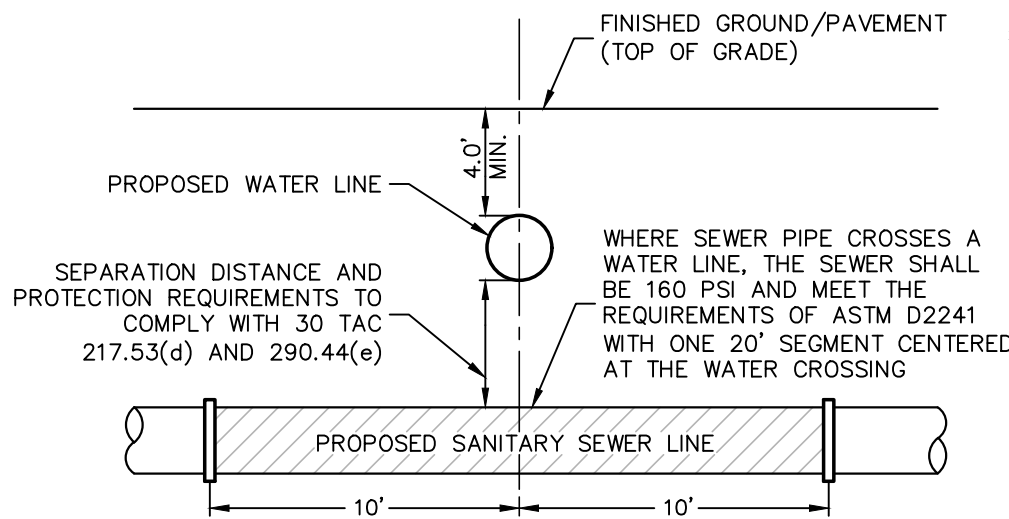
SEWER LEGEND



NO.	REVISION	DATE
1	REVISED LOTS NUMBERS	8/30/22



PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPEF FIRM REGISTRATION #470 | TPELUS FIRM REGISTRATION #10028800



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

PIPE NOTE:
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

CAUTION!!
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TRENCH EXCAVATION SAFETY PROTECTION:

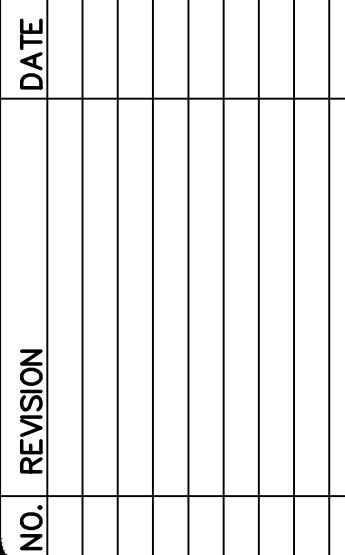
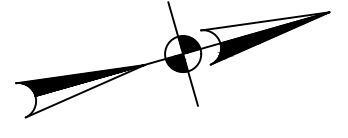
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SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE E&RZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .220 TOTAL ACREAGE .4314			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS .220 SAWS JOB NO. 22-1601			

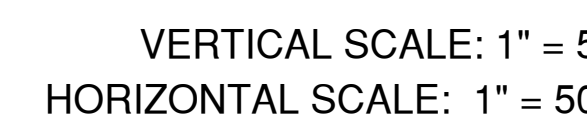
LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
SANITARY SEWERLINE G
PLAN AND PROFILE

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	AUGUST 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JD
SHEET	C4.09



Shauna L. Weaver

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



CAUTION!!

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SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

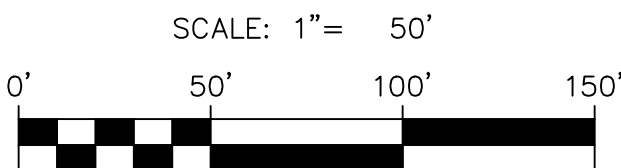
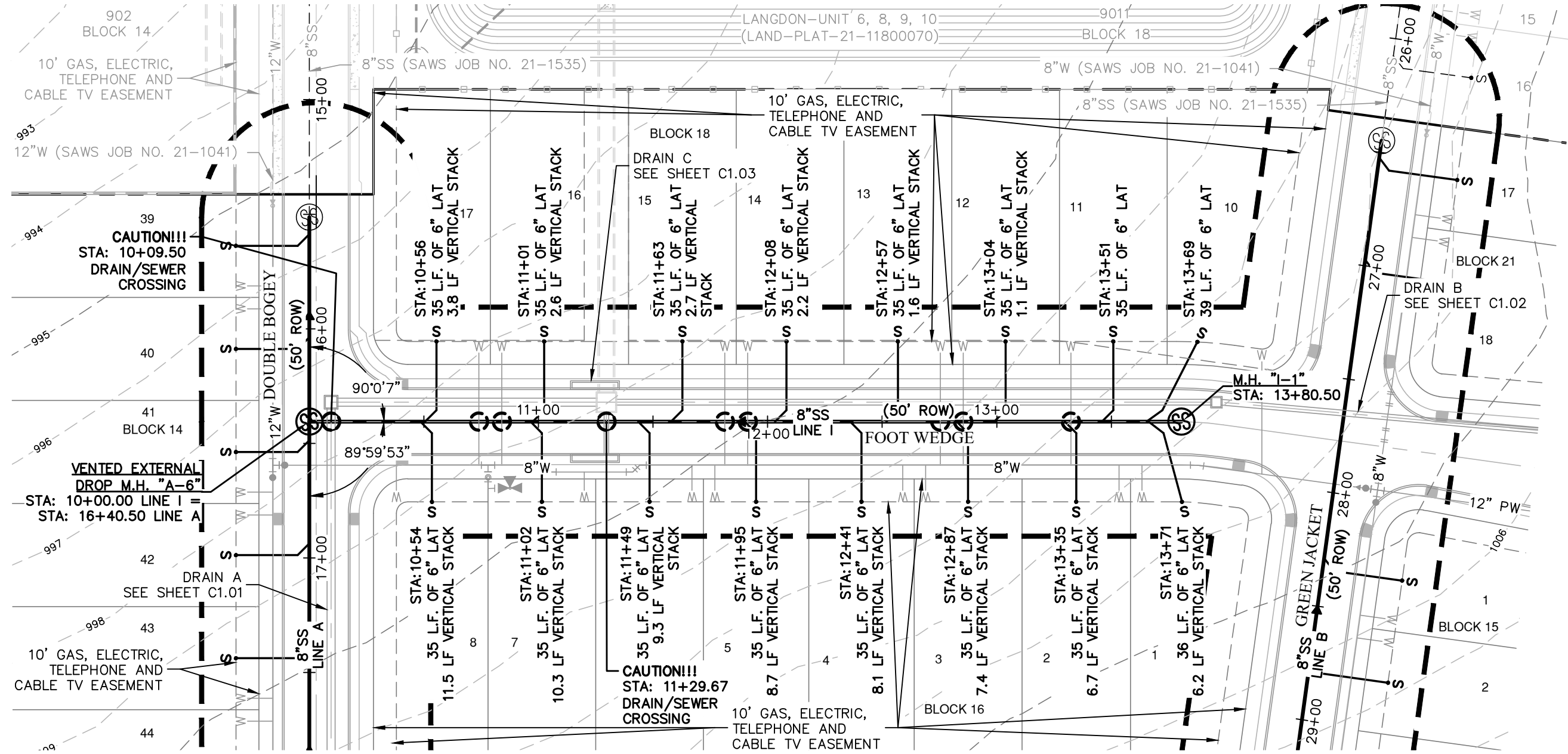
IGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

**SANITARY SEWER LINE H
PLAN AND PROFILE**

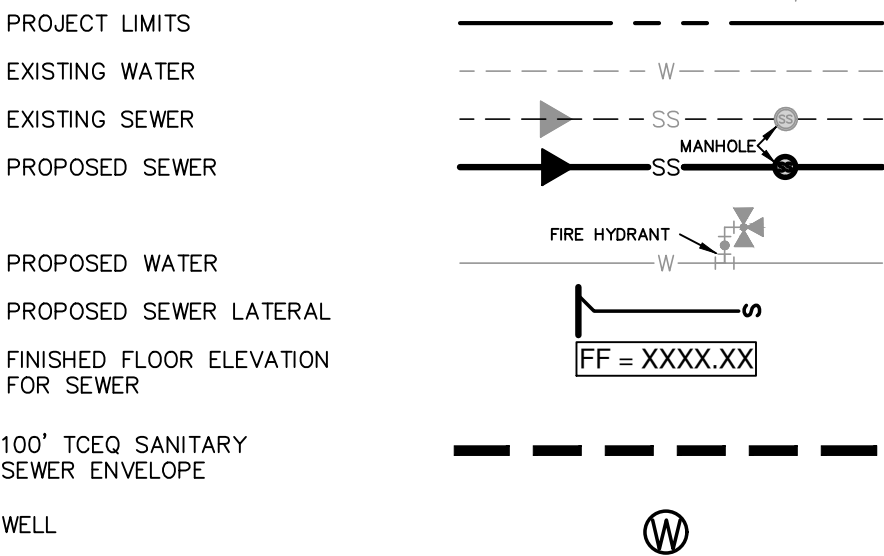
PLAT NO. 21-1180017
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C4.10

Dates: Jun. 06, 2023, 2:12pm User: JD_451TMMAN
File: P:\151500\06\Design\Civil\SW15150006.dwg

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SEWER LEGEND



DATE

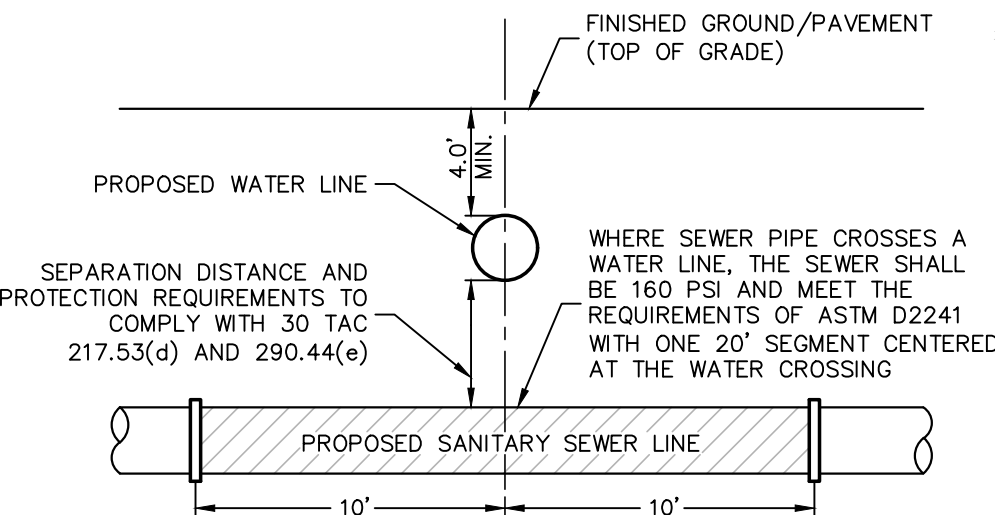
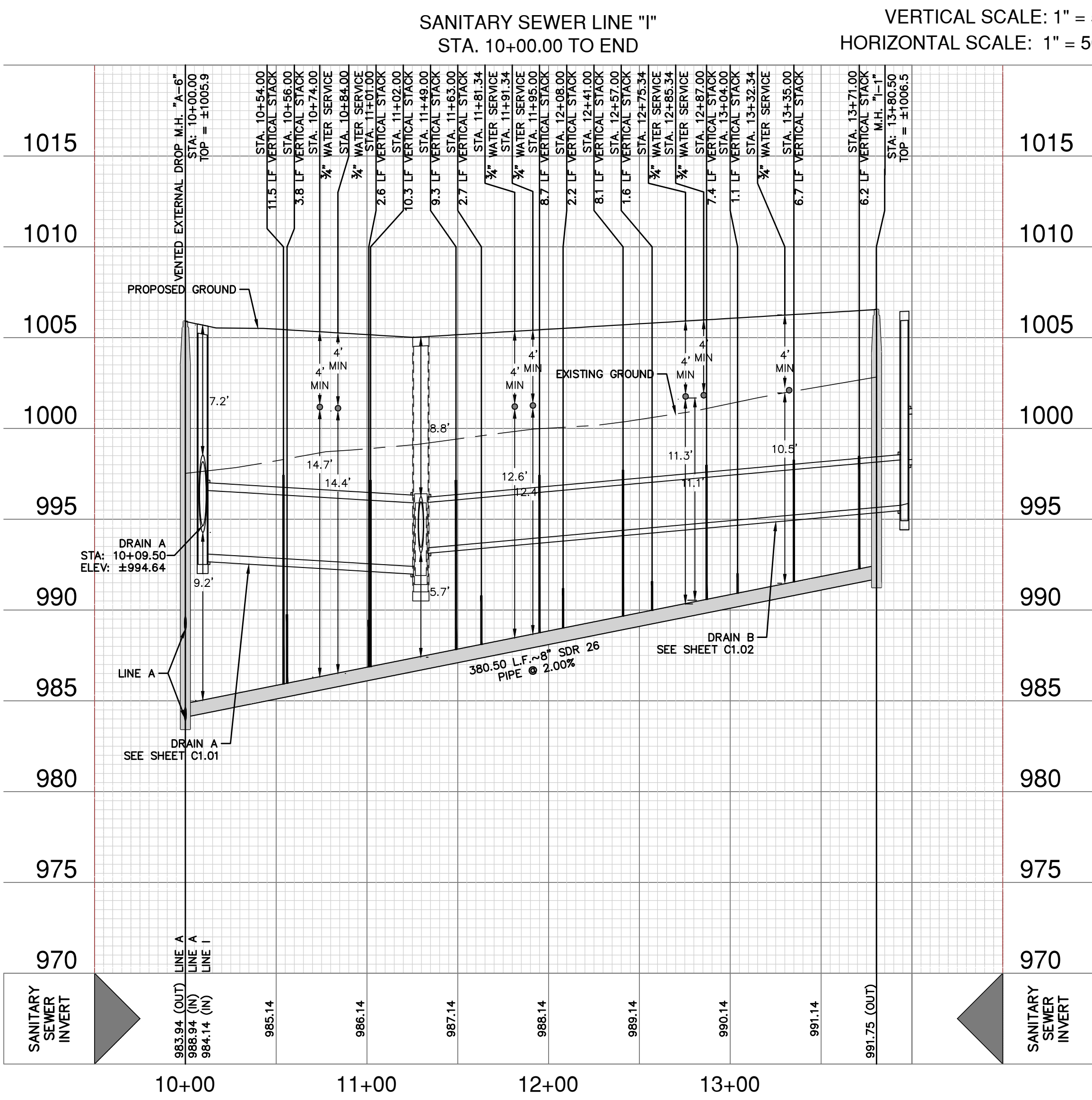
NO. REVISION

6/6/22

Shauna L. Weaver

PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPEF FIRM REGISTRATION #470 | TPELUS FIRM REGISTRATION #1008800



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

PIPE NOTE:
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

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

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

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	FAX# (210) 495-2504		
SAWS BLOCK MAP#192-660 TOTAL EDU'S .219 TOTAL ACREAGE .4314			
TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-11800179			
NUMBER OF LOTS .219 SAWS JOB NO. 22-1601			

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

SANITARY SEWER LINE I
PLAN AND PROFILE

PLAT NO. 21-11800179

JOB NO. 11500-06

DATE JUNE 2022

DESIGNER CK

CHECKED CK DRAWN JD

SHEET C4.11

AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTS. THE CORPORATION SHALL BE RESPONSIBLE FOR THE COSTS OF THE COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

(a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

(i) LOW PRESSURE AIR TEST:

(A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY OF TESTING AND MATERIALS' (ASTM) C-826, ASTM C-924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.5 IN SUBPARAGRAPH (B)(U) OF THIS PARAGRAPH.

TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING SEWAGE COLLECTION SYSTEM. A TEXAS LICENSED SANITARIAN OR A TEXAS ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST USUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS INSTALLED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND PROVIDE COPIES OF THESE CERTIFICATIONS TO THE REGIONAL PUBLIC UTILITY REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

- THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITIES (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
 - THE ACTIVITY START AND END DATES AND EXTENT OF THE PROJECT;
 - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
- SAN ANTONIO REGIONAL OFFICE
14250 HUDSON ROAD
SAN ANTONIO, TEXAS 78233-4480
PHONE (210) 490-4399
FAX (210) 445-3026
4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN APPLICATION FOR MODIFYING THE PROPOSED COLLECTION SYSTEM OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS. THESE CONTROL MEASURES MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. THE REGIONAL OFFICE'S ASSIGNMENT OF LOCAL AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE EXISTING LINE. A PLAN FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE. THE TRENCHING OF THE SENSITIVE SEWER LINE MUST BE LIMITED TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINE MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.
8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE A MINIMUM SIZE OF 30 INCHES. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE FEET IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.
- THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE TCEQ'S RULES REGARDING CONSTRUCTION OF SEWER LINES/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET C-4.30.
- IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.
10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO THE 100-YEAR FLOODPLAIN), THE TRENCHING OF THE SEWER LINE MUST BE IN ACCORDANCE WITH 30 TAC §217.55(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE, ALL CURVATURE SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: N/A
- IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE PIPE MUST BE USED: N/A
- SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.
12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSION. SUCH STUB OUTS MUST BE MANUFACTURED WYOMER OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE PROTECTED BY A CONCRETE CURB TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE MUST NOT BE CONNECTED TO EXISTING SEWER LINES BY USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.
- IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON SHEET C-4.30. (FOR POTENTIAL FUTURE LATERALS).
- THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET C-4.01 TO ##### AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET C-4.30.
13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF AASHTO C-232, CLASSES A, B, OR C. IF RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.
14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE LATERAL MAY BE CONNECTED TO THE STUB OR CLEAN-OUT. THE CLEAN-OUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).
15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST REPORT IN WRITING THAT ALL TESTS WERE COMPLETED AND THAT TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING SHALL BE:
- (a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
 - (1) LOW PRESSURE AIR TEST.
 - (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-824, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3.3. INSUFFICIENT (C) THIS PARAGRAPH OR EQUATION C.3.3 IN SUBPARAGRAPH (B)(1) OF THIS PARAGRAPH.
- (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDEWATER ABOVE THE PIPE.

(II) NOT EXCEED 150 PSI. THE TESTER SHALL MEASURE THE PRESSURE TO THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

WHERE: T= $(0.0085 \cdot D \cdot K) / Q$

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
K = $0.000419 \times D \times L$, BUT NOT LESS THAN 1.0
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT OF SURFACE

(C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

PIPE DIAMETER (INCHES)	MIN. TIME (SECONDS)	LENGTH FOR MIN. (FEET)	TIME, LONGER LENGTH (SECONDS)
6	340	398	0.855(L)
8	567	239	1.427(L)
10	680	199	3.419(L)
12	850	159	5.342(L)
14	1020	133	7.693(L)
16	1114	114	10.474(L)
20	1360	100	13.76(L)
24	1500	88	17.309(L)
30	1730	80	21.369(L)
33	1870	72	25.856(L)

(A) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.

(E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

(F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

(G) A TESTING PROCEDURE MAY BE USED FOR INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

(2) INFILTRATION/EXFILTRATION TEST.

(A) THE TOTAL INFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

(B) AN OWNER SHALL CONDUCT AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

(C) THE TOTAL INFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL.

(D) FOR CONSTRUCTION WITH A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

(E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO CORRECT THE PROBLEM. THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN LIMITS SPECIFIED, AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

(F) GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

(1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, A DEFLECTION MEASUREMENT REQUIRES A RIDGID MANDEL.

(A) MANDEL SIZING.

(I) A RIDGID MANDEL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN AN APPROPRIATE STANDARD, BUT NOT THE ASTM OR AMERICAN WATERWORKS ASSOCIATION, UNL-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

(II) IF THE INSIDE DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDEL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDEL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINUS A WALL THICKNESS FOR OD CONTROLLED PIPE AND AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

(III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

(B) MANDEL DESIGN.

(I) A RIDGID MANDEL MUST BE CONSTRUCTED OF A METAL OR RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

(II) A MANDEL MUST HAVE NINE OR MORE OOD NUMBER OF RUNNERS OR LEGS.

(III) THE SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

(C) EACH SIZE MANDEL MUST USE A SEPARATE PUMPING RING.

(D) METHOD OPTIONS.

(I) AN ADJUSTABLE OR FLEXIBLE MANDEL IS PROHIBITED.

(II) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

(III) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDEL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

(2) FLOOD TIGHTNESS TEST.

(A) FOR A COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION. A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS ONE HUNDREDTH OF AN INCH.

(B) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

(C) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT.

(D) IF A DEFLECTION TEST IS USED, THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

(I) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 C.M. §217.55.

(A) ALL MANHOLES MUST PASS A LEAKAGE TEST.

(B) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES BY HYDROSTATIC EXPIRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

(1) HYDROSTATIC TESTING.

(A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHOD 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.

(B) TO PERFORM A HYDROSTATIC EXPIRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, PLUG THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.

(C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.

(2) VACUUM TESTING.

(A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.

(B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.

(C) STUB-OUTS, MANHOLE BOOTS, AND JOINTS MUST BE SECURED TO PREVENT MOVEMENT WHILE THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISIT (IN THE PRESENCE OF THE PRIVATE SERVICE LATERAL) AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEMS SHALL OBTAIN SUCH CERTIFICATIONS FOR THE YEARS AND FORWARD THEM TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

(D) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

(E) A MANHOLE PASSES THE TEST IF AFTER 20 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH C.M. §217.55(C)(3)(I) AFTER INSTALLATION OF AND PRIOR TO COVERING AND CONNECTION TO PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISIT (IN THE PRESENCE OF THE PRIVATE SERVICE LATERAL) AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEMS SHALL OBTAIN SUCH CERTIFICATIONS FOR THE YEARS AND FORWARD THEM TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

THESE GENERAL CONSTRUCTION NOTICES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

24. ALL MAINS MUST COMPLY WITH ITEM NO. 868 OF SEWER MAIN CLEANING.

25. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO THE CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND SAWS ITEM 804.

26. SANITARY SEWER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS ITEM 849.

27. AFTER CONSTRUCTION, TESTING WILL BE DONE BY T.V. CAMERA BY THE CONTRACTOR AND OBSERVED BY INSPECTOR, AND WASTEWATER ENGINEERING PERSONNEL AS THE CAMERA IS RUN THROUGH THE LINES. ANY ABNORMALITIES, SUCH AS BROKEN PIPE OR MISALIGNED JOINTS, MUST BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

- THIS PROJECT IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND SEDIMENTATION CONTROL. THE CONTRACTOR SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH CURRENT SPECIFICATIONS.
2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED G.C.P. 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.
3. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, TO INCLUDE SERVICE LATERALS, SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES 48 HOURS PRIOR TO EXCAVATION AND TO PROTECT THE SAME DURING CONSTRUCTION.
- SAN ANTONIO WATER SYSTEM 233-2010
- DRAINAGE 1-800-545-6005
- TELEPHONE 1-800-545-6005
- CITY PUBLIC SERVICE 1-800-545-6005
- PARAGON CABLE TV 1-800-545-6005
- VALERO ENERGY CO. 1-800-545-6005
4. THE CONTRACTOR SHALL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION.
5. ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
6. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE PROJECT AREAS.
7. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST FOUR INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
8. ON ANY MANHOLES TO BE ABANDONED, THE RINGS AND COVER SHALL BE SALVAGED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, ITEM 862, AND THE HOLE BACKFILLED TO THE SATISFACTION OF THE INSPECTOR.
9. THE USE OF ASBESTOS CEMENT PIPE WILL BE PROHIBITED UNDER THIS CONTRACT. ALL DUCTILE IRON PIPE USED IN THIS SYSTEM SHALL BE CORROSION PROTECTED ON BOTH THE INTERIOR AND EXTERIOR SURFACES. ALL CORROSION PROTECTION SHALL BE APPLIED AND MAINTAINED IN SUCH A MANNER AS TO MAINTAIN A CONTINUOUSLY PROTECTED SURFACE AFTER FINAL PIPE INSTALLATION.
10. ALL PVC SEWER PIPE WITH OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH, MINIMUM PIPE STIFFNESS OF 115 PSI.
11. SEWER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE CONNECTION JOINTS AS APPROVED BY SAWS. MECHANICAL JOINT "BOOT TYPE" CONNECTIONS ALONE WILL NOT BE ALLOWED. "BOOT TYPE JOINTS" MAY BE USED IN CONJUNCTION WITH COMPRESSED JOINTS AS APPROVED BY SAWS. ANY CHANGES FROM THESE METHODS MUST BE APPROVED BY SAWS.
12. ALL RESIDENTIAL SEWER SERVICE LATERAL SHALL BE EXTENDED TO THE PROPERTY LINE AND CAPPED AND SEALED. (ITEM. NO. DD-854-01).
13. WHERE REQUIRED, CONCRETE ENCASEMENT SHALL BE PLACED FOR FULL WIDTH OF THE TRENCH TO A PLANE 6" ABOVE THE TOP OF THE PIPE, WITH PAY LIMITS AS SHOWN ON THE ITEM NO. DD-858-01.
14. A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT SUBGRADE, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
15. NO BLASTING SHALL BE PERFORMED WITHIN 75 FEET OF EXISTING UTILITIES.
16. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
17. THE CONTRACTOR SHALL NOT PLACE ANY MATERIALS ON THE RECHARGE ZONE OF THE EDWARDS AQUIFER WITHOUT AN APPROVED WATER POLLUTION ABATEMENT PLAN FROM THE TCEQ.
18. 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 SITE(S) 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 THE SYSTEM, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION. IT 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 TO GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
19. A. THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF OTHER STRUCTURES. EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECT'S PLAN AND PROFILE SHEETS.
- B. AT A MINIMUM THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER TO PREVENT EROSION AND SEDIMENTATION FROM ENTERING THE TRENCH. IT SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
- C. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION. SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL BE REMOVED WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED. ADDITIONAL PROTECTION MAY BE NECESSARY IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.
20. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE SAN ANTONIO WATER SYSTEM.
21. PLACEMENT OF SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE EROSION CONTROL PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO SEWER LINE CONSTRUCTION. THE CONTRACTOR AND CITY INSPECTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE NO SIGNIFICANT DISTURBANCE TO OTHER STRUCTURES HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A SIGNIFICANT RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN APPROVED DESIGNATED SOIL DISPOSAL AREA.
22. A DEFLECTION TEST SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER INITIAL BACKFILL HAS BEEN IN PLACE AT LEAST 14 DAYS. THE DEFLECTION SHALL BE MEASURED IN ACCORDANCE WITH ITEM NO. 849 IN THE STANDARD SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE SAN ANTONIO WATER SYSTEM.
24. ALL MAINS MUST COMPLY WITH ITEM NO. 868 OF SEWER MAIN CLEANING.
25. WATER SETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND SAWS ITEM 804.
26. SANITARY SEWER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS ITEM 849.
27. AFTER CONSTRUCTION, TESTING WILL BE DONE BY T.V. CAMERA BY THE CONTRACTOR AND OBSERVED BY INSPECTOR, AND WASTEWATER ENGINEERING CONSULTANT. ANY DEFECTS OR DEFICIENCIES IN THE TRENCHING OR UTILITIES, SUCH AS BROKEN PIPE OR MISALIGNED JOINTS, MUST BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

28. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO THE SAN ANTONIO WATER SYSTEM CONSTRUCTION INSPECTION DIVISION.

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

30. THE DEVELOPER DEDICATES THE SANITARY SEWER MAINS UPON COMPLETION BY THE DEVELOPER AND ACCEPTANCE BY THE SAN ANTONIO WATER SYSTEM. THE SAN ANTONIO WATER SYSTEM WILL OWN AND MAINTAIN SAID SANITARY SEWER MAINS WHICH ARE LOCATED WITHIN THIS PARTICULAR SUBDIVISION. (AS APPLICABLE)

31. THE DEVELOPER WILL BE RESPONSIBLE FOR THE LIFT STATION MAINTENANCE FEE IN EFFECT AT THE TIME OF CERTIFICATION. THE CURRENT LIFT STATION MAINTENANCE FEE PER LIFT STATION WILL BE COLLECTED PRIOR TO PLAT RECDORDATION.

32. WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A GENERAL CONSTRUCTION PERMIT OR THE CONSENT OF THE SAN ANTONIO WATER SYSTEM CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE, SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

- IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAMS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
- ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
- CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
- CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/WATERLAYS.
- CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
- MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAMS DIRECTION) WITHIN 24 HOURS.

IF THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAMS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAMS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAMS.

- IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAMS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAMS 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 TIE-INS. THERE IS AT NO ADDITIONAL COST TO SAMS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20" JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)
- SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, WASTEWATER, ALL PETROLEUM PRODUCTS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAMS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT. THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.
- MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAMS. (2) FEET DEEP TO THE GROUND AS PER THE SAMS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
- ALL 8" PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

PROJECT SEWER NOTES

- ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED TO 10' PAST THE PROPERTY LINE AND CAPPED AND SEALED. CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP TO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL.
- NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAMS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), 160 PSI PRESSURE PIPE CONFORMING TO ASTM D2241, UNLESS OTHERWISE NOTED.
- CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.
- MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATION SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5" ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERIGHT.

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

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- MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAMS. (2) FEET DEEP TO THE GROUND AS PER THE SAMS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
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PROJECT SEWER NOTES

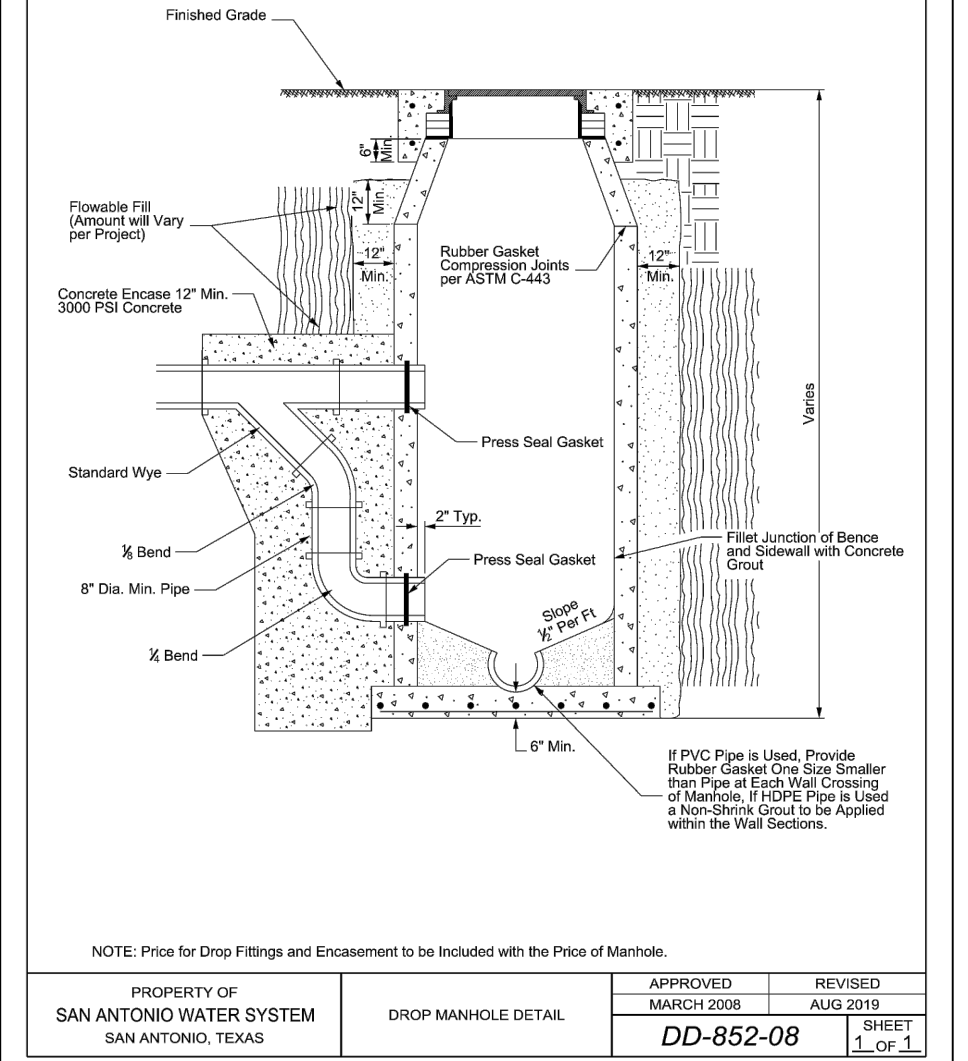
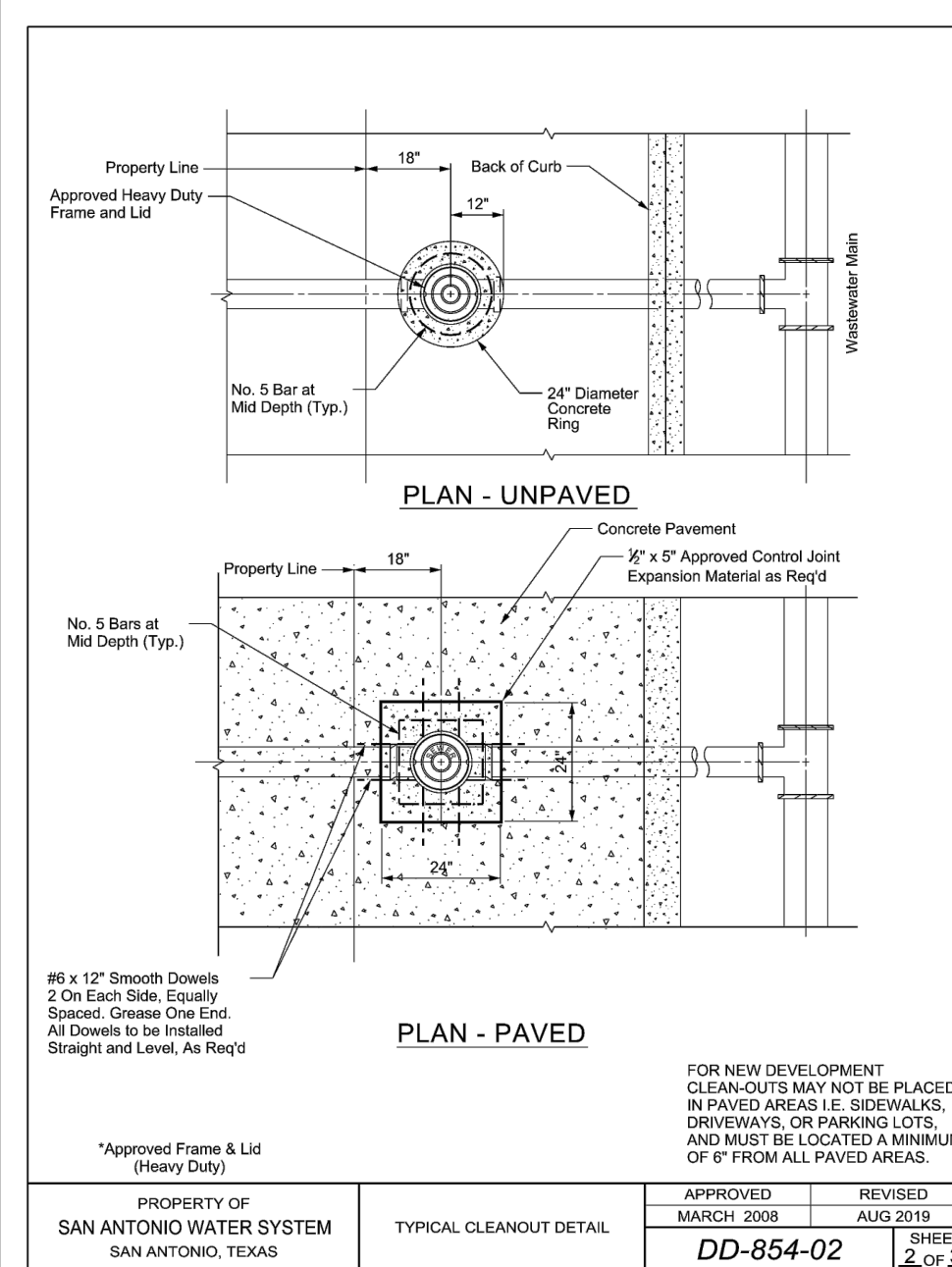
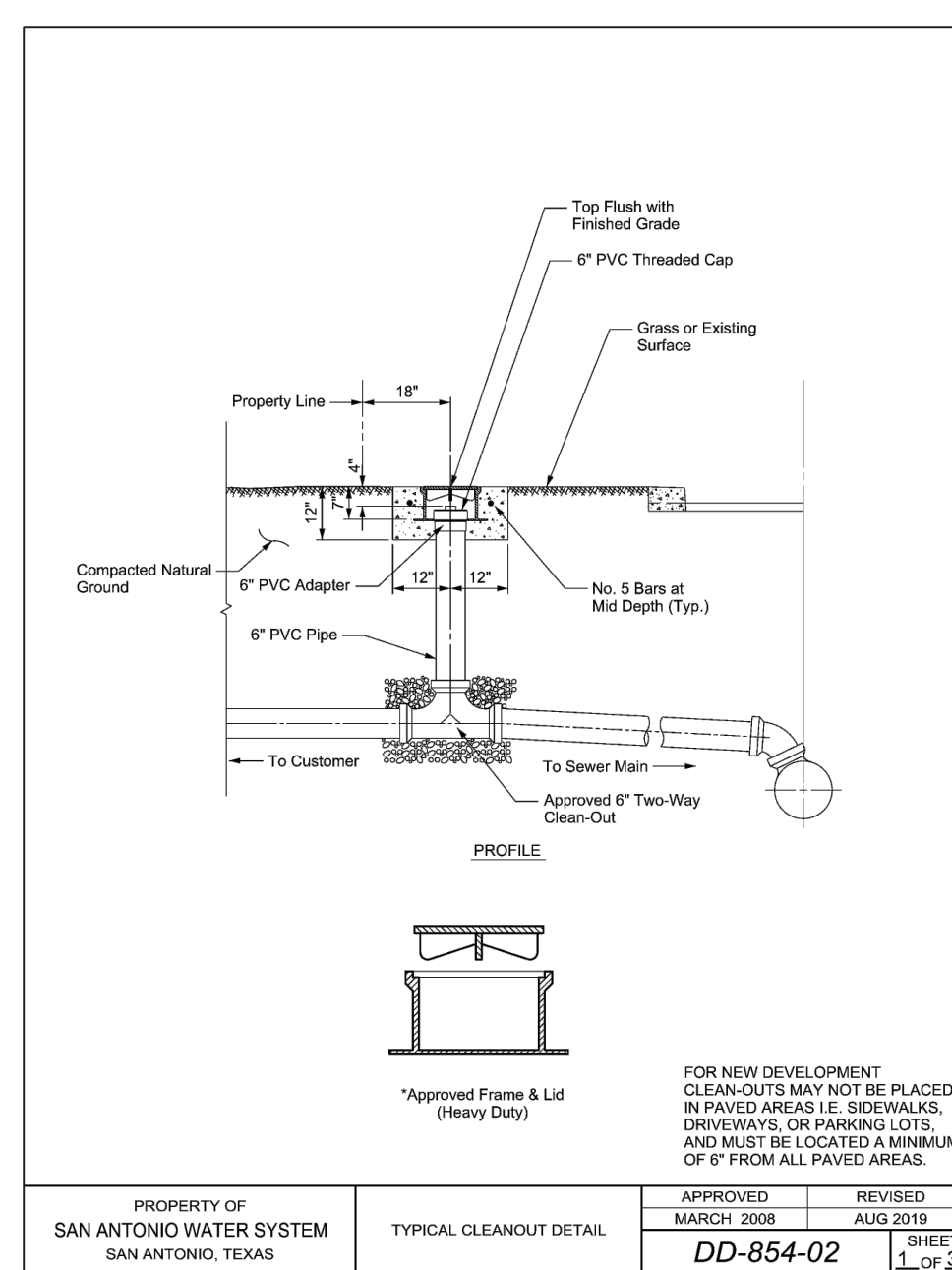
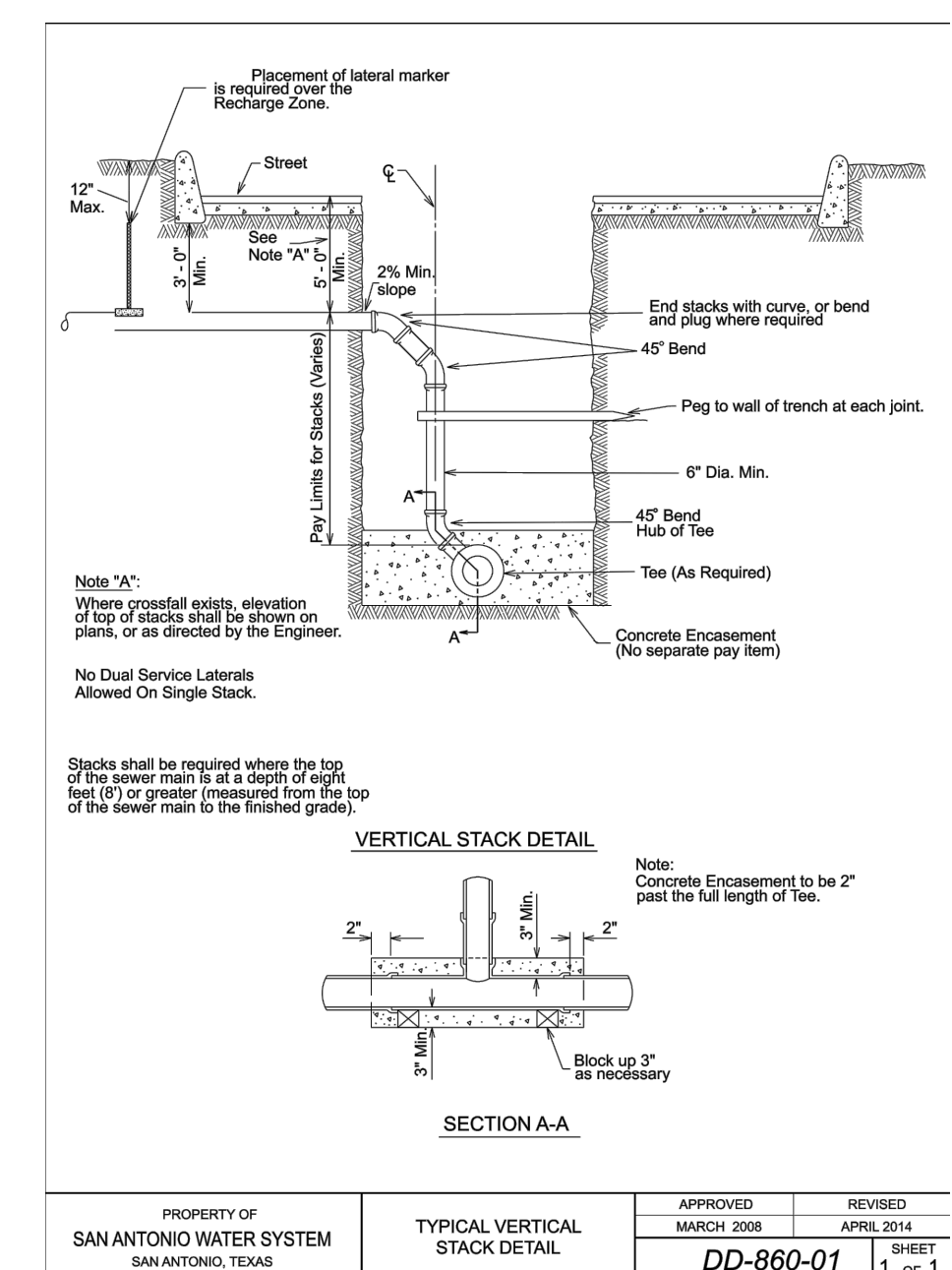
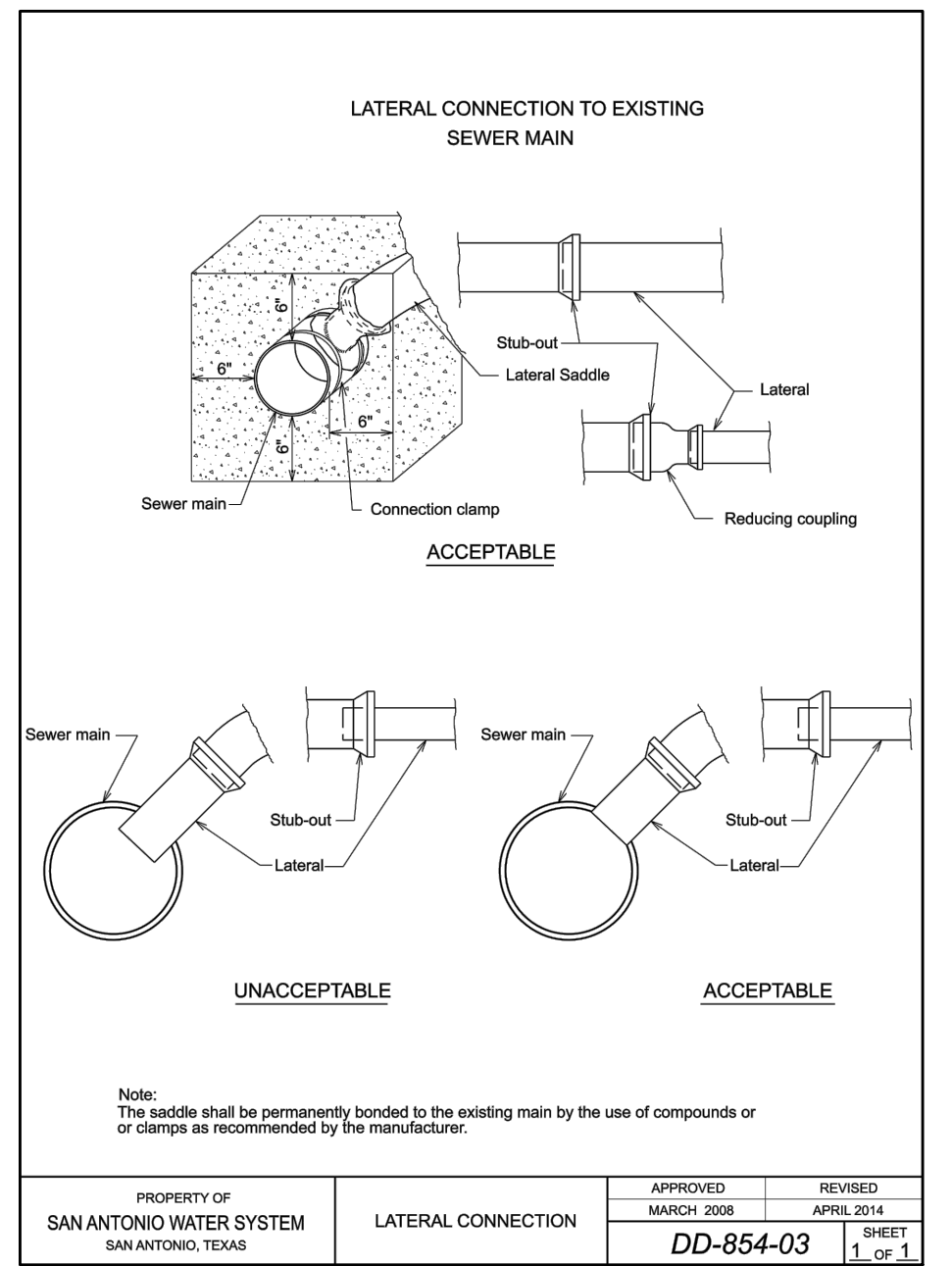
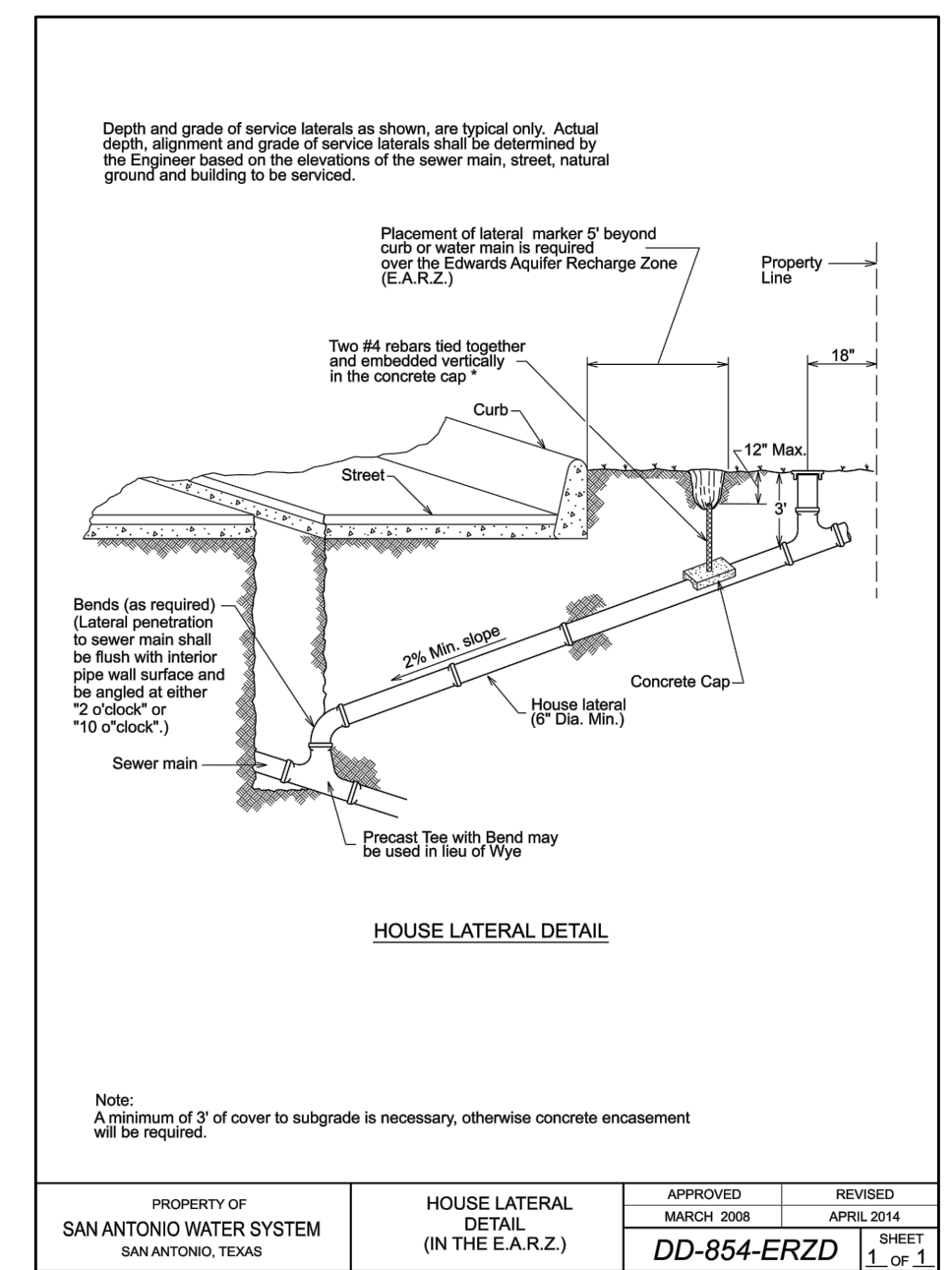
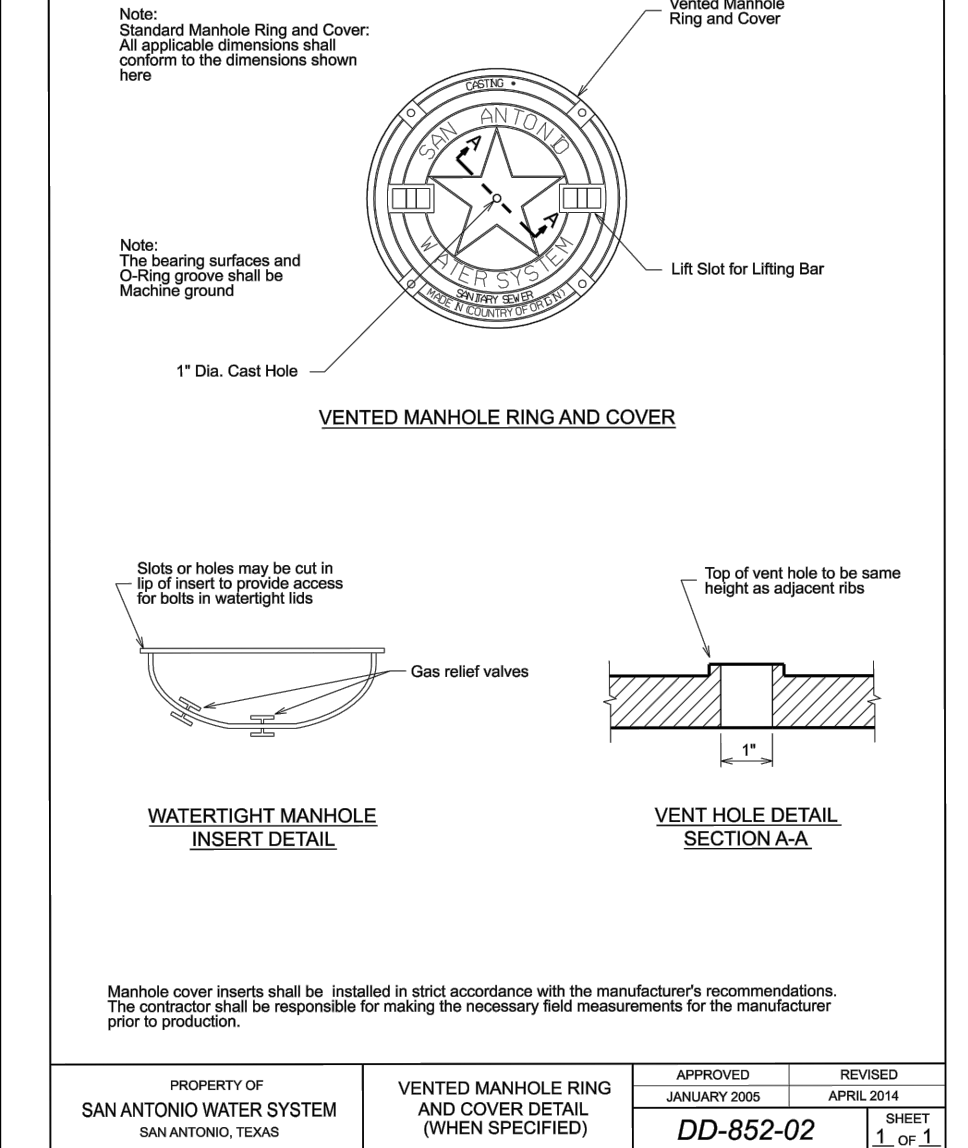
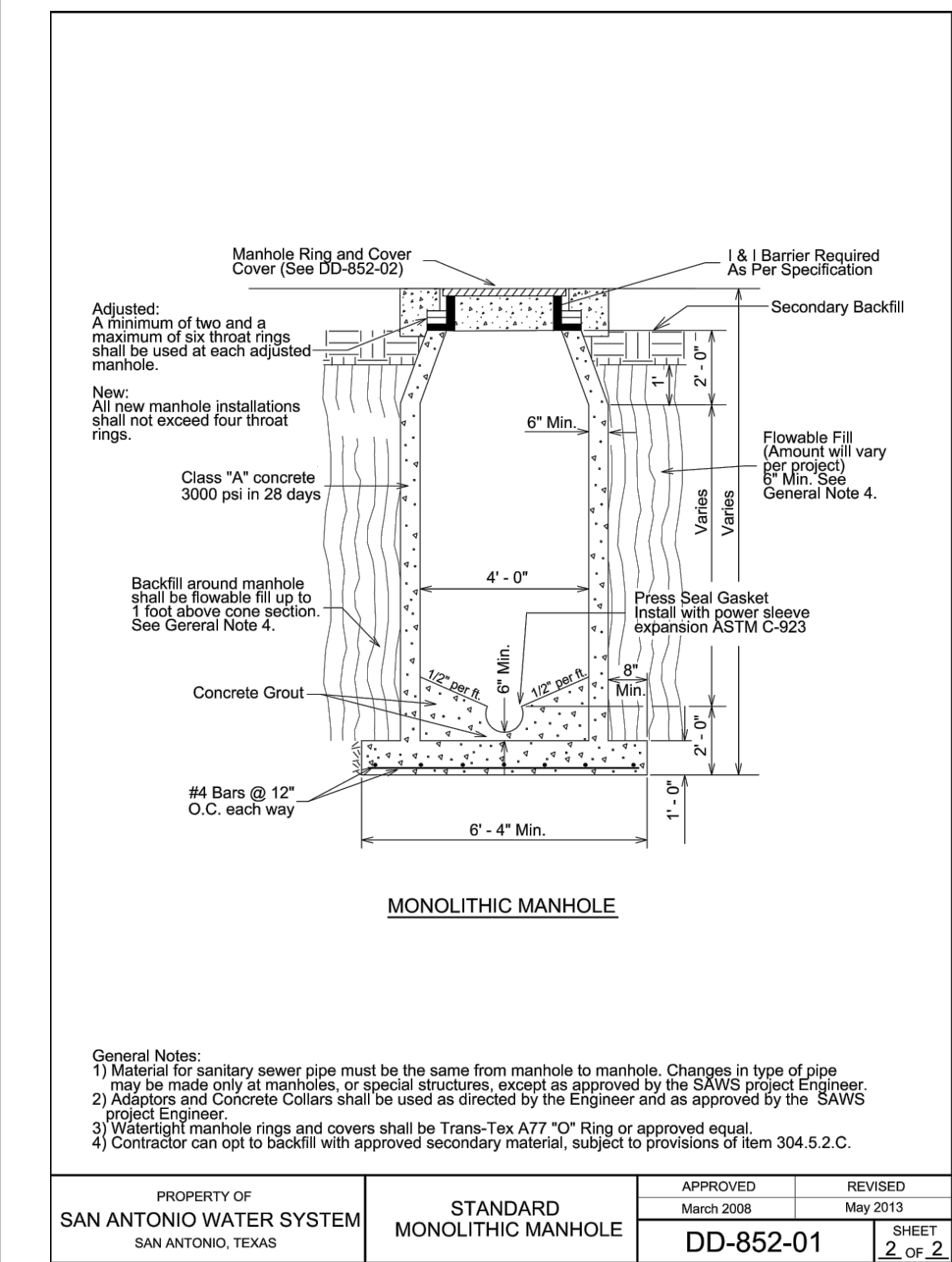
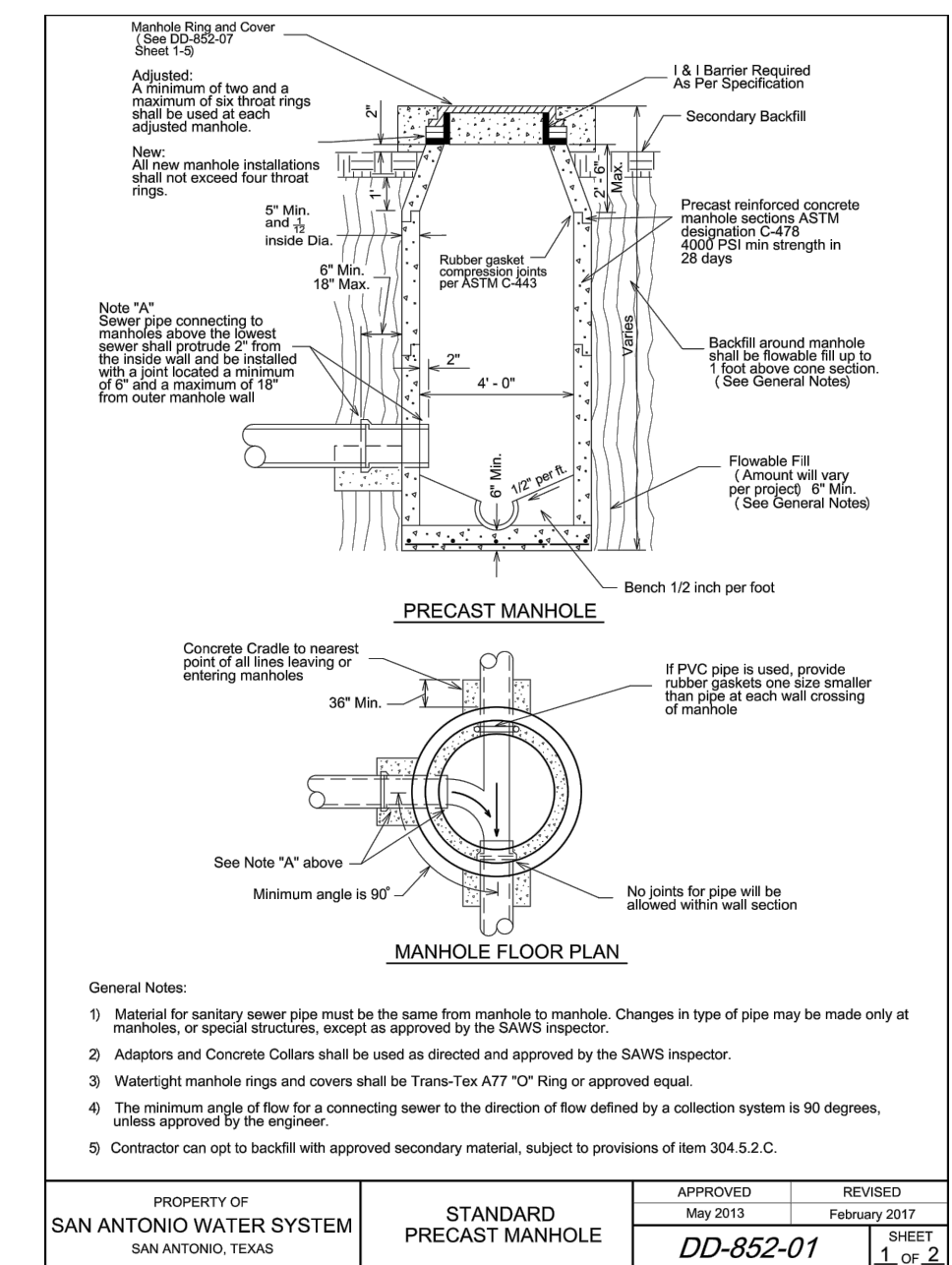
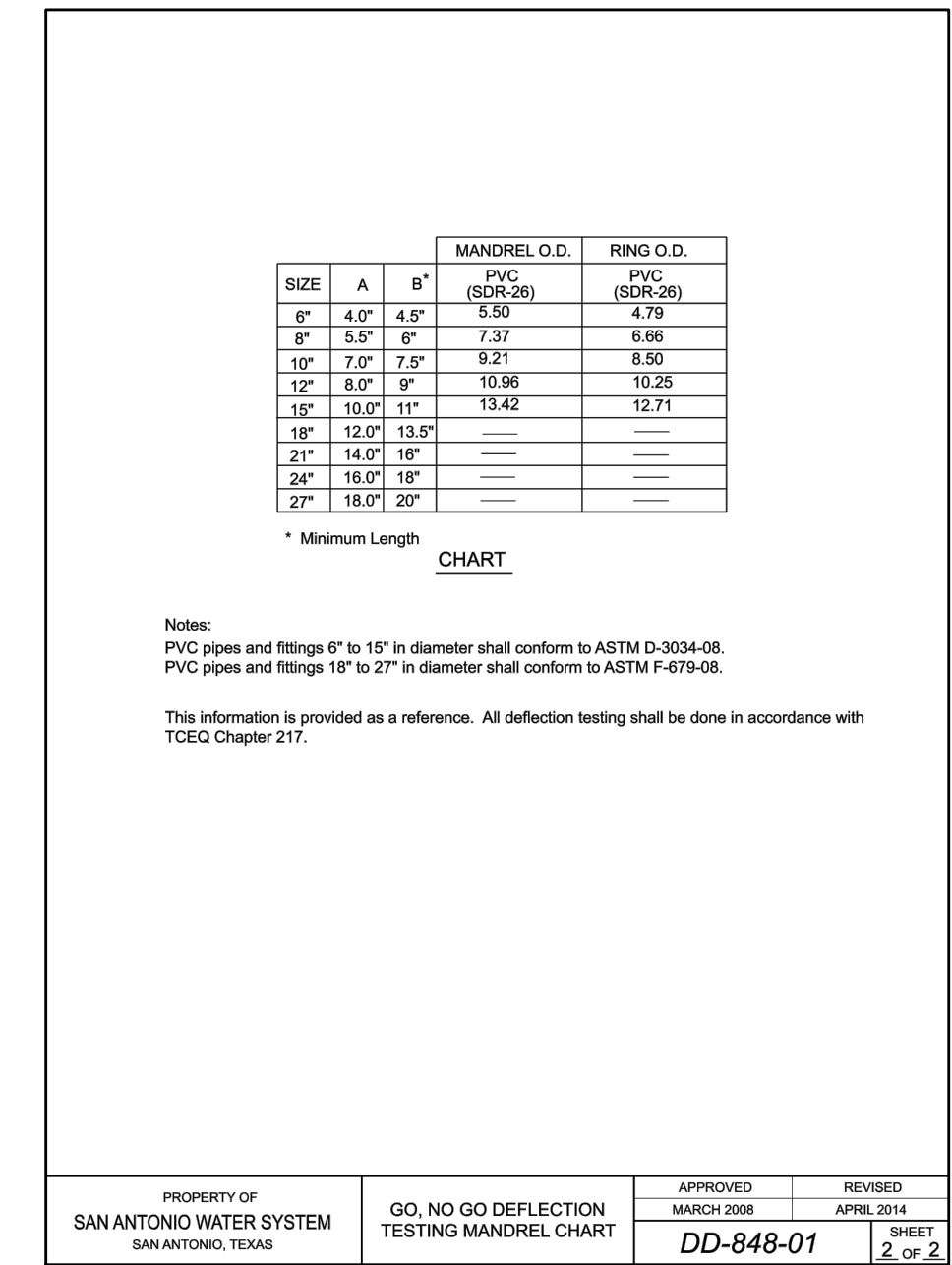
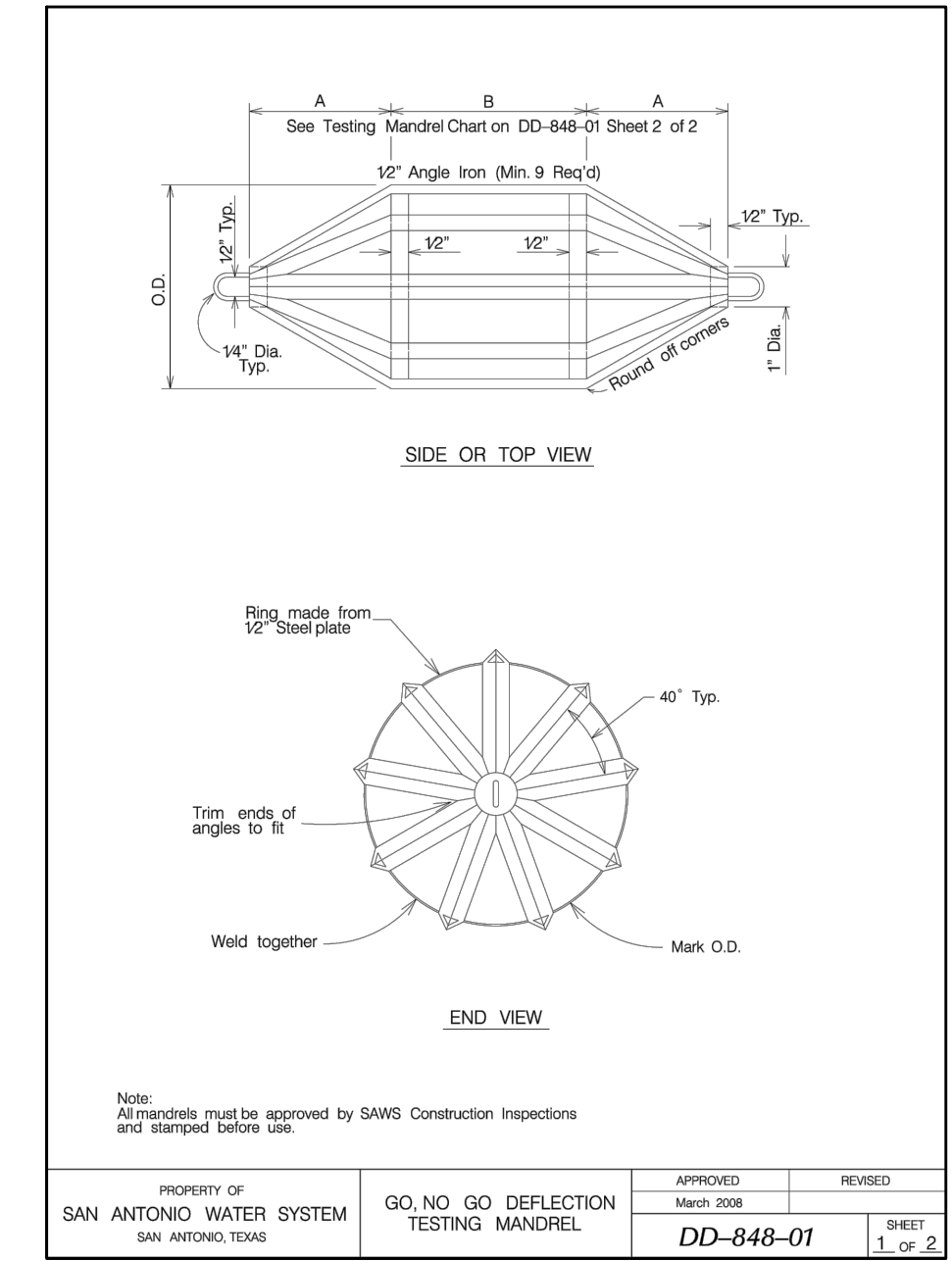
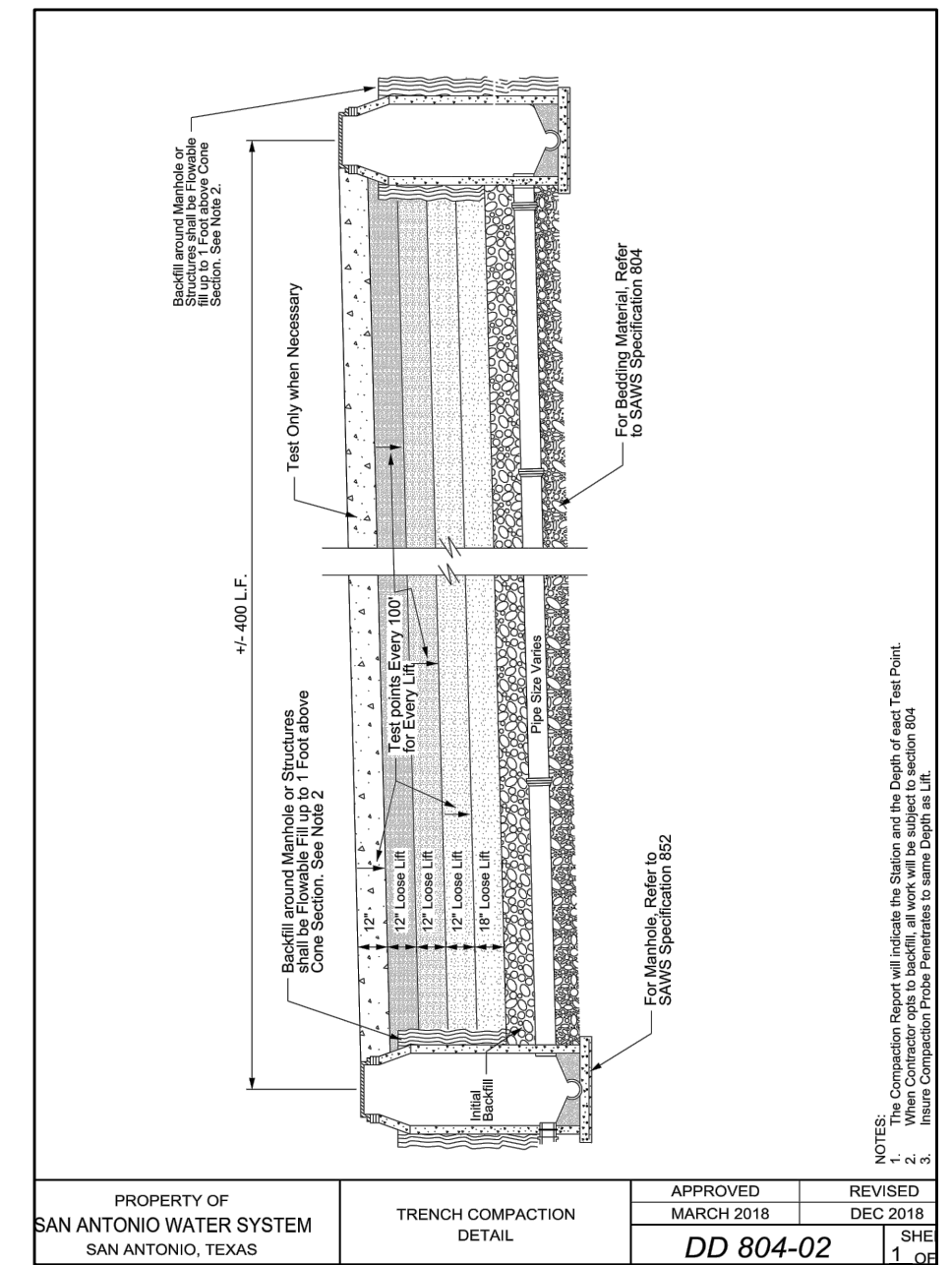
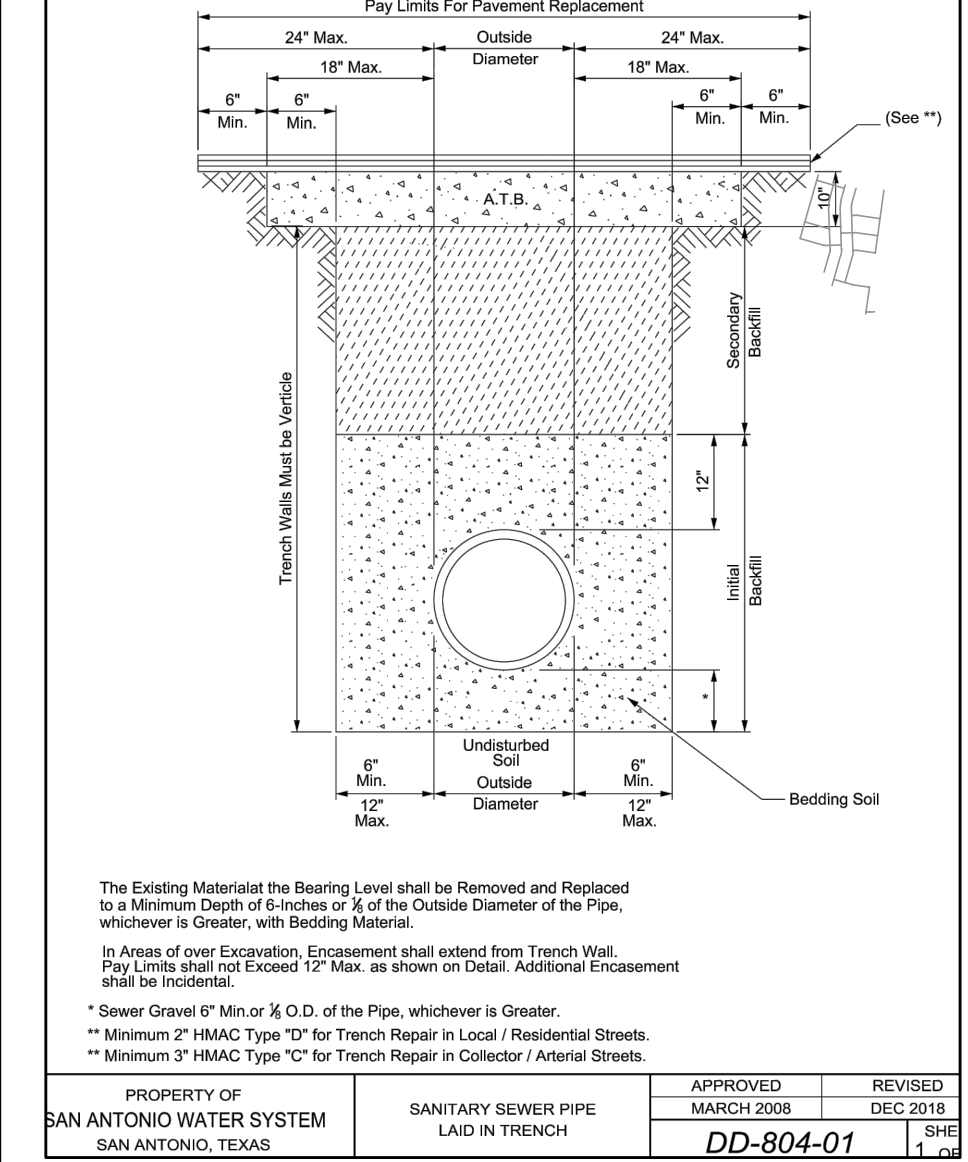
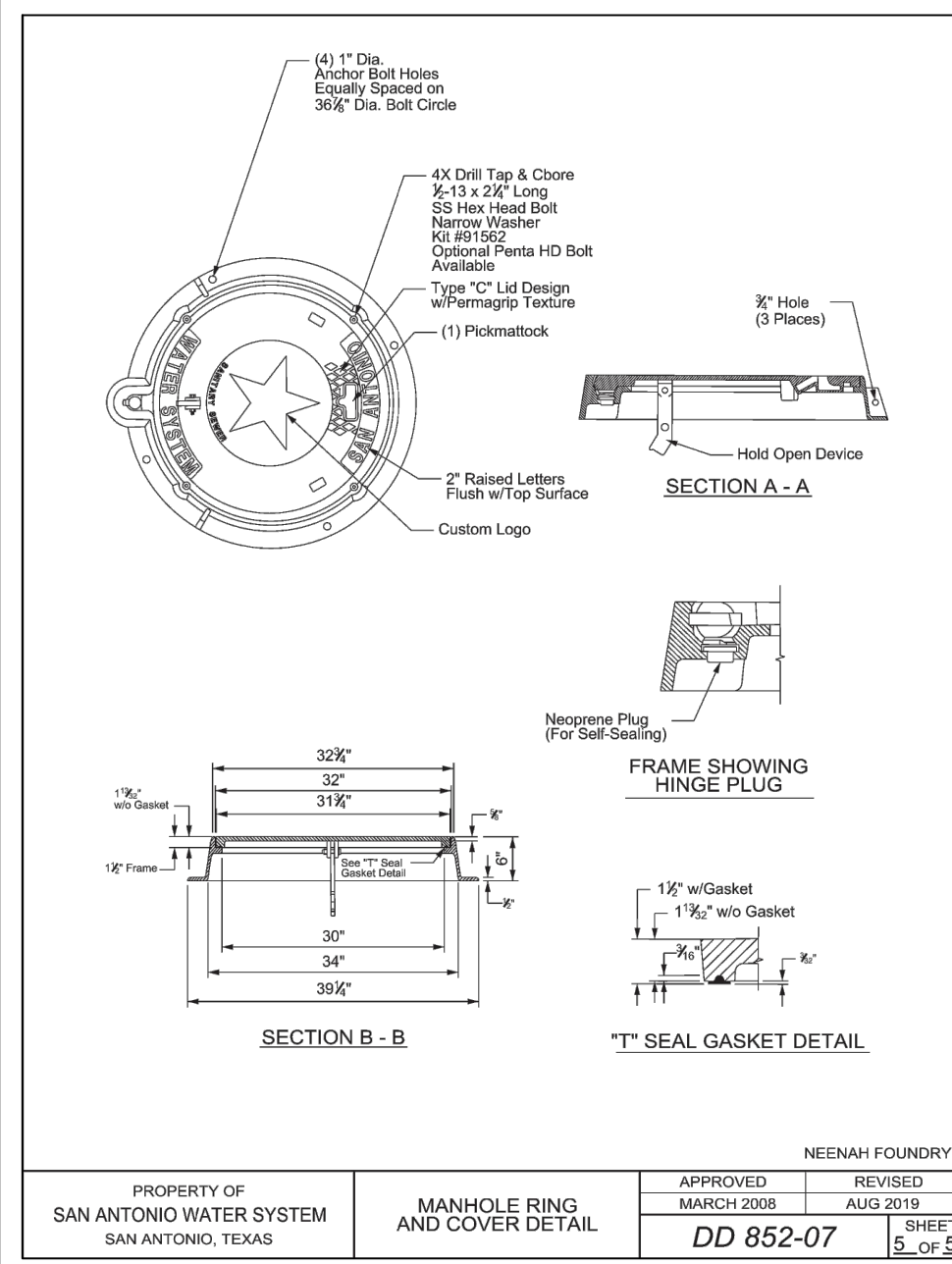
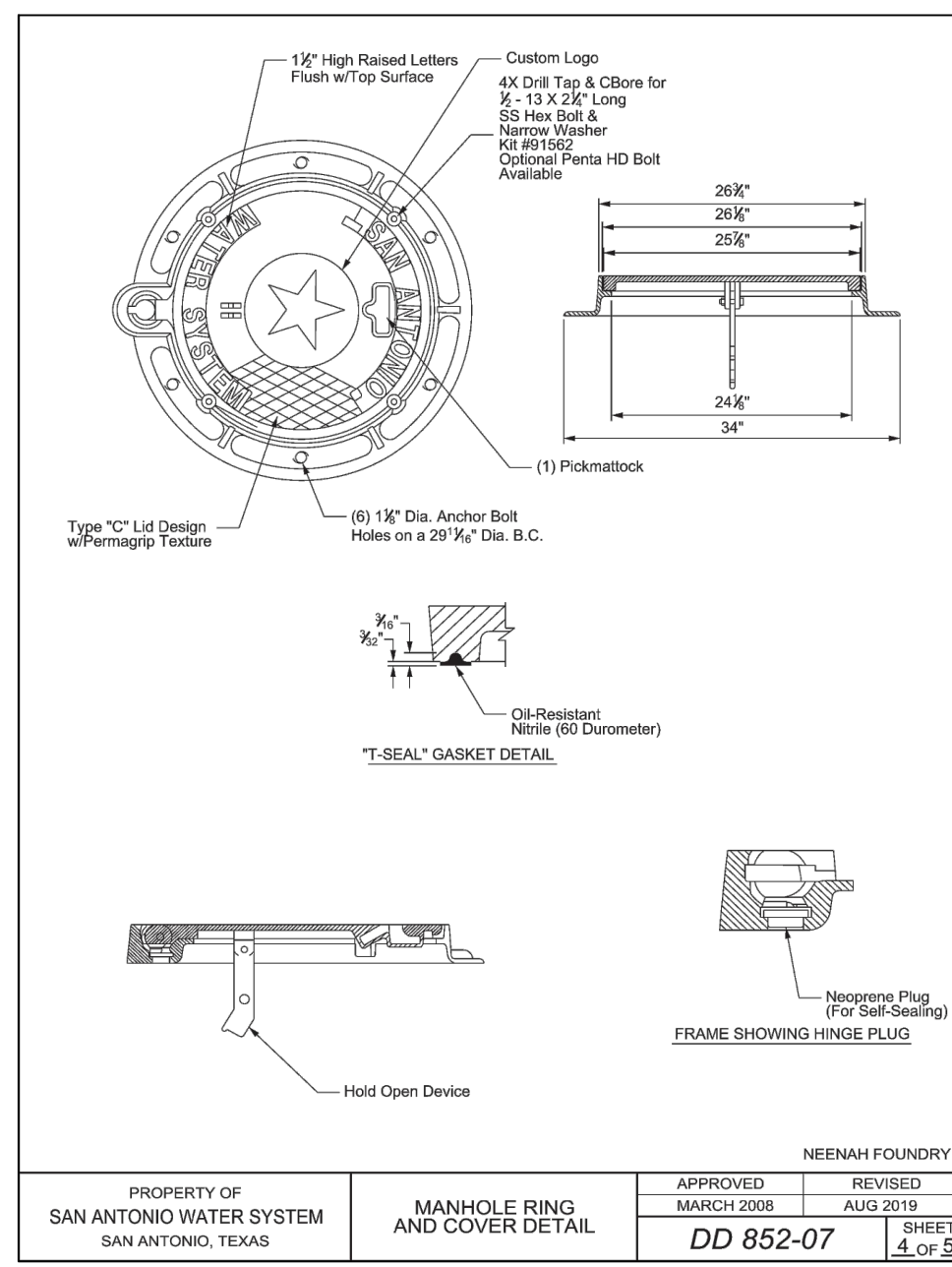
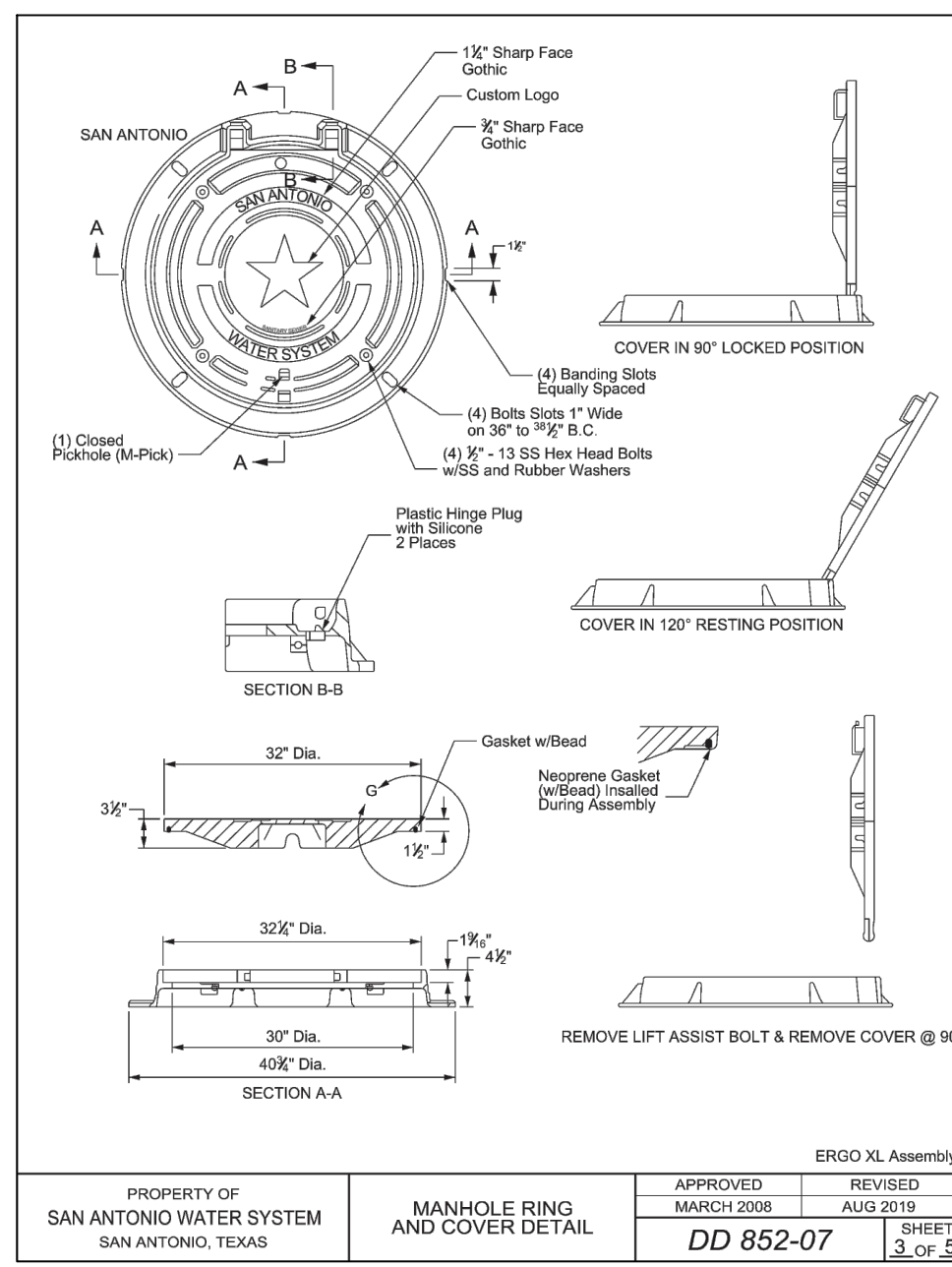
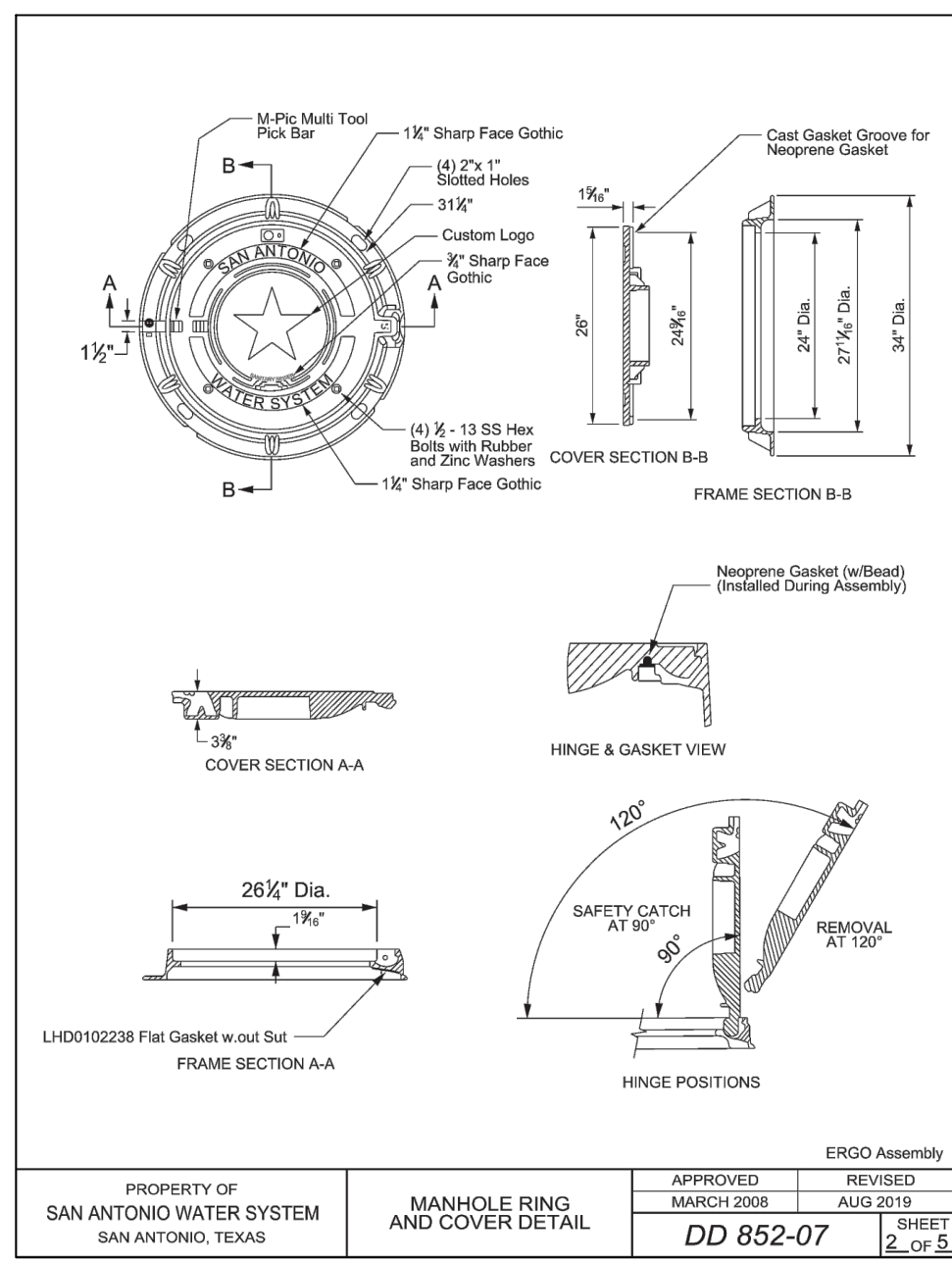
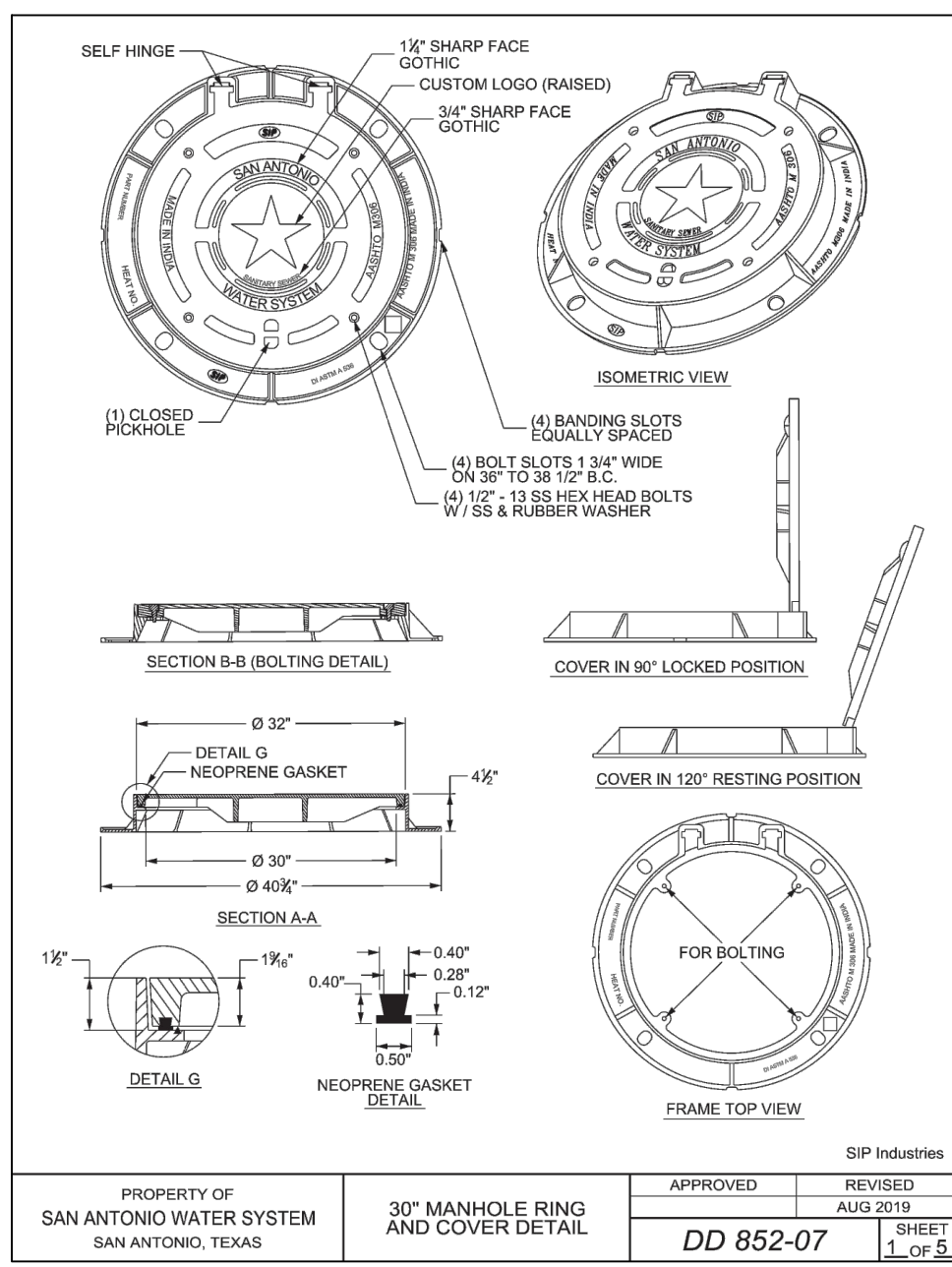
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- CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL.
- NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAMS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), 160 PSI PRESSURE PIPE CONFORMING TO ASTM D2241, UNLESS OTHERWISE NOTED.
- CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.
- MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATION SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5" ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERIGHT.

SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

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Dates: Jan. 06, 2023, 2:16pm User: JG_AJMTMAN
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SEWER: EAST SEWERSHED - DOS RIOS WRC (OVER THE EARZ)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP

ADDRESS: 5419 NORTH LOOP 1604 EAST

CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247

PHONE: (210) 496-2668 FAX: (210) 495-2504

SAWS BLOCK MAP# 192-660 TOTAL EDU'S: 219 TOTAL ACREAGE 43.14

TOTAL LINEAR FOOTAGE OF PIPE: 6,763 LF 8" PLAT NO. 21-1180079

NUMBER OF LOTS: 219 SAWS JOB NO. 22-1601

DATE

NO. REVISION

6/6/22

SHAUNA L. WEAVER

89512

PROFESSIONAL ENGINEER

Shauna L. Weaver

LANGDON-UNIT 11, 12, 13

SAN ANTONIO, TEXAS

SANITARY SEWER DETAILS

PLAT NO. 21-11800179

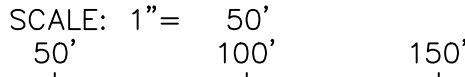
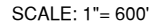
JOB NO. 11500-06

DATE JUNE 2022

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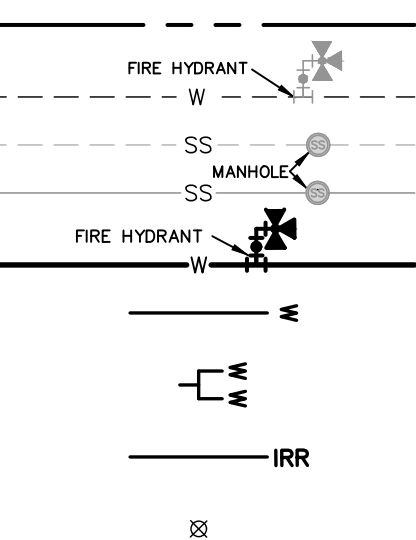
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SHEET C4.30



PROJECT LIMITS

- PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEWER
PROPOSED WATER
PROPOSED 3/4" SINGLE SERVICE
WITH 5/8" METER
PROPOSED 1" DUAL SERVICE
WITH 5/8" METER
SINGLE IRRIGATION SERVICE
(REF. PLAN VIEW FOR SIZE)
JOINT RESTRAINT



1	10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
2	1' VEHICULAR NON-ACCESS EASEMENT
3	VARIABLE WIDTH GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
4	15' DRAINAGE EASEMENT
5	15' DRAINAGE MAINTENANCE ACCESS EASEMENT
6	VARIABLE WIDTH CLEAR VISION EASEMENT
7	10' GAS, ELECTRIC, TELEPHONE, CABLE TV AND WATER EASEMENT LOT 79, BLOCK 6, LOTS 5 & 4, BLOCK 10, LOTS 2 & 3, BLOCK 12, LOTS 1 & 2, BLOCK 13, LOTS 51, 52, 54 & 55, BLOCK 14, LOTS 6 & 7, BLOCK 16.
8	REMAINING PORTION OF VARIABLE WIDTH DRAINAGE EASEMENT

CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 1073 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND IS BELOW 1073 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF LOS ANGELES. NO DUAL SERVICE ALLOWED FOR ANY LOT(S) IF "PRV IS/ARE REQUIRED FOR SUCH LOT(S)", ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED.

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

CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESSSES 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 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 HARNESSSES AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEES OR STRUCTURAL DESIGNER / GEOENGINEER / SAFETY/EQUIPMENT CONSULTANT IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL DATA AND FIELD RECORDS AND SIGN AND DATE THE PLANS. 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. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARD 1926.651 TRENCH EXCAVATION SAFETY REQUIREMENTS. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEES OR STRUCTURAL CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE OF ADJACENT OPERATIONS WORKING IN AND AROUND TRENCH EXCAVATIONS. PRESSURE ZONE 10.

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP
ADDRESS: 5419 NORTH LOOP 1604 EAST
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
PHONE # (210) 496-2668 EMAIL: LKOSTRADER@HORTON.COM
SAWS BLOCK MAP # 192-660 TOTAL EDU'S 219 TOTAL ACREAGE 43.14
TOTAL LINEAR FOOTAGE OF PIPE: 5,184 (8") PLAT NO. 21-11800129
NUMBER OF LOTS 219 SAWS JOB NO. 22-1104

[illegible]

6/24/22



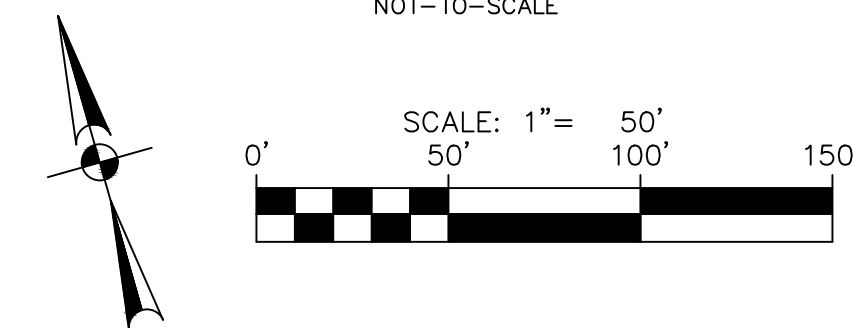
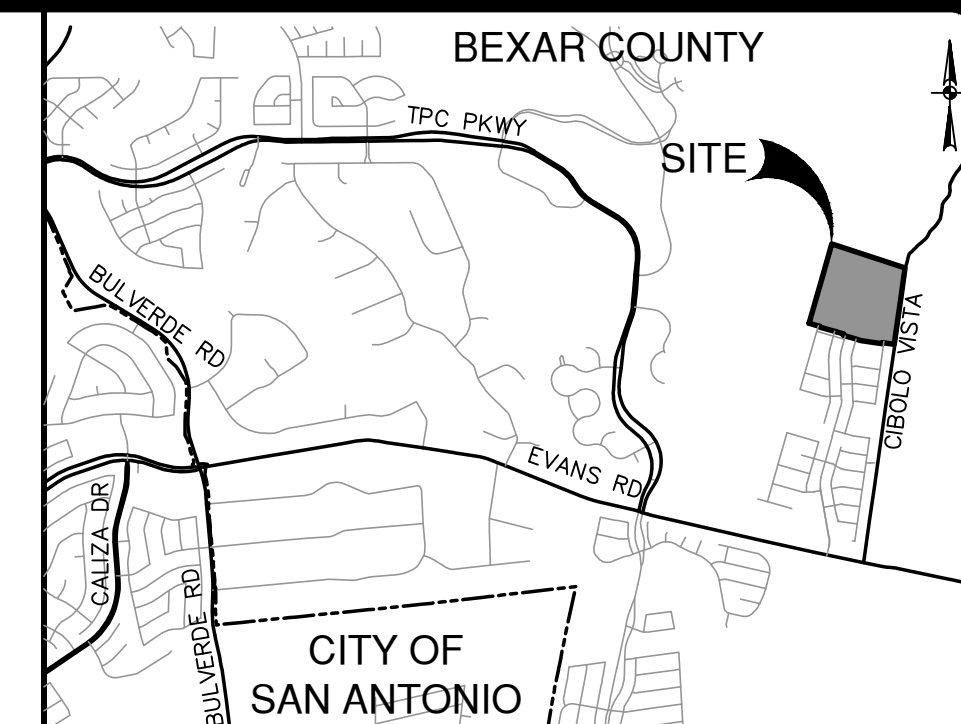
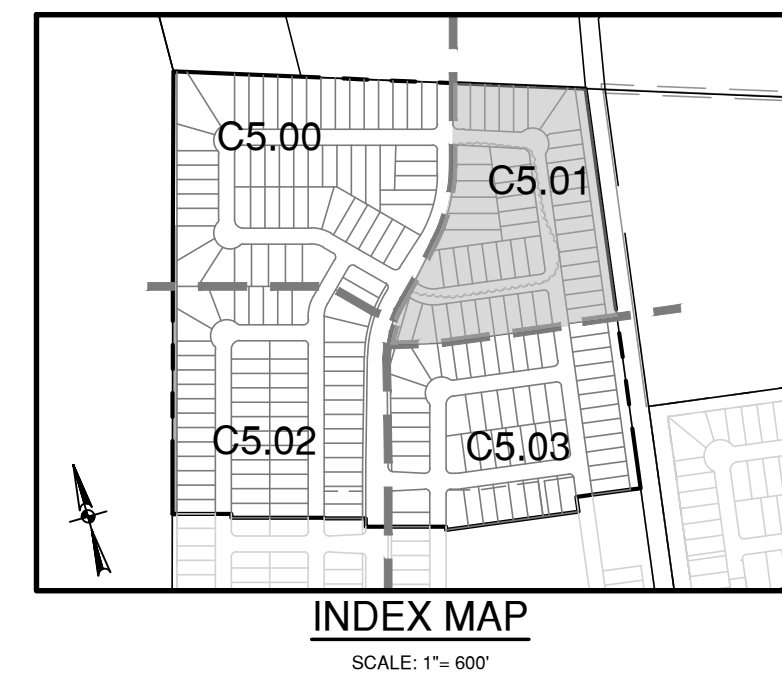
**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TRFEE FIRM REGISTRATION #470 | TRPIS FIRM REGISTRATION #10029R00

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

OVERALL WATER DISTRIBUTION PLAN
SHEET 1 OF 4

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C5.00



WATER LEGEND

KEY NOTES:

- 1 10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- 2 1' VEHICULAR NON-ACCESS EASEMENT
- 3 VARIABLE WIDTH GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- 4 15' DRAINAGE EASEMENT
- 5 15' DRAINAGE MAINTENANCE ACCESS EASEMENT
- 6 VARIABLE WIDTH CLEAR VISION EASEMENT
- 7 10' GAS, ELECTRIC, TELEPHONE, CABLE TV AND WATER EASEMENT LOT 79, BLOCK 6, LOTS 3 & 4, BLOCK 10, LOTS 2 & 3, BLOCK 12, LOTS 1 & 2, BLOCK 13, LOTS 51, 52, 54 & 55, BLOCK 14, LOTS 6 & 7, BLOCK 16.
- 8 REMAINING PORTION OF VARIABLE WIDTH DRAINAGE EASEMENT

PRESSURE NOTE:

CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 1073 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 1073 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S). WHERE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED.

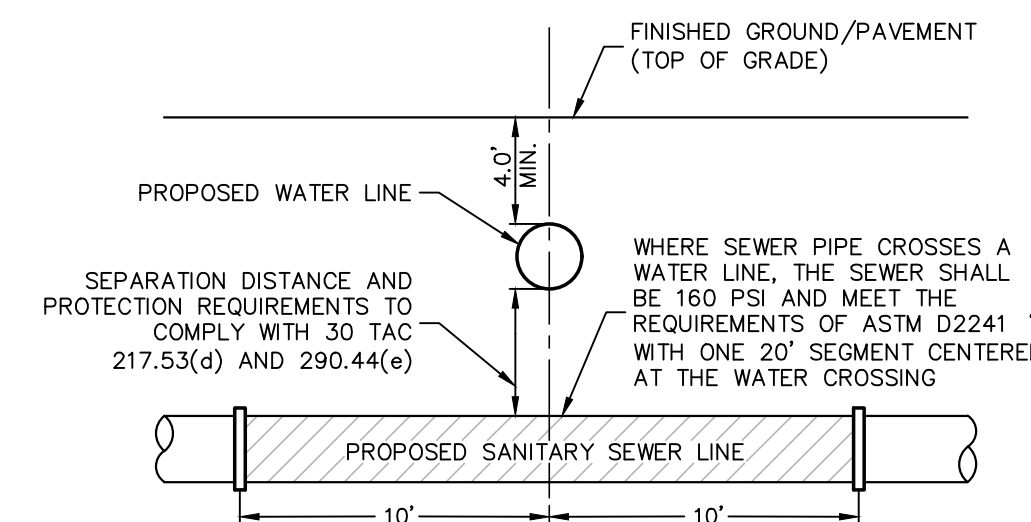
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JOINT RESTRAINT NOTE:

CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDING JOINT RESTRAINTS, HARNESSING 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 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 JOINTS. JOINTING MATERIALS SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYED OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL DATA AND/OR TESTS AND THE ANTICIPATED CONSTRUCTION WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT THE CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL CONSULT WITH THE CONSULTANT TO DEVELOP 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 CONSULTANT SHALL INDEPENDENTLY IMPLEMENT AND MAINTAIN THE CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND PROTECTION OF UTILITIES WORKING IN AND AROUND TRENCH EXCAVATION. PRESSURE ZONE 10.



PRESSURE REDUCING VALVE NOTE:

PRESSURE REDUCING VALVE TO BE INSTALLED ON CUSTOMER'S SIDE OF

FIRE FLOW NOTE:

IN AN EFFORT TO MEET TH

REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1000 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW DEMANDS FOR PERMITS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED THROUGH 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.

ROW PERMIT NOTE:

A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHTS-OF-WAY.


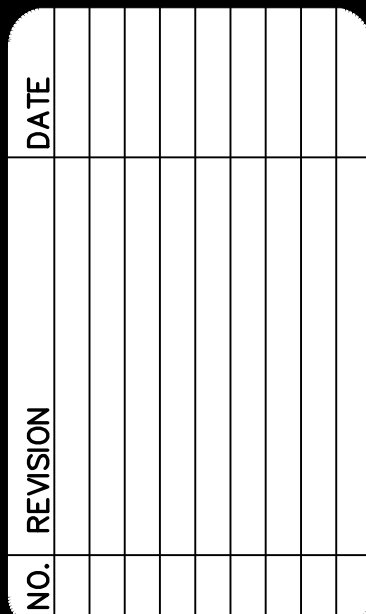
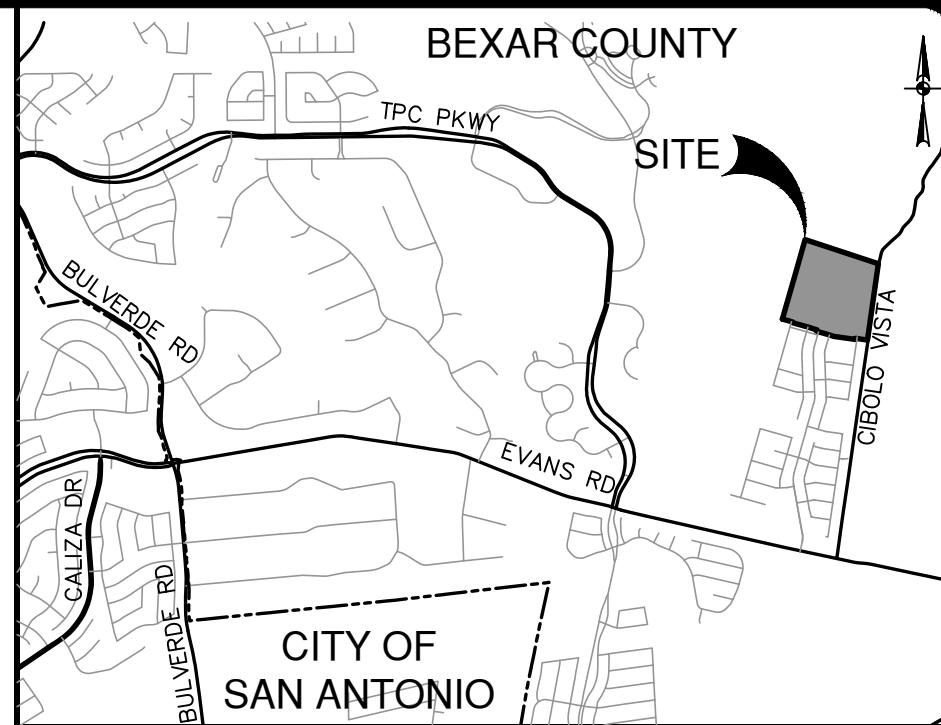
DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP
ADDRESS: 5419 NORTH LOOP 1604 EAST
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
PHONE# (210) 496-2668 EMAIL: LKOSTRADER@CORHORTHOM.COM
SAWS BLOCK MAP# 192-660 TOTAL EDP's 220 TOTAL ACREAGE 4.3
1,192 (1.1), 1,685 (1.2)
TOTAL LINEAR FOOTAGE OF PIPE: 5,164 (8") PLAT NO. 21-11800
NUMBER OF LOTS 220 SAWS JOB NO. 22-1104

**PAPE-DAWSON
ENGINEERS**
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
60000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
WWW.PAPE-DAWSON.COM

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

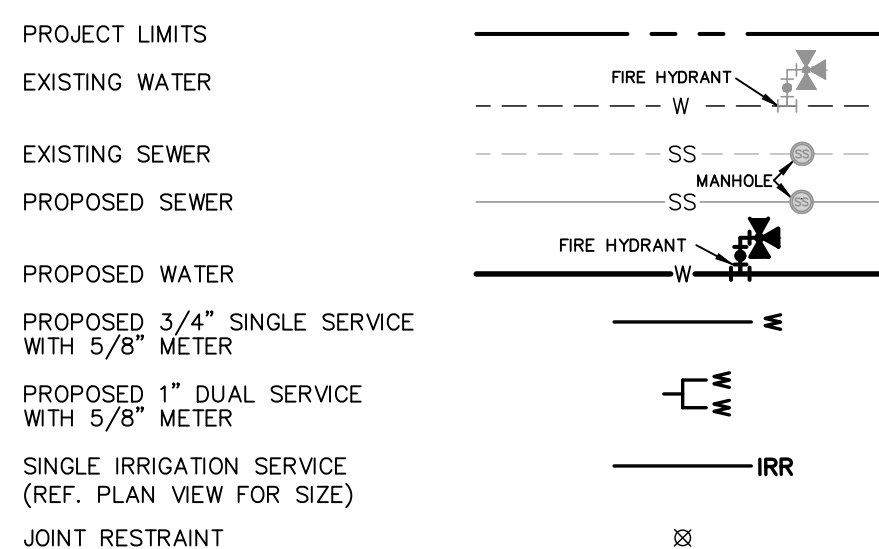
OVERALL WATER DISTRIBUTION PLAN
SHEET 2 OF 4

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE AUGUST 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C5.01



Shauna L. Weaver

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



- ① 10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- ② 1' VEHICULAR NON-ACCESS EASEMENT
- ③ VARIABLE WIDTH GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- ④ 15' DRAINAGE EASEMENT
- ⑤ 15' DRAINAGE MAINTENANCE ACCESS EASEMENT
- ⑥ VARIABLE WIDTH CLEAR VISION EASEMENT
- ⑦ 10' GAS, ELECTRIC, TELEPHONE, CABLE TV AND WATER EASEMENT LOT 79, BLOCK 6, LOTS 3 & 4, BLOCK 10, LOTS 2 & 3, BLOCK 12, LOTS 1 & 2, BLOCK 13, LOTS 51, 52, 54 & 55, BLOCK 14, LOTS 6 & 7, BLOCK 16.
- ⑧ REMAINING PORTION OF VARIABLE WIDTH DRAINAGE EASEMENT

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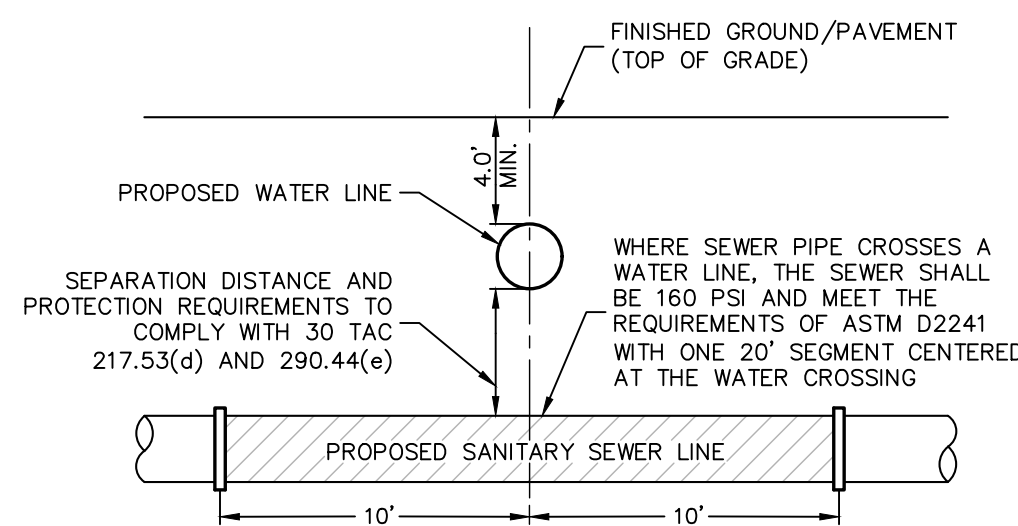
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEES OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL DATA AND FIELD INVESTIGATION DATA AND PREPARE A WRITTEN REPORT ON THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL CONSULT WITH THE TRENCH EXCAVATION SAFETY AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATION. CONTRACTOR SHALL CONSULT WITH THE TRENCH EXCAVATION SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE OF A TRENCH EXCAVATION. CONTRACTOR SHALL ADVISE ALL INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

PRESSURE ZONE 10

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP
ADDRESS: 5419 NORTH LOOP 1604 EAST
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
PHONE# (210) 498-2668 EMAIL: UKOSTRADER@DORTON.COM
SAWS BLOCK MAP# 192-660TOTAL EDU.'S 219 TOTAL ACREAGE 43.14
1.192 (61') 1.885 (12')
TOTAL LINEAR FOOTAGE OF PIPE: 5,164 (8") PLAT NO. 21-11800179
NUMBER OF LOTS 219 SAWS JOB NO. 22-1104

OVERALL WATER DISTRIBUTION PLAN
SHEET 4 OF 4

PLAT NO. 21-11800179
JOB NO. 11500-06
DATE JUNE 2022
DESIGNER CK
CHECKED CK DRAWN JQ
SHEET C5.03



NOT-TO-SCALE

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SAWS CONSTRUCTION NOTES
 (LAST REVISED JANUARY 2022)

SAWS GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - A.CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM," TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER," TAC TITLE 30 PART 1 CHAPTER 290.
 - B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
 - C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
 - D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
 - E.CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
 - THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
 - THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
 - THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
 - LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
 - THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES. REQUESTING MARKERS LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
 - SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES
 - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
 - COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480
 - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
 - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
 - ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
 - THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
 - THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-FOOT FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
 - HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
 - A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

SAWS WATER NOTES

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS. THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
 - FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS- CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSP)
- SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL VALVES SHALL READ "OPEN RIGHT".
- PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 1073 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 1073 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF *PRV IS/ARE REQUIRED FOR SUCH LOT(S). ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. *NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
- PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- BACKFLOW PREVENTION DEVICES:
 - ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
 - ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LID LABELED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.

PROJECT WATER NOTES

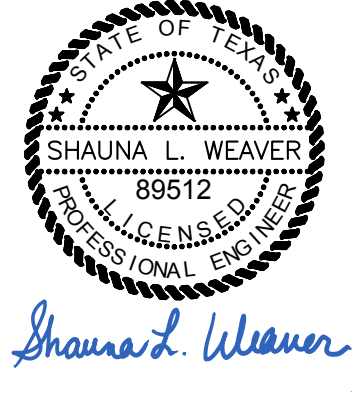
- MACHINE CHLORINATION BY THE S.A.W.S.
- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, AS PROVIDED FOR IN THE SPECIAL CONDITIONS.
- THE WATER LINES WILL BE SET FROM THE STREET HUBS BEFORE THIS CONTRACT BEGINS. STREET CUT SHEETS WILL BE SUPPLIED TO THE CONTRACTOR. THERE SHOULD BE NO ADDITIONAL STAKES REQUIRED, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE SITE AND VERIFY THAT ALL STAKES REQUIRED FOR HIS WORK ARE IN PLACE AT THE TIME THE CONSTRUCTION BEGINS. IF ANY STAKES ARE MISSING THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY. AFTER CONSTRUCTION BEGINS, ALL CONSTRUCTION STAKES, MARKS, ETC., SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR, AND IN CASE OF DESTRUCTION OR REMOVAL BY THE CONTRACTOR, HIS EMPLOYEE, OR ANY OTHER MEANS, SUCH STAKES, MARKS, ETC., SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE FINAL MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.
- THE LOT CORNERS WILL BE SET BY THE ENGINEER FOR INSTALLATION OF ALL WATER SERVICES. THESE LOT CORNERS SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR SO THE METER BOXES CAN BE SET IN PHASE II. ANY LOT CORNER DESTROYED OR REMOVED BY THE CONTRACTOR, HIS EMPLOYEES, OR BY ANY OTHER MEANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- STREETS WILL HAVE BEEN EXCAVATED DOWN TO SUBGRADE AND THE PARKWAY WILL BE CUT DOWN TO TOP OF CURB BY THE STREET CONTRACTOR, PRIOR TO CONSTRUCTION OF THE WATER MAINS. IT WILL BE THE UTILITY CONTRACTOR'S RESPONSIBILITY TO PROVIDE A PAD FOR HIS EQUIPMENT.
- WATER METER BOXES IF APPLICABLE SHALL BE INSTALLED NINE FEET FROM FACE OF CURB TO CENTER OF THE METER BOX.
- ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED AND THE S.A.W.S. RELEASES THE MAIN FOR TIE-IN AND USE.
- UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE FIRE HYDRANT, 6-INCH GATE VALVE AND 6-INCH VALVE BOX COMPLETE, ANCHOR BEND, AND ALL 6-INCH DI PIPE REQUIRED (DI PIPE REQUIRED SHALL INCLUDE ALL PIPE FROM THE TEE ON THE MAIN LINE TO THE FIRE HYDRANT).
- WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS" (1988 OR ANY REVISIONS THERETO).
- A CLEAR SPACE SHALL BE PROVIDED AROUND ALL FIRE HYDRANTS. THIS AREA SHOULD HAVE A MINIMUM DIAMETER OF 3.0' AND BE CLEAN OF VERTICAL OBSTRUCTIONS, VALVES, AND METER BOXES.
- SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
- UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" METER.

PRESSURE ZONE 10

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, LP			
ADDRESS: 5419 NORTH LOOP 1604 EAST			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78247	
PHONE# (210) 496-2668	EMAIL: UKOSTRADER@HORTON.COM		
SAWS BLOCK MAP# 192-660 TOTAL EDU'S 219 TOTAL ACREAGE 43.14			
TOTAL LINEAR FOOTAGE OF PIPE: 5,164 (8')		PLAT NO. 21-11800179	
NUMBER OF LOTS 219	SAWS JOB NO. 22-1104		

NO.	REVISION	DATE

6/24/22

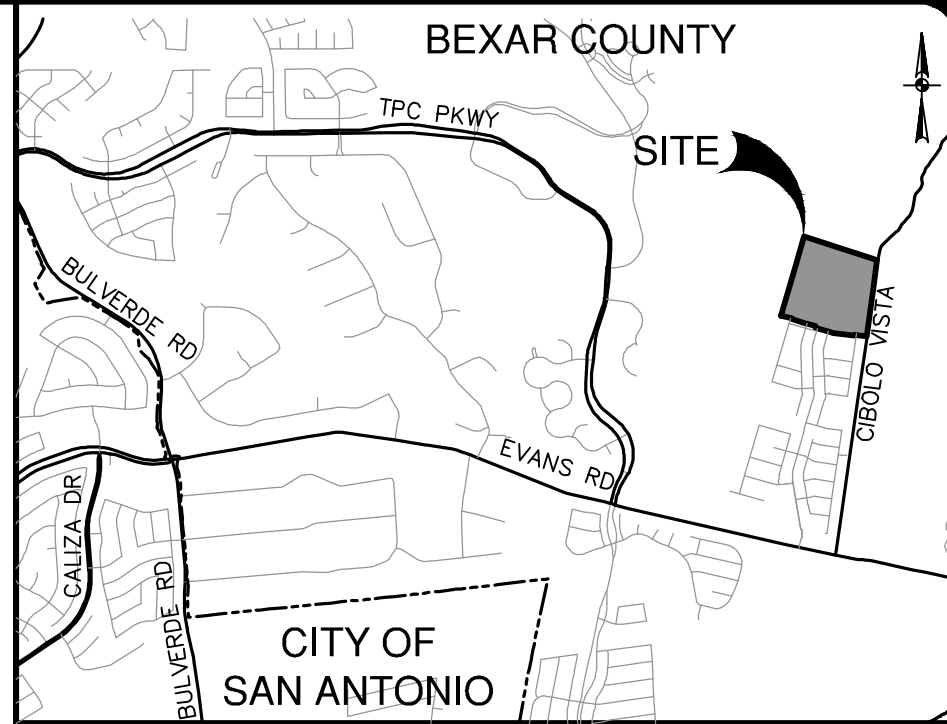


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 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
 TEXAS FIRM REGISTRATION #470 | TEPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
 SAN ANTONIO, TEXAS

OVERALL WATER DISTRIBUTION NOTES

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	JUNE 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JQ
SHEET	C5.10



UTILITY LEGEND

PROJECT LIMITS	---
EXISTING WATER	---
EXISTING SEWER	---
PROPOSED SEWER	---
PROPOSED WATER	---
PROPOSED WYE & LATERAL	---
SINGLE WATER SERVICE	---
DUAL WATER SERVICE	---
STREET LIGHTS	---
GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT	---
WELL	---

KEY NOTES:

- 10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- 1' VEHICULAR NON-ACCESS EASEMENT
- VARIABLE WIDTH GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- 15' DRAINAGE EASEMENT
- 15' DRAINAGE MAINTENANCE ACCESS EASEMENT
- VARIABLE WIDTH CLEAR VISION EASEMENT
- 10' GAS, ELECTRIC, TELEPHONE, CABLE TV AND WATER EASEMENT LOT 19, BLOCK 6, LOTS 3 & 4, BLOCK 10, LOTS 2 & 3, BLOCK 12, LOTS 1 & 2, BLOCK 13, LOTS 51, 52, 54 & 55, BLOCK 14, LOTS 6 & 7, BLOCK 16.
- REMAINING PORTION OF VARIABLE WIDTH DRAINAGE EASEMENT
- 5' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT

CONDUIT KEY NOTES:

- 2~6" SCH80, PVC CONDUIT (GAS, ELEC)
- 2~4" SCH40, PVC CONDUIT (TELE, CABLE)
- 3~6" SCH80, PVC CONDUIT (GAS, ELEC)
- 2~4" SCH40, PVC CONDUIT (TELE, CABLE)
- 2~4" SCH40, PVC CONDUIT (IRRIGATION, ELEC)

STREETLIGHT NOTE:

STREETLIGHTS TO BE INSTALLED IN ACCORDANCE WITH BEXAR COUNTY STREETLIGHT PLACEMENT GUIDELINES IN THE E.T.

CONDUIT NOTES:

- CONTRACTOR SHALL COORDINATE THE INSTALLATION AND INSPECTION OF ANY CPS CONDUITS DIRECTLY WITH CPS FOR ACCEPTABLE LOCATION, SPACING, AND DEPTH OF CONDUITS.

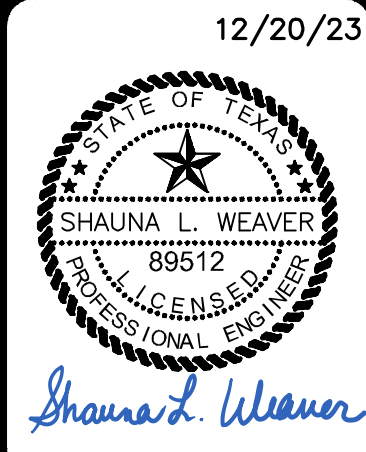
TRENCH EXCAVATION SAFETY PROTECTION:

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

CAUTION!!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING 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.

NO.	REVISION	DATE
1	REVISED LOTS, SERVICES & ADDED CONDUIT	8/30/22
2	ADDED IRRIGATION SLEEVES	12/14/23



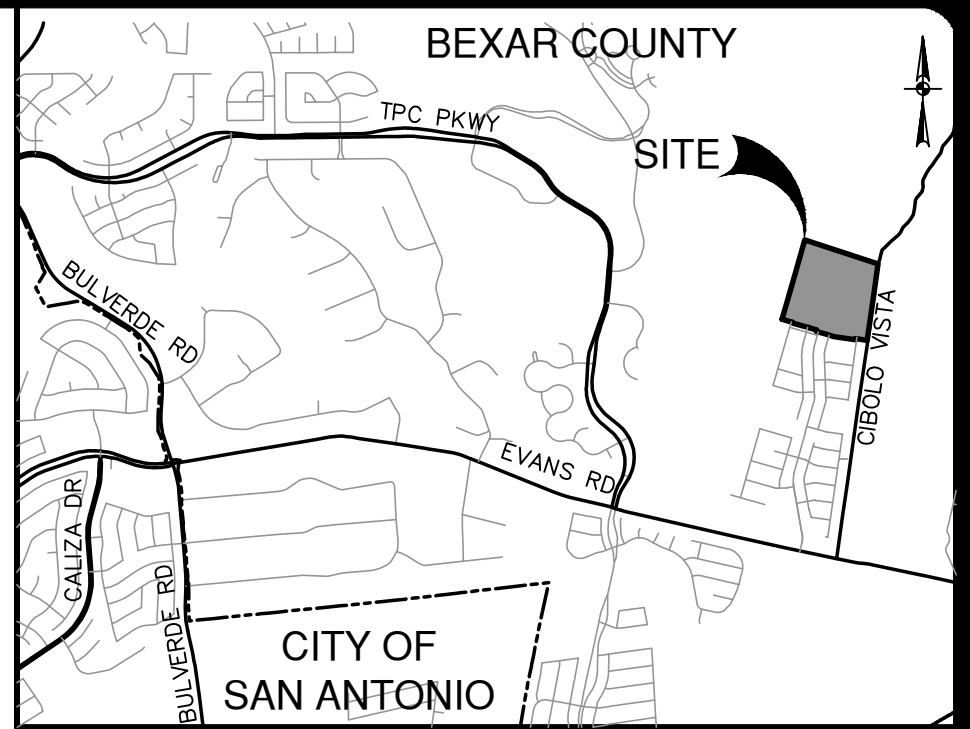
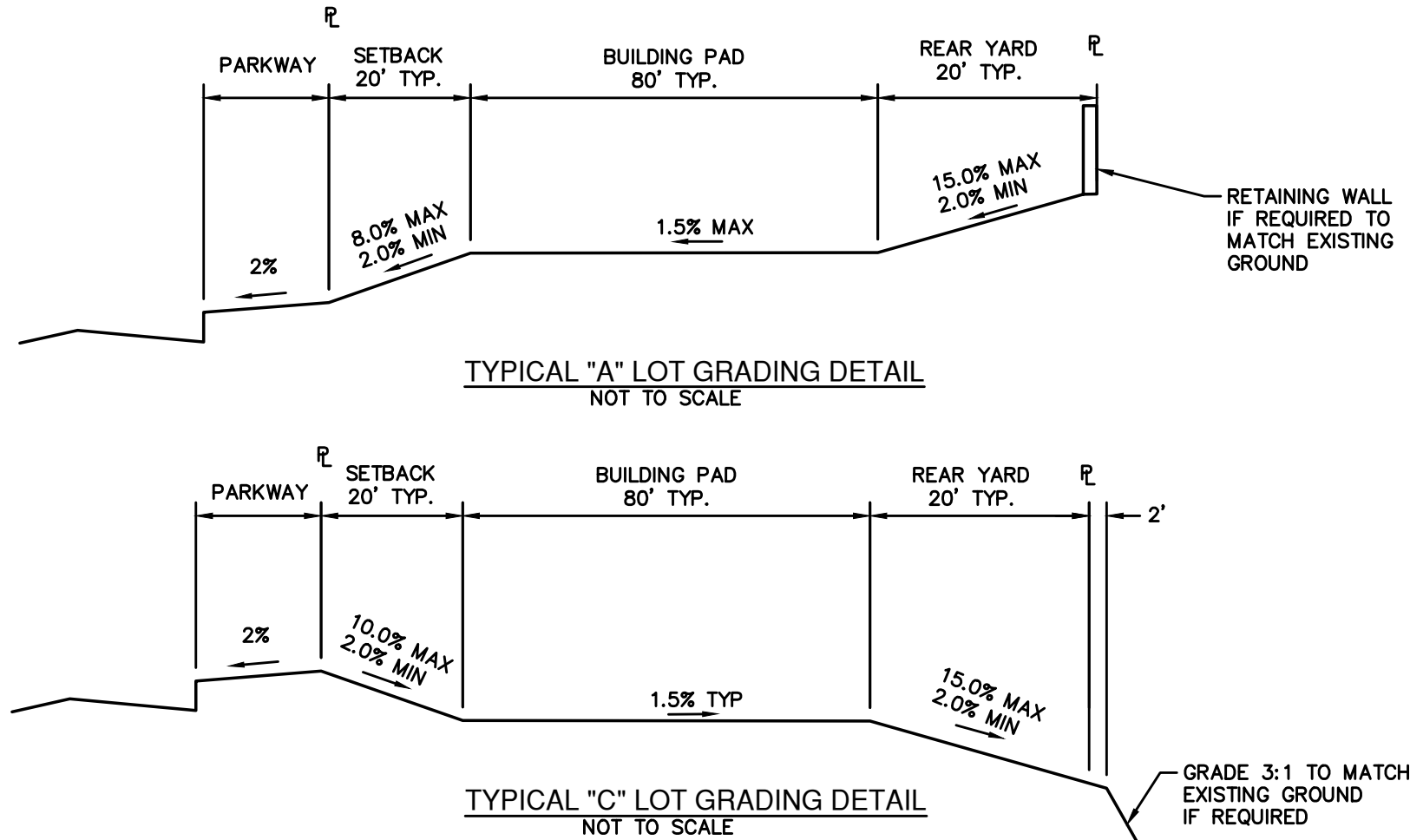
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2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
OVERALL UTILITY PLAN

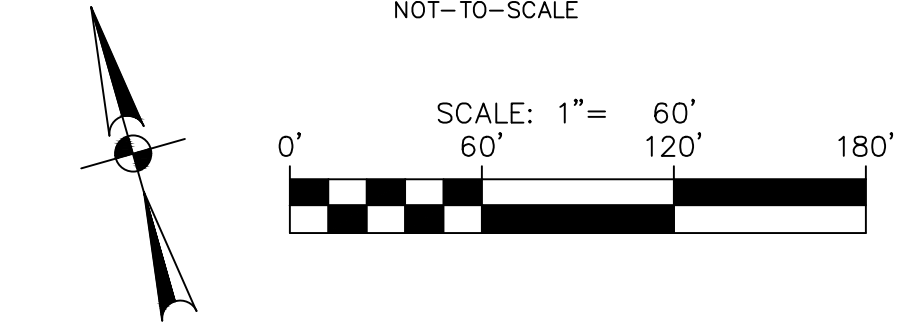
PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	DECEMBER 2023
DESIGNER	CK
CHECKED	DRAWN JQ
SHEET	C6.00

NOTES:

1. LOT GRADING BASED ON DRIVEWAYS BEING 20' BEHIND FRONT PROPERTY LINE EXCEPT FOR CUL-DE-SAC LOTS WHERE SETBACK MAY BE DECREASED TO 10'.
2. DRIVEWAYS MAY BE LOCATED ON EITHER SIDE OF THE LOT UNLESS OTHERWISE SHOWN.
3. TYPICAL PAD SIZES ARE NOTED ON PLAN.
4. REFERENCE GRADING NOTES AND GEOTECHNICAL ENGINEERING SPECIFICATIONS PROVIDED BY THE OWNER.
5. LOT GRADING PATTERNS (A, B, OR C) MUST BE FOLLOWED.
6. ALL LOTS SHALL BE GRADED SO THAT NO DRAINAGE SHALL BE ALLOWED TO FLOW ONTO ADJACENT SIDE LOTS UNLESS SPECIFICALLY NOTED.
7. BUILDER TO VERIFY INVERTS OF ALL SANITARY SEWER LATERALS WHEN ESTABLISHING THE APPROPRIATE FINISHED FLOOR ELEVATIONS IN ORDER TO ASSURE ADEQUATE DRAINAGE OF HOUSE LATERALS.
8. BUILDER TO REFERENCE MINIMUM FINISHED FLOOR ELEVATION ESTABLISHED BY FLOODPLAIN AS NOTED ON SUBDIVISION PLAT.
9. THIS GRADING PLAN IS INTENDED FOR MASS GRADING BY THE SITEWORK CONTRACTOR. BUILDER TO FINE GRADE LOT AS REQUIRED FOR POSITIVE DRAINAGE AROUND SLAB.
10. MINIMUM GRADE ON ANY LOT IS 1.5%.
11. REAR LOT ELEVATIONS SHOULD BE SET A MINIMUM OF 1.0' ABOVE THE UD FLOODPLAIN.



LOCATION MAP
NOT-TO-SCALE

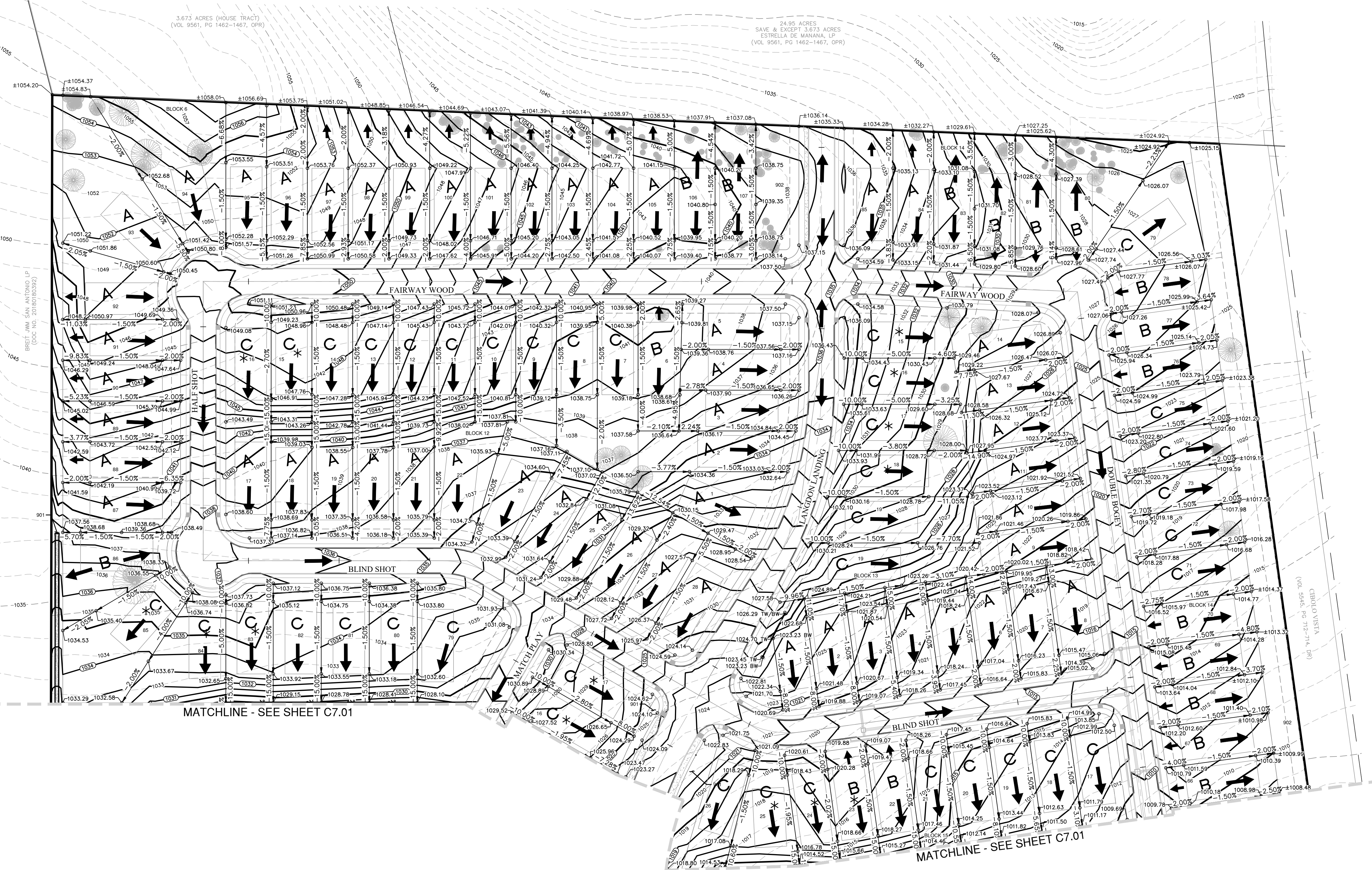


GRADING LEGEND

PROJECT LIMITS	---
100 YR FLOODPLAIN	---
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
FLOW ARROW (EXISTING)	---
FLOW ARROW (PROPOSED)	---
MINIMUM FINISHED FLOOR ELEVATION	FF = XXXX.XX
TREES TO REMAIN	---
RETAINING WALL (PLANS BY OTHERS)	---
SLAB EXPOSURE	*

GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITES INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION, ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SMPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPEARANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.



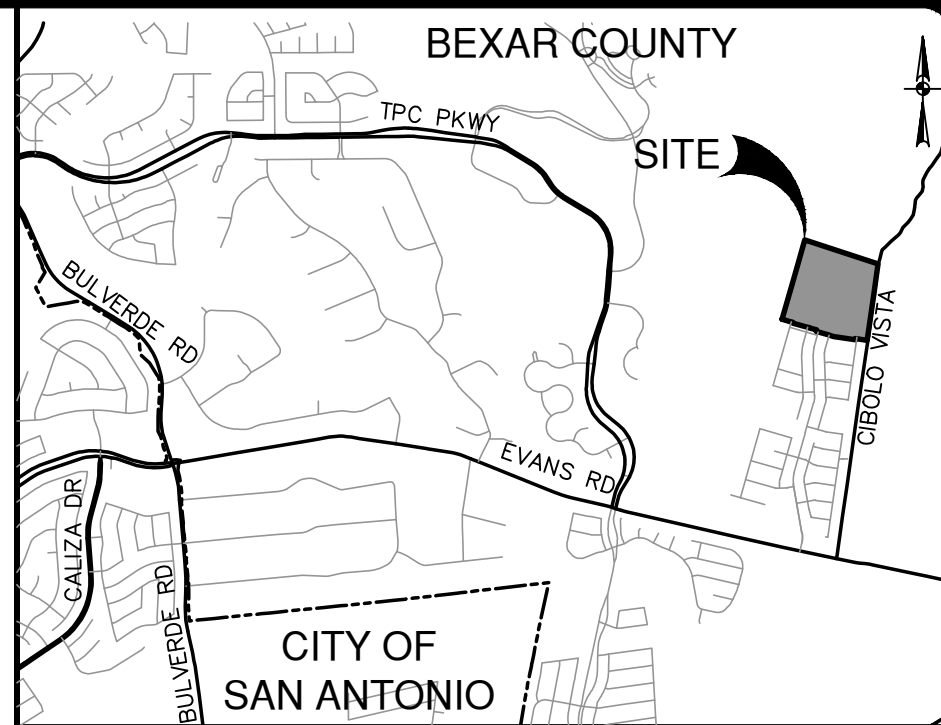
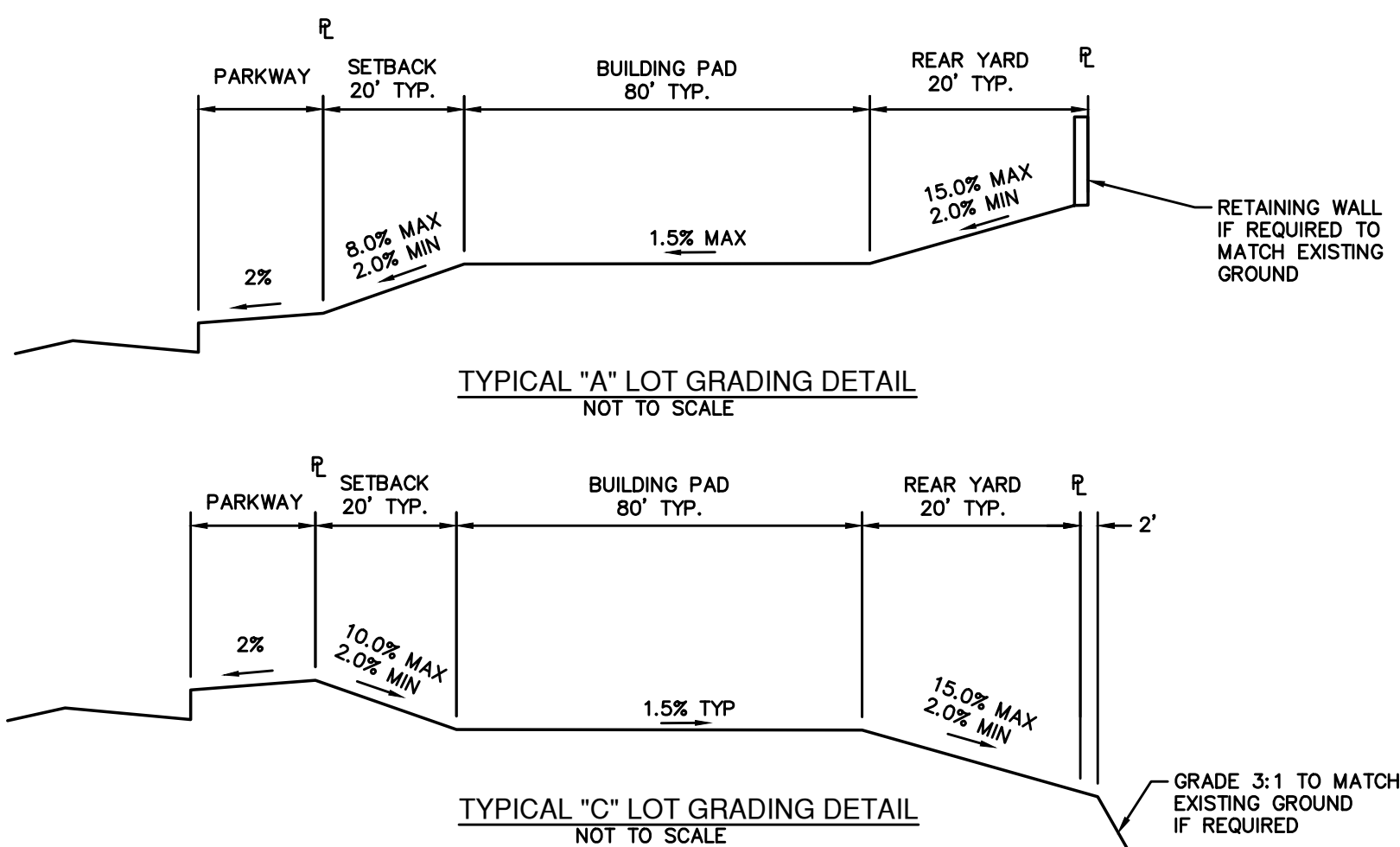
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TEPE FIRM REGISTRATION #270 | TEPUS FIRM REGISTRATION #1008890

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
OVERALL GRADING PLAN
SHEET 1 OF 2

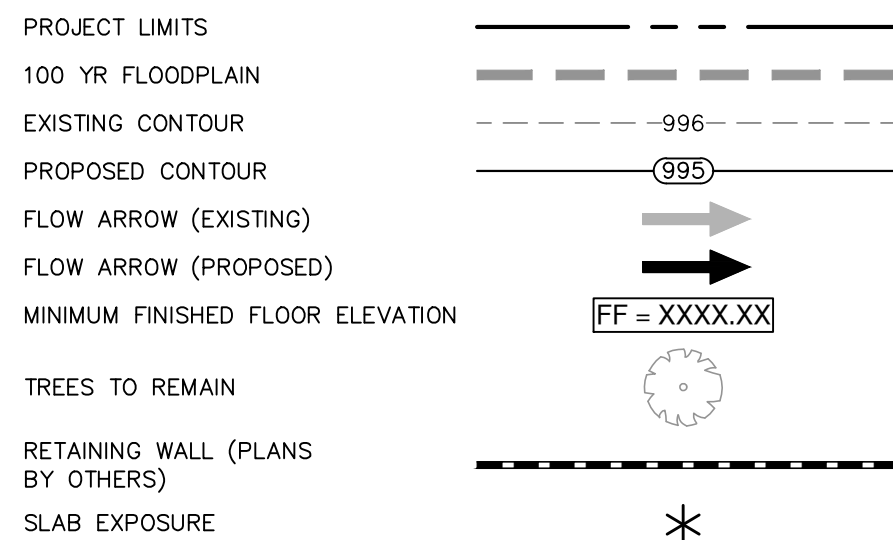
PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	AUGUST 2022
DRAWN	CK
CHECKED	DRAWN JO
SHEET	C7.00

NOTES:

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GRADING LEGEND



GRADING NOTES:

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13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.

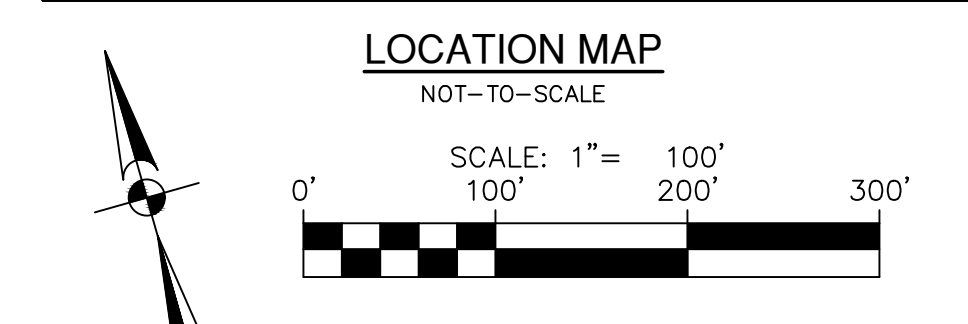
PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEPE FIRM REGISTRATION #470 | TEPUS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

OVERALL GRADING PLAN
SHEET 2 OF 2

PLAT NO. **21-11800179**
JOB NO. **11500-06**
DATE **AUGUST 2022**
DESIGNER **CK**
CHECKED **DRAWN JD**
SHEET **C7.01**

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PROJECT LIMITS

EXISTING CONTOUR

PROPOSED CONTOUR

FLOW ARROW (EXISTING)

FLOW ARROW (PROPOSED)

SILT FENCE

ROCK BERM

GRAVEL FILTER BAGS

GRATE INLET PROTECTION

SEDIMENT CONTROL ROLLS

LIMITS OF DISTURBED AREA

STABILIZED CONSTRUCTION ENTRANCE/EXIT
(FIELD LOCATE)


CONSTRUCTION EQUIPMENT, VEHICLE &
MATERIALS STORAGE AREA
(FIELD LOCATE)

TREES TO REMAIN
(REFERENCE APPROVED TREE PLAN)

WELL


ROW PERMIT NOTE:
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY A IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, OR UPRAMP/SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADE AREAS.
10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED DRAINAGE THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK REMAINS IN DRAINAGE FEATURES.
12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SLIT FENCING IN LIEU OF VEGETATED FILTER STRIP.
13. SHADED AREA  DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.
14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TYPICAL RIGHT-OF-WAY WITH TxDOT.
15. OPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

[illegible]

8/30/22



Shauna L. Weaver

PAPE-DAWSON
PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION 4470 | TUBPS FIRM REGISTRATION #10028800

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

PLAT NO. 21-11800179

JOB NO. 11500-06

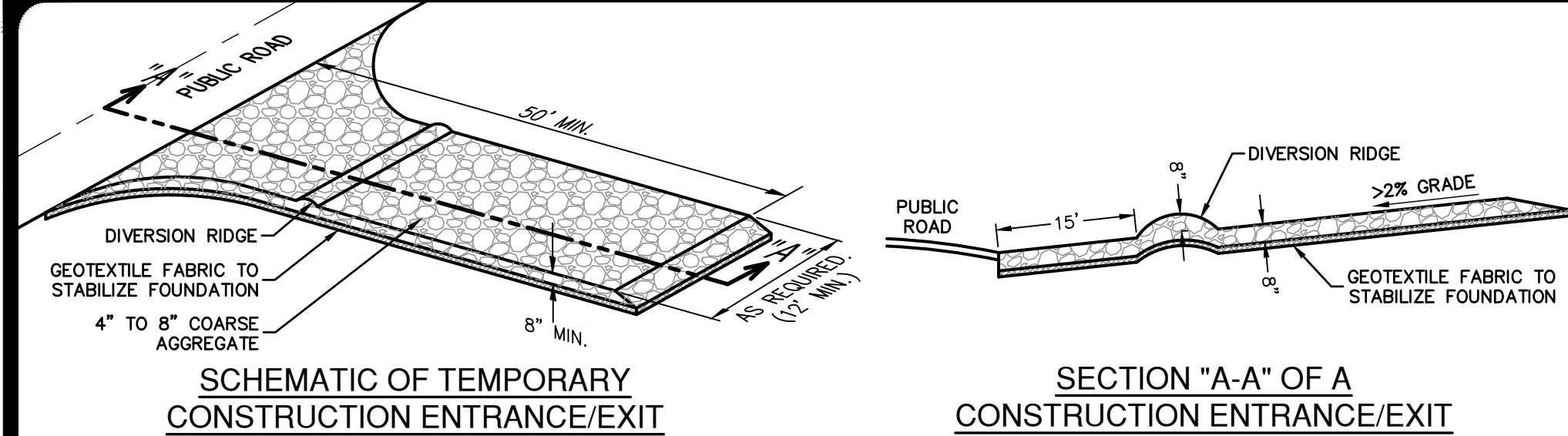
DATE AUGUST 2022

DESIGNER CK

CHECKED CK DRAWN JK

SHEET C8.00

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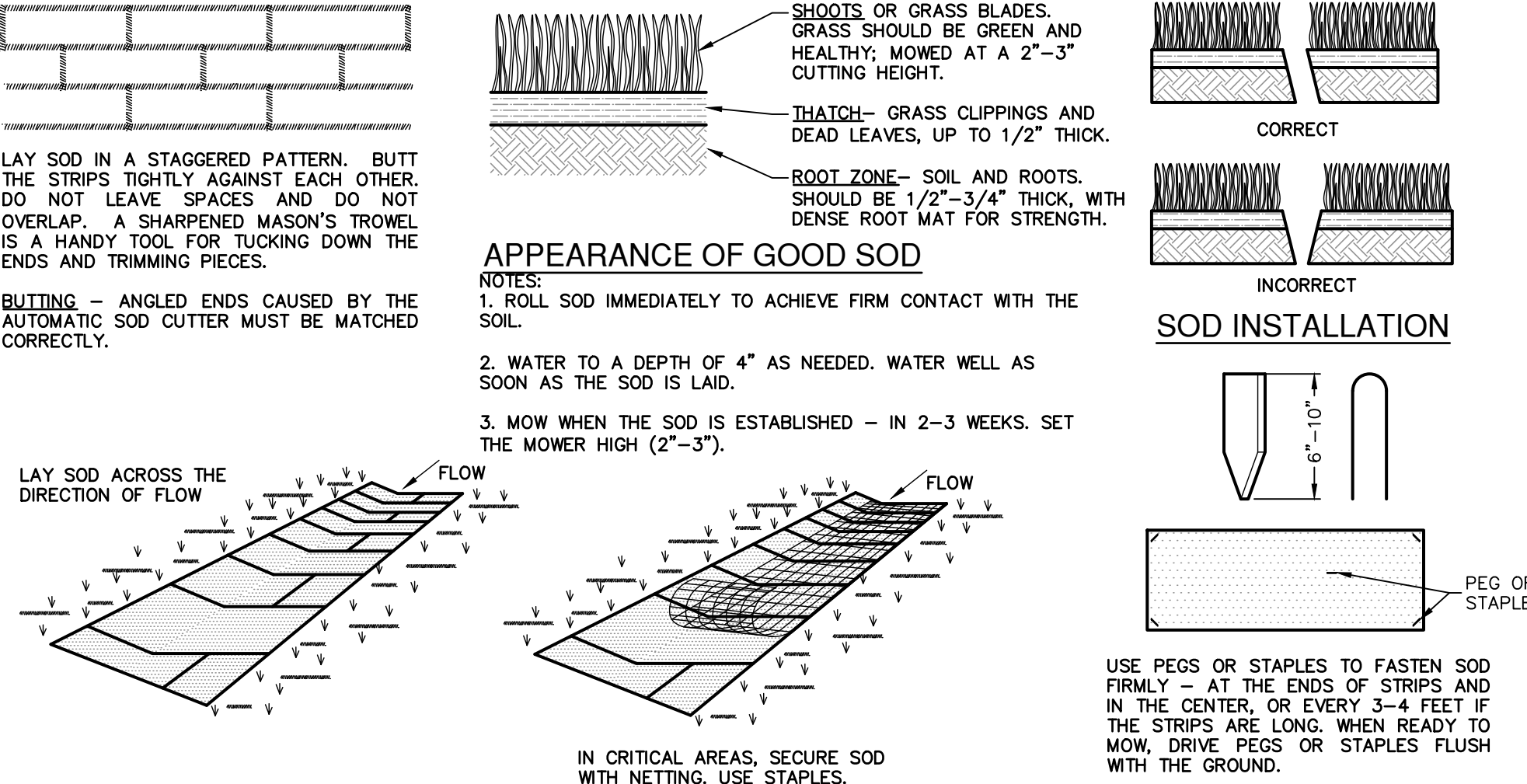


- MATERIALS**
1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
 2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
 3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
 4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

- INSTALLATION**
1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
 2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
 3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
 4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 10 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
 5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
 6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
 7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
 8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE



- MATERIALS**
1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
 2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.
 3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT, SIZE AND SHAPE WHEN SUBSEQUENT ROWS ARE LAYED. SOD SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).
 4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOD PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.
3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).
2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

COMMON TROUBLE POINTS

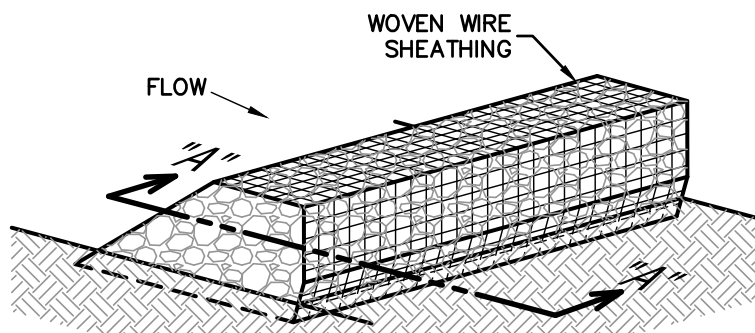
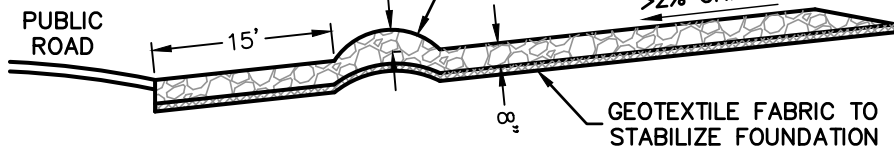
1. INADEQUATE RUNOFF CONTROL--SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC--EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.

5. UNSTABLE FOUNDATION -- USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT



ISOMETRIC PLAN VIEW

ROCK BERMS

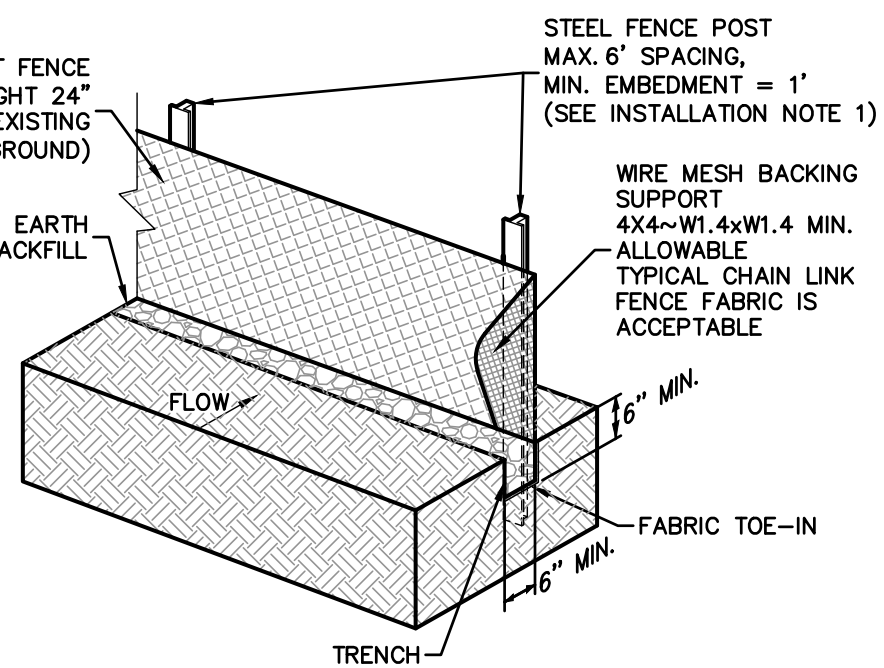
THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
3. REPAIR ANY LOOSE WIRE SHEATHING.
4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

ROCK BERM DETAIL

NOT-TO-SCALE



ISOMETRIC PLAN VIEW

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

SILT FENCE DETAIL

NOT-TO-SCALE

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

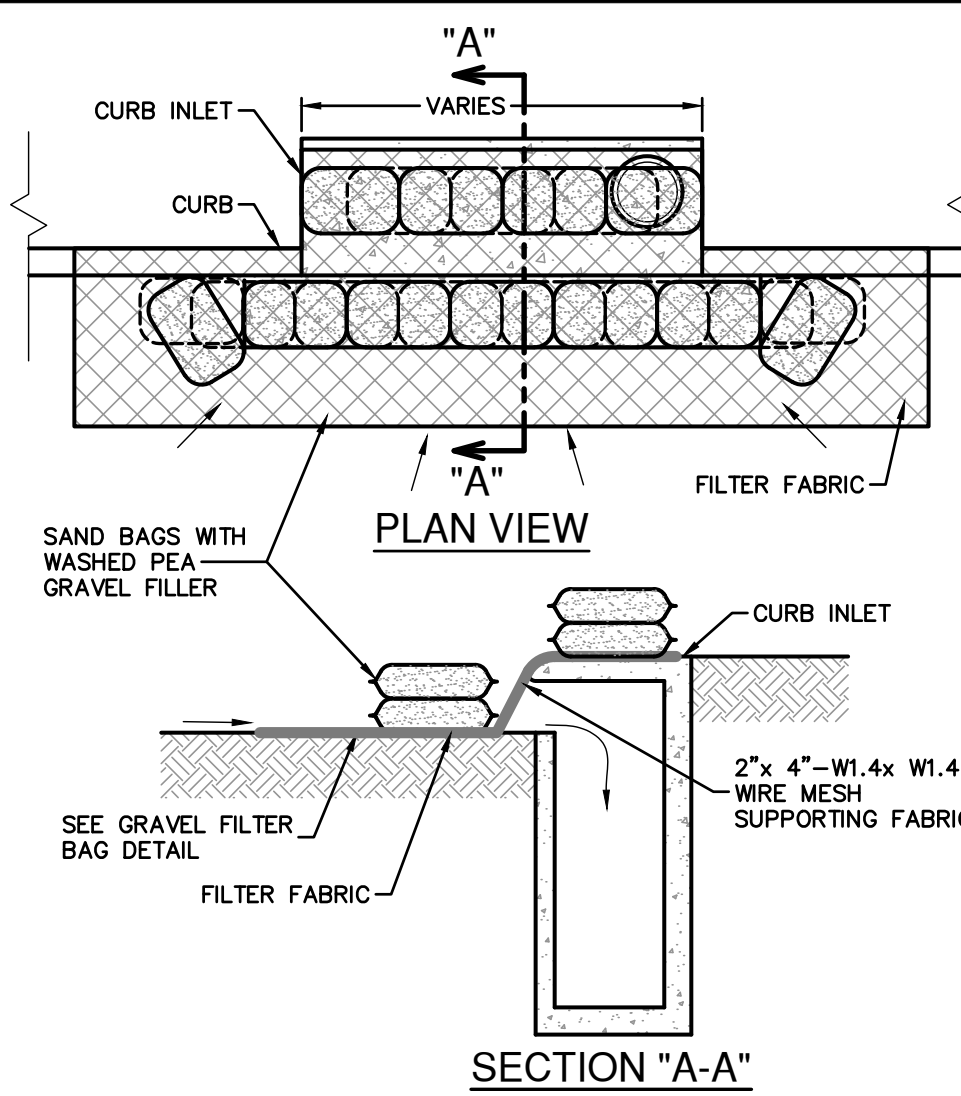
2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).
2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).



GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE CUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

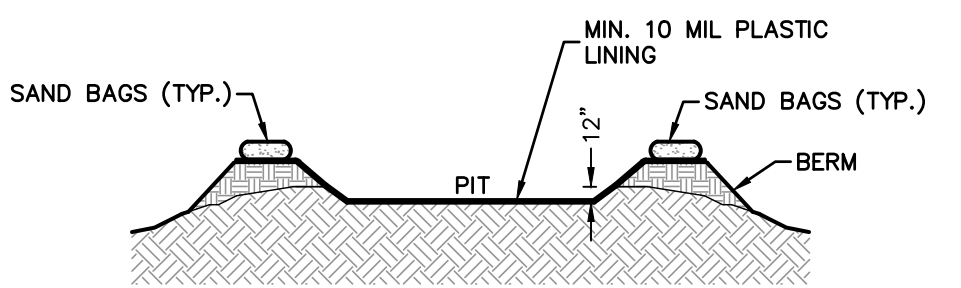
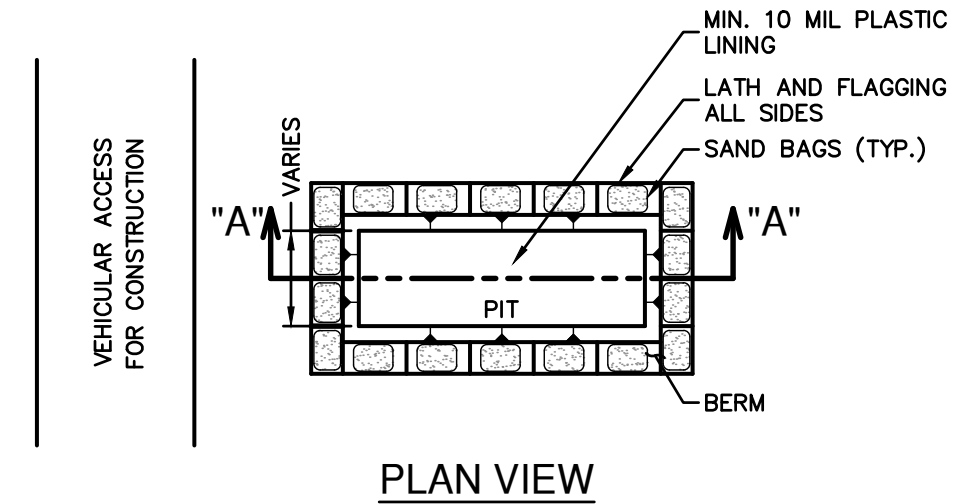
2. THE BAGS SHOULD BE TIGHTLY ABUTTED AROUND EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE



SECTION "A-A"

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

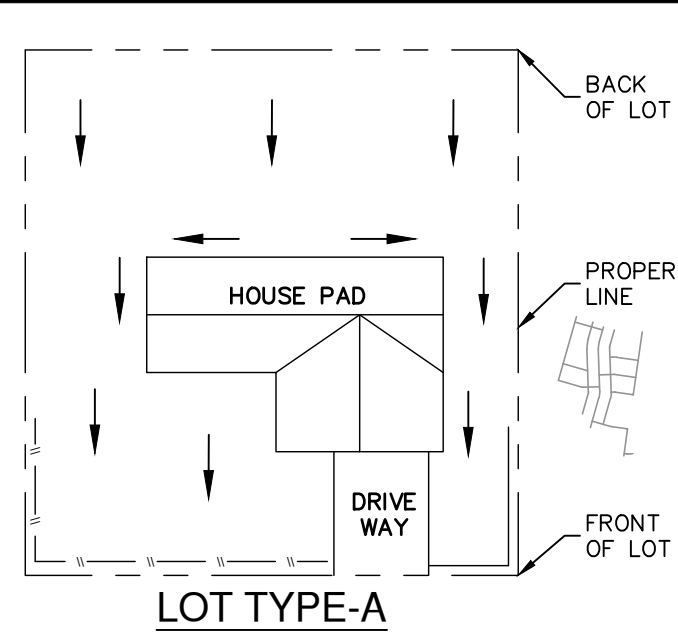
MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

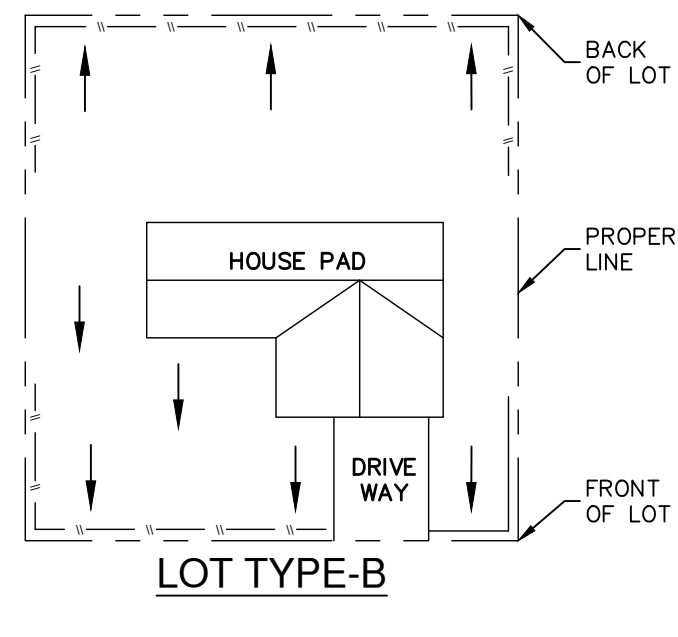
CONCRETE TRUCK WASHOUT

PIT DETAIL

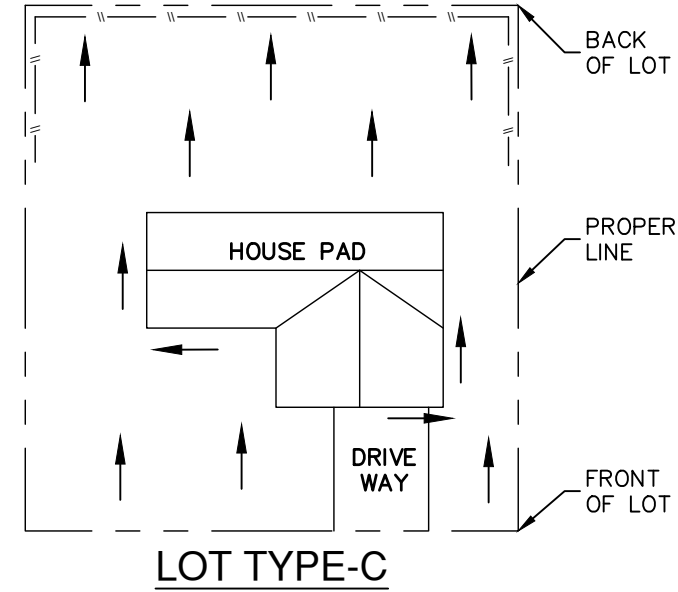
NOT-TO-SCALE



LOT TYPE-A



LOT TYPE-B



LOT TYPE-C

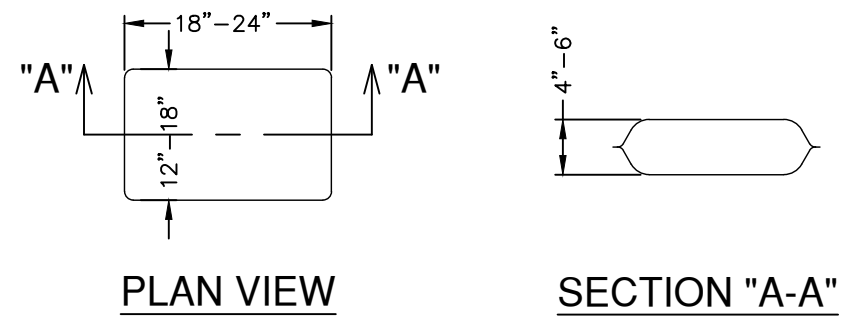
NOTE: SILT FENCE TO BE INSTALLED PER THESE DETAILS AND LOCATED ON THE DOWNDRAIN SIDE OF EACH LOT LINE OR LIMITS OF CLEARING AS GENERALLY SHOWN ON THE OVERALL SITE PLAN.

LEGEND

SILT FENCE
DRAINAGE FLOW

TYPICAL HOUSE LOT LAYOUTS

NOT-TO-SCALE



PLAN VIEW

SECTION "A-A"

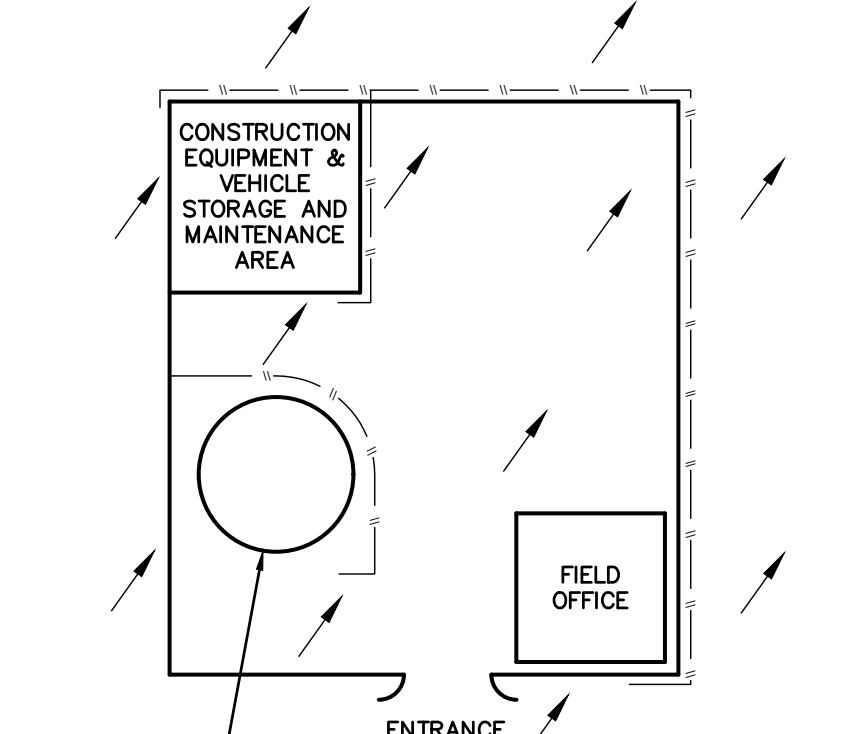
NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE



LEGEND

SILT FENCE
FLOW ARROWS

CONSTRUCTION STAGING AREA

NOT-TO-SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

DATE	
NO.	
REVISION	

4/26/22



PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TXPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #1008890

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS

STORM WATER POLLUTION PREVENTION PLAN DETAILS

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	APRIL 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JO
SHEET	C8.10

KEYED NOTES

EXISTING

- 1

BARBED WIRE FENCE TO REMAIN

2

OVERHEAD ELECTRIC LINE TO REMAIN

3

OVERHEAD ELECTRIC POLE TO REMAIN

4

BOX CULVERT TO REMAIN

5

GRATE INLET TO REMAIN

6

BUILDING TO REMAIN

7

WELL TO REMAIN

8

ASPHALT PAVEMENT TO BE REMOVED

9

CONCRETE PAVEMENT TO BE REMOVED

10

BARBED WIRE FENCE TO BE REMOVED
- 1

OVERHEAD ELECTRIC LINE TO BE REMOVED

2

BUILDING TO BE REMOVED

3

12" GATE TO BE REMOVED

4

WALL TO BE REMOVED

5

EARTHEN CHANNEL TO BE REMOVED

6

GRAVEL ROAD TO BE REMOVED

7

OVERHEAD ELECTRIC POLE TO BE REMOVED

8

SEPTIC TANK TO BE REMOVED

9

WATER VALVE TO BE REMOVED

10

CONCRETE RIP-RAP TO BE REMOVED
- 1

20"x50" SANITARY SEWER, WATER, ACCESS AND DRAINAGE EASEMENT. ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY. (LAND-PLAT-21-11800070)

2

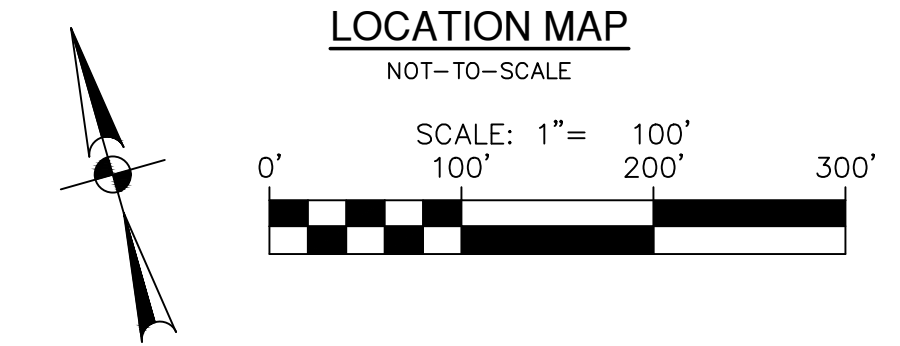
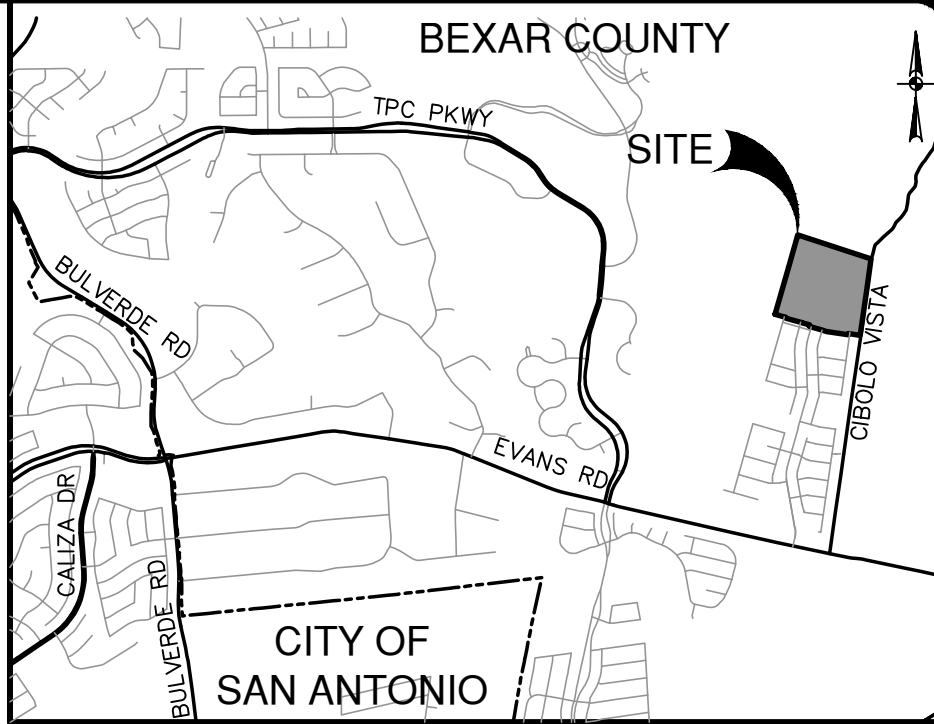
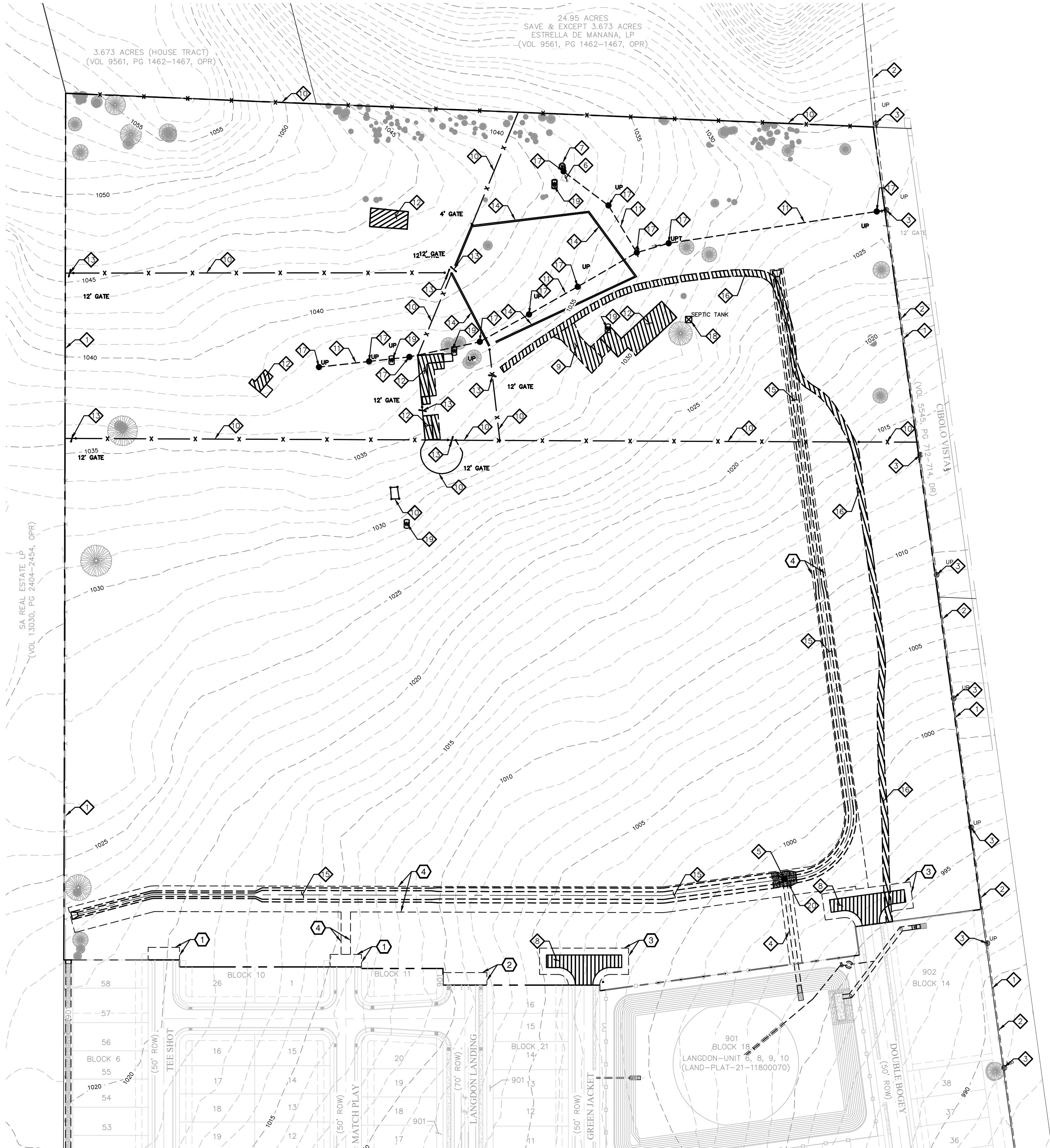
20"x70" SANITARY SEWER, WATER, ACCESS AND DRAINAGE EASEMENT. ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY. (LAND-PLAT-21-11800070)

3

VARIABLE WIDTH SANITARY SEWER, WATER, ACCESS, DRAINAGE, AND TURNAROUND EASEMENT. ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY. (LAND-PLAT-21-11800070)

4

VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT. ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY. (LAND-PLAT-21-11800070)



EXISTING CONDITIONS & DEMOLITION LEGEND

- PROJECT LIMITS

EXISTING CONTOUR

EXISTING WATER

EXISTING SEWER

EXISTING STORM DRAIN

EXISTING OVERHEAD ELECTRIC

EXISTING SIDEWALKS, PAVEMENT, STRUCTURES, CURB, ETC., TO BE DEMOLISHED PRIOR TO CONSTRUCTION

TREES TO REMAIN (REF. APPROVED TREE PLAN)
- 1020

W

SS

MANHOLE

OHE

DATE	
NO.	REVISION



PAPE-DAWSON

ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TXPE FIRM REGISTRATION #4270 | TBPUS FIRM REGISTRATION #10028890

LANGDON-UNIT 11, 12, 13
SAN ANTONIO, TEXAS
EXISTING CONDITIONS & DEMOLITION PLAN

PLAT NO.	21-11800179
JOB NO.	11500-06
DATE	MAY 2022
DESIGNER	CK
CHECKED	CK
DRAWN	JD
SHEET	C9.00