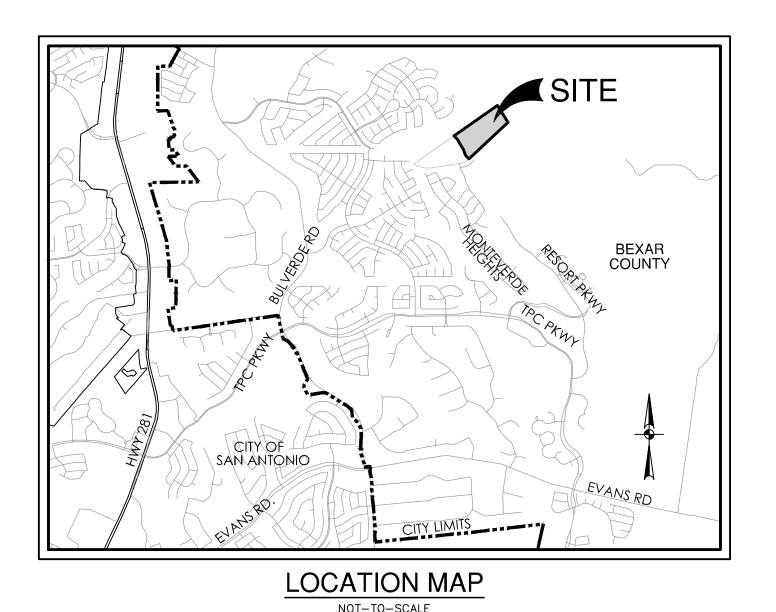
CIVIL CONSTRUCTION PLANS

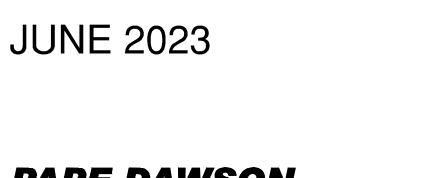
Shoot List Table

Sheet List Table	
Sheet Title	Sheet Number
COVER SHEET	C0.00
OVERALL DRAINAGE PLAN (ULTIMATE DEVELOPMENT)	C1.00
DRAIN "A1" & DRAIN "A2" PLAN & PROFILE	
DRAIN "A1" STA. 1+60.00 TO END	C1.01
DRAIN "A2" STA. 1+02.55 TO END	04.00
DRAIN "B1" PLAN & PROFILE STA. 1+30.00 TO END	C1.02
DRAIN "C1" PLAN & PROFILE STA. 1+30.00 TO END	C1.03
DRAIN "C2" & DRAIN "C3" PLAN & PROFILE DRAIN "C2" STA. 1+02.50 TO END	C1.04
DRAIN 'C2' STA. 1+02.50 TO END DRAIN 'C3' STA. 1+02.50 TO END	O1.04
DRAIN "D1-A" & "D1-B" PLAN & PROFILE	
DRAIN "D1-A" STA. 1+52.25 TO 2+85.00	C1.05
DRAIN "D1-B" STA. 3+25.00 TO 5+14.01	
INTERCEPTOR DRAIN "E1" PLAN & PROFILE STA. 2+00.00 TO END	C1.06
DRAINAGE DETAILS	C1.07
DRAINAGE DETAILS	C1.08
DRAINAGE DETAILS	C1.09
RESORT PARKWAY PLAN & PROFILE STA. 1+32.24 TO END	C2.00
PALACIO VIEW PLAN & PROFILE STA. 1+43.80 TO END	C2.01
DAWN HILLS PLAN & PROFILE STA. 1+20.86 TO 8+50.00	C2.02
DAWN HILLS PLAN & PROFILE STA. 8+50.00 TO END	C2.03
BACKSWING PLAN & PROFILE STA. 1+14.12 TO END	C2.04
BLIND HOLE PLAN & PROFILE STA. 1+14.12 TO END	C2.05
HOLE HIGH PLAN & PROFILE STA. 1+54.27 TO END	C2.06
STREET DETAILS	C2.07
STREET DETAILS	C2.08
STREET DETAILS	C2.09
OVERALL SIGNAGE PLAN	C3.00



PREPARED FOR:

TF CIBOLO CANYONS, LP 6310 CAPITAL DRIVE, SUITE 130 LAKEWOOD RANCH, FLORIDA 34202



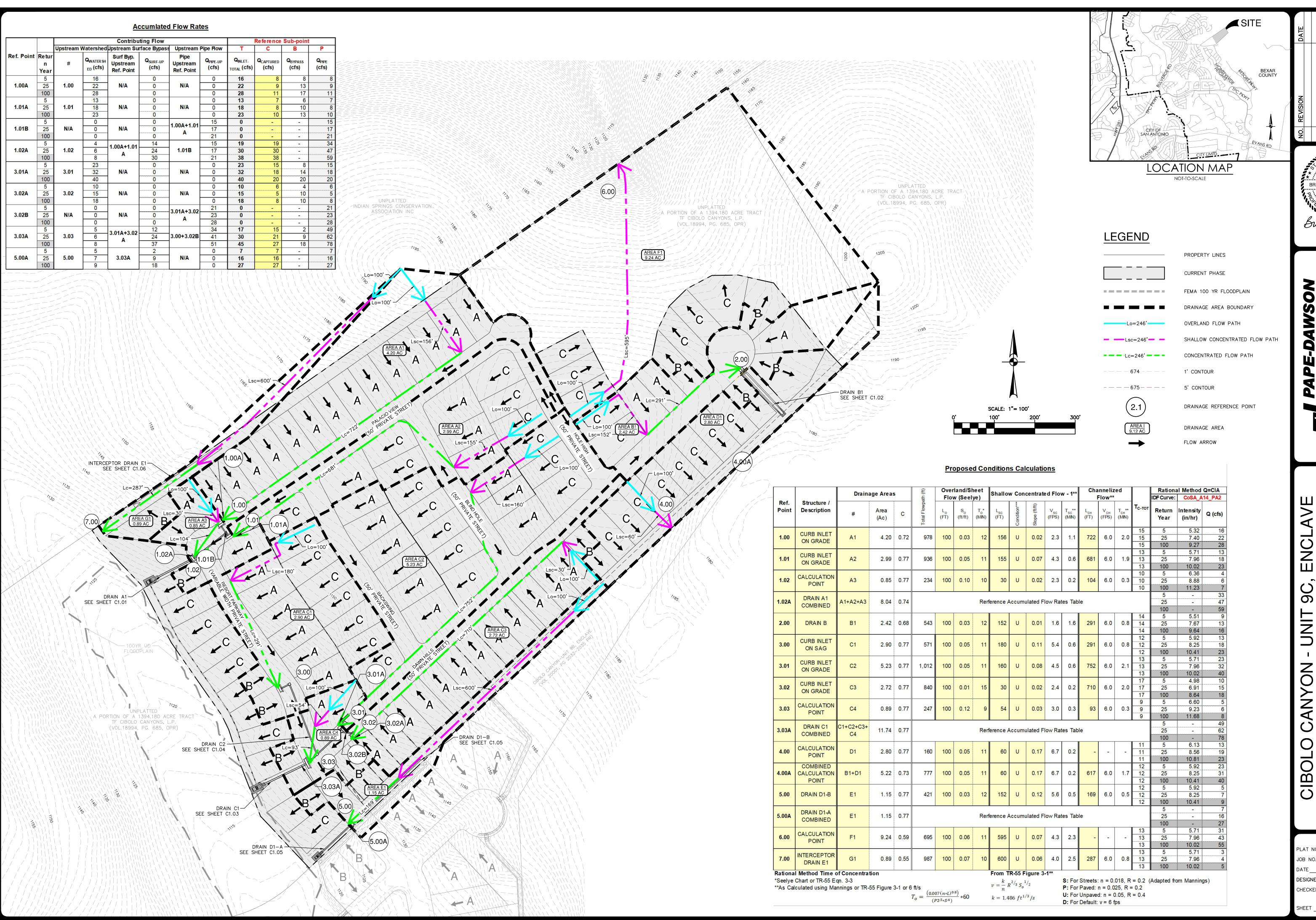


Sheet Title	Sheet Number
OVERALL SIGNAGE PLAN	C3.01
SIGNAGE DETAILS	C3.02
SIGNAGE DETAILS	C3.03
OVERALL SANITARY SEWER PLAN	C4.00
OVERALL SANITARY SEWER PLAN	C4.01
SANITARY SEWER LINE "A" PLAN & PROFILE STA. 1+00.00 TO 9+50.00	C4.02
SANITARY SEWER LINE "A" PLAN & PROFILE STA 9+50.00 TO 17+50.00	C4.03
SANITARY SEWER LINE "A" PLAN & PROFILE STA. 17+50.00 TO END	C4.04
SANITARY SEWER LINE "B" PLAN & PROFILE STA. 1+00.00 TO 6+50.00	C4.05
SANITARY SEWER LINE "B" PLAN & PROFILE STA. 6+50.00 TO END	C4.06
SANITARY SEWER LINE "C" PLAN & PROFILE STA. 1+00.00 TO END	C4.07
SANITARY SEWER LINE "D" PLAN & PROFILE STA. 1+00.00 TO END	C4.08
SANITARY SEWER DETAILS	C4.09
SANITARY SEWER NOTES	C4.10
OVERALL WATER DISTRIBUTION PLAN	C5.00
OVERALL WATER DISTRIBUTION PLAN	C5.01
WATER DISTRIBUTION DETAILS	C5.02
WATER DISTRIBUTION NOTES	C5.03
OVERALL UTILITY PLAN	C6.00
OVERALL UTILITY PLAN	C6.01
OVERALL GRADING PLAN	C7.00
OVERALL GRADING PLAN	C7.01
STORM WATER POLLUTION PREVENTION PLAN	C8.00
STORM WATER POLLUTION PREVENTION PLAN	C8.01
STORM WATER POLLUTION PREVENTION DETAILS	C8.02

Sheet List Table

WATER (SAWS PRESSURE ZONE 11A)

SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z

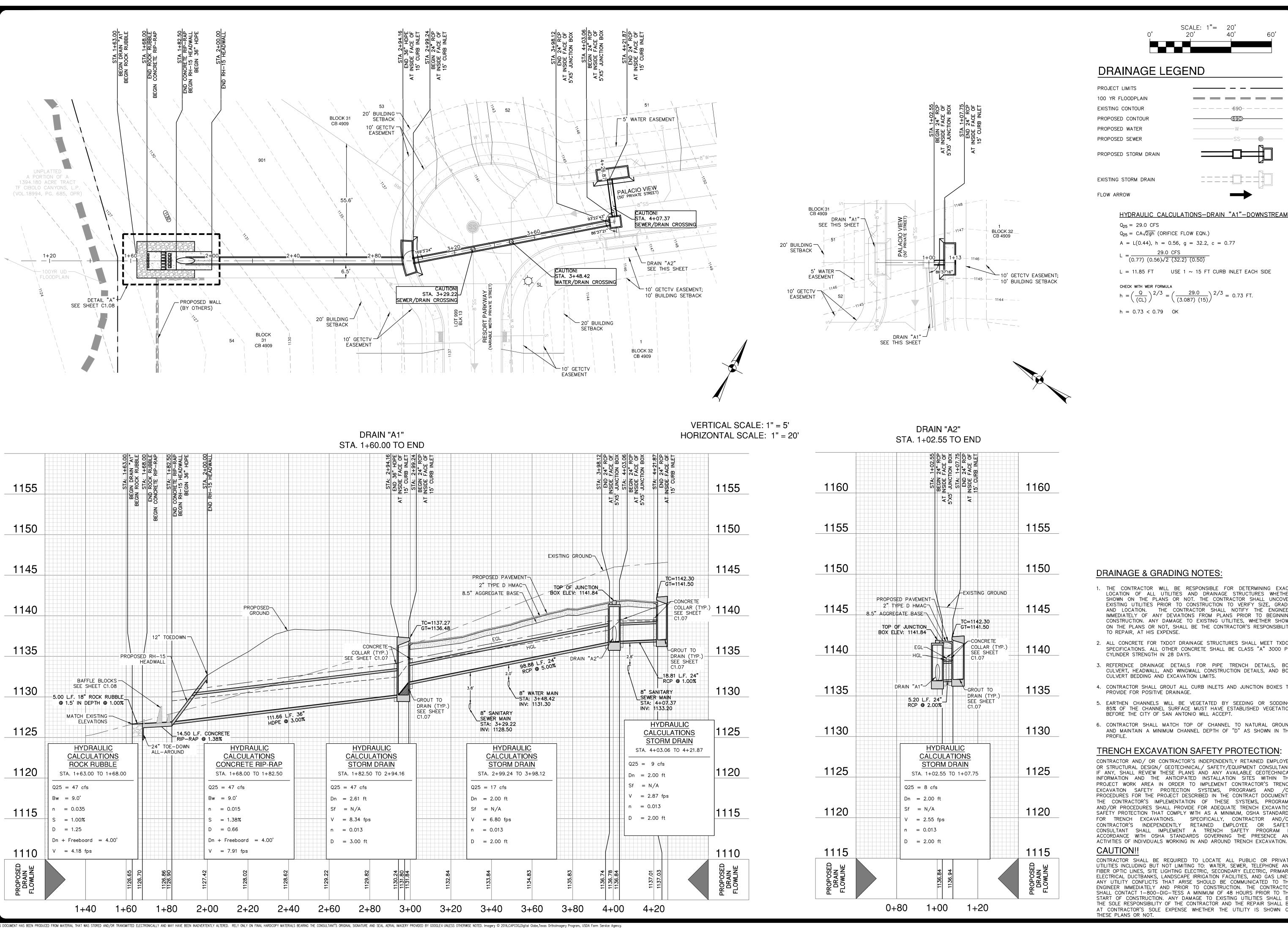


6/9/23

ENCL . 9C XAS CANYON - UNIT SAN ANTONIO, TEX

PLAT NO. **22-1180041** JOB NO. 12125-08

DATE JUNE 2023 DESIGNER CHECKED BS DRAWN FP





100 YR FLOODPLAIN EXISTING CONTOUR PROPOSED CONTOUR

PROPOSED WATER PROPOSED SEWER

EXISTING STORM DRAIN

HYDRAULIC CALCULATIONS-DRAIN "A1"-DOWNSTREAM

 $Q_{25} = 29.0 \text{ CFS}$

 $Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.) A = L(0.44), h = 0.56, g = 32.2, c = 0.77

 $L = \frac{29.0 \text{ CFS}}{(0.77) (0.56)\sqrt{2 (32.2) (0.50)}}$

L = 11.85 FT USE 1 ~ 15 FT CURB INLET EACH SIDE

CHECK WITH WEIR FORMULA $h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{29.0}{(3.087) (15)}\right)^{2/3} = 0.73 \text{ FT.}$

h = 0.73 < 0.79 OK

BRUNA F. SPENGLEF

PAPE-DAWSON ENGINEERS

- UNIO N "A2' IA. 1+6

DRAINAGE & GRADING NOTES:

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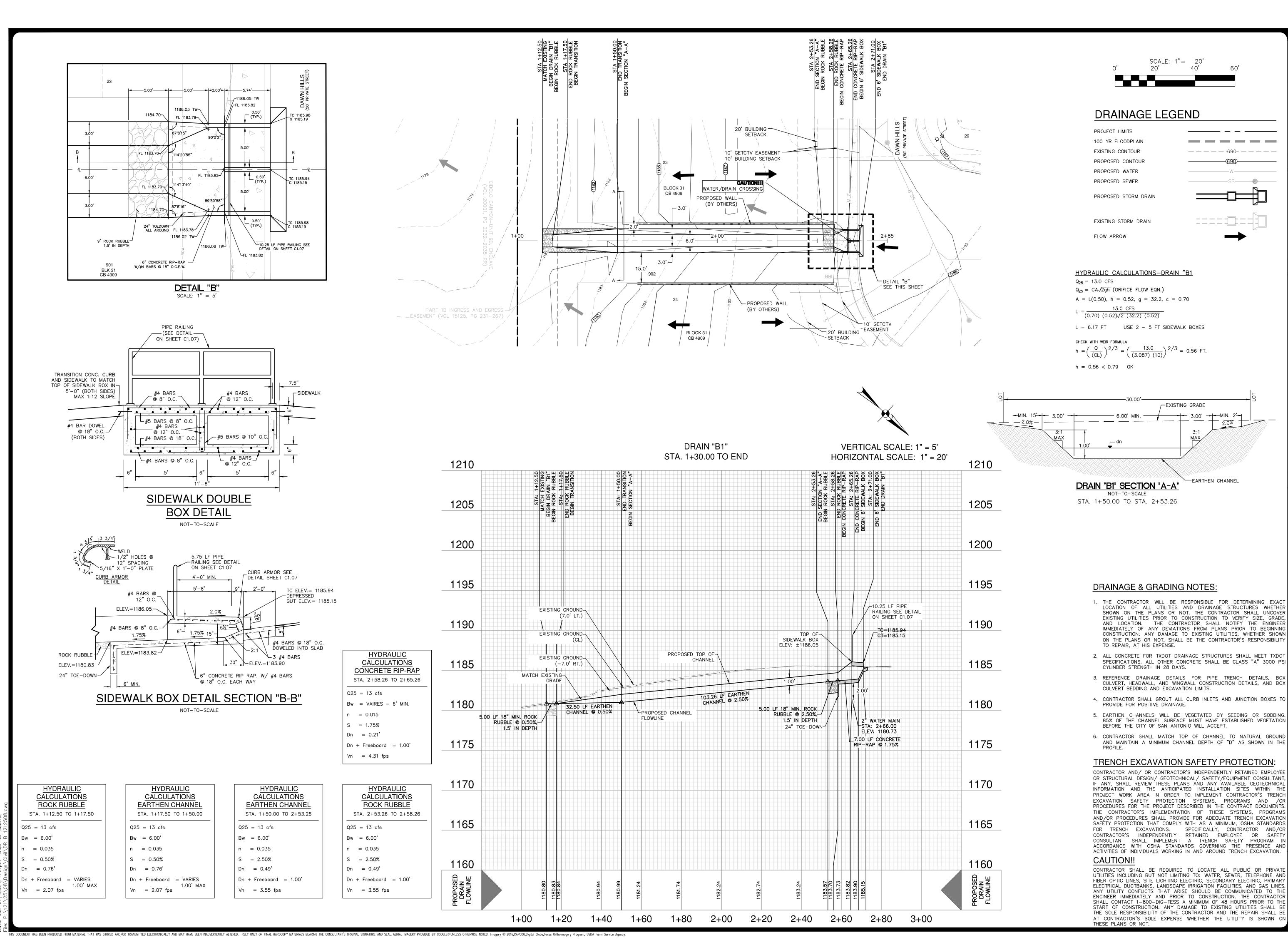
TRENCH EXCAVATION SAFETY PROTECTION:

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PLAT NO. **22-1180041** JOB NO. 12125-08 DESIGNER

HECKED BS DRAWN FP





80

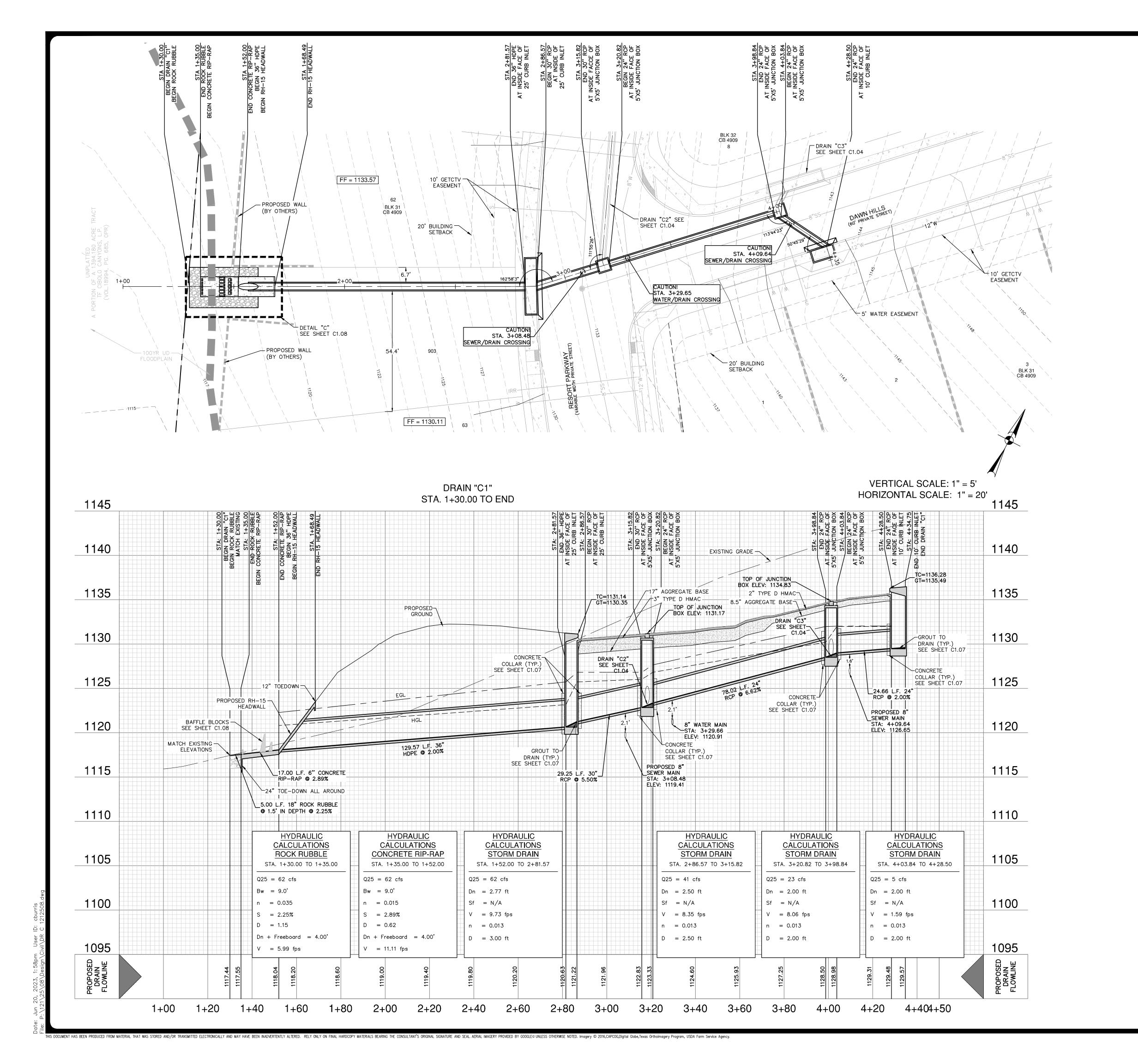
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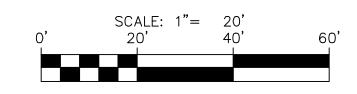
PLAT NO. **22-1180041** JOB NO. 12125-08

JUNE 2023 DESIGNER

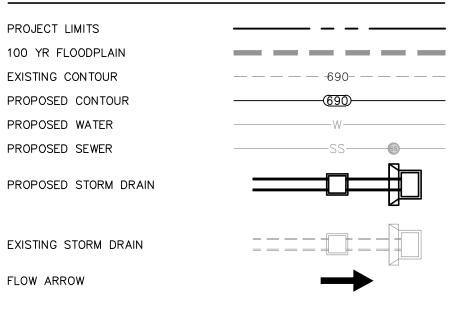
HECKED BS DRAWN FP

C1.02





DRAINAGE LEGEND





80

HYDRAULIC CALCULATIONS-DRAIN "C1"-DOWNSTREAM

A = L(0.50), h = 0.56, g = 32.2, c = 0.77

CHECK WITH WEIR FORMULA $h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{21}{(3.087)(25)}\right)^{2/3} = 0.42 \text{ FT.}$

h = 0.42 < 0.79 OK

 $Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

 $L = \frac{21 \text{ CFS}}{(0.77) (0.52)\sqrt{2 (32.2) (0.50)}}$

L = 9.25 FT USE 1 ~ 10 FT CURB INLET

DRAINAGE & GRADING NOTES:

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3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BC

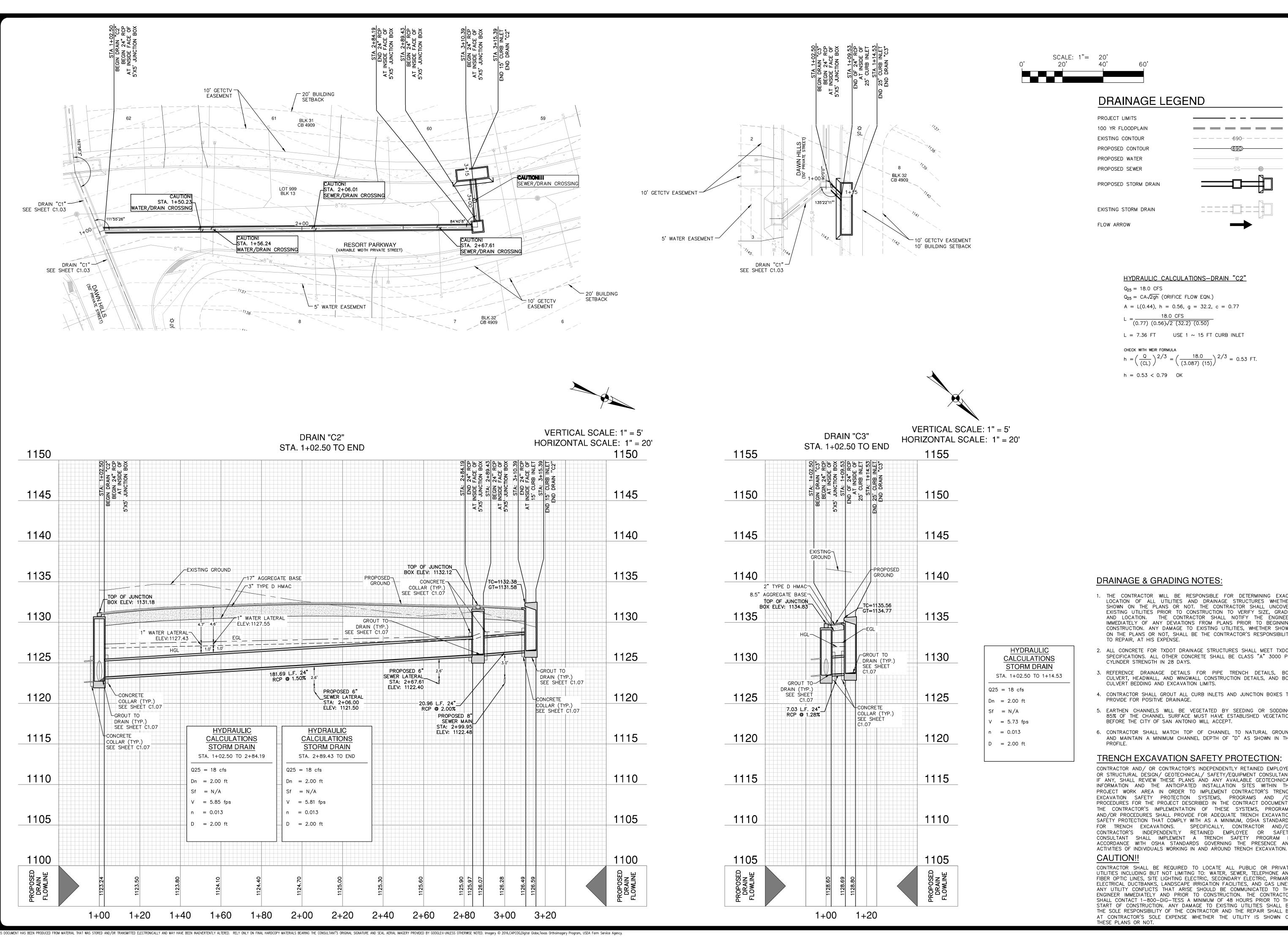
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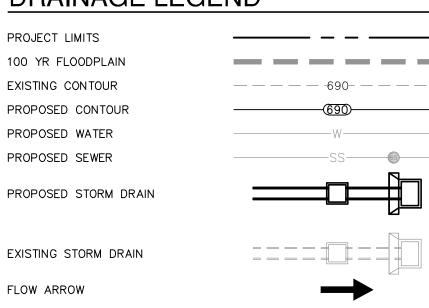
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PLAT NO. 22-1180041 JOB NO. 12125-08 HECKED BS DRAWN FP







 $Q_{25} = 18.0 \text{ CFS}$ $Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.44), h = 0.56, g = 32.2, c = 0.77 $L = \frac{18.0 \text{ CFS}}{(0.77) (0.56)\sqrt{2 (32.2) (0.50)}}$

L = 7.36 FT USE 1 ~ 15 FT CURB INLET

h = $\left(\frac{Q}{(CL)}\right)^{2/3}$ = $\left(\frac{18.0}{(3.087)(15)}\right)^{2/3}$ = 0.53 FT.

h = 0.53 < 0.79 OK

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PLAT NO. **22-1180041** JOB NO. 12125-08

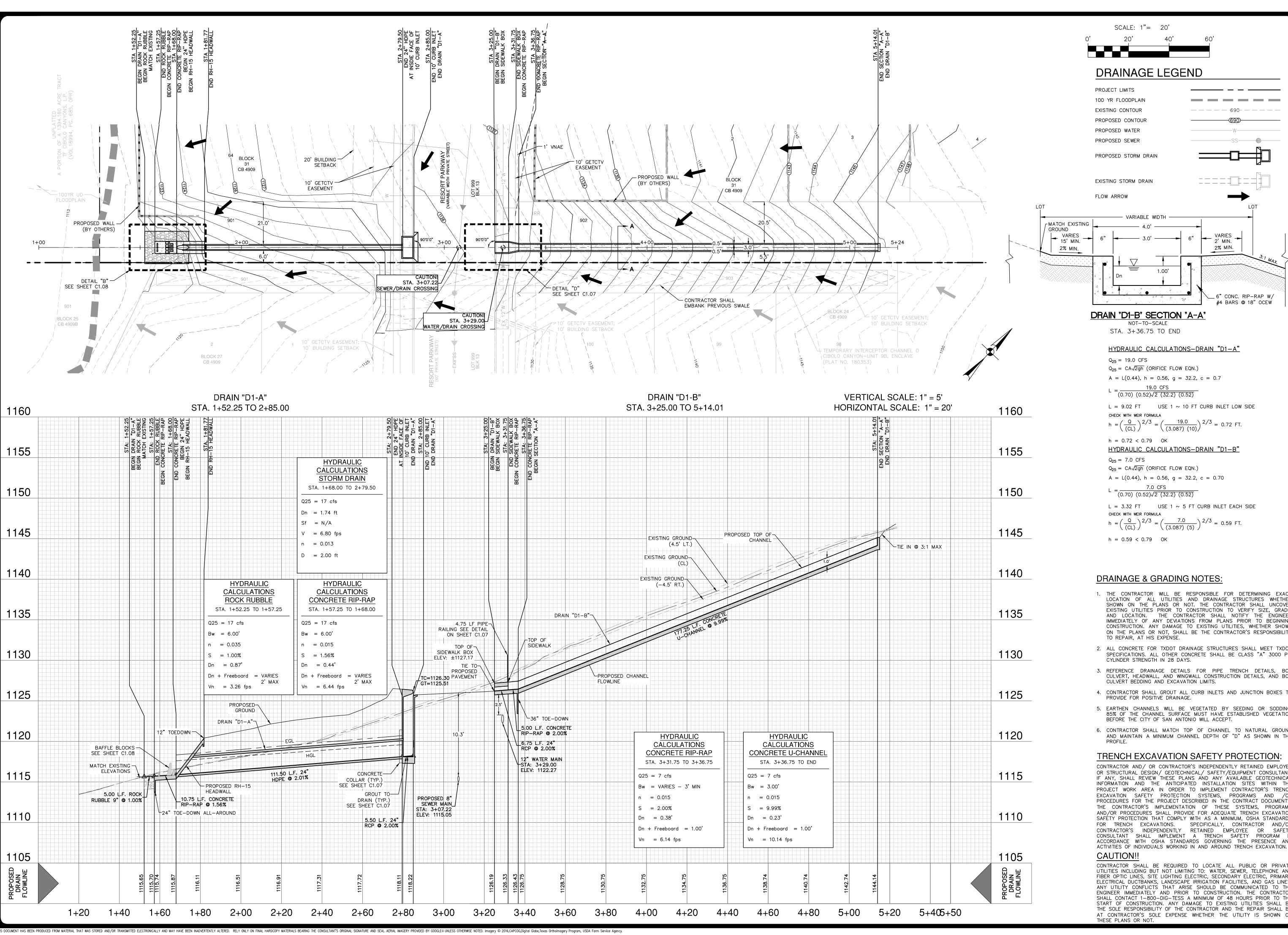
IN "C2" DRAIN DRAIN

PROFIL END END

HECKED BS DRAWN FP

C1.04

PAPE-DAWSON ENGINEERS



BRUNA F. SPENGLEF

80

PAPE-DAWS ENGINEERS

__ 6" CONC. RIP-RAP W/ #4 BARS @ 18" OCEW

2' MIN. 2% MIN.

DRAIN "D1-B" SECTION "A-A" NOT-TO-SCALE

VARIABLE WIDTH -

STA. 3+36.75 TO END

HYDRAULIC CALCULATIONS-DRAIN "D1-A"

 $Q_{25} = 19.0 \text{ CFS}$ $Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.44), h = 0.56, g = 32.2, c = 0.7

 $L = \frac{13.3 \times 10^{-3}}{(0.70) (0.52)\sqrt{2 (32.2) (0.52)}}$

L = 9.02 FT USE 1 ~ 10 FT CURB INLET LOW SIDE CHECK WITH WEIR FORMULA

h = $\left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{19.0}{(3.087)(10)}\right)^{2/3} = 0.72 \text{ FT.}$

h = 0.72 < 0.79 OK

HYDRAULIC CALCULATIONS-DRAIN "D1-B"

 $Q_{25} = 7.0 \text{ CFS}$ $Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.44), h = 0.56, g = 32.2, c = 0.70

7.0 CFS $(0.70) (0.52)\sqrt{2 (32.2) (0.52)}$

L = 3.32 FT USE 1 ~ 5 FT CURB INLET EACH SIDE CHECK WITH WEIR FORMULA

h = $\left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{7.0}{(3.087)(5)}\right)^{2/3} = 0.59 \text{ FT.}$

h = 0.59 < 0.79 OK

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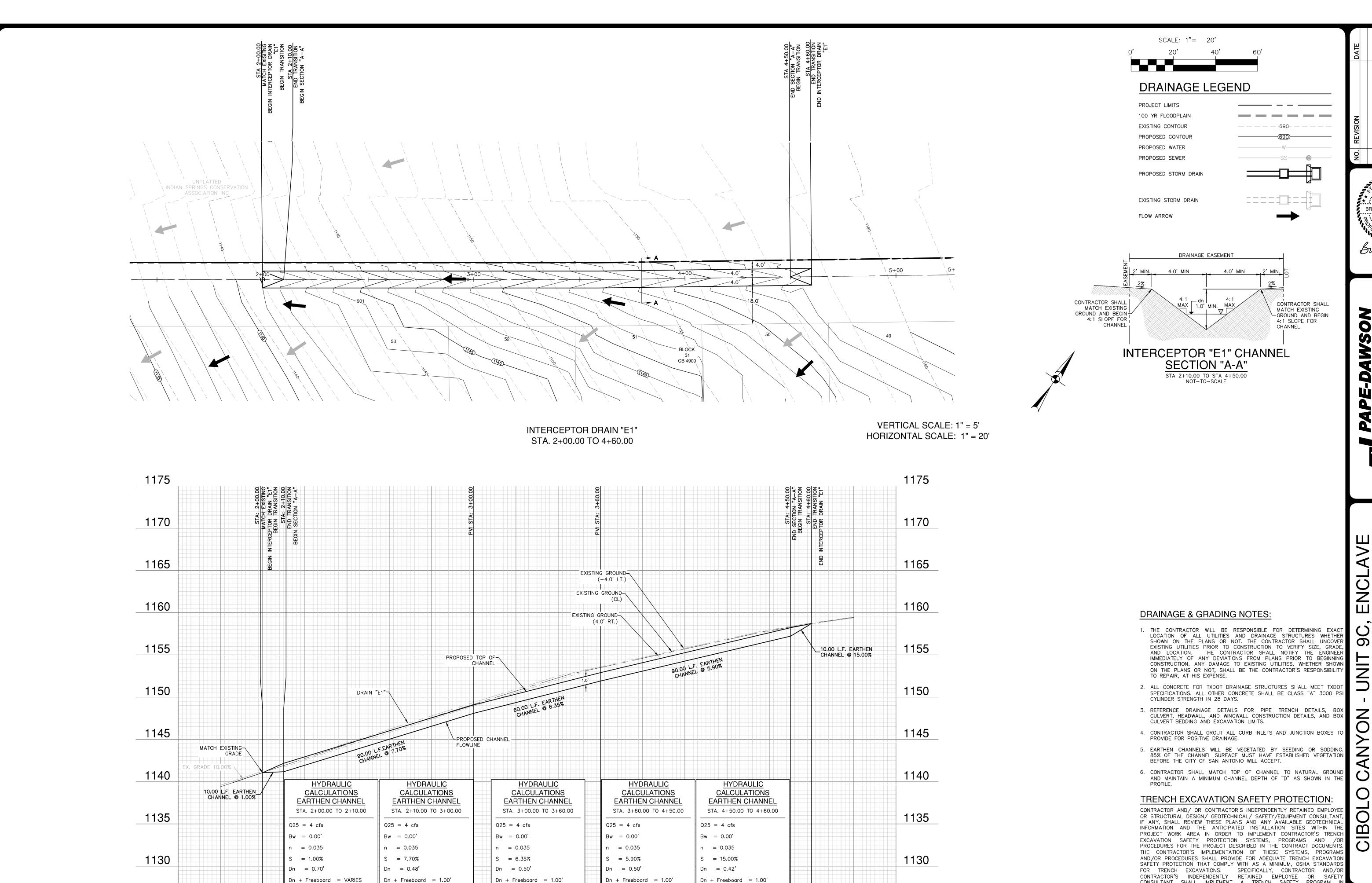
LAT NO. 22-1180041 JOB NO. 12125-08 JUNE 2023 DESIGNER

PROFILE 2+85.00 5+14.01

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J J J J

HECKED BS DRAWN FP C1.05



Vn = 2.04 fps

HIS 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,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

1125

Vn = 4.34 fps

2+60

Vn = 4.00 fps

2+80 3+00 3+20 3+40 3+60 3+80

Vn = 4.00 fps

Vn = 5.67 fps

4+20

4+40 4+60 4+80

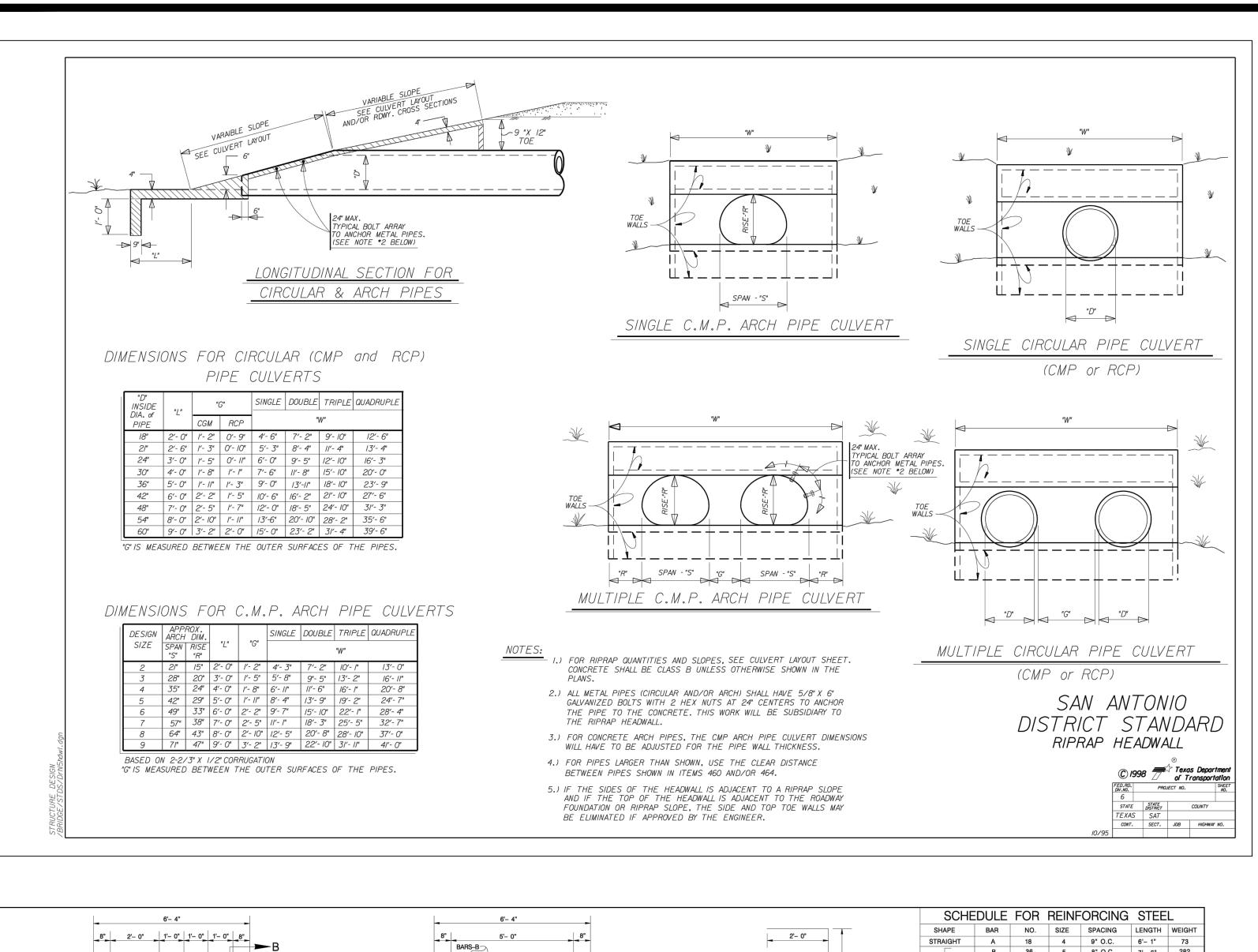
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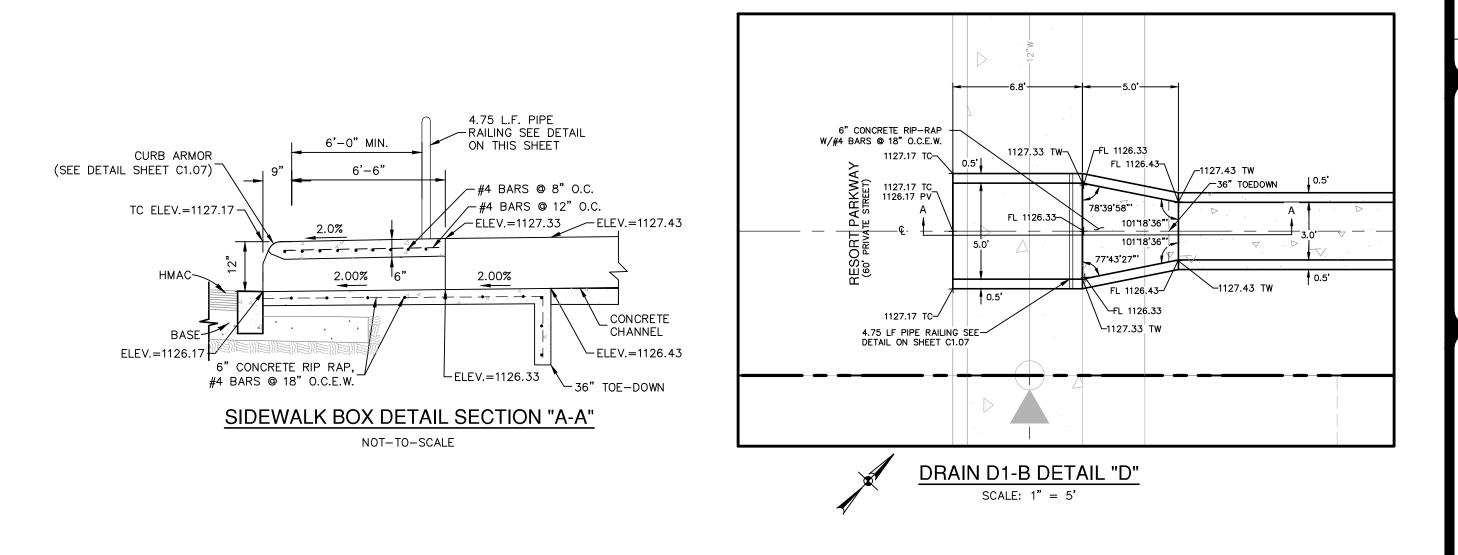
CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION. CAUTION!!

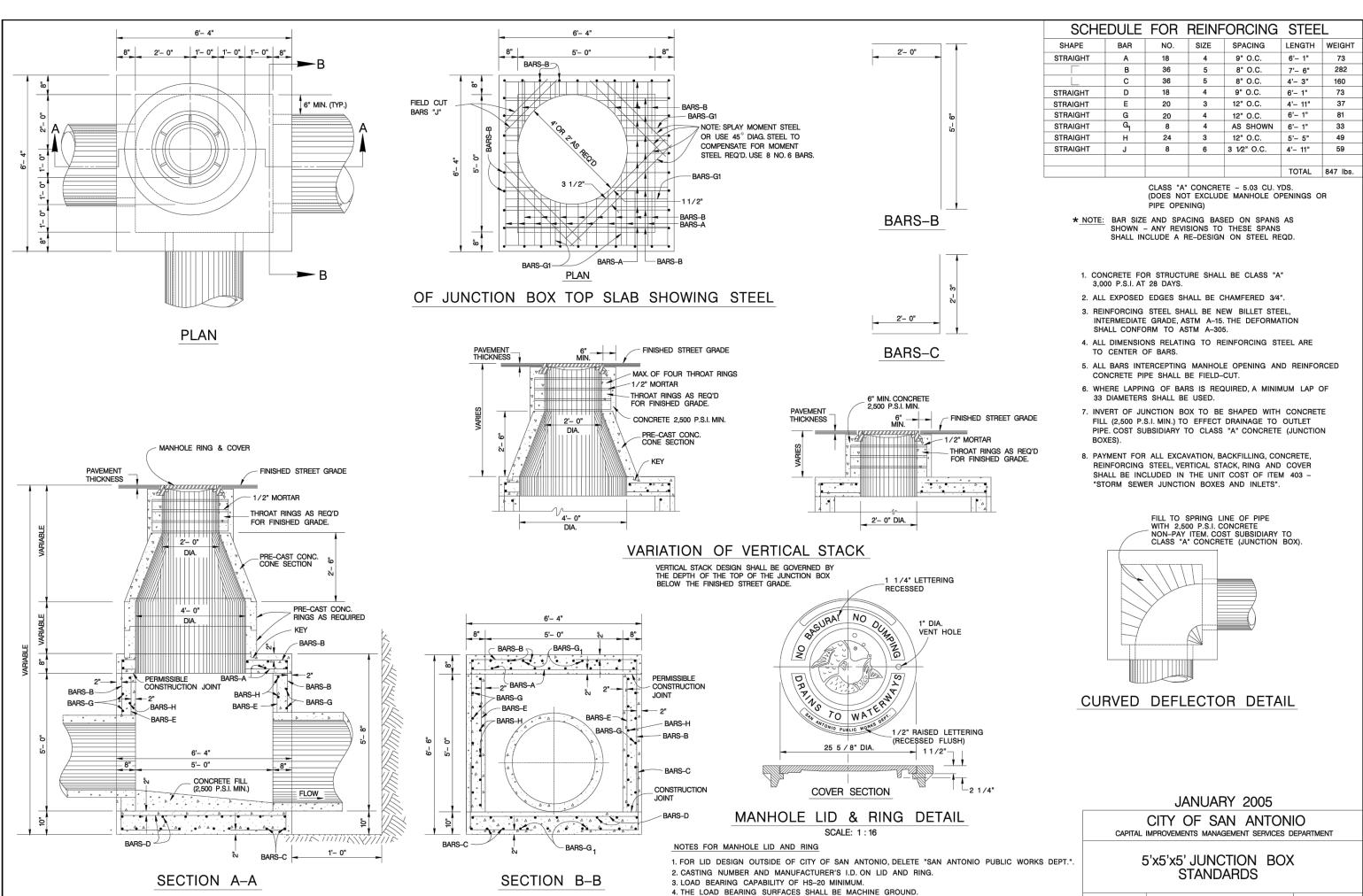
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE 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 T START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL E THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL B AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN OF THESE PLANS OR NOT.

PLAT NO. **22-1180041** JOB NO. 12125-08 JUNE 2023 DESIGNER

CHECKED BS DRAWN FP C1.06



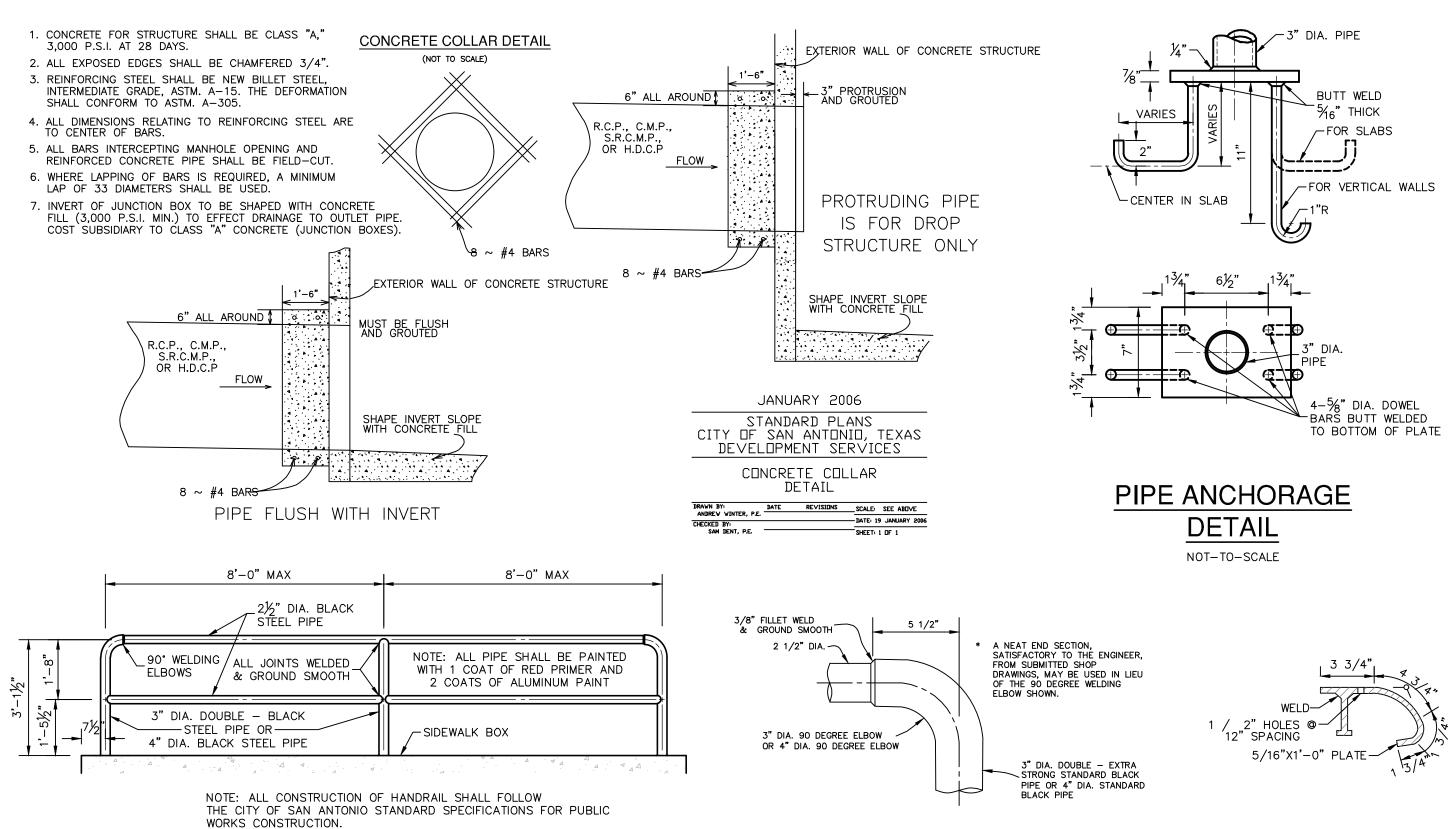




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5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

% SUBMITTAL PROJECT NO.:____



DETAIL OF 90° WELDING ELBOWS

NOT-TO-SCALE

PIPE RAILING DETAIL

NOT-TO-SCALE

CIB ESIGNER

CURB ARMOR DETAIL NOT-TO-SCALE

PLAT NO. **22-118004**1 12125-08 JUNE 2023 CHECKED BS DRAWN FP

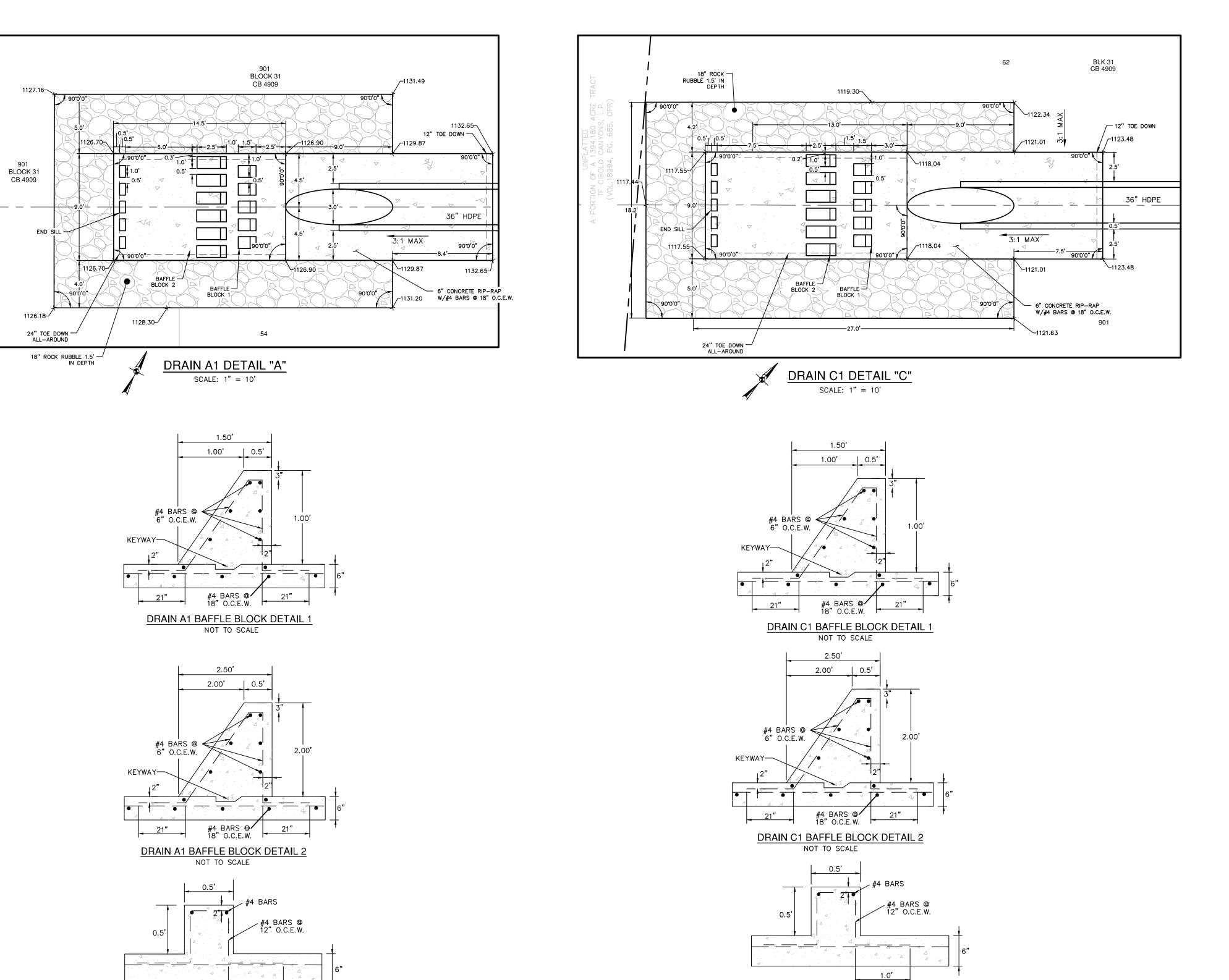
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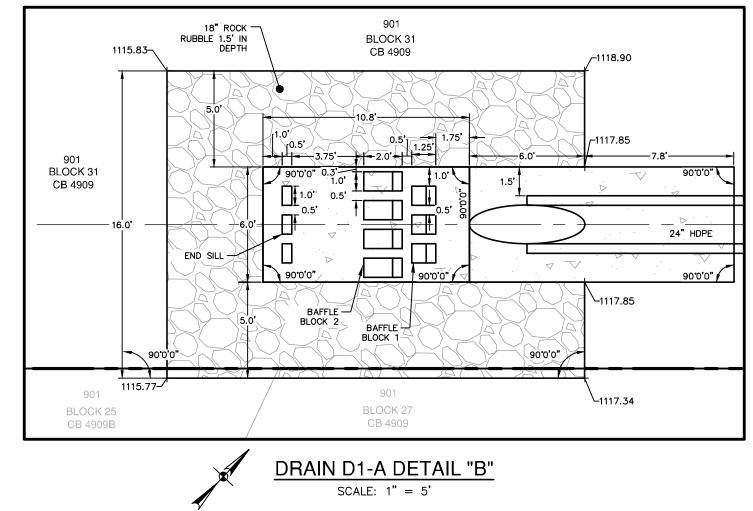
BRUNA F. SPENGLER

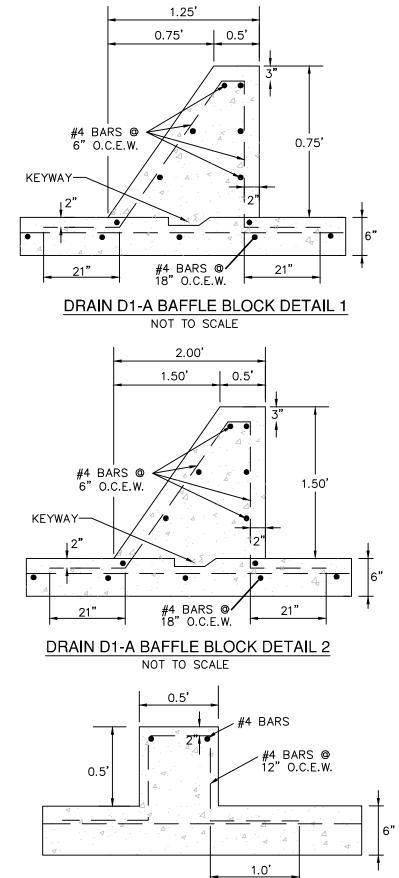
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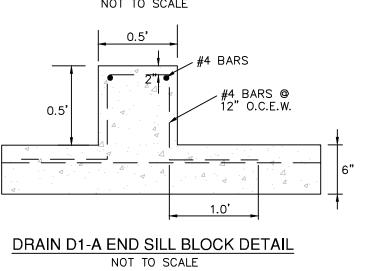


END SILL BLOCK DETAIL

NOT TO SCALE







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BRUNA F. SPENGLER

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PAPE-DAWSON ENGINEERS

PLAT NO. **22-1180041** JOB NO. 12125-08 DATE JUNE 2023 DESIGNER CB CHECKED BS DRAWN FP

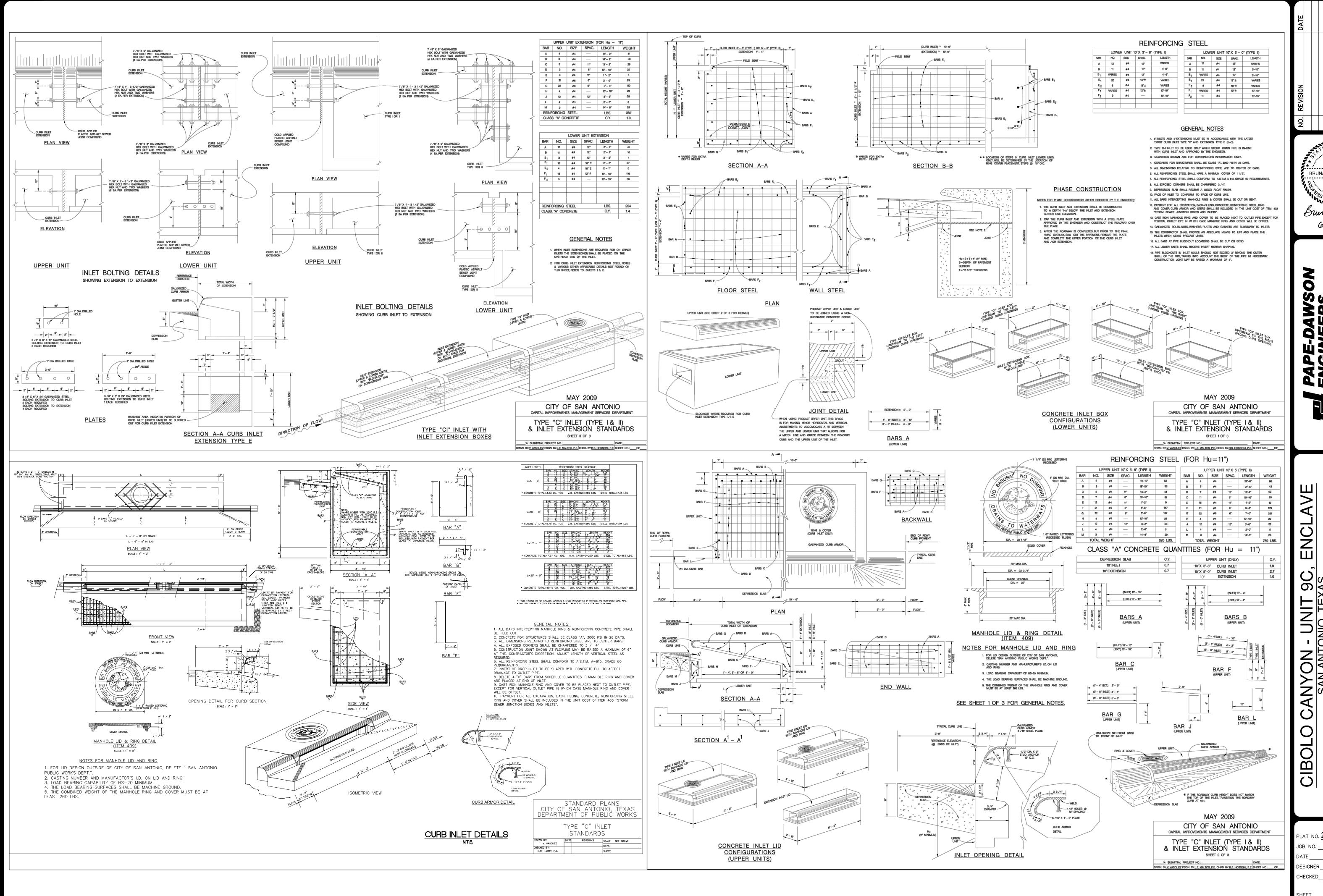
SHEET <u>C1.08</u>

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DRAIN A1 END SILL BLOCK DETAIL

NOT TO SCALE



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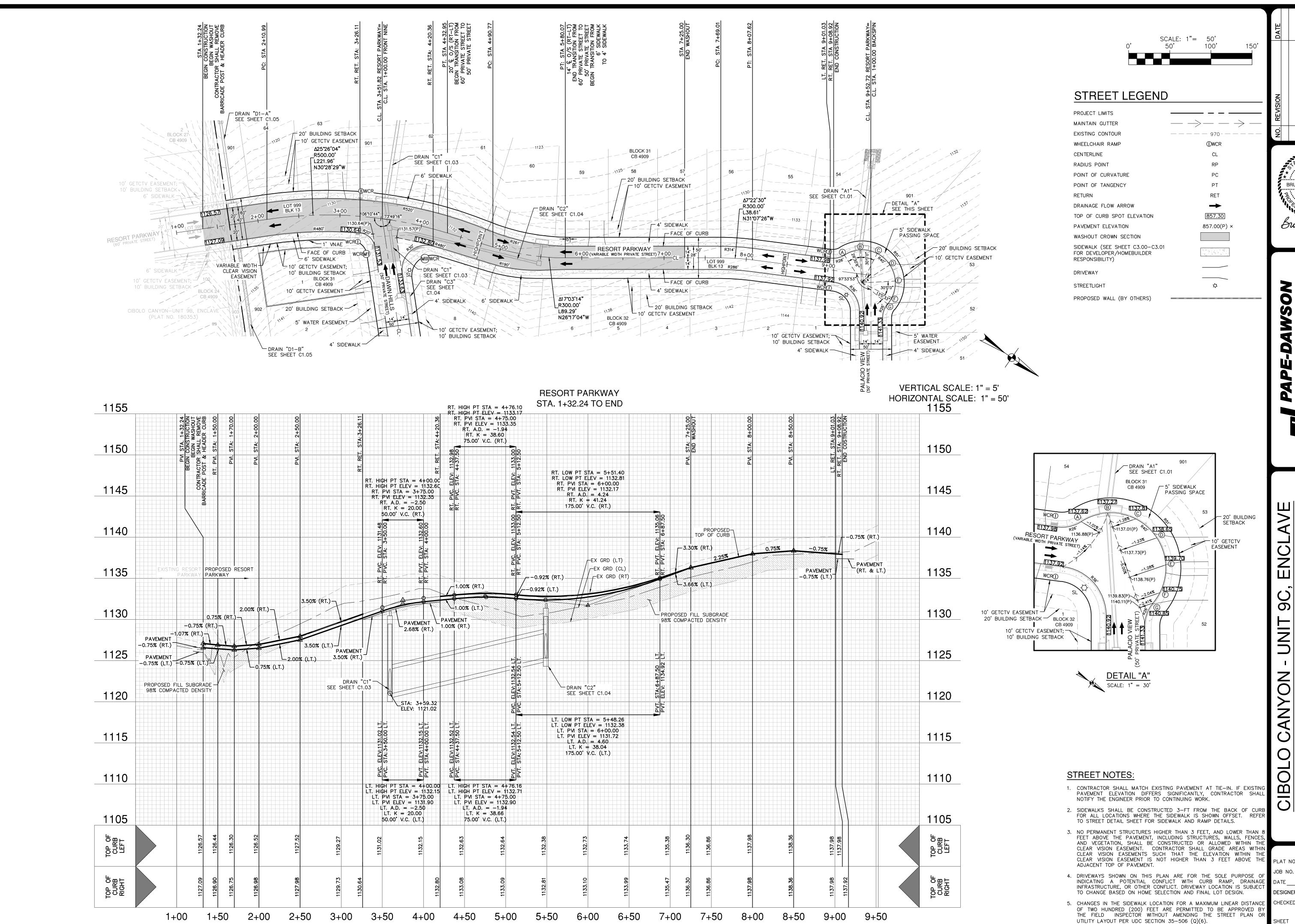
BRUNA F. SPENGLER 127547

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- NO. **22-1180041** 12125-08 JUNE 2023

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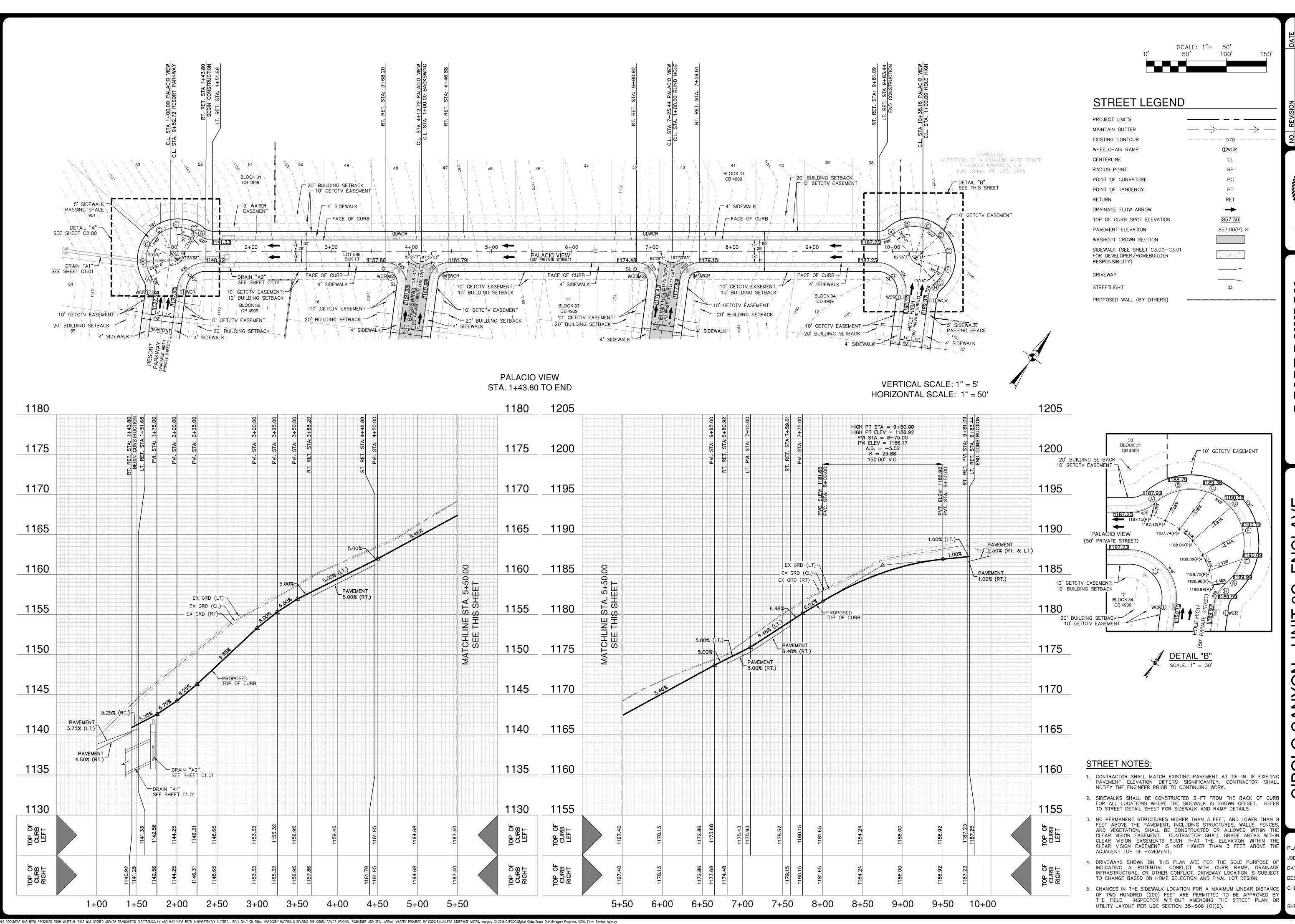
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PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023 DESIGNER

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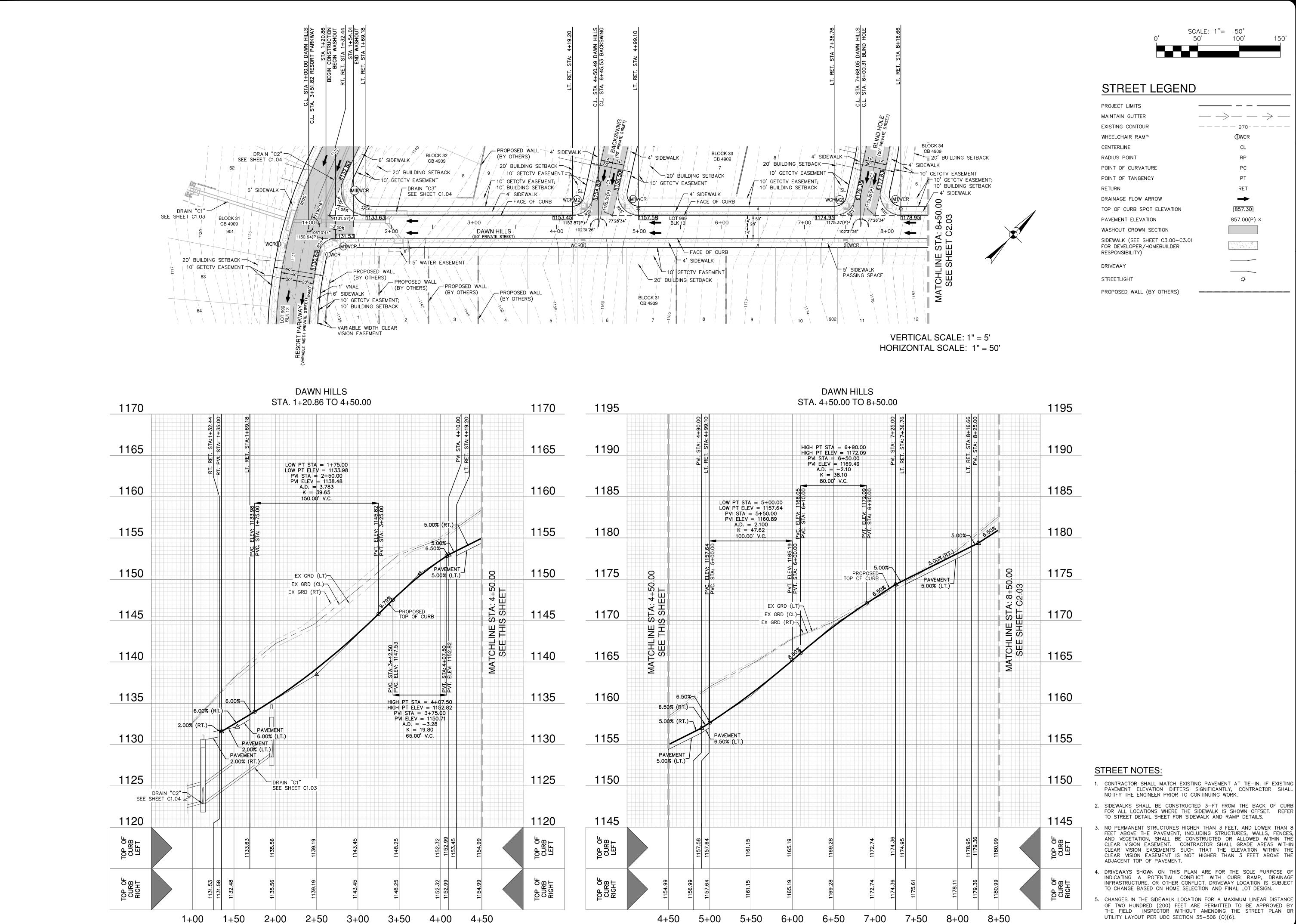
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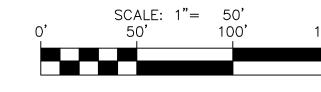
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PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023

DESIGNER CHECKED BS DRAWN FP C2.01



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STREET LEGEND

PROJECT LIMITS	
MAINTAIN GUTTER	$- \rightarrow \rightarrow -$
EXISTING CONTOUR	970
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	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEET C3.00—C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	
DRIVEWAY	
STREETLIGHT	\$
PROPOSED WALL (BY OTHERS)	

BRUNA F. SPENGLER

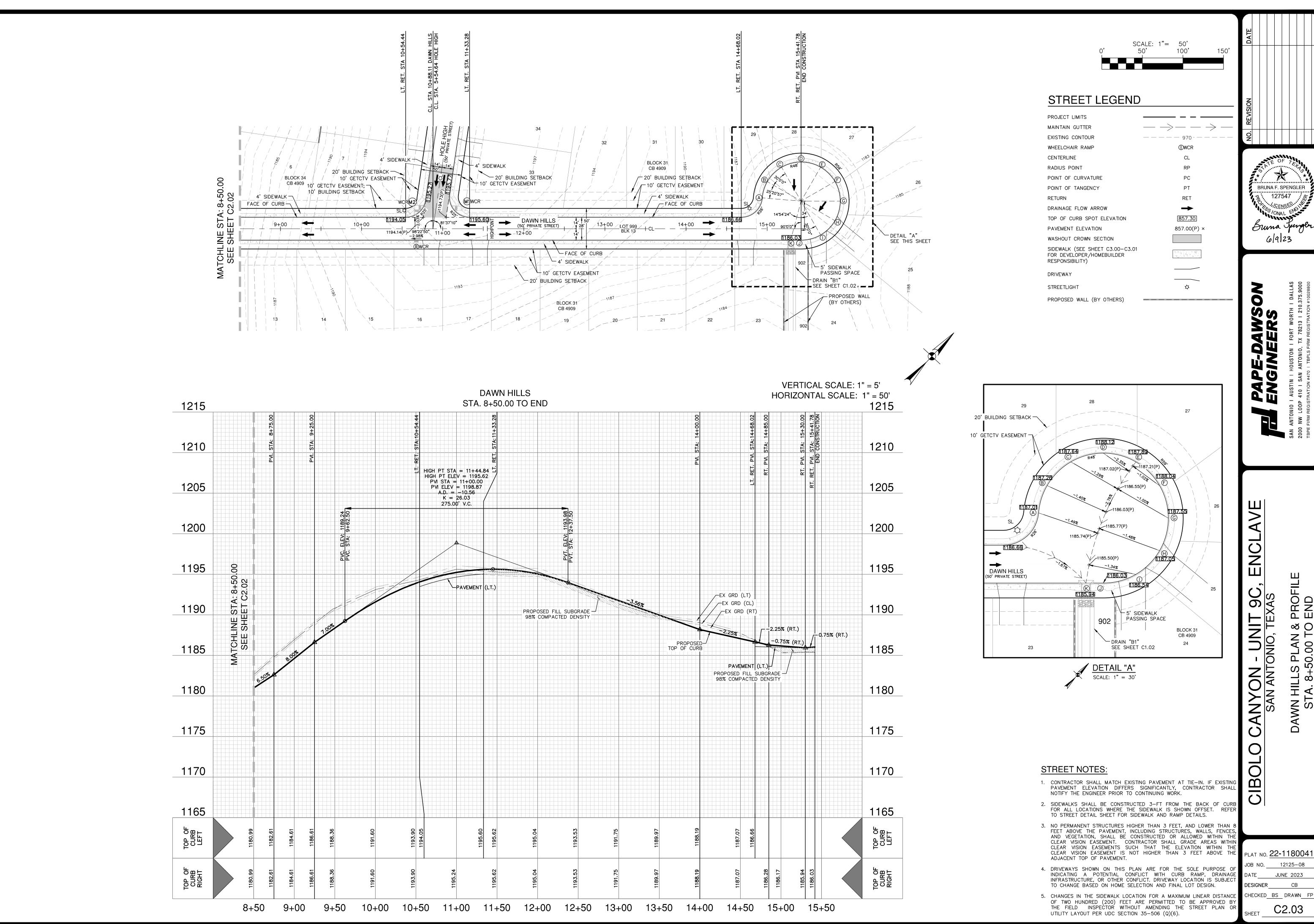
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PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023

DESIGNER CHECKED BS DRAWN FP C2.02



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PAPE-DAWS(ENGINEERS

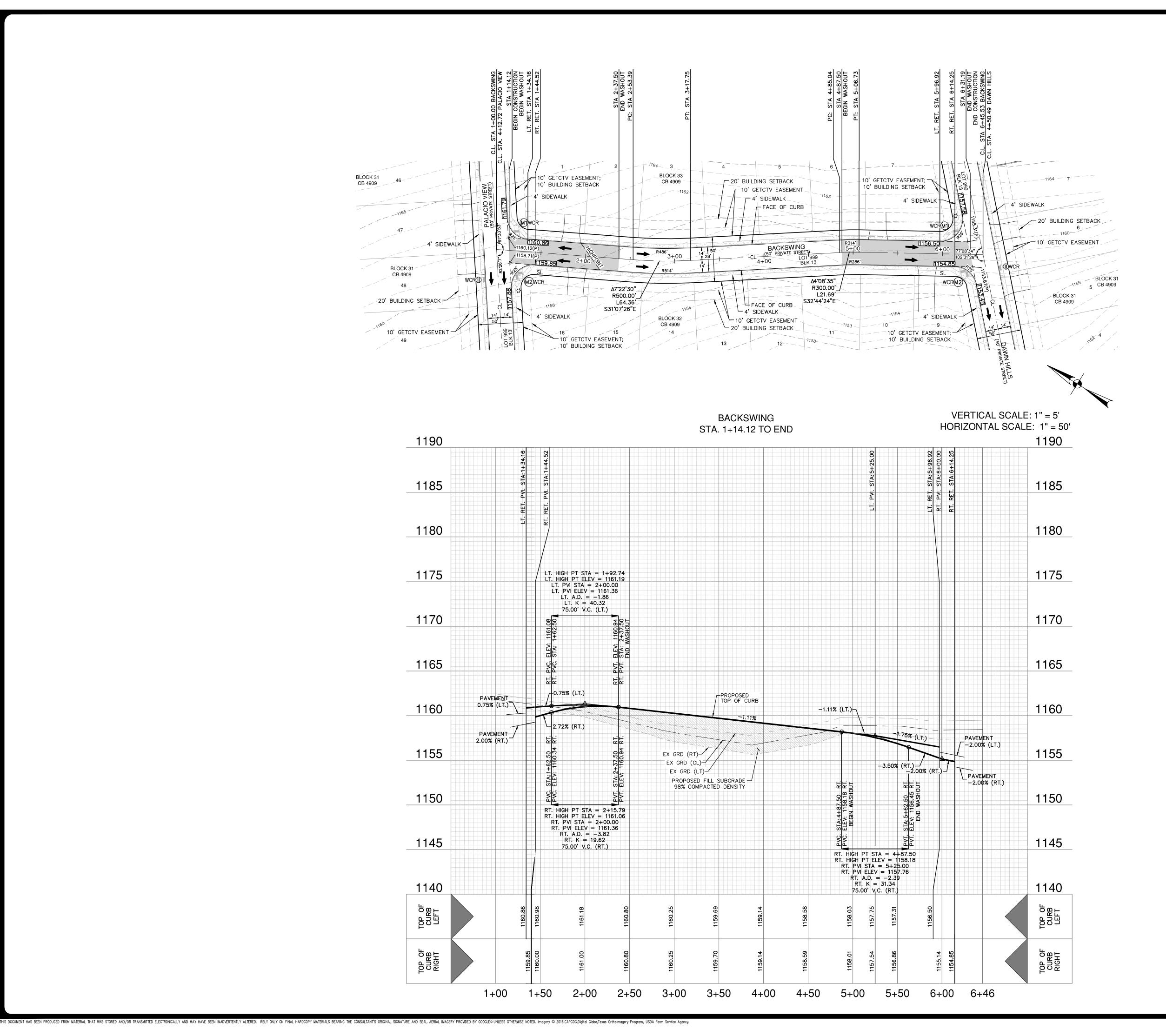
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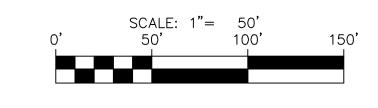
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PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023 DESIGNER

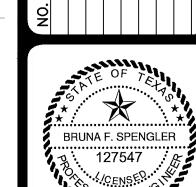
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STREET LEGEND

PROJECT LIMITS	
MAINTAIN GUTTER	$- \rightarrow \rightarrow -$
EXISTING CONTOUR	———— 970-———
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	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEET C3.00-C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	
DRIVEWAY	
STREETLIGHT	\$
PROPOSED WALL (BY OTHERS)	



PAPE-DAWSON ENGINEERS

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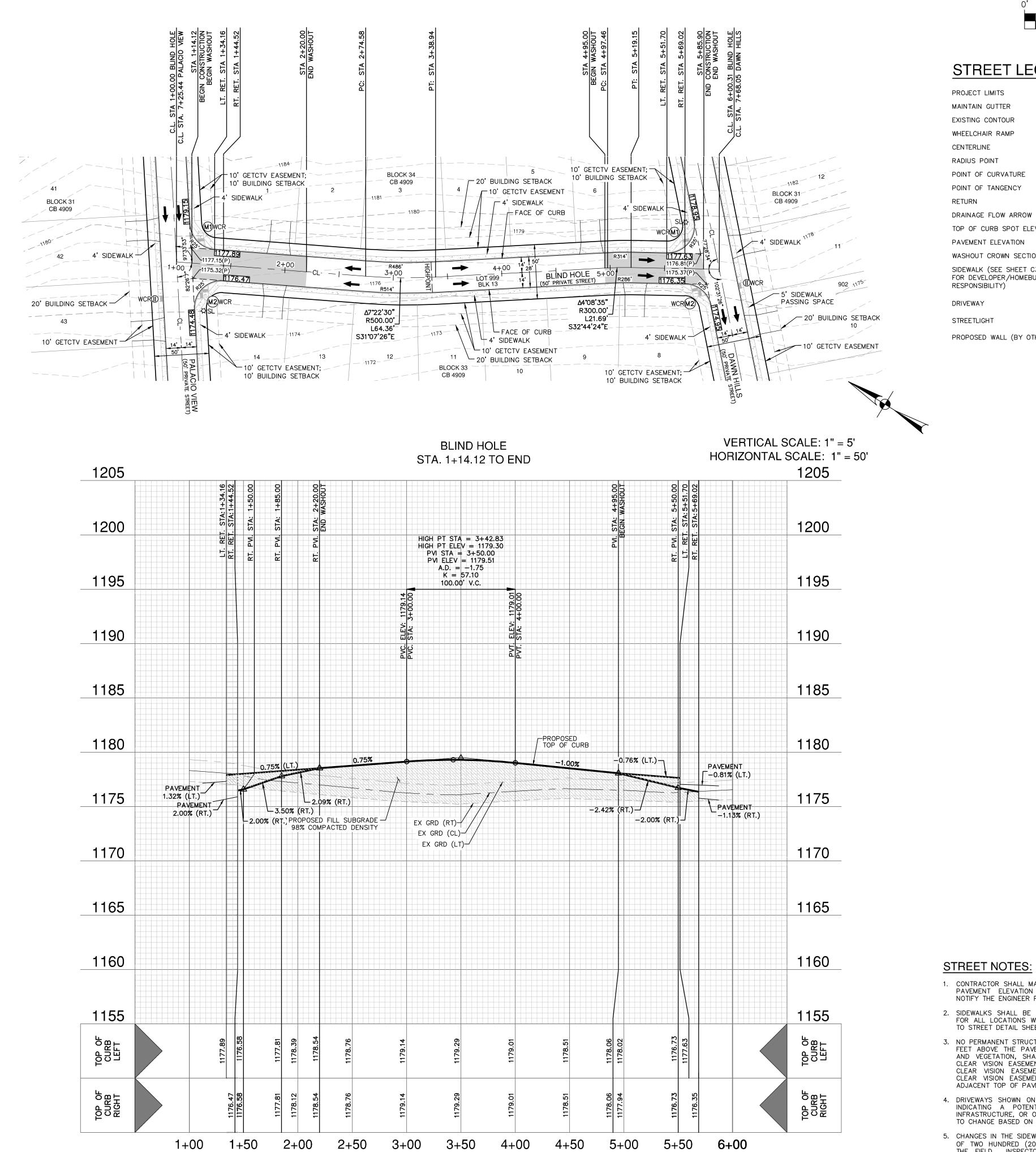
STREET NOTES:

- 1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- 2. SIDEWALKS SHALL BE CONSTRUCTED 3-FT FROM THE BACK OF CUR FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
- 3. 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 TH ADJACENT TOP OF PAVEMENT.
- 4. 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.
- 5. 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 C UTILITY LAYOUT PER UDC SECTION 35-506 (Q)(6).

PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023 DESIGNER

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STREET LEGEND PROJECT LIMITS MAINTAIN GUTTER EXISTING CONTOUR WHEELCHAIR RAMP ①WCR CENTERLINE RADIUS POINT POINT OF CURVATURE POINT OF TANGENCY RET RETURN DRAINAGE FLOW ARROW 857.30 TOP OF CURB SPOT ELEVATION PAVEMENT ELEVATION 857.00(P) × WASHOUT CROWN SECTION SIDEWALK (SEE SHEET C3.00-C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY) DRIVEWAY STREETLIGHT

PROPOSED WALL (BY OTHERS)

80

BRUNA F. SPENGLER

6/9/23

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ANYON - UNIT SAN ANTONIO, TEX

1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.

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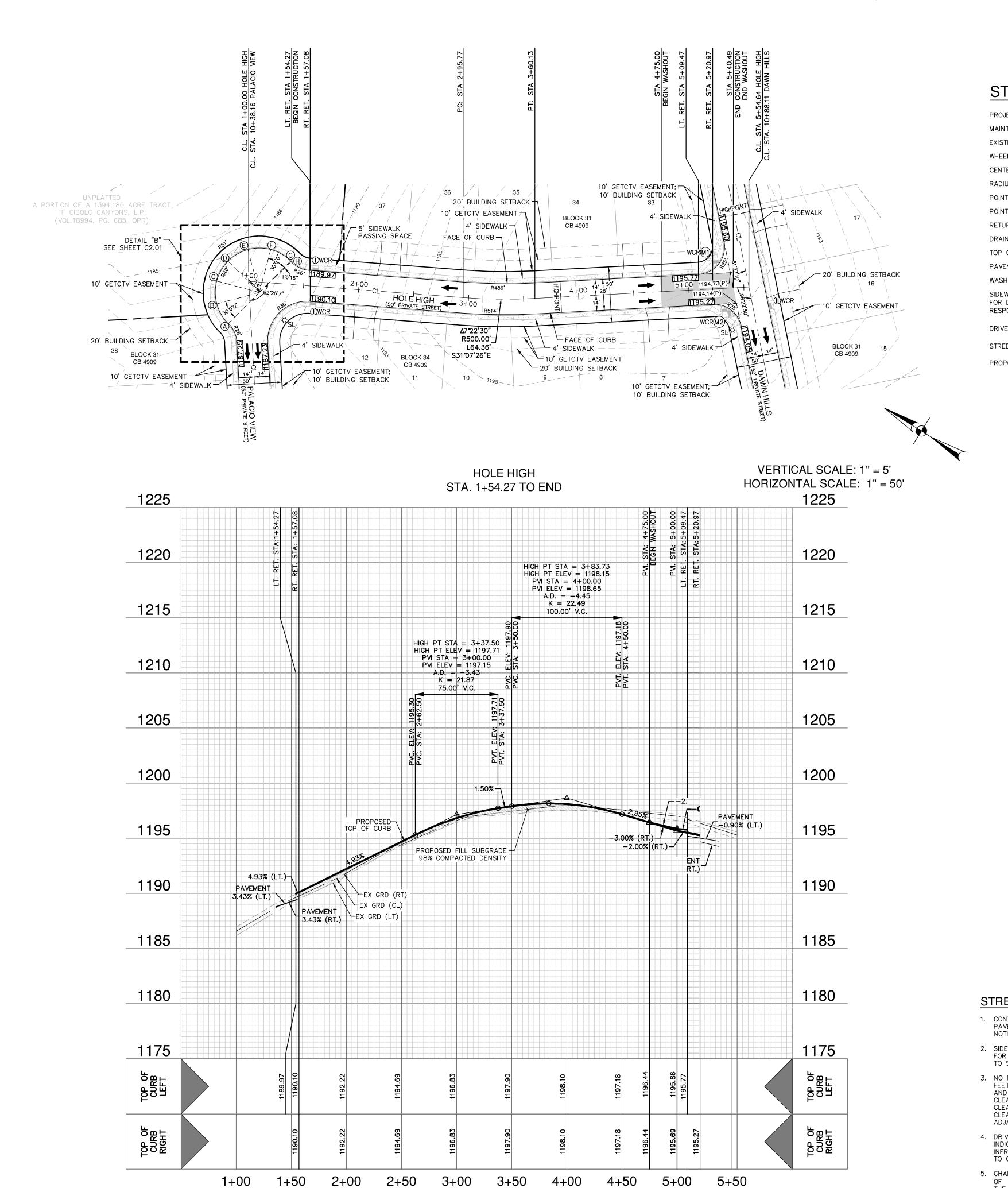
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5. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN C UTILITY LAYOUT PER UDC SECTION 35-506 (Q)(6).

PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023 DESIGNER

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PROJECT LIMITS MAINTAIN GUTTER EXISTING CONTOUR WHEELCHAIR RAMP ①WCR CENTERLINE RADIUS POINT POINT OF CURVATURE POINT OF TANGENCY RET RETURN DRAINAGE FLOW ARROW 857.30 TOP OF CURB SPOT ELEVATION PAVEMENT ELEVATION 857.00(P) × WASHOUT CROWN SECTION SIDEWALK (SEE SHEET C3.00-C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY) DRIVEWAY STREETLIGHT PROPOSED WALL (BY OTHERS)



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6/9/23

< ENCL CANYON - UNIT 9C, SAN ANTONIO, TEXAS

STREET NOTES:

- 1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
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- 5. 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 (UTILITY LAYOUT PER UDC SECTION 35-506 (Q)(6).

PLAT NO. 22-1180041 OB NO. 12125-08 JUNE 2023 DESIGNER

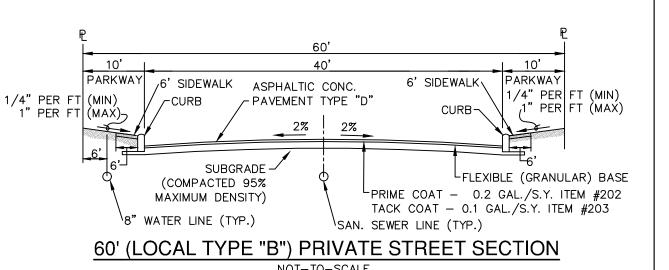
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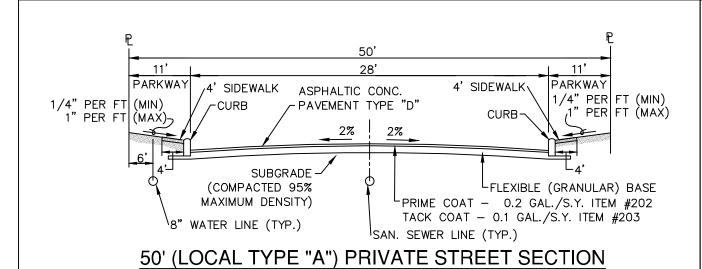
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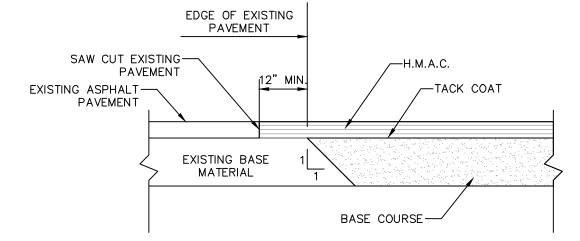
PAVEMENT SECTION DETAIL								
STREET NAME	STATION	TYPE "D" HMAC	CRUSHED LIMESTONE BASE	LIME STABILIZED SUBGRADE	GEOGRID (TENSAR TRIAX TX5)	CBR	STRUCTURAL	NUMBER
RESORT PARKWAY	1+32.24 TO 5+80.07	3"	17"	NO*	NO	5.0	3(.44) = 1.32 17(.14) = 2.38	3.70
RESORT PARKWAY	5+80.27 TO END	2"	8.5"	NO*	NO	5.0	2(.44) = 0.88 8.5(.14) = 1.19	2.07
PALACIO VIEW	1+43.80 TO END	2"	8.5"	NO*	NO	5.0	2(.44) = 0.88 8.5(.14) = 1.19	2.07
DAWN HILLS	1+20.86 TO END	2"	8.5"	NO*	NO	5.0	2(.44) = 0.88 8.5(.14) = 1.19	2.07
BACKSWING	1+14.12 TO END	2"	8.5"	NO*	NO	5.0	2(.44) = 0.88 8.5(.14) = 1.19	2.07
BLIND HOLE	1+14.12 TO END	2"	8.5"	NO*	NO	5.0	2(.44) = 0.88 8.5(.14) = 1.19	2.07
HOLE HIGH	1+54.27 TO END	2"	8.5"	NO*	NO	5.0	2(.44) = 0.88 8.5(.14) = 1.19	2.07

*LIME STABILIZATION NOTES:

- ANTICIPATED SUBGRADE IS BROWN GRAVELLY CLAY OR TAN TO LIGHT TAN CALCAREOUS CLAY, MARL TO LIMESTONE.
- STRATUM I CLAYS SHOULD BE REMOVED TO EXPOSE MARL TO LIMESTONE.
- THE SUBGRADE PLASTICITY INDEX VALUE SHOULD BE 20 OR LESS. SUBGRADE STABILIZATION IS NOT.
- IF THICKER CLAYS ARE ENCOUNTERED, THEN ONE OF THE TWO FOLLOWING OPTIONS MAY BE FOLLOWED:
- •• THE EXISTING CLAYS SHOULD BE REMOVED TO MARL / LIMESTONE STRATUM AND REPLACED WITH APPROVED SELECT FILL MATERIAL.
- •• THE PAVEMENT SUBGRADE SHOULD BE LIME STABILIZED. LIME APPLICATION RATE OF 5 PERCENT MAY BE USED (25 LBS PER SQ YARD FOR 6-INCH DEPTH OR 33 LBS PER SQ YARD FOR 8-INCH DEPTH OF STABILIZATION), THE SUBGRADE SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZING THE SUBGRADE WITH LIME.

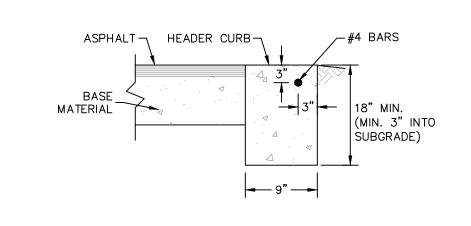






ASPHALT/ASPHALT JUNCTURE DETAIL

NOT-TO-SCALE



HEADER CURB DETAIL NOT-TO-SCALE

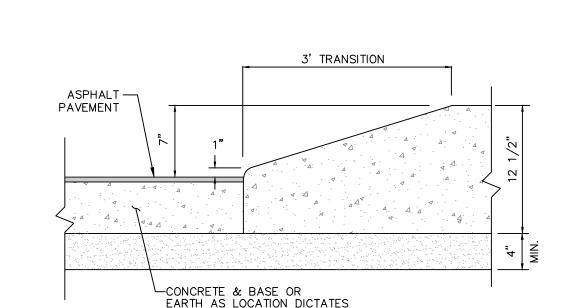
ASPHALT THICKNESS-BACK FILL PER PROJECT SPECIFICATIONS. THICKNESS MAINTAIN POSITIVE DRAINAGE LIME TREATMENT -SUBGRADE *THICKNESS OF BASE IN OVER EXCAVATION AREA IS EQUAL TO TOTAL PAVEMENT PAY LIMITS FOR STREET EXCAVATION LIME -SECTIONS THICKNESS MINUS STABALIZATION FOR SUBGRADE, FLEXIBLE BASE, 5.5", OR 4" MINIMUM

MEASUREMENT

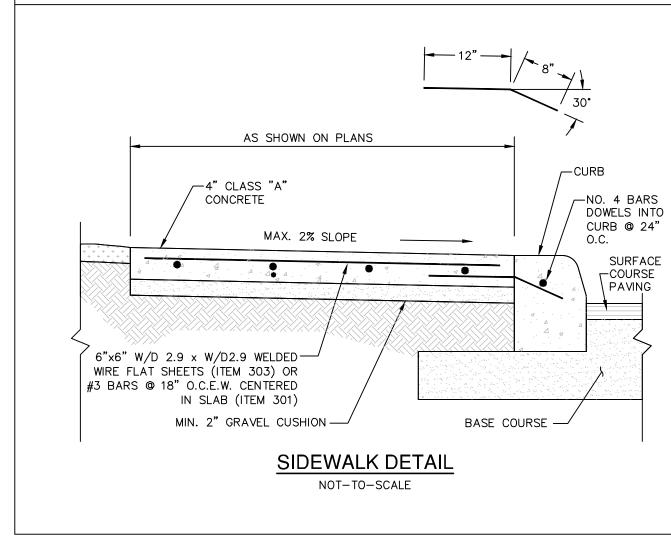
FOR STREET EXCAVATION

CONCRETE CURB DETAIL NOT-TO-SCALE

ASPHALT TREATED BASE AND PRIME COAT



CURB TRANSITION DETAIL (FROM PAVEMENT TO STANDARD CURB) NOT-TO-SCALE



GENERAL NOTES:

- 1. CONTRACTOR SHALL REFERENCE THE PROJECT PAVEMENT DESIGN REPORT PREPARED BY INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO (INTEC) DATED FEBRUARY 21, 2018.
- 2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEER TO VERIFY THE SUB GRADE CONDITION PRIOR TO PLACING ANY BASE MATERIAL. GEOTECHNICAL ENGINEER SHALL DETERMINE THE SUB GRADE CONDITION AND IF LIME STABILIZATION IS REQUIRED.
- 3. GEOTECHNICAL ENGINEER SHOULD VERIFY THE STREET SUBGRADE AT THE TIME OF CONSTRUCTION PRIOR TO PLACEMENT OF AGGREGATE BASE.
- 4. THE FLEXIBLE BASE COURSE SHOULD BE CRUSHED LIMESTONE CONFORMING TO TXDOT STANDARD SPECIFICATIONS, ITEM 247, TYPE A, GRADES 1 OR 2.
- 5. THE MOISTURE CONTENT OF THE FILL SHOULD BE MAINTAINED WITHIN THE RANGE OF OPTIMUM WATER CONTENT TO 3 PERCENTAGE POINTS ABOVE THE OPTIMUM WATER CONTENT UNTIL PERMANENTLY
- 6. IN THE EVENT THAT THE CLAY FILL USED IS DIFFERENT THAN THE EXISTING SUBGRADE, THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT COULD BE INVALIDATED AND THE DESIGN ENGINEER MUST BE CONSULTED TO DETERMINE IF ADDITIONAL CBR TESTING AND THICKER PAVEMENT SECTIONS ARE
- 7. WHERE PAVEMENT SUBGRADE IS LOCATED WITHIN 2-FEET OF THE EXISTING GROUND SURFACE (STRATUM 1 CLAYS), MOISTURE CONDITIONED SUBGRADE WILL BE REQUIRED. GEOTECHNICAL ENGINEER SHOULD VERIFY THE STREET SUBGRADE AT THE TIME OF CONSTRUCTION PRIOR TO PLACEMENT OF AGGREGATE BASE TO DETERMINE WHERE THE MOISTURE CONDITIONED SUBGRADE IS NEEDED. REFERENCE GEOTECHNICAL ENGINEERING REPORT FOR MORE INFORMATION.
- 8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL MATERIAL TESTING WITH THE PROJECT GEOTECHNICAL ENGINEER. TESTING SHALL BE PAID FOR BY THE OWNER.
- 9. FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 5 AND A PI OF 20 OR LESS. THE GRAVEL SIZE SHOULD NOT EXCEED 4 INCHES IN DIAMETER. LIME OR CEMENT APPLICATION RATES SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES. CONTRACTOR TO VERIFY EXACT SPECIFICATIONS WITH PROJECT GEOTECHNICAL ENGINEERING REPORT.
- 10. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN THE 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.

STREET SUBGRADE NOTES:

- 1. IF THE STREET SUBGRADE PLASTICITY INDEX VALUE IS GREATER THAN 20, SUBGRADE STABILIZATION IS NEEDED AS PER CITY OF SAN ANTONIO REQUIREMENTS.
- 2. IF THE SUBGRADE PLASTICITY INDEX VALUE IS 20 OR LESS. SUBGRADE STABILIZATION IS NOT NEEDED. THE SUBGRADE SHOULD BE MOISTURE CONDITIONED (COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AT A MINIMUM MOISTURE CONTENT OF OPTIMUM PLUS 2 PERCENT (TEX114E)).
- 3. THE SUBGRADE SHOULD BE STABILIZED USING 6 PERCENT LIME TO A DEPTH OF 8 INCHES AS NOTED
- 4. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZATION. IF THE SOIL SULFATE CONTENT IS HIGH, AN ALTERNATE PROCEDURE / RECOMMENDATION WILL BE NEEDED.
- 5. LIME APPLICATION RATE OF 33 LBS PER SQ YARD FOR 8 INCH DEPTH OF LIME STABILIZATION IS
- 6. APPROVED FILL MATERIAL SHOULD BE USED TO RAISE THE GRADE. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 5. LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND TESTED FOR SULFATE CONTENT PRIOR TO USE OF THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.
- 7. THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS BEFORE STABILIZATION.

LIME NOTES:

- FOR LIME STABILIZATION CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED ON THE FIELD: 1. AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS. MAINTAIN MOISTURE DURING MELLOWING.
- 2. AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE ¾ INCH SIEVE FROM THE SAMPLE): MINIMUM PASSING 1¾ SIEVE 100

MINIMUM PASSING ¾" SIEVE MINIMUM PASSING NO. 4 SIEVE

- 3. SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD). IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED IN THE BEXAR COUNTY FLEXIBLE PAVEMENT DESIGN CRITERIA GUIDE FOR MIXTURE DESIGN.
- 4. COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED).
- 5. CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- 6. VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ± 1.0 INCH.

<u>ග</u> × CIB

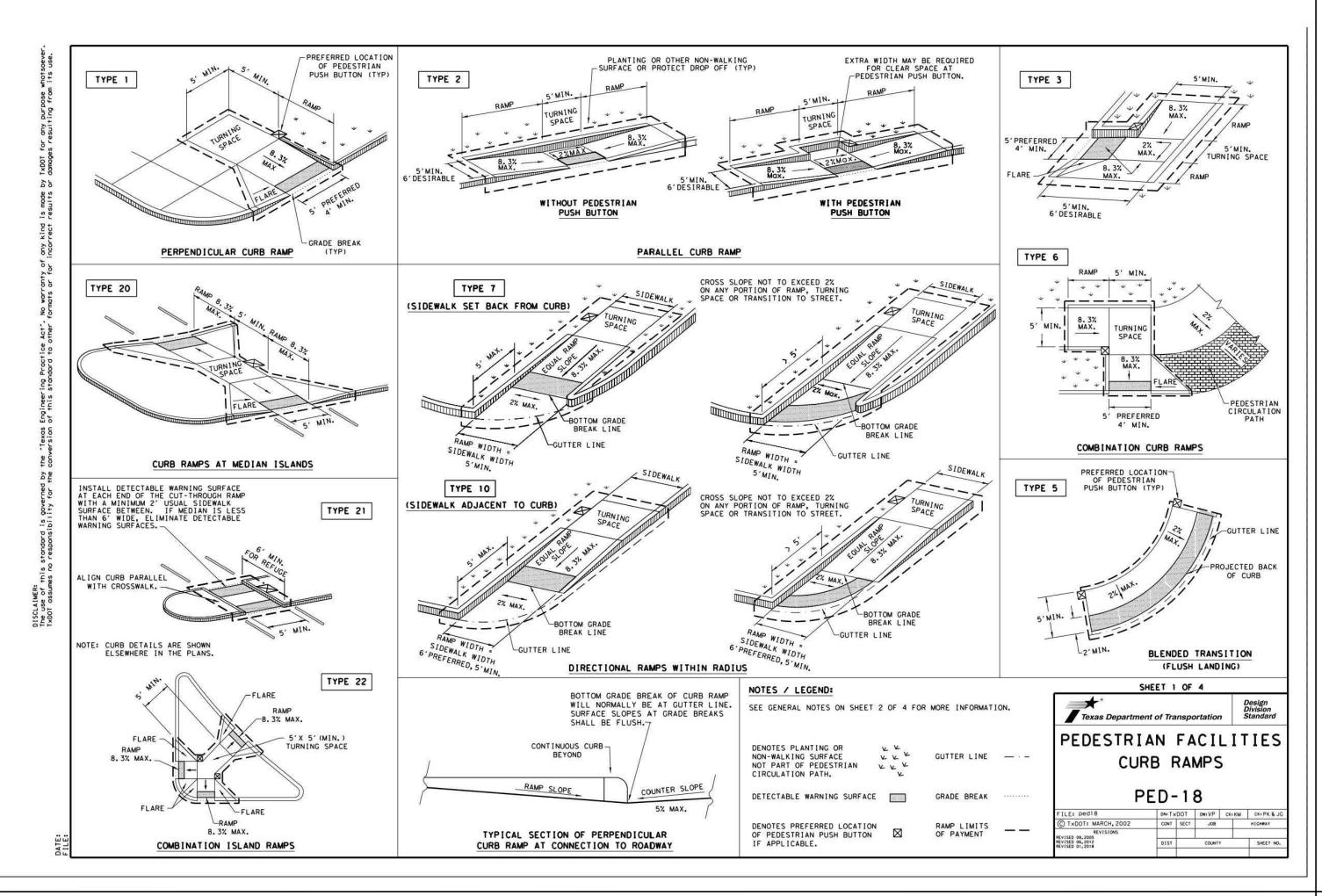
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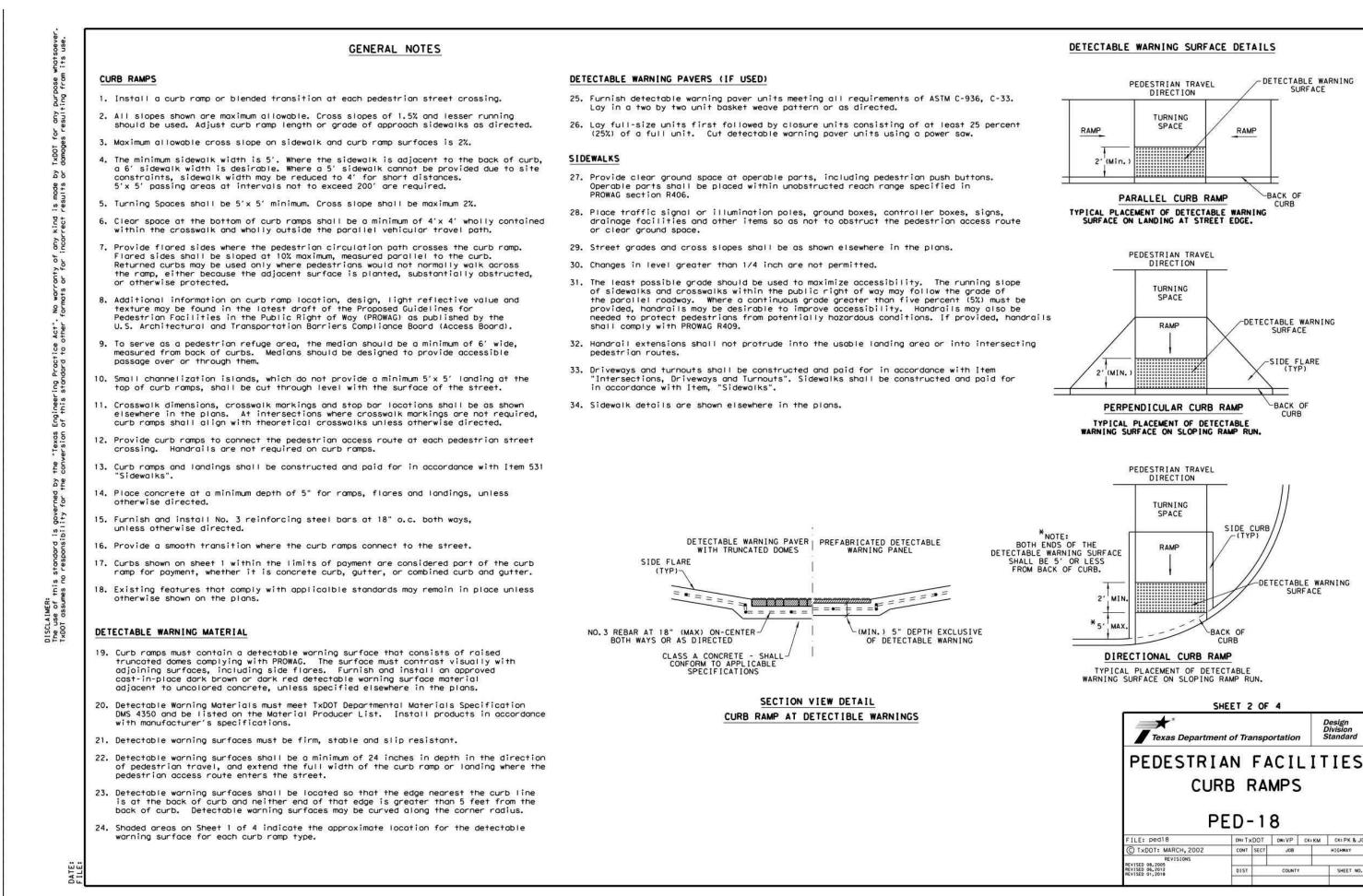
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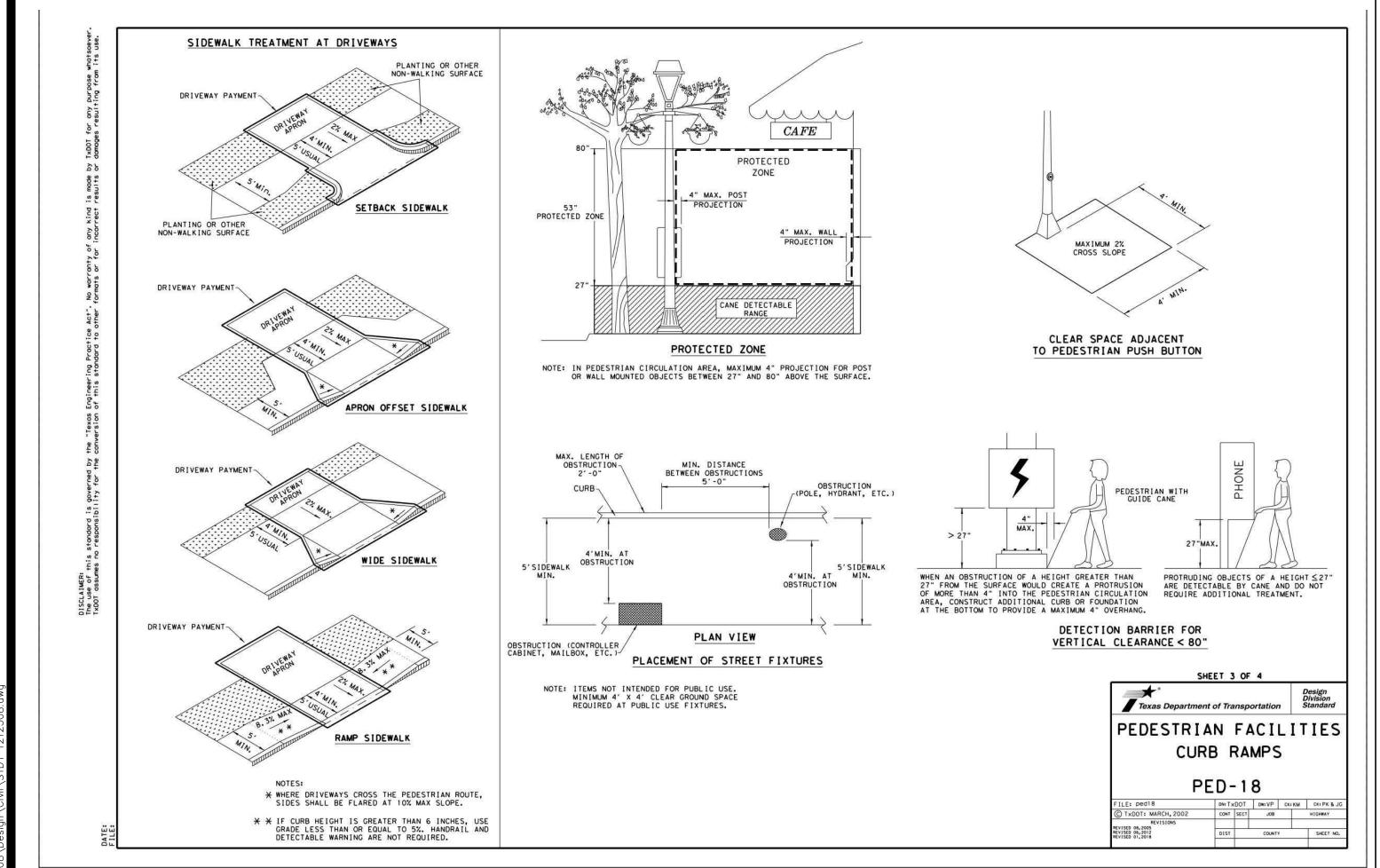
PLAT NO. 22-1180041 JOB NO. 12125-08 JUNE 2023 DESIGNER CHECKED BS DRAWN FP

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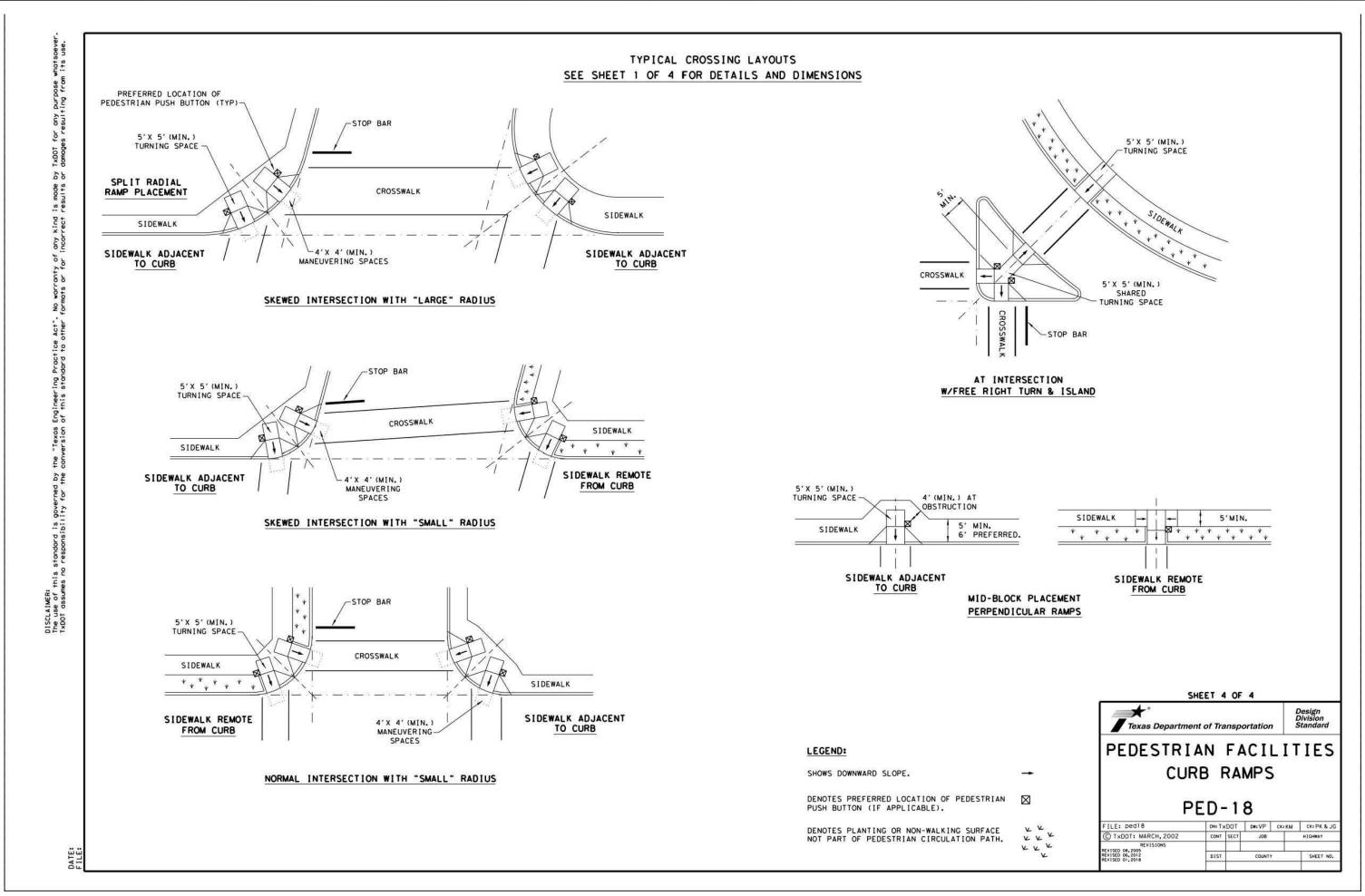
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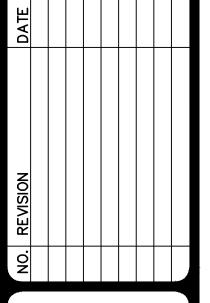


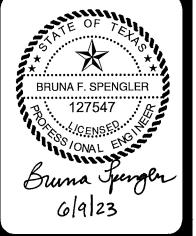




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FAPE-DAWSON
ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.900

CIBOLO CANYON - UNIT 9C, ENCLA SAN ANTONIO, TEXAS

PLAT NO. 22-11800410

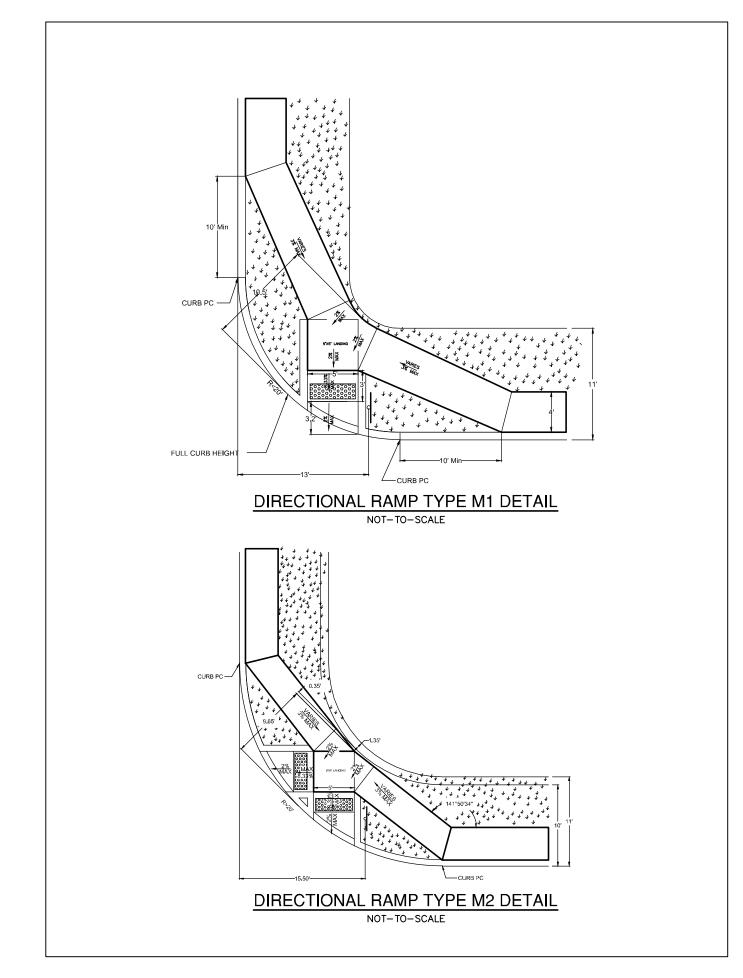
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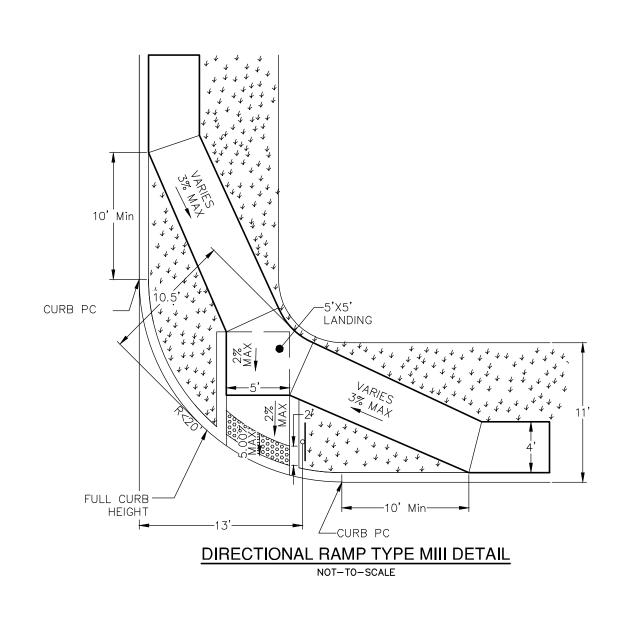
DATE JUNE 2023

DESIGNER CB

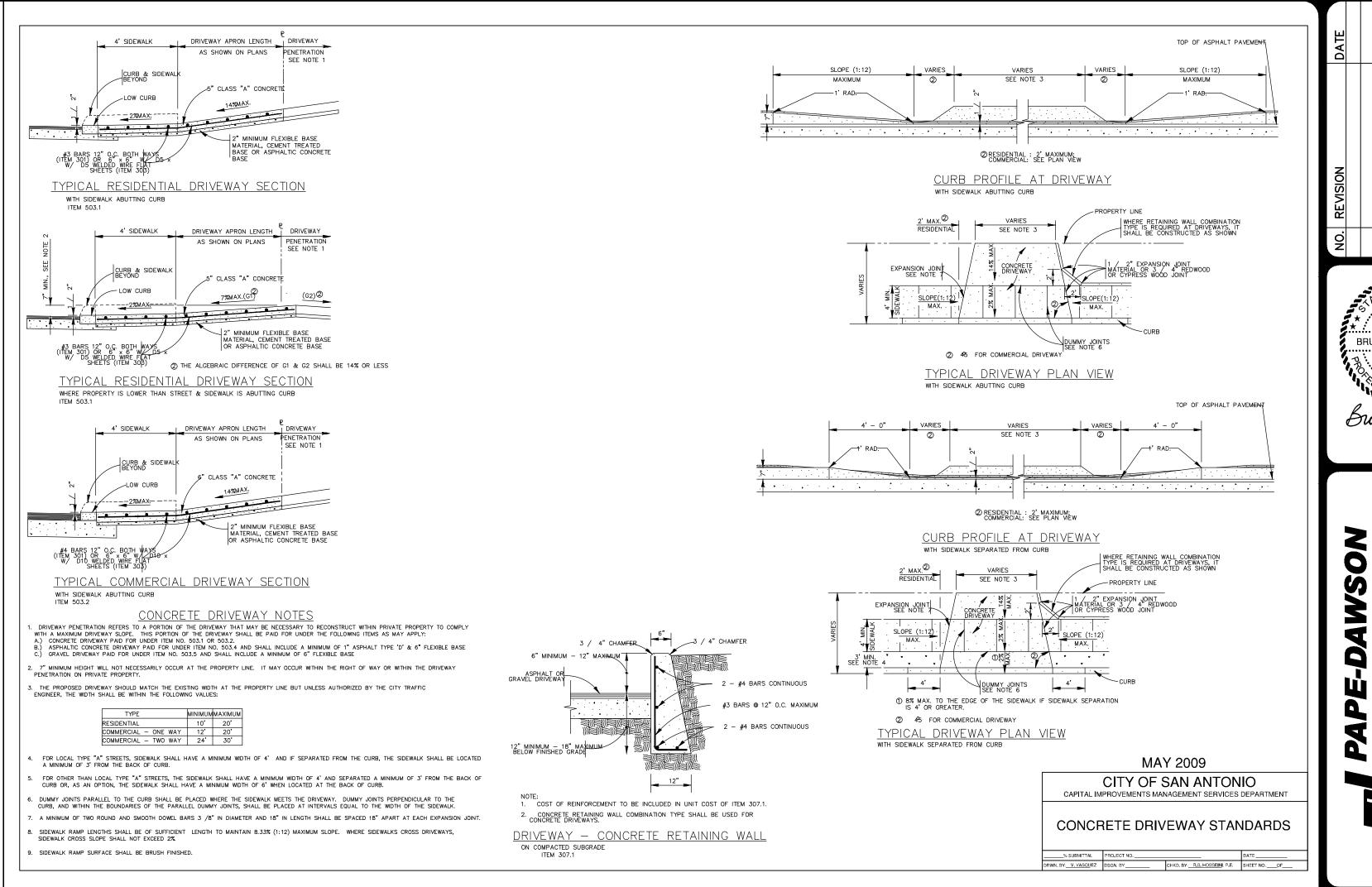
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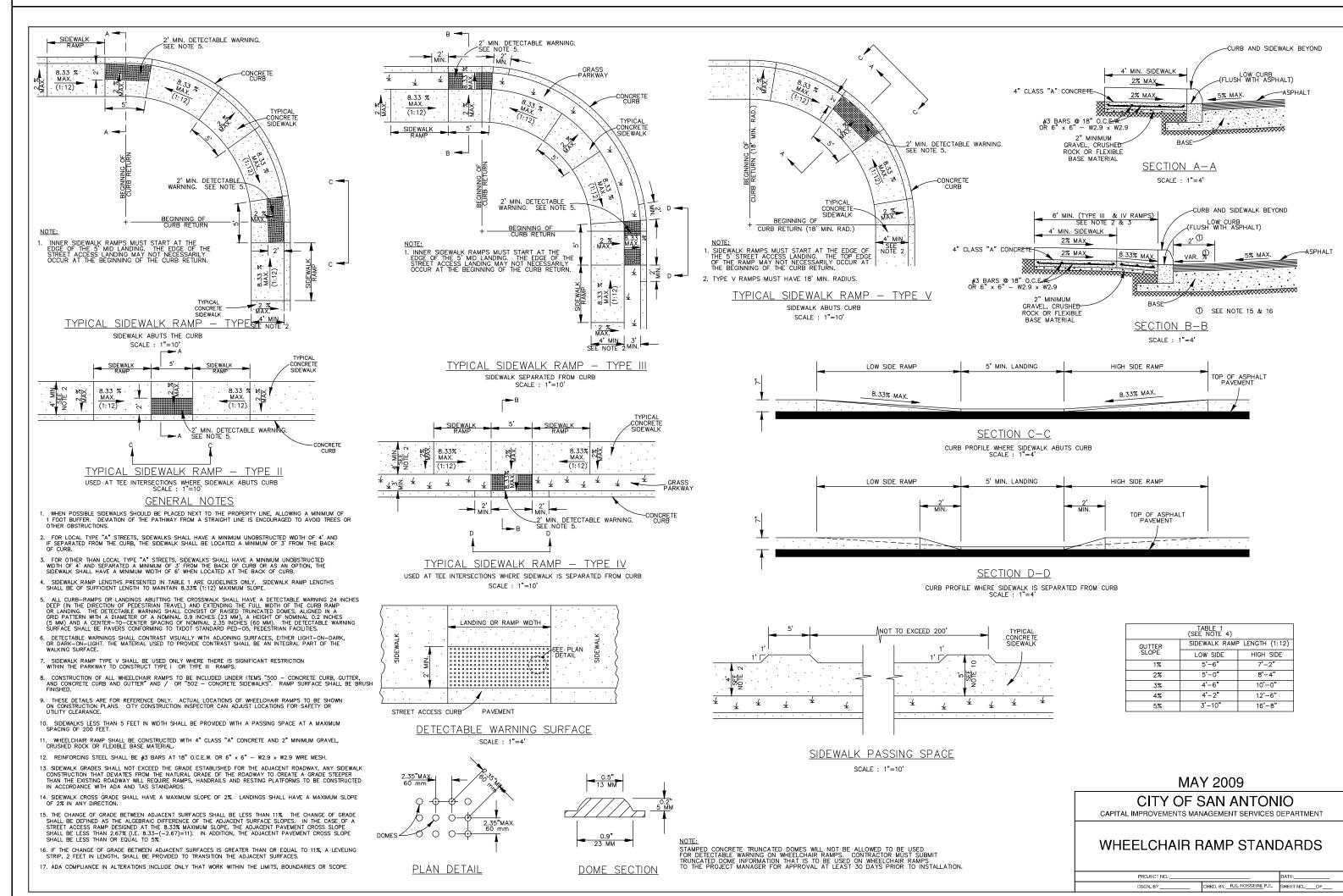
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CIBOLO CANYON - UNIT 9C, ENCLAVE SAN ANTONIO, TEXAS

BRUNA F. SPENGLER

PLAT NO. 22-11800410

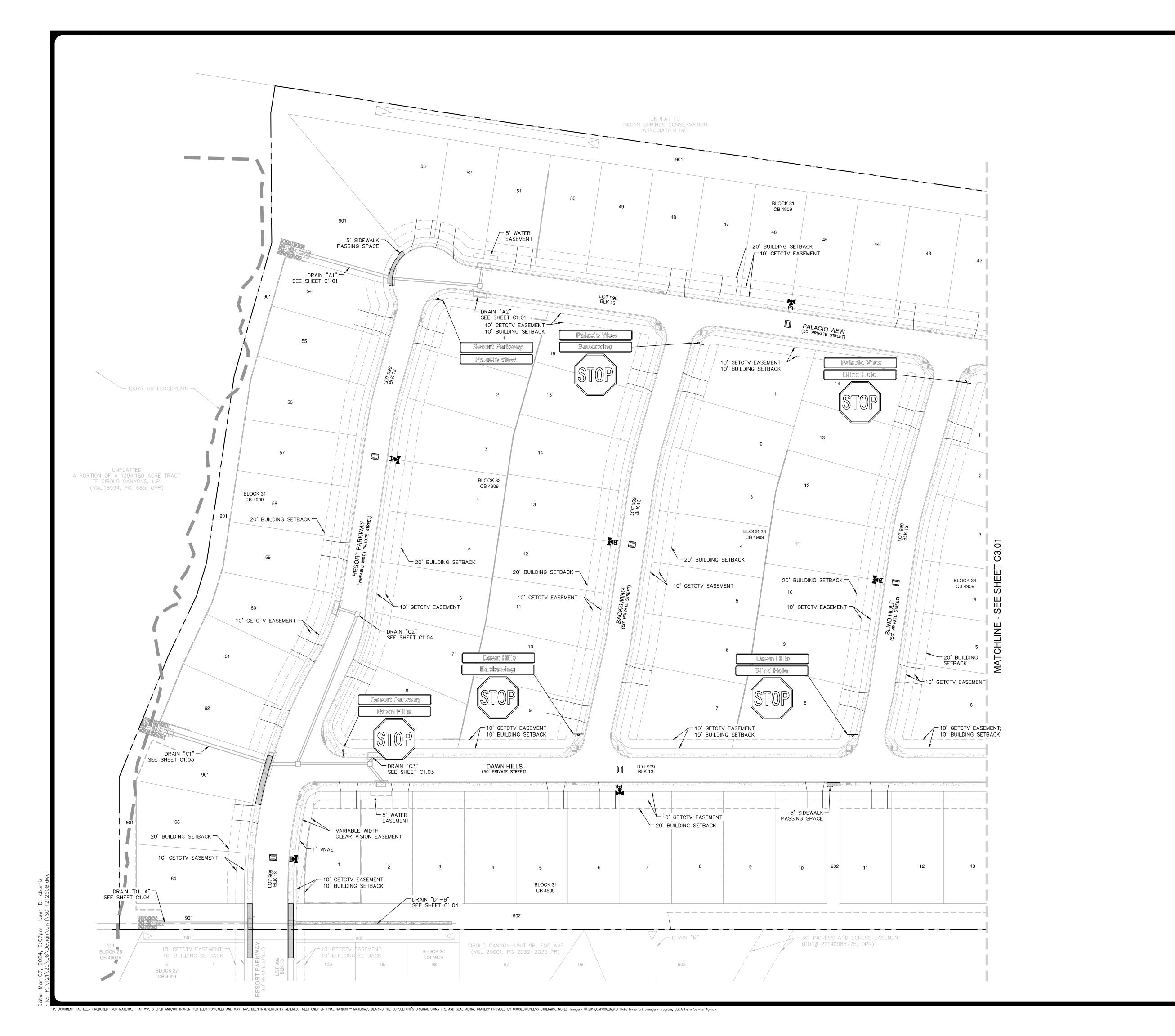
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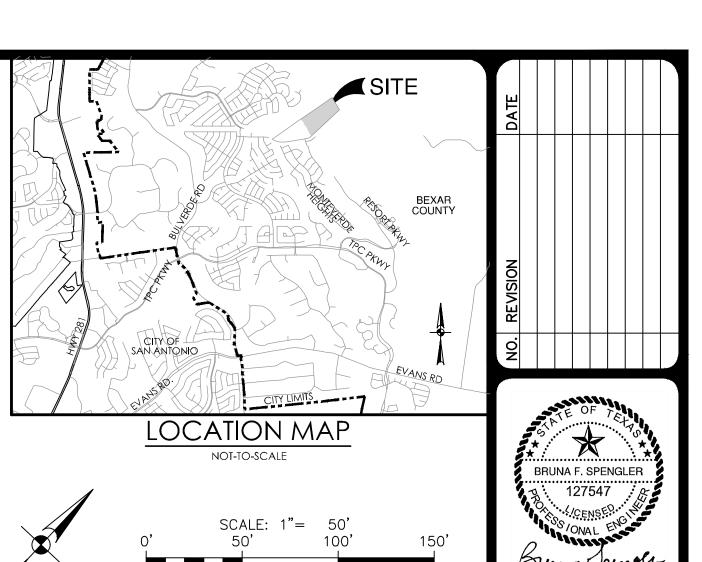
DATE JUNE 2023

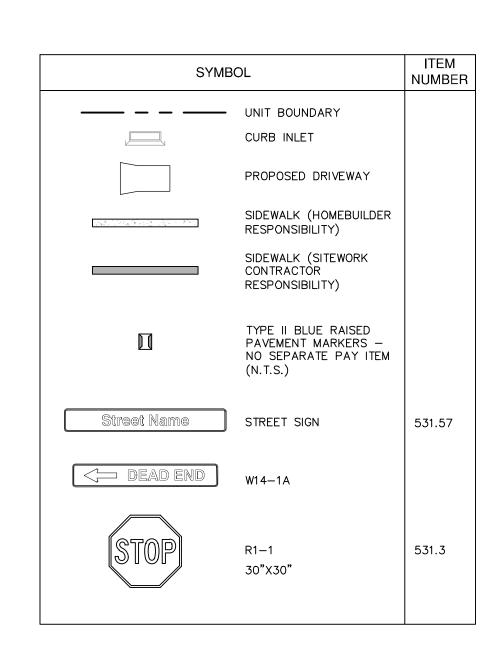
DESIGNER CB

CHECKED BS DRAWN FP

SHEET C2.09







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.

PLAT NO.	22-11	800	410
JOB NO	121:	25-08	
DATE	JUNE	2023	
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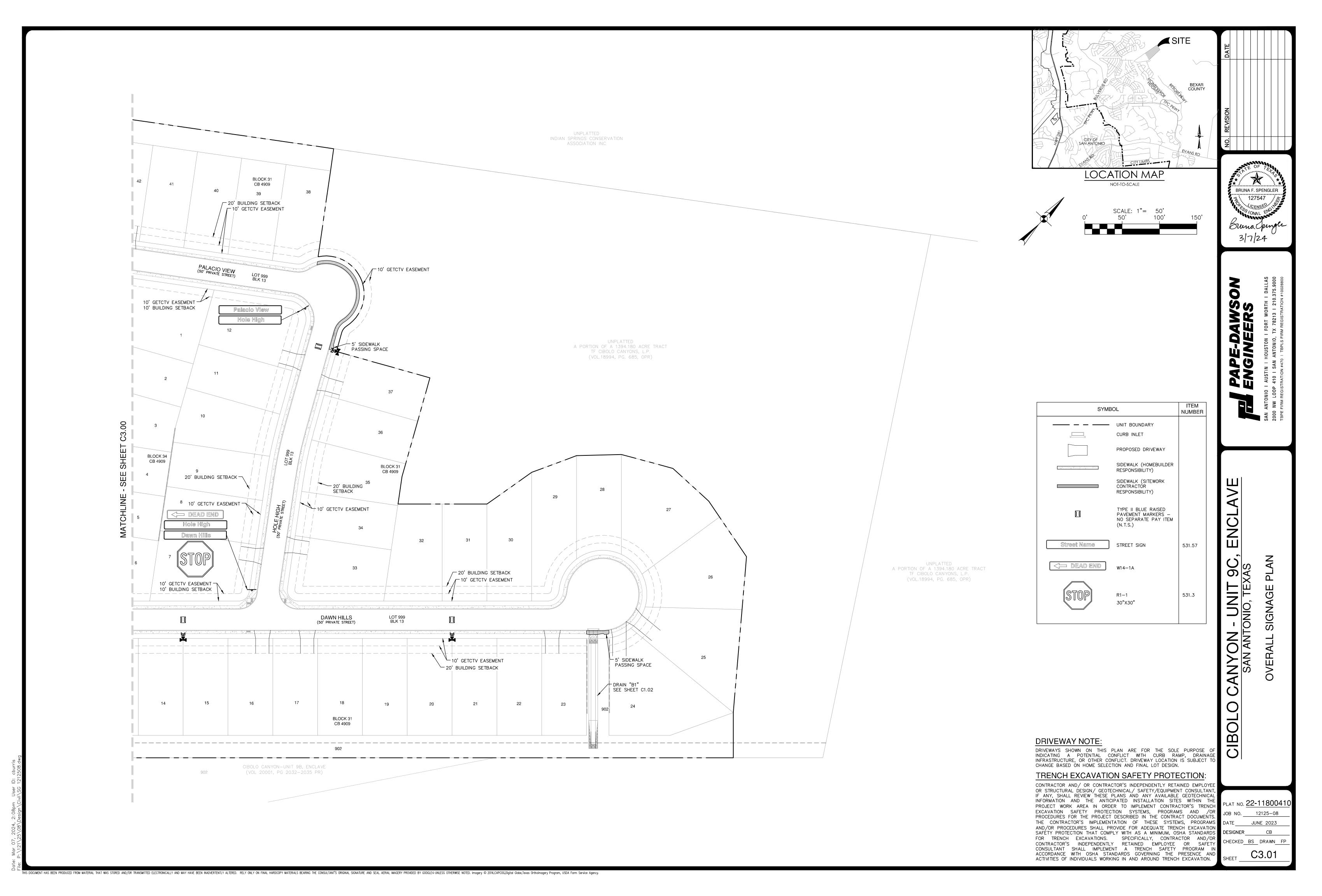
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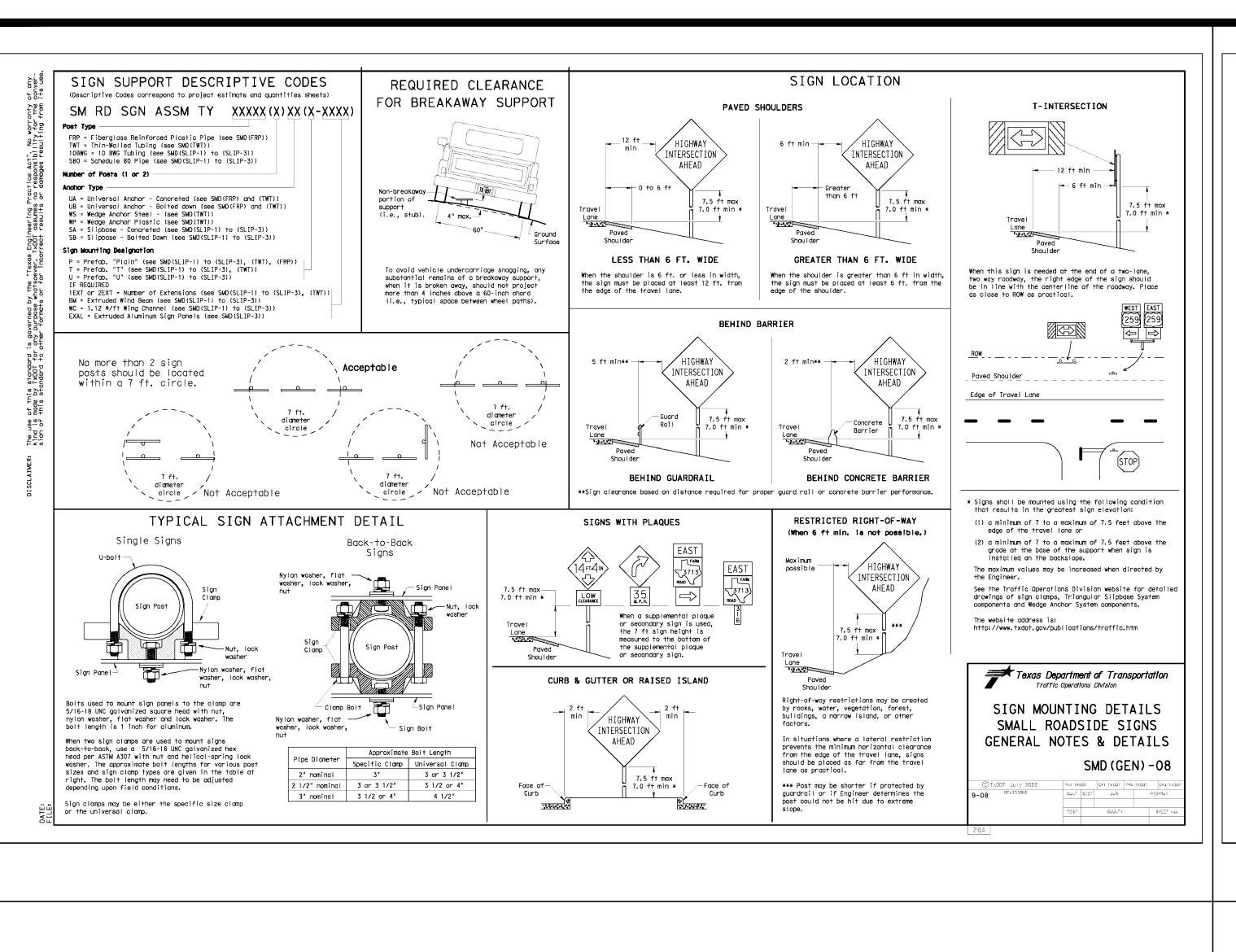
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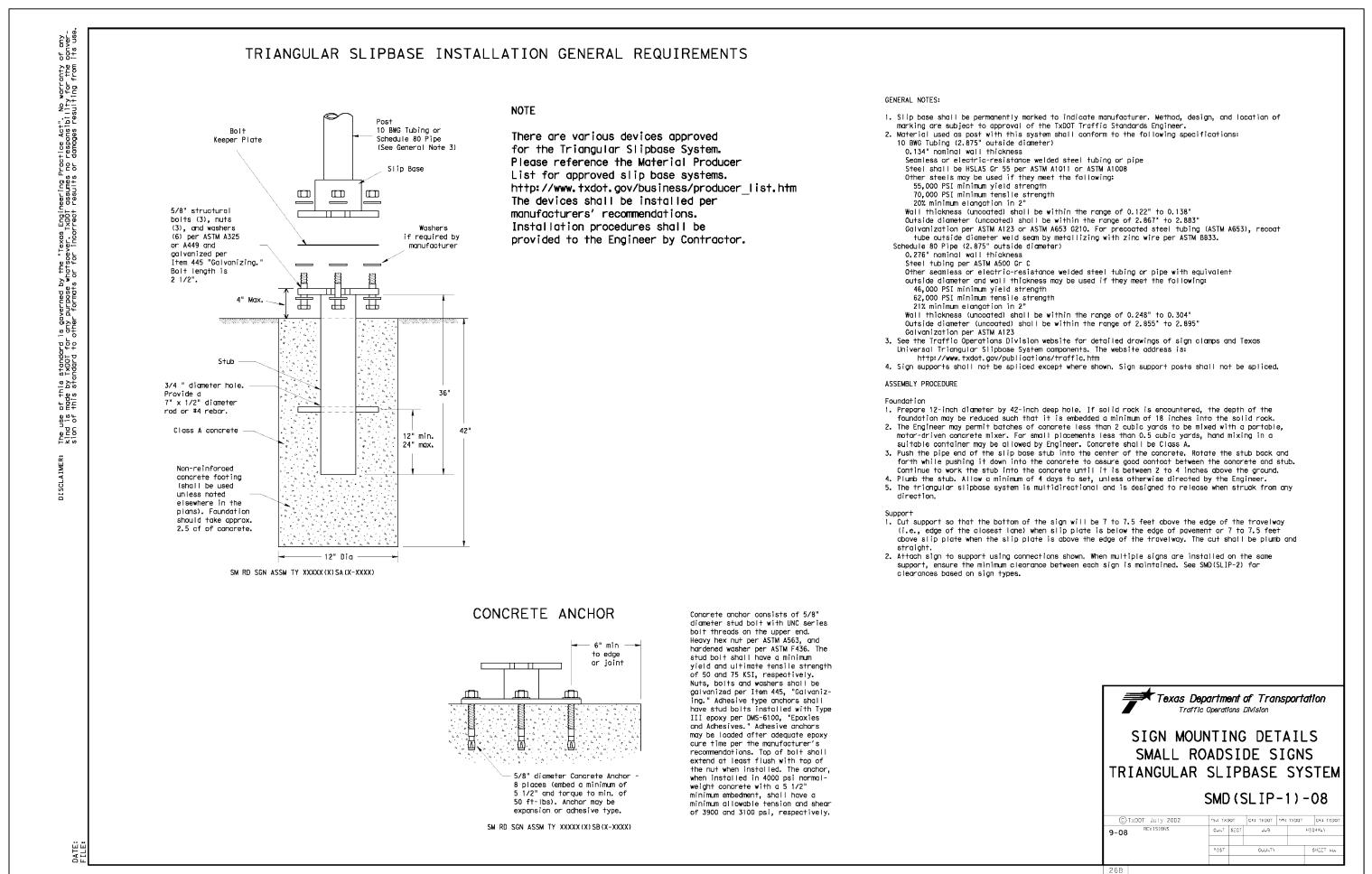
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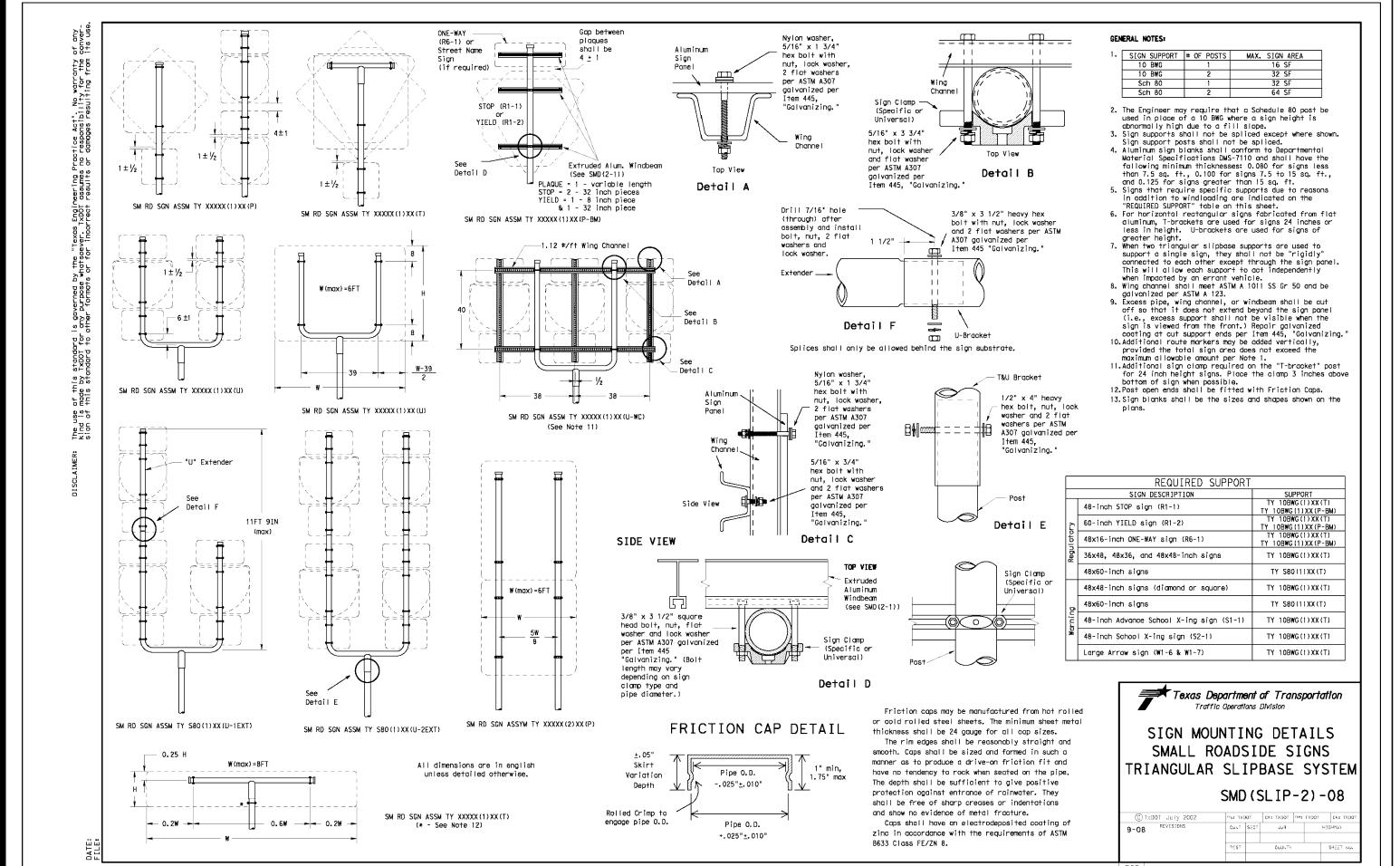
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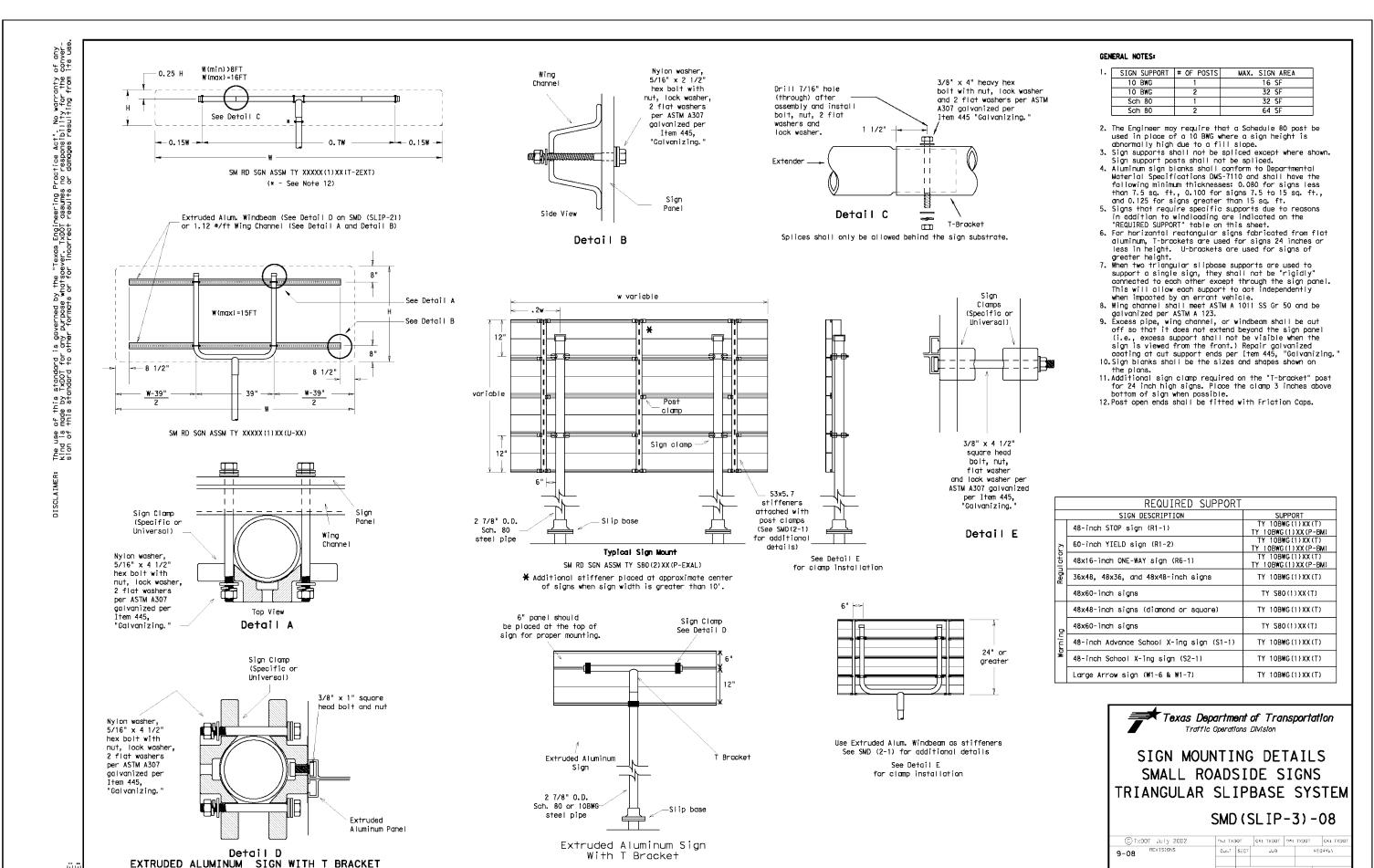
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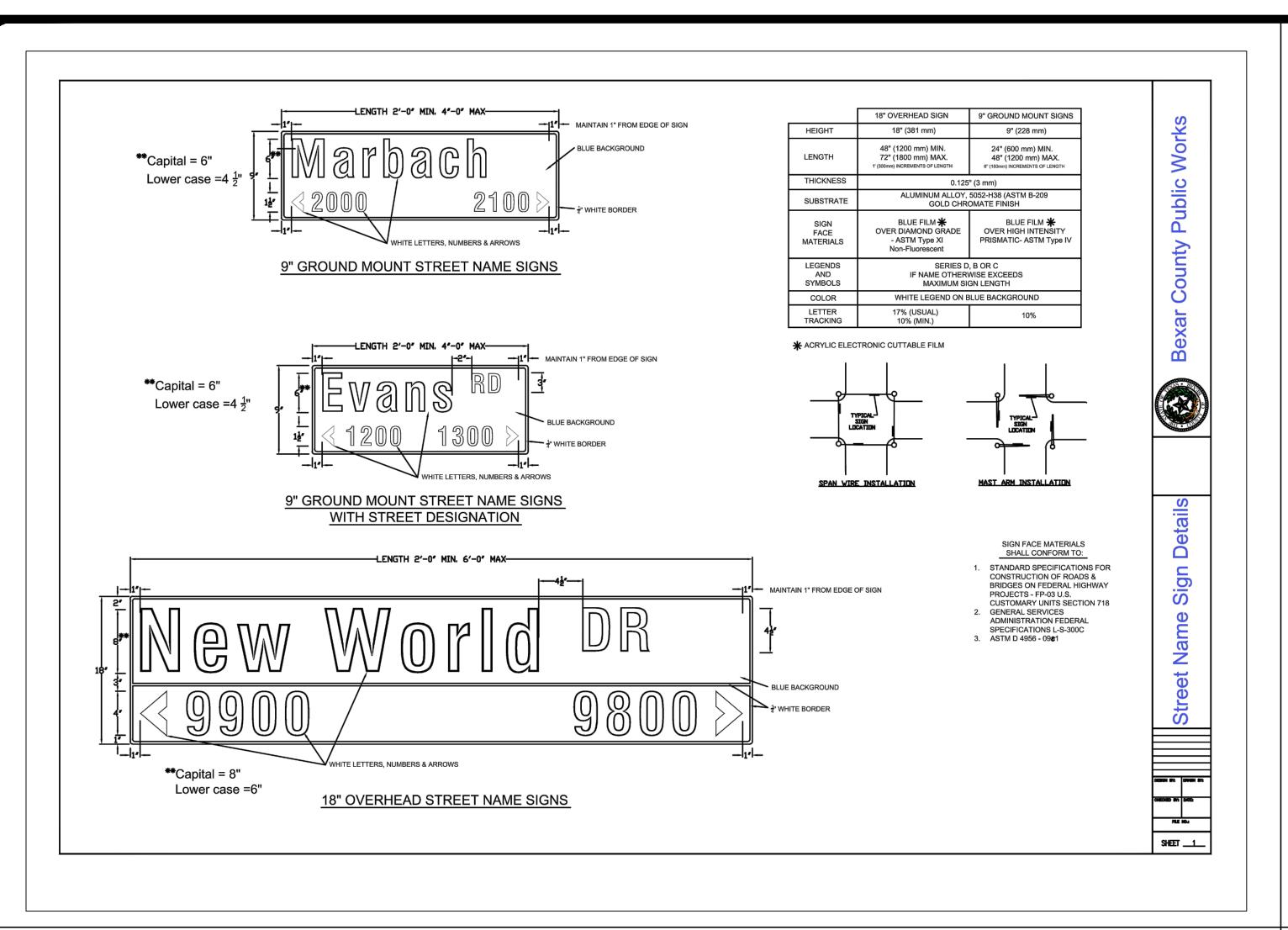
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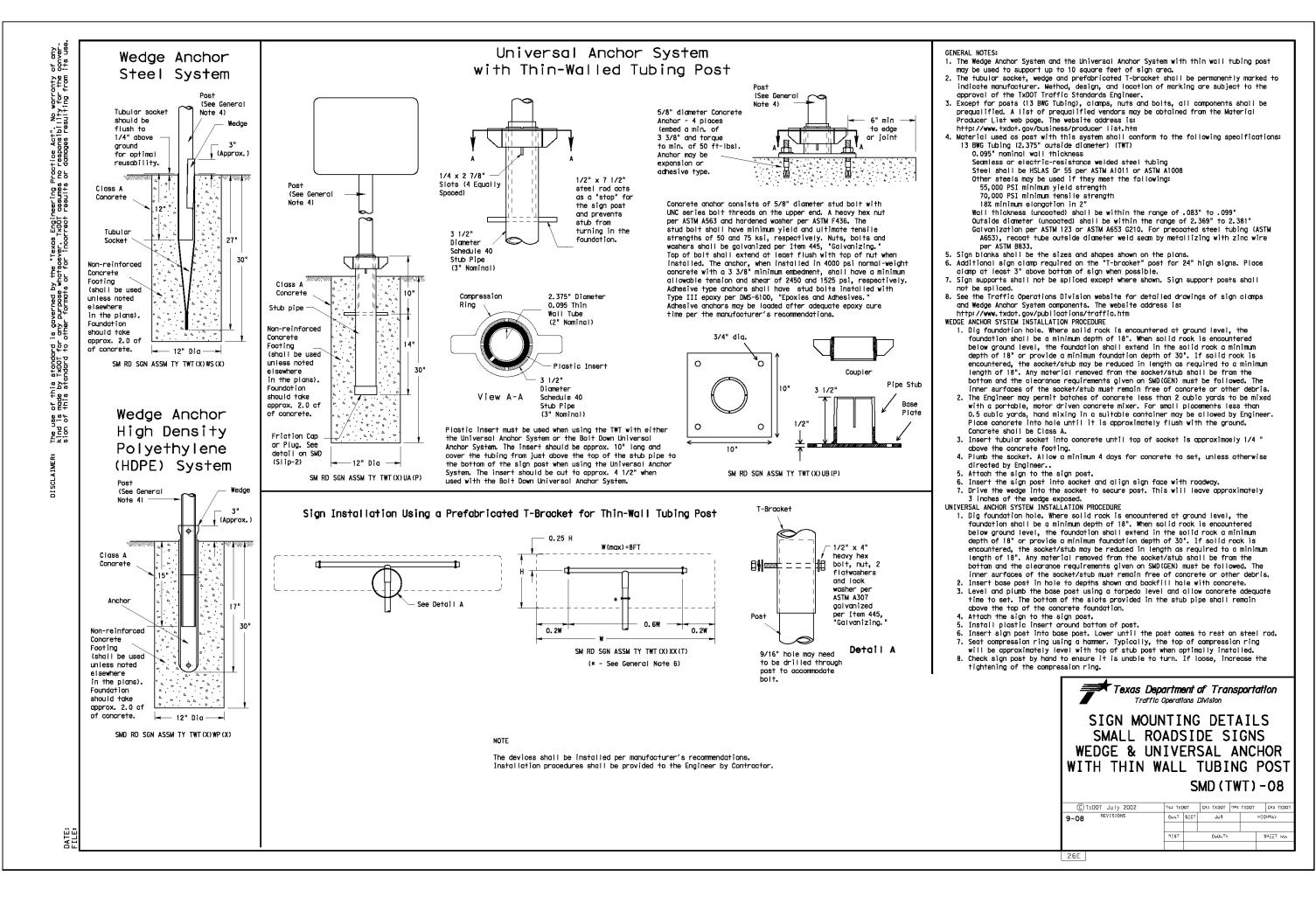


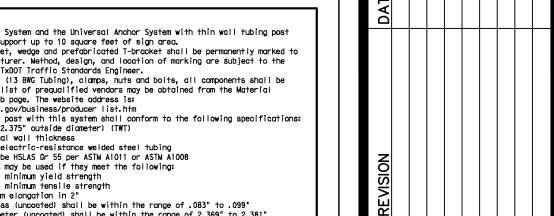
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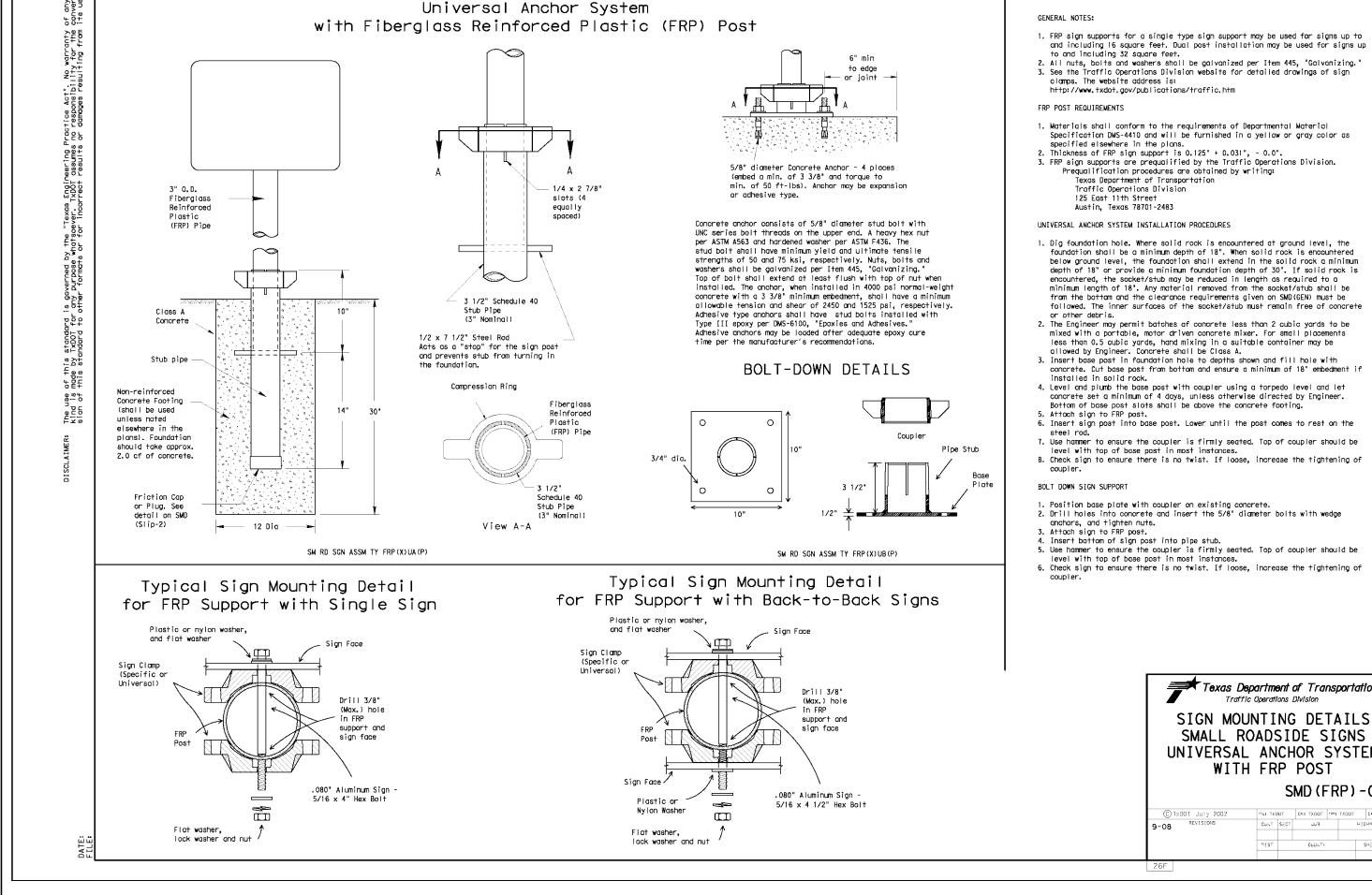
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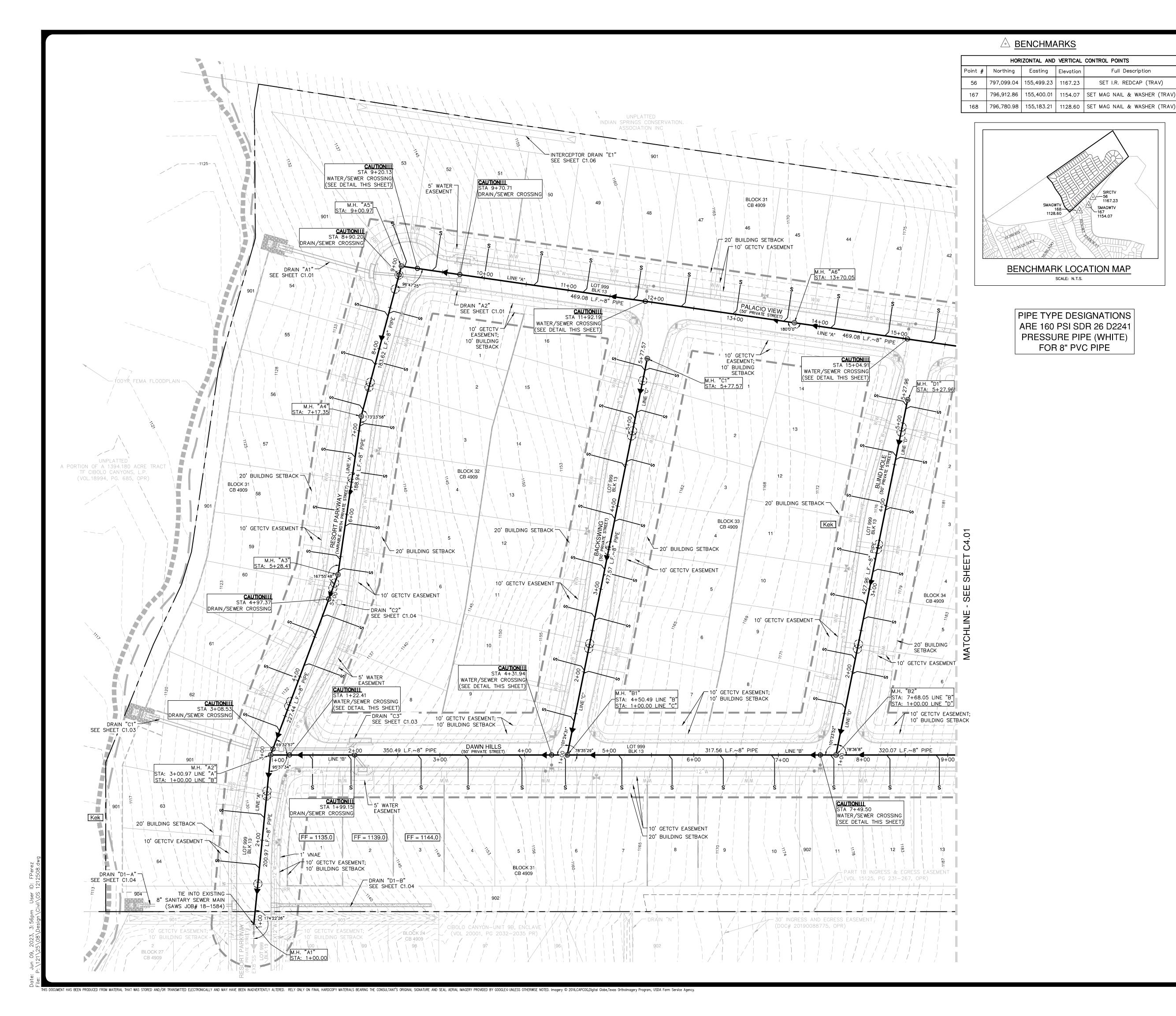
level with top of base post in most instances. 6. Check sign to ensure there is no twist. If loose, increase the tightening of

> SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WITH FRP POST

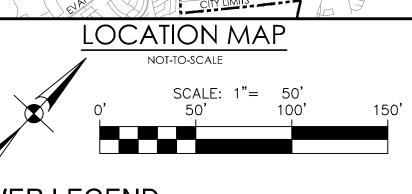
JOB NO. 12125-08 DESIGNER HECKED BS DRAWN FF

Texas Department of Transportation PLAT NO. 22-1180041 UNIVERSAL ANCHOR SYSTEM









SEWER LEGEND

PROJECT LIMITS EXISTING WATER EXISTING SEWER PROPOSED SEWER FIRE HYDRANT PROPOSED WATER PROPOSED SEWER LATERAL FINISHED FLOOR ELEVATION FF = XXXX.XX FOR SEWER Kek

FINISHED GROUND/PAVEMENT

WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET

(TOP OF GRADE)

KAINER FORMATION CAUTION !!! WATER/SEWER CROSSING

100' SEWER ENVELOPE

REFERENCE SAWS SPEC. ___ITEM_812 PROPOSED WATER LINE -SEPARATION DISTANCE AND PROTECTION REQUIREMENTS

THE REQUIREMENTS OF ASTM TO COMPLY WITH 30 TAC D2241 WITH ONE 20' JOINT 217.53(d) AND 290.44(e) CENTERED AT THE WATER CROSSING PROPOSED SANITARY SEWER LINE

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

PRIVATE STREET DESIGNATION

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATE AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

OPEN SPACE NOTE:

LOT 901, BLOCKS X AND LOT 901 BLOCK X ARE DESIGNATED AS PRIVATE OPEN SPACE, PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT.

CONDUIT NOTES:

- 1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CUR WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
- 2. CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
- 3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

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 TH 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 SAFÉTY 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 I 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 TH ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO TH START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL B THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL B AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

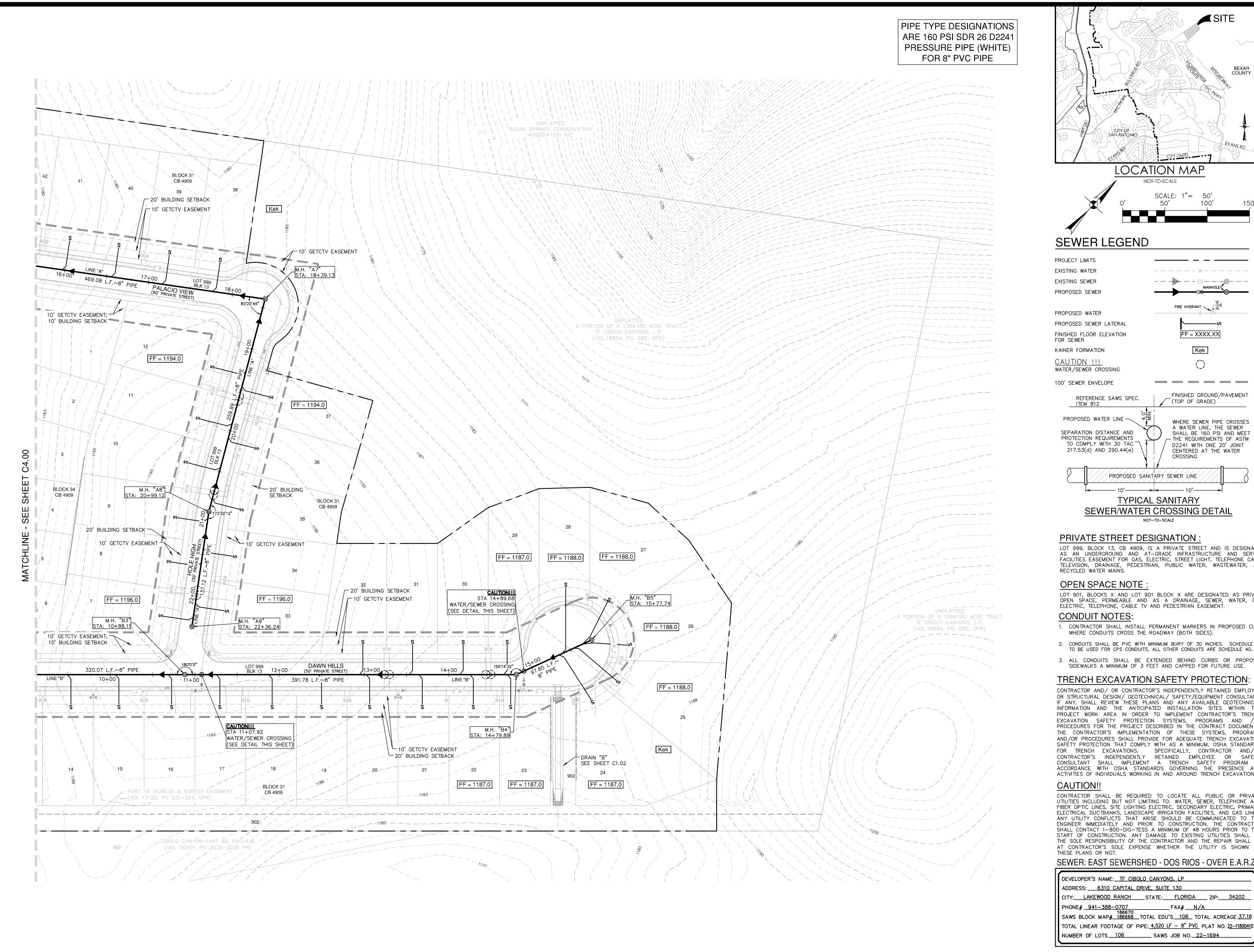
SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.



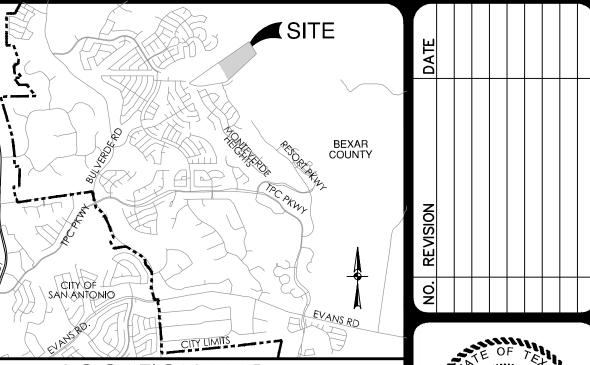
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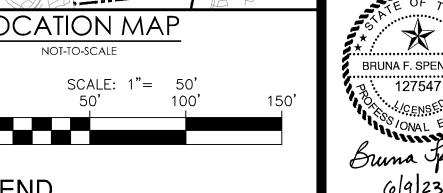
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PLAT NO. **22-118004**1 JOB NO. 12125-08 JUNE 2023 DESIGNER CHECKED BS DRAWN FP



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FF = XXXX.XX

Kek

(TOP OF GRADE)

FINISHED GROUND/PAVEMENT

WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER

SEWER LEGEND

FINISHED FLOOR ELEVATION

WATER/SEWER CROSSING

REFERENCE SAWS SPEC. PROPOSED WATER LINE -

SHALL BE 160 PSI AND MEET - THE REQUIREMENTS OF ASTM PROTECTION REQUIREMENTS TO COMPLY WITH 30 TAC D2241 WITH ONE 20' JOINT 217.53(d) AND 290.44(e) CENTERED AT THE WATER CROSSING

PROPOSED SANITARY SEWER LINE TYPICAL SANITARY

PRIVATE STREET DESIGNATION

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATE AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

OPEN SPACE NOTE:

LOT 901, BLOCKS X AND LOT 901 BLOCK X ARE DESIGNATED AS PRIVATE OPEN SPACE, PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GA ELECTRIC, TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT. **CONDUIT NOTES:**

- 1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURE WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
- 2. CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80
- 3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED

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 SAFÉTY 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 I ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

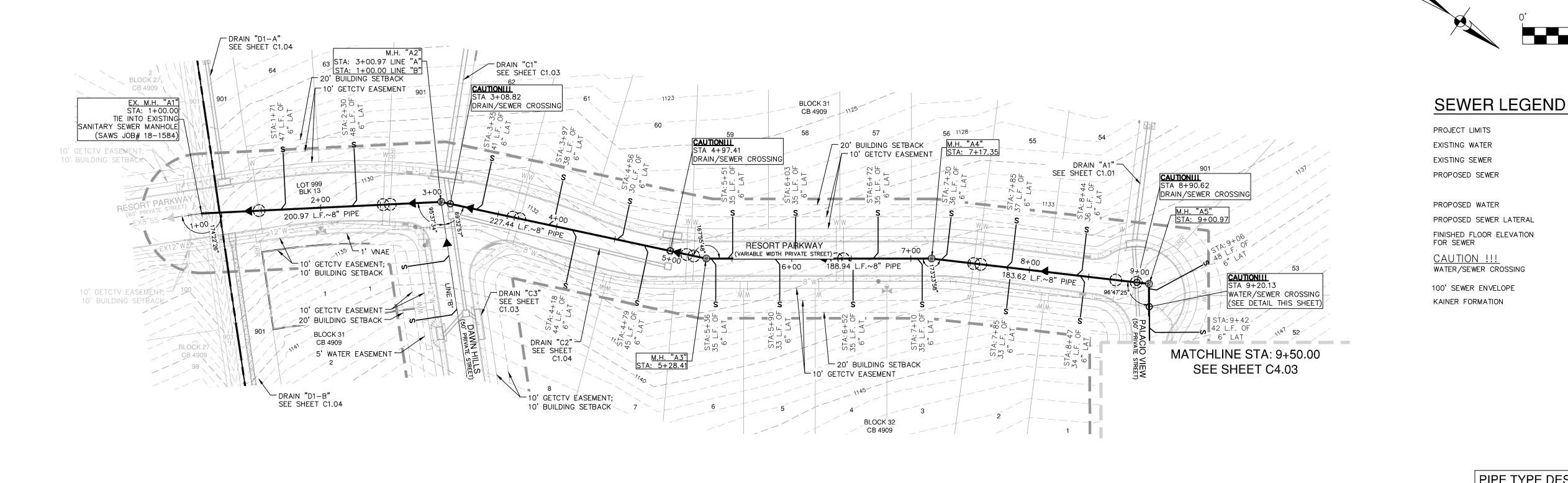
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SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

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PLAT NO. 22-1180041 JOB NO. 12125-08 JUNE 2023 DESIGNER CHECKED BS DRAWN FP



SANITARY SEWER LINE "A" STA. 1+00.00 TO 9+50.00

PROPOSED GROUND

6+00

6+50

7+00

7+50

M.H. "A4" STA: 7+17.35 TOP = ±1137.0

MANHOLE RING

ENCASEMENT

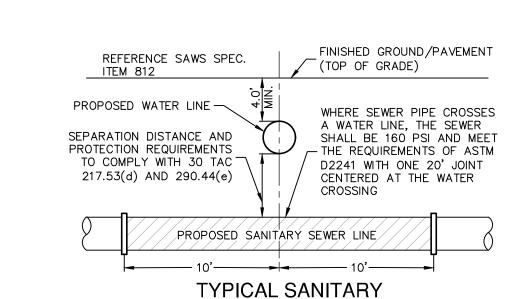
PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241

PRESSURE PIPE (WHITE) FOR 8" PVC PIPE

FF = XXXX.XX

 \bigcirc

Kek



PRIVATE STREET DESIGNATION :

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SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

OPEN SPACE NOTE :

VERTICAL SCALE: 1" = 5'

1145

1140

HORIZONTAL SCALE: 1" = 50'

PROPOSED 8"

_WATER MAIN

STA: 9+20.13

ELEV: ±1134.1

MANHOLE RING

ENCASEMENT

DRAIN "A1"

LOT 901, BLOCKS X AND LOT 901 BLOCK X ARE DESIGNATED AS PRIVATE OPEN SPACE. PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS,

TRENCH EXCAVATION SAFETY PROTECTION:

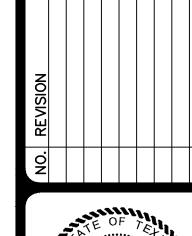
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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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SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

•	DEVELOPER'S NAME: TF CIBOLO CANYONS, LP
	ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
	CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
	PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
	186670 SAWS BLOCK MAP# 186668 TOTAL EDU'S 106 TOTAL ACREAGE 37.16
	TOTAL LINEAR FOOTAGE OF PIPE: 4,520 LF - 8" PVC PLAT NO. 22-11800410
	NUMBER OF LOTS 106 SAWS JOB NO. 22-1694
l'	





PAPE-DAWSON

ENGINEERS

ITONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS

NYON - UNIT 9C, ENCLAVE SAN ANTONIO, TEXAS

PROFIL

LA 50.

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PLAT NO. 22-11800410

JOB NO. 12125-08

DATE JUNE 2023

DESIGNER CB

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EXISTING GROUND

2+50

1145

1140

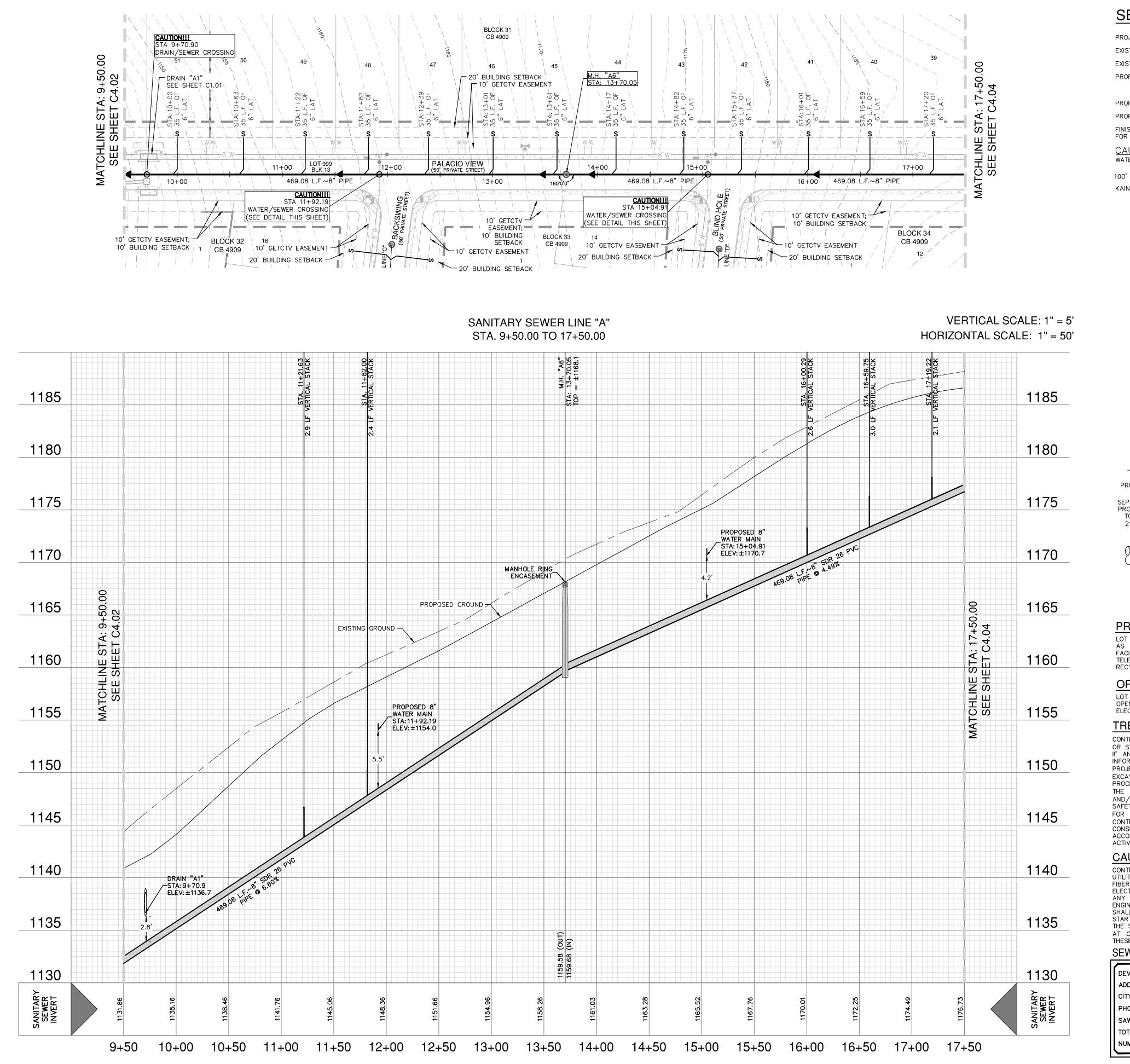
1135

STA: 8+90.6-MANHOLE RING ELEV: ±1132.6 4.1 1130 ENCASEMENT ADJUST TOP OF MANHOLE
FROM ELEV: 1125.7 PROPOSED FILL SUBGRADE TO ELEV: 1126.09 98% COMPACTED DENSITY DRAIN "C2" 183.62 L.F.~8" SDR 26 PVC MANHOLE RING STA: 4+97.4~ PIPE @ 0.40% ENCASEMENT ELEV: ±1126.4 /-STA: 3+08.8 1125 ELEV: ±1122 4 PROPOSED FILL SUBGRADE 98% COMPACTED DENSITY 227.44 L.F.~8" SDR 26 PVC හ 4 1120 ST 1115 1110 1110 1105 1105

5+00

4+50

MANHOLE RING ENCASEMENT



IS 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,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.



SEWER LEGEND

PROJECT LIMITS

EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

PROPOSED SEWER LATERAL

FINISHED FLOOR ELEVATION
FOR SEWER

CAUTION !!!

WATER/SEWER CROSSING

100' SEWER ENVELOPE

KAINER FORMATION

BRUNA F. SPENGLER

BRUNA F. SPENGLER

BRUNA F. SPENGLER

SOLUTION OF THE SPENGLER

BRUNA F. SPENGLER

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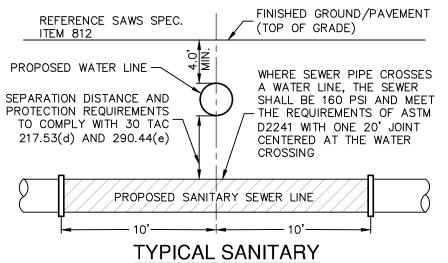
PAPE-DAWSON ENGINEERS

PROFIL

SI T

94X

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



PRIVATE STREET DESIGNATION:

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

SEWER/WATER CROSSING DETAIL

OPEN SPACE NOTE:

LOT 901, BLOCKS X AND LOT 901 BLOCK X ARE DESIGNATED AS PRIVATE OPEN SPACE, PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT.

TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLO

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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SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

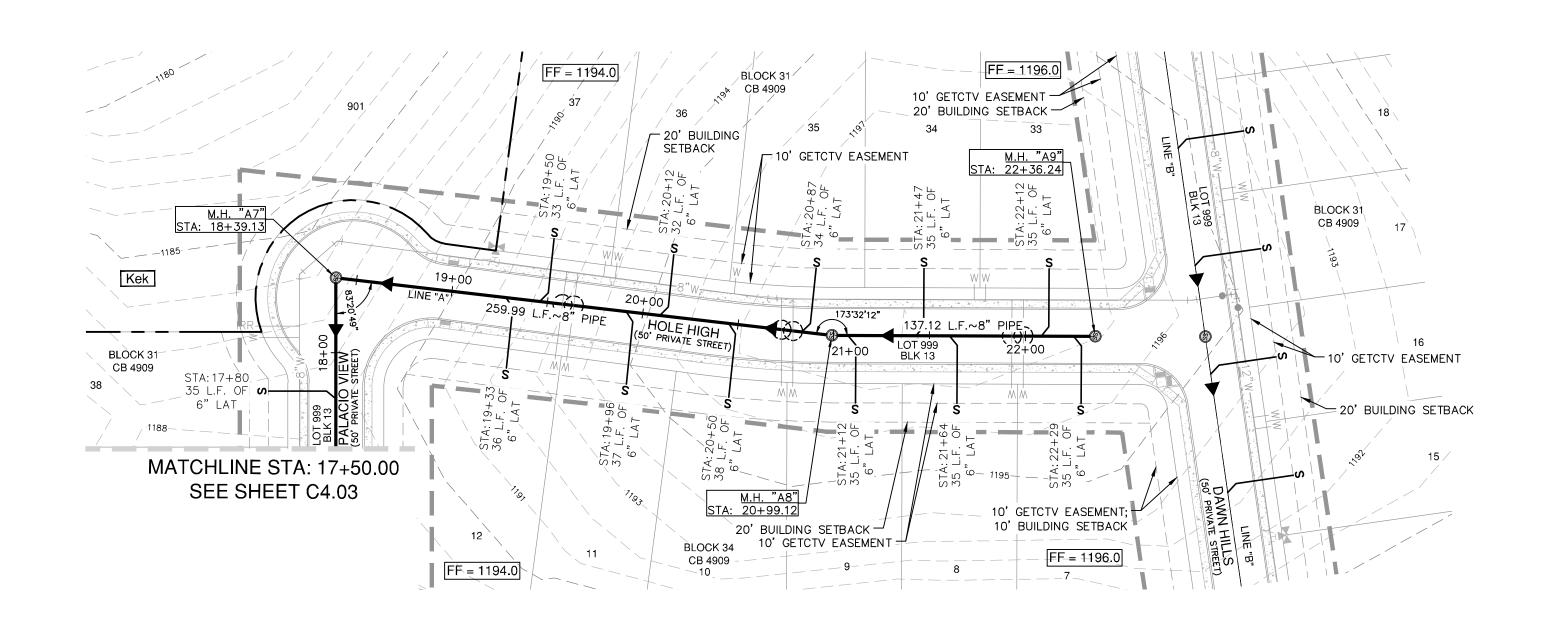
DEVELOPER'S NAME: TF CIBOLO CANYONS, LP
ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
186670 SAWS BLOCK MAP# <u>186668</u> TOTAL EDU'S <u>106</u> TOTAL ACREAGE <u>37.16</u>
TOTAL LINEAR FOOTAGE OF PIPE: 4,520 LF - 8" PVC PLAT NO. 22-11800410
NUMBER OF LOTS 106 SAWS JOB NO. 22-1694

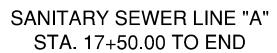
PLAT NO. 22-11800410

JOB NO. 12125-08

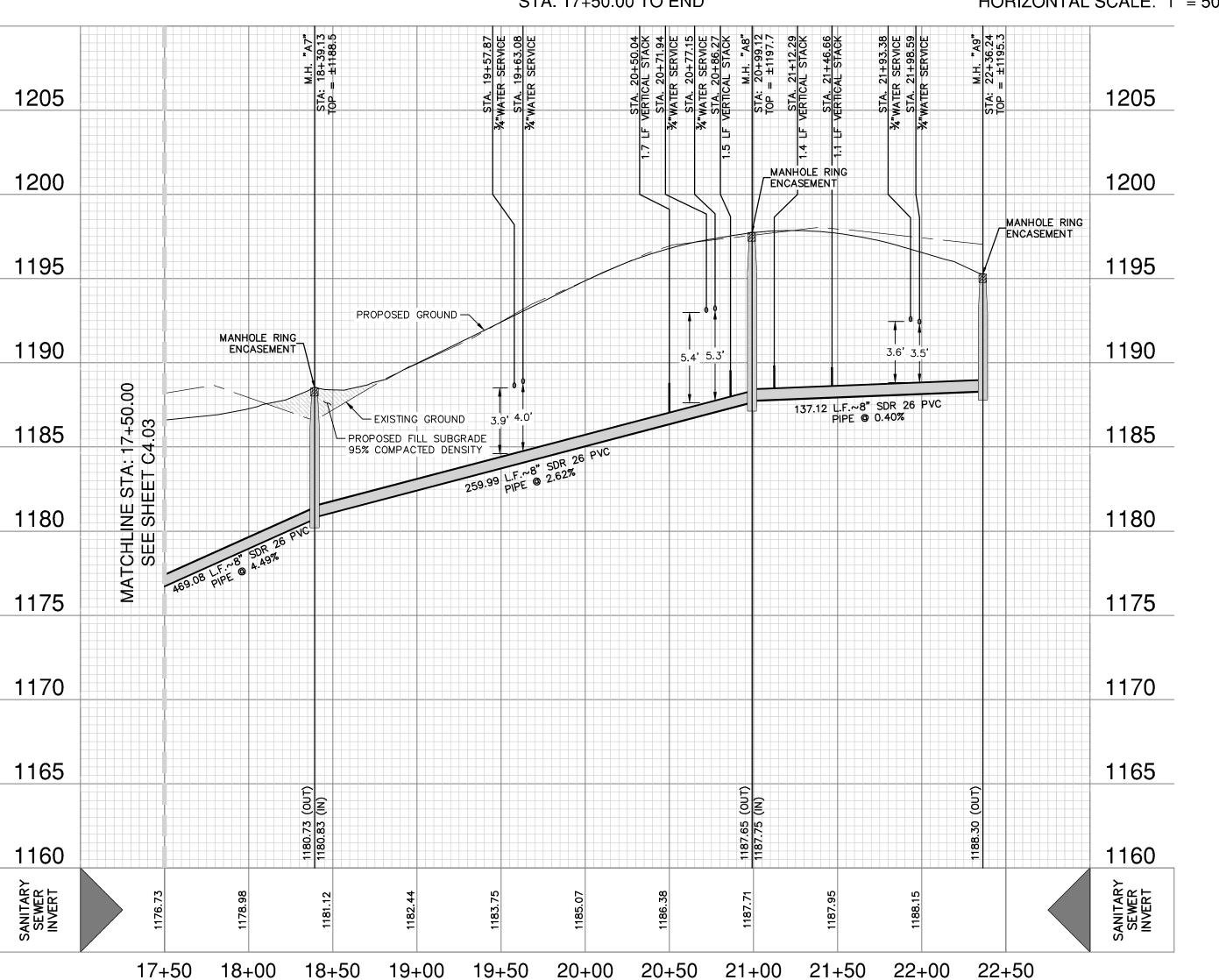
DATE JUNE 2023

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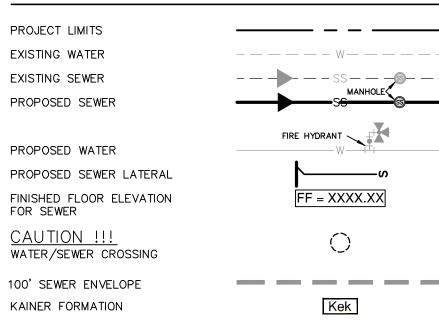


VERTICAL SCALE: 1" = 5' HORIZONTAL SCALE: 1" = 50'



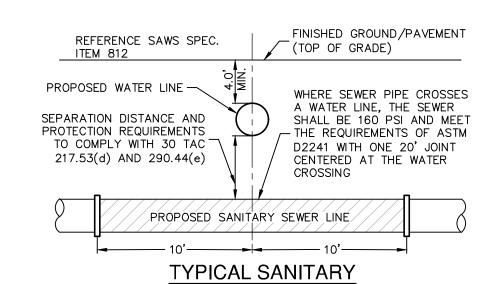


SEWER LEGEND



PIPE TYPE DESIGNATIONS ARE 160 PSI SDR 26 D2241 PRESSURE PIPE (WHITE)

FOR 8" PVC PIPE



PRIVATE STREET DESIGNATION:

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

SEWER/WATER CROSSING DETAIL

OPEN SPACE NOTE

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TRENCH EXCAVATION SAFETY PROTECTION:

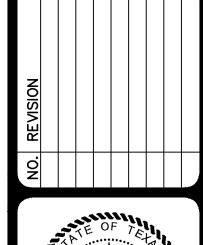
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CAUTION!!

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SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

DEVELOPER'S NAME: TF CIBOLO CANYONS, LP
ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
186670 SAWS BLOCK MAP# <u>186668</u> TOTAL EDU'S <u>106</u> TOTAL ACREAGE <u>37.16</u>
TOTAL LINEAR FOOTAGE OF PIPE: <u>4,520 LF - 8" PVC</u> PLAT NO. 2 <u>2-1180041</u> 0
NUMBER OF LOTS 106 SAWS JOB NO. 22-1694





PAPE-DAWSON ENGINEERS

PROFIL

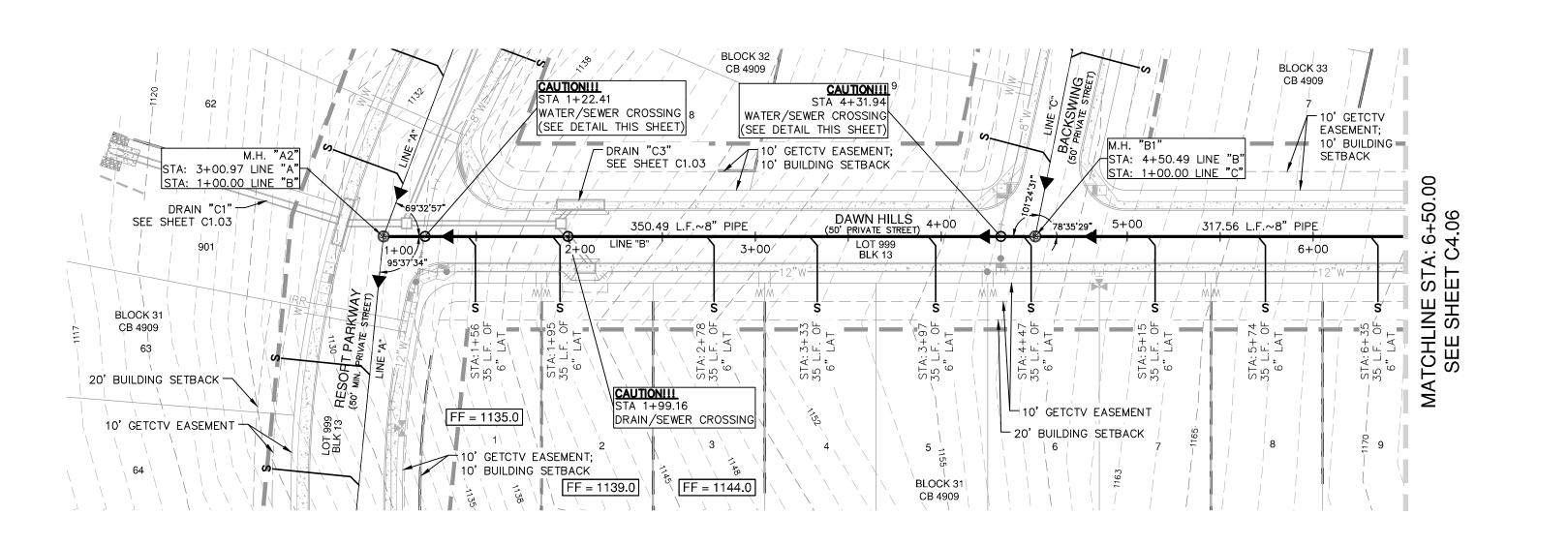
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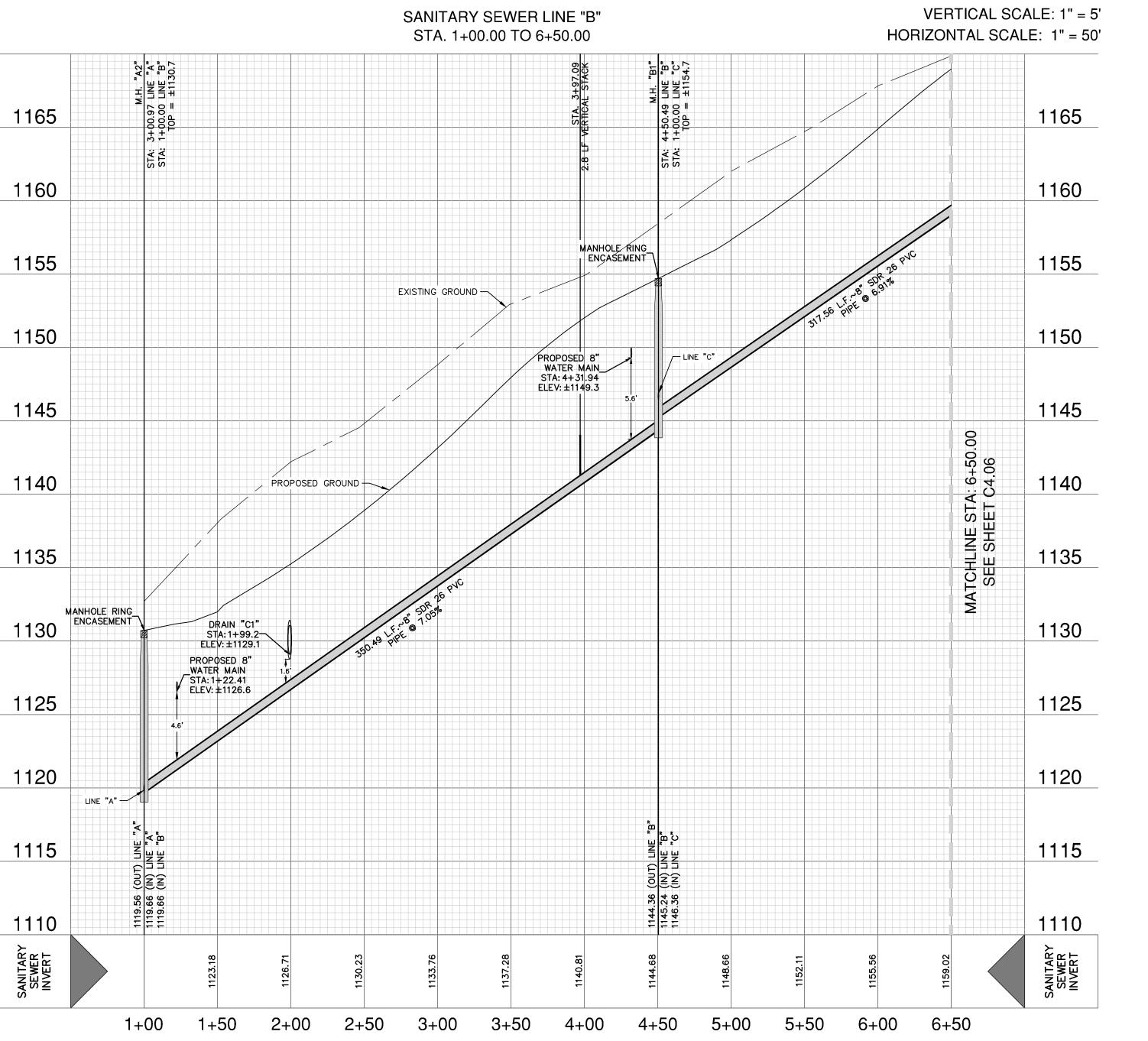
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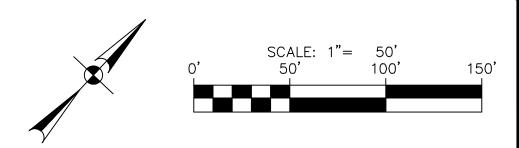
LAT NO. **22-118004**1 JOB NO. 12125-08 JUNE 2023 DESIGNER

CHECKED BS DRAWN FP

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SEWER LEGEND

PROJECT LIMITS

EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

PROPOSED WATER

PROPOSED SEWER LATERAL

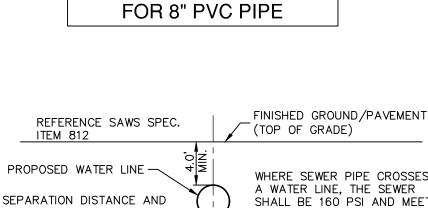
FINISHED FLOOR ELEVATION
FOR SEWER

CAUTION !!!

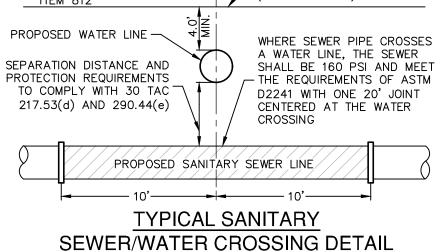
WATER/SEWER CROSSING

100' SEWER ENVELOPE

PIPE TYPE DESIGNATIONS



ARE 160 PSI SDR 26 D224 PRESSURE PIPE (WHITE)



PRIVATE STREET DESIGNATION:

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NOT-TO-SCALE

OPEN SPACE NOTE:

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SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

DEVELOPER'S NAME: TF CIBOLO CANYONS, LP
ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
186670 SAWS BLOCK MAP# <u>186668</u> TOTAL EDU'S <u>106</u> TOTAL ACREAGE <u>37.16</u>
TOTAL LINEAR FOOTAGE OF PIPE: 4,520 LF - 8" PVC PLAT NO. 22-11800410
NUMBER OF LOTS 106 SAWS JOB NO. 22-1694

CIBOLO CANYON - UNISAN ANTONIO, TE

94X

PROFIL

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BRUNA F. SPENGLER

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PAPE-DAWSC ENGINEERS

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PLAT NO. 22-1180041

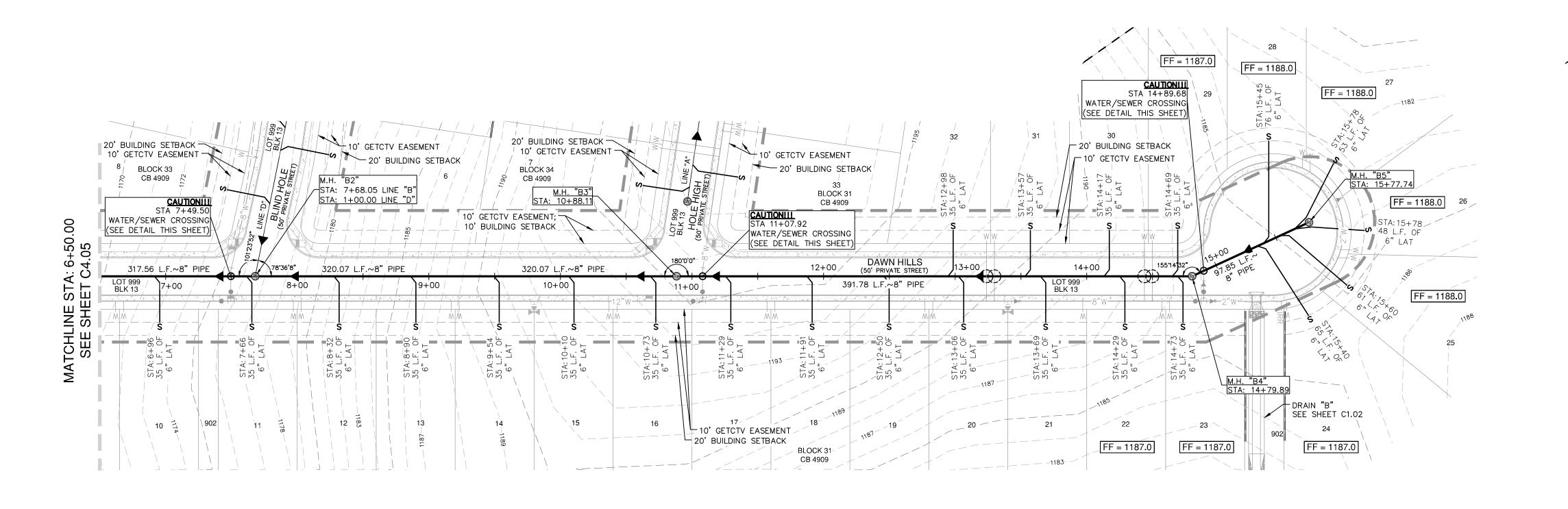
JOB NO. 12125-08

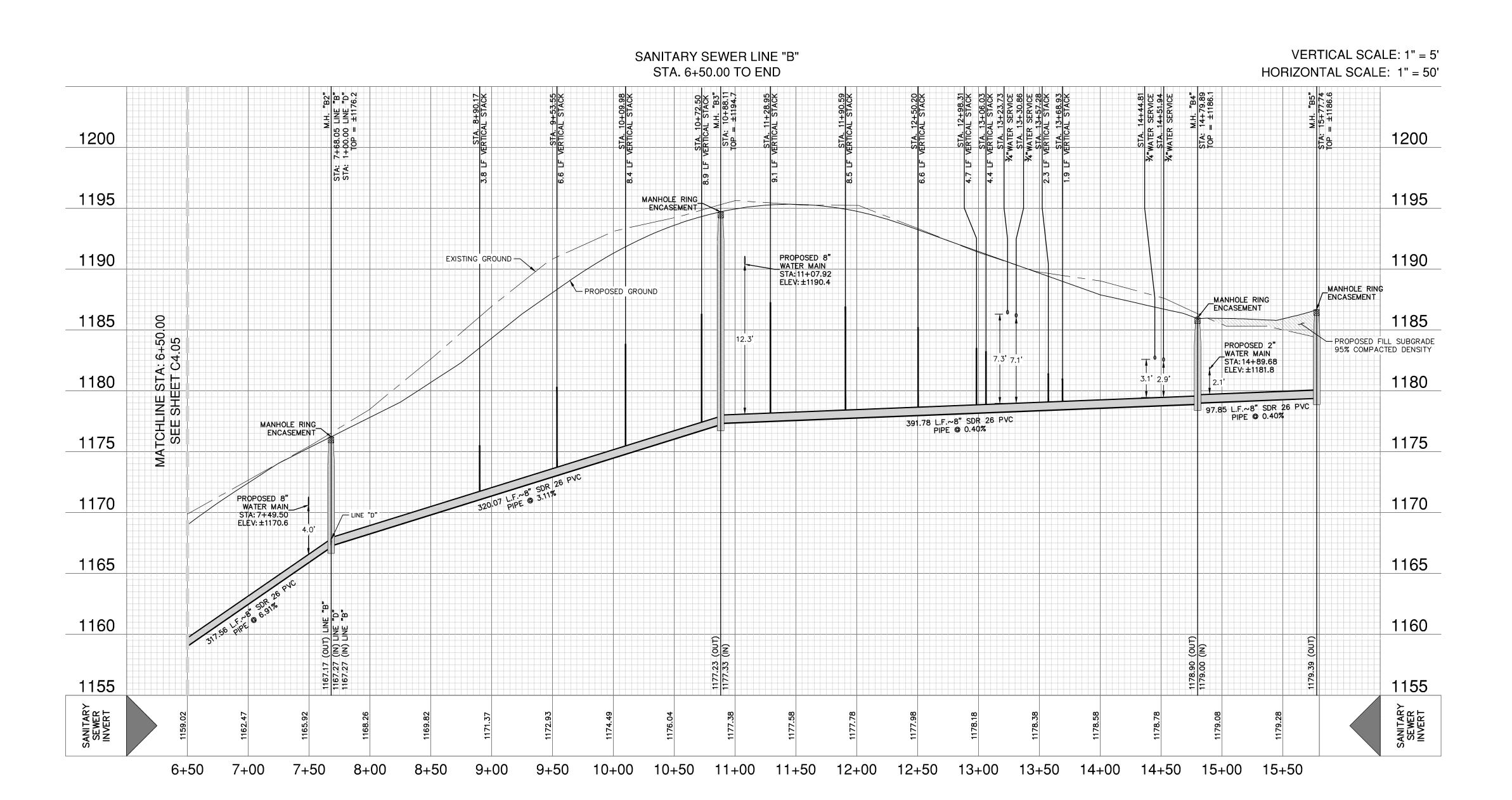
DATE JUNE 2023

DESIGNER CB

CHECKED BS DRAWN FP

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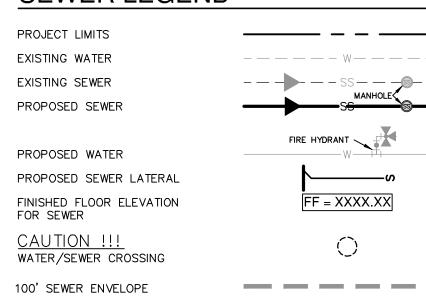




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SEWER LEGEND



BRUNA F. SPENGLER

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PAPE-DAWS(ENGINEERS

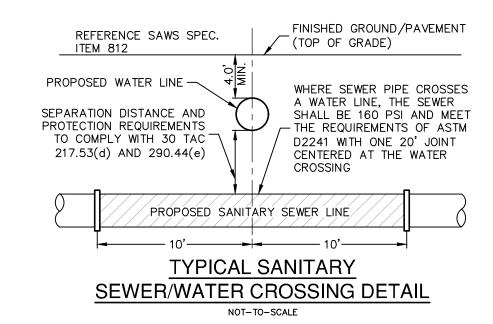
PROFIL

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



PRIVATE STREET DESIGNATION:

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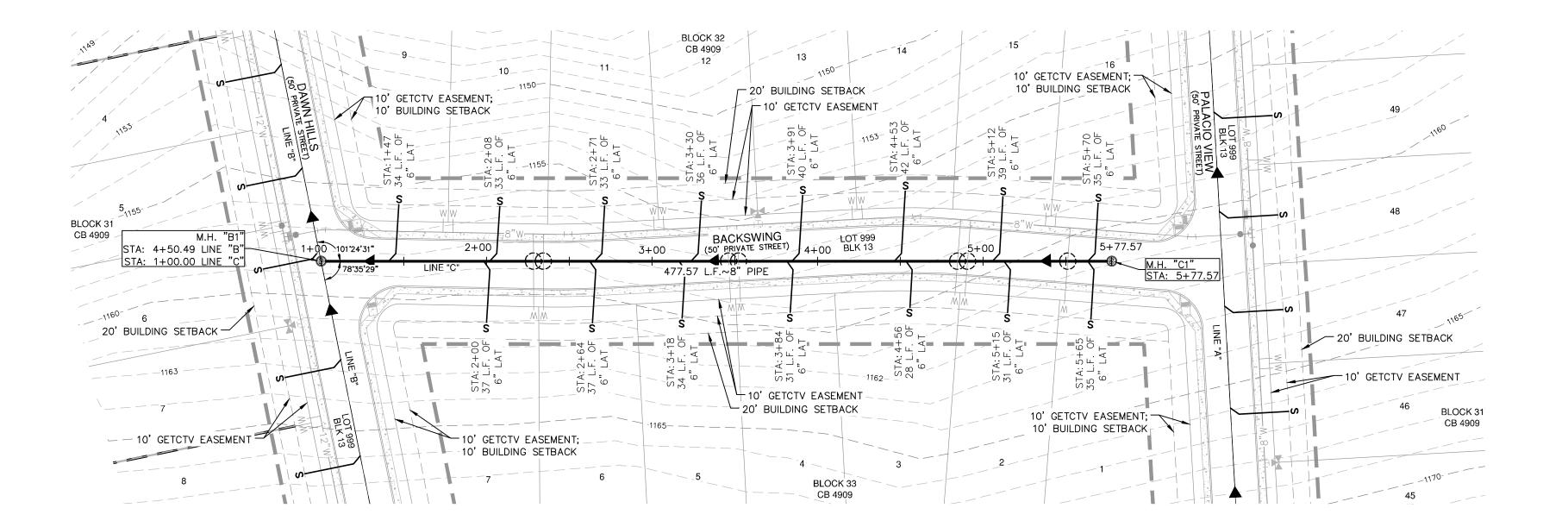
CAUTION!!

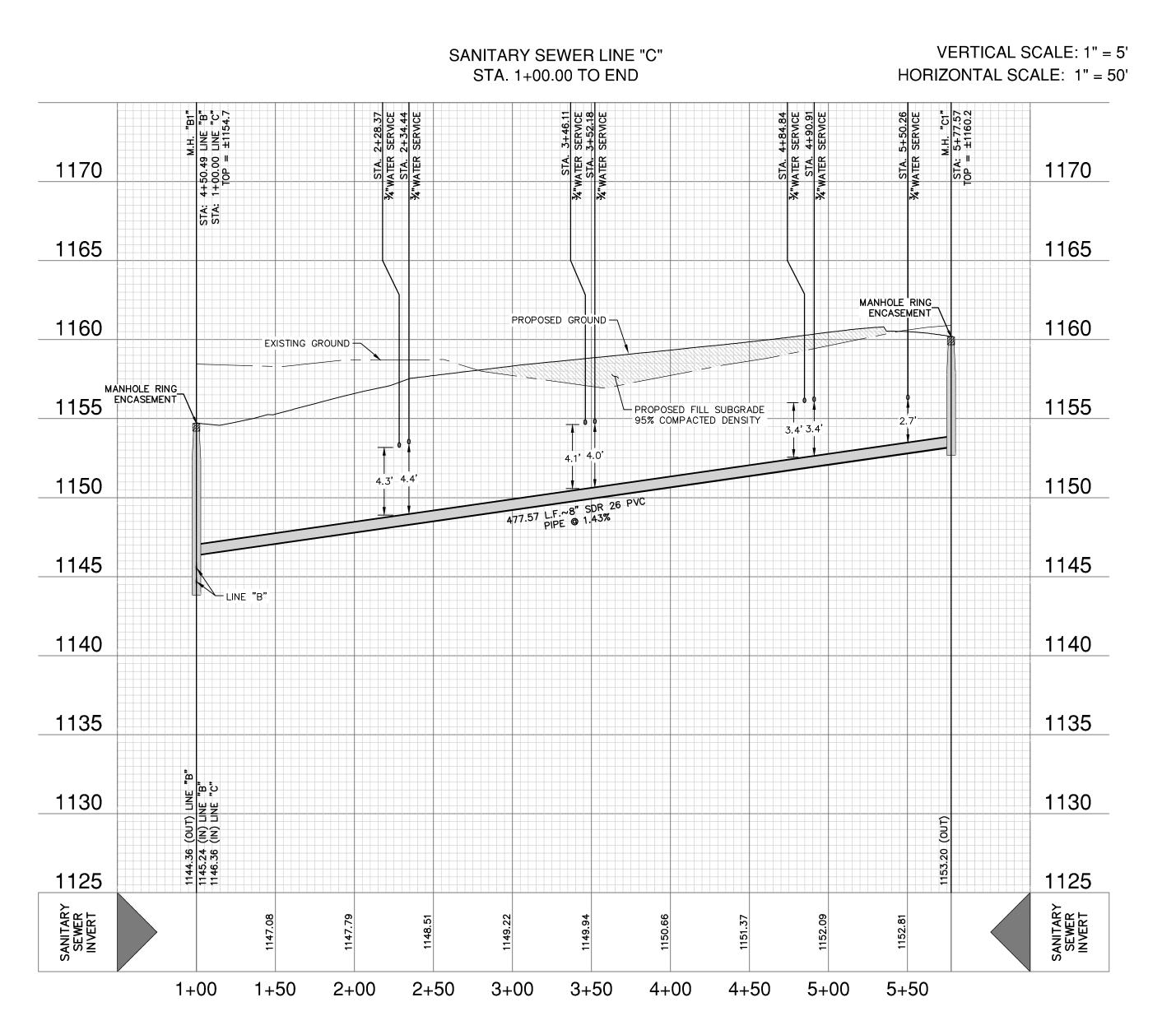
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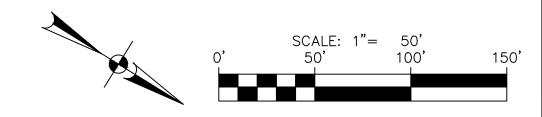
SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

DEVELOPER'S NAME: TF CIBOLO CANYONS, LP
ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
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NUMBER OF LOTS 106 SAWS JOB NO. 22-1694

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-			PLAT NO.	22-118	800	4
•			JOB NO	1212	5-08	
•			DATE	JUNE 2	2023	
5			DESIGNER		СВ	
0			CHECKED_	BS DR	AWN_	F
				<u> </u>		







SEWER LEGEND

PROJECT LIMITS

EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

PROPOSED WATER

PROPOSED WATER

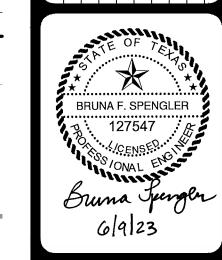
PROPOSED SEWER LATERAL

FINISHED FLOOR ELEVATION
FOR SEWER

CAUTION !!!

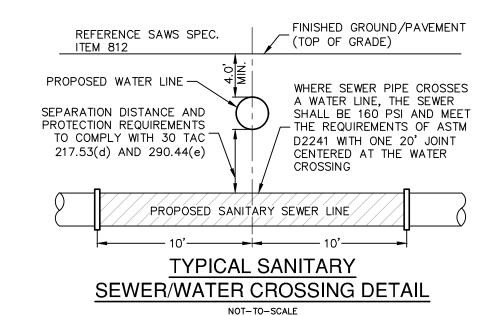
WATER/SEWER CROSSING

100' SEWER ENVELOPE



80

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



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SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

	OPER'S NAME: TF CIBOLO CANYONS			
ADDRE	SS: 6310 CAPITAL DRIVE, SUITE	130		
CITY:_	LAKEWOOD RANCH STATE:	FLORIDA	ZIP:	34202
SAWS	# 941-388-0707 F 186670 BLOCK MAP# 186668 TOTAL EDU'S	1 <u>06</u> TO	TAL ACRI	
	LINEAR FOOTAGE OF PIPE: 4,520 LF R OF LOTS 106 SAWS J			. 2 <u>2–1180041</u> 0 ————

PLAT NO. 22-11800410

JOB NO. 12125-08

DATE JUNE 2023

DESIGNER CB

CHECKED BS DRAWN FP

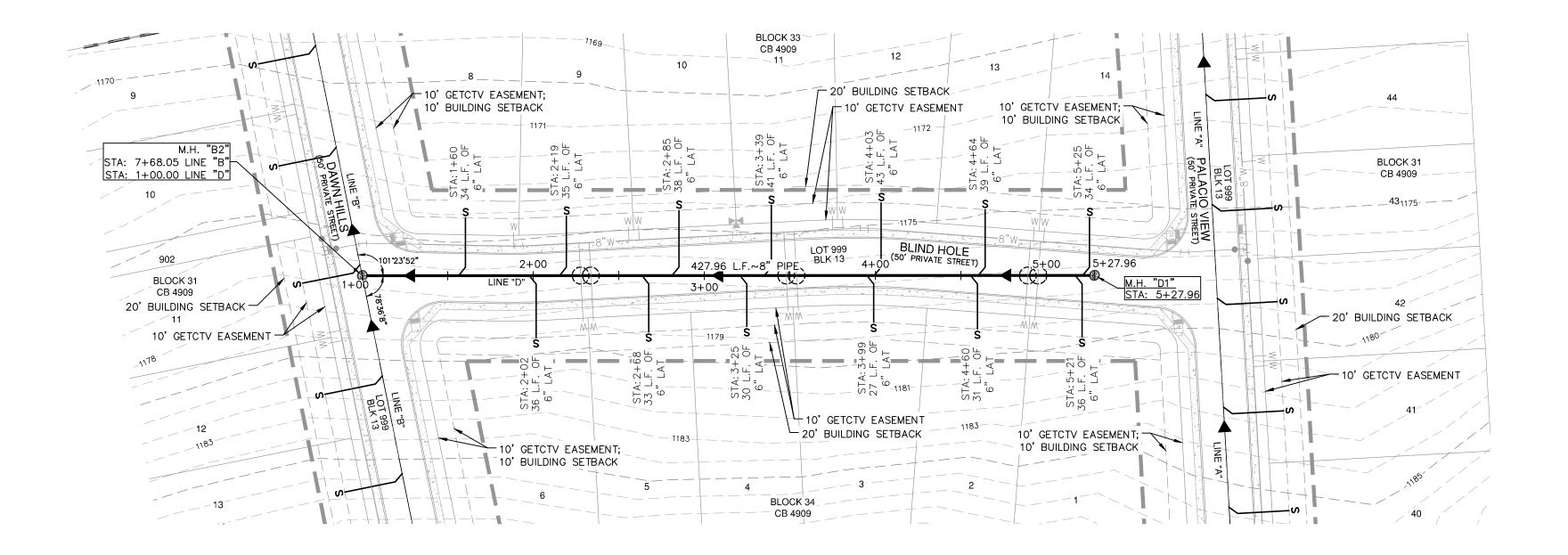
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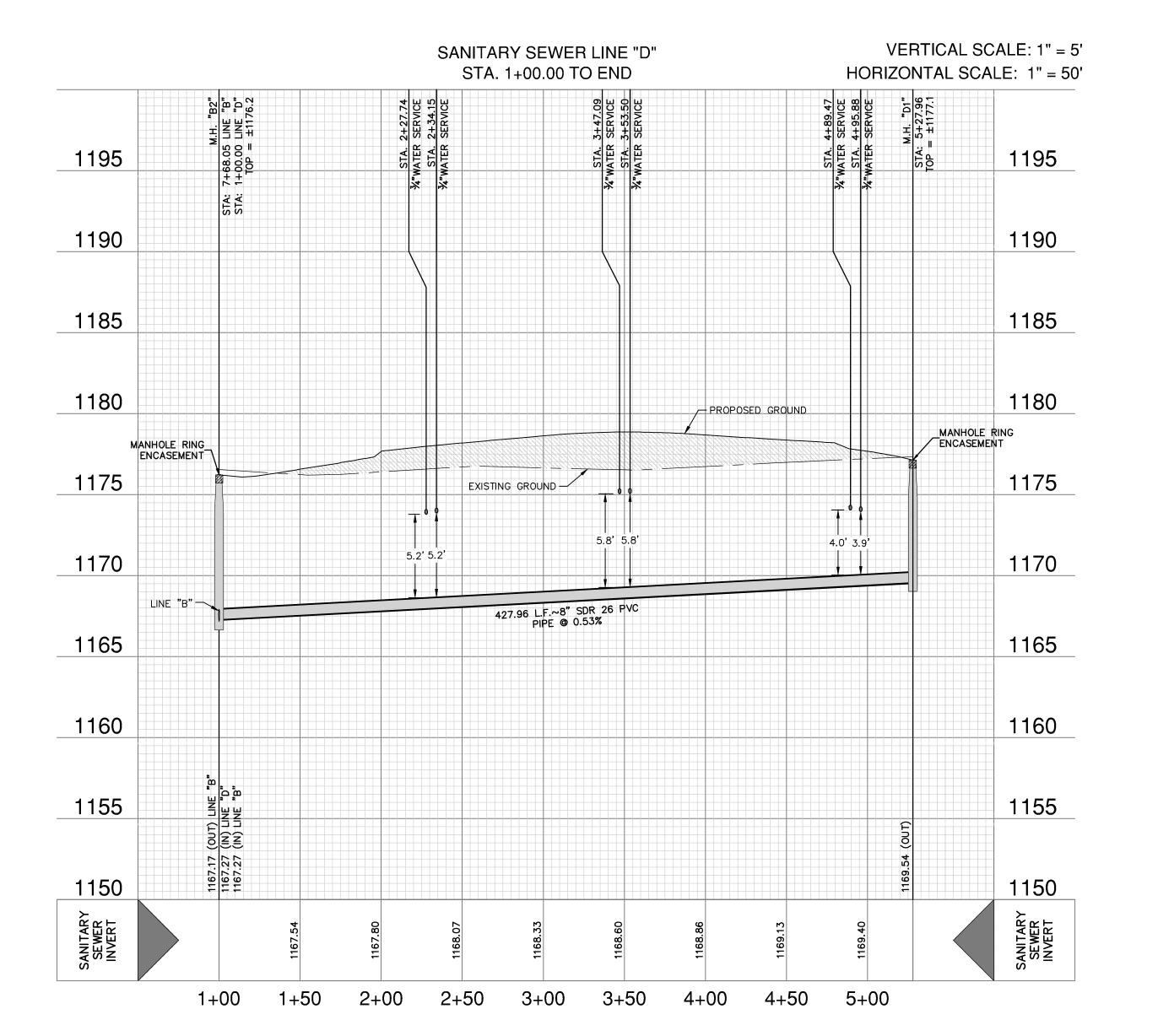
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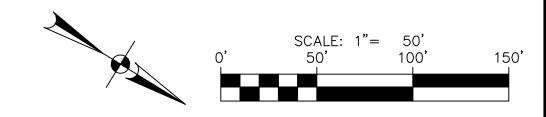
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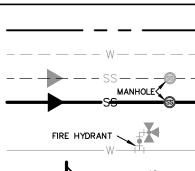
SEWER LEGEND

PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEWER

PROPOSED WATER

PROPOSED SEWER LATERAL

FINISHED FLOOR ELEVATION
FOR SEWER



FF = XXXX.XX



SO

PAPE-DAWS(ENGINEERS

PROFIL

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"D" F

94X

PIPE TYPE DESIGNATIONS

REFERENCE SAWS SPEC. ITEM 812 PROPOSED WATER LINE SEPARATION DISTANCE AND PROTECTION REQUIREMENTS TO COMPLY WITH 30 TAC 217.53(d) AND 290.44(e) FINISHED GROUND/PAVEMENT (TOP OF GRADE) WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING

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

SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

PRIVATE STREET DESIGNATION:

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

OPEN SPACE NOTE:

LOT 901, BLOCKS X AND LOT 901 BLOCK X ARE DESIGNATED AS PRIVATE OPEN SPACE, PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT.

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.

SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

DEVELOPER'S NAME: <u>TF CIBOLO CANYONS, LP</u>
ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
186670 SAWS BLOCK MAP# <u>186668</u> TOTAL EDU'S <u>106</u> TOTAL ACREAGE <u>37.16</u>
TOTAL LINEAR FOOTAGE OF PIPE: <u>4,520 LF – 8" PVC</u> PLAT NO. 2 <u>2–1180041</u> 0
NUMBER OF LOTS 106 SAWS JOB NO. 22-1694

PLAT NO. 22-1180041

JOB NO. 12125-08

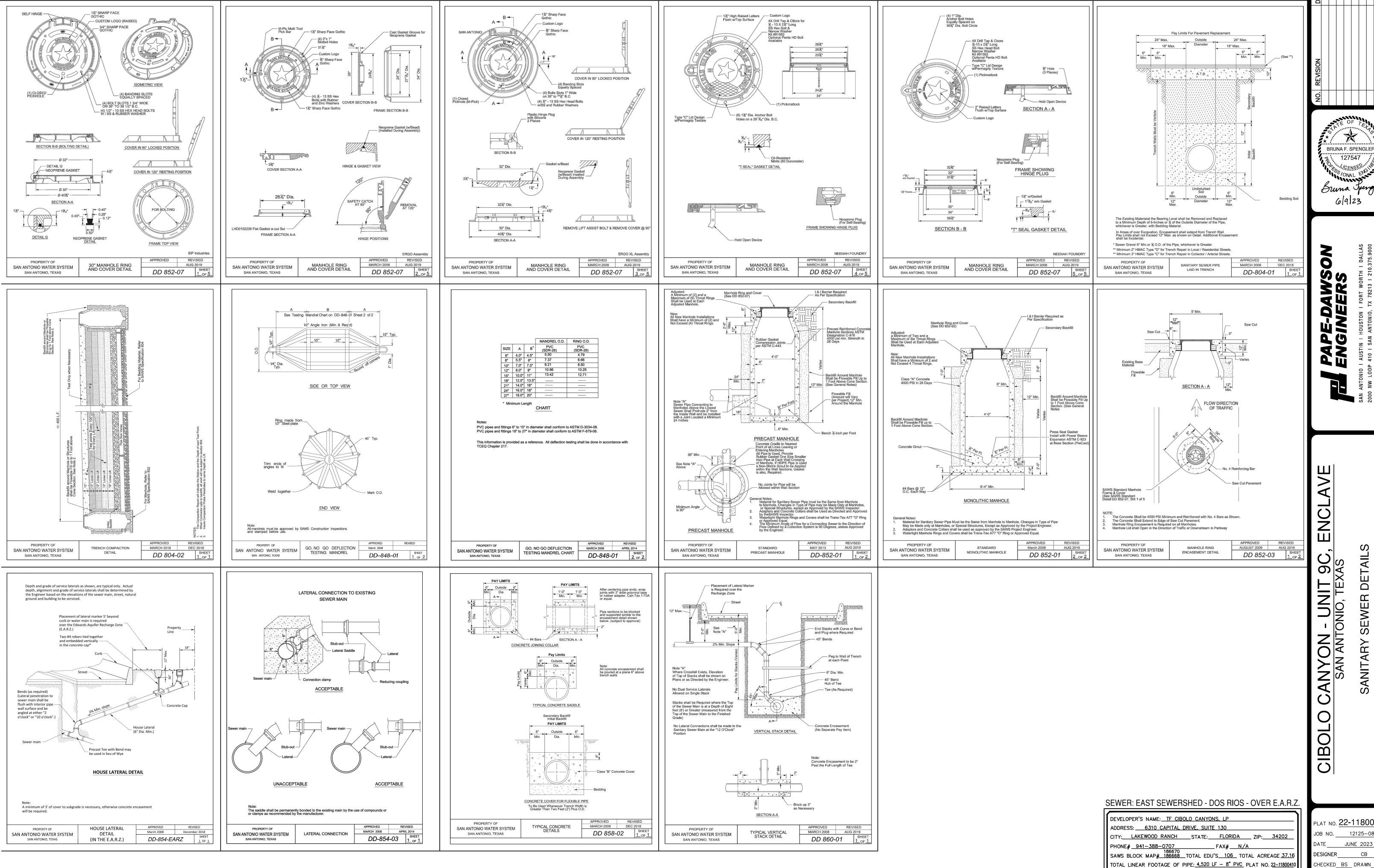
DATE JUNE 2023

DESIGNER CB

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ANYON - UNI

PLAT NO. **22-118004**1 12125-08 JUNE 2023 DESIGNER

CHECKED BS DRAWN FF

NUMBER OF LOTS 106 SAWS JOB NO. 22-1694

TCEQ - ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

- 1. 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 QUALITY'S (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 DATE; AND THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
- 4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND
- 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 CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTI Y 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 TCFQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION 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 SEWER LINE OR 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 AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
- . 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 LINES 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 WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. 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 MANHOLES 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 COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET C4.05.

- 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 INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
- 11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF 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 JOINT 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

- 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 EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES 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 CONSTRUCTED SUFFICIENTLY 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 NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED 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 <u>C3.04</u>. (FOR POTENTIAL FUTURE LATERALS).
- THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET C4.01 TO C4.04 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN
- 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 ASTM D-2321, CLASSES IA, IB, II OR III. 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 ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT 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 CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST 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:**
- (1) LOW PRESSURE AIR TEST.
- (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED II AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828. 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 INSUBPARAGRAPH (C OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS
- (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION. (i) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER

THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE. i) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

WHERE: T = (0.085 * D * K)/Q

1360

1530

1700

1870

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

13.676(L

17.309(L

21.369(L)

25.856(L)

- L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE (C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING
- PIPE DIAMETER MIN. TIME LENGTH FOR MIN. TIME, LONGER LENGTH (INCHES) (SECONDS) (FEET) (SECONDS) 0.855(L) 1.520(L) 567 239 2.374(L) 680 199 3.419(L) 850 159 5.342(L) 133 7.693(L) 1020 1190 114 10.471(L)

TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

(D) 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.

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-) 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 FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR. 2) INFILTRATION/EXFILTRATION TEST.
- () THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF 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 USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST
- WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL. THE TOTAL EXFILTRATION, 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 TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL. WHICHEVER IS GREATER.
- (D) FOR CONSTRUCTION WITHIN 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 REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION
- (b) IF A 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, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL. A) MANDREL SIZING
-)´A RIGID MANDREL 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 THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.
- (ii) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD. THE MANDREL MUST HAVE AN OD FOUAL 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 MANDREL. MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE. (iii) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.
- (B) MANDREL DESIGN.) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
- (ii) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS. (iii) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER
- iv) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING. METHOD OPTIONS.
- AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.) 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 MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.
- (2) FOR A GRAVITY 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 0.2% DEFLECTION. (3) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL
- (4) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5) 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 TAC §217.58.
- (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 EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
-) HYDROSTATIC TESTING.) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH
- (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG. FILL 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
- (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING. C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
- (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE. (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S
- RECOMMENDATIONS. (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
- (G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF (H) A MANHOLE PASSES THE TEST IF AFTER 2.0 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 30 TAC \$213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

SAWS CONSTRUCTION NOTES (LAST REVISED JULY 2017)

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"
- 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 PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
- SAWS UTILITY LOCATES: HTTP: //WWW.SAWS.ORG/SERVICE/LOCATES - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026

PROJECT'S CONSTRUCTION.

- 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, RBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO IT ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER
- GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON PROJECT SEWER NOTES SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION ONSTRUCTION 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 RÉQUIREMENTS 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 SEWER NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
- A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
 - B.ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO. C.CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A
 - POSSIBLE CONTAMINATION OF WATERWAYS. D.CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE
 - COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS. E.CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS. F.MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT

SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

FEDERAL, STATE OR LOCAL AGENCIES.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER

DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED

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

IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".

PRIOR TO TIE-INS. ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS: THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PSI PRESSÙRÉ RÀTÉD PVC AT THE PROPOSED WATER CROSSING.

- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)
- . SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER. PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE RÉGARDLESS OF SIZE.
- MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
- ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

THE PROPERTY LINE.

- 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 FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET C4.02.
- 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
- 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 SAWS 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), UNLESS OTHERWISE NOTED.
- B. CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT 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 10. 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. TH 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
- 12. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- 13. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.

DEVELOPER'S NAME: TF CIBOLO CANYONS, LP

- 14. IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATIONS SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5' ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- 15. ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT.

SEWER: EAST SEWERSHED - DOS RIOS - OVER E.A.R.Z.

ADDRESS: 6310 CAPITAL DRIVE, SUITE 130 CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202 PHONE# <u>941-388-0707</u> _____ FAX# <u>___N/A</u> SAWS BLOCK MAP# 186668 TOTAL EDU'S 106 TOTAL ACREAGE 37.16 TOTAL LINEAR FOOTAGE OF PIPE: 4,520 LF - 8" PVC PLAT NO. 22-11800410

NUMBER OF LOTS 106 SAWS JOB NO. 22-1694

12125-08 JUNE 2023 DESIGNER

_AT NO. **22-118004**1

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BRUNA F. SPENGLER

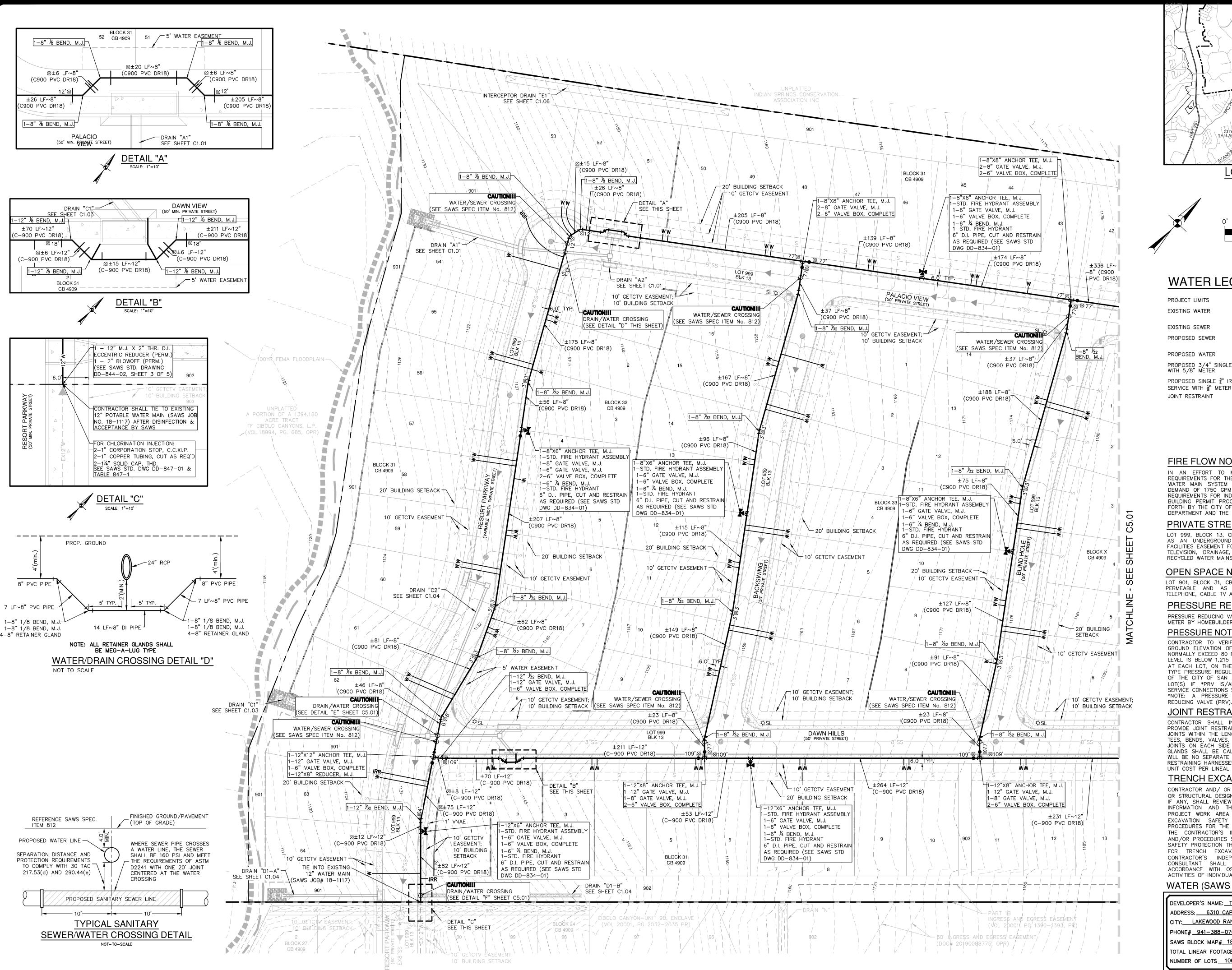
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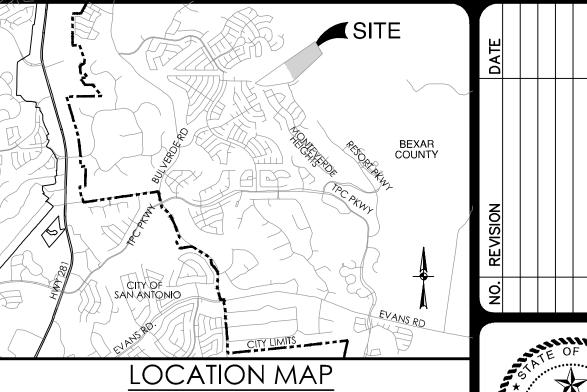
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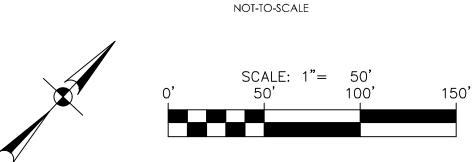


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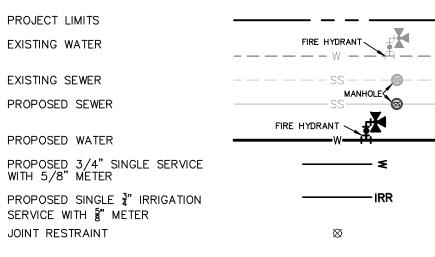


BRUNA F. SPENGLER

127547



WATER LEGEND



FIRE FLOW NOTE:

IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1750 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING TH BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SE FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

PRIVATE STREET DESIGNATION

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

OPEN SPACE NOTE

LOT 901, BLOCK 31, CB 4909 ARE DESIGNATED AS PRIVATE OPEN SPACE PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT.

PRESSURE REDUCING VALVE NOTE:

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

METER BY HOMEBUILDER.

PRESSURE NOTE:

CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 1,215 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 1,215 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

JOINT RESTRAINT NOTE:

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

TRENCH EXCAVATION SAFETY PROTECTION:

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

WATER (SAWS PRESSURE ZONE 11A)

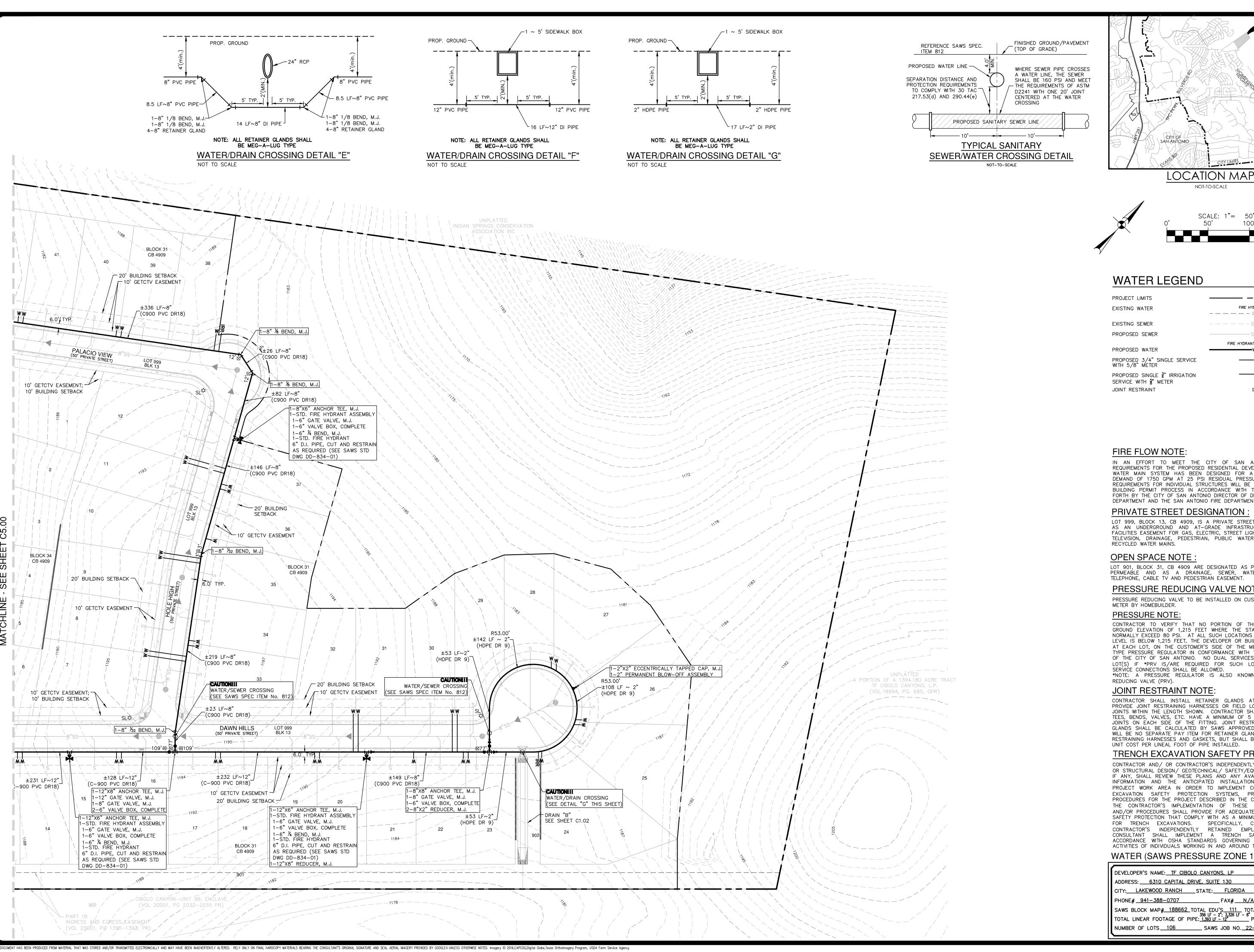
	EVELOPER'S NAME: TF CIBOLO CANYONS, LP
ΑC	DDRESS: 6310 CAPITAL DRIVE, SUITE 130
CI.	TY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PH	HONE# <u>941-388-0707</u> FAX# <u>N/A</u>
SA	AWS BLOCK MAP# <u>188662</u> TOTAL EDU'S <u>111</u> TOTAL ACREAGE <u>37.16</u> 356 LF - 2"; 3,326 LF - 8" OTAL LINEAR FOOTAGE OF PIPE: <u>1,393 LF - 12"</u> PLAT NO. <u>22-1180041</u> 0
то	TAL LINEAR FOOTAGE OF PIPE: 1,393 LF - 12 PLAT NO. 22-11800410
NL	JMBER OF LOTS 106 SAWS JOB NO. 22-1199

PLAT NO. 22-1180041 JOB NO. 12125-08 DATE JUNE 2023 DESIGNER CHECKED BS DRAWN FP

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BRUNA F. SPENGLER 127547

BEXAR

COUNTY

WATER LEGEND

FIRE HYDRANT \ PROPOSED 3/4" SINGLE SERVICE WITH 5/8" METER PROPOSED SINGLE 3" IRRIGATION

NOT-TO-SCALE

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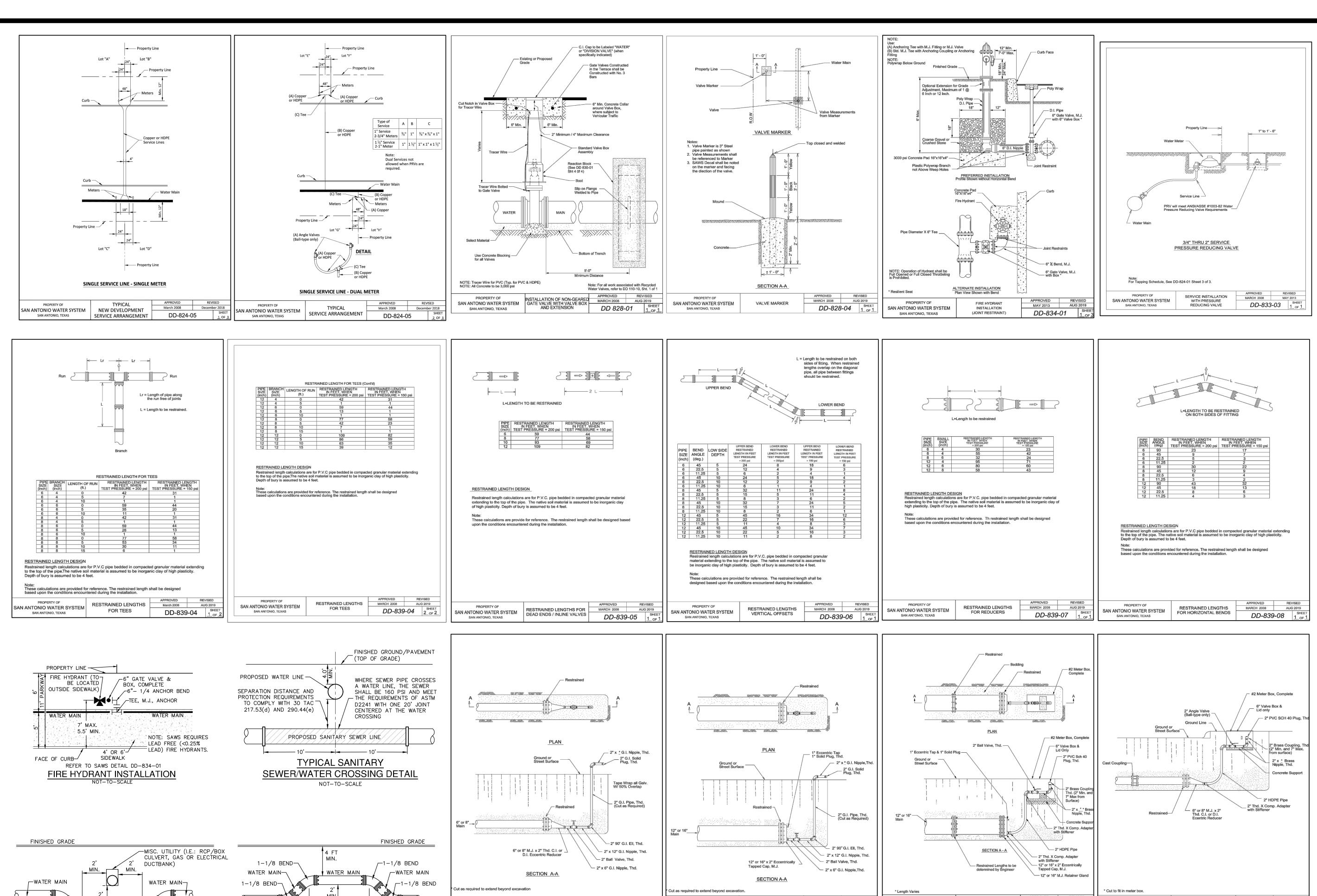
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WATER (SAWS PRESSURE ZONE 11A)

DEVELOPER'S NAME: TF CIBOLO CANYONS, LP
ADDRESS: 6310 CAPITAL DRIVE, SUITE 130
CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202
PHONE# <u>941-388-0707</u> FAX# <u>N/A</u>
SAWS BLOCK MAP# <u>188662</u> TOTAL EDU'S <u>111</u> TOTAL ACREAGE <u>37.16</u> 356 LF - 2°; 3,326 LF - 8° TOTAL LINEAR FOOTAGE OF PIPE: <u>1,393 LF - 12°</u> PLAT NO. <u>22-1180041</u> 0
TOTAL LINEAR FOOTAGE OF PIPE: 1,393 LF - 12" PLAT NO. 22-11800410
NUMBER OF LOTS 106 SAWS JOB NO. 22-1199

₋at no. **22-118004**1 JOB NO. 12125-08 JUNE 2023 DESIGNER CHECKED BS DRAWN FF

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12125-08 JUNE 2023 CB

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-MISC. UTILITY (I.E.: RCP/BOX

DUCTBANK)

CULVERT, GAS OR ELECTRICAL

└WATER MAIN

─WATER MAIN

TABLE DD-839-06.

ALL JOINTS ARE FULLY RESTRAINED IN

ACCORDANCE WITH SAWS SPECIFICATION

TYPICAL UTILITY/WATER CROSSING DETAIL

NOT-TO-SCALE

-1-1/8 BEND

1-1/8 BEND-

WATER MAIN-

1-1/8 BEND-

SAN ANTONIO WATER SYSTEM

SAN ANTONIO, TEXAS

2" TEMPORARY

BLOW-OFF ASSEMBLY

ON 6" & 8" MAINS

MARCH 2008

DD-844-01

AUG 2019

2" TEMPORARY

ON 12" & 16" MAINS

March 2008

DD-844-01

AUG 2019

PROPERTY OF

SAN ANTONIO, TEXAS

AN ANTONIO WATER SYSTEM | BLOW-OFF ASSEMBLY

PROPERTY OF

SAN ANTONIO WATER SYSTEM

SAN ANTONIO, TEXAS

2" PERMANENT

BLOW-OFF ASSEMBLY

ON 12" & 16" MAINS

MARCH 2008 AUG 2019 SHEE

DD-844-02

PROPERTY OF

N ANTONIO WATER SYSTEM BLOW-OFF ASSEMBLY

PHONE# <u>941-388-0707</u> ___ FAX# <u>___ N/A</u> SAWS BLOCK MAP# 188662 TOTAL EDU'S 111 TOTAL ACREAGE 37.16 TOTAL LINEAR FOOTAGE OF PIPE: 1,393 $^{\circ}$ $^{\circ}$ $^{\circ}$ PLAT NO. 22-11800410 NUMBER OF LOTS 106 SAWS JOB NO. 22-1199

CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202

MARCH 2008 AUG 2019

DD-844-02 3 OF

2" PERMANENT

ON 6" & 8" MAINS

WATER (SAWS PRESSURE ZONE 11A)

DEVELOPER'S NAME: TF CIBOLO CANYONS, LP

ADDRESS: 6310 CAPITAL DRIVE, SUITE 130

DESIGNER

SAWS 1. ALL M. CONTRA COMPLY FOLLOW A. CU CR CC WA B. CU WA C. CU WA D. CU (U	2. THE COTTHEY CONSTENSAWS (ARRANG REQUIRING COUNTER REPLACED) 3. THE COMBESSITION OF THE COMBESSITION OF THE CONSTENSE CONST	8. ALL WI COUNTY CONSTR	11. ANY A APPROV 12. COMPA(MEETING PAYING BE DON SAWS I LIFT PE AND FII PROVIDI 13. A COPY INSPECT	

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SAWS CONSTRUCTION NOTES (LAST REVISED JULY 2017)

S GENERAL SECTION

- MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS TRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND PLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE OWING AS APPLICABLE:
- CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE" CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
- CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"
- CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL STRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY S CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK JIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED JNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND LACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
- CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS SITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE ED WITHIN THÉ DESIGN PLANS.
- CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION 0) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY ECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO INNING ANY WORK.
- ATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND THS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO STRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE TY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM RING CONSTRUCTION AT NO COST TO SAWS.
- CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION THER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR ATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE OWING 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
- CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, BS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS SINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE DJECT'S CONSTRUCTION.
- WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR JNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE STRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER ERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR OOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
 - IDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT STWORKREQ@SAWS.ORG.
- EKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION STRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK UEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND PROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- PACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR TING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR ING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE S INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY VIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- OPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION ECTION 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 | 3. ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, AS 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. (NSPI)
- SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS. TEES. CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- 5. ALL VALVES SHALL READ "OPEN RIGHT".
- PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 1.215 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 1,215 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
- PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- 8. BACKFLOW PREVENTION DEVICES:
- ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES. ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
- UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- 10. 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

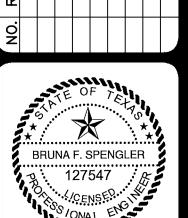
MACHINE CHLORINATION BY THE S.A.W.S.

PROVIDED FOR IN THE SPECIAL CONDITIONS.

- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- 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 I 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,
- THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE FINAL MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.

ETC., SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

- 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.
- 10. 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).
- 13. 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.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE | 14. SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
 - 15. UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" METER.



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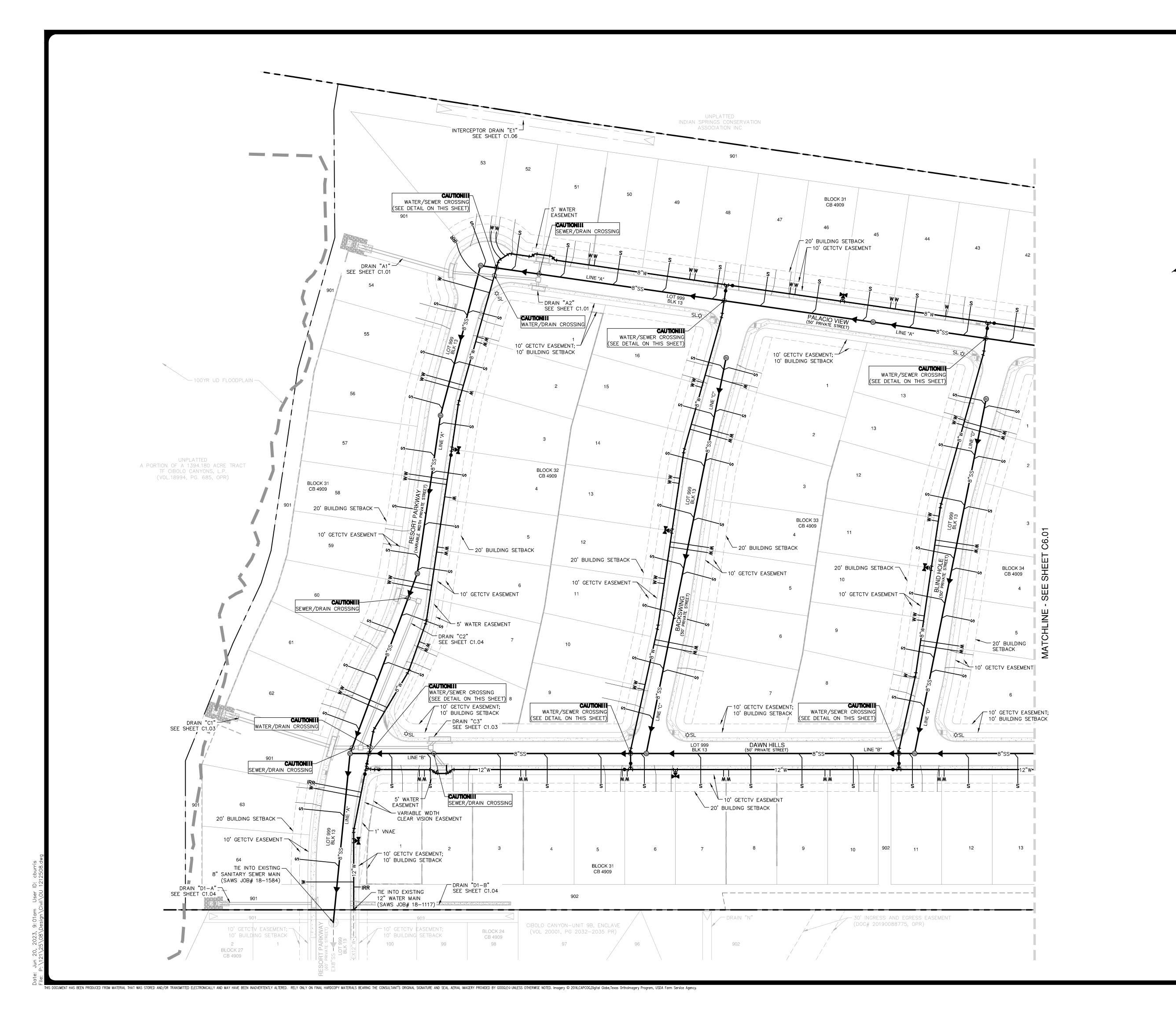
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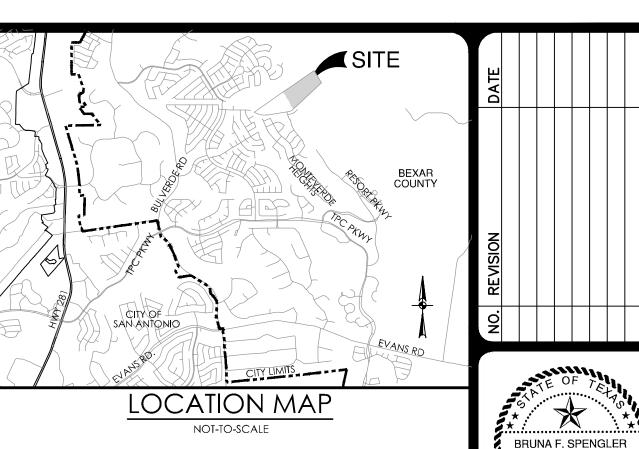
WATER (SAWS PRESSURE ZONE 11A)

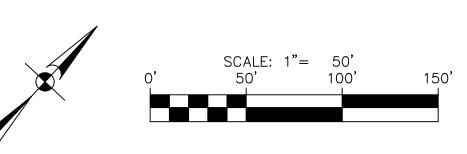
DEVELOPER'S NAME: TF CIBOLO CANYONS, LP ADDRESS: 6310 CAPITAL DRIVE, SUITE 130 CITY: LAKEWOOD RANCH STATE: FLORIDA ZIP: 34202 PHONE# <u>941-388-0707</u> ____ FAX# <u>___N/A</u> SAWS BLOCK MAP# 188662 TOTAL EDU'S 111 TOTAL ACREAGE 37.16 TOTAL LINEAR FOOTAGE OF PIPE: $\frac{356}{1,393}$ LF - $\frac{2^n}{1}$ PLAT NO. $\frac{22-1180041}{1}$ 0

NUMBER OF LOTS 106 SAWS JOB NO. 22-1199

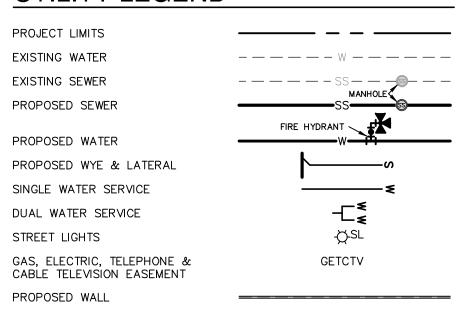
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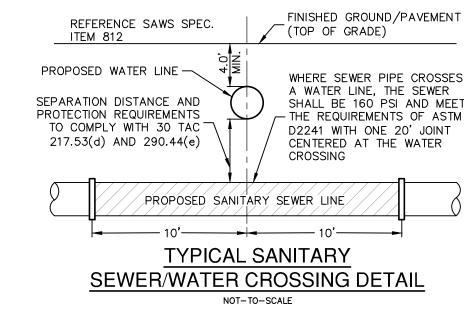






UTILITY LEGEND





PRIVATE STREET DESIGNATION :

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

OPEN SPACE NOTE:

LOT 901, BLOCK 31, CB 4909 ARE DESIGNATED AS PRIVATE OPEN SPACE PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS, ELECTRIC TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT.

CONDUIT NOTES:

1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CUR WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).

- CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80
 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
- 3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSEI SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

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.

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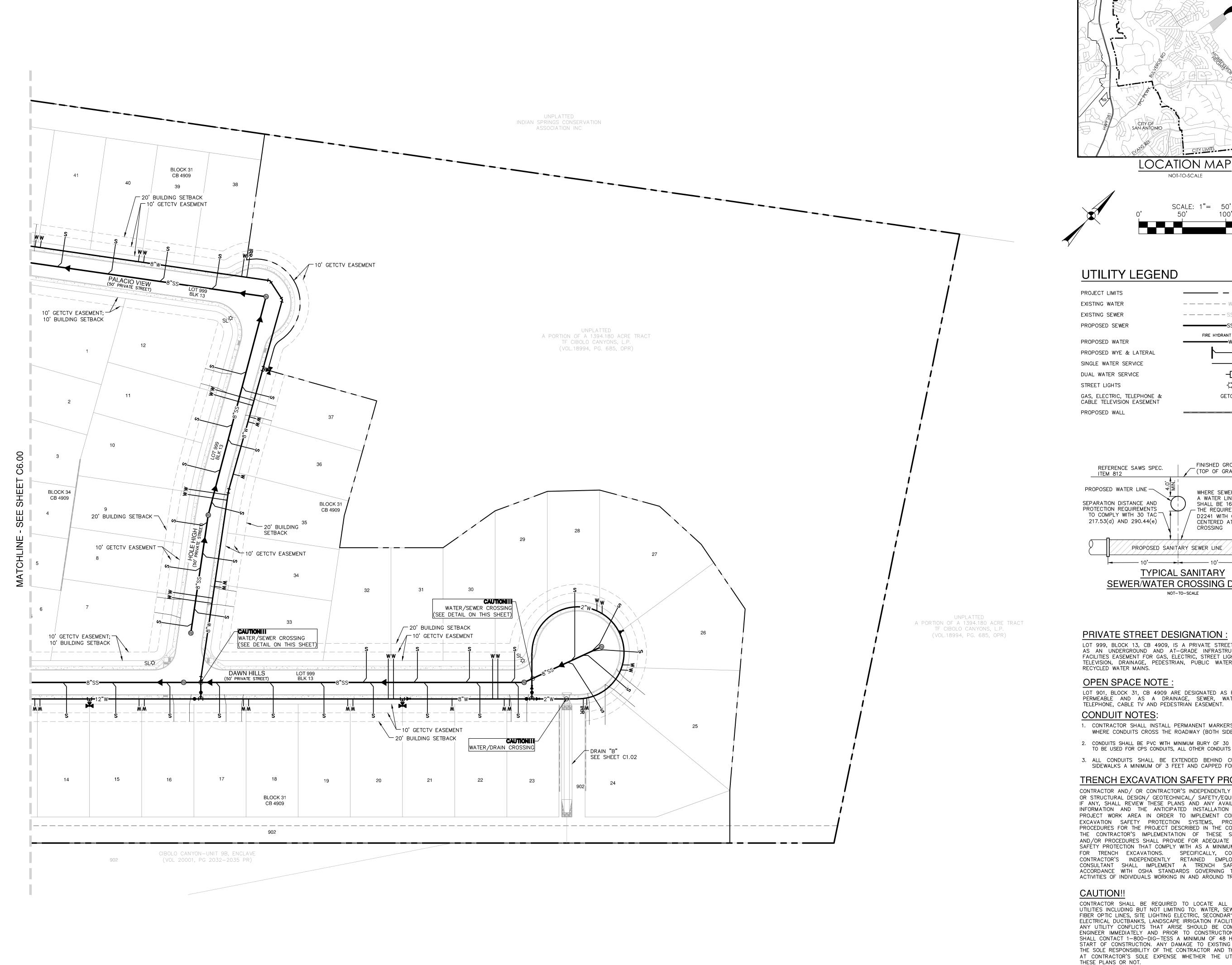
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DATE JUNE 2023

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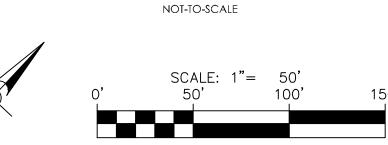
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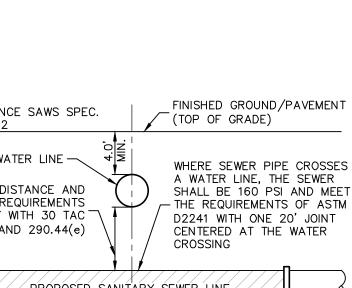
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BRUNA F. SPENGLER



UTILITY LEGEND

PROPOSED WYE & LATERAL SINGLE WATER SERVICE -[≰ -X-SL GAS, ELECTRIC, TELEPHONE & **GETCTV** CABLE TELEVISION EASEMENT



PRÓPOSED SANITARY SEWER LINE TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

PRIVATE STREET DESIGNATION:

LOT 999, BLOCK 13, CB 4909, IS A PRIVATE STREET AND IS DESIGNATED AS AN UNDERGROUND AND AT-GRADE INFRASTRUCTURE AND SERVICE FACILITIES EASEMENT FOR GAS, ELECTRIC, STREET LIGHT, TELEPHONE CABLE TELEVISION, DRAINAGE, PEDESTRIAN, PUBLIC WATER, WASTEWATER, AND RECYCLED WATER MAINS.

LOT 901, BLOCK 31, CB 4909 ARE DESIGNATED AS PRIVATE OPEN SPACE PERMEABLE AND AS A DRAINAGE, SEWER, WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV AND PEDESTRIAN EASEMENT.

1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CUR WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).

- 2. CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
- 3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

TRENCH EXCAVATION SAFETY PROTECTION:

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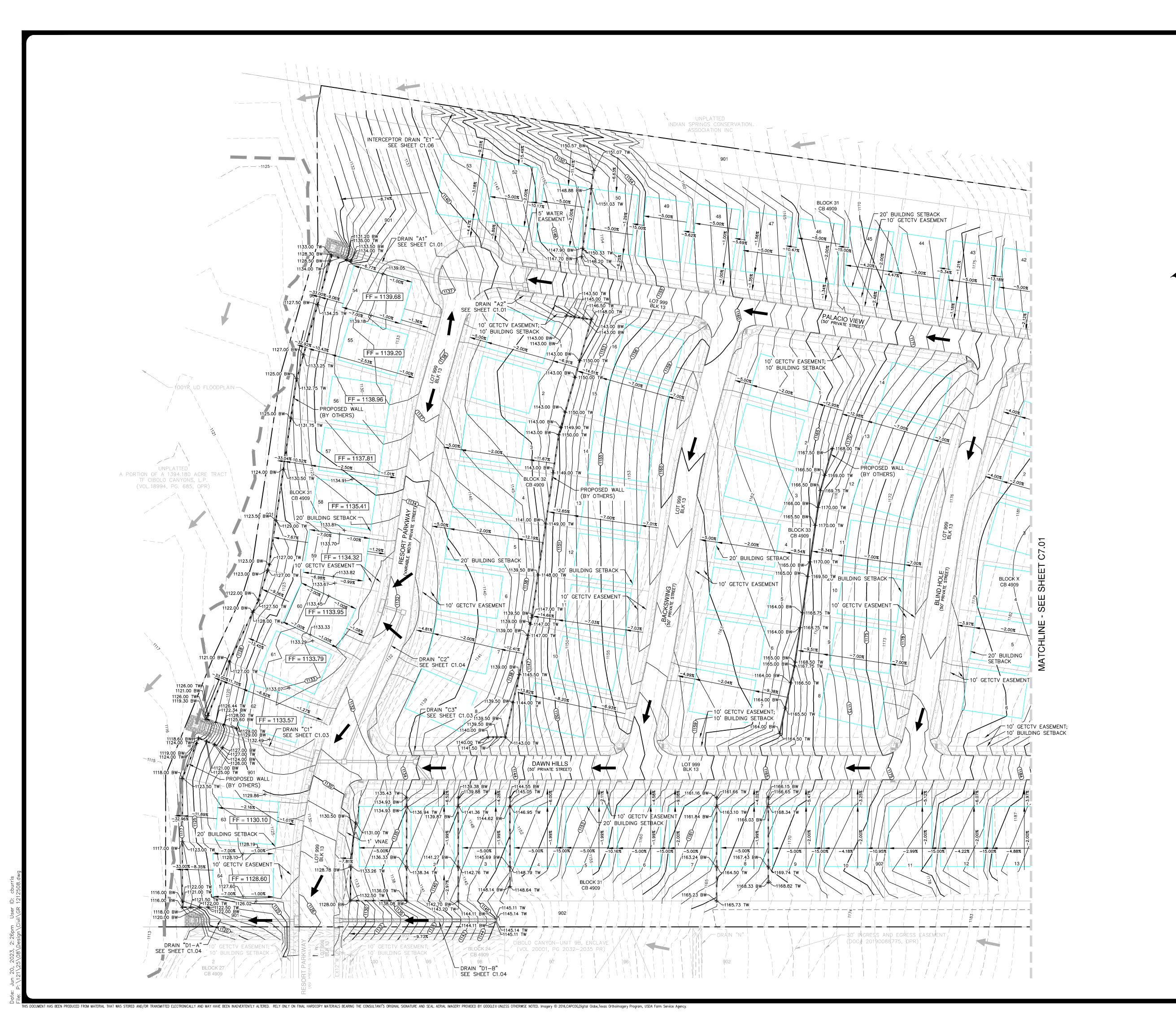
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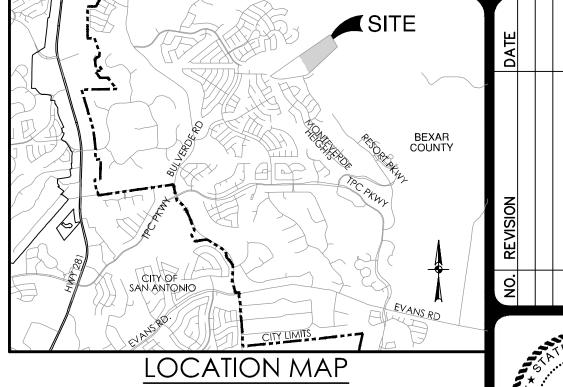
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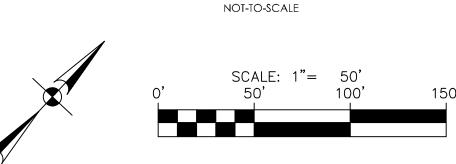
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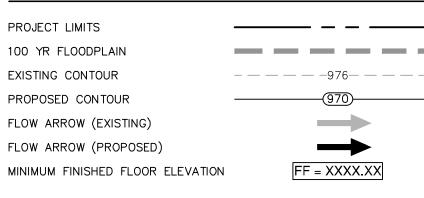




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GRADING LEGEND



PROPOSED WALL (BY OTHERS)

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 AN QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OI LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.

6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS 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/SWPPP 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 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 DEPORT.

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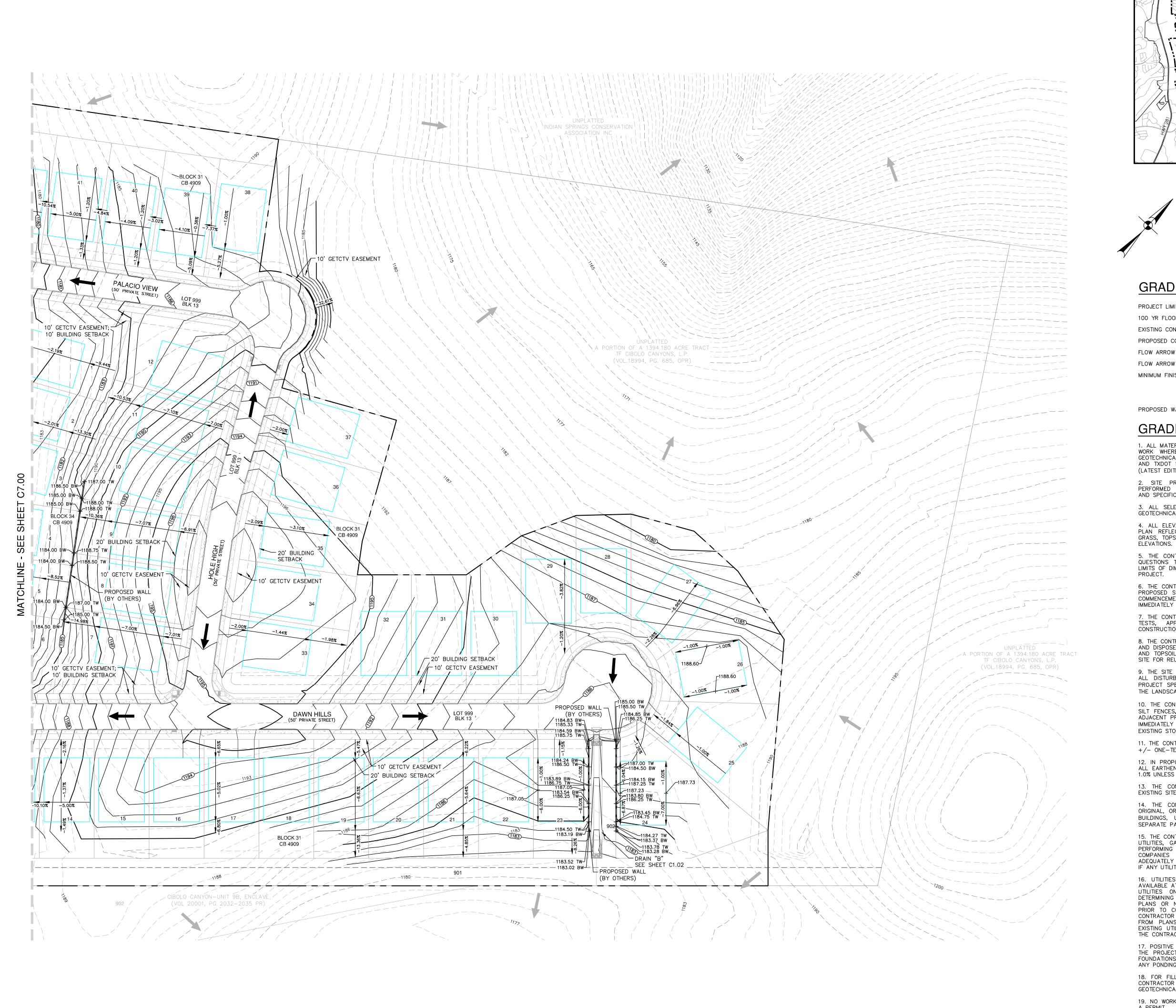
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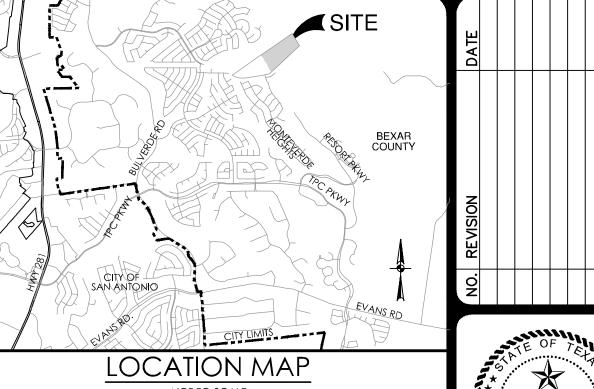
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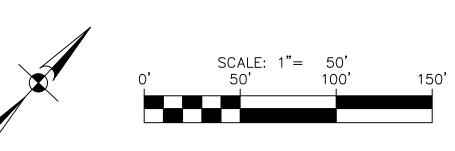
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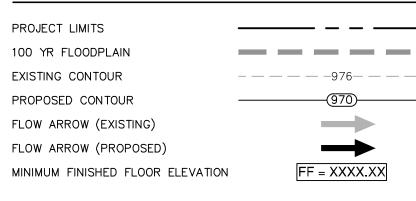


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GRADING LEGEND



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 TH 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

5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF AN QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OF LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS

6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING ANI PROPOSED SITE CONDITIONS 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, ET 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.

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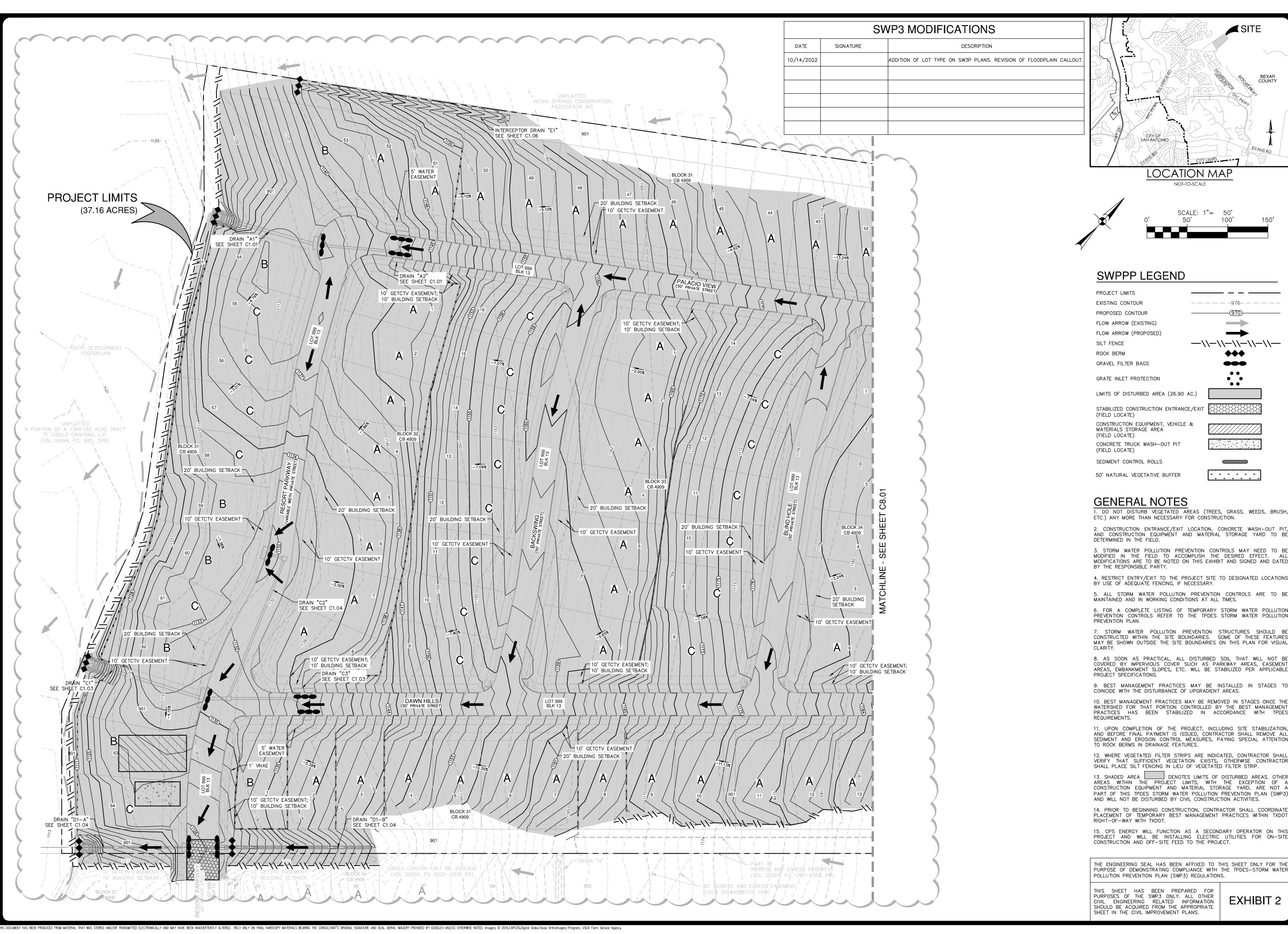
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BRUNA F, SPENGLER

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COUNTY

SWPPP LEGEND

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STABILIZED CONSTRUCTION ENTRANCE/EXIT

CONSTRUCTION EQUIPMENT, VEHICLE & CONCRETE TRUCK WASH-OUT PIT

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 PI AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO B

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED

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

6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL

8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT

9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE T WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES

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 BERMS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHAL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT 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.

14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINAT PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT

15. CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THI PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

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

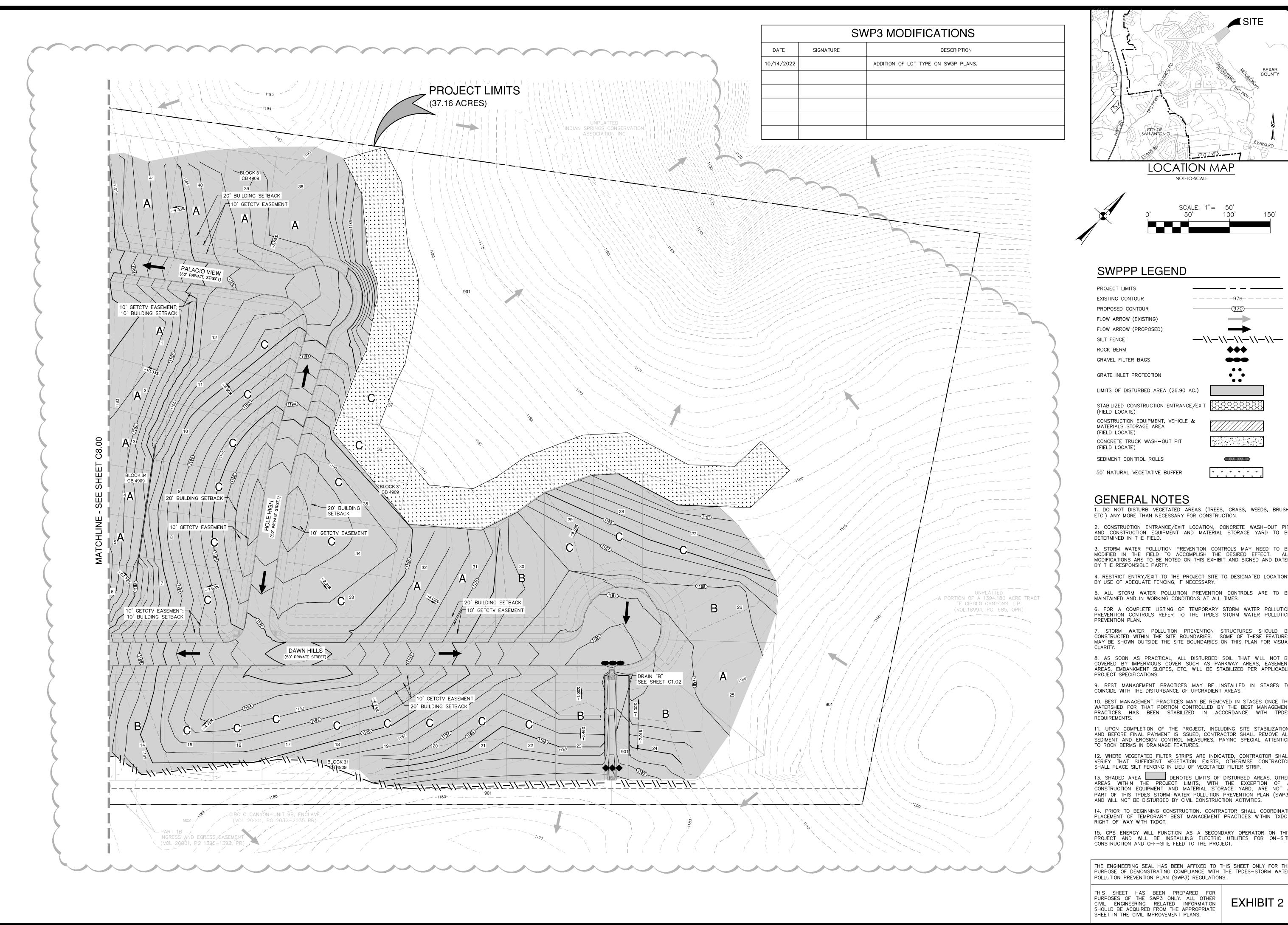
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COUNTY

BRUNA F, SPENGLER

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LIMITS OF DISTURBED AREA (26.90 AC.)

CONSTRUCTION EQUIPMENT, VEHICLE &

CONCRETE TRUCK WASH-OUT PIT

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SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

MATERIALS 1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.

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.

2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF

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 OF

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 15 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.

LAY SOD IN A STAGGERED PATTERN. BUTT

THE STRIPS TIGHTLY AGAINST EACH OTHER.

DO NOT LEAVE SPACES AND DO NOT

OVERLAP. A SHARPENED MASON'S TROWEL

IS A HANDY TOOL FOR TUCKING DOWN THE

AUTOMATIC SOD CUTTER MUST BE MATCHED

ANGLED ENDS CAUSED BY THE

ENDS AND TRIMMING PIECES.

LAY SOD ACROSS THE

DIRECTION OF FLOW

PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD

SOIL.

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

STABILIZE FOUNDATION

COMMON TROUBLE POINTS 1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.

. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL. . PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC—EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.

TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD. 5. UNSTABLE FOUNDATION - USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING

INSPECTION AND MAINTENANCE GUIDELINES 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 LISED 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

5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR

SEDIMENT BASIN

SHOOTS OR GRASS BLADES.

GRASS SHOULD BE GREEN AND

- THATCH- GRASS CLIPPINGS AND

-ROOT ZONE - SOIL AND ROOTS.

DEAD LEAVES, UP TO 1/2" THICK.

SHOULD BE 1/2"-3/4" THICK, WITH

DENSE ROOT MAT FOR STRENGTH.

HEALTHY; MOWED AT A 2"-3"

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE

APPEARANCE OF GOOD SOD

SOON AS THE SOD IS LAID.

THE MOWER HIGH (2"-3").

ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE

3. MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS

IN CRITICAL AREAS, SECURE SOD

WITH NETTING, USE STAPLES,

WOVEN WIRE SHEATHING

ISOMETRIC PLAN VIEW

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS

OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT—LADEN RUNOFF, DETAIN

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

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

. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE

RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES

AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT

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,

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS

EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE

THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM

ROCK BERMS

INSPECTIONS SHOULD BE MADE.

WILL NOT CAUSE ANY ADDITIONAL SILTATION.

WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

ARE STABILIZED AND ACCUMULATED SILT REMOVED.

3. REPAIR ANY LOOSE WIRE SHEATHING.

MATERIALS 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 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

SECTION "A-A"

WOVEN WIRE SHEATHING

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

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 TIE 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.

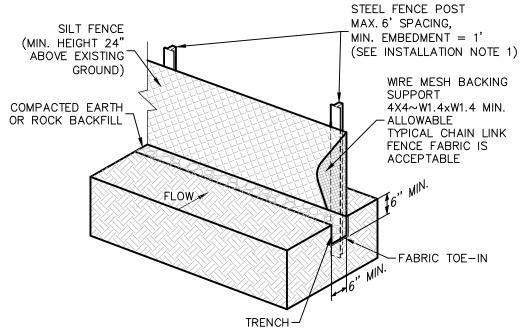
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

. 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).

ROCK BERM DETAIL



NOT-TO-SCALE

INCORRECT SOD INSTALLATION STAPLE

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

TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN

SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION. 4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

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.

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

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

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992

SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

WITH THE GROUND.

USE PEGS OR STAPLES TO FASTEN SOD

FIRMLY - AT THE ENDS OF STRIPS AND

IN THE CENTER, OR EVERY 3-4 FEET IF

MOW, DRIVE PEGS OR STAPLES FLUSH

THE STRIPS ARE LONG. WHEN READY TO

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK. FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH

SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS 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. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OF OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL. 6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS

UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

IS 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, CAPCOG, Digital Globe, Texas Orthoimagery Program, USDA Farm Service Agency And Service Agency Provided BY GOOGLE® UNLESS OTHERWISE NOTED.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION 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.

I. 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.

. 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 BRINDELL HARDNESS

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.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL. 5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE

POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET 6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE). 3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES 1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

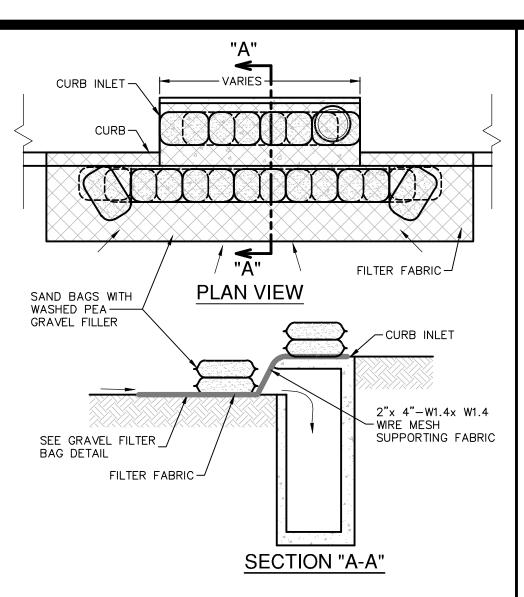
3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL

SILT FENCE DETAIL

NOT-TO-SCALE



GENERAL NOTES

A MANNER THAT IT WILL NOT ERODE.

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 GUTTER 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 AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES . INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE

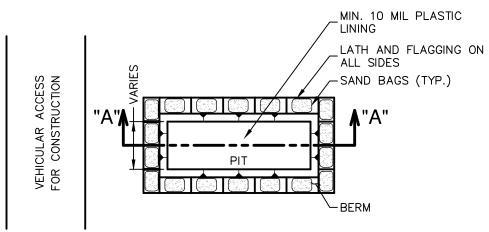
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH

3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND

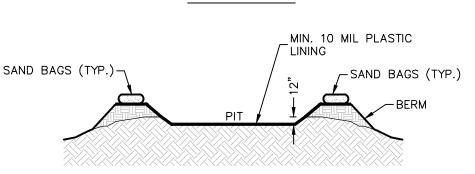
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING. . STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE



PLAN VIEW



SECTION "A-A'

GENERAL NOTES

. 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.

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.

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

WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT

HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED

CONCRETE TRUCK WASHOUT

PIT DETAIL NOT-TO-SCALE

BACK OF LOT PROPERT' HOUSE PAD DRIVE LOT TYPE-A

HOUSE PAD

LOT TYPE-B

HOUSE PAD

LOT TYPE-C

TYPICAL HOUSE LOT LAYOUTS

NOTE: SILT FENCE TO BE INSTALLED PER

DOWNGRADIENT SIDE OF EACH LOT LINE

THESE DETAILS AND LOCATED ON THE

OR LIMITS OF CLEARING AS GENERALL'S

SHOWN ON THE OVERALL SITE PLAN.

WAY



PROPERTY

PROPERT'

LEGENI

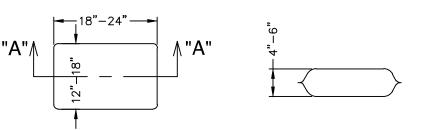
-\\-\\- SILT FENCE

→ DRAINAGE FLO

O

NOT-TO-SCALE

WAY



PLAN VIEW SECTION "A-A'

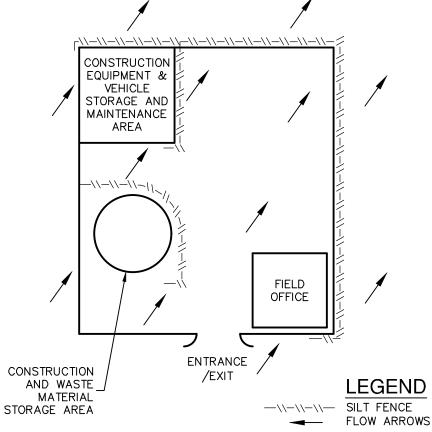
OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA

THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4

GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER). 3. SAND SHALL <u>NOT</u> BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE



CONSTRUCTION STAGING AREA

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.

NOT-TO-SCALE

HIS 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.

AUGUST 2022 HECKED BS DRAWN FF

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