MAY 2021 RHI ORDER OF SHEETS PROJECT ID: WITH: N/A Section No. Section No. Typical Sections and Details Section No. Estimate of Quantities Section No. Miscellaneous Quantities Section No. Plan and Profile Section No. Standard Detail Drawings 9 Section No. Computer Earthwork Data 9 Section No. Cross Sections 10-72 TOTAL SHEETS = 168 DESIGN DESIGNATION RURAL URBAN AADT (2021) 750 1300 A.A.D.T. 1500 D.H.V. 121 210 D.D. 60/40 60/40 18.9% 18.9% DESIGN SPEED 60 MPH 40 MPH = 321,000 CONVENTIONAL SYMBOLS PROFILE 0 GRADE LINE CORPORATE LIMITS <u>///////</u> R ORIGINAL GROUND PROPERTY LINE MARSH OR ROCK PROFILE LOTLINE (To be noted as such) LIMITED HIGHWAY EASEMENT SPECIAL DITCH EXISTING RIGHT OF WAY GRADE ELEVATION PROPOSED OR NEW R/W LINE П SLOPE INTERCEPT CULVERT (Profile View) UTILITIES REFERENCE LINE ELECTRIC EXISTING CULVERT FIBER OPTIC PROPOSED CULVERT (Box or Pipe) SANITARY SEWER COMBUSTIBLE FLUIDS STORM SEWER TELEPHONE MARSH AREA UTILITY PEDESTAL POWER POLE WOODED OR SHRUB AREA TELEPHONE POLE FILE NAME: O:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\010101-TI.DWG

# STATE OF WISCONSIN **DEPARTMENT OF TRANSPORTATION**

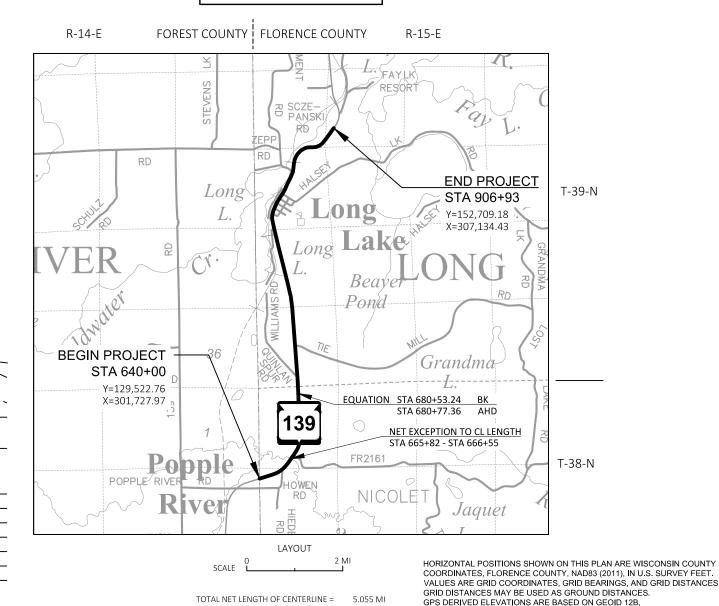
PLAN OF PROPOSED IMPROVEMENT

# **CAVOUR - BRULE RIVER**

FOREST COUNTY LINE TO FAY LAKE ROAD

**STH 139 FLORENCE COUNTY** 

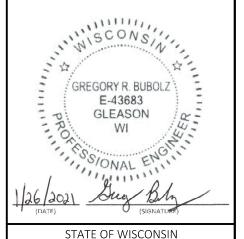
> STATE PROJECT NUMBER 9110-10-72



FEDERAL PROJECT STATE PROJECT CONTRACT PROJECT WISC 2021312 9110-10-72 1

### ORIGINAL PLANS PREPARED BY





## DEPARTMENT OF TRANSPORTATION

PREPARED BY Surveyor Designer

MSA PROFESSIONAL SERVICES, INC

Project Manage

ROBIN STAFFORD

PPROVED FOR THE DEPARTMENT 2021.01.27 10:53:28-06'00'

Ε

⋴ Ø

PLOT DATE :

1/26/2021 1:43 PM

GREG BUBOLZ

PLOT BY:

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.

**GENERAL NOTES** 

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK, ANY 2 LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

### AS-BUILTS USED FOR PLAN DEVELOPMENT:

PROJECT NO: 9110-01-72, CONSTRUCTION YEAR: 1978 PROJECT NO: 9110-03-70, CONSTRUCTION YEAR: 1993 PROJECT NO: 9110-04-70, CONSTRUCTION YEAR: 1993 PROJECT NO: 9110-06-60, CONSTRUCTION YEAR: 2008 PROJECT NO: 1007-46-60, CONSTRUCTION YEAR: 2009

### **UTILITIY CONTACTS**

CENTURYLINK-COMMUNICATION LINE PETE JOHNSON 2425 MARY ST MARINETTE, WI 54143 (715) 735-0059 peter.s.johnson@lumen.com

WE ENERGIES-ELECTRICITY **BILL HOWARD** 4352 CTH B LAND O' LAKES, WI 54540 (906) 779-2472 We-Utility-relocations@we-energies.com ORDER OF DETAIL SHEETS

**GENERAL NOTES** PROJECT OVERVIEW TYPICAL SECTIONS **CONSTRUCTION DETAILS** INTERSECTION DETAILS **CURB & GUTTER DETAILS EROSION CONTROL GUARDRAIL DETAILS** TRAFFIC CONTROL PLAN

#### WDNR CONTACT

JON SIMONSEN WISCONSIN DEPARTMENT OF NATURAL RESOURCE 107 SUTLIFF RHINELANDER, WI 54501 (715) 367-1936 jonathan.simonsen@wisconsin.gov

### RUNOFF COEFFICIENT TABLE

	HY	'DROLOG	IC SOIL GROUP									
А		В	С							D		
	SLO	PE RANG	E (PERCENT)	SLOPE	RANGE	(PERCENT)	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE: TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:	•		•	•		•			•	•		
ASPHALT						.7095						
CONCRETE						.8095						
BRICK						.7080						
DRIVES, WALKS						.7585						
ROOFS						.7595						
GRAVEL ROADS, SHO	ULDERS					.4060						

TOTAL PROJECT AREA = 24.29 ACRES TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.45 ACRES



PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE **GENERAL NOTES AND UTILITY CONTACTS** FILE NAME :

**SHEET** 

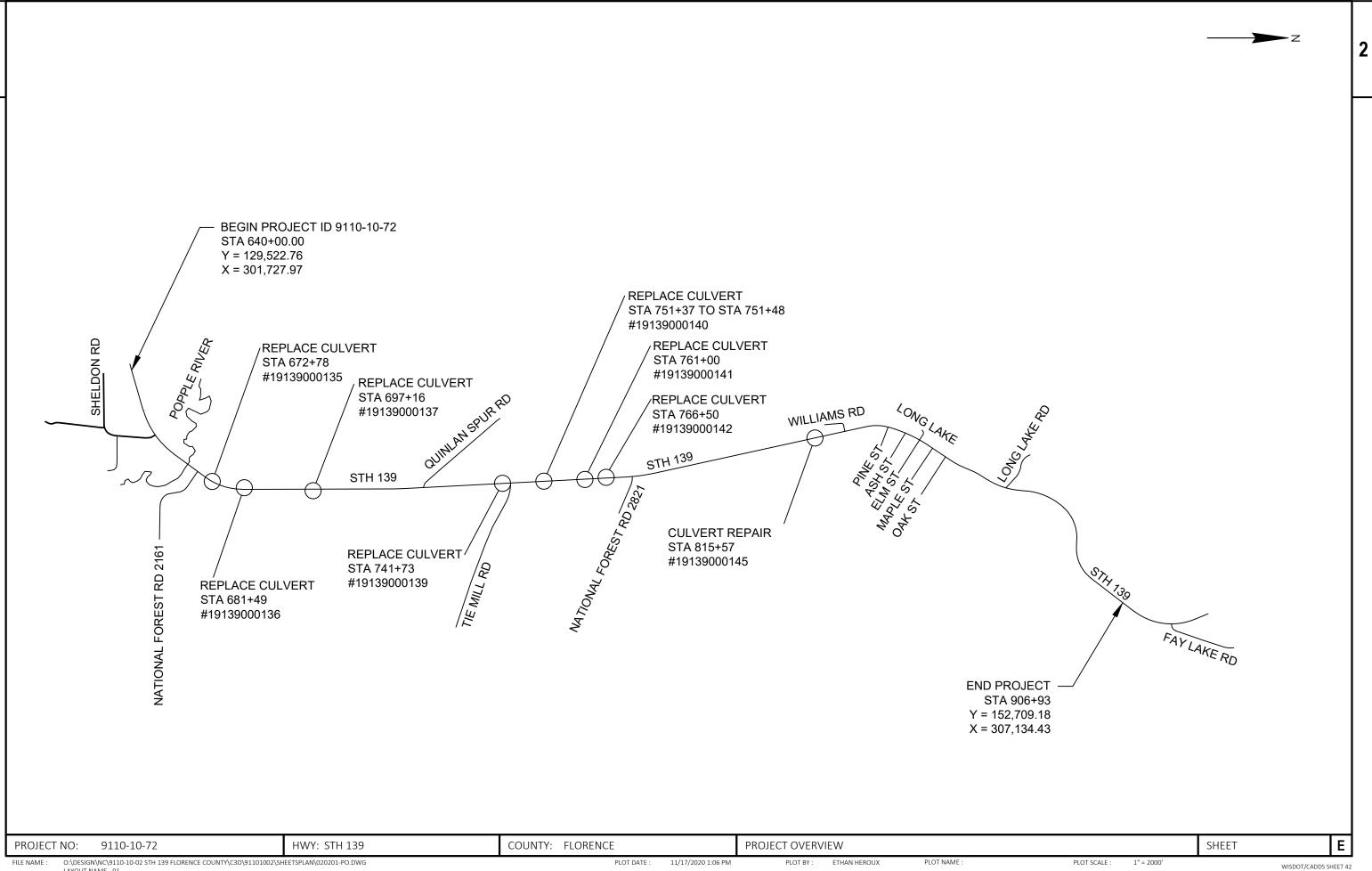
PLOT DATE : 1/4/2021 2:39 PM PLOT BY:

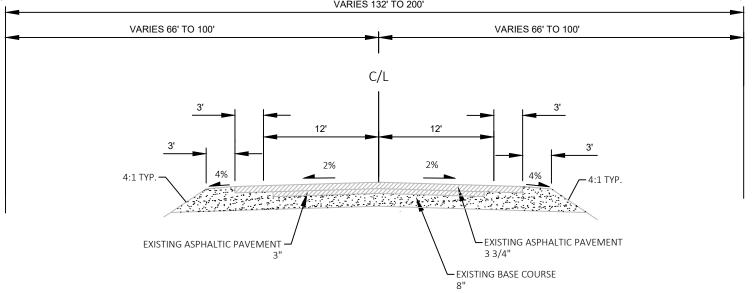
PLOT SCALE :

WISDOT/CADDS SHEET 42

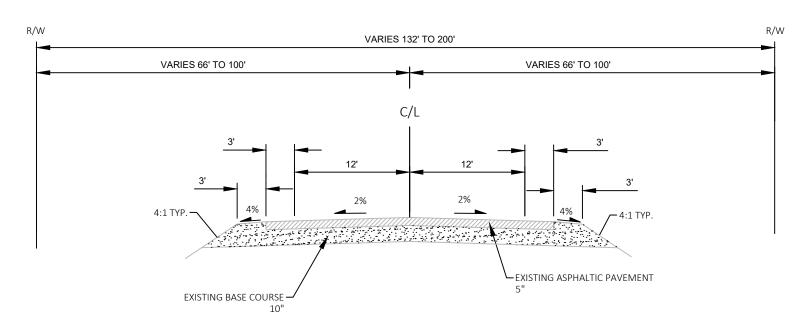
Ε

PLOT NAME :

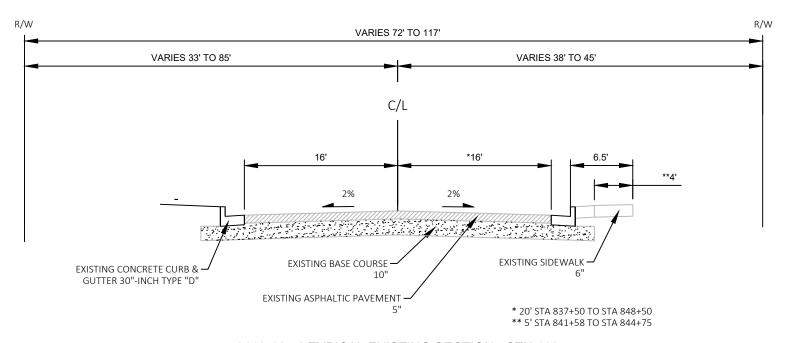




### 9110-10-72 TYPICAL EXISTING SECTION - STH 139 STA 640+00 TO 792+00



9110-10-72 TYPICAL EXISTING SECTION - STH 139 STA 792+00 TO 829+00 STA 870+00 TO 906+93



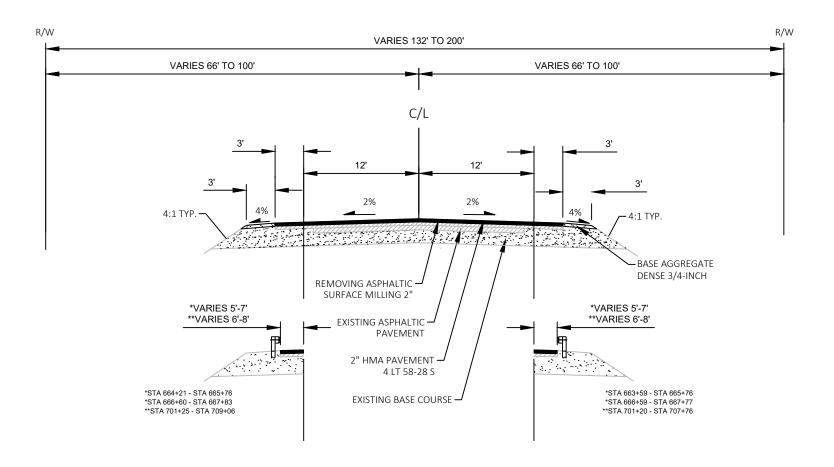
COUNTY: FLORENCE PLAN: TYPICAL SECTIONS SHEET Ε PROJECT NO: 9110-10-72 HWY: STH 139

PLOT DATE : 1/19/2021 7:09 AM

PLOT SCALE :

1 IN:10 FT

PLOT BY: JAMES GOLDEN

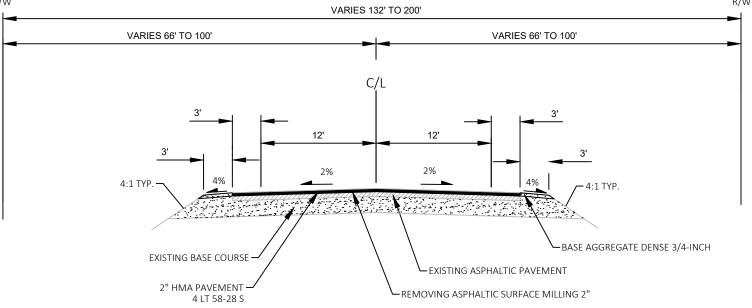


### 9110-10-72 TYPICAL FINISHED SECTION - STH 139 STA 640+00 TO 792+00

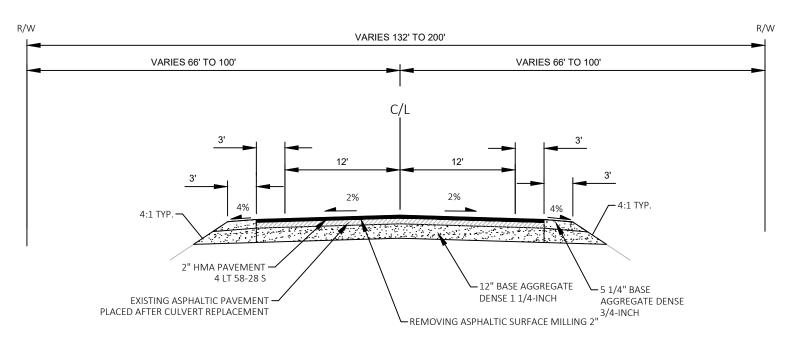
\*EXCLUDES: CULVERT PIPE SECTIONS

9110-10-72 HWY: STH 139 Ε PROJECT NO: COUNTY: FLORENCE PLAN: TYPICAL SECTIONS SHEET

R/W R/W



### 9110-10-72 TYPICAL FINISHED SECTION - STH 139 STA 792+00 TO 829+00 STA 870+00 TO 906+93

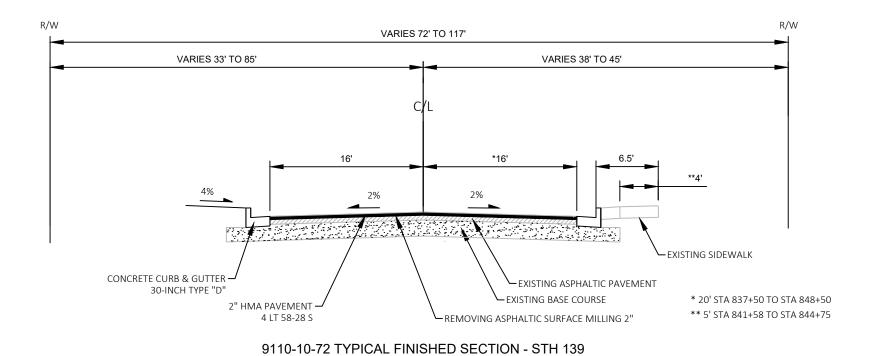


9110-10-72 TYPICAL FINISHED SECTION - STH 139 **CULVERT PIPE REPLACEMENTS** 

Ε PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE PLAN: TYPICAL SECTIONS SHEET FILE NAME : O:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\020301-TS.DWG PLOT DATE : 1/19/2021 7:09 AM PLOT BY: JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:10 FT

2

2



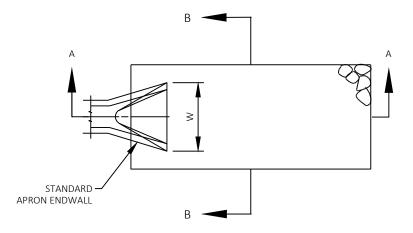
STA 829+00 TO 870+00

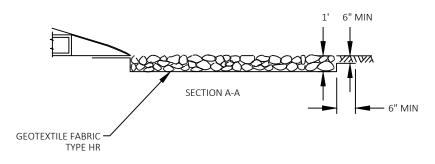
PLOT BY: JAMES GOLDEN

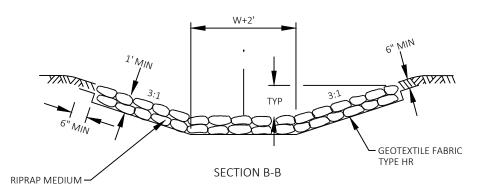
PLOT NAME :

PLOT DATE : 1/19/2021 7:09 AM

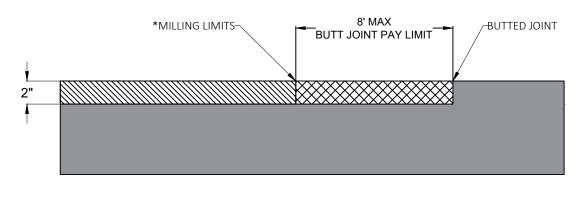
PLOT SCALE : 1 IN:10 FT







RIP RAP AND GEOTEXTILE



REMOVING ASPHALTIC SURFACE MILLING



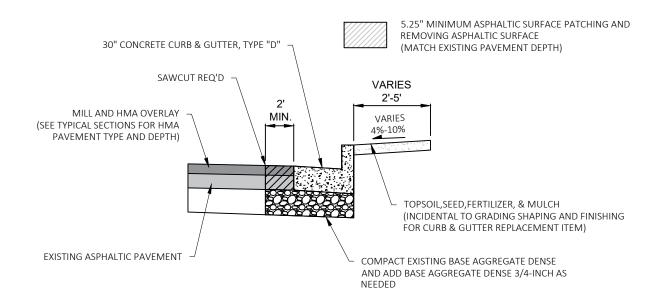
REMOVING ASPHALTIC SURFACE BUTT JOINTS



EXISTING PAVEMENT TO REMAIN

### BUTT JOINT DETAIL

NOT TO SCALE SIDEROADS, BEGINNING PROJECT, AND END PROJECT DETAIL \*MILLING LIMITS AS SHOWN ON PLANS



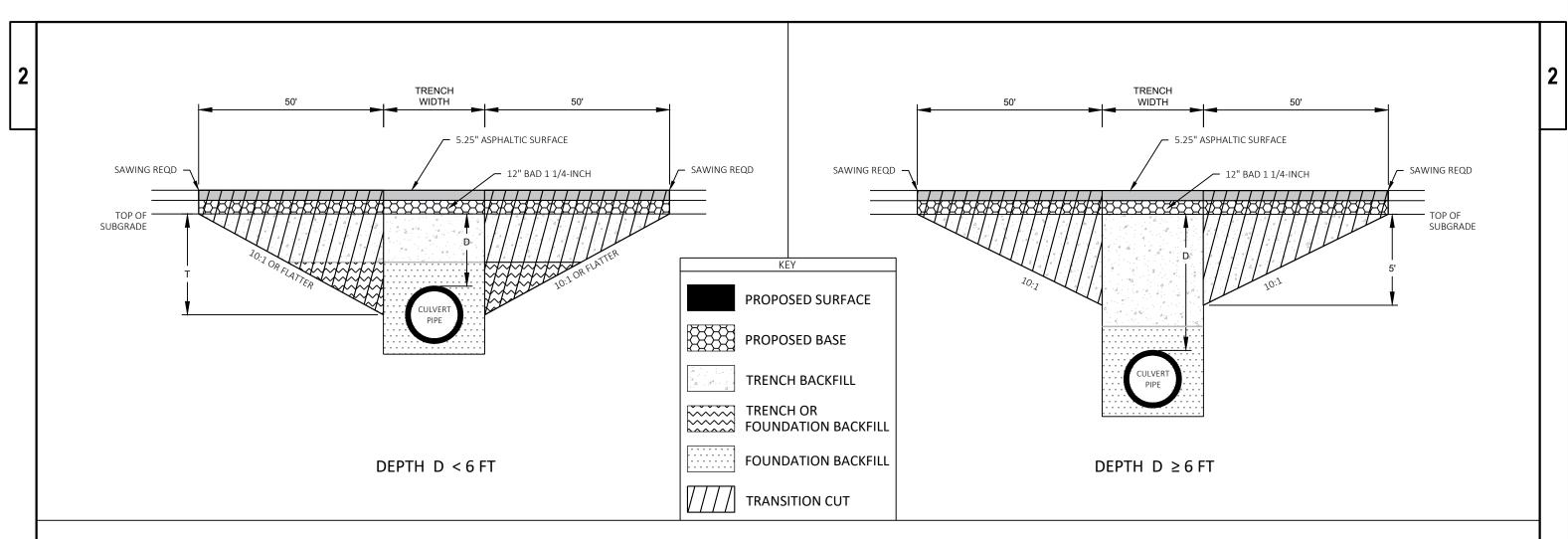
### DETAIL OF CURB & GUTTER INSTALLATION

STA 829+00 TO 870+00, LT/RT

COMPLETE CURB & GUTTER REPLACEMENT AND ASPHALTIC SURFACE PATCHING TO MATCH THE EXISTING SURFACE PRIOR TO THE MILL AND OVERLAY OF STH 139.

FOR DETAILS NOT SHOWN, SEE SDD "CONCRETE CURB, CONCRETE CURB &GUTTER AND TIES".

PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE PLAN: CONSTRUCTION DETAILS SHEET 1/31/2021 9:04 PM PLOT SCALE :



#### NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.

TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.

BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.

PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.

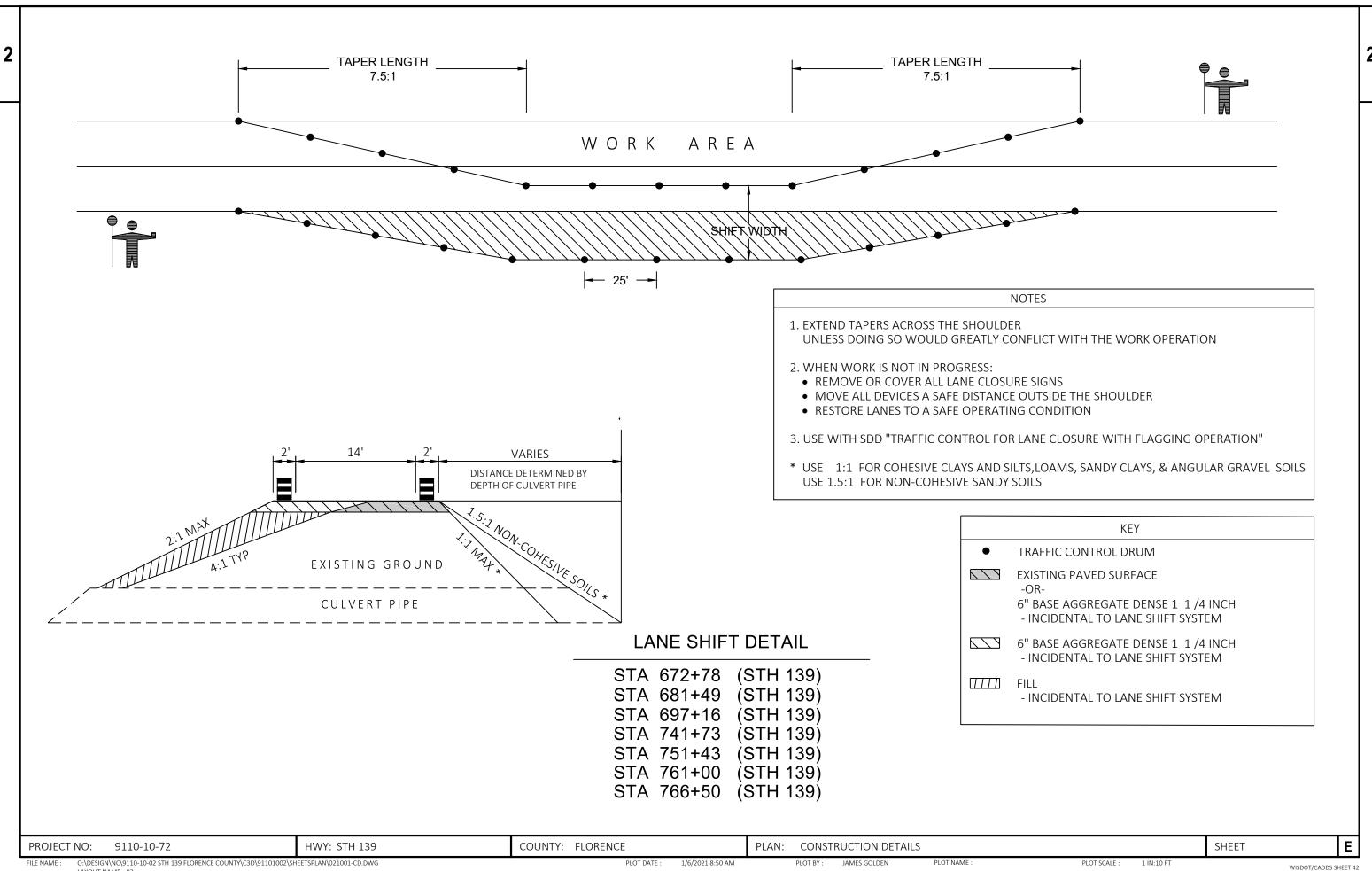
PLACE FULL DEPTH ASPHALTIC SURFACE AFTER CULVERT PIPE INSTALLATION AND BEFORE MILLING AND PAVING.

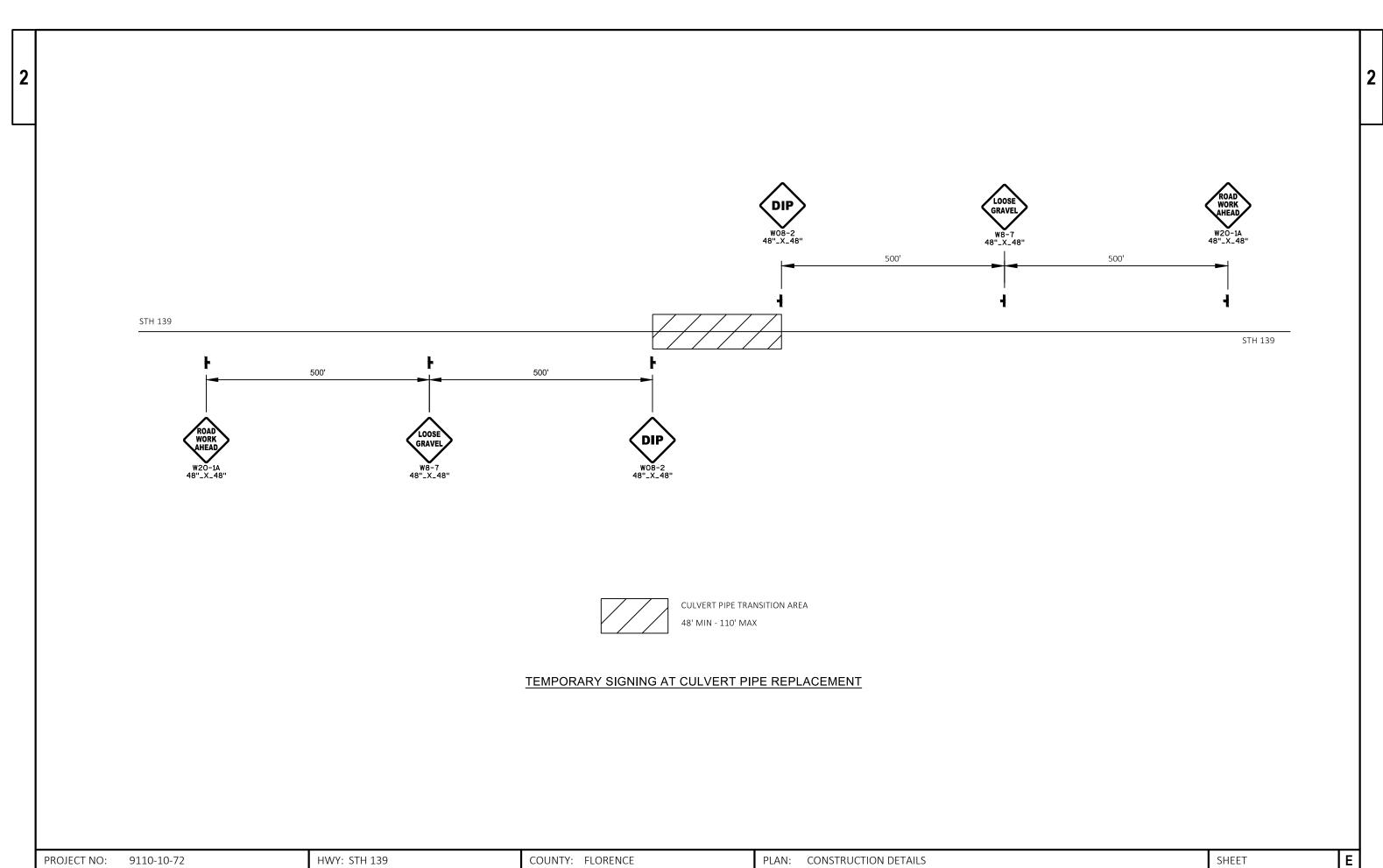
### **CULVERT PIPE TRANSITION**

ROUTE	STA (CL)	*DEPTH D (FT)	PIPE DIA (IN)	REMARKS
STH 139	672+78	6.53	30	-
STH 139	681+49	4.18	24	
STH 139	697+16	6.25	24	
STH 139	741+73	3.85	30	
STH 139	751+43	2.90	30	SKEWED
STH 139	761+00	3.97	30	
STH 139	766+50	5.39	30	

\*DEPTH MEASURED AT CENTERLINE

\*\*DEPTH MEASURED AT CENTERLINE



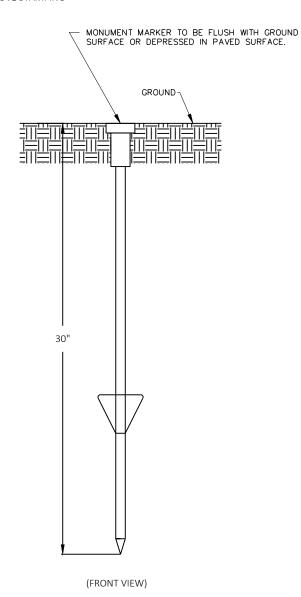


FILE NAME: O:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\021001-CD.DWG PLOT DATE: 1/6/2021 8:50 AM PLOT BY: JAMES GOLDEN PLOT NAME: PLOT SCALE: 1 IN:10 FT WISDOT/CADDS SHEET 42 LAYOUT NAME - 04



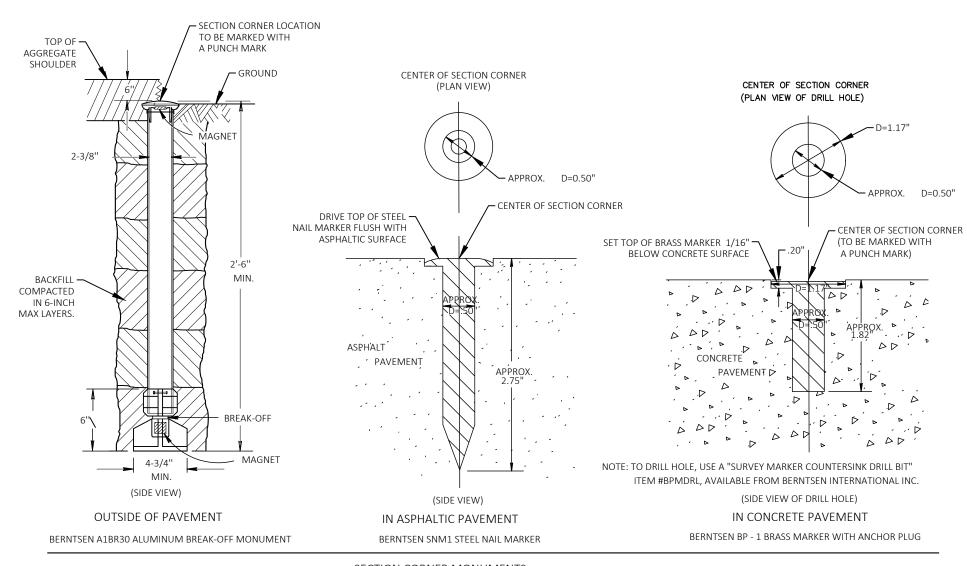
WIS DOT MONUMENT CAP MARKER LOGO (SSDR130)

CONTRACTOR TO ORDER LANDMARK REFERENCE MONUMENTS WITH THE ABOVE STAMPING



BERNSTEN DRIVABLE MONUMENT SSDR130

LANDMARK REFERENCE MONUMENT (TIES ONLY)



### **SECTION CORNER MONUMENTS**

#### **GENERAL NOTES**

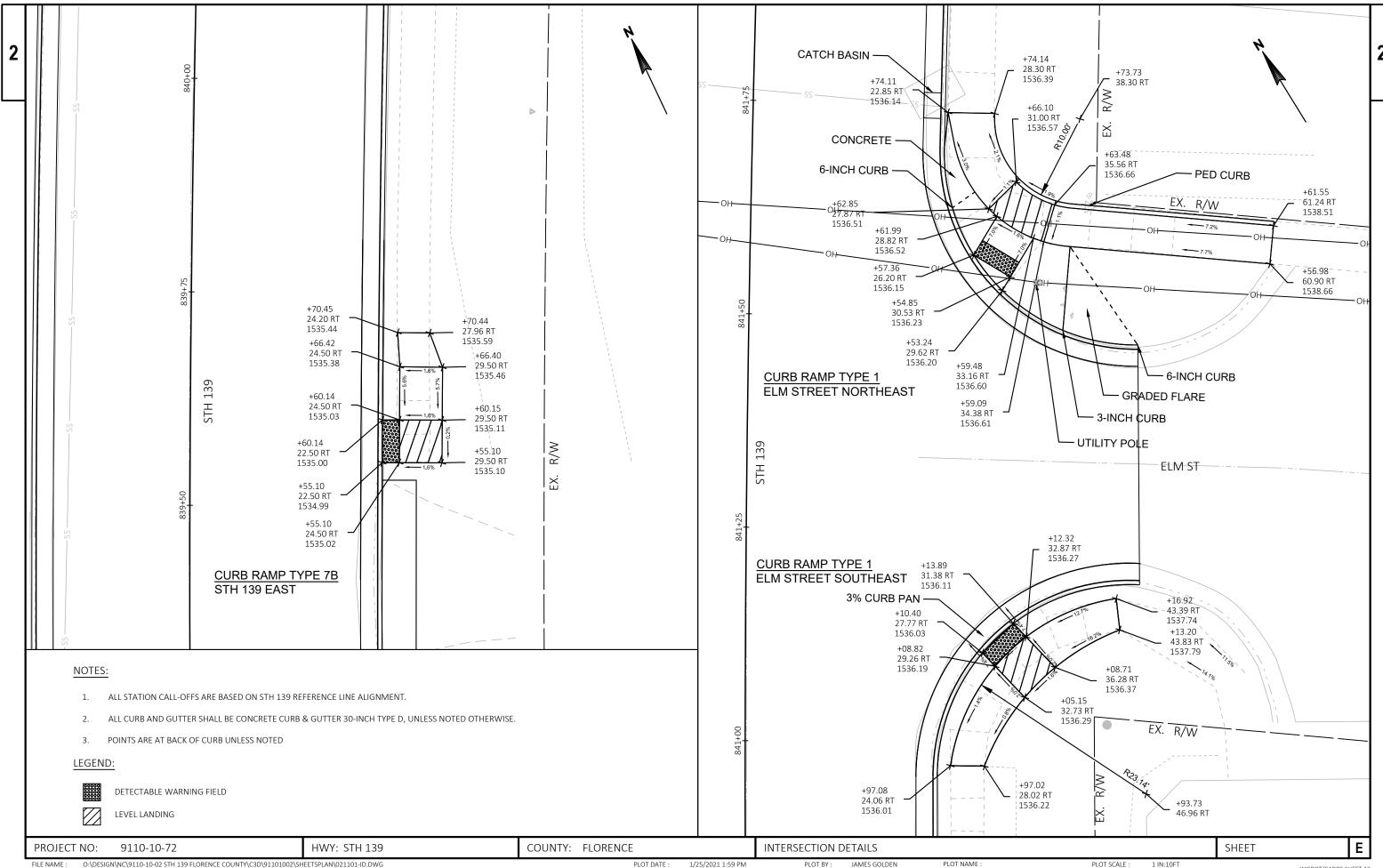
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

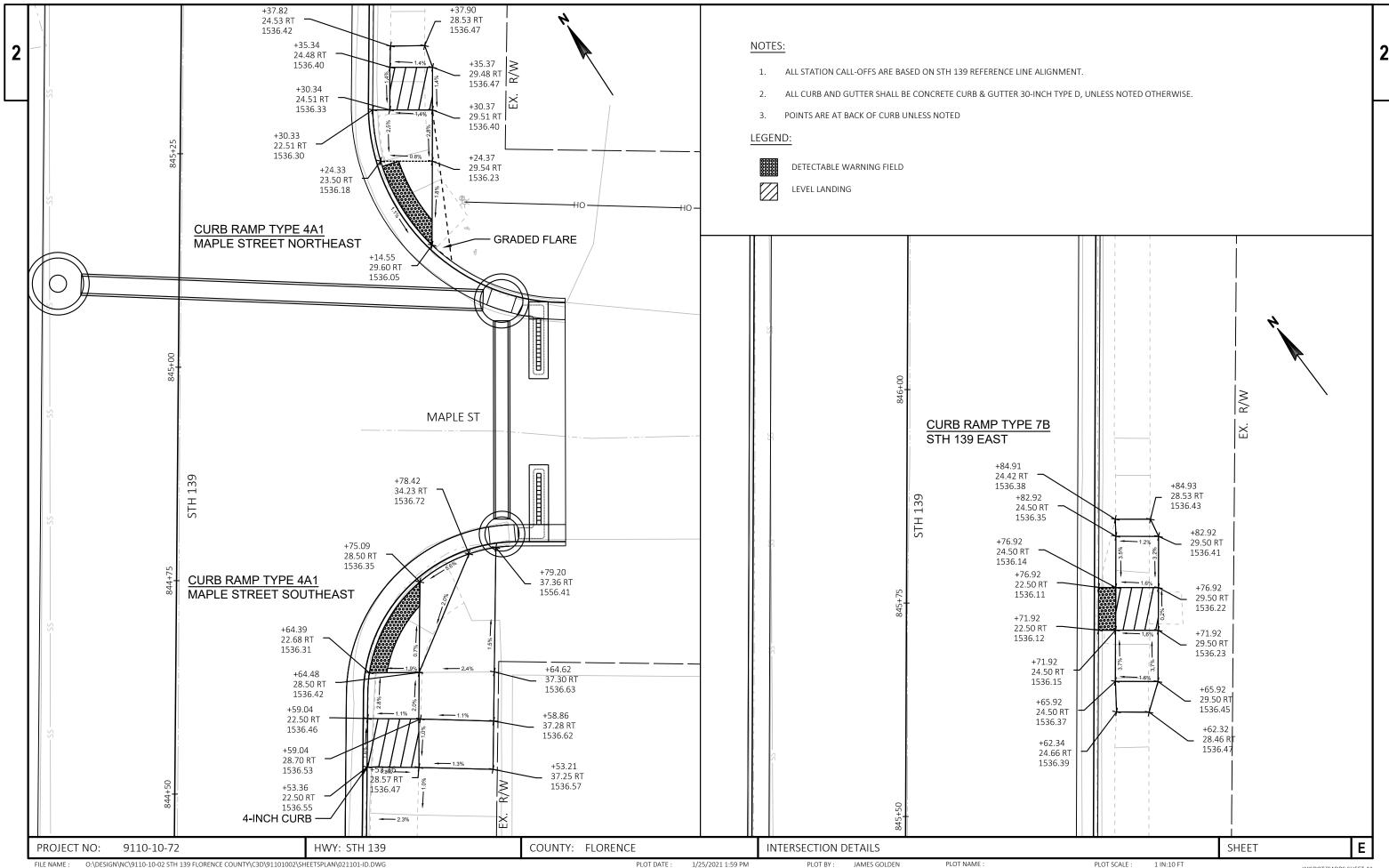
LOCATE LANDMARK REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION LIMITS AND WITHIN WISDOT RIGHT OF WAY. LOCATION TO BE APPROVED BY THE ENGINEER.

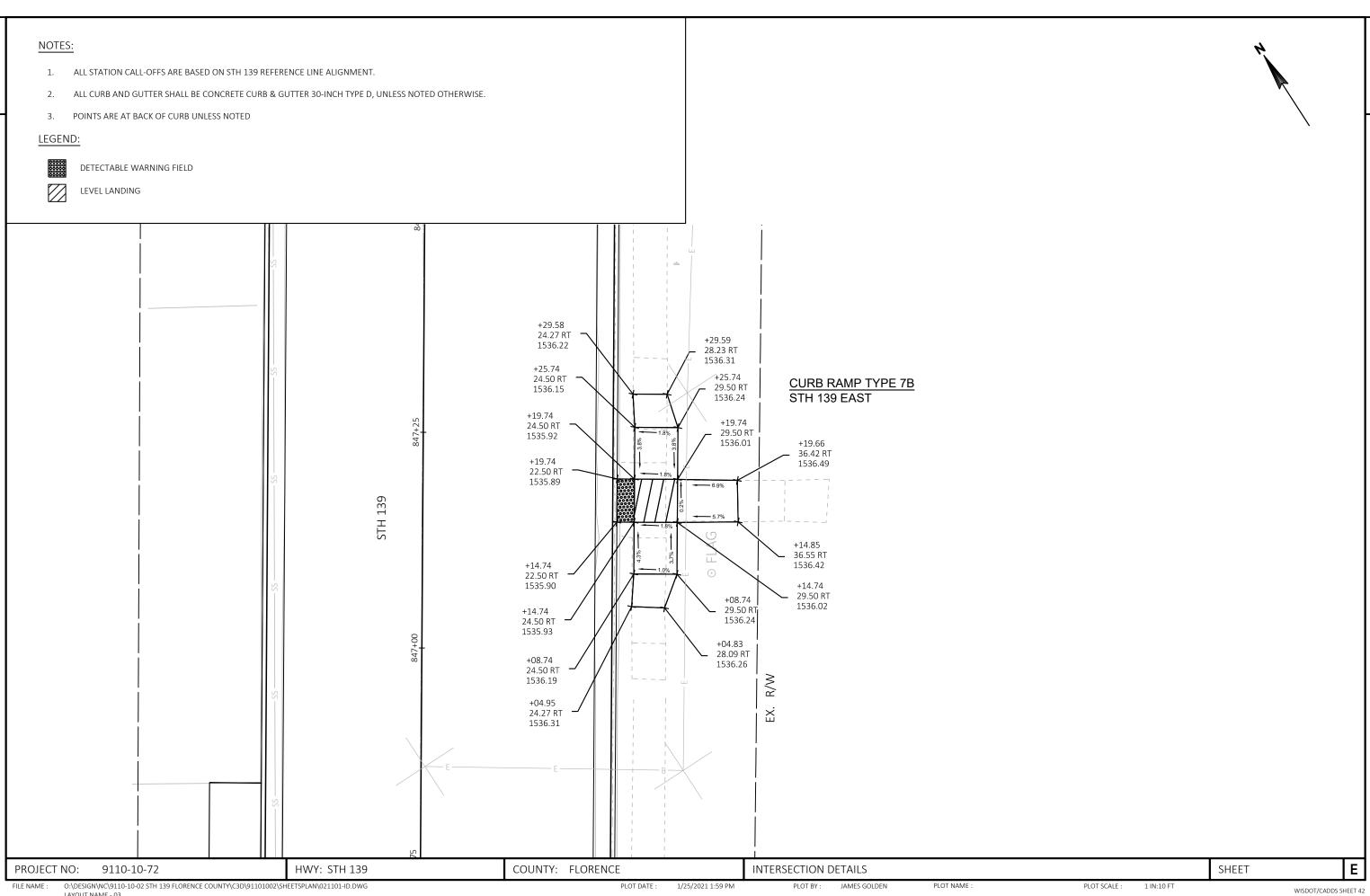
CONTRACTOR WILL SUPPLY ALL REQUIRED SURVEY MONUMENTS.

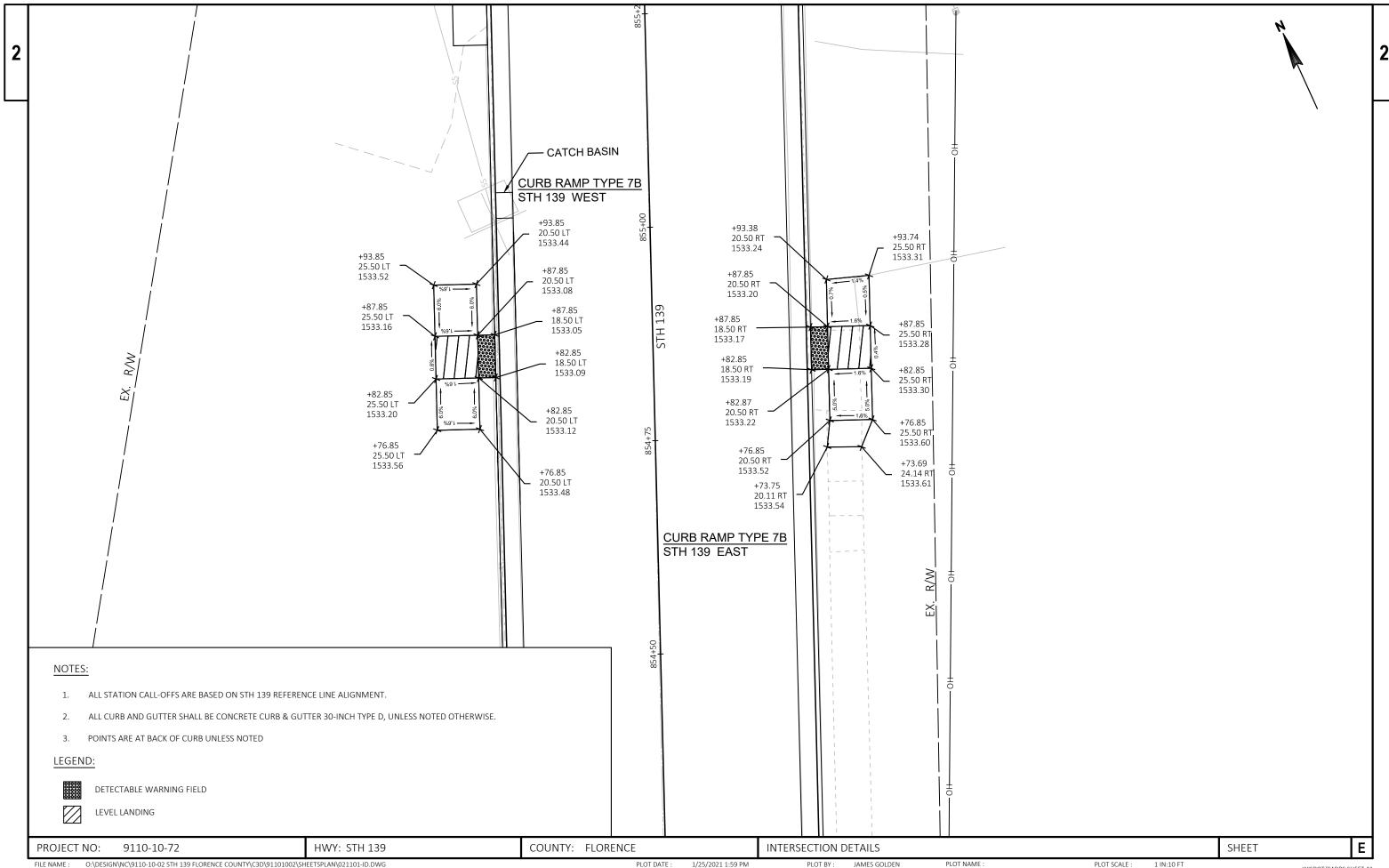
### SECTION CORNER MONUMENT AND LANDMARK REFERENCE MONUMENT DETAIL

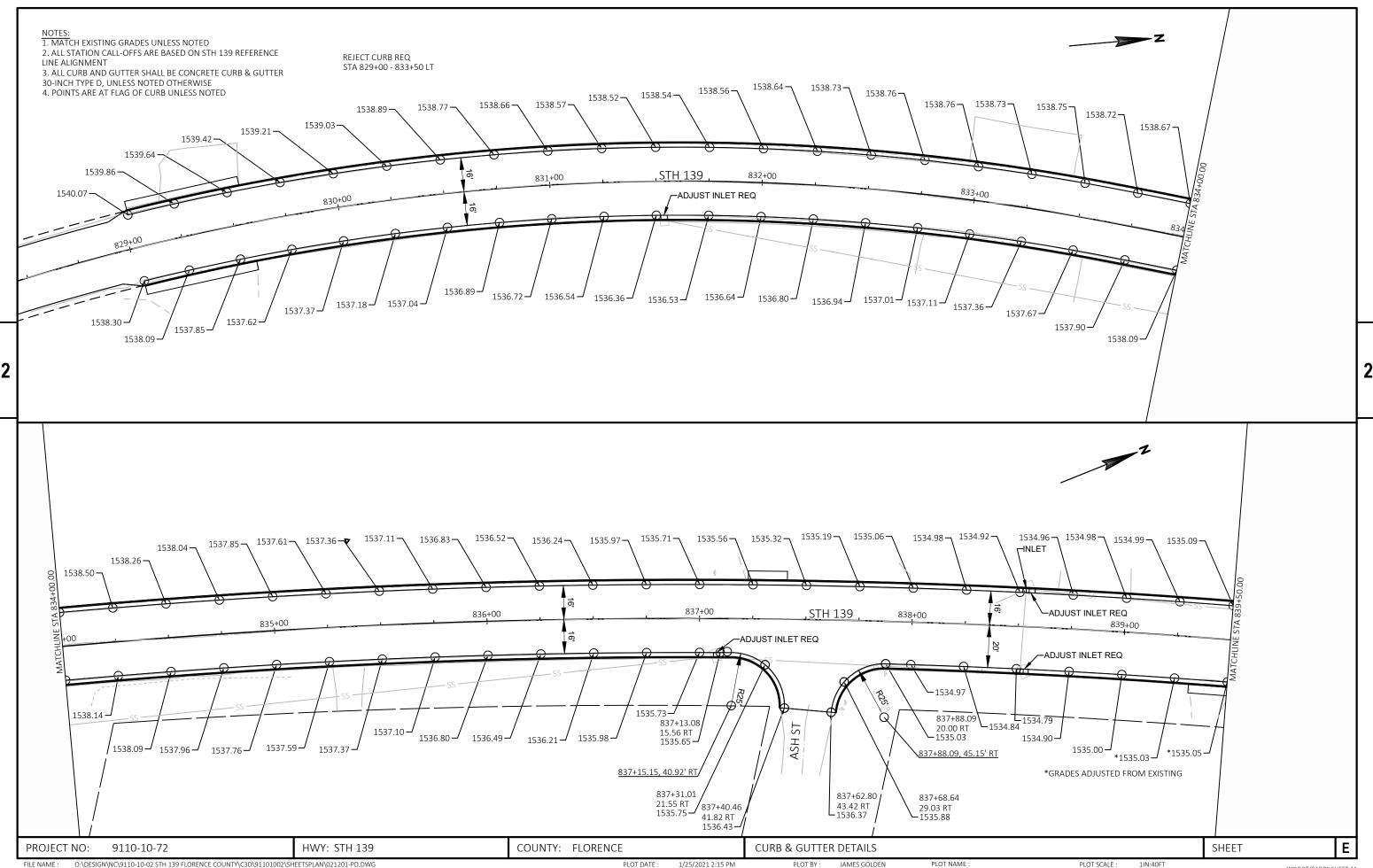
PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE CONSTRUCTION DETAILS SHEET O:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\021001-CD.DWG FILE NAME 1/6/2021 8:50 AM 1 IN:10 FT

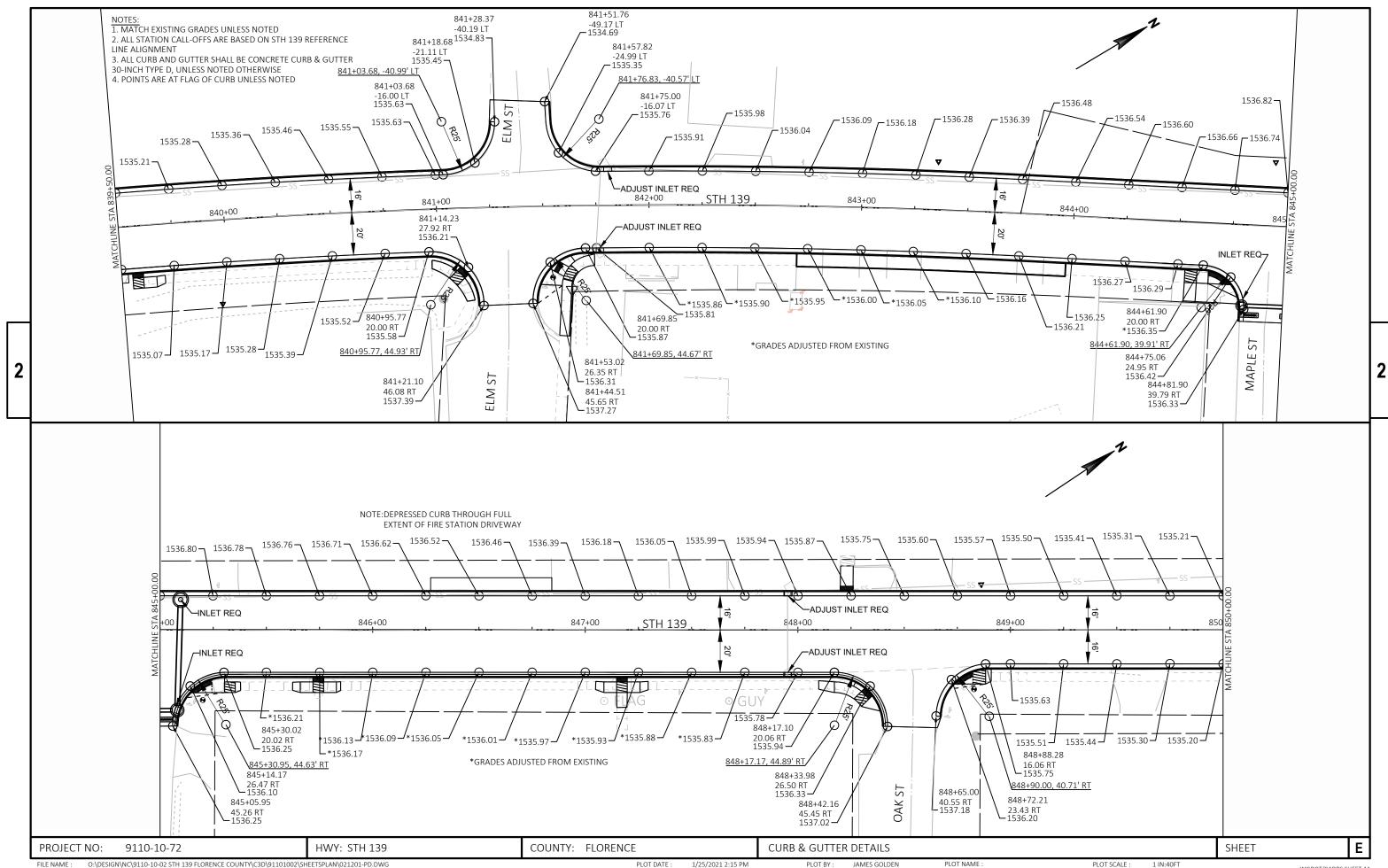


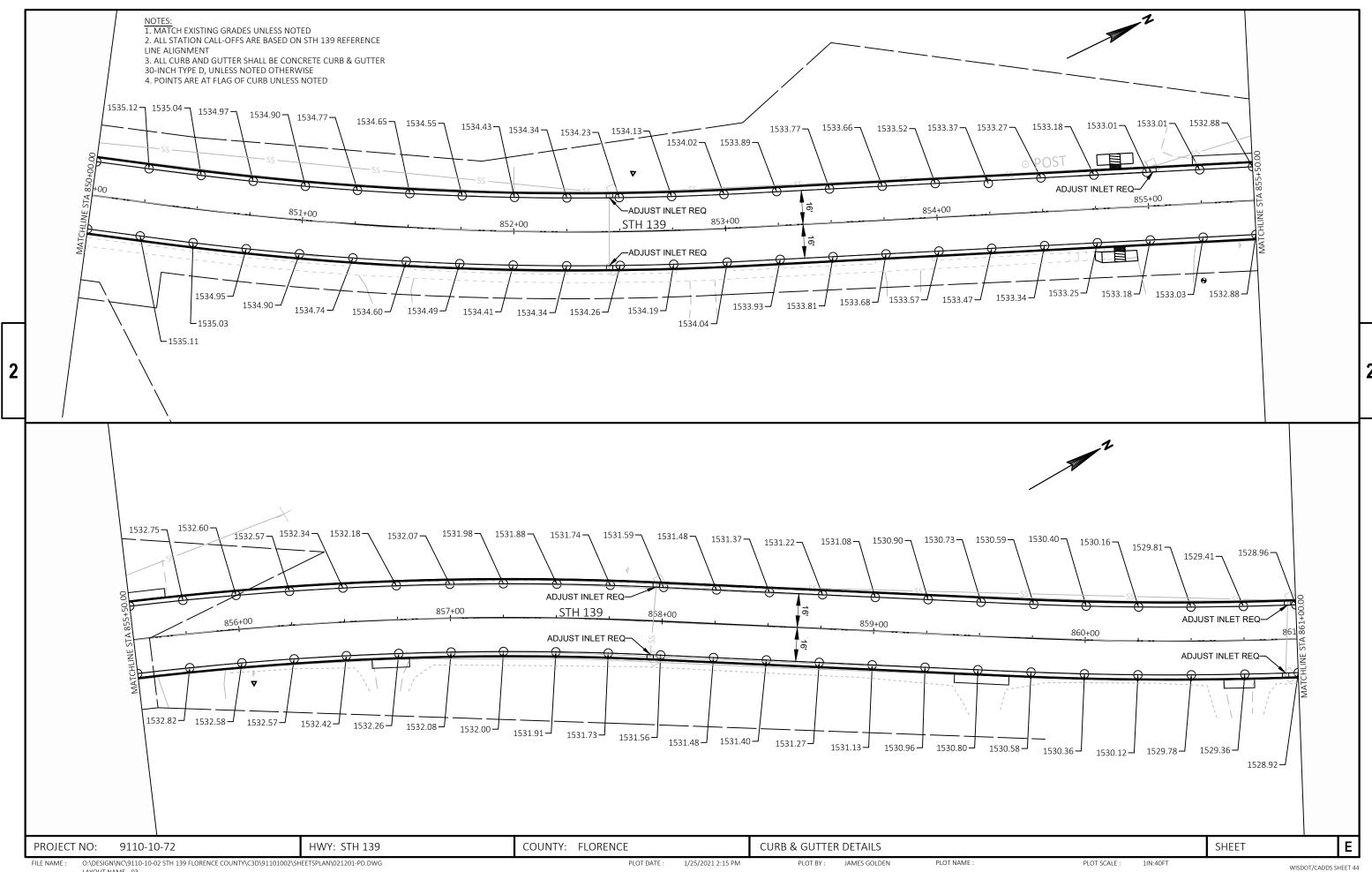


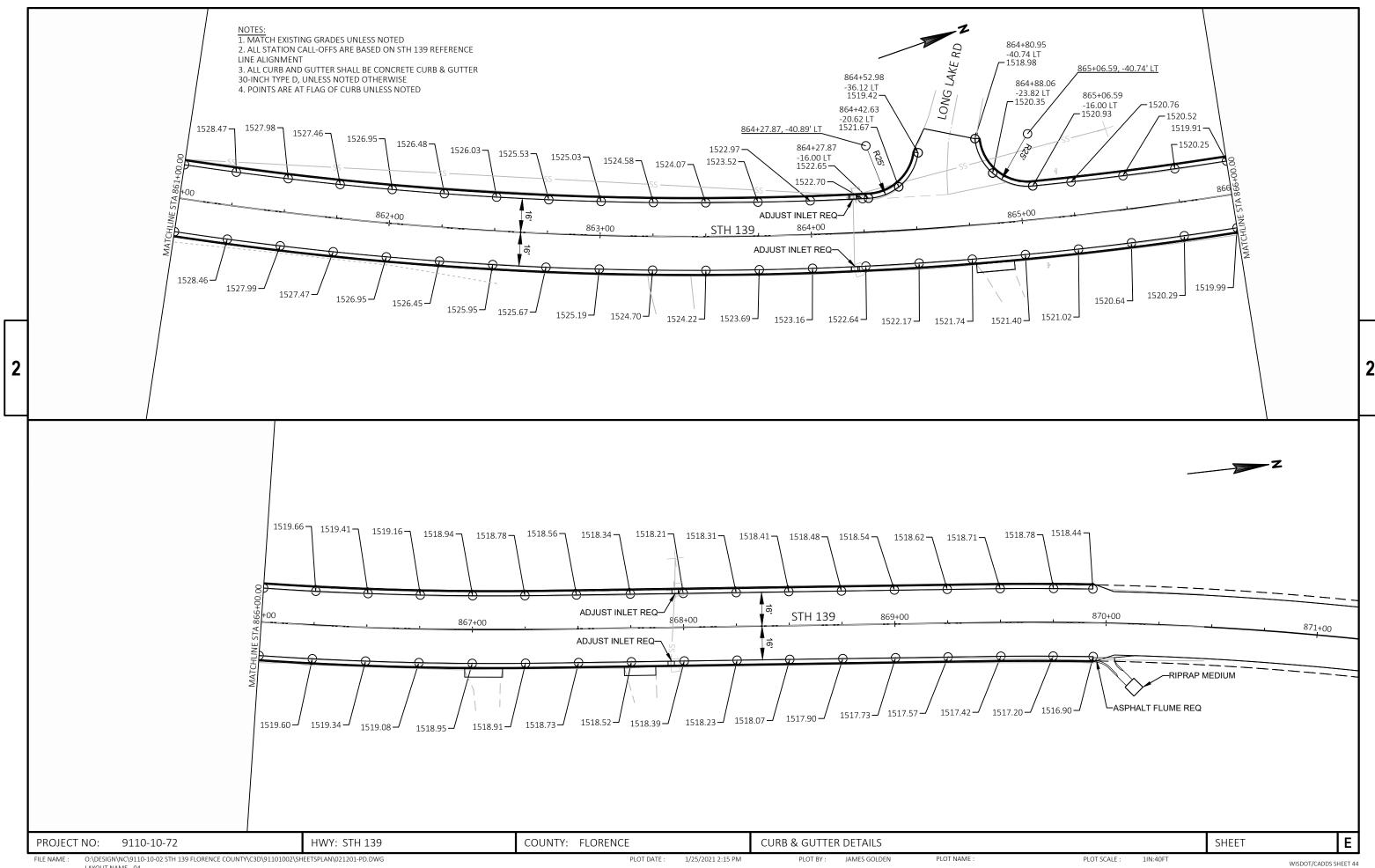


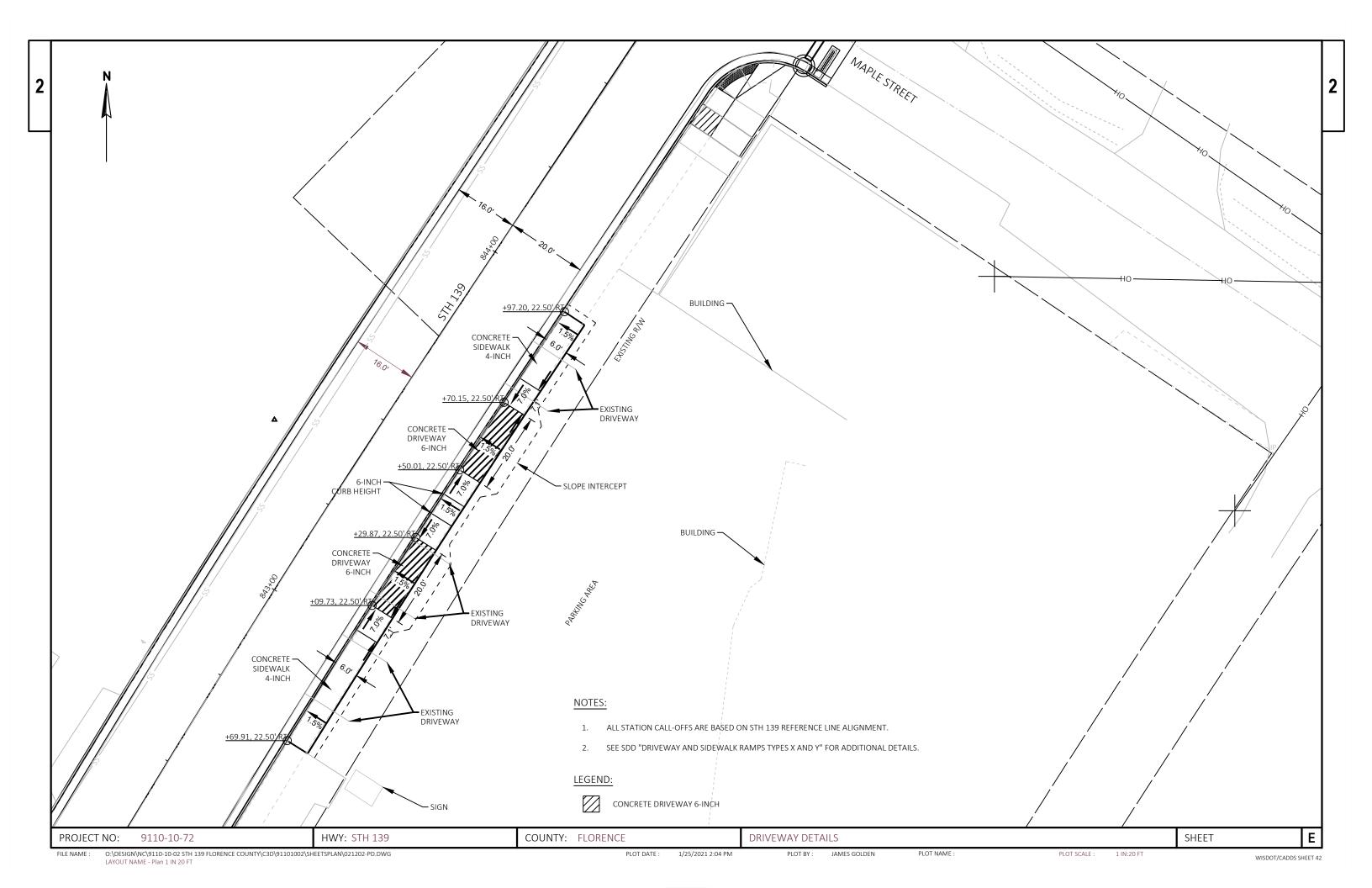


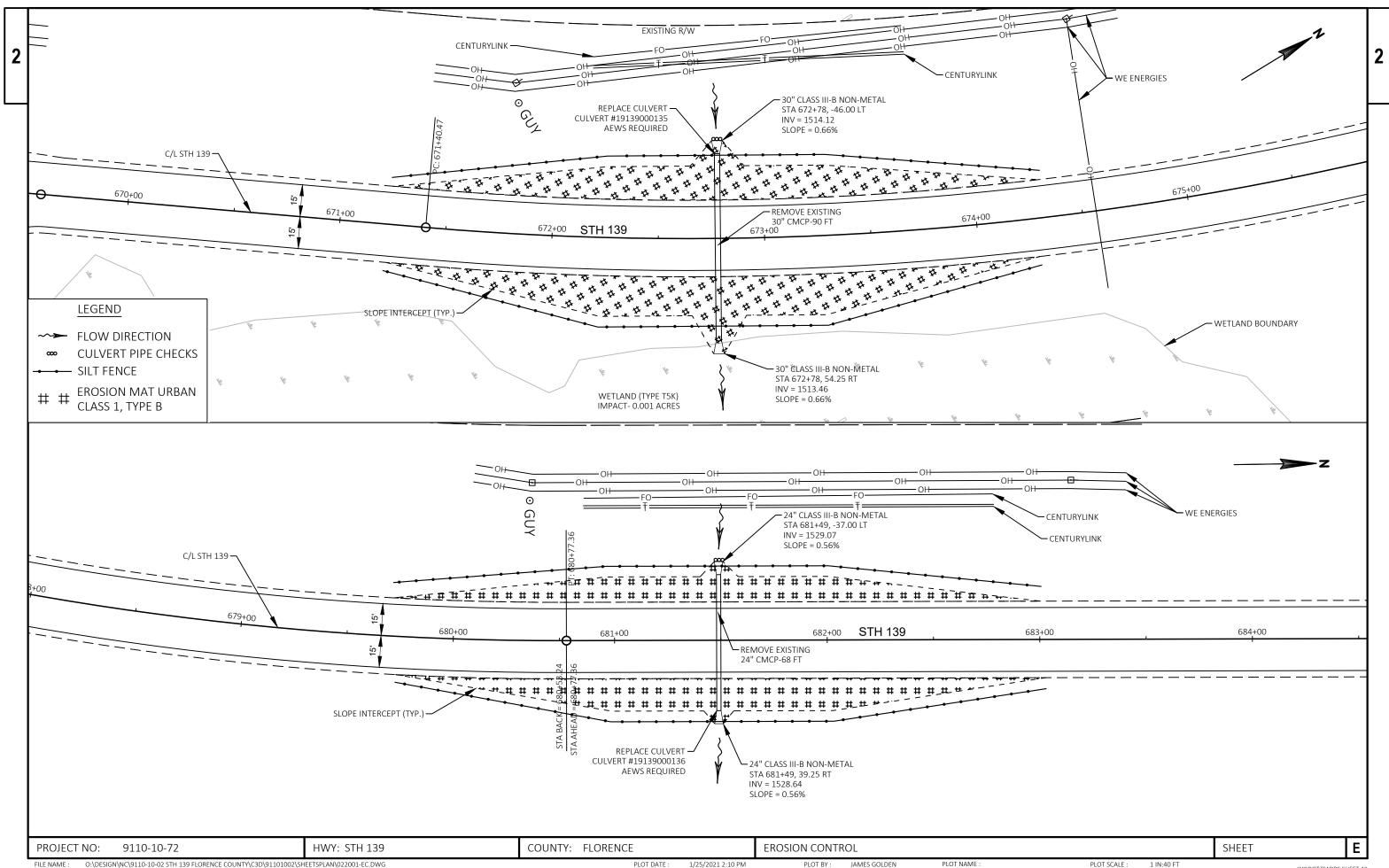


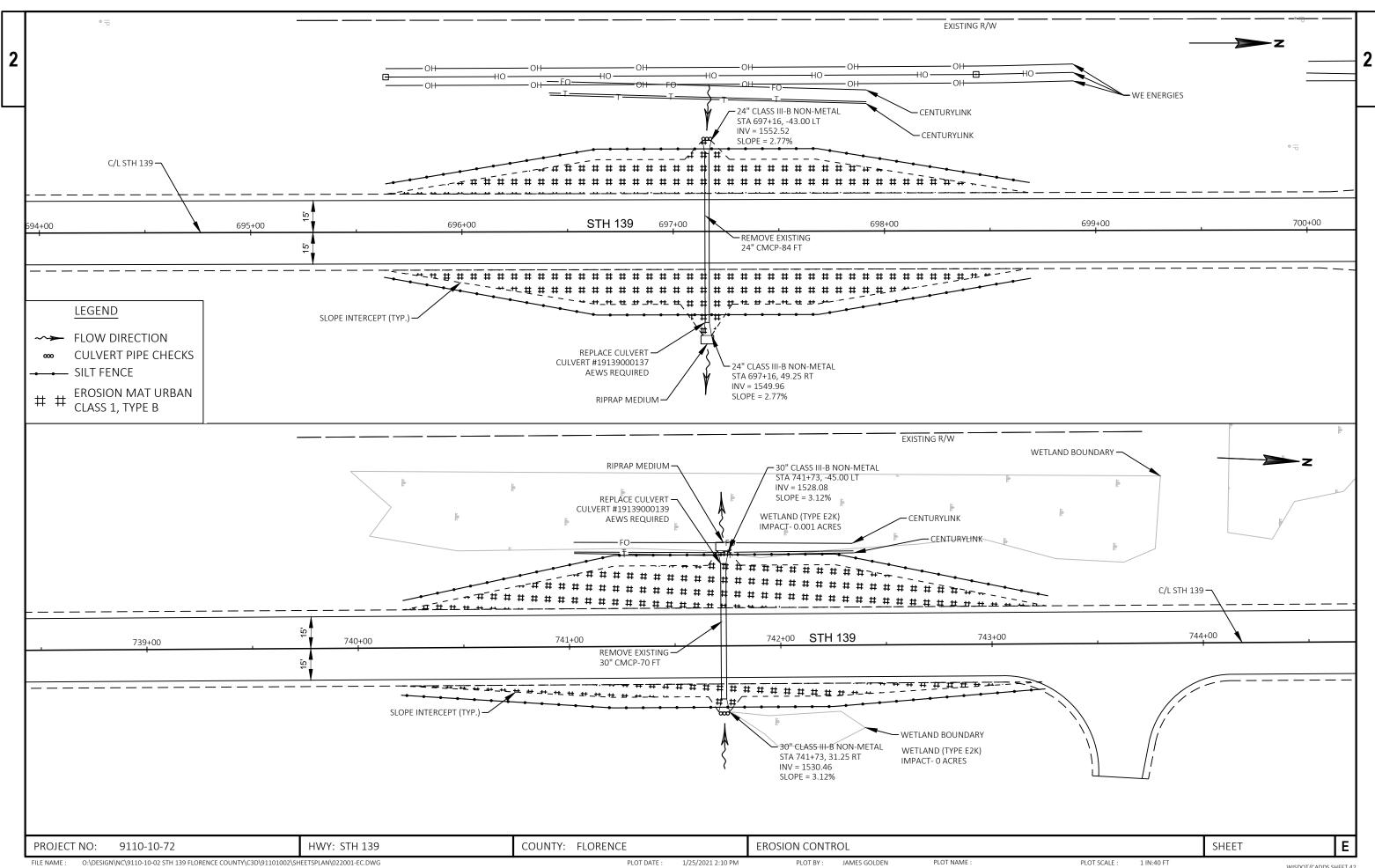


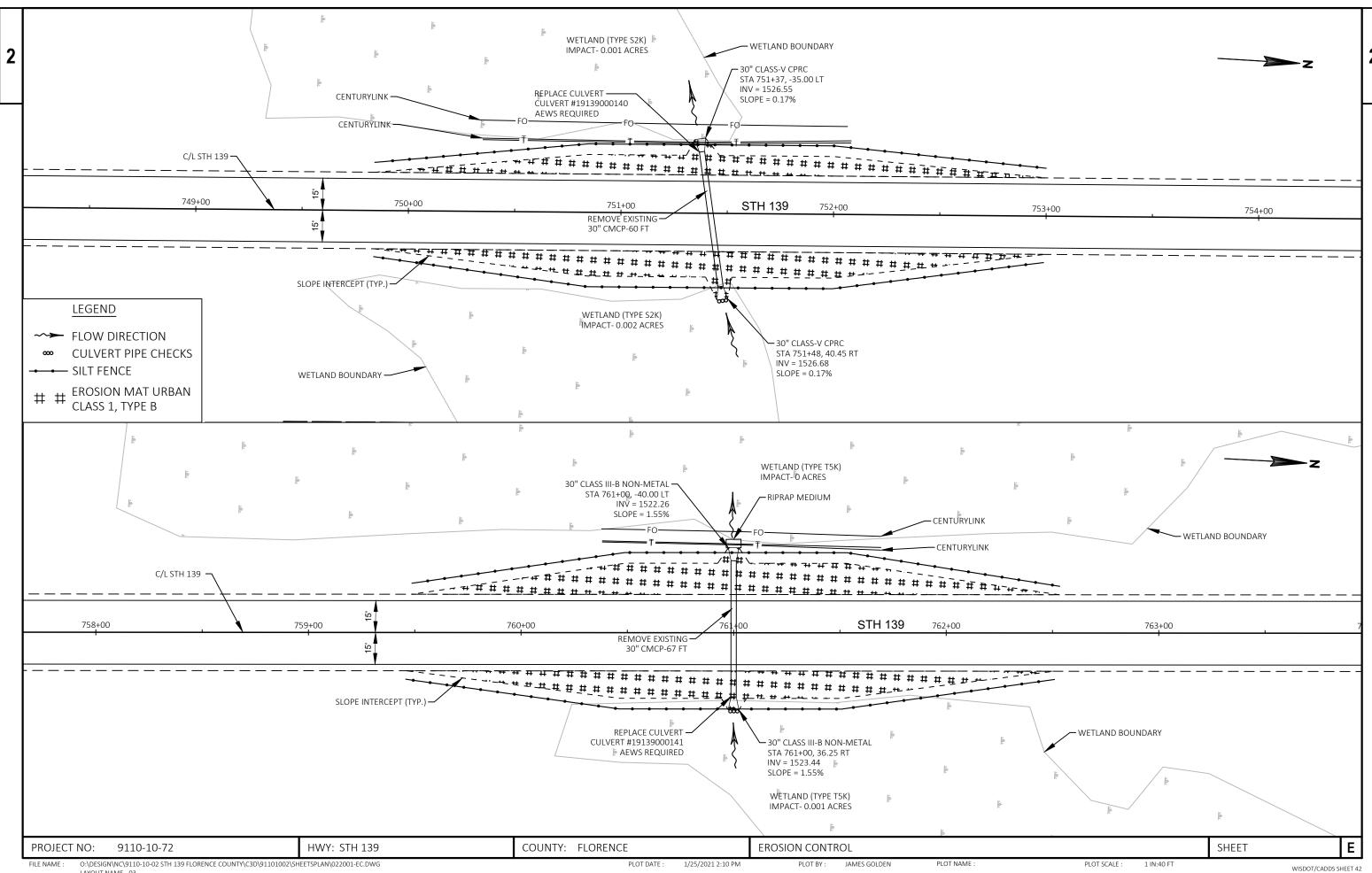


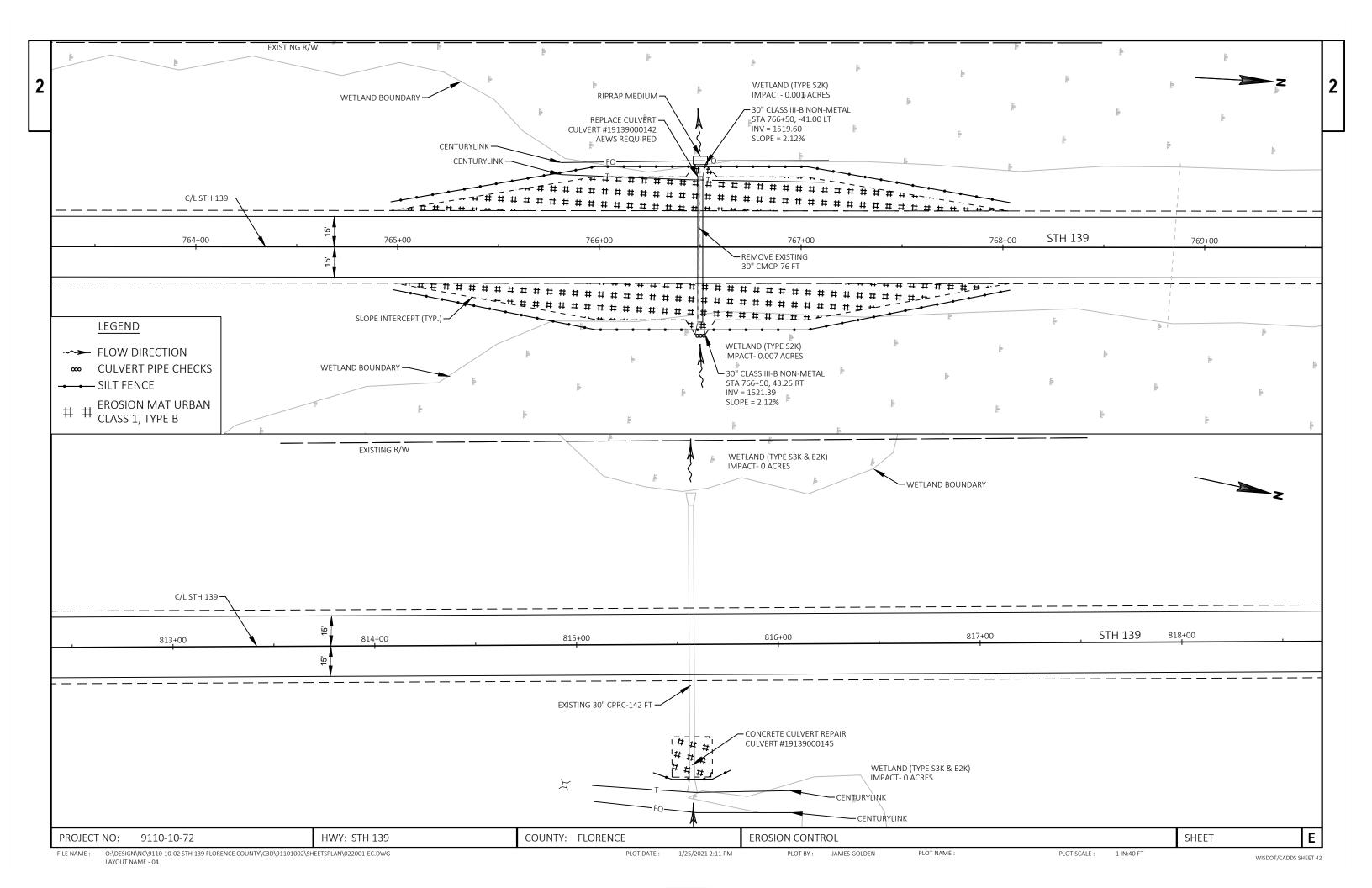


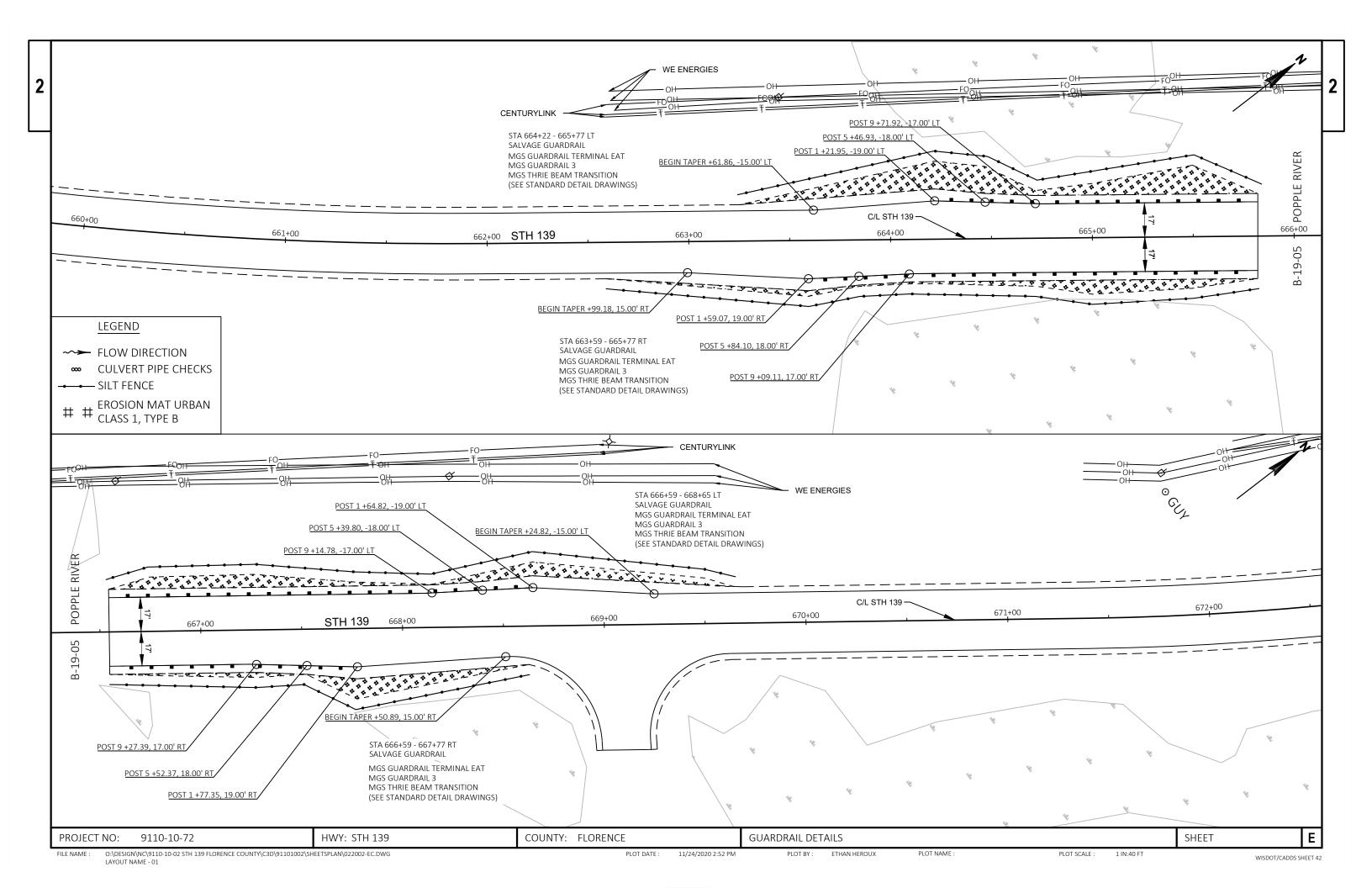


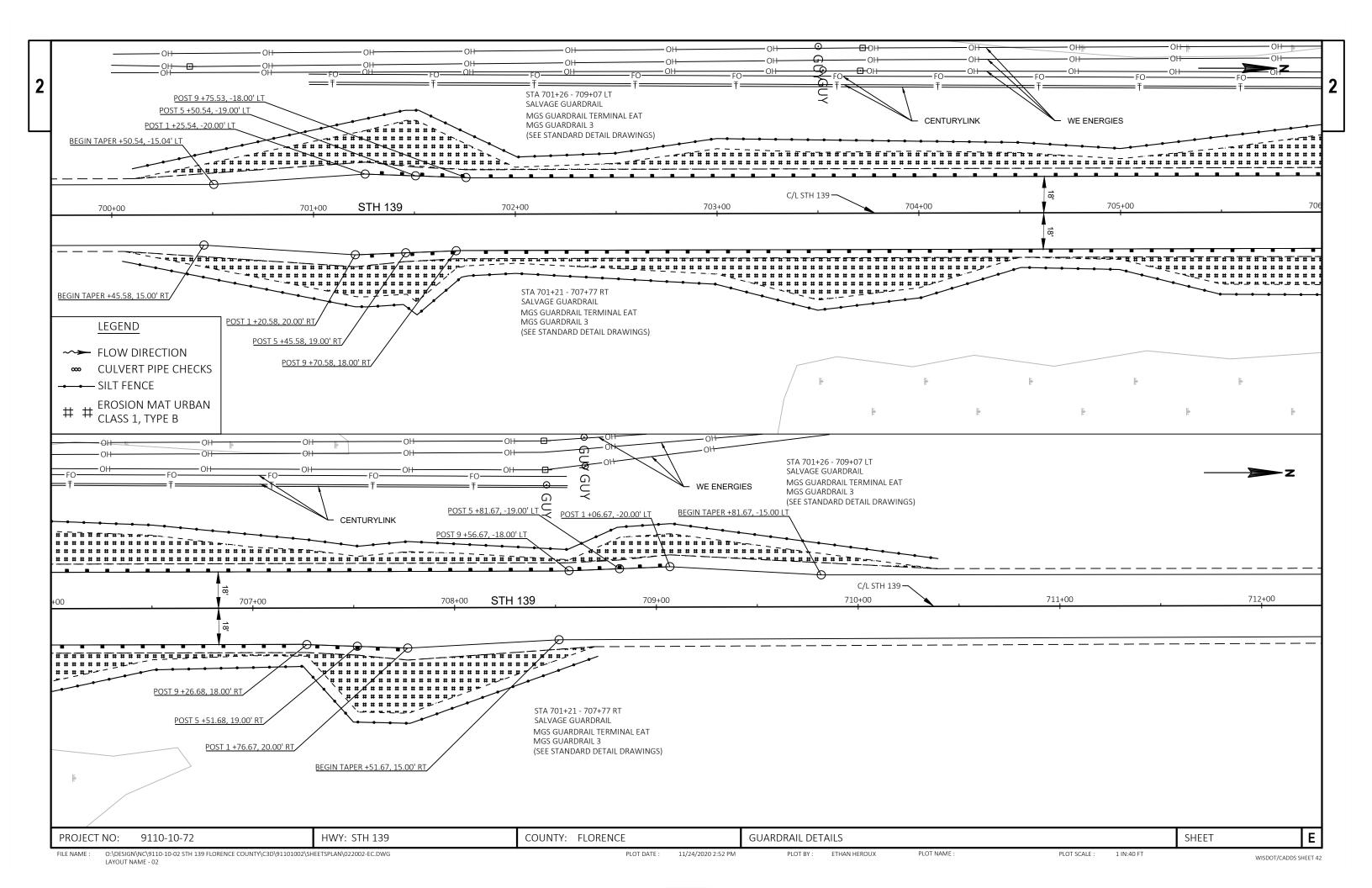


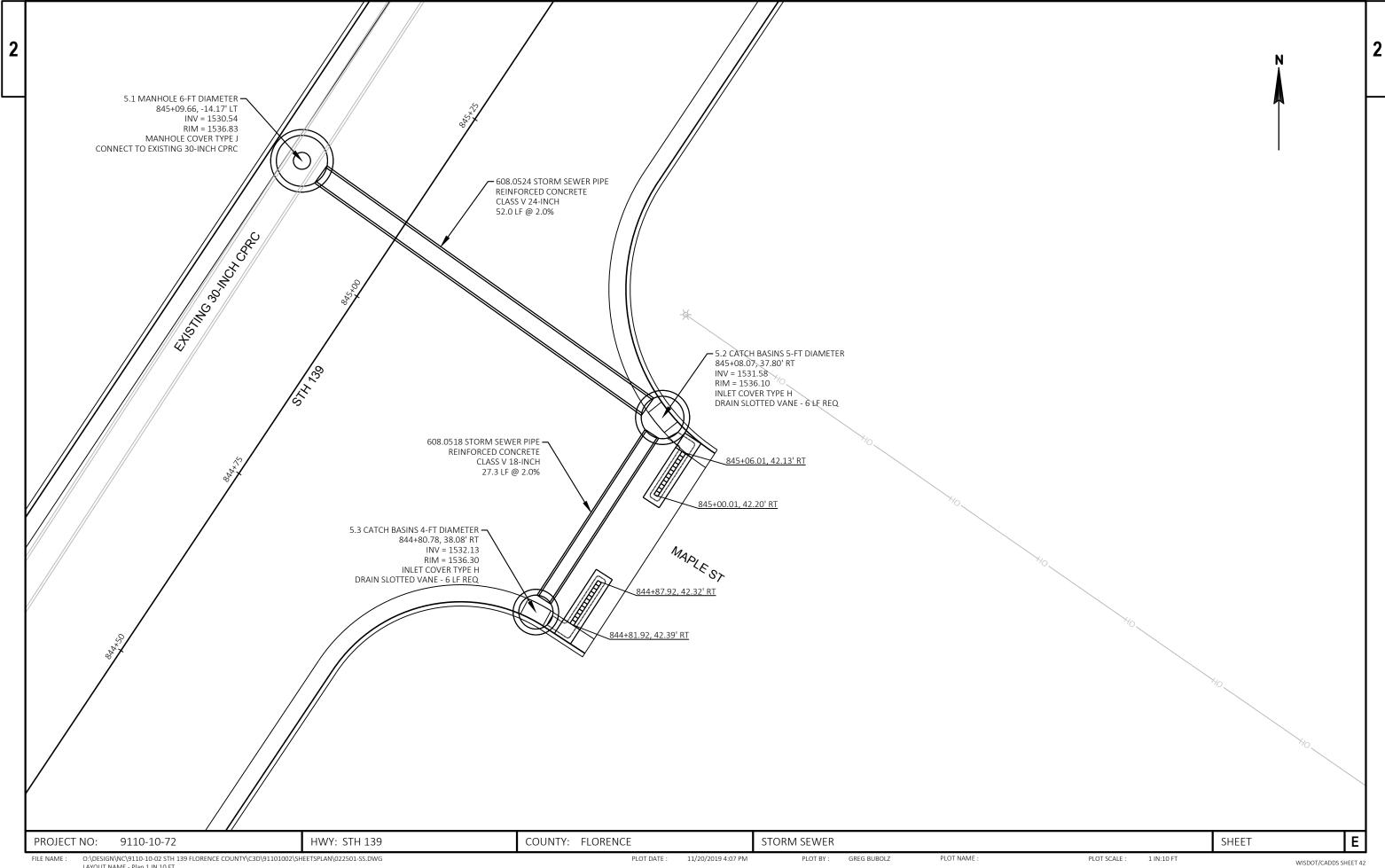












O:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\022501-SS.DWG GREG BUBOLZ PLOT NAME : PLOT SCALE : 1 IN:10 FT PLOT DATE : 11/20/2019 4:07 PM PLOT BY: LAYOUT NAME - Plan 1 IN 10 FT

#### DRAINAGE STRUCTURES

TOP OF STRUCTURE TYPE COVER RIM PIPE INVERT STRUCTURE BASE \*\*DEPTH LOCATION STRUCTURE NO. MANHOLE / CATCH BASIN OFFSET TYPE ELEVATION ELEVATION STA **ELEVATION** COMMENTS MAINLINE STH 139 5.34 INVERT ELEVATION IS THE EXISTING 30-INCH CPRC ELEVATION 5.1 MANHOLES 6-FT DIAMETER 845+09.66 -14.17 LT 1536.83 1530.54 1530.25 STH 139 5.2 CATCH BASINS 5-FT DIAMETER 845+08.07 37.80' RT Н 1536.10 1531.58 1531.33 3.77 CONNECT DRAIN SLOTTED VANE TO STRUCTURE 5.2 STH 139 5.3 CATCH BASINS 4-FT DIAMETER 844+80.78 38.08' RT Н 1536.30 1532.13 1531.92 3.38 CONNECT DRAIN SLOTTED VANE TO STRUCTURE 5.3

### DRAINAGE STRUCTURE GENERAL NOTES

- 1) STATIONS AND OFFSETS TO INLET STRUCTURES ARE TO THE CENTER OF THE STRUCTURE.
- 3) RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE OF PROPOSED GUTTER FOR INLET STRUCTURES UNLESS OTHERWISE NOTED.
- 4) CONSTRUCT INLETS AND CATCH BASINS WITH 2-FT X3-FT OPENINGS FOR INLET COVERS TYPE H.

#### ADDITIONAL NOTES:

\*\*STRUCTURE DEPTH:

INLETS = RIM ELEVATION - TOP OF STRUCTURE BASE - CASTING HEIGHT (0.50 FT OR 0.74 FT) - ADJUSTING RINGS (0.50 FT)

CASTING HEIGHT = 0.50 FT FOR INLET COVERS TYPE H CASTING HEIGHT = 0.74 FT FOR MANHOLE COVERS TYPE J ADJUSTING RINGS = 0.50 FT FOR INLET COVERS TYPE H AND MANHOLE COVERS TYPE J

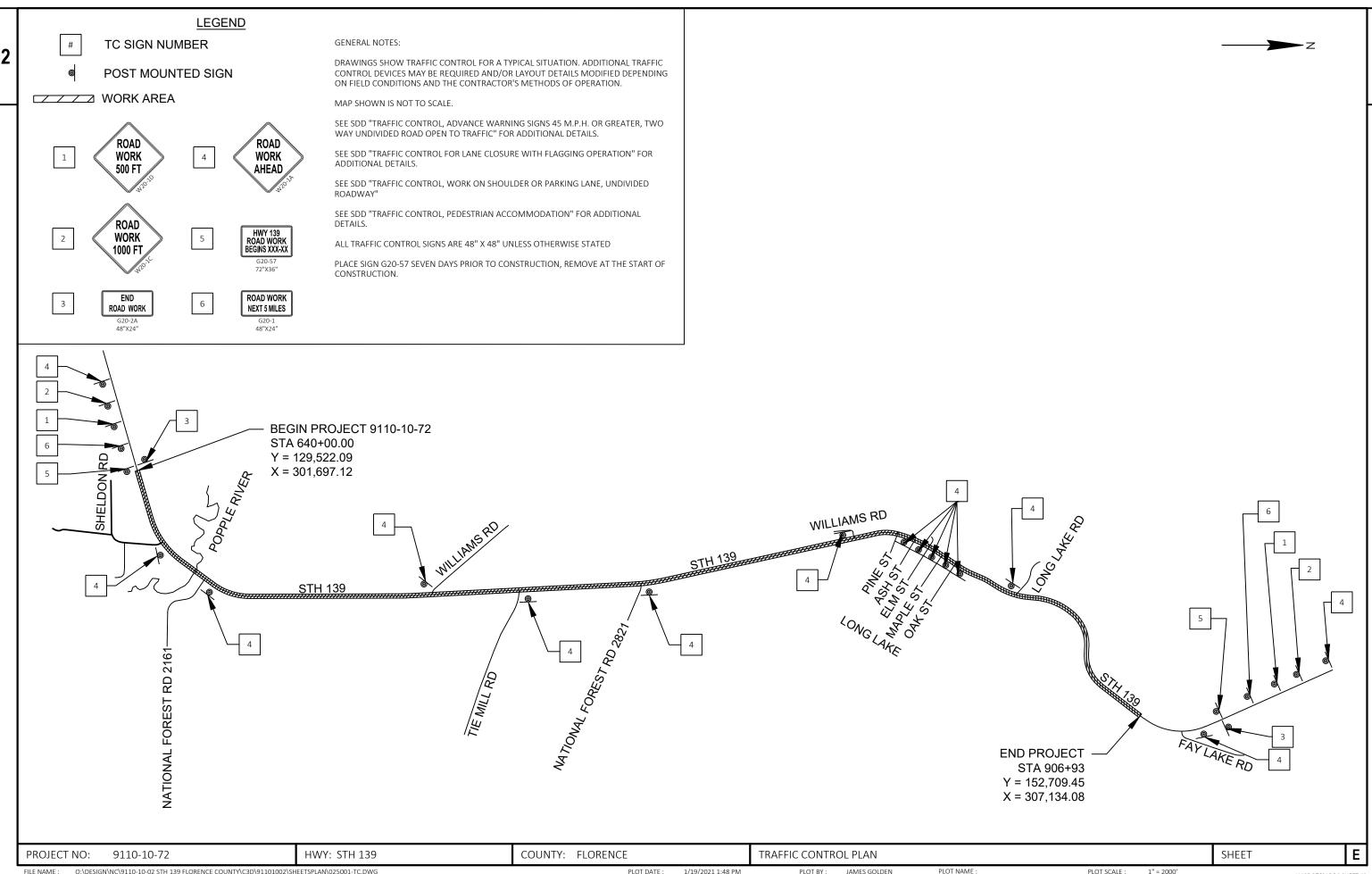
#### STORM SEWER

		LOCATION		SIZE	LENGTH			GRADE INVERT ELEVATION		ELEVATION	
	LOCATION	TO	FROM	IN	FT	TYPE	PIPE NAME	%	INLET	DISCHARGE	COMMENTS
MAINLINE	STH 139	5.2	5.1	24	52.0	CL V	P1	2.00	1531.58	1530.54	
	STH 139	5.3	5.2	18	27.3	CL V	P2	2.00	1532.13	1531.58	

### STORM SEWER / CULVERT PIPE GENERAL NOTES

1) PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE STORM SEWER SHEET Ε PLOT SCALE : FILE NAME : DRAWING2.DWG



	_	

					9110-10-72
Line	Item	Item Description	Unit	Total	Qty
0080	608.0524	Storm Sewer Pipe Reinforced Concrete Class V 24-Inc		52.000	52.000
0082	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0082	611.0624	Inlet Covers Type H	EACH	3.000	3.000
0084	611.1004	Catch Basins 4-FT Diameter	EACH	1.000	1.000
8800	611.1005	Catch Basins 5-FT Diameter	EACH	1.000	1.000
0090	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0092	611.8115	Adjusting Inlet Covers	EACH	19.000	19.000
0094	611.9900.S		EACH	2.000	2.000
0096	614.0920	Salvaged Rail	LF	980.000	980.000
0098	614.0925	Salvaged Guardrail End Treatments	EACH	8.000	8.000
0100	614.2300	MGS Guardrail 3	LF	1,551.000	1,551.000
0102	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0104	614.2610	MGS Guardrail Terminal EAT	EACH	8.000	8.000
0106	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9110-10-72	EACH	1.000	1.000
0108	619.1000	Mobilization	EACH	1.000	1.000
0110	624.0100	Water	MGAL	76.000	76.000
0112	625.0100	Topsoil	SY	7,705.000	7,705.000
0114	628.1504	Silt Fence	LF	8,201.000	8,201.000
0116	628.1520	Silt Fence Maintenance	LF	8,201.000	8,201.000
0118	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0122	628.2008	Erosion Mat Urban Class I Type B	SY	11,214.000	11,214.000
0124	628.7015	Inlet Protection Type C	EACH	21.000	21.000
		• •			
0126	628.7555	Culvert Pipe Checks	EACH	46.000	46.000
0128	629.0210	Fertilizer Type B	CWT	5.700	5.700
0130	630.0130	Seeding Mixture No. 30	LB	147.000	147.000
0132	630.0500	Seed Water	MGAL	181.000	181.000
0134	633.5200	Markers Culvert End	EACH	16.000	16.000
0136	638.2102	Moving Signs Type II	EACH	10.000	10.000
0138	642.5001	Field Office Type B	EACH	1.000	1.000
0140	643.0300	Traffic Control Drums	DAY	2,750.000	2,750.000
0142	643.0900	Traffic Control Signs	DAY	910.000	910.000
0144	643.1000	Traffic Control Signs Fixed Message	SF	64.000	64.000
0146	643.5000	Traffic Control	EACH	1.000	1.000
0148	644.1420	Temporary Pedestrian Surface Plywood	SF	704.000	704.000
0150	644.1601	Temporary Pedestrian Curb Ramp	DAY	22.000	22.000
0150	645.0120	Geotextile Type HR	SY	32.000	32.000
0154	646.1020		LF		
		Marking Line Epoxy 4-Inch		80,635.000	80,635.000
0156	648.0100	Locating No-Passing Zones	MI	5.060	5.060

# Estimate Of Quantities Page 3

					9110-10-72
Line	Item	Item Description	Unit	Total	Qty
0158	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	34,945.000	34,945.000
0160	650.4000	Construction Staking Storm Sewer	EACH	5.000	5.000
0162	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	8,182.000	8,182.000
0164	650.6000	Construction Staking Pipe Culverts	EACH	8.000	8.000
0166	650.8000	Construction Staking Resurfacing Reference	LF	26,700.000	26,700.000
0168	650.9000	Construction Staking Curb Ramps	EACH	12.000	12.000
0170	650.9910	Construction Staking Supplemental Control (project) 01. 9110-10-72	LS	1.000	1.000
0172	650.9920	Construction Staking Slope Stakes	LF	4,150.000	4,150.000
0174	690.0150	Sawing Asphalt	LF	8,780.000	8,780.000
0176	690.0250	Sawing Concrete	LF	6.000	6.000
0178	740.0440	Incentive IRI Ride	DOL	22,000.000	22,000.000
0180	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0182	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,260.000	1,260.000
0184	SPV.0060	Special 01. Concrete Culvert Repair	EACH	1.000	1.000
0186	SPV.0060	Special 02. Reestablish Section Corner Monuments	EACH	3.000	3.000
0188	SPV.0090	Special 01. Grading Shaping Finishing For Curb & Gutter Replacement	LF	8,186.000	8,186.000

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					<u>REMOVALS</u>			
					203.0100	204.0150	614.0920	614.0925
					REMOVING SMALL PIPE CULVERTS	REMOVING CURB AND GUTTER	SALVAGED RAIL	SALVAGED GUARDRAIL END TREATMENTS
ROADWAY	SIDE	STA	TO	STA	EACH	LF	LF	EACH
STH 139	LT	664+53	-	665+76	-	-	70	1
STH 139	RT	664+53	-	665+76	-	-	70	1
STH 139	LT	666+61	-	667+84	-	-	70	1
STH 139	RT	666+61	-	667+84	-	-	70	1
STH 139		672+78	-		1	-	-	-
STH 139		681+49	-		1	-	-	-
STH 139		697+16	-		1	-	-	-
STH 139	RT	702+36	-	706+40	-	-	300	2
STH 139	LT	702+38	-	707+42	-	-	400	2
STH 139		741+73	-		1	-	-	-
STH 139		751+37	-	751+48	1	-	-	-
STH 139		761+00	-		1	-	-	-
STH 139		766+50	-		1	-	-	-
STH 139		829+03	-	869+94	-	8180	-	
TOTAL					7	8,180	980	8

### **ASPHALTIC SURFACE MILLING**

918+98	-	906+93		7	-	-
829+03	-	869+94		-	1818	-
666+55	-	906+93		-	-	83,600
640+00	-	665+82		-	-	9,020
864+69	-			5	-	-
848+54	-			5	-	-
844+93	-			5	-	-
841+35	-			11	-	-
837+52	-			5	-	-
822+99	-			4	-	-
666+61	-	667+84	RT	-	80	-
666+61	-	667+84	LT	-	46	-
664+53	-	665+76	RT	-	61	-
664+53	-	665+76	LT	-	85	-
640+00	-	640+02		7	-	-
STA	TO	STA	OFFSET	SY	SY	SY
				204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS	204.0110 REMOVING ASPHALTIC SURFACE	204.0120 REMOVING ASPHALTIC SURFACE MILLING
	640+00 664+53 664+53 666+61 666+61 822+99 837+52 841+35 844+93 848+54	640+00 - 664+53 - 664+53 - 666+61 - 666+61 - 822+99 - 837+52 - 841+35 - 844+93 - 848+54 - 864+69 - 640+00 -	640+00 - 640+02 664+53 - 665+76 664+53 - 665+76 666+61 - 667+84 666+61 - 667+84 822+99 - 837+52 - 841+35 - 844+93 - 848+54 - 864+69 - 640+00 - 665+82	640+00 - 640+02 664+53 - 665+76 LT 664+53 - 665+76 RT 666+61 - 667+84 LT 666+61 - 667+84 RT 822+99 - 837+52 - 841+35 - 844+93 - 848+54 - 864+69 - 640+00 - 665+82	REMOVING ASPHALTIC SURFACE BUTT JOINTS  STA TO STA OFFSET SY  640+00 - 640+02 7 664+53 - 665+76 LT - 664+53 - 665+76 RT - 666+61 - 667+84 LT - 666+61 - 667+84 RT - 822+99 - 4 837+52 - 5 841+35 - 11 844+93 - 5 848+54 - 5 864+69 - 665+82 - 5	REMOVING ASPHALTIC SURFACE BUTT JOINTS

### **EXCAVATION COMMON - PIPE TRANSITIONS**

205.0100

EXCAVATION COMMON

TOTAL	·			4,480
STH 139	766+50	-		640
STH 139	761+00	-		640
STH 139	751+37	-	751+48	640
STH 139	741+73	-		640
STH 139	697+16	-		640
STH 139	681+49	-		640
STH 139	672+78	-		640
ROADWAY SIDE	STA	TO	STA	CY

### **AGGREGATE ITEMS**

305.0110 305.0120 624.0100

BASE BASE
AGGREGATE AGGREGATE WATER
DENSE 3/4-INCH DENSE 1 1/4-INCH

PLOT SCALE: 1:1

ROADWAY	STA	TO	STA	TON	TON	MGAL
STH 139	640+00	-	665+82	550	-	-
STH 139	666+55	-	829+03	3,400	-	-
STH 139	672+78	-		-	350	-
STH 139	681+49	-		-	350	-
STH 139	697+16	-		-	350	-
STH 139	741+73	-		-	350	-
STH 139	751+37	-	751+48	-	350	-
STH 139	761+00	-		-	350	-
STH 139	766+50	-		-	350	-
STH 139	829+03	-	869+94	1000	-	-
STH 139	869+94	-	906+93	800	-	-
STH 139	640+00	-	906+93	-	-	76
TOTAL				5,750	2,450	76

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FILE NAME : PLOT DATE : \_\_\_\_\_ PLOT BY : \_\_\_\_ PLOT BY : \_\_\_\_ ORG DATE : \_\_\_\_ ORG DATE : \_\_\_\_ ORIGINATOR : DIST \_

<b>DIVISION</b> DIVISION 1	FROM-TO STATION	LOCATION	UNEXPANDED FILL	EXPANDED FILL (1) FACTOR 1.25	MASS ORDINATE +/- (2)	WASTE	208.0100 BORROW
STH 139	663+59 - 709+50	GUARDRAIL LT/RT	472	591	-591	0	591
DIVISION 1 SUBTOTAL			472	591	-591	0	591

#### NOTES:

(1) EXPANDED FILL FACTOR = 1.25

(2) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE MISCELLANEOUS QUANTITIES SHEET E

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#### **ASPHALT ITEMS**

					450.4000	455.0605	460.5224	465.0105	465.0110	465.0315	465.0475
					HMA COLD WEATHER PAVING	TACK COAT	HMA PAVEMENT 4 LT 58-28 S	ASPHALTIC SURFACE	ASPHALTIC SURFACE PATCHING	ASPHALTIC FLUMES	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
ROADWAY	STA	TO	STA	OFFSET	TON	GAL	TON	TON	TON	SY	LF
STH 139	672+78	-			-	50	-	100	-	-	-
STH 139	681+49	-			-	50	-	100	-	-	-
STH 139	697+16	-			-	50	-	100	-	-	-
STH 139	741+73	-			-	50	-	100	-	-	-
STH 139	751+37	-	751+48		-	50	-	100	-	-	-
STH 139	761+00	-			-	50	-	100	-	-	-
STH 139	766+50	-			-	50	-	100	-	-	-
STH 139	640+00	-	665+82		275	700	1,100	-	-	-	2,190
STH 139	666+55	-	906+93		2,350	5,900	9,400	-	-	-	16,100
STH 139	829+03	-	869+94		-	-	-	50	600	-	-
STH 139	870+00 RT	-			-	-	-	-	-	10	-
TOTAL					2,625	6,950	10,500	750	600	10	18,290

	CONCRETE ITEMS													
				204.0155	416.0260	601.0411	602.0405	602.0415	601.0600	602.0505	602.0605	611.8115	SPV 0090.001	
				REMOVING CONCRETE SIDEWALK	CONCRETE DRIVEWAY 6-INCH	CONCRETE CURB & GUTTER 30-INCH TYPE D	CONCRETE SIDEWALK 4-INCH	CONCRETE SIDEWALK 6-INCH	CONCRETE CURB PEDESTRIAN	CURB RAMP DETECTABLE WARNING FIELD YELLOW	CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW	ADJUSTING INLET COVERS	GRADING SHAPING FINISHING FOR CURB & GUTTER REPLACEMENT	
ROADWAY	SIDE	STATION TO	STATION	SY	SY	LF	SF	SF	LF	SF	SF	EACH	LF	COMMENTS
STH 139	RT	839+55.10 -	839+70.45	9	-	-	-	84	-	10	-	-	-	CURB RAMP
STH 139	RT	840+97.02 -	841+16.92	15	-	-	-	131	-	10	-	-	-	CURB RAMP
STH 139	RT	841+53.24 -	841+74.14	26	-	-	-	230	33	10	-	-	-	CURB RAMP
STH 139	RT	844+53.36 -	844+79.20	35	-	-	-	318	-	-	21	-	-	CURB RAMP
STH 139	RT	845+14.55 -	845+37.90	12	-	-	-	111	-	-	19	-	-	CURB RAMP
STH 139	RT	845+62.34 -	845+84.93	13	-	-	-	120	-	10	-	-	-	CURB RAMP
STH 139	RT	847+04.83 -	847+29.59	18	-	-	-	164	-	10	-	-	-	CURB RAMP
STH 139	RT	848+09.78 -	848+38.61	15	-	-	-	137	-	10	-	-	-	CURB RAMP
STH 139	LT	848+19.94 -	848+25.94	8	-	-	-	69	-	12	-	-	-	CURB RAMP
STH 139	RT	848+73.69 -	848+90.97	9	-	-	-	85	-	-	16	-	-	CURB RAMP
STH 139	RT	854+73.69 -	854+93.74	12	-	-	-	107	-	10	-	-	-	CURB RAMP
STH 139	LT	854+76.85 -	854+93.85	10	-	-	-	93	-	10	-	-	-	CURB RAMP
STH 139	LT/RT	829+03 -	869+96	-	-	8186	-	-	-	-	-	19	8186	<b>CURB &amp; GUTTER</b>
STH 139	RT	842+69 -	843+96	85	27	-	520	-	-	-	-	-	-	DRIVEWAY
TOTAL		-		268	27	8186	520	1648	33	92	57	19	8186	

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#### HMA PAVEMENT PWL QMP MIXTURE ACCEPTANCE TABLE

		MIXTURE	UNDERLYING				QUALITY MANAGEMENT PROG	RAM TO BE USED FOR:	
LOCATION	STATIONING	USE	SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE	
12 FOOT	640+00 TO	UPPER	MILLED EXISTING	41750 205		2.00 INCLIES	PWL INCENTIVE AIR VOIDS HMA	INCENTIVE DENSITY PWL	
DRIVING LANE	906+93 RT/LT	LAYER	HMA SURFACE	4 LT 58-28 S	8000	2.00-INCHES	PAVEMENT PAVEMENT 460.2010	HMA PAVEMENT 460.2005	
2 FOOT	640+00 TO	UPPER	MILLED EVISTING				PWL INCENTIVE AIR VOIDS HMA	ACCEPTANCE TESTING BY	
3 FOOT			MILLED EXISTING	4 LT 58-28 S	1500	2.00-INCHES		THE DEPARTMENT; NOT	
SHOULDER	829+00 RT/LT	LAYER	HMA SURFACE				PAVEMENT PAVEMENT 460.2010	ELIGIBLE FOR INCENTIVE	
3 FOOT	879+00 TO	UPPER	MILLED EXISTING				PWL INCENTIVE AIR VOIDS HMA	ACCEPTANCE TESTING BY	
		LAYER	HMA SURFACE	4 LT 58-28 S	300	2.00-INCHES		THE DEPARTMENT; NOT	
SHOULDER	906+93 RT/LT	LAYER	HIVIA SURFACE				PAVEMENT PAVEMENT 460.2010	ELIGIBLE FOR INCENTIVE	
4 FOOT	829+00 TO	UPPER	MILLED EXISTING				PWL INCENTIVE AIR VOIDS HMA	ACCEPTANCE TESTING BY	
	870+00 IU	LAYER	HMA SURFACE	4 LT 58-28 S	300	2.00-INCHES	PAVEMENT PAVEMENT 460.2010	THE DEPARTMENT; NOT	
SHOULDER	870+00 L1	LAYER	HIVIA SURFACE				PAVEIVIENT PAVEIVIENT 400.2010	ELIGIBLE FOR INCENTIVE	
4 FOOT	829+00 TO	UPPER	MILLED EXISTING				PWL INCENTIVE AIR VOIDS HMA	ACCEPTANCE TESTING BY	
	837+50 RT	LAYER	HMA SURFACE	4 LT 58-28 S 50	50	2.00-INCHES	PAVEMENT PAVEMENT 460.2010	THE DEPARTMENT; NOT	
SHOULDER	837+30 KT	LAYER	HIVIA SURFACE				PAVEIVIENT PAVEIVIENT 400.2010	ELIGIBLE FOR INCENTIVE	
4 FOOT	848+50 TO	UPPER	MILLED EXISTING				PWL INCENTIVE AIR VOIDS HMA	ACCEPTANCE TESTING BY	
	870+00 RT	LAYER	HMA SURFACE	4 LT 58-28 S	175	2.00-INCHES	PAVEMENT PAVEMENT 460.2010	THE DEPARTMENT; NOT	
SHOULDER	870+00 KT	LAYER	HIVIA SURFACE				PAVEIVIENT PAVEIVIENT 400.2010	ELIGIBLE FOR INCENTIVE	
8 FOOT	837+50 TO	UPPER	MILLED EXISTING				PWL INCENTIVE AIR VOIDS HMA	ACCEPTANCE TESTING BY	
		LAYER		4 LT 58-28 S	8 S   175   2.00-INCHE	28 S 175 2.00-INCHES	175   2.00-INCHES	THE DEPA	THE DEPARTMENT; NOT
SHOULDER	848+50 RT	LATER	HMA SURFACE				PAVEMENT PAVEMENT 460.2010	ELIGIBLE FOR INCENTIVE	

#### **HMA PAVEMENT PWL ITEMS**

460.0105.S 460.0110.S HMA PERCENT HMA PERCENT WITHIN LIMITS WITHIN LIMITS (PWL) TEST STRIP (PWL) TEST STRIP VOLUMETRICS DENSITY EACH EACH ROADWAY STA TO STA STH 139 640+00 906+93 1 1 TOTAL

PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE MISCELLANEOUS QUANTITIES SHEET E

#### **CULVERT PIPES**

				520.1024	520.1030	*520.3624	*520.3630	*522.0530	*522.1030	208.1500.S	SPV.0060.01
				APRON ENDWALLS FOR CULVERT PIPE 24-INCH	APRON ENDWALLS FOR CULVERT PIPE 30-INCH	CULVERT PIPE CLASS III-B NON- METAL 24-INCH	CULVERT PIPE CLASS III-B NON- METAL 30-INCH	CULVERT PIPE REINFORCED CONCRETE CLASS V 30-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	TEMPORARY LANE SHIFT DURING CULVERT WORK	CONCRETE CULVERT REPAIR
ROADWAY	STATION	то	STATION	EACH	EACH	LF**	LF**	LF	EACH	EACH	EACH
STH 139	672+78	-		-	2	-	88	-	-	2	-
STH 139	681+49	-		2	-	64	-	-	-	2	-
STH 139	697+16	-		2	-	80	-	-	-	2	-
STH 139	741+73	-		-	2	-	64	-	-	2	-
STH 139	751+37	-	751+48	-	-	-	-	64	2	2	-
STH 139	761+00	-		-	2	-	64	-	-	2	-
STH 139	766+50	-		-	2	-	72	-	-	2	-
STH 139	815+57	-		-	-	-	-	-	-	-	1
TOTAL				4	8	144	288	64	2	14	1

<sup>\*</sup>TIE ALL CONCRETE PIPE JOINTS

#### STORM SEWER

					608.0518	608.0524	611.0530	611.0624	611.1004	611.1005	611.2006	611.9900.S	650.4000	
					STORM SEWER PIPE	STORM SEWER PIPE	MANHOLE	INLET					CONSTRUCTION	
					REINFORCED CONCRETE	REINFORCED CONCRETE	COVERS	COVERS	CATCH BASINS	CATCH BASINS	MANHOLES	DRAIN SLOTTED	STAKING STORM	
					CLASS V 18-INCH	CLASS V 24-INCH	TYPE J	TYPE H	4-FT DIAMETER	5-FT DIAMETER	6-FT DIAMETER	VANE	SEWER	
LOCATION	STA	OFFSET	STA	OFFSET	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	COMMENTS
STH 139	845+09.66	-14.17' LT									1		1	STRUCTURE 5.1
STH 139	845+09.66	-14.17' LT	845+08.07	37.80' RT		52	1							PIPE P1
STH 139	845+08.07	37.80' RT						1		1			1	STRUCTURE 5.2
STH 139	845+08.07	37.80' RT	844+80.78	38.08' RT	27									PIPE P2
STH 139	844+80.78	38.08' RT						1	1				1	STRUCTURE 5.3
STH 139	845+00.01	42.20' RT	845+06.01	42.13' RT								1	1	VANE DRANE STR 5.2 (6 LF REQ)
STH 139	844+81.92	42.39' RT	844+87.92	42.32' RT								1	1	VANE DRANE STR 5.3 (6 LF REQ)
STH 139	847+95	21.00' RT						1						REPLACE DAMAGED INLET COVER
				TOTAL	27	52	1	3	1	1	1	2	5	

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<sup>\*\*</sup>LENGTH BASED ON CONCRETE PIPE WITH CONCRETE ENDWALLS. ADJUST ACCORDINGLY IF PIPE MATERIAL OTHER THAN CONCRETE IS USED.

#### <u>RIPRAP</u>

				606.0200 RIPRAP MEDIUM	645.0120 GEOTEXTILE TYPE HR
ROADWAY	STATION	TO	STATION	CY	SY
STH 139	697+16	-		1	6
STH 139	741+73	-		1	6
STH 139	761+00	-		1	6
STH 139	766+50	-		1	6
STH 139	870+00	-		2	8
TOTAL				6	32

#### **GUARDRAIL**

614.2300	614.2500	614.2610

					MGS GUARDRAIL 3	MGS THRIE BEAM TRANSITION	MGS GUARDRAIL TERMINAL EAT
ROADWAY	SIDE	STATION	то	STATION	LF	LF	EACH
STH 139	RT	663+59.07	-	665+76.55	125	40	1
STH 139	LT	664+21.95	-	665+76.29	63	40	1
STH 139	RT	666+59.46	-	667+77.35	25	40	1
STH 139	LT	666+60.86	-	667+83.51	113	40	1
STH 139	RT	701+20.58	-	707+76.67	550	-	2
STH 139	LT	701+25.58	-	709+06.67	675	-	2
TOTAL					1,551	160	8

								EROSIO	N CONTROL							
					625.0100	628.1504	628.1520	628.1905	628.1910	628.2008	628.7015	628.7555	629.0210	630.0130	630.0500	633.5200
					TOPSOIL	SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATION EROSION CONTROL	MOBILIZATION EMERGENCY EROSION CONTROL	EROSION MAT URBAN CLASS 1 TYPE B	INLET PROTECTION TYPE C	CULVERT PIPE CHECKS	FERTILIZER TYPE B	SEEDING MIXTURE NO. 30	SEED WATER	MARKERS CULVERT END
ROADWAY	SIDE	STATION	TO	STATION	SY	LF	LF	EACH	EACH	SY	EACH	EACH	CWT	LB	MGAL	EACH
STH 139	RT	663+59.07	-	665+76.55	90	325	325	-	-	90	-	-	0.1	2	3	-
STH 139	LT	664+21.95	-	665+76.29	60	270	270	-	-	60	-	-	0.1	2	2	-
STH 139	RT	666+59.46	-	667+77.35	50	215	215	-	-	50	-	-	0.1	1	2	-
STH 139	LT	666+60.86	-	667+83.51	70	315	315	-	-	70	-	-	0.1	2	2	-
STH 139		672+78	-		840	625	625	-	-	840	-	6	0.6	16	19	2
STH 139		681+49	-		640	615	615	-	-	640	-	6	0.5	12	15	2
STH 139		697+16	-		780	620	620	-	-	780	-	6	0.5	15	18	2
STH 139	RT	701+20.58	-	707+76.67	910	900	900	-	-	910	-	-	0.6	17	21	-
STH 139	LT	701+25.58	-	709+06.67	920	1045	1045	-	-	920	-	-	0.6	17	21	-
STH 139		741+73	-		610	615	615	-	-	610	-	6	0.4	11	14	2
STH 139		751+37	-	751+48	530	635	635	-	-	530	-	6	0.4	10	12	2
STH 139		761+00	-		650	615	615	-	-	650	-	6	0.5	12	15	2
STH 139		766+50	-		810	620	620	-	-	810	-	6	0.6	15	19	2
STH 139		815+57	-		44	40	40	-	-	44	-	-	0.1	1	1	2
STH 139	RT/LT	829+03	-	869+96	-	-	-	-	-	3190	21	-	-	-	-	-
STH 139		PROJECT	-		-	-	-	6	4	-	-	-	-	-	-	-
STH 139		UNDI	STRIE	UTED	701	746	746	-	-	1020	-	4	0.5	14	17	-
TOTAL					7,705	8,201	8,201	6	4	11,214	21	46	5.7	147	181	16

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#### TRAFFIC CONTROL

		643.0300	643.0900	643.1000	643.5000	644.1420	644.1601
	DURATION	TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS FIXED MESSAGE	TRAFFIC CONTROL	TEMPORARY PEDESTRIAN SURFACE PLYWOOD	TEMPORARY PEDESTRIAN CURB RAMP
LOCATION	DAYS	DAY	DAY	SF	EACH	SF	DAY
PROJECT	30	2750	910	64	1	704	22
TOTAL		2750	910	64	1	704	22

#### **PAVEMENT MARKING ITEMS**

					646.1020	646.1020	649.0120	648.0100
						MARKING LINE		
					EPOXY 4-INCH YELLOW	EPOXY 4-INCH WHITE	TEMPORARY MARKING LINE EPOXY 4-INCH YELLOW	LOCATING NO-PASSING ZONES
ROADWAY	STATION	TO	STATION	DESCRIPTION	LF	LF	LF	MI
STH 139	640+00	-	649+93	SB SKIPS/NB SOLID	1,245	-	1,245	-
STH 139	649+93	-	655+47	SOLID	1,110	-	1,110	-
STH 139	655+47	-	683+51	NB SKIPS/SB SOLID	3,510	-	3,510	-
STH 139	683+51	-	692+72	SB SKIPS/NB SOLID	1,160	-	1,160	-
STH 139	692+72	-	702+32	NB SKIPS/SB SOLID	1,200	-	1,200	
STH 139	702+32	-	722+90	SKIPS	515	-	515	-
STH 139	722+90	-	730+50	SB SKIPS/NB SOLID	950	-	950	-
STH 139	730+50	-	734+26	SKIPS	95	-	95	-
STH 139	734+26	-	741+38	NB SKIPS/SB SOLID	895	-	895	-
STH 139	741+38	-	759+49	SKIPS	455	-	455	
STH 139	759+49	-	770+75	SB SKIPS/NB SOLID	1,415	-	1,415	-
STH 139	770+75	-	783+03	SOLID	2,460	-	2,460	-
STH 139	783+03	-	793+55	NB SKIPS/SB SOLID	1,320	-	1,320	-
STH 139	793+55	-	808+33	SKIPS	370	-	370	-
STH 139	808+33	-	818+92	SB SKIPS/NB SOLID	1,325	-	1,325	
STH 139	818+92	-	889+32	SOLID	14,080	-	14,080	-
STH 139	889+32	-	898+57	SB SKIPS/NB SOLID	1,160	-	1,160	-
STH 139	898+57	-	906+93	SOLID	1,680	-	1,680	-
STH 139	640+00	-	829+00	-	-	37,800	-	3.58
STH 139	829+00	-	870+00	<u>-</u>	-	500	-	0.78
STH 139	870+00	-	906+93	-	-	7,390	-	0.70
TOTAL			•		34,945	45,690	34,945	5.06

**MOVING SIGNS** 

638.2102

MOVING SIGNS TYPE II

ROADWAY	LOCATION	EACH	COMMENTS
STH 139	UNDISTRIBUTED	10	NO PASSING SIGNS
TOTAL		10	

80,635

PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE MISCELLANEOUS QUANTITIES SHEET E

FILE NAME : PLOT DATE : \_\_\_\_\_

\_\_ PLOT BY : \_\_\_\_\_

PLOT NAME : \_\_\_\_\_

ORG DATE : \_\_\_\_\_

ORIGINATOR : DIST \_

PLOT SCALE: 1:1

					CONST	RUCTION STAKING			
				650.5500	650.6000	650.8000	650.9000	650.9910	650.9920
				CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	CONSTRUCTION STAKING PIPE CULVERTS	CONSTRUCTION STAKING RESURFACING REFRENCE	CONSTRUCTION STAKING CURB RAMPS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (9110-10-72)	CONSTRUCTION STAKING SLOPE STAKES
ROADWAY	STATION TO	STATION	SIDE	LF	EACH	LF	EACH	LS	LF
STH 139	663+59 -	665+77		-	-	-	-	-	218
STH 139	664+22 -	665+76		-	-	-	-	-	154
STH 139	666+59 -	667+77		-	-	-	-	-	118
STH 139	666+61 -	667+84		-	-	-	-	-	123
STH 139	672+78 -			-	1	-	-	-	300
STH 139	681+49 -			=	1	-	-	-	300
STH 139	697+16 -			-	1	-	-	-	300
STH 139	701+21 -	707+77		-	-	-	-	-	656
STH 139	701+26 -	709+07		-	-	-	-	-	781
STH 139	741+73 -			-	1	-	-	-	300
STH 139	751+37 -	751+48		=	1	-	-	-	300
STH 139	761+00 -			-	1	-	-	-	300
STH 139	766+50 -			-	1	-	-	-	300
STH 139	815+57 -			-	1	-	-	-	-
STH 139	829+03 -	869+94		8182	-	-	12	-	-
STH 139	640+00 -	906+93		-	-	26,700	-	1	-
TOTAL				8182	8	26,700	12	1	4,150

#### **SAWCUTS**

690.0150 690.0250

SAWING SAWING ASPHALT CONCRETE

ROADWAY	STATION TO	STATION	LF	LF
STH 139	672+52 -	-	30	-
STH 139	673+56 -	-	30	-
STH 139	680+97 -	-	30	-
STH 139	682+01 -	-	30	-
STH 139	696+64 -	-	30	-
STH 139	697+68 -	-	30	-
STH 139	741+21 -	-	30	-
STH 139	742+25 -	-	30	-
STH 139	750+85 -	-	30	-
STH 139	752+00 -	-	30	-
STH 139	760+48 -	-	30	-
STH 139	761+52 -	-	30	-
STH 139	765+98 -	-	30	-
STH 139	767+02 -	-	30	-
STH 139	829+03 -	869+96	8200	-
STH 139	841+21 -	-	-	3
STH 139	841+45 -	-	-	3
STH 139	844+75 -	845+25	160	<u>-</u>
TOTAL			8,780	6

### LANDMARK REFERENCE MONUMENTS

SPV.0060.02

REESTABLISH SECTION CORNER MONUMENTS

TOTAL					3
STH 139	716+80	13.5' LT	T39N	R15E	1
STH 139	699+87	52.0' LT	T38N	R15E	1
STH 139	674+08	39.0' RT	T38N	R15E	1
ROADWAY	STATION	OFFSET	TOWNSHIP	RANGE	EACH

PROJECT NO: 9110-10-72 HWY: STH 139 COUNTY: FLORENCE MISCELLANEOUS QUANTITIES SHEET E

FILE NAME:

PLOT DATE : \_\_\_\_\_

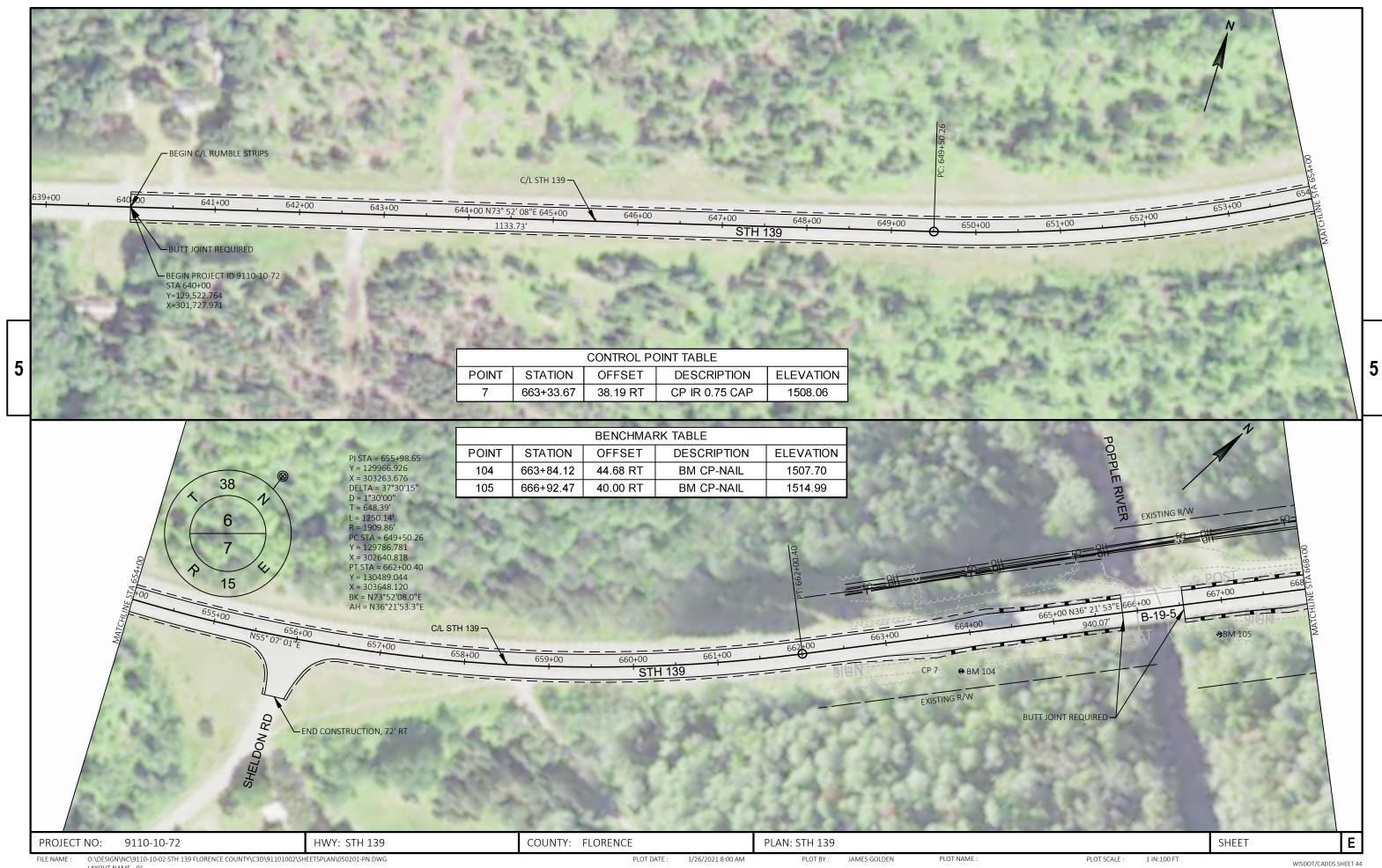
PLOT BY : \_\_\_\_\_

PLOT NAME : \_\_\_\_\_

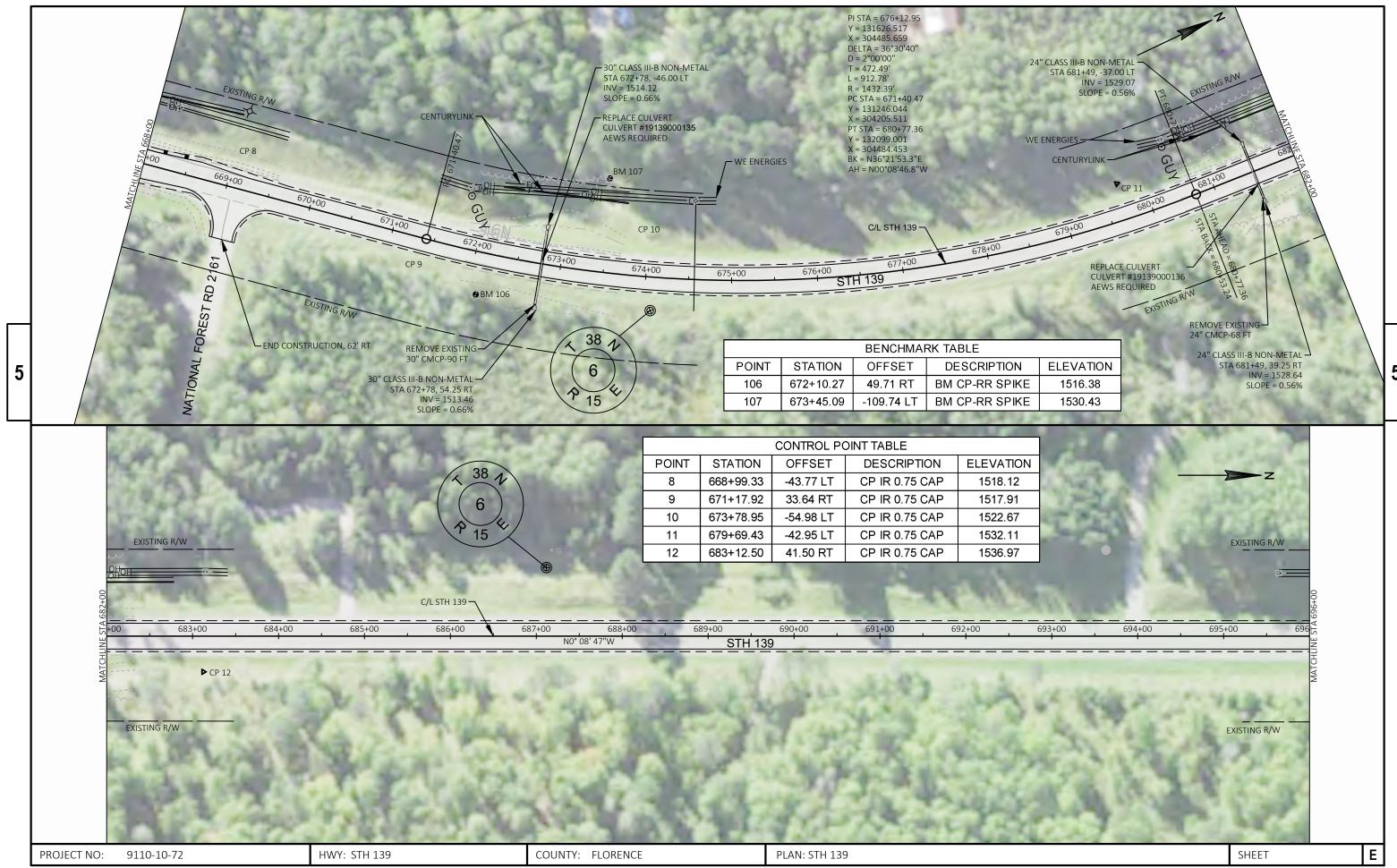
ORG DATE : \_\_\_\_\_

ORIGINATOR : DIST \_

PLOT SCALE: 1:1



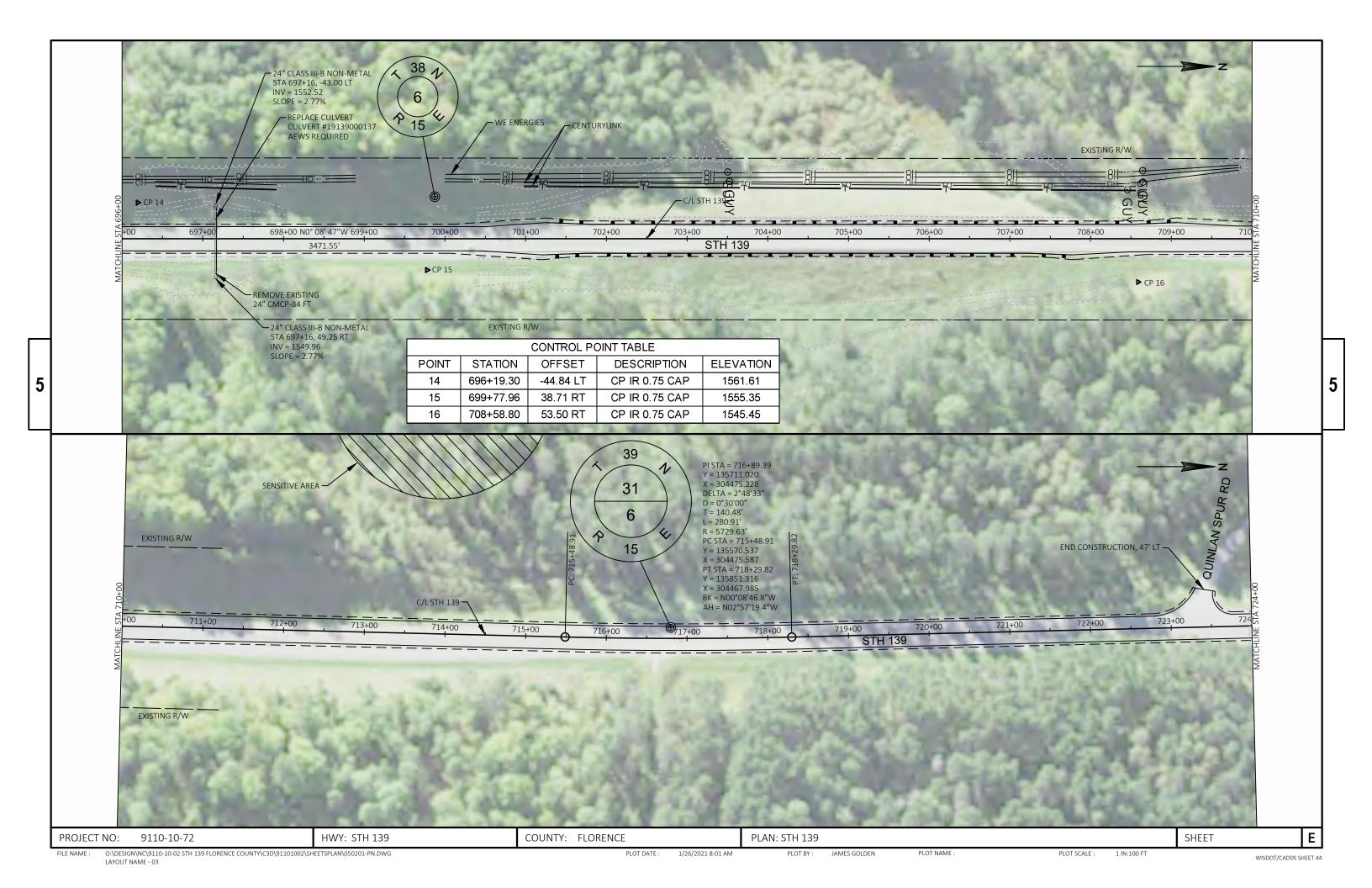
O:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\050201-PN.DWG PLOT DATE : 1/26/2021 8:00 AM PLOT BY: JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

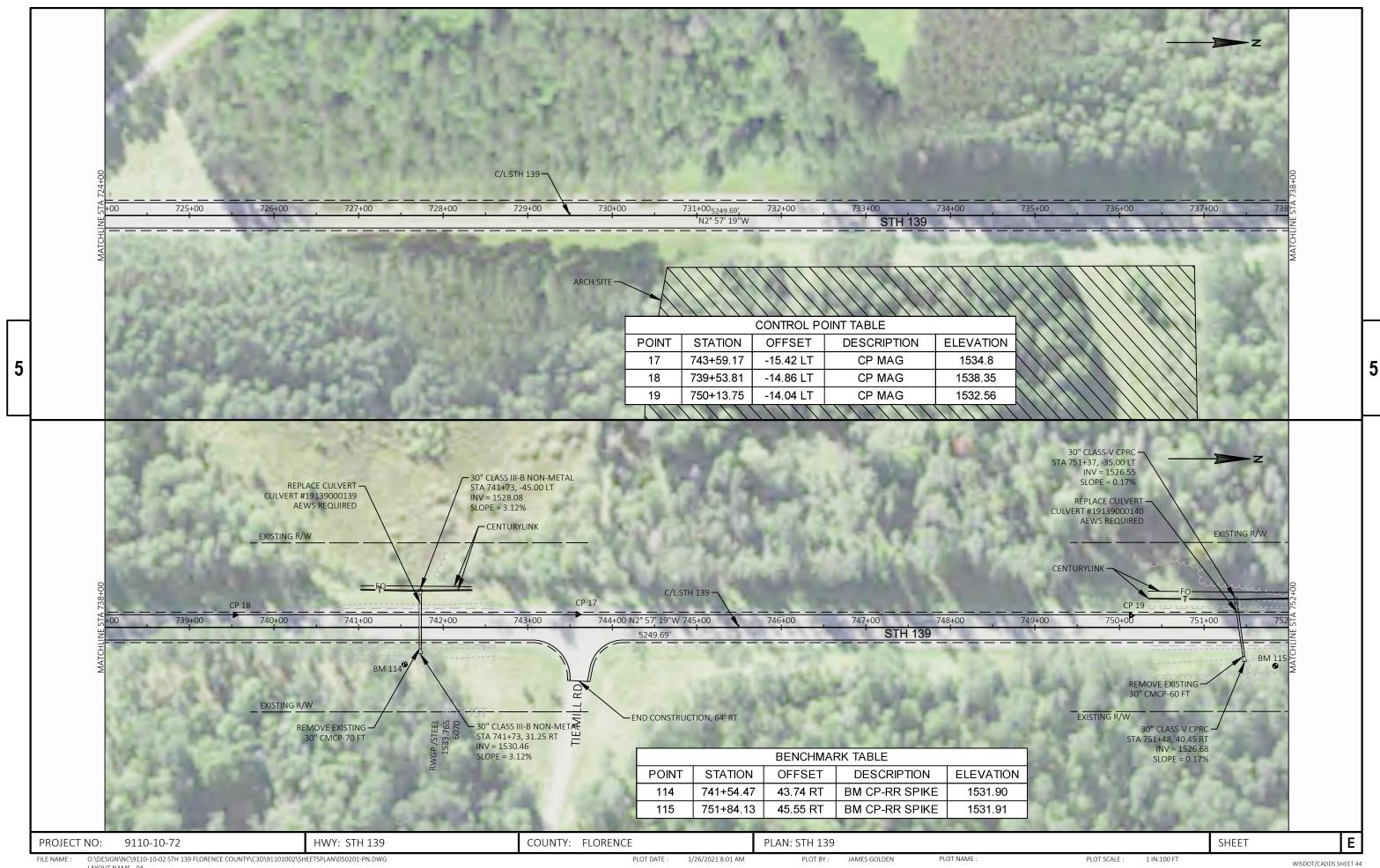


FILE NAME : 0:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\050201-PN.DWG PLOT BY: JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

LAYOUT NAME - 02





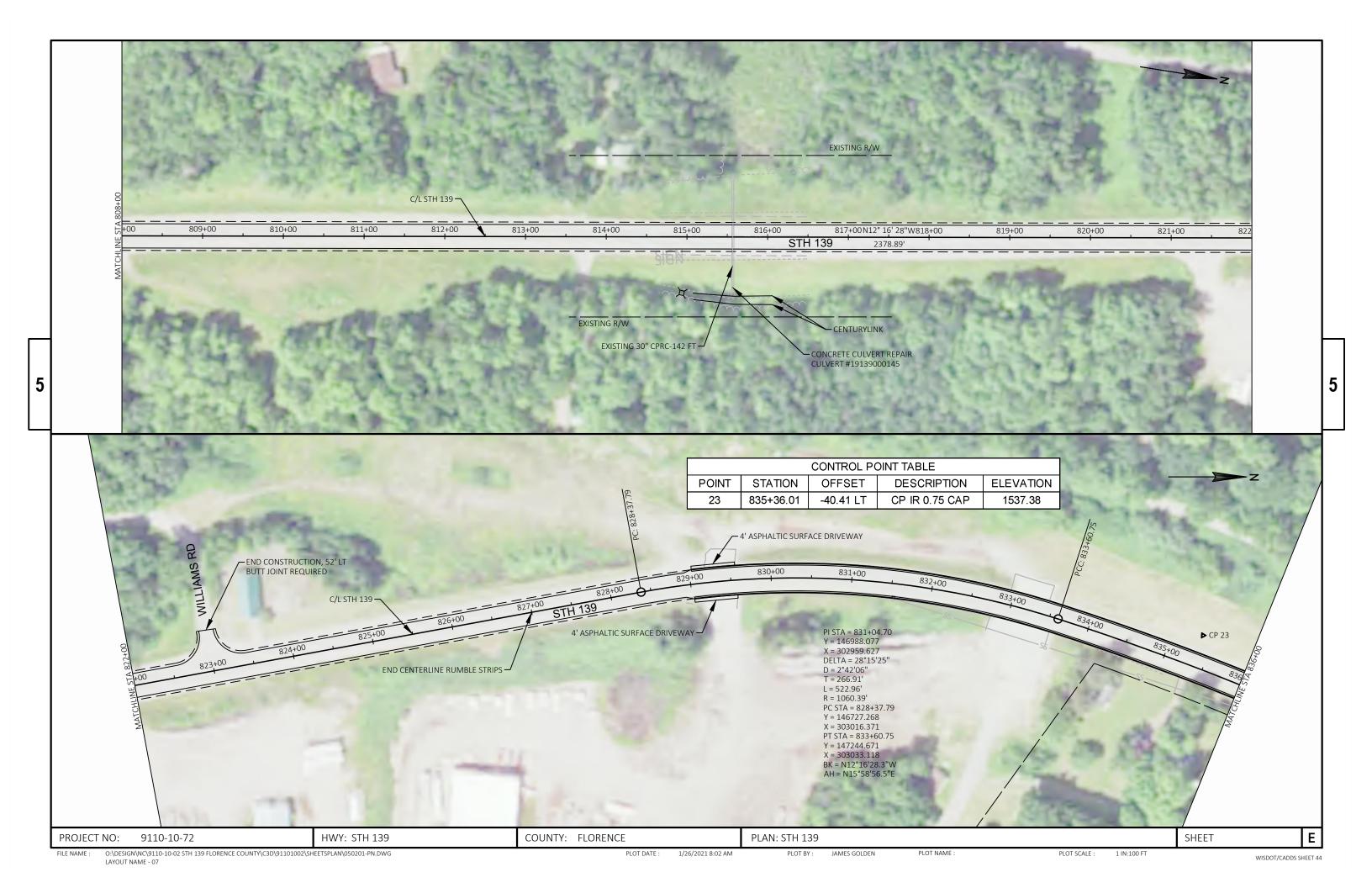


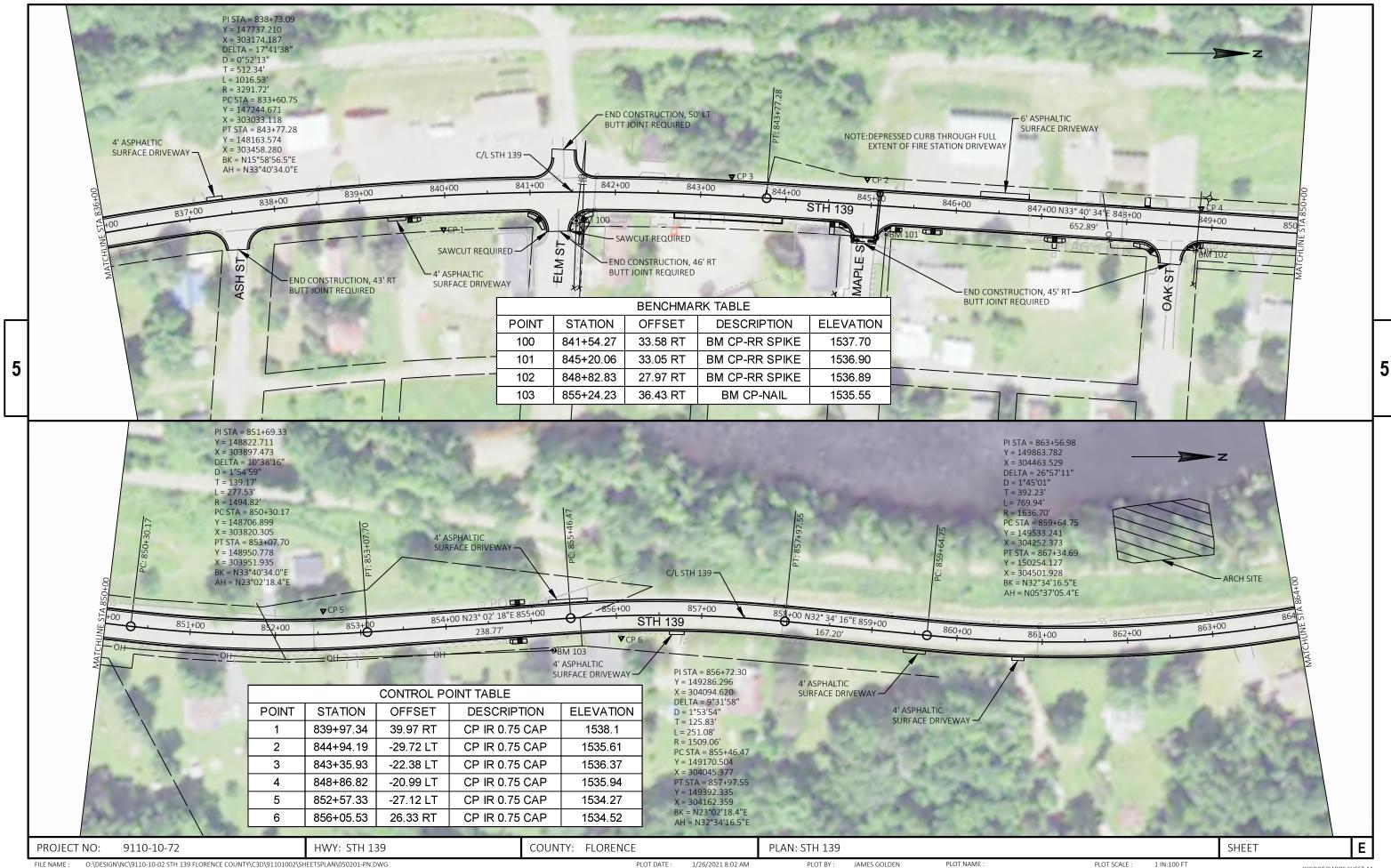
FILE NAME: 0:\DESIGN\NC\9110-10-02 STH 139 FLORENCE COUNTY\C3D\91101002\SHEETSPLAN\050201-PN.DWG PLOT SCALE: 1 IN:100 FT PLOT DATE: 1/26/2021 8:01 AM PLOT BY: JAMES GOLDEN PLOT NAME: PLOT SCALE: 1 IN:100 FT

WISDOT/CADDS SHEET 44

LAYOUT NAME - 05







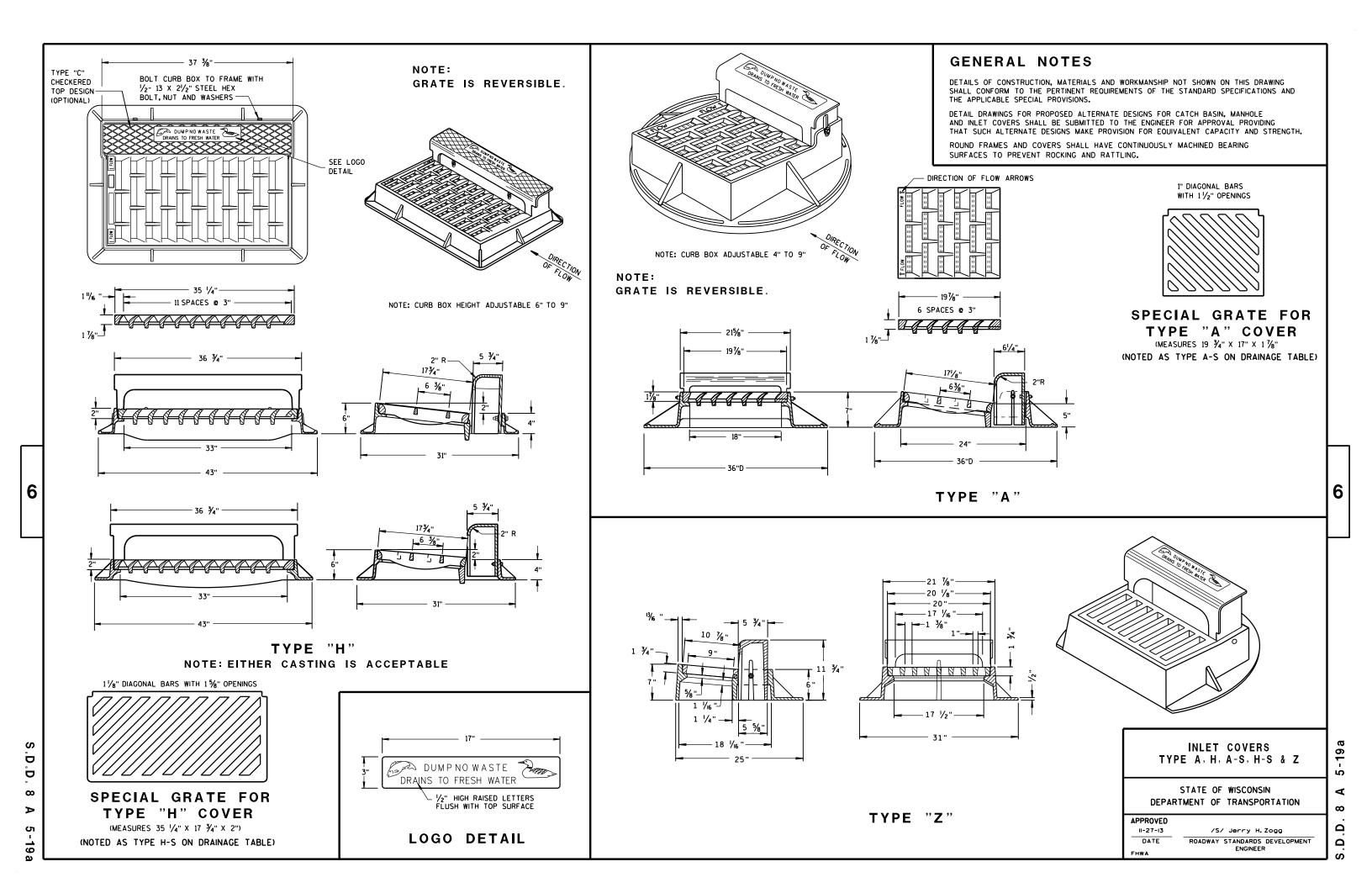


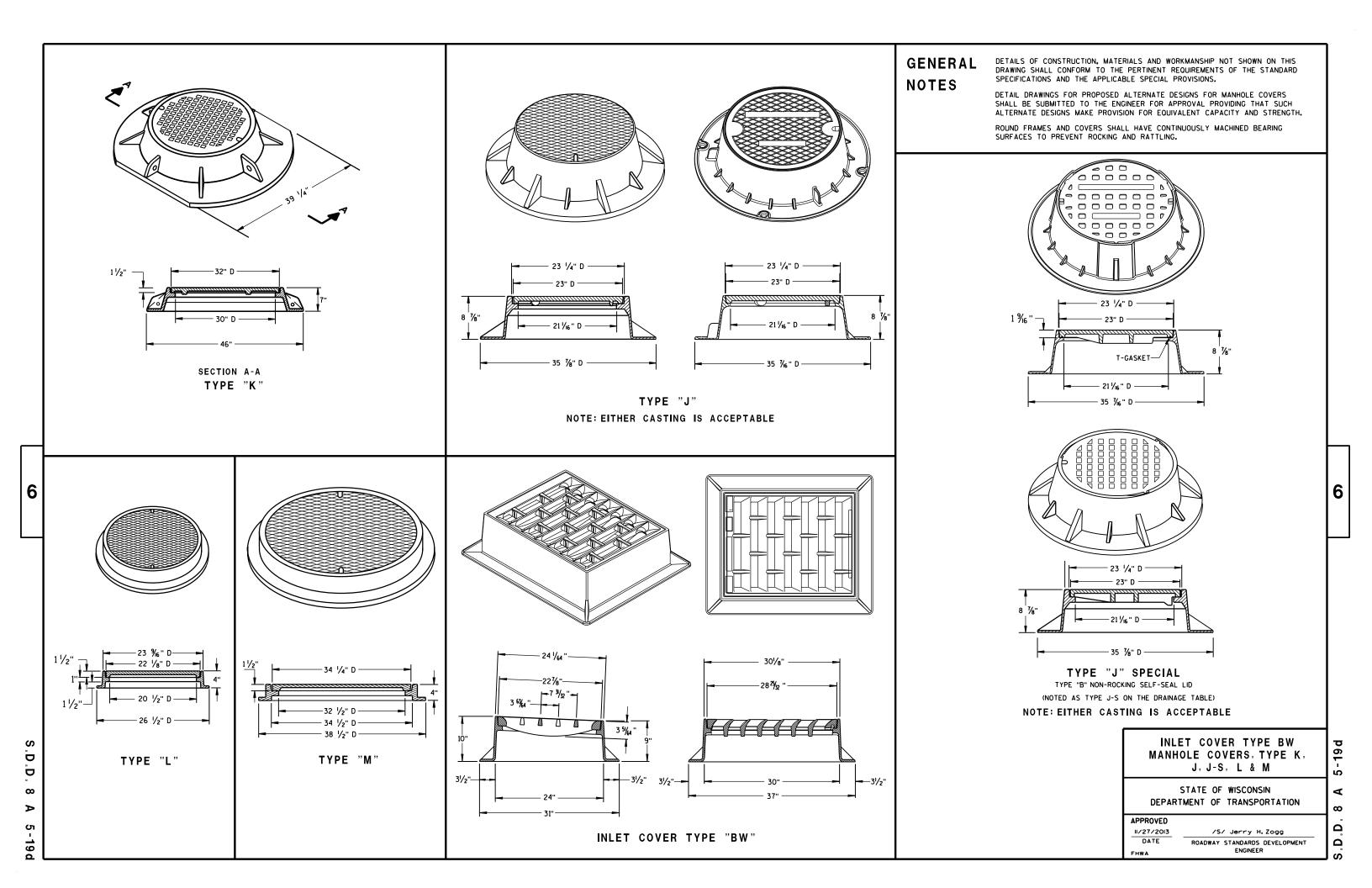
WISDOT/CADDS SHEET 44



## Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B 08D04-05	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D14-01	SLOTTED VANE DRAIN
08D18-02	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08E09-06 08E10-02	SILT FENCE INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B 14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E 14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B 15C02-08F	FLEXIBLE MARKER POST FOR CULVERT END ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C04-03	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C11-08B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A 15D06-04	PAVEMENT MARKING (INTERSECTIONS) TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D28-04	TRAFFIC CONTROL, INDICANE INDICATE OR PARKING LANE, UNDIVIDED ROADWAY
15D29-06	TRAFFIC CONTROL, WORK ON SHOULDER OR FARRING LANE, UNDIVIDED ROADWAY  TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D30-06A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-06B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-06C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING TRAFFIC CONTROL STOUTH ON BOADWAYS WITH MILLED SUBFACES
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

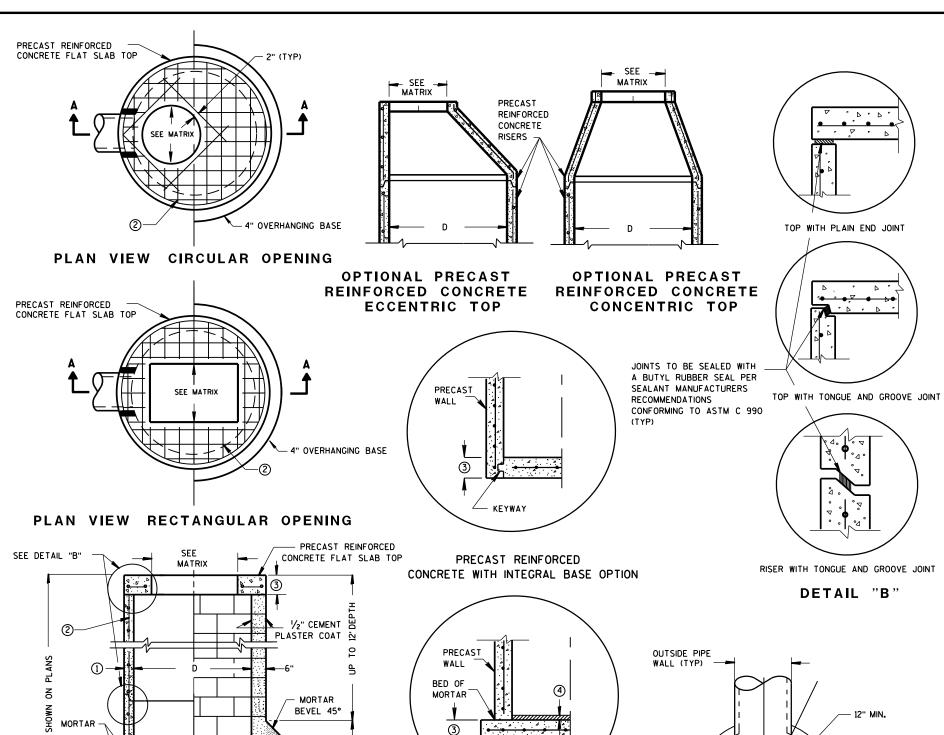






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2 COURSES

4

SECTION A-A

.Z.

CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER

FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

CONCRETE BLOCK WITH CAST-

REINFORCED CONCRETE BASE ②

IN-PLACE OR PRECAST

OUTSIDE PIPE WALL (TYP)

DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES, FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF  $\frac{1}{2}$  INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.
- (2) FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".
- 4 1" CONCRETE KEY POURED AFTER INSTALLATION. 2'SUMP MEASURED FROM TOP OF KEY.

#### CATCH BASIN COVER OPENING MATRIX

CATCH BASIN	INLET COVER TYPE	ALL A'S	ALL B'S	BW	С	F	ALL H'S	S	Т	٧	WM	Z
SIZE	OPENING SIZE (FT)											
3-FT	2X2	Х	Х					Х		Х		
"	2 DIA.				Х							Х
	2X2	Х	Х					Х		Х		
4-FT-	2X2.5			Х				Х	Х	Х	X	
6-FT	2 DIA.				X							Х
	2X3						х					
	2.5X3					Х						

#### PIPE MATRIX

CATCH BASIN	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES							
SIZE	180° SEPARATION (IN)	90° SEPARATION (IN)						
3-FT	15	12						
4-FT	24	18						
5-FT	36	24						
6-FT	42	30						

4-FT, 5-FT AND 6-FT DIAMETER

CATCH BASINS 3-FT,

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016

DATE

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

CA

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

D.D. 8 A 8-2

SEE DETAIL "A"

PRECAST REINFORCED

CONCRETE WITH

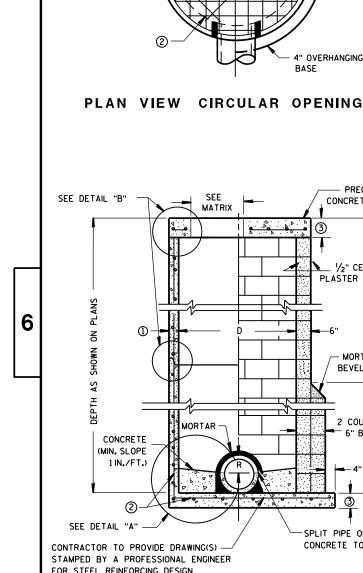
MONOLITHIC BASE

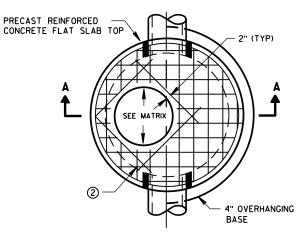


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SEE

MATRIX

SEE \_\_ MATRIX **PRECAST** REINFORCED CONCRETE RISERS

OPTIONAL PRECAST REINFORCED CONCRETE **ECCENTRIC TOP** 

PRECAST

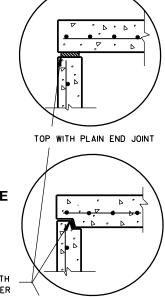
WALL

PRECAST REINFORCED

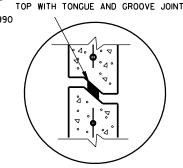
CONCRETE FLAT SLAB TOP

**CONCRETE BASE 2** 

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

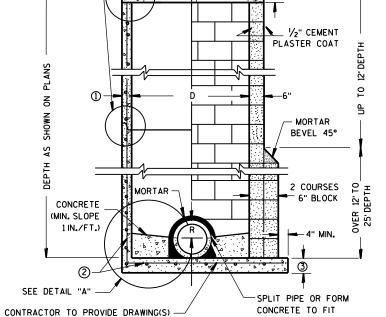


JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

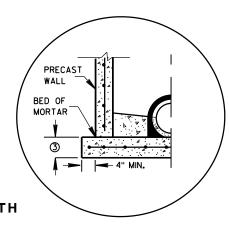


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B'



FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES PRECAST REINFORCED CONCRETE BLOCK WITH **CONCRETE WITH** CAST-IN-PLACE OR PRECAST REINFORCED MONOLITHIC BASE

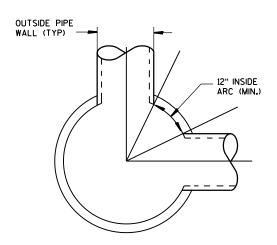


PRECAST REINFORCED

CONCRETE WITH INTEGRAL BASE OPTION

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

#### **GENERAL NOTES**

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STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT. 6 INCHES FOR 5-FT, 7 INCHES O MINIMUM WALL IHICKNESS SHALL DE 4 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- (2) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- (3) PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS

#### MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	С	ALL J'S	K	L	М
OPENING SIZE (FT)					
2 DIA.	х	х		Х	
3 DIA.			Х		Х

#### PIPE MATRIX

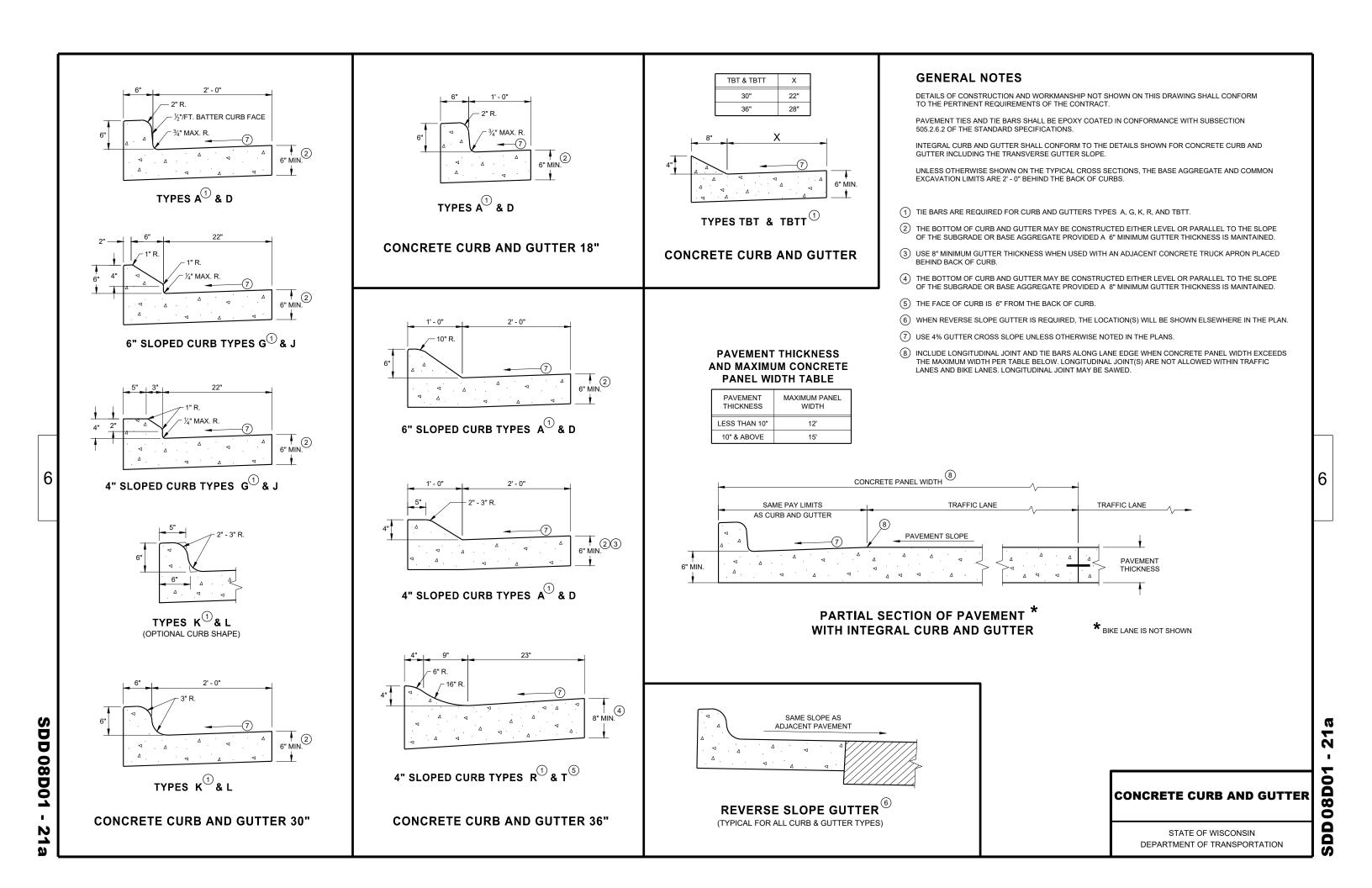
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES			
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12		
4-FT	24	18		
5-FT	36	24		
6-FT	42	36		
7-FT	48	36		
8-FT	60	42		

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT 7-FT AND 8-FT DIAMETER

> STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

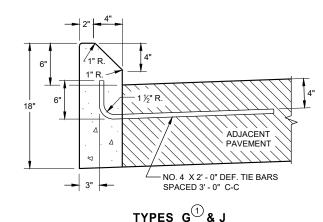
PPROVED	
Sept., 2016	/S/ Rodney Taylor
DATE	ROADWAY STANDARDS DEVE
	UNIT SUPERVISOR

ELOPMENT

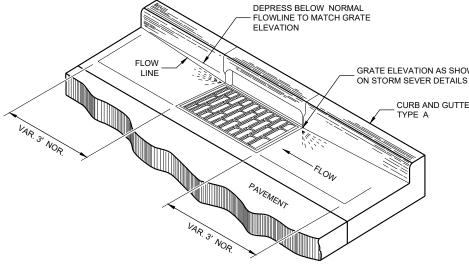


½"/FT. BATTER, FACE OF CURB (ABOVE ADJACENT PAVEMENT) ADJACENT PAVEMENT - NO. 4 X 2' - 0" DEF. TIE BARS

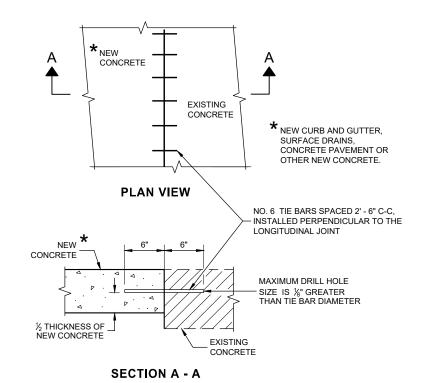
TYPES A D



**CONCRETE CURB** 



# GRATE ELEVATION AS SHOWN ON STORM SEVER DETAILS CURB AND GUTTER **DETAIL OF CURB AND GUTTER AT INLETS** (TYPICAL H INLET COVER SHOWN)



**TIE BARS DRILLED** INTO EXISTING PAVEMENT

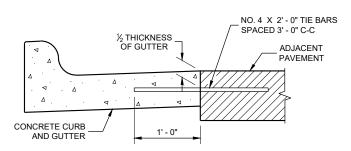
#### **GENERAL NOTES**

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

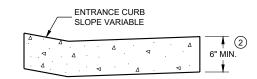
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'- 0" BEHIND THE BACK OF CURBS.

- 1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- 2 THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- 9 REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION  $^{\scriptsize \textcircled{1}}$ 



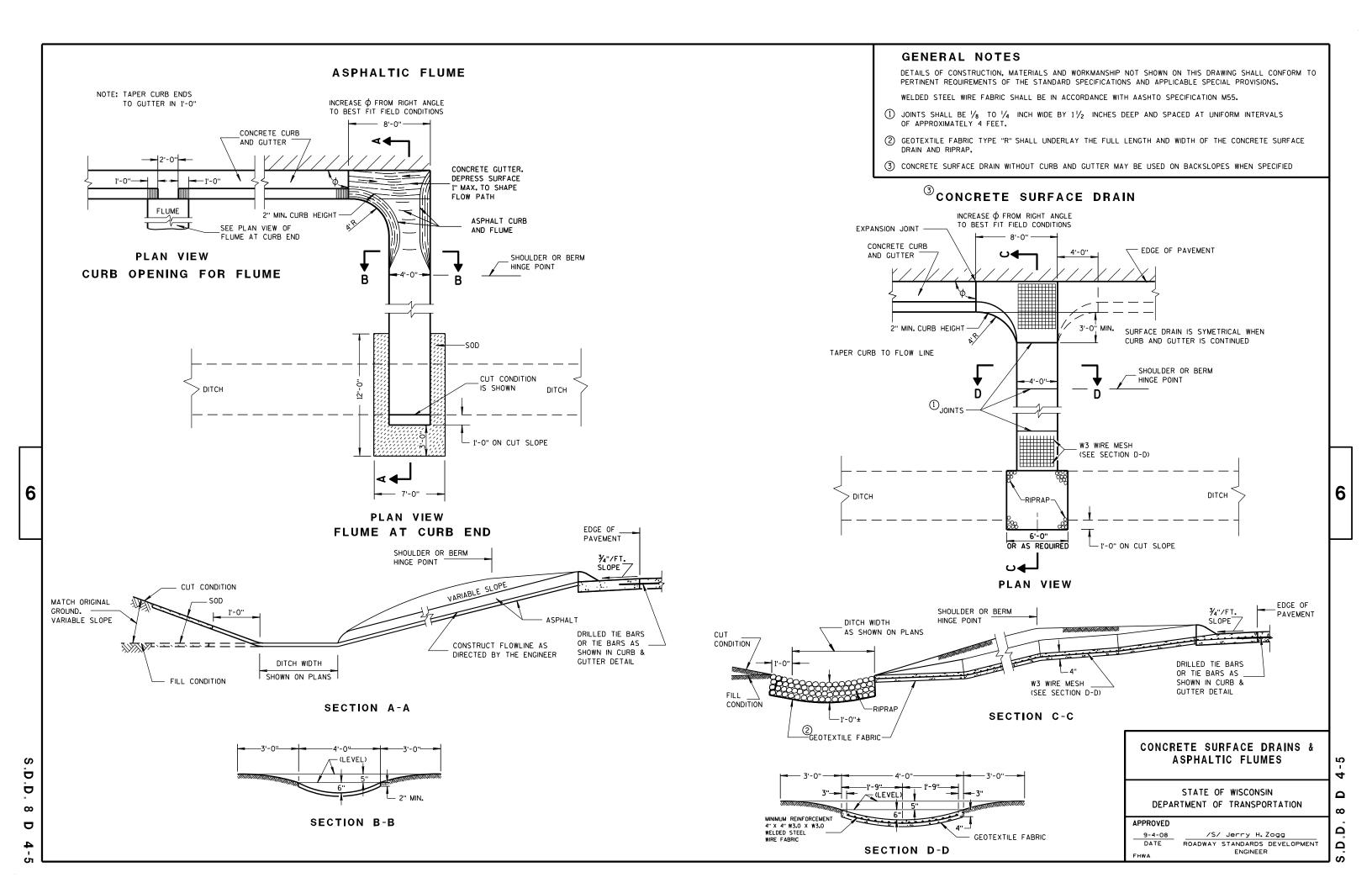
DRIVEWAY ENTRANCE CURB® (WHEN DIRECTED BY THE ENGINEER)

#### **CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER February 2020 DATE

N **08DO**, 



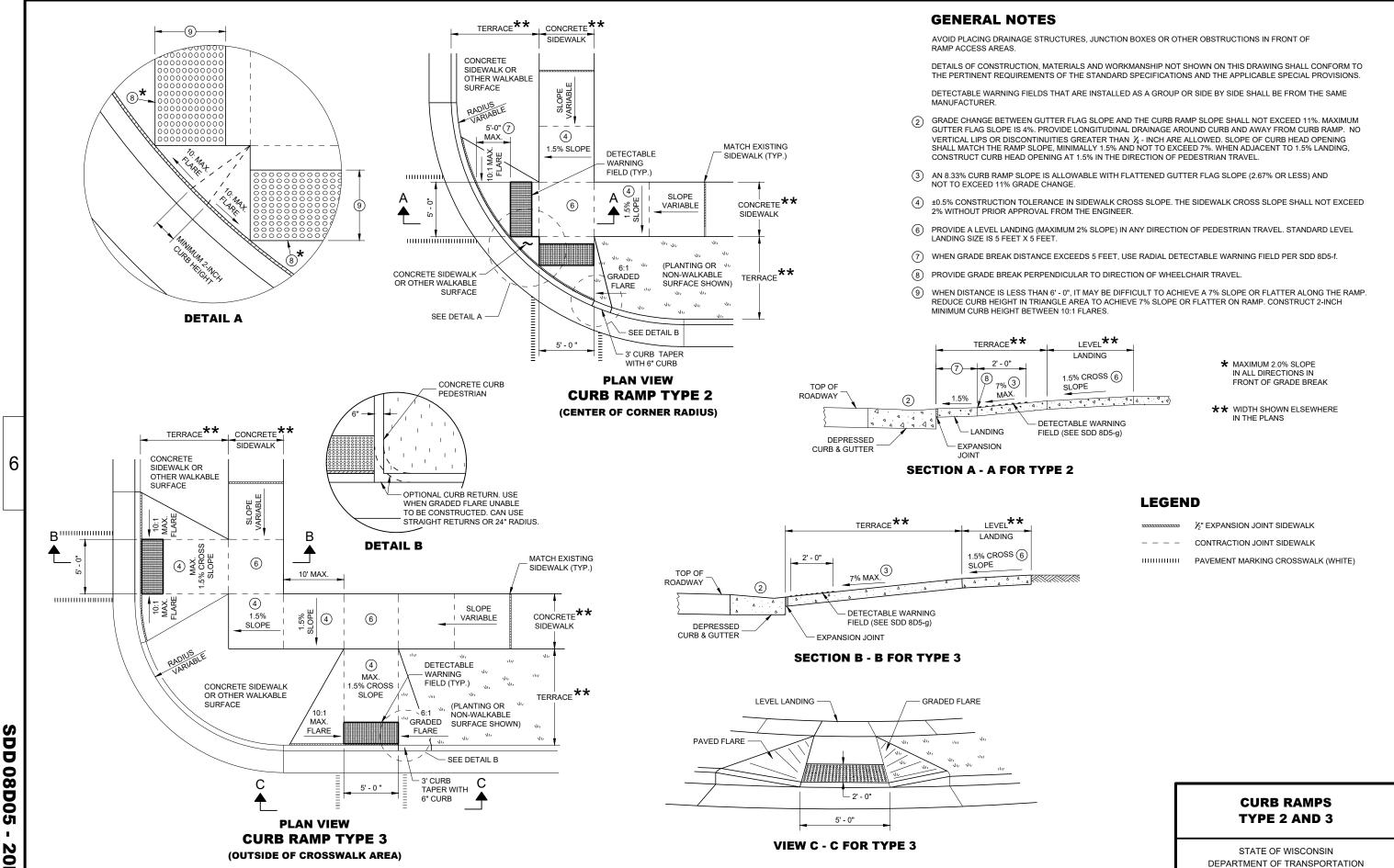
**VIEW D - D FOR TYPE 1 - A** 

**SECTION B - B FOR TYPE 1** 

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STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION



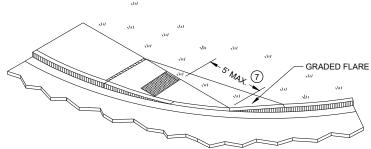
3DD 08D05 - 20

**SDD 08D05** 

**70** 

08D0

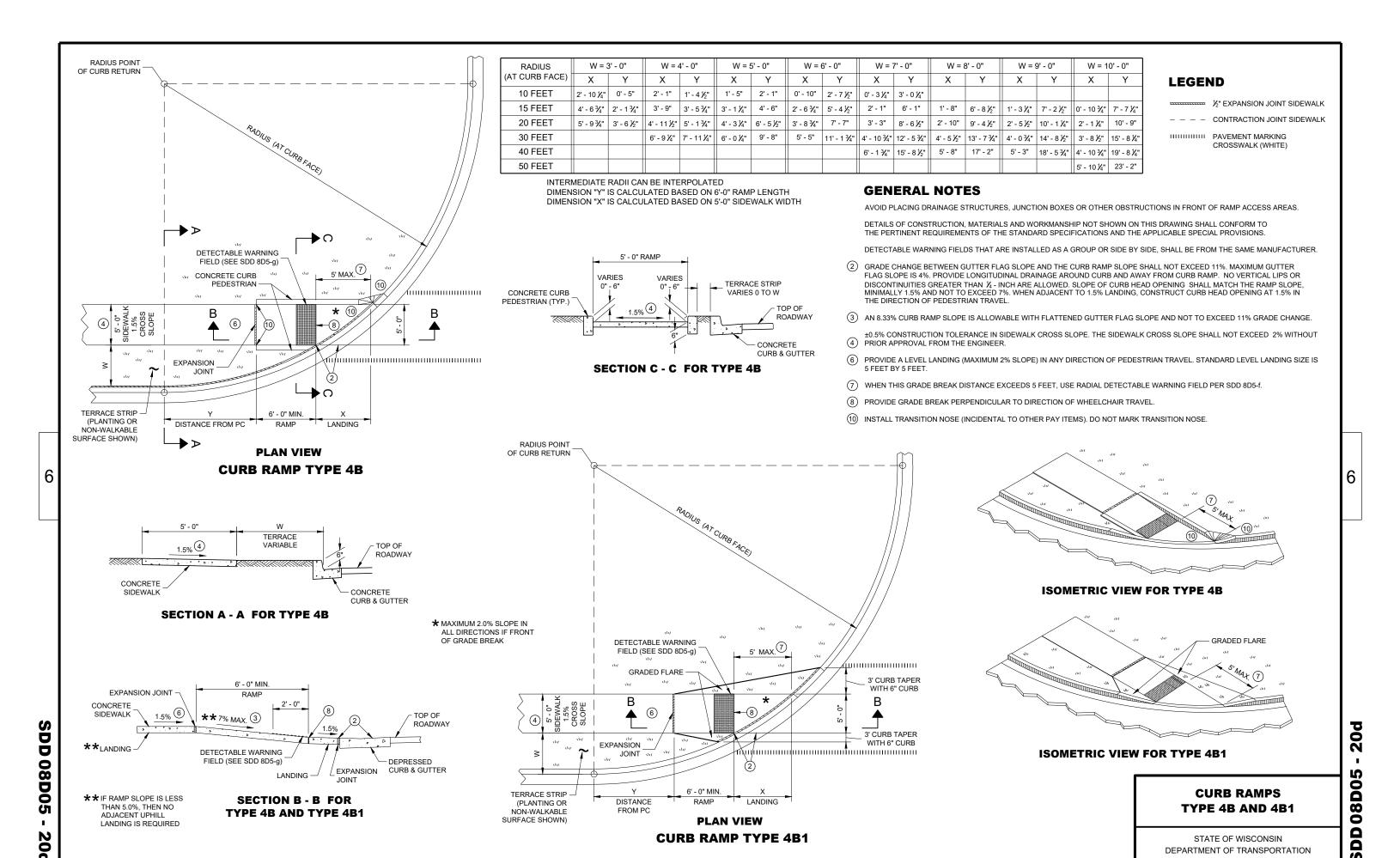
SDD



**ISOMETRIC VIEW FOR TYPE 4A1** 

**CURB RAMPS TYPE 4A AND 4A1** 

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



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08D0

DEPARTMENT OF TRANSPORTATION

**SDD 08D05** 

**DEPRESSED CURB & GUTTER** 

\*\*\* MAXIMUM 8.33%

FIELD (SEE SDD 8D5-a)

**SECTION B - B FOR TYPE 4B1** 

IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO

LANDING IS REQUIRED

ADJACENT UPHILL

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08D05

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RADIAL DETECTABLE WARNING

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**FIELD APPLICATIONS** 

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.
PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.
FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER

**GENERAL NOTES** 

FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING

THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

<del> </del> ■ A	—► RAM	1P
В		
A B		

★ THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

MIN.

1.6"

0.65"

\*

0.9"

В

С

MAX.

2.4"

1.5"

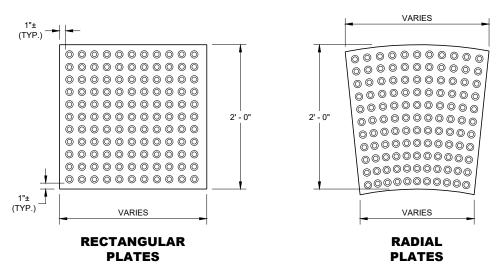
\*

1.4"

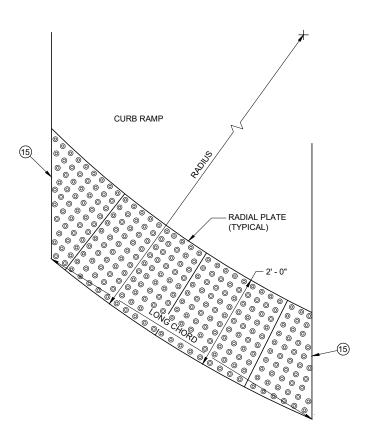
**PLAN VIEW** 

**ELEVATION VIEW** 

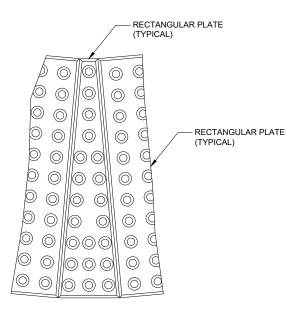
#### **TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL**



**PLAN VIEW DETECTABLE WARNING FIELDS (TYPICAL)** 



**PLAN VIEW** RADIAL DETECTABLE **WARNING FIELD ATTRIBUTES** 



**PLAN VIEW RADIAL WEDGE PLATE CONNECTION DETAIL** 

#### **CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED May 2019
DATE

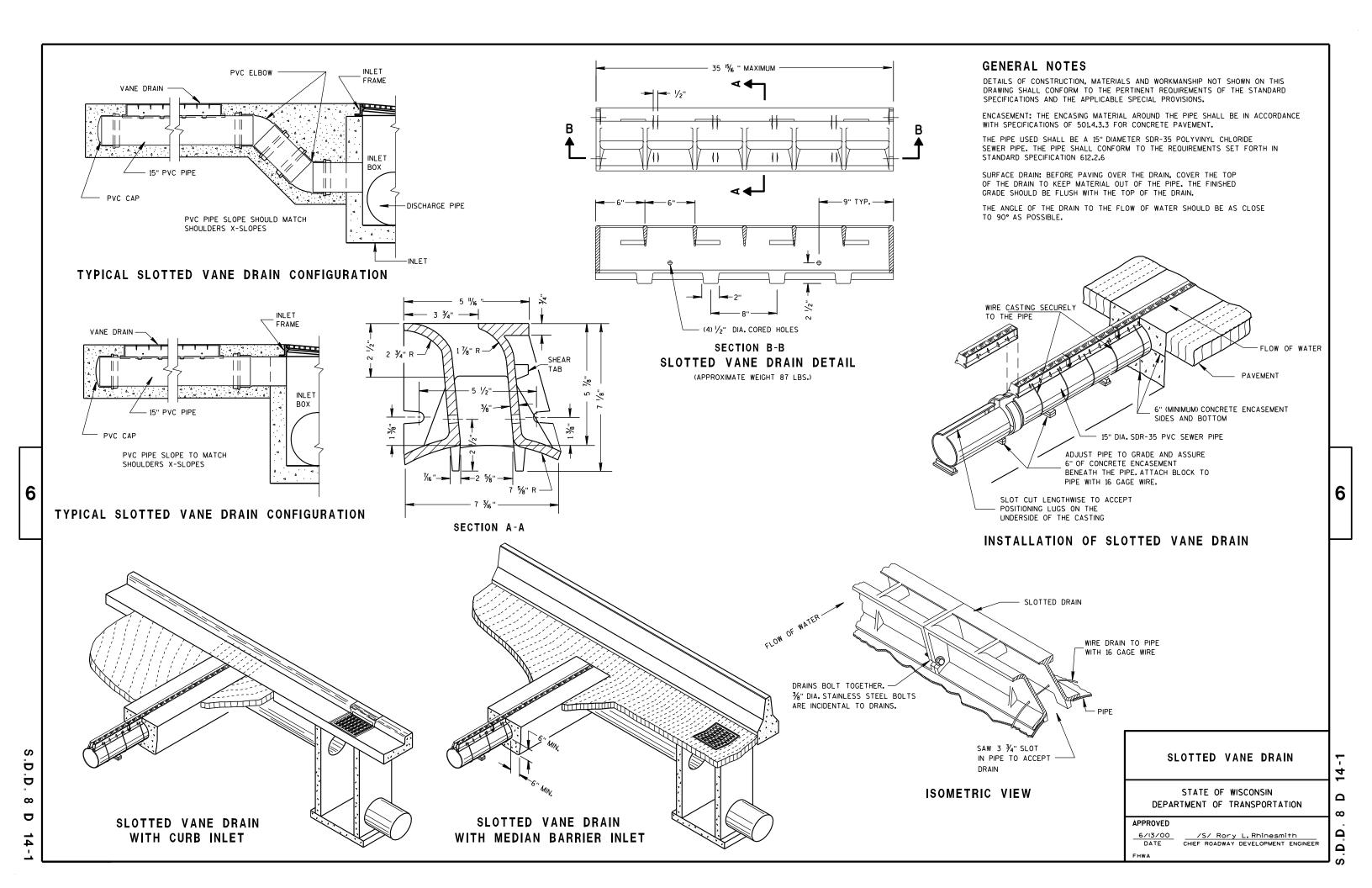
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

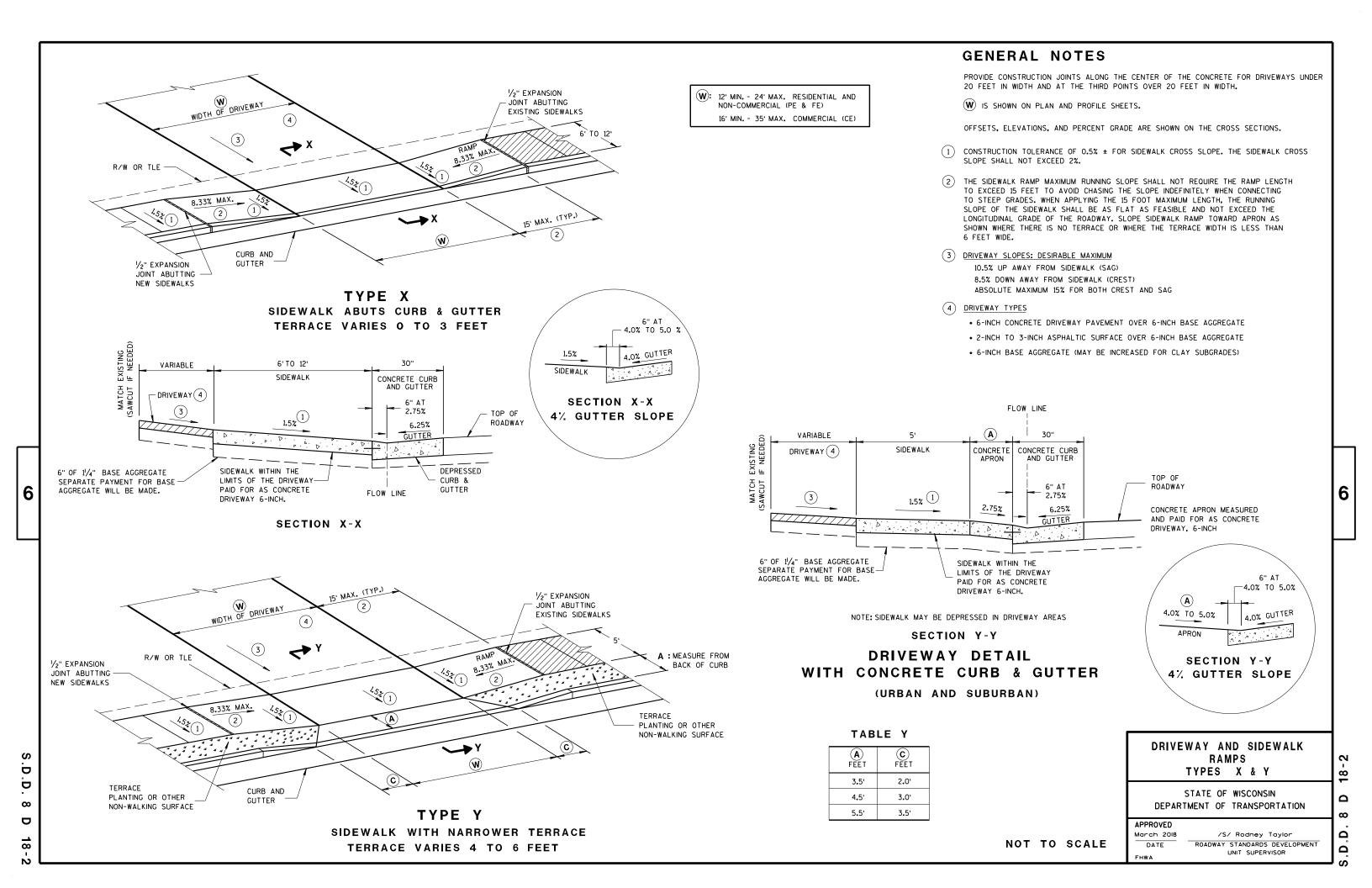
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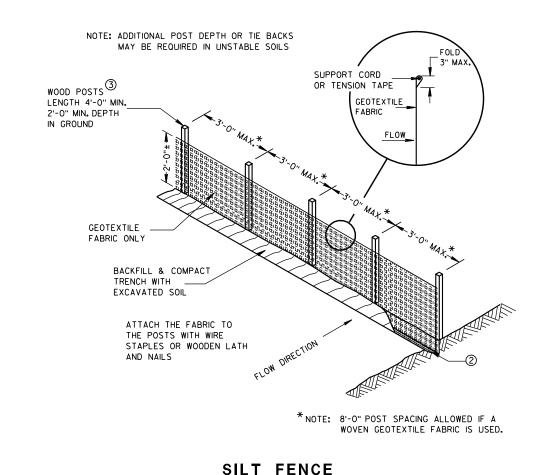
TYPICAL APPLICATION OF SILT FENCE

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b

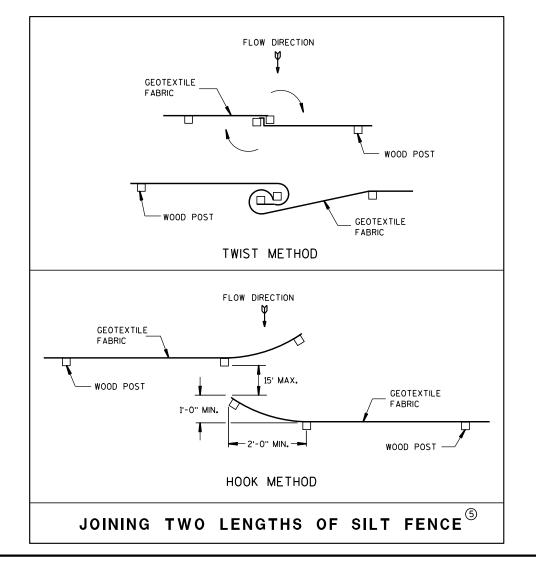
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#### -ROADWAY -ROADWAY SHOULDER SHOULDER — DITCH DIKE INSLOPE INSLOPE (1) <del>-</del>-≪ >→ **₹ ₹ INSLOPE** INSLOPE SHOULDER SHOULDER ROADWAY - ROADWAY SITUATION 2 SITUATION 1

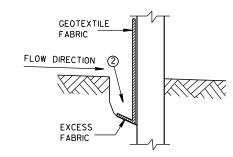
## PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



#### GENERAL NOTES

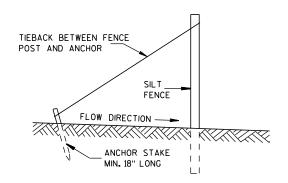
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- $\bigcirc$  HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- 3 WOOD POSTS SHALL BE A MINIMUM SIZE OF 11/8" X 11/8" OF OAK OR HICKORY.
- 4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- (5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS, IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



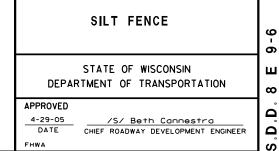
TRENCH DETAIL

6



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)







INLET PROTECTION, TYPE A

#### **GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- (2) FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- (3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



#### INLET PROTECTION, TYPE C (WITH CURB BOX)

#### **INSTALLATION NOTES**

#### TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

#### TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE, THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

#### INLET PROTECTION TYPE A, B, C, AND D

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

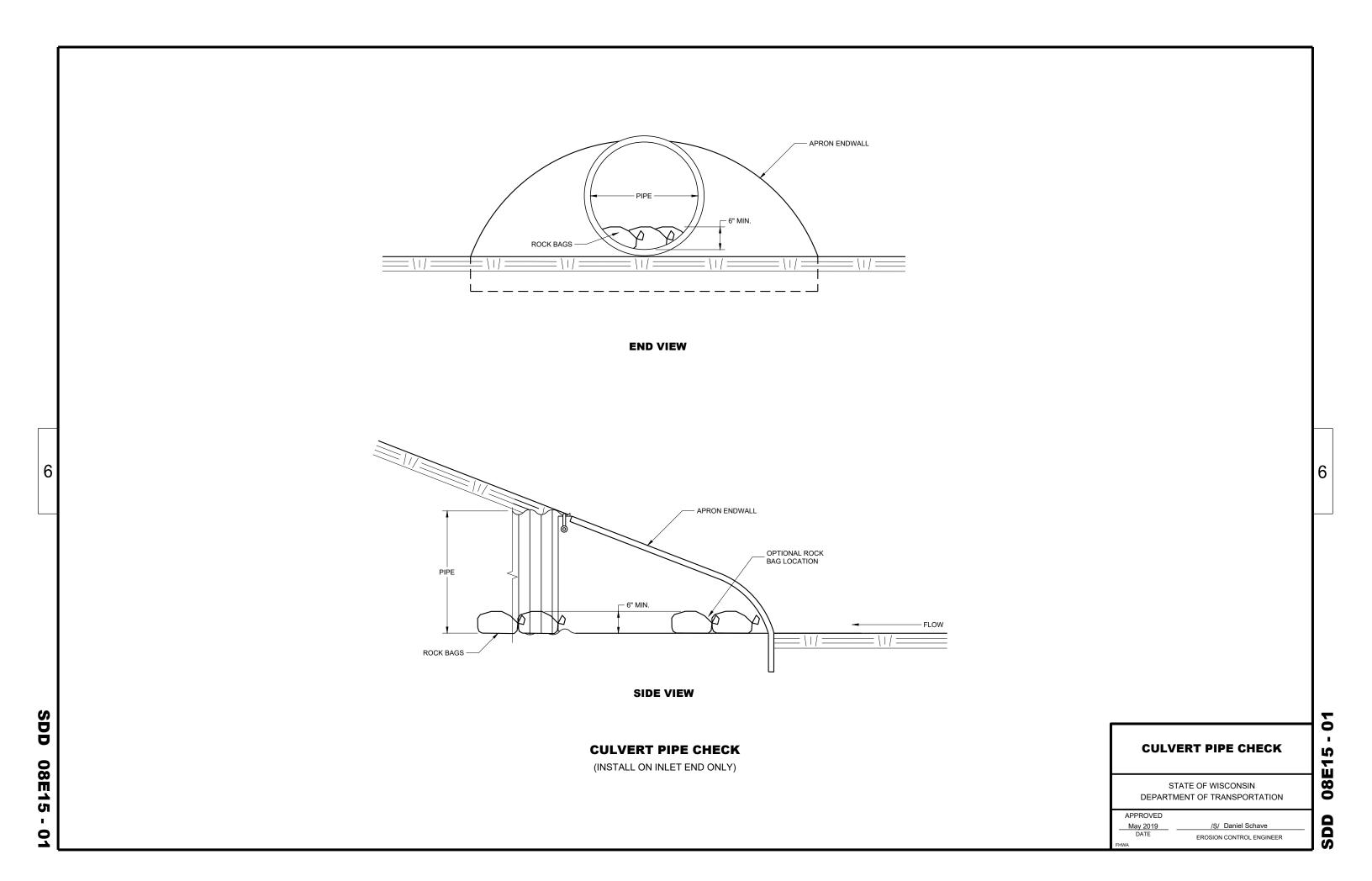
10/16/02

/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER 6

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METAL APRON ENDWALLS											
PIPE	MIN. THICK.		DIMENSIONS (Inches)							APPROX.	
DIA.	(Inches)		A	В	Н	L	Γį	L <sub>2</sub>	W	SLOPE	BODY
(IN.)	STEEL	ALUM.	(±1")	(MAX.)	(±1")	(±1 ½")	①	0	(±2")	320.2	
12	.064	.060	6	6	6	21	12	171/2	24	2½+o 1	1Pc.
15	.064	.060	7	8	6	26	14	213/4	30	2½to 1	1Pc.
18	.064	.060	8	10	6	31	15	281/4	36	21/2+o 1	1Pc.
21	.064	.060	9	12	6	36	18	295/8	42	21/2+o 1	1Pc.
24	.064	.075	10	13	6	41	18	371/4	48	21/2+o 1	1Pc.
30	.079	.075	12	16	8	51	18	521/4	60	21/2+0 1	1Pc.
36	.079	<b>.</b> 105	14	19	9	60	24	59¾	72	21/2+o 1	2 Pc.
42	.109	.105	16	22	11	69	24	75%	84	21/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 <sup>1</sup> / <sub>4</sub> +o 1	3 Pc.
54	.109	.105	18	30	12	84	30	851/2	102	2 <sup>1</sup> / <sub>4</sub> †o 1	3 Pc.
60	.109×	.105×	18	33	12	87	_	_	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	_	_	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	_	_	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	_	_	132	11/2+0 1	3 Pc.
84	.109×	.105×	18	45	12	87	_	_	138	11/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	_	_	144	11/2+0 1	3 Pc.
96	.109×	.105×	18	35	12	87	_	_	150	1/2+0 1	3 Pc.

	REINFORCED CONCRETE APRON ENDWALLS							
PIPE		APPROX.						
DIA.	T	A	В	С	D	Ε	G	SLOPE
12	2	4	24	48 1/8	721/8	24	2	3 to 1
15	21/4	6	27	46	73	30	21/4	3 to 1
18	21/2	9	27	46	73	36	21/2	3 to 1
21	23/4	9	36	371/2	731/2	42	23/4	3 to 1
24	3	91/2	431/2	30	731/2	48	3	3 to 1
27	31/4	101/2	491/2	24	731/2	54	31/4	3 to 1
30	$3\frac{1}{2}$	12	54	193/4	731/2	60	31/2	3 to 1
36	4	15	63	34¾	97¾	72	4	3 to 1
42	$4\frac{1}{2}$	21	63	35	98	78	41/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	51/2		65	**************************************	8 <sup>1</sup> / <sub>4</sub> - 100	90	51/2	2% to 1
60	6	* ** 30-35	60	39	99	96	5	2 to 1
66	61/2	<del>* **</del>  24-30	<del>*</del> <del>* *</del>   72-78	* * * 21-27	99	102	51/2	2 to 1
72	7	* ** 24-36	78	21	99	108	6	2 to 1
78	71/2	* ** 24-36	78	21	99	114	61/2	2 to 1
84	8	36	901/2	21	1111/2	120	61/2	1½+o 1
90	81/2	41	871/2	24	1111/2	132	61/2	11/2+0 1

THREADED %6" DIA. ROD CONNECTOR AROUND CULVERT & THROUGH TANK TYPE CONNECTOR LUG LUG OR ALTERNATE CONNECTOR STRAP (SEE DETAIL) MEASURED LENGTH OF CULVERT TYPE 1 FOR 12" THRU 24" CORR. PIPE







NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL.

CORRUGATED PIPE. FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5

DIMPLED BAND MAY BE USED WITH HELICALLY

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT ALTERNATE FOR TYPE 1 CONNECTION END SECTION CONNECTOR STRAP

#### \* EXCEPT CENTER PANEL SEE GENERAL NOTES





SHOULDER

SLOPE



SIDE ELEVATION METAL ENDWALLS



\*\*MAXIMUM





CONCRETE ENDWALLS

CONNECTION DETAILS



## SECTION A-A

#### GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA, GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE

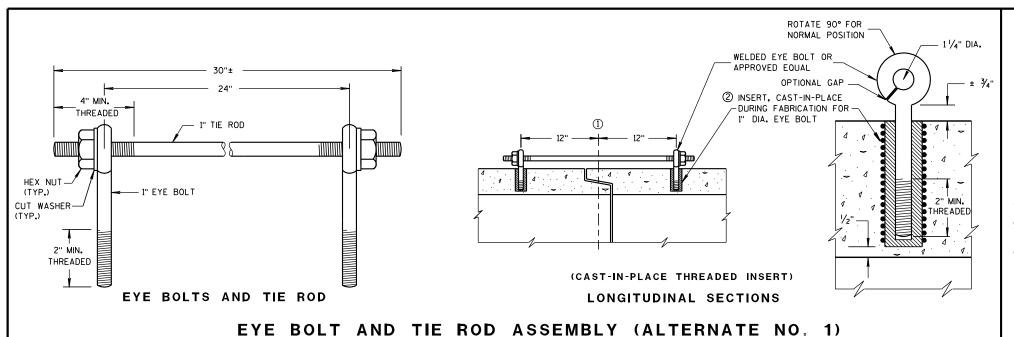
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES. THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

(1) FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



11/30/94 /S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER



#### **GENERAL NOTES**

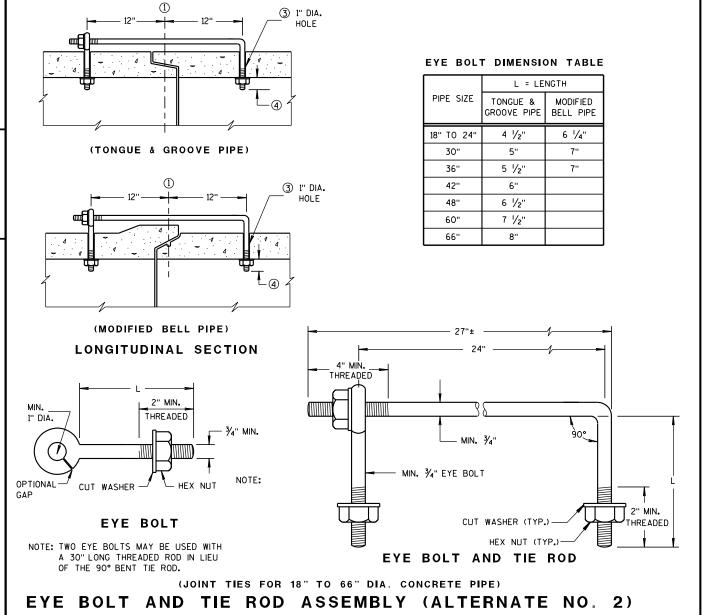
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES, ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- (1) & OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE
- ${\mathfrak S}$  HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM  ${\mathfrak L}$  OF TONGUE AND GROOVE.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- (5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN  $rac{1}{2}$  INCH OF THE INNER SURFACE OF THE PIPE.

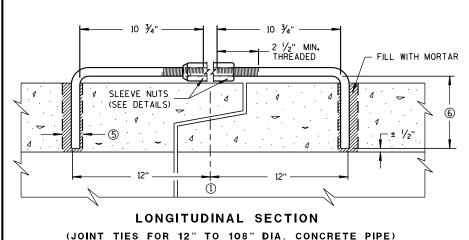


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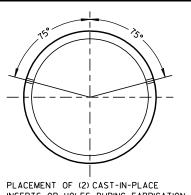
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## ADJUSTABLE TIE ROD TABLE 5/8 5 12-60 3/4 5 1/2 3/4 90-108 DIMENSIONS SHOWN ARE IN INCHES **TAPERED** PLAIN RIGHT AND LEFT THREADS **SLEEVE NUTS**

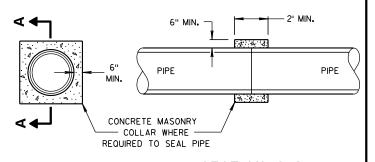


ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

#### TRANSVERSE SECTION



SECTION A-A

#### CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

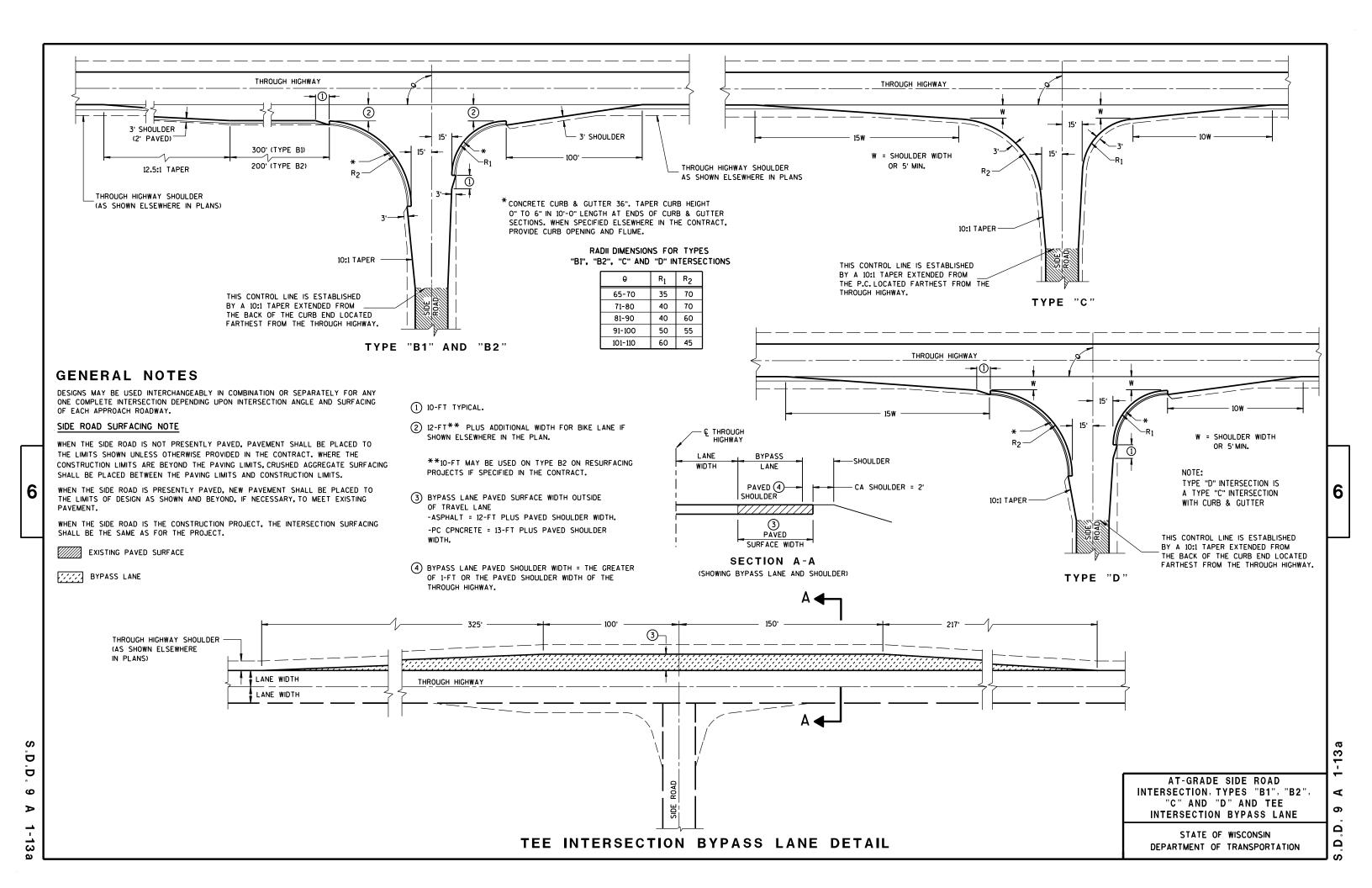
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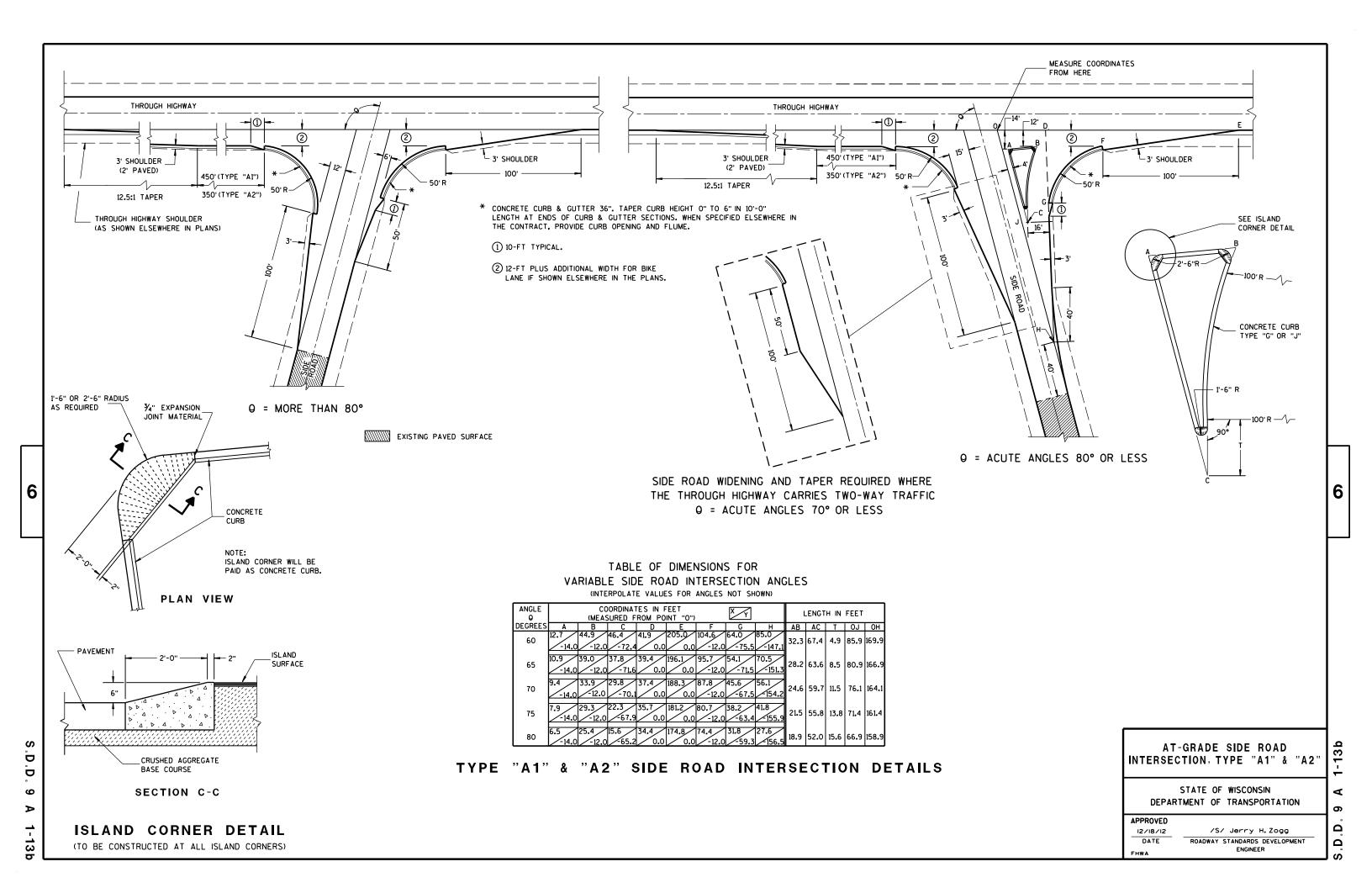
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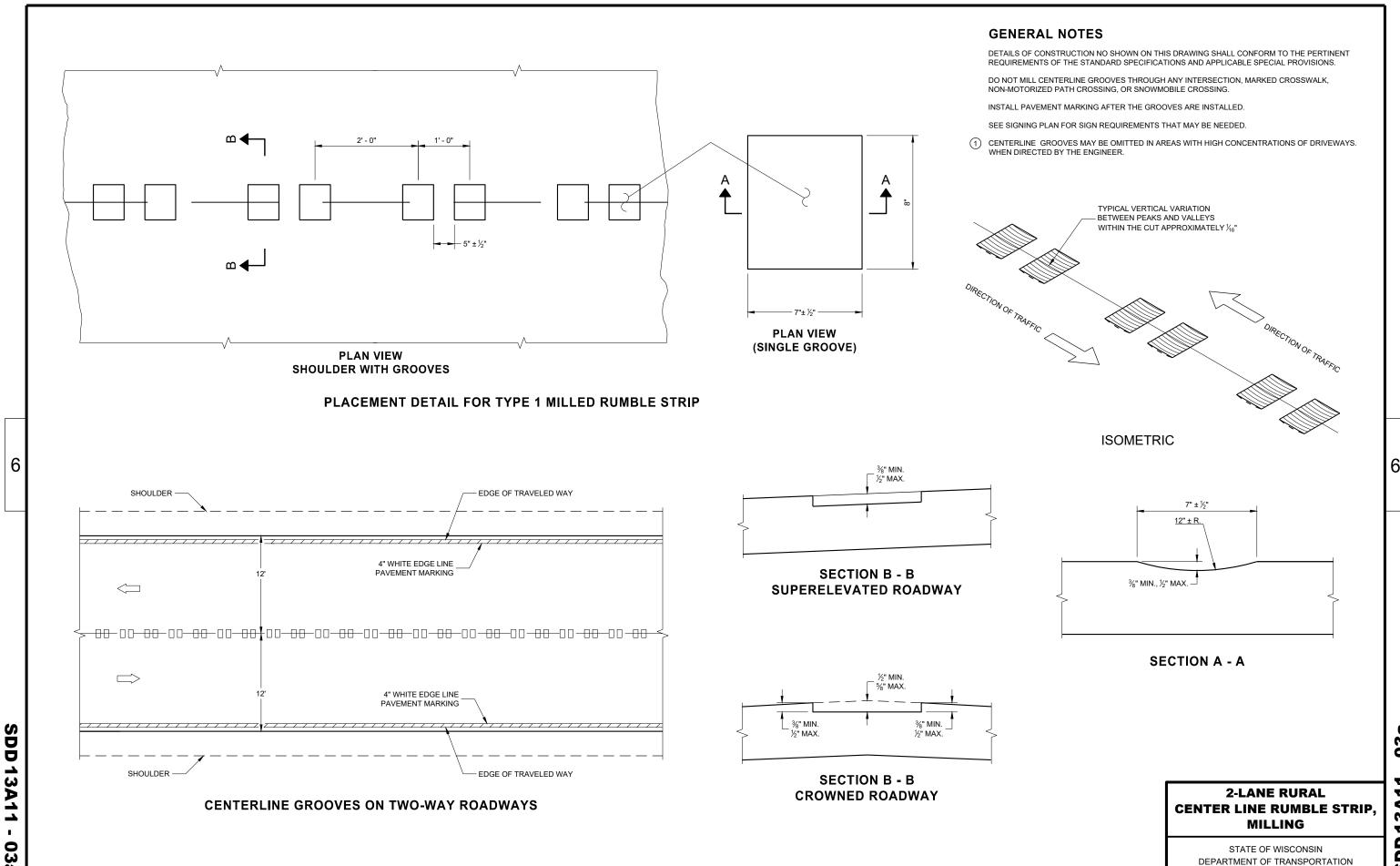
/S/ Jerry H. Zogg DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

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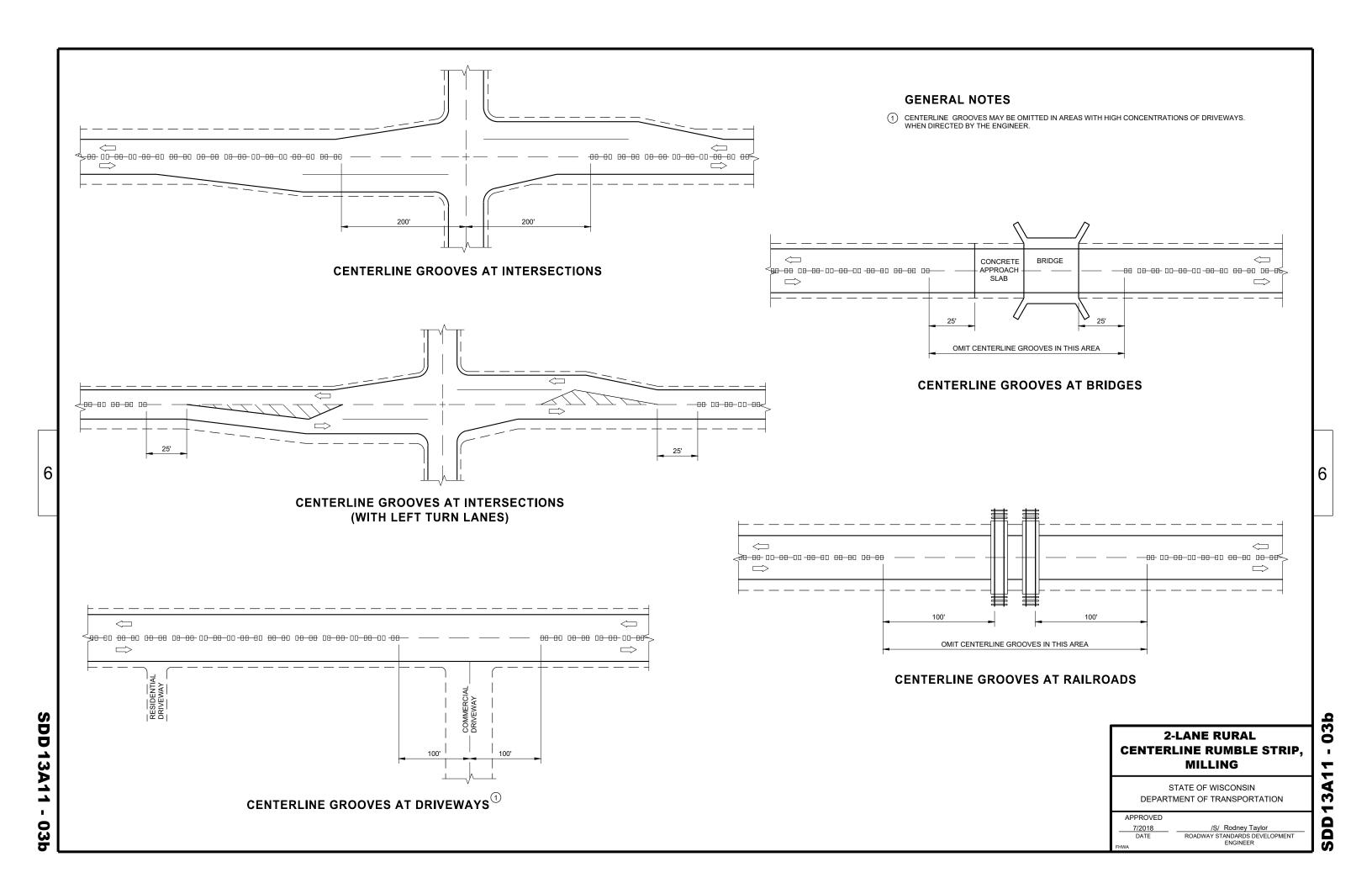
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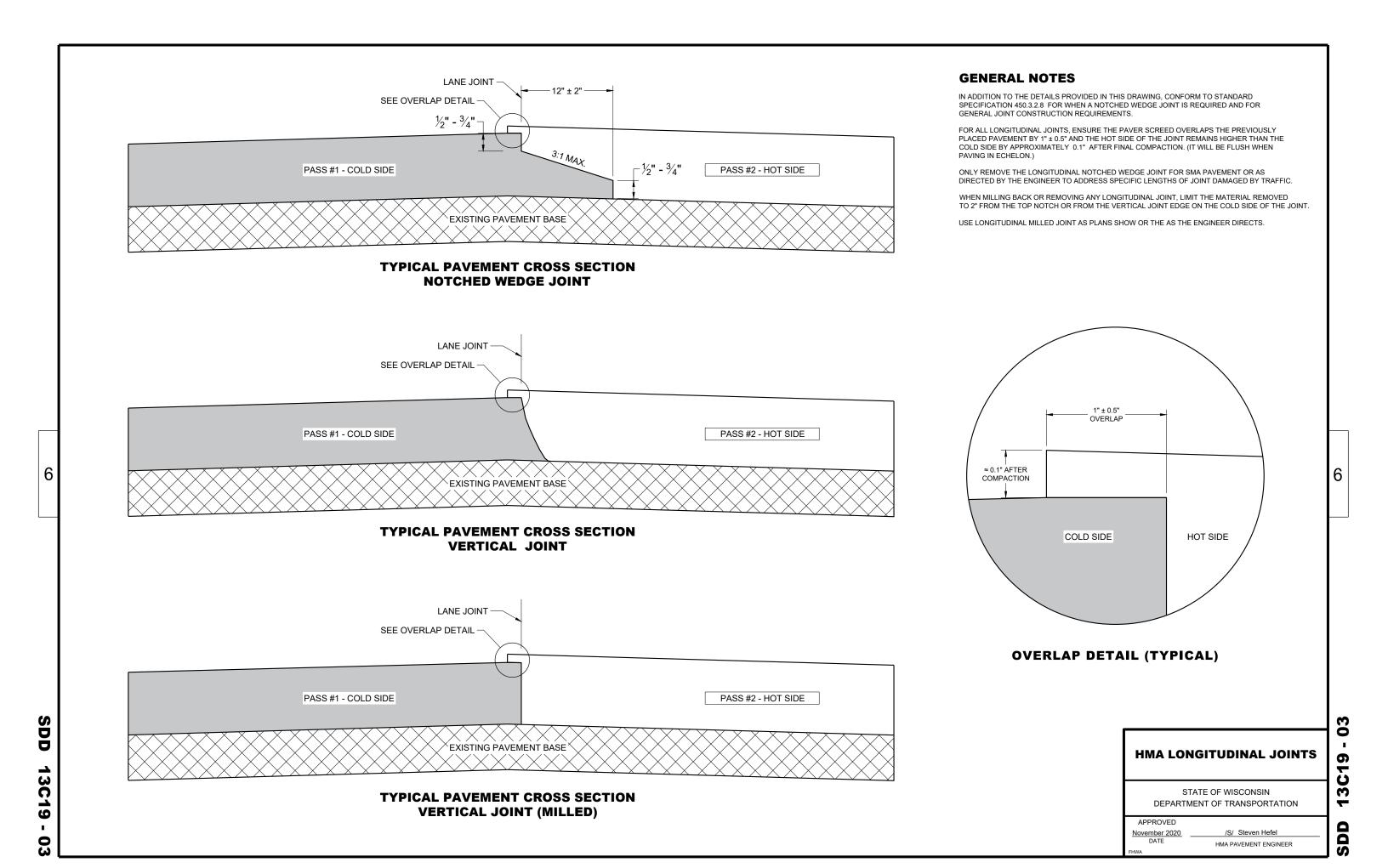




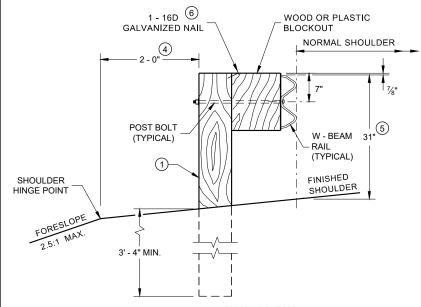


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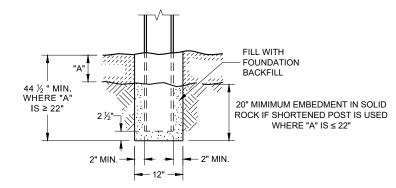




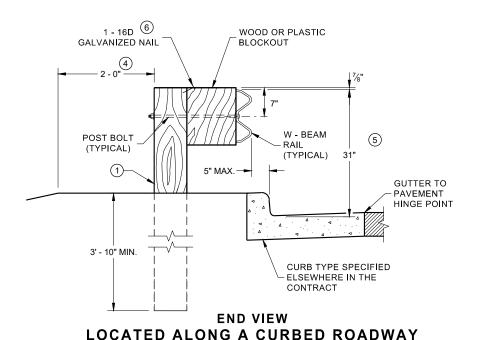
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- 3 IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- 4 WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- $_{\mbox{\scriptsize (5)}}$  FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27  $^3\!4''$  TO 32".
- (6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

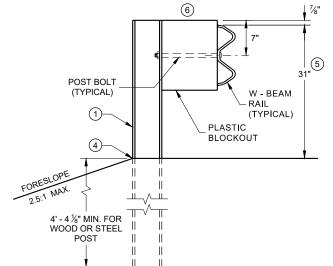


END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION

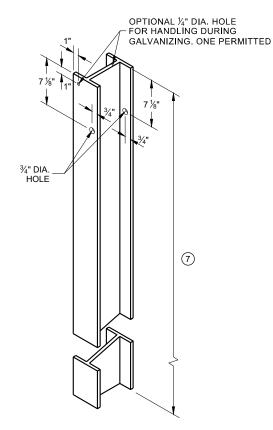


SETTING STEEL OR WOOD POST IN ROCK

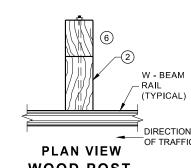




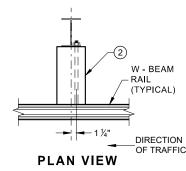




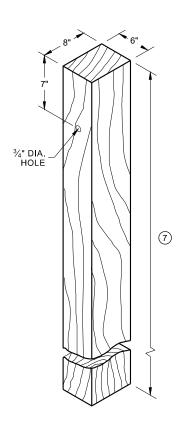
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) ①



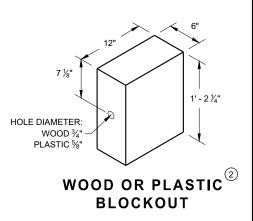
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST (6" X 8") NOMINAL



# MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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## DIRECTION OF TRAFFIC **FRONT VIEW** HALF POST SPACING (HS) AND

HALF POST SPACING WITH LONGER POSTS (K)

3' 1½" C -C 3' 1½" C - C POST SPACING POST SPACING

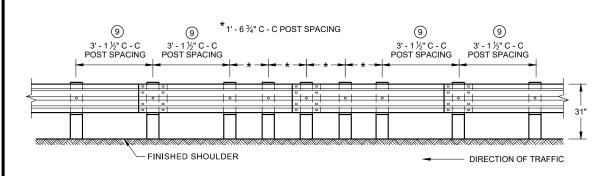
6' 3" C - C

POST SPACING

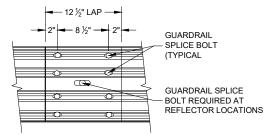
6' - 3" C -C

POST SPACING

FINISHED SHOULDER



FRONT VIEW **QUARTER POST SPACING (QS)** 



**FRONT VIEW MID-SPAN BEAM SPLICE** 

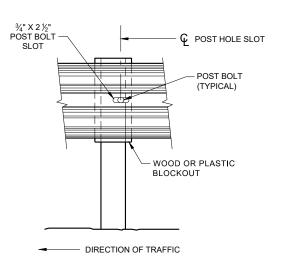
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

**GENERAL NOTES** 

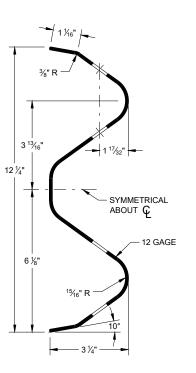
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A %" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND %" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS

GUARD RAIL SPLICE BOLTS ARE A %" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

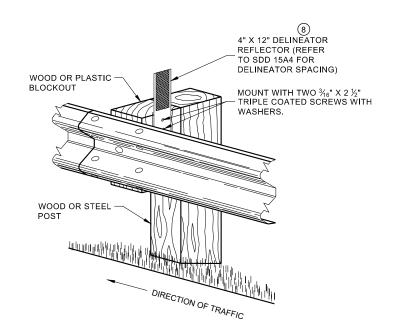


POST BOLT WOOD OR PLASTIC BLOCKOUT FINISHED SHOULDER — DIRECTION OF TRAFFIC



FRONT VIEW AT STEEL POST

FRONT VIEW AT WOOD POST



**ONE SIDED REFLECTOR DETAIL** AND TYPICAL INSTALLATION

**SECTION THRU W-BEAM RAIL** 

**MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

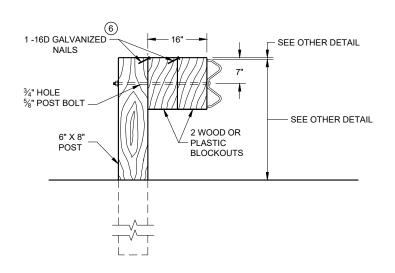
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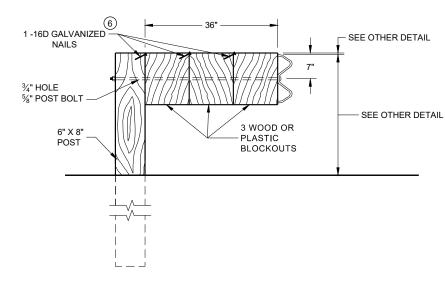
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#### **DETAIL FOR 16" BLOCKOUT DEPTH**

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



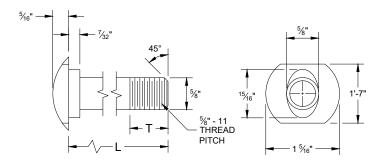
#### **DETAIL FOR 36" BLOCKOUT DEPTH**

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

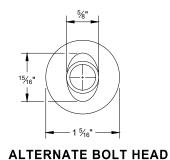
#### NOTE:

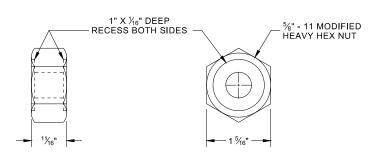
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF  $\frac{3}{16}$ ".
- 2. IF THE BOLT EXTENDS MORE THAN  $\mbox{\ensuremath{\mbox{\sc M}}}\mbox{\sc "}\mbox{\sc FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.}$



#### **POST BOLT TABLE**

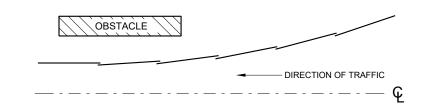
L	T (MIN.)
1 1⁄4"	1 1/4"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



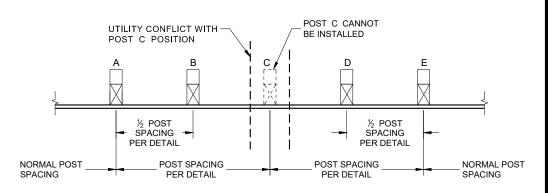


#### POST BOLT, SPLICE BOLT **AND RECESS NUT**

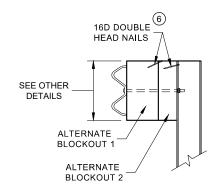
WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D (6) GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

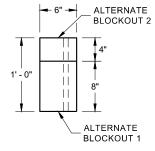


#### **PLAN VIEW BEAM LAPPING DETAIL**



#### POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION





SIDE VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL** 

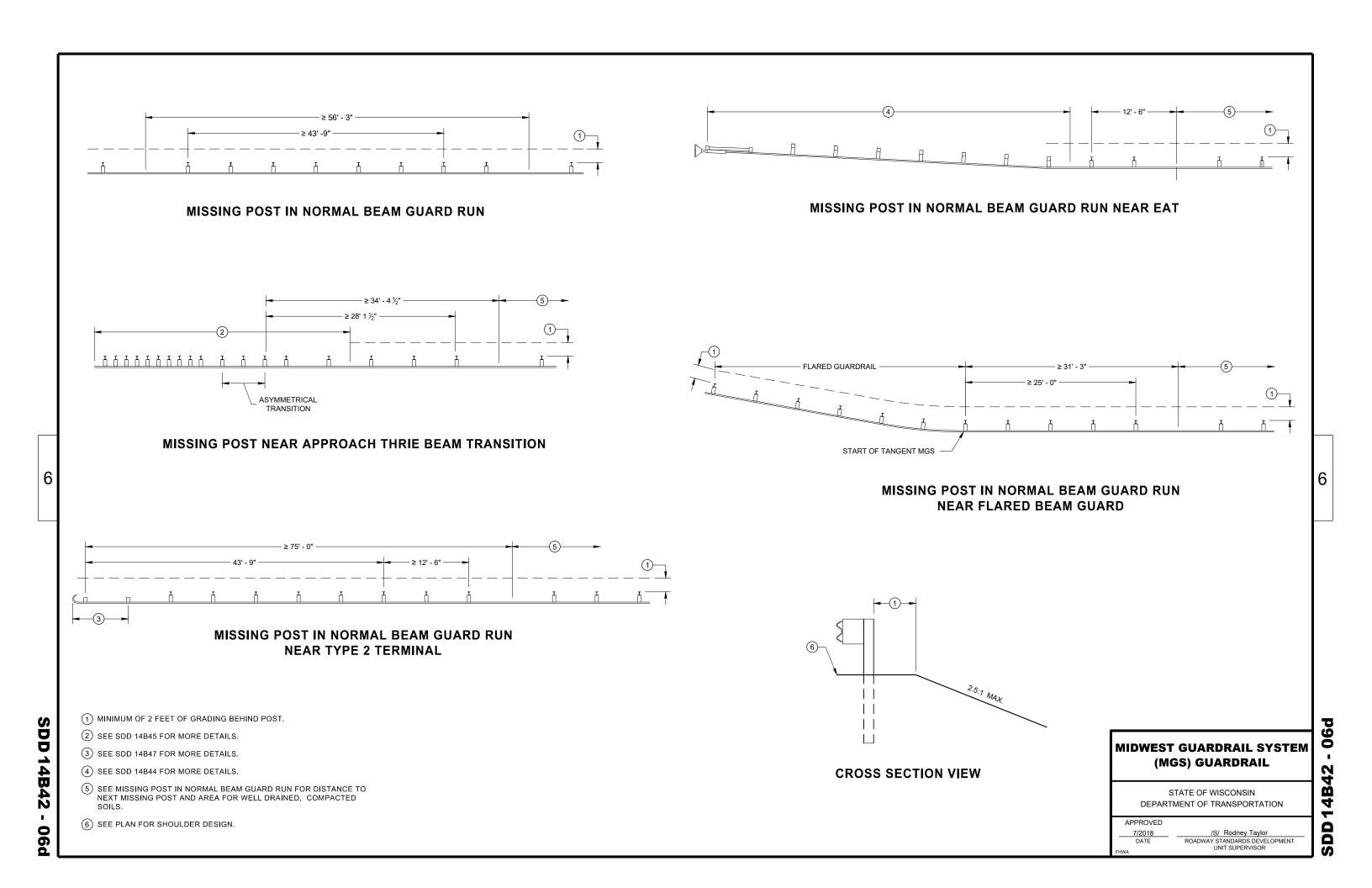
#### **MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

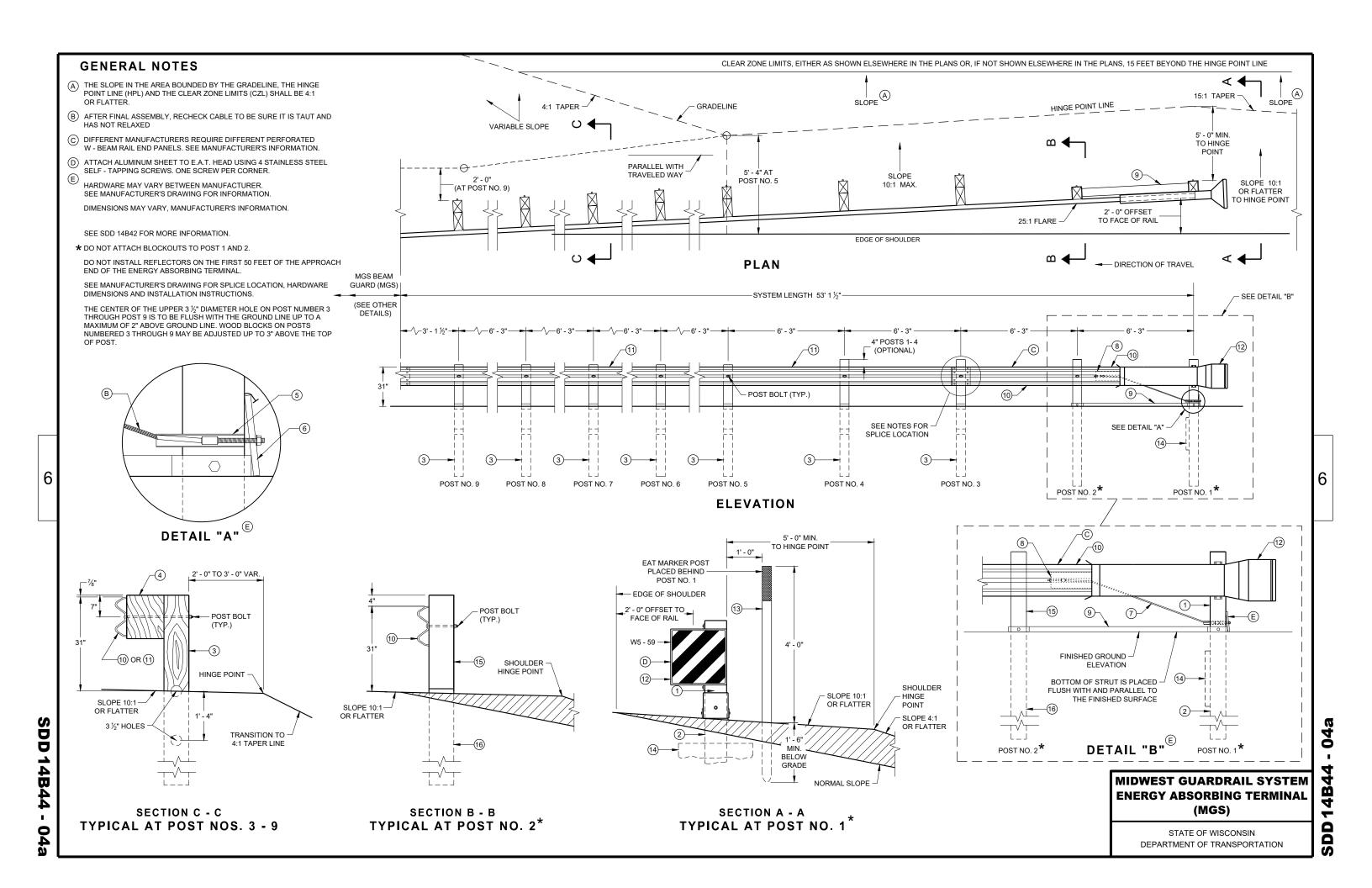
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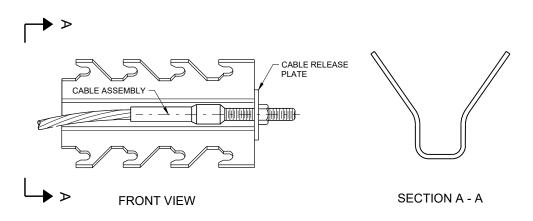
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**PLAN VIEW** 

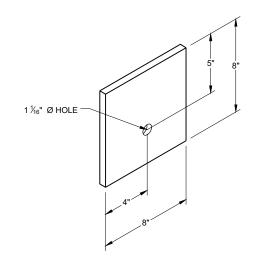




GENERIC GROUND STRUT



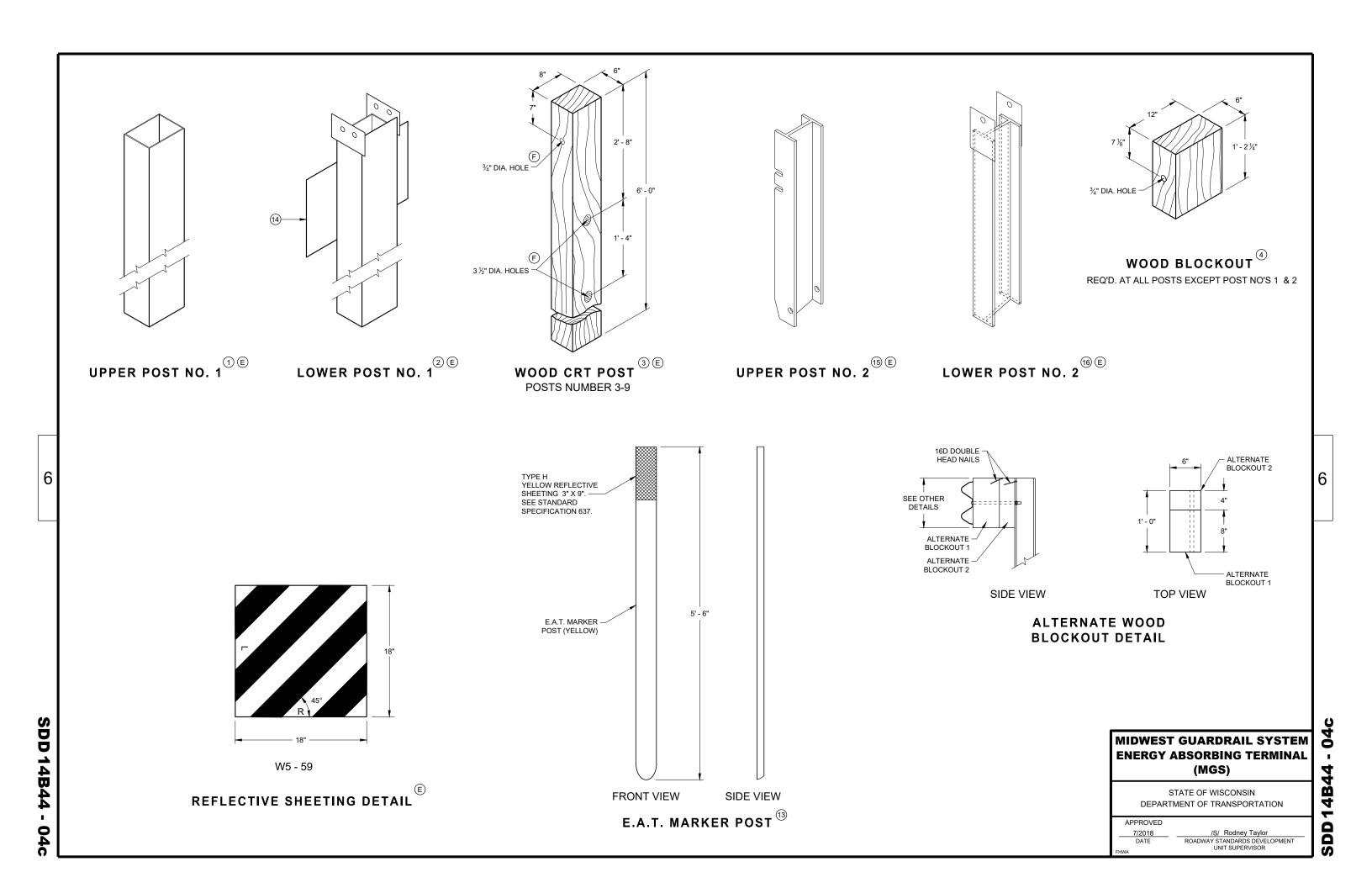
GENERIC ANCHOR CABLE BOX <sup>(9) (E)</sup>

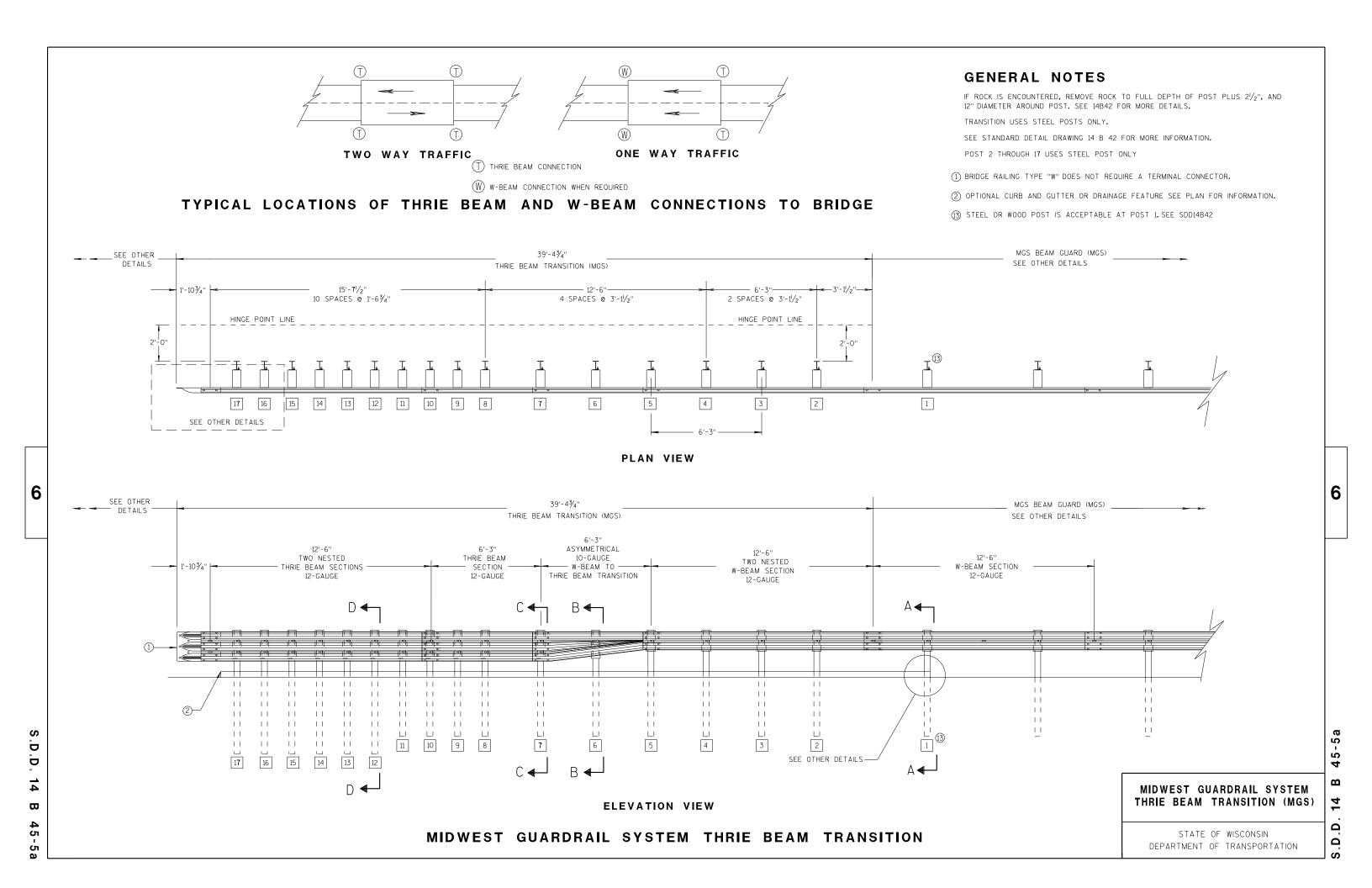


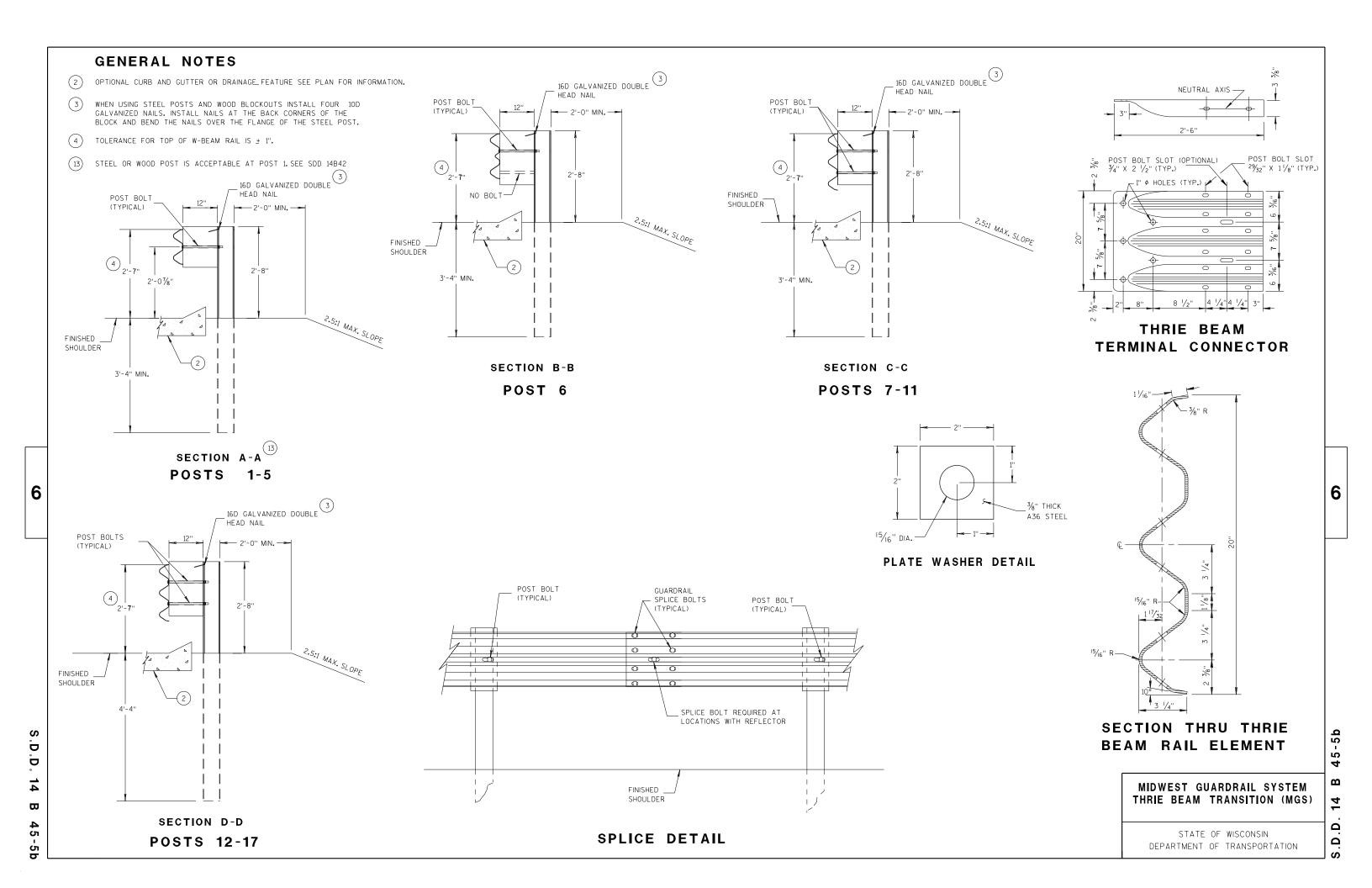
BEARING PLATE

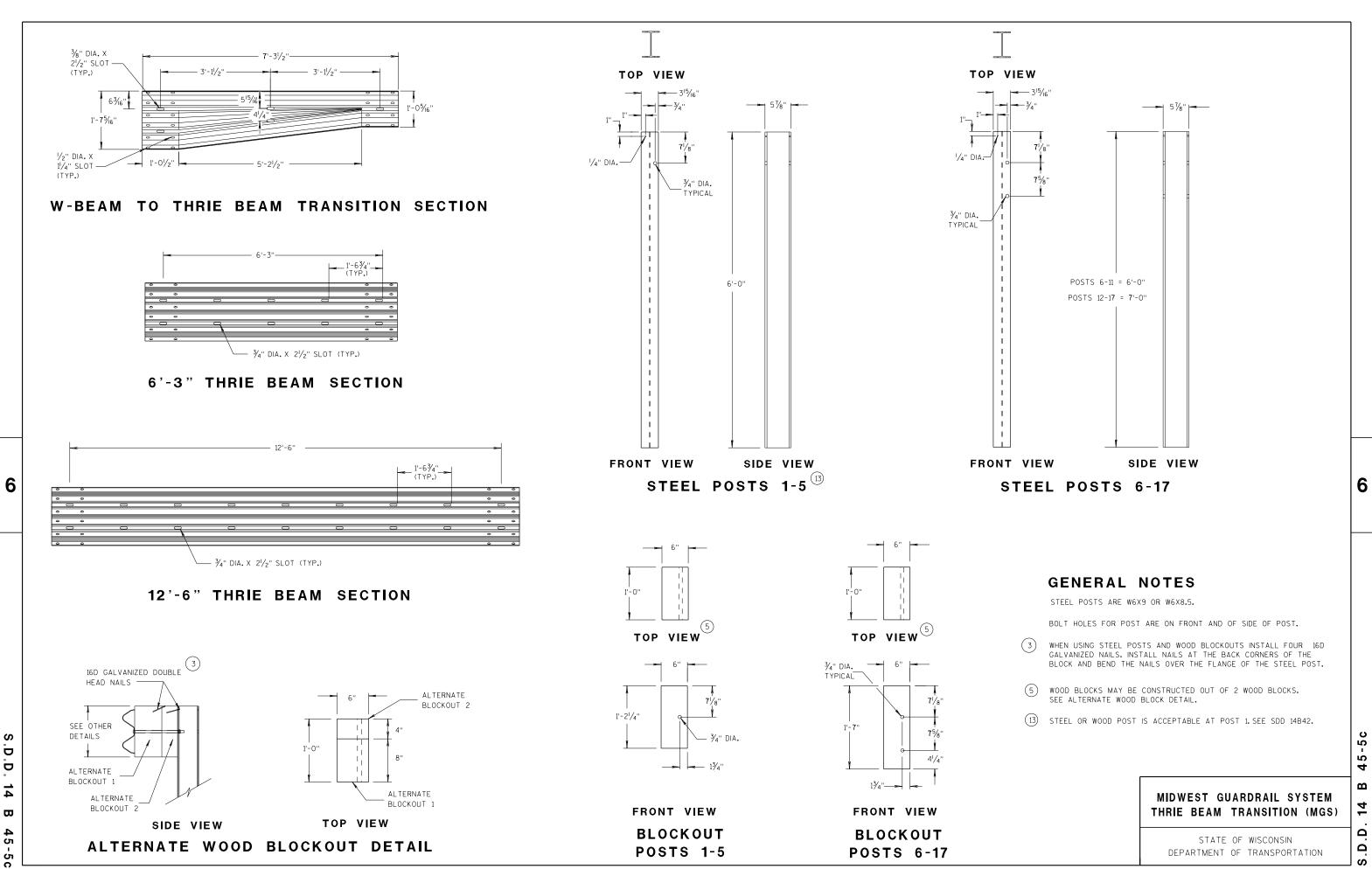
#### MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

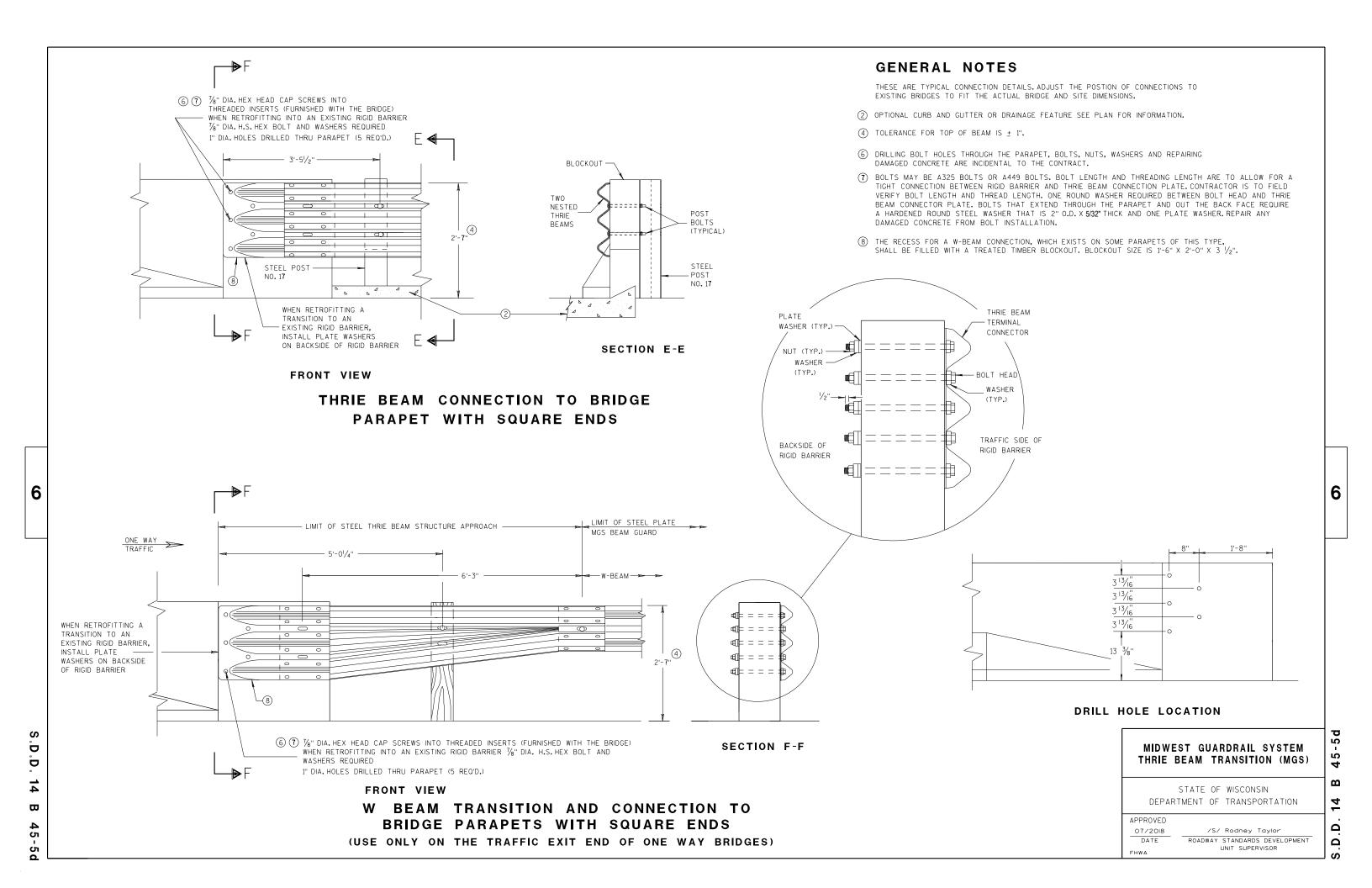
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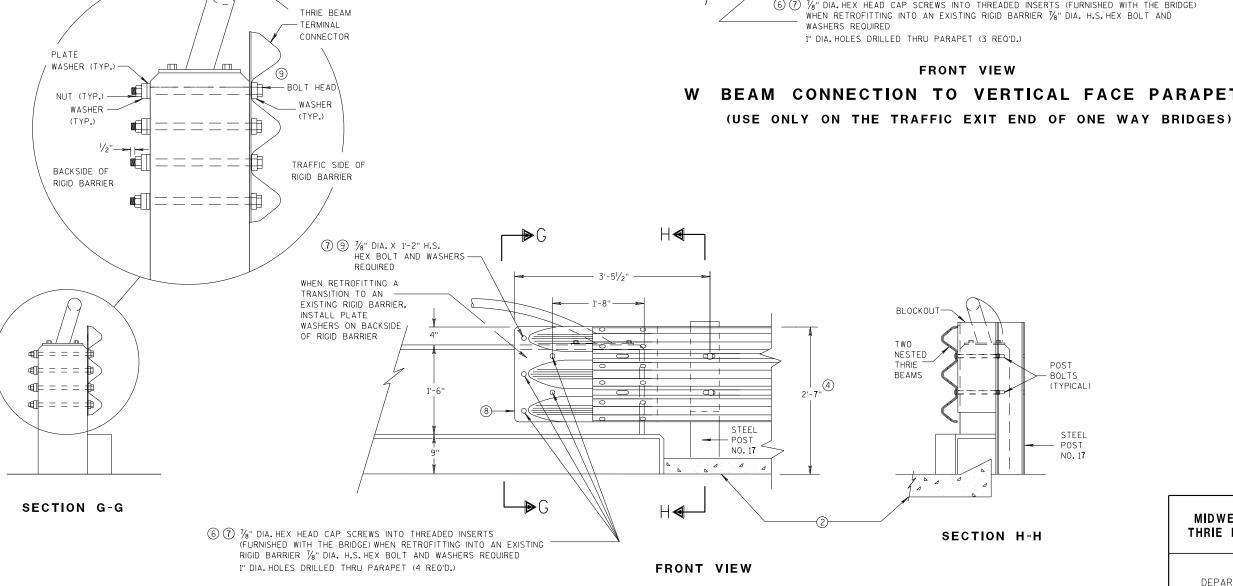








- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- (4) TOLERANCE FOR TOP OF BEAM IS ± 1".
- 6 DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- 7 BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE, BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- (8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- (9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

7 7/8" DIA. X 1'-2" H.S.

REQUIRED

HEX BOLT AND WASHERS

5'-0 1/4" ONE WAY
TRAFFIC WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL 9 PLATE WASHERS ON BACKSIDE OF RIGID BARRIER W BEAM TERMINAL 8 CONNECTOR (4) 2'-7' 6 7 %" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 1/8" DIA. H.S. HEX BOLT AND

LIMIT OF STEEL PLATE

MGS BEAM GUARD

## BEAM CONNECTION TO VERTICAL FACE PARAPET

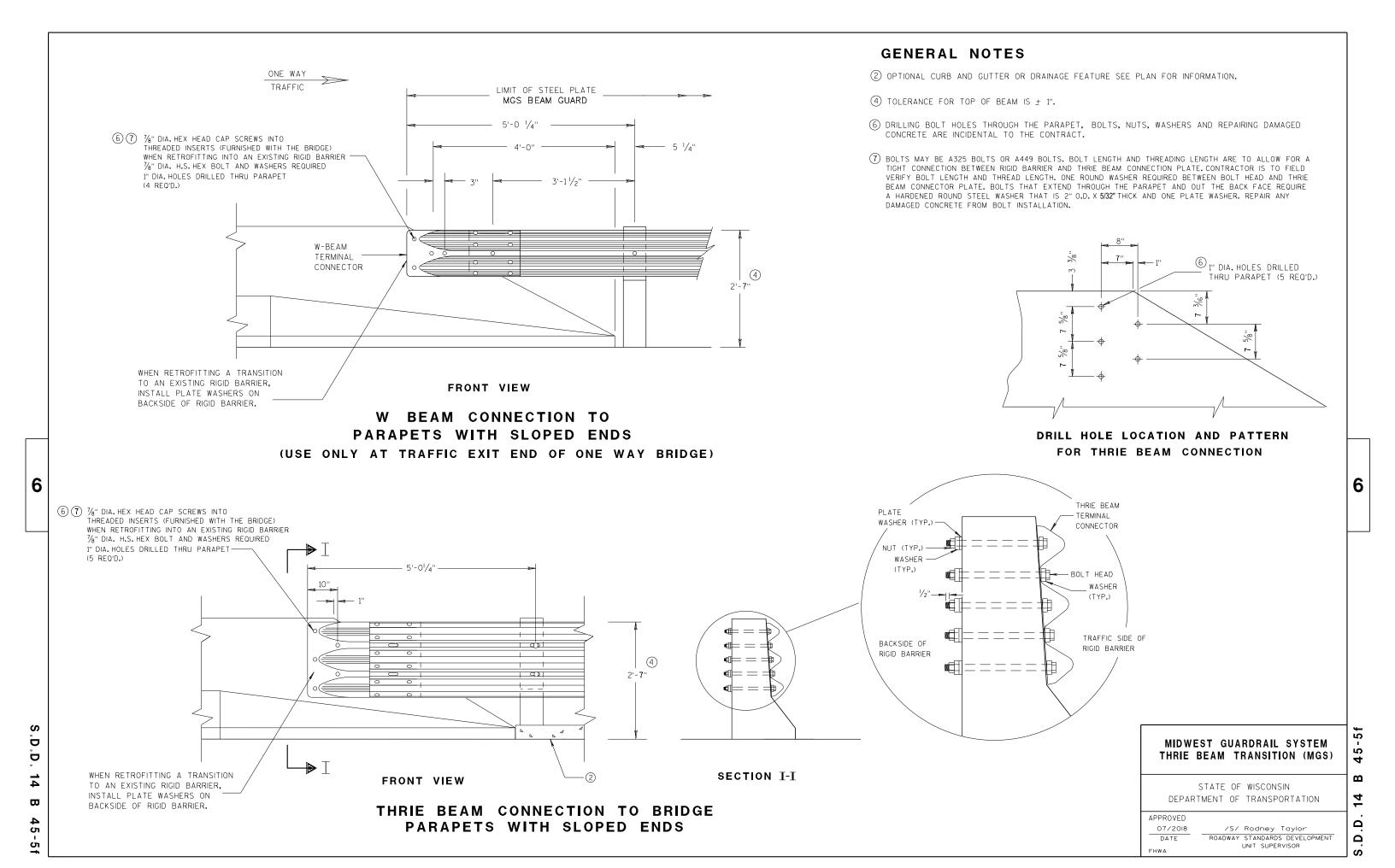
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

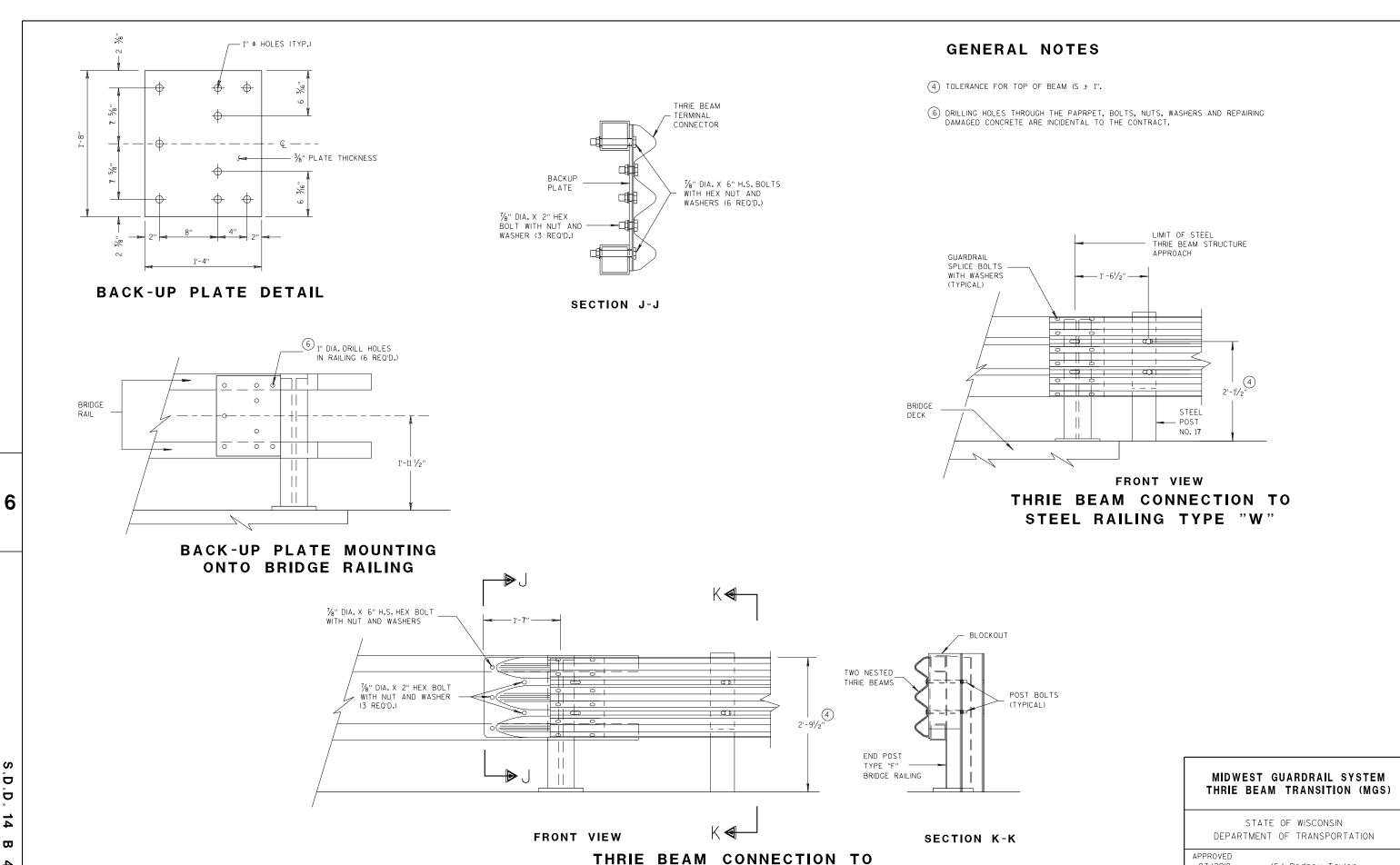
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07/2018

DATE

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

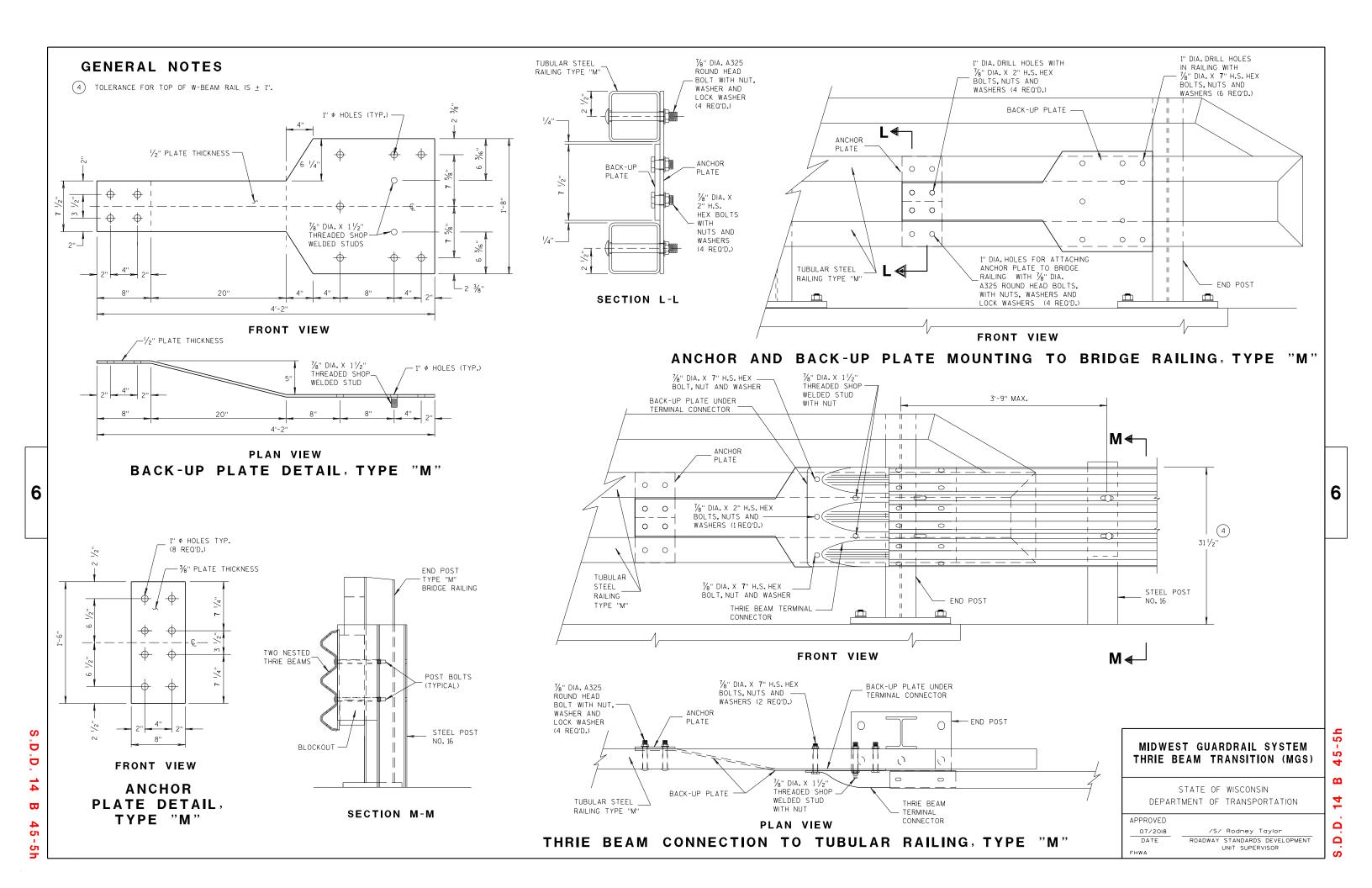


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)						
PLATE	QUANTITY	SHAPE	SIZE (A × B × C × D)	THICKNESS		
P1	1	в₫	20" × 20"	3/16"		
P2	1	B₽€	20" × 20" × 28%6"	3/16"		
Р3	1	B <del>_</del> CD	39" × 35/8" × 20" × 195/6"	3/16"		
S1	4	B₽	187/6" × 35/8" × 183/4"	1/4"		
S2	1		$10^{1}/_{4}$ " × $2\frac{7}{16}$ " × $10\frac{3}{6}$ " × $1\frac{7}{2}$ "	1/4"		
S3	1	B CD	3" × 1½6" × 3½" × ½"	1/4"		
S4	1	в	61/8" × 27/16"	1/4"		
S5	1	в∟	6½" × ½'6"	1/4"		
S6	1	в△	7¾" × 1¾"	1/4"		
S <b>7</b>	1	A D C	2%6" × 6" × 35%" × 57%"	1/4"		
S8	1	ABC	1 <sup>5</sup> / <sub>32</sub> " × 7 <sup>1</sup> / <sub>2</sub> " × 2 <sup>1</sup> / <sub>2</sub> " × 7 <sup>3</sup> / <sub>8</sub> "	1/4"		
S9	1	C B	6½6" × 6¾6" × 1¾32"	1/4"		
S10	1	A B C	11/8" × 91/8" × 35/8" × 911/16"	1/4"		
S11	1	CAB	8½" × 8¾" × 1 <sup>1</sup> ¾6"	1/4"		

#### SINGLE SLOPE CONNECTION PLATE

#### MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

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**GENERAL NOTES** COVER PLATE PANELS ARE 3/16" THICK. ALL STIFFENERS ARE 1/4" THICK.

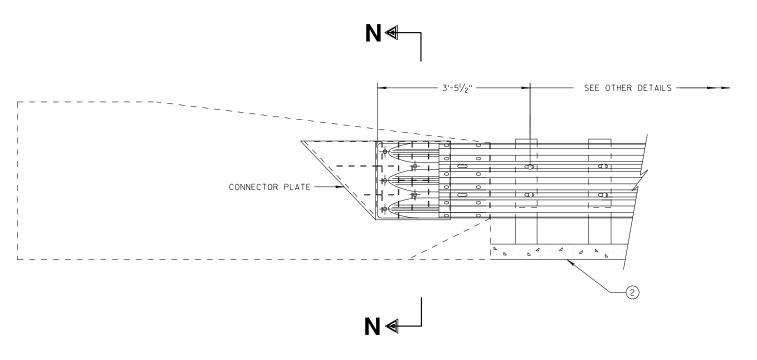
CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE

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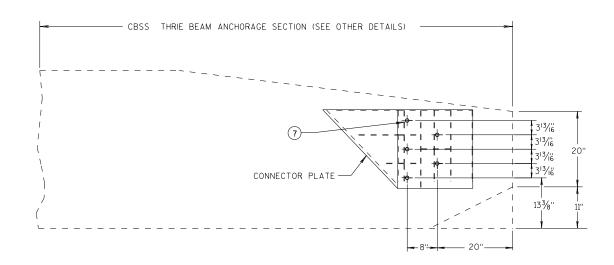
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#### THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

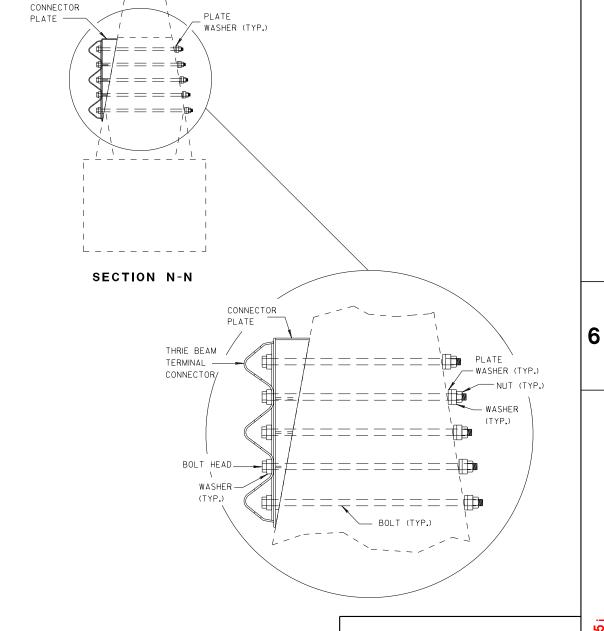


SINGLE SLOPE CONNECTION PLATE PLACEMENT

#### **GENERAL NOTES**

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- 2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE, BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



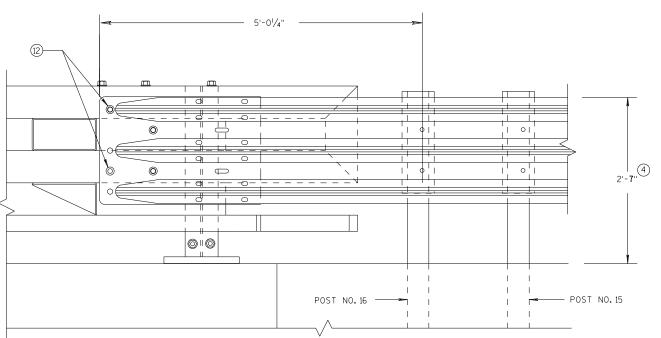
#### MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

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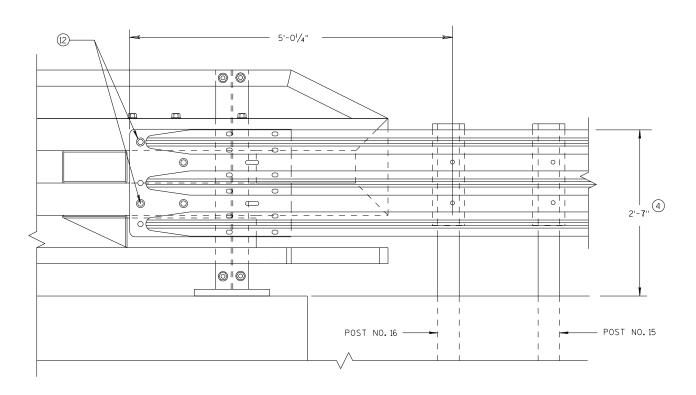
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#### **ELEVATION OF DETAIL AT NY3 END POST**

THRIE BEAM RAIL ATTACHMENT



### **ELEVATION OF DETAIL AT NY4 END POST**

THRIE BEAM RAIL ATTACHMENT

#### **GENERAL NOTES**

- (4) TOLERANCE FOR TOP OF BEAM IS ± 1".
- 12 BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE, ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

#### MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

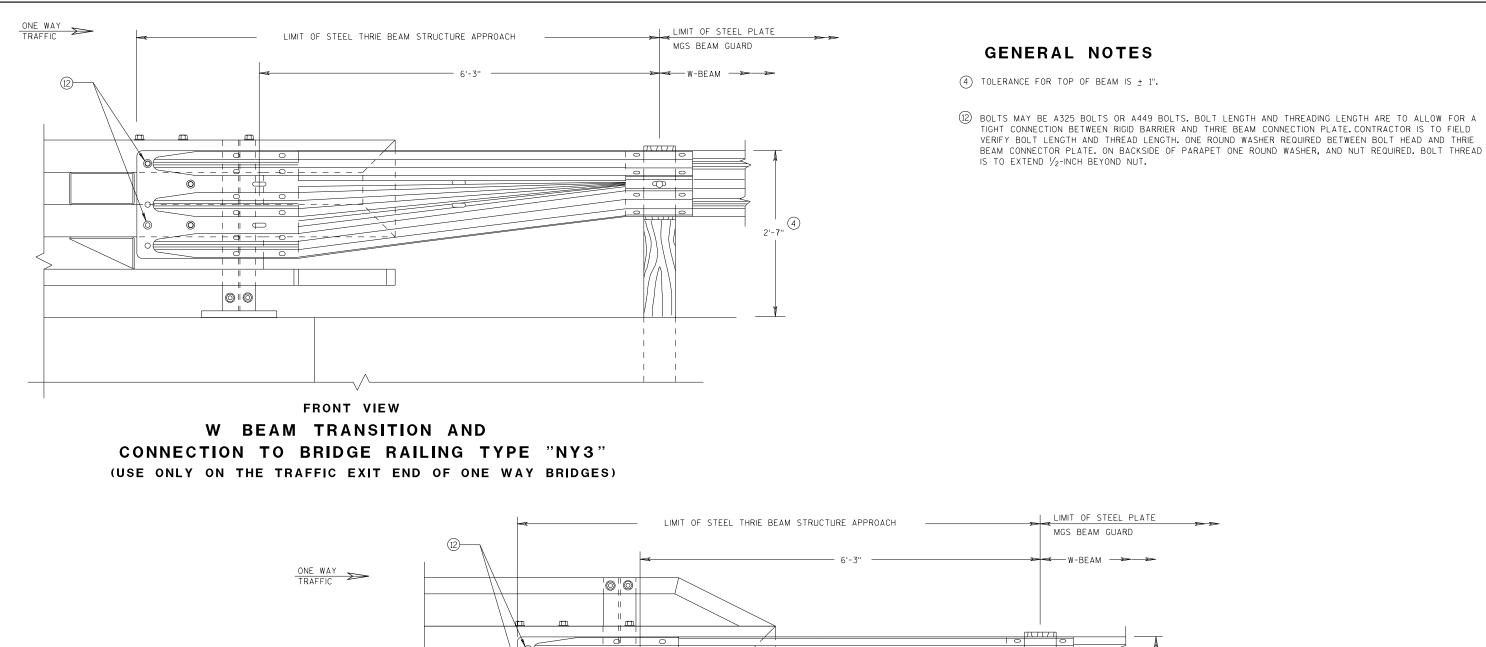
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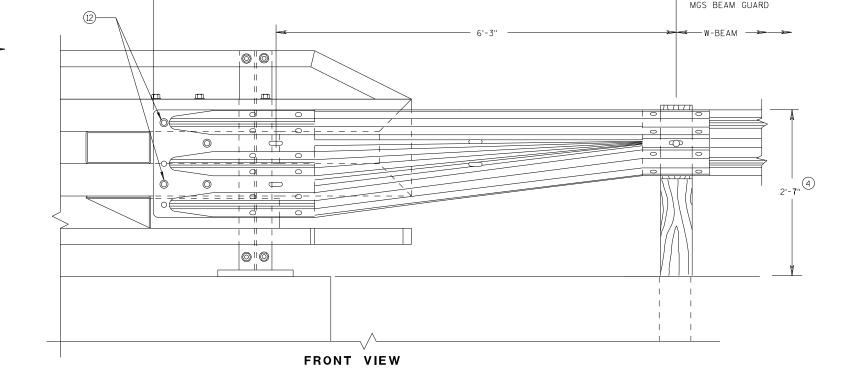
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# W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4" (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

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UNIT SUPERVISOR

S.D.D. 14 B 45-5

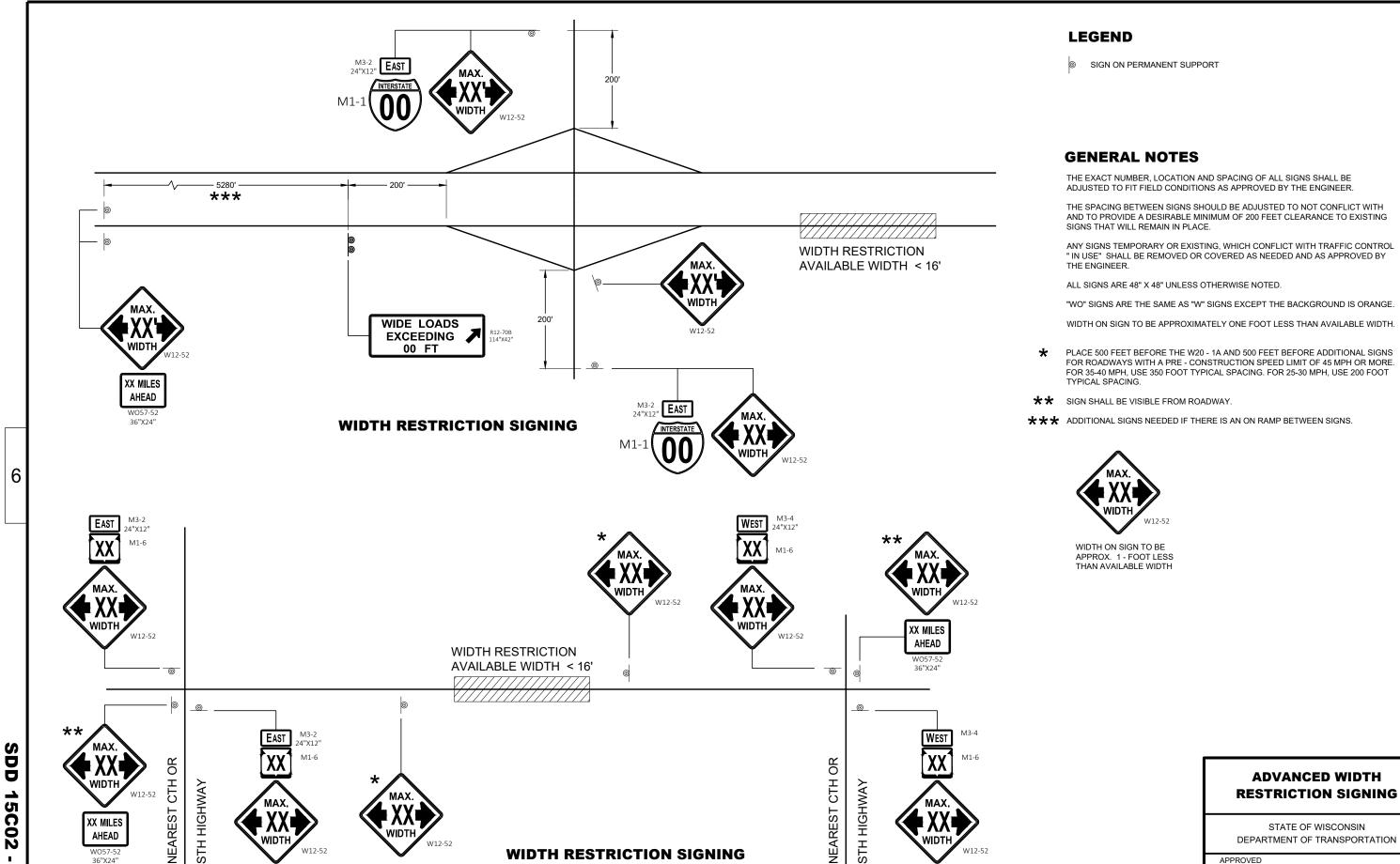
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**2 LANE HIGHWAY** 

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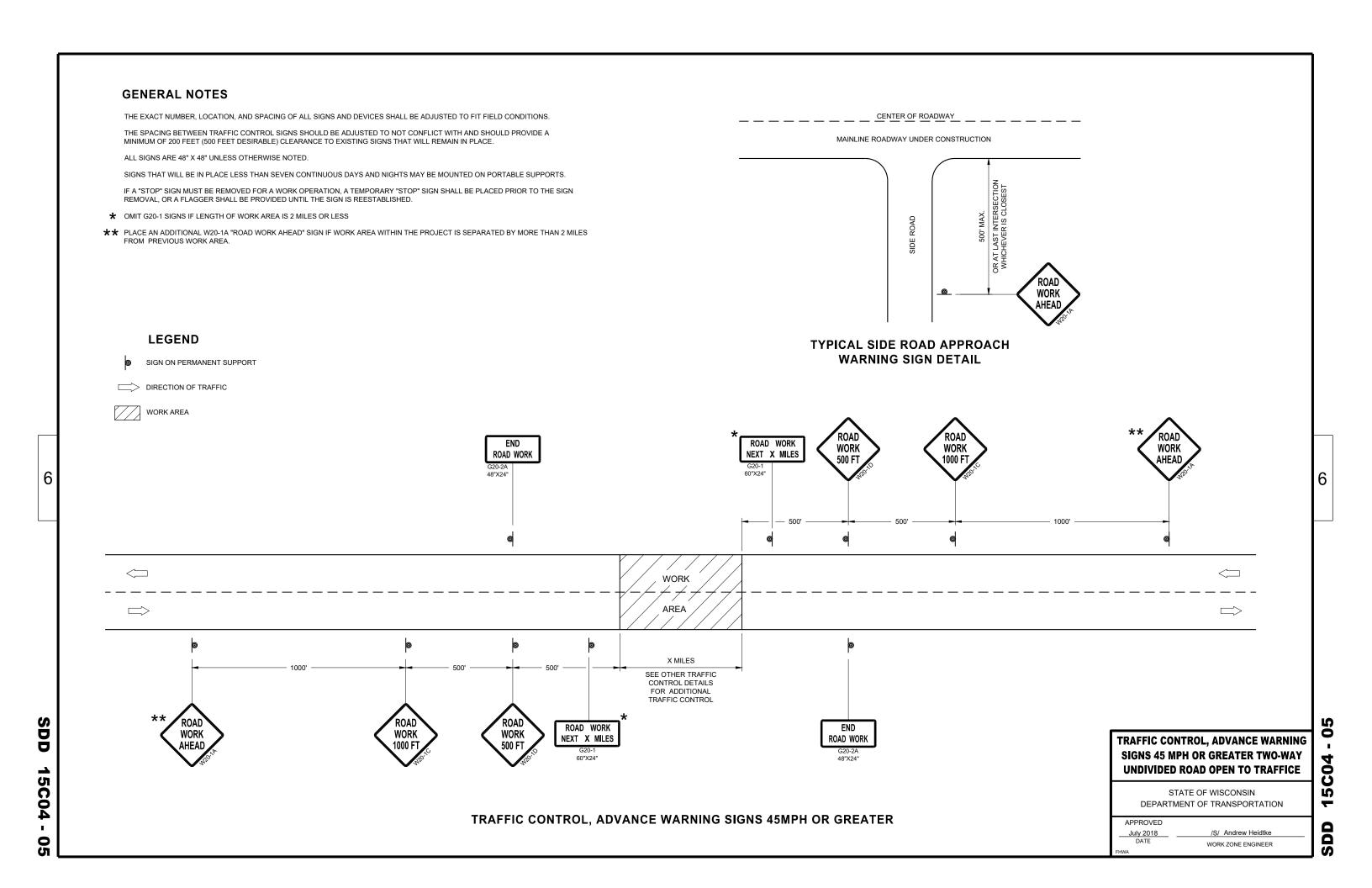
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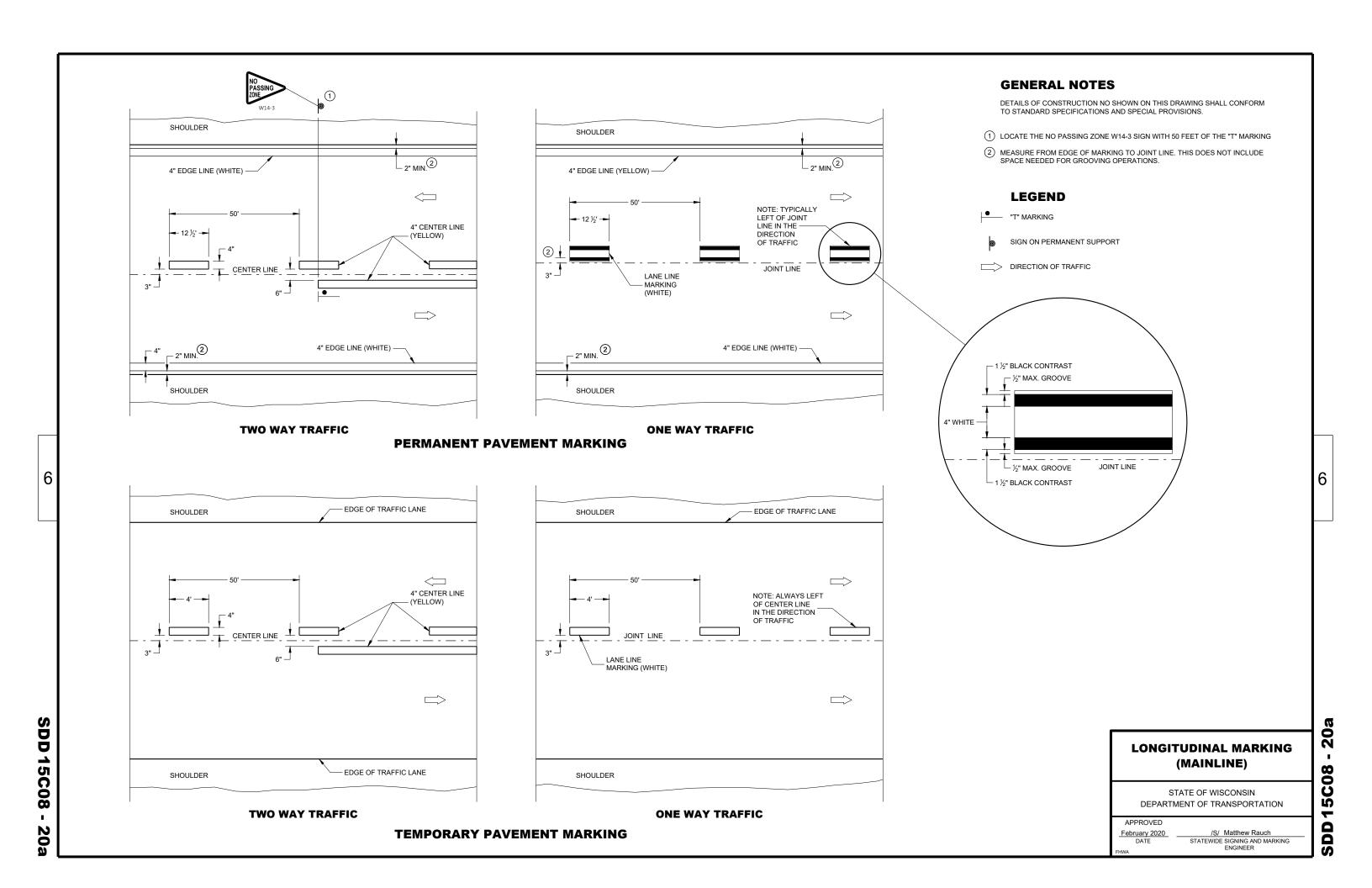
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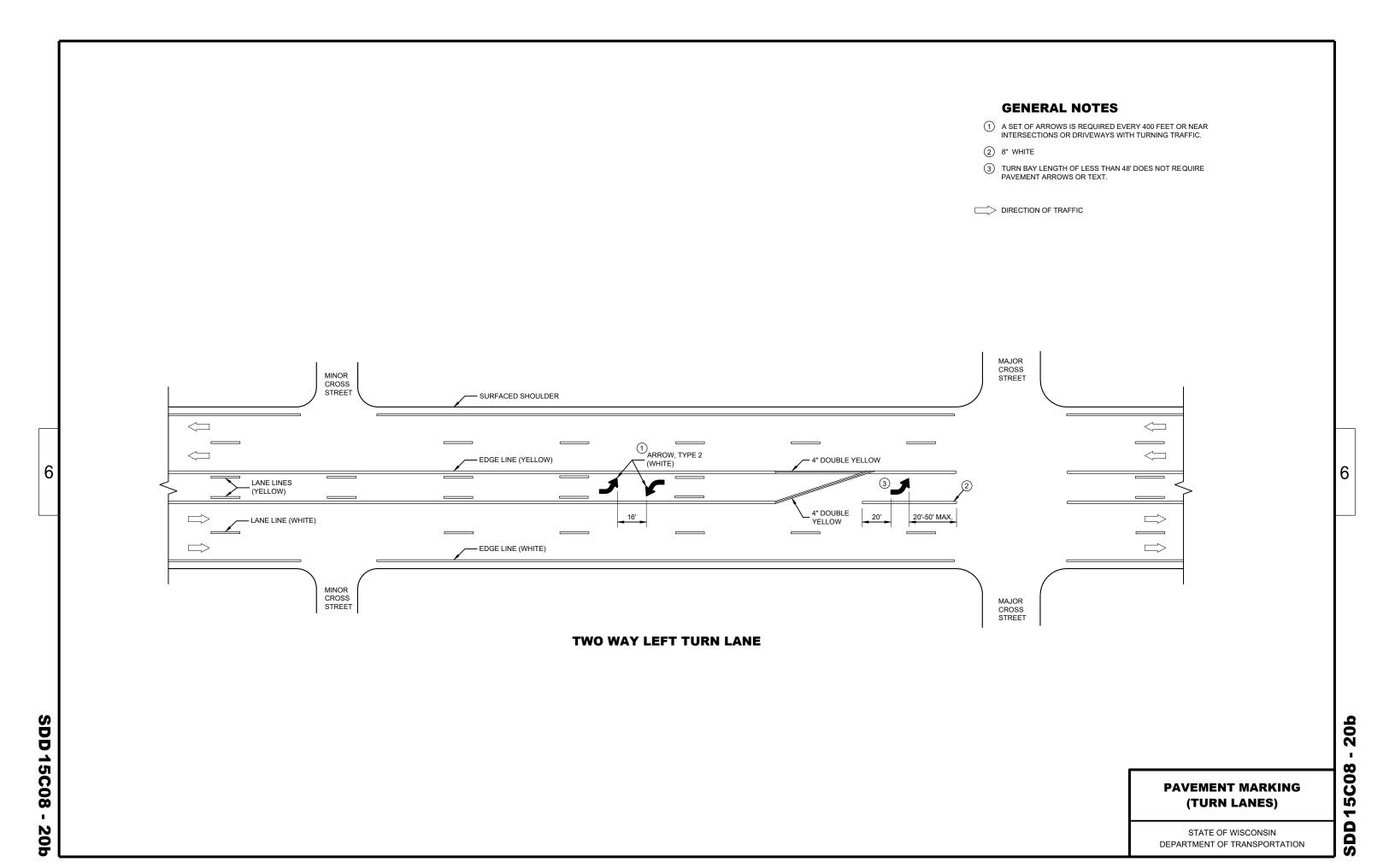
DEPARTMENT OF TRANSPORTATION

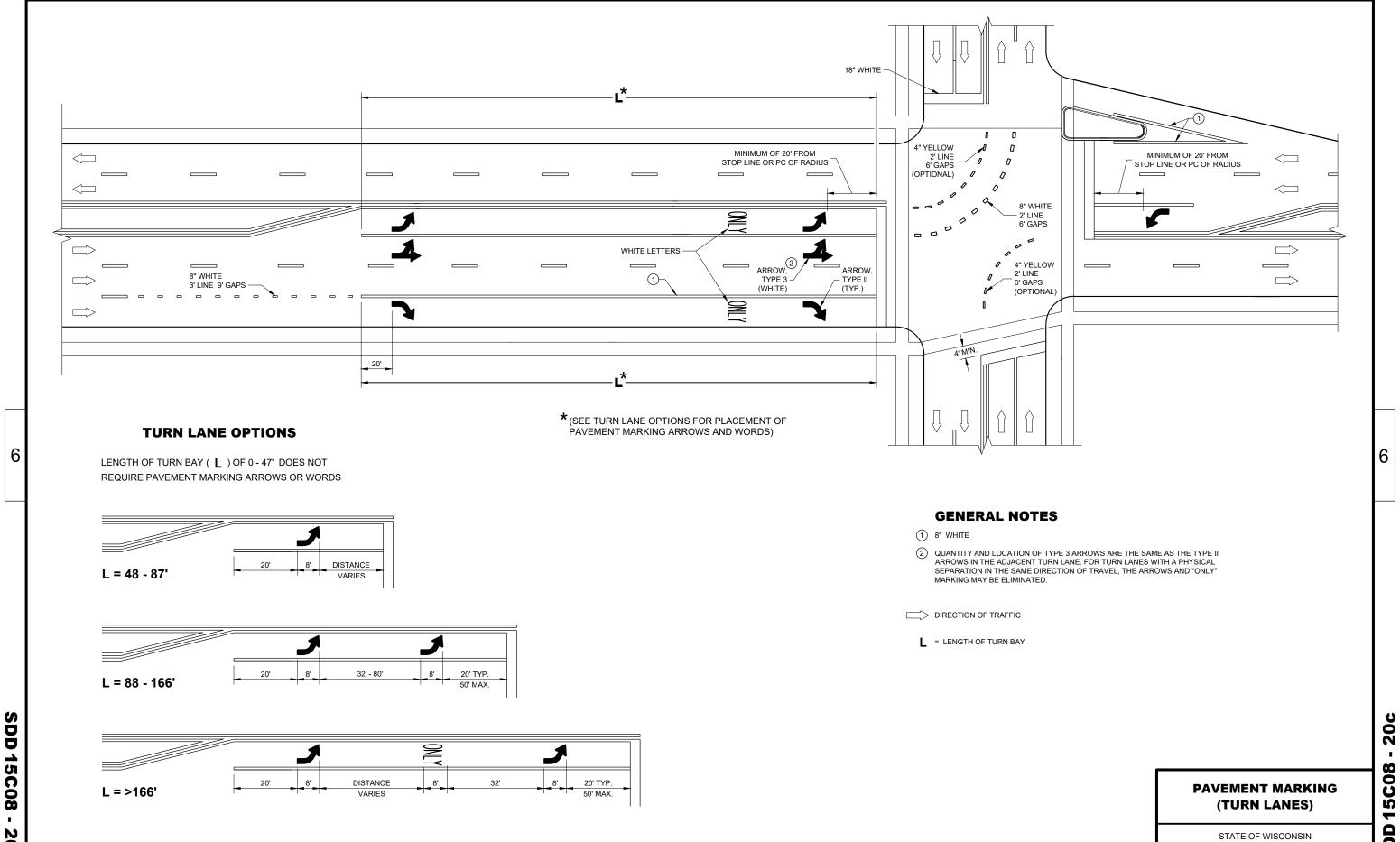
APPROVED February 2020 DATE

/S/ Andrew Heidtke WORK ZONE ENGINEER







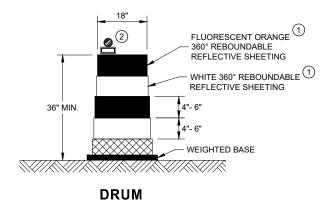


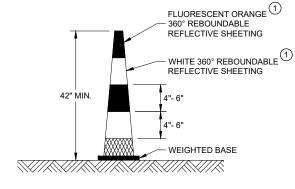
**SDD 15C08** 

DEPARTMENT OF TRANSPORTATION

#### **GENERAL NOTES**

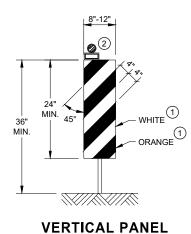
- (1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- (2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



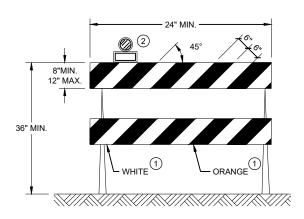


**42" CONE** DO NOT USE IN TAPERS

½ SPACING OF DRUMS

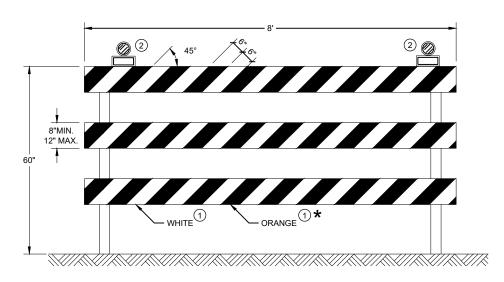


#### THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



#### **TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



#### **TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

#### **CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 08

15C

APPROVED	
November 2020	/S/ Andrew Heidtke
DATE	WORK ZONE ENGINEER
FHWA	

#### **GENERAL NOTES FLAGGING LEGEND** FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE SIGN ON PORTABLE OR PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PERMANENT SUPPORT PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING. UNIFORM TRAFFIC CONTROL DEVICES. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING TEMPORARY PORTABLE RUMBLE WORK OPERATION OR AS APPROVED BY THE ENGINEER. STRIP ARRAY "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE. SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE DIRECTION OF TRAFFIC ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER. WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED. THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP WORK AREA **TEMPORARY PORTABLE RUMBLE STRIPS** WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS. TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER. FLAGGER, EQUIPPED WITH STOP/SLOW EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S PADDLE FASTENED ON SUPPORT STAFF



RUMBLE

STRIPS

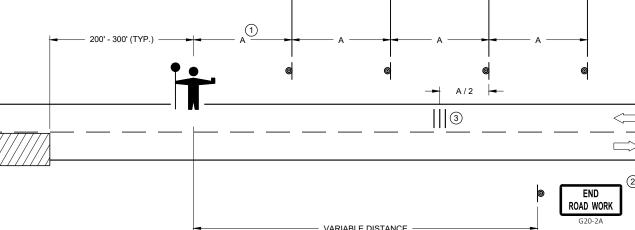
WORK

#### **SIGN AND TEMPORARY RUMBLE** STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

BE PREPARED TO STOP WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A"



RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN. ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST. INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

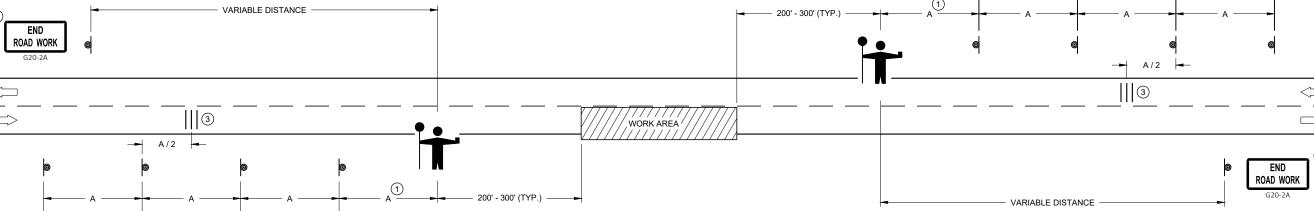
THAN 12 HOURS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS

ROAD

ŔUMBLĖ

STRIPS



#### TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

#### TRAFFIC CONTROL FOR LANE CLOSURE WITH **FLAGGING OPERATION**

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WORK

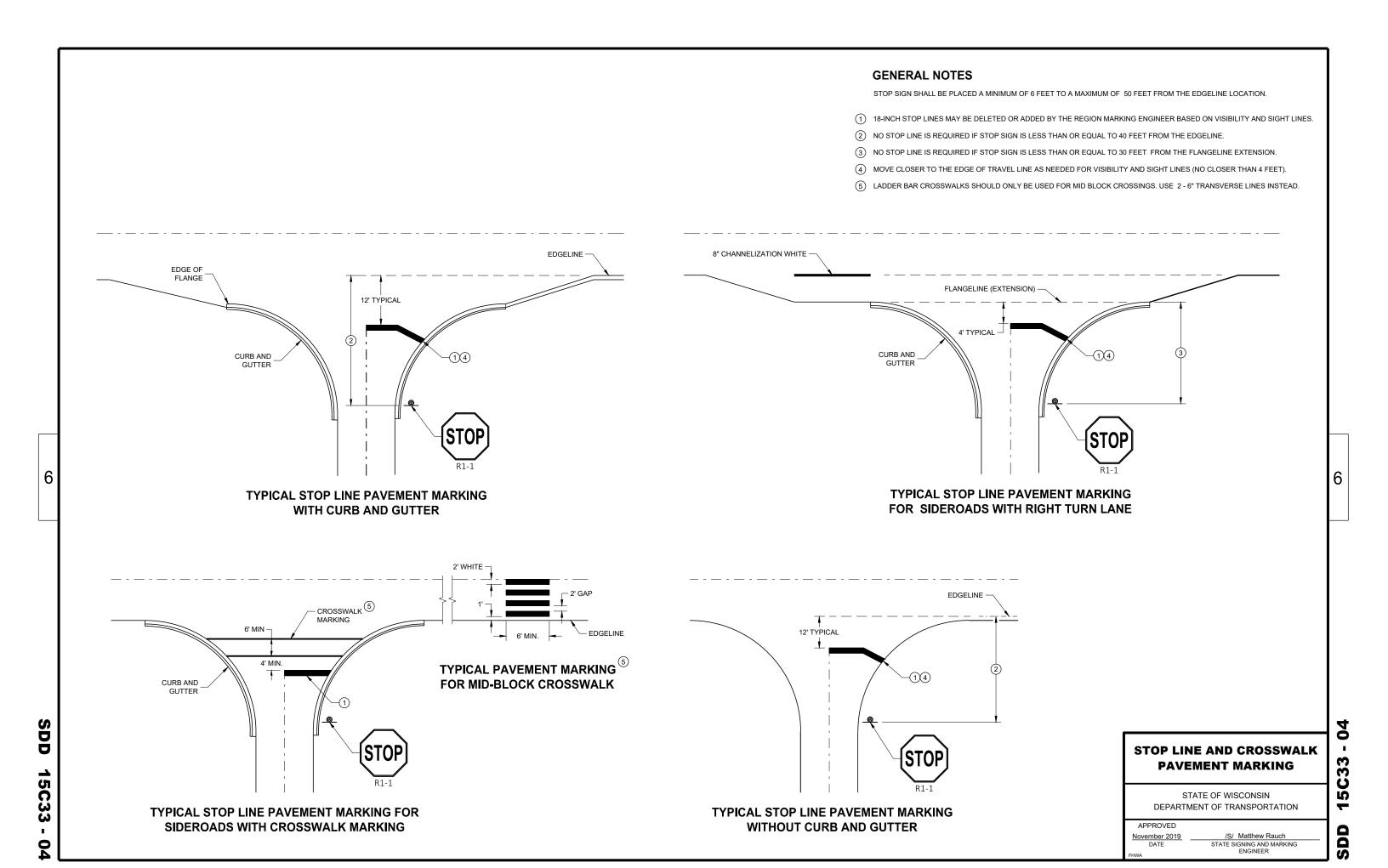
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

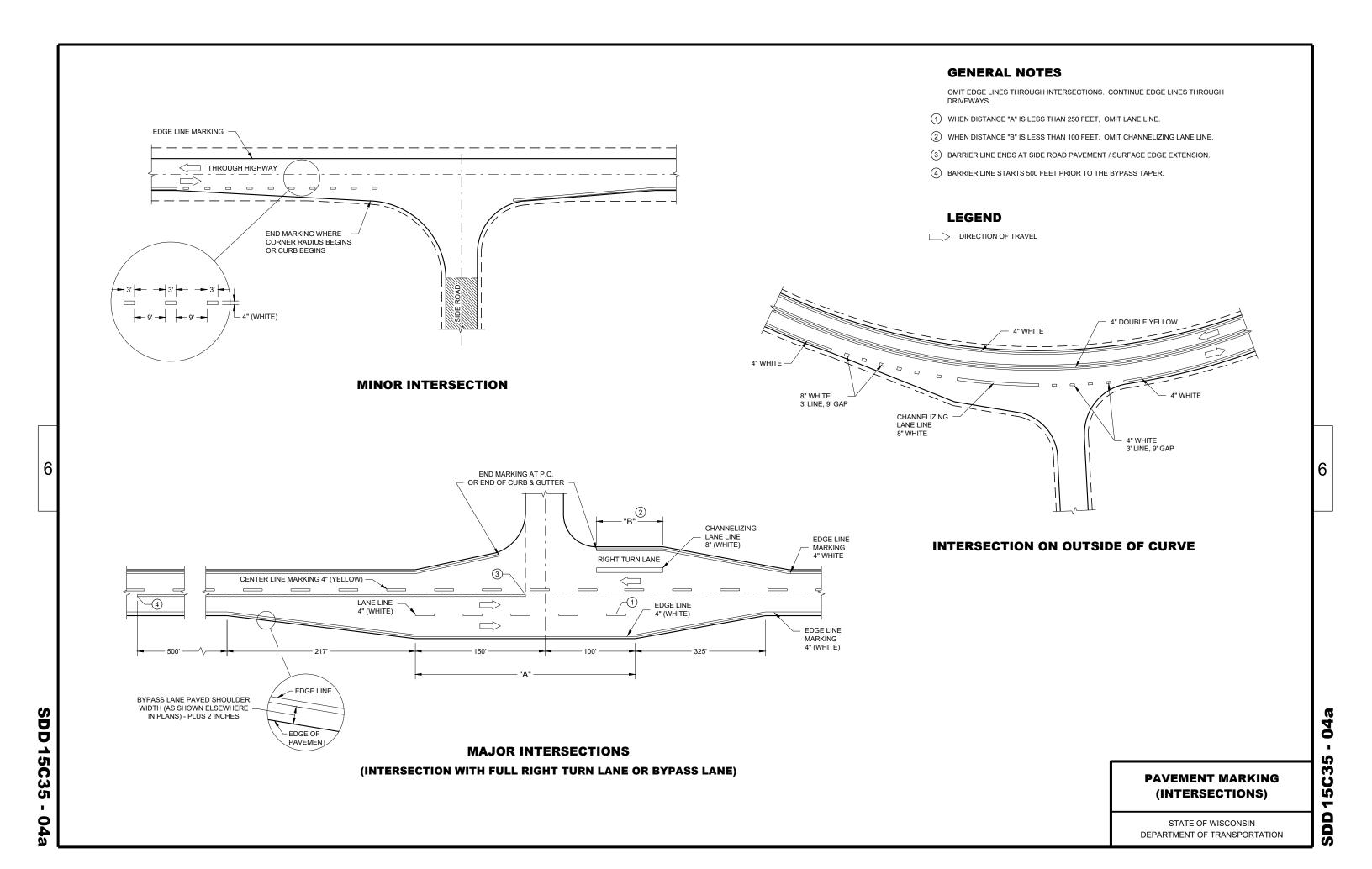
APPROVED	
May 2019	/S/ Andrew Heidtke
DATE	WORK ZONE ENGINEER
FHWA	

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WORK ZONE ENGINEER

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- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

#### **GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

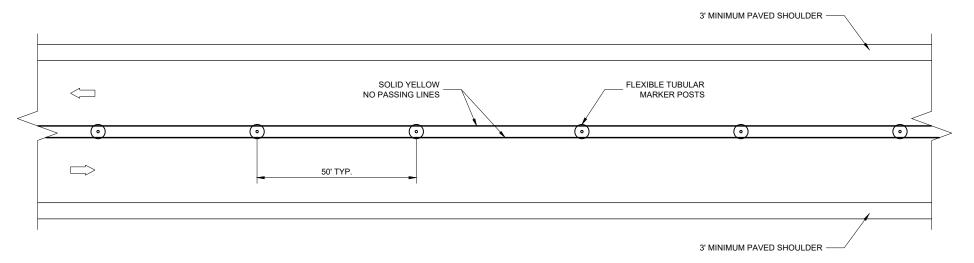
A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4 INCH DOUBLE YELLOW.





- THE W06-3 AND W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND / OR 500 FEET BEYOND ANY SIDE ROAD. THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN THE SIGNS.
- 2 CONVENTIONAL: 24" X 30" FREEWAY AND EXPRESSWAY: 36" X 48"



TWO LANE, TWO WAY OPERATION

# TRAFFIC CONTROL TWO LANE TWO WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

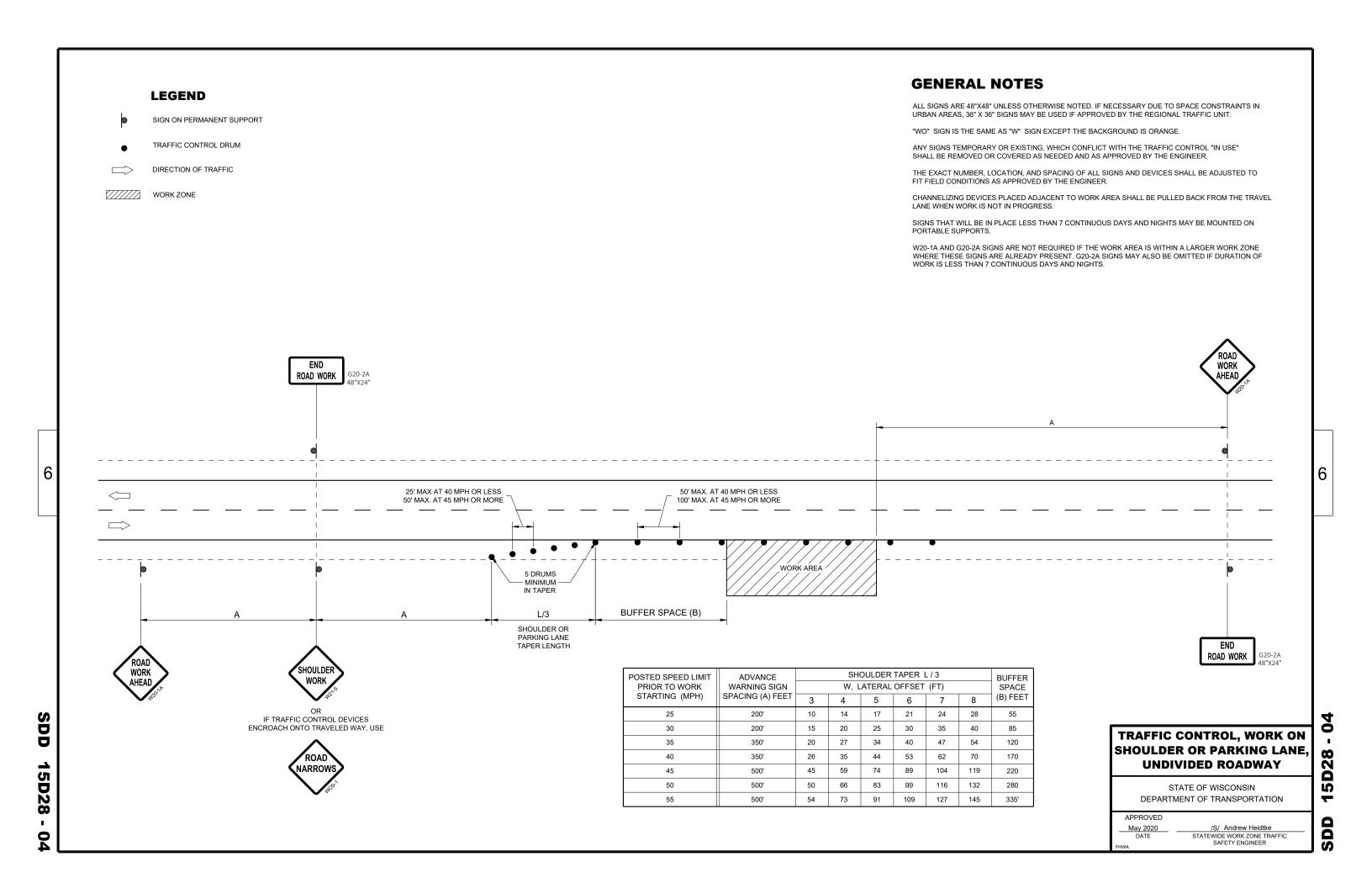
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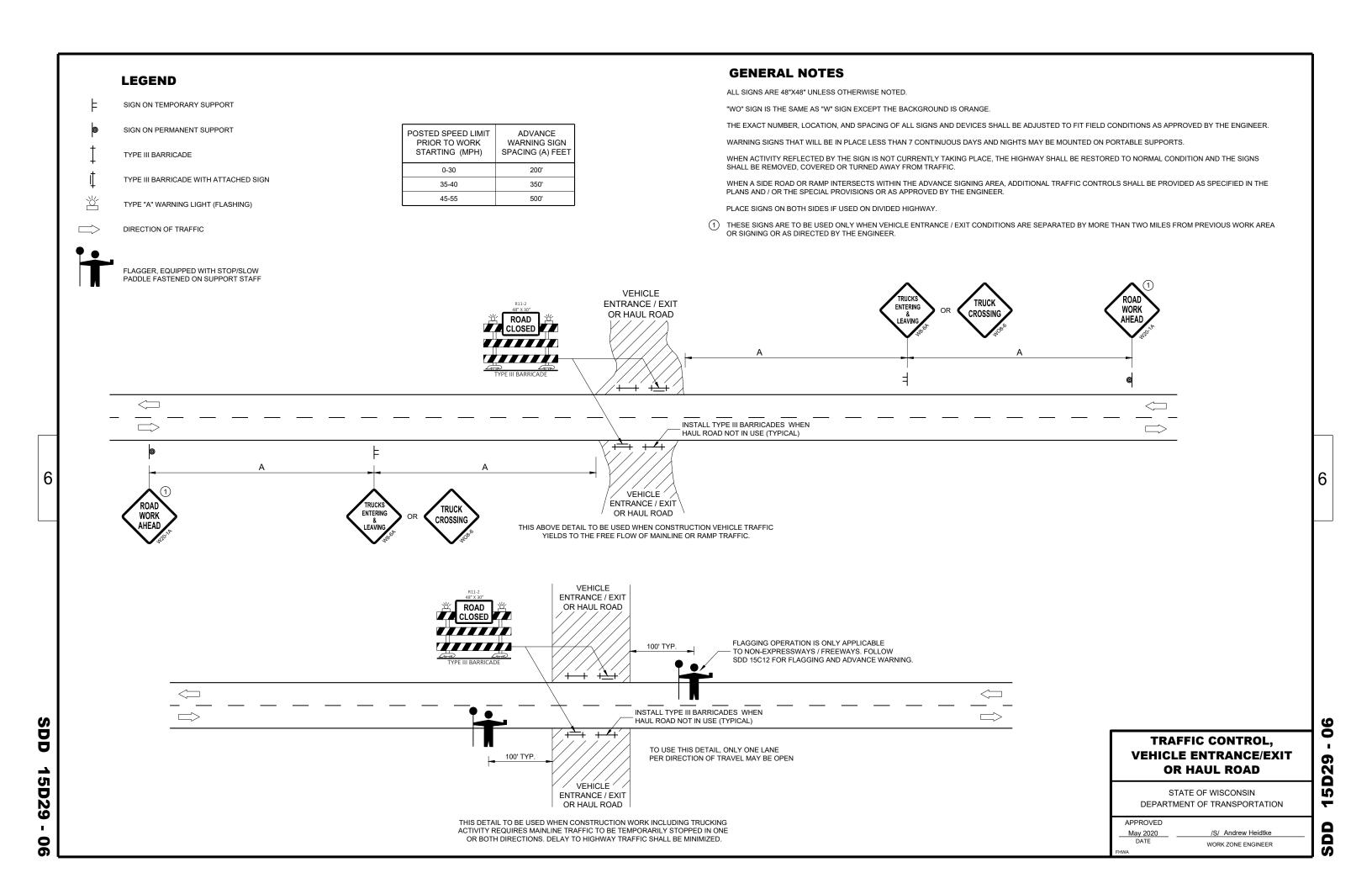
February 2020 DATE

/S/ Andrew Heidtke
STATE TRAFFIC ENGINEER OF DESIGN

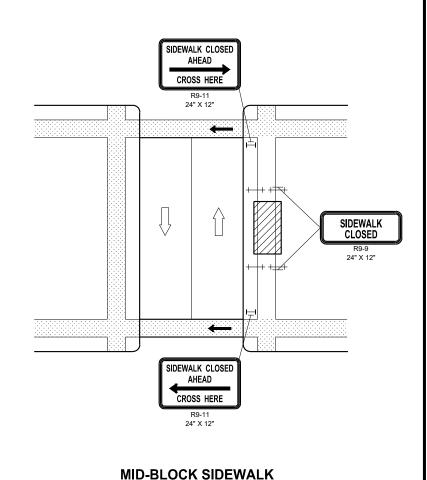
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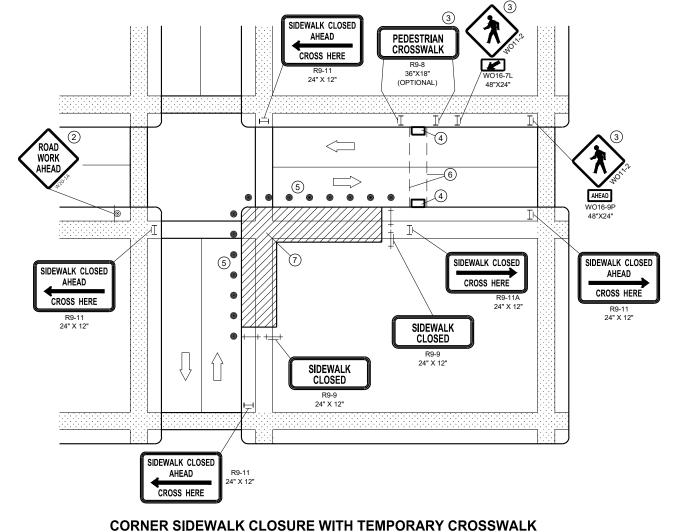
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#### **GENERAL NOTES**

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

**CLOSURE** 

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

"WO" SIGN IS THE SAME AS "W" SIGN, EXCEPT THE BACKGROUND IS ORANGE.

FOR NIGHTIME CLOSURE, USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEK LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

- 1 IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE
- (2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.
- (3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND WO11-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK
- (4) TEMPORARY CURB RAMPS. SEE SDD 15D30 SHEET "b'.
- (5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
- 6 TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
- (7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

#### LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)

+ / + TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE

WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)

UNDER PEDESTRIAN TRAFFIC

WORK AREA

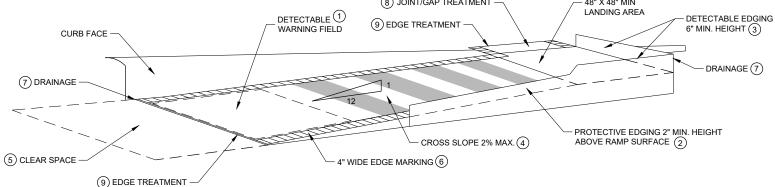
PEDESTRIAN CHANNELIZATION DEVICE

DIRECTION OF TRAFFIC

# TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

2 015D30 - 06a



#### TEMPORARY CURB RAMP PARALLEL TO CURB

9 EDGE TREATMENT 9 EDGE TREATMENT PROTECTIVE EDGING 8 JOINT/GAP TREATMENT (8) JOINT/GAP TREATMENT 2" MIN. HEIGHT (2) CURB -FACE DRAINAGE CURB FACE (2) PROTECTIVE EDGING -2" MIN. HEIGHT ABOVE RAMP SURFACE 4" WIDE EDGE -4" WIDE EDGE -9 45° EDGE CUT -9 45° EDGE CUT -6 MARKING (6) MARKING 1 DETECTABLE -1 DETECTABLE WARNING FIELD WARNING FIELD

WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

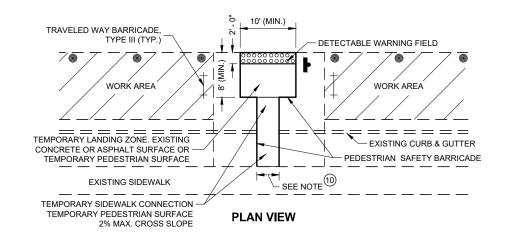
WITH SIDE APRON

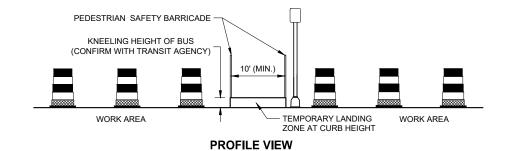
#### **GENERAL NOTES**

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

- (1) CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 08D05, SHEET "e".
- (2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%), PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- (3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- (4) CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
- (5) CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- (6) THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.
- 7) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- (8) LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.
- (9) CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES SHALL BE VERTICAL UP TO ¼" HIGH AND BEVELED AT 1:2 BETWEEN ¼" AND ½".
- (10) 5" WIDE MIN. WITH PEDESTRIAN SAFETY BARRICADE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY BARRICADE.





#### **TEMPORARY BUS STOP PAD**

#### LEGEND

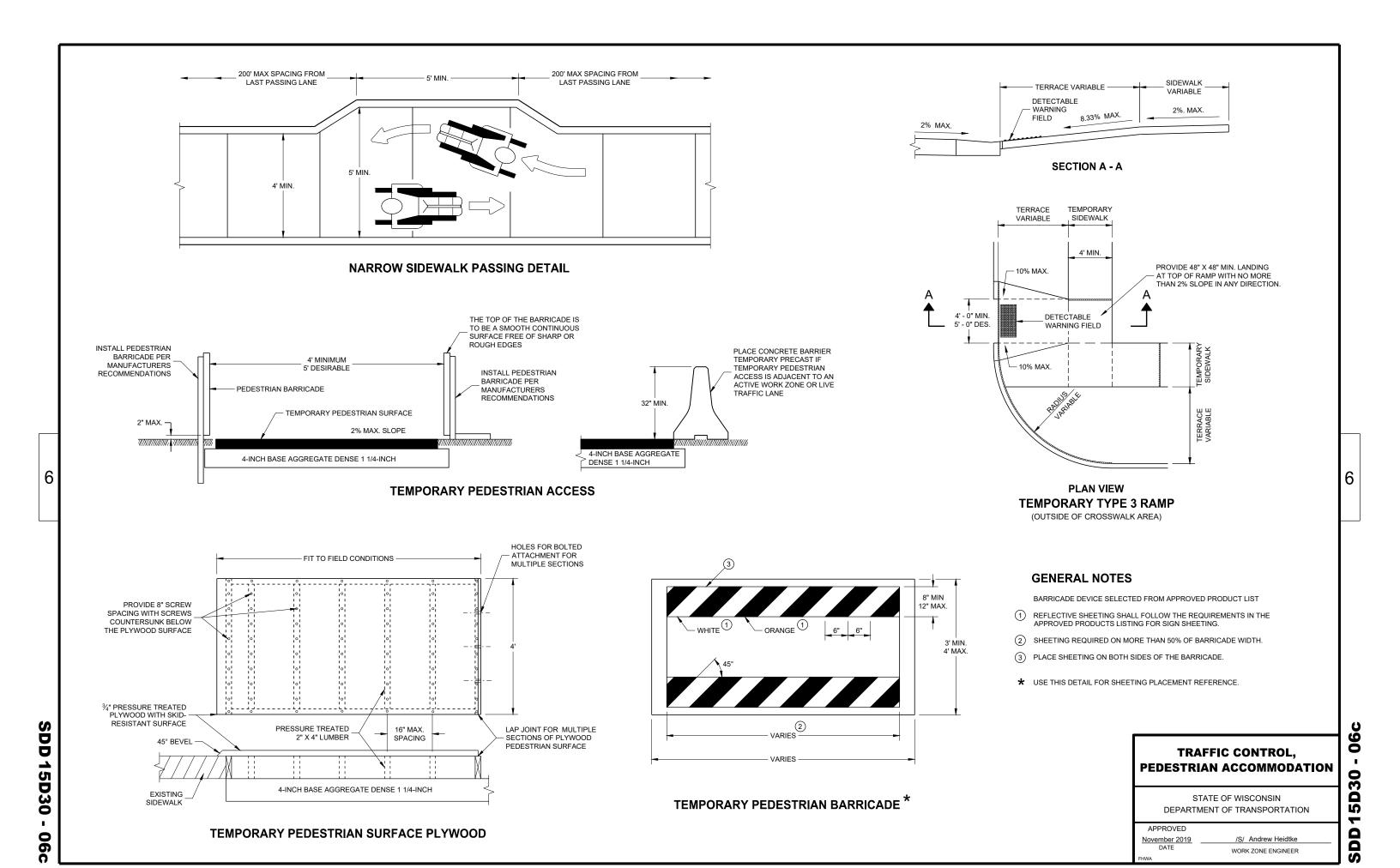


# TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

SDD 15D30 - 06I

SDD 15D30 - 06b





TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SO. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SO.FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE). SIGNS LARGER THAN 27 SO.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

#### URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST **EMBEDMENT DEPTH** 

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREM	MENTS	NUMBER OF	
L	E	WOOD POSTS REQUIRED	
48" OR LESS AND LESS THAN 20 SO.FT.	-	1	
LESS THAN 60"	12"	2	٤
60" TO 120"	L/5	2	
GREATER THAN 120" LESS THAN 168"	12"	3	
168" AND GREATER	12"	4	

SEE NOTE (3)

RURAL AREA

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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- 11/2" DIAMETER HOLES

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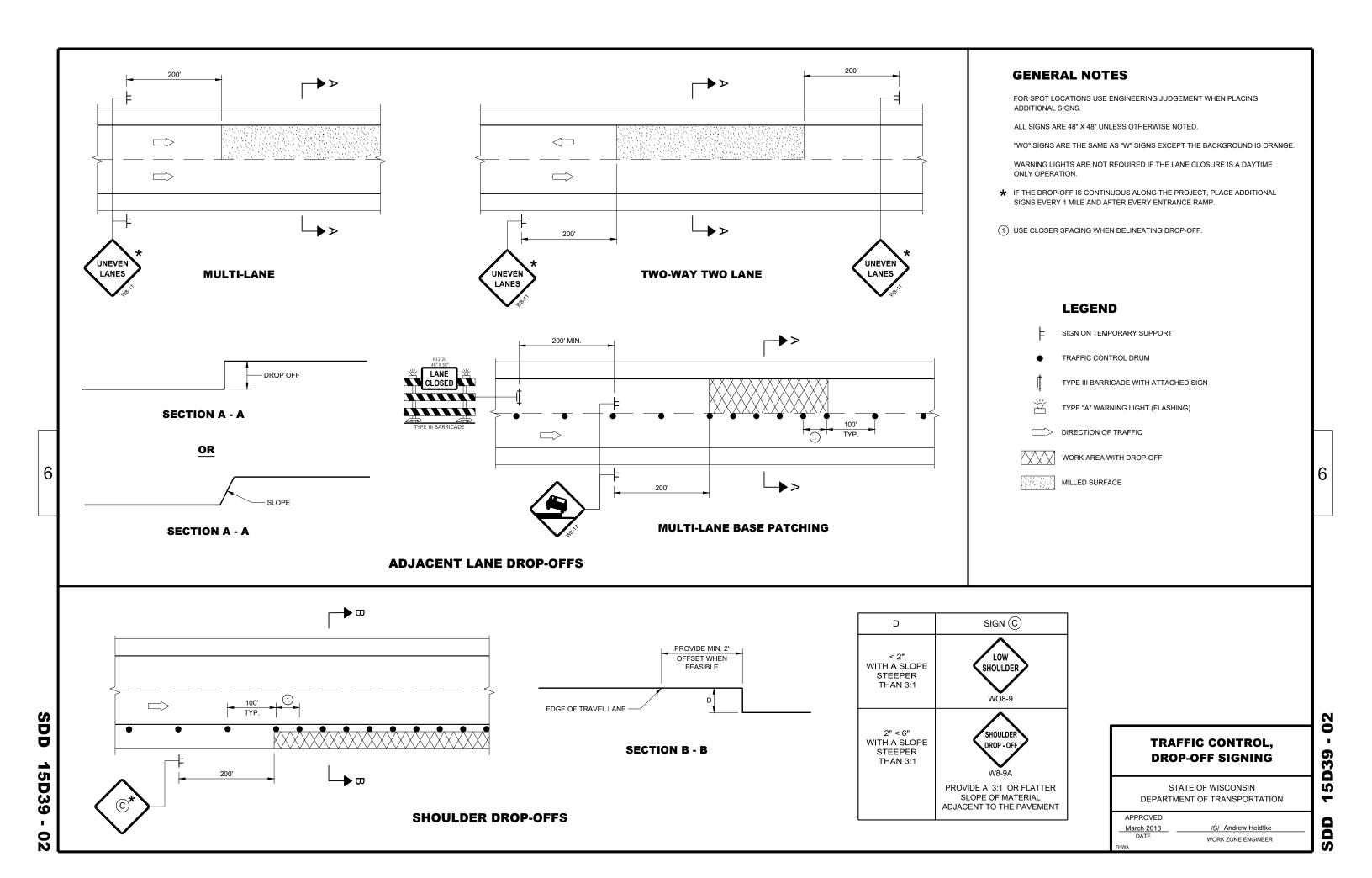
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

> /S/ Andrew Heidtke WORK ZONE ENGINEER

APPROVED

June 2017
DATE



DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED

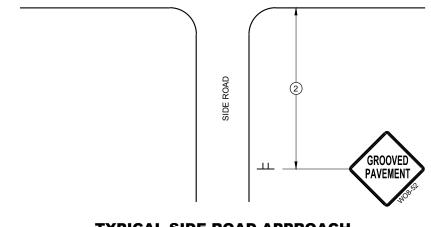
SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

- (1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- (2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

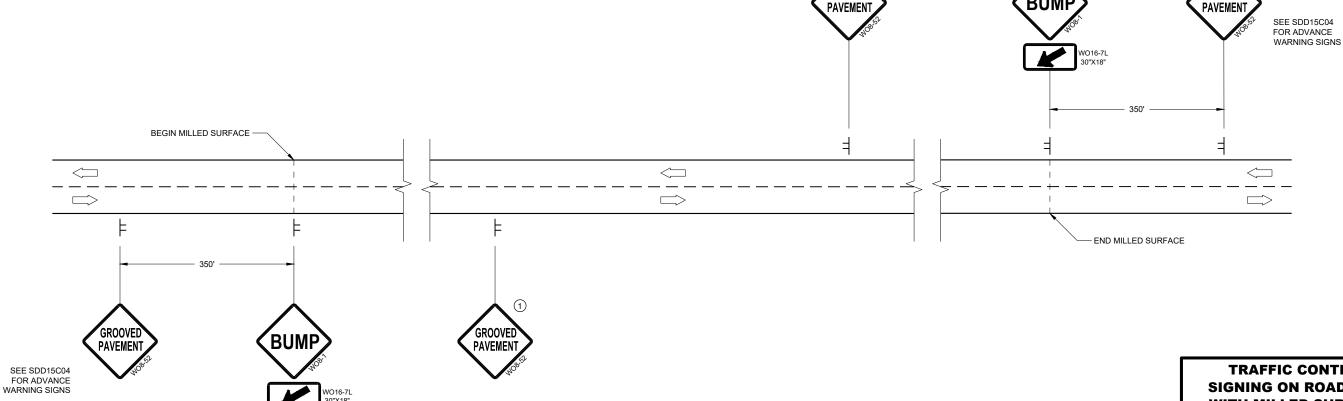
#### **LEGEND**

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



#### **TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



**DETAIL FOR SIGNING ON MILLED SURFACES** 

#### TRAFFIC CONTROL, **SIGNING ON ROADWAYS WITH MILLED SURFACES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION Ò D

APPROVED February 2020 DATE /S/ Andrew Heidtke WORK ZONE ENGINEER DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

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SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

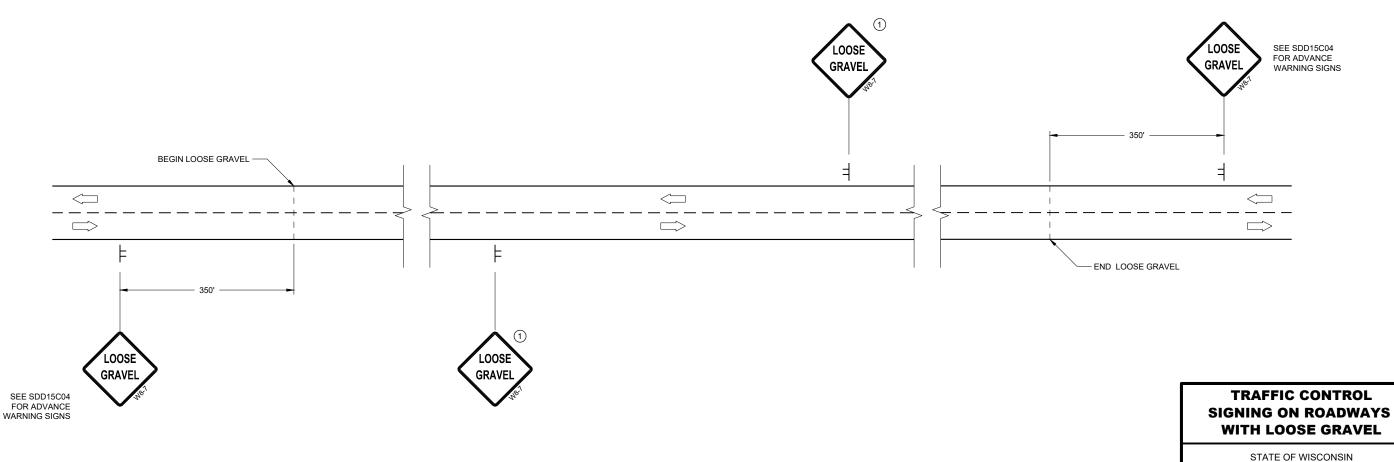
- (1) PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- (2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

#### **LEGEND**

- SIGN ON TEMPORARY SUPPORT
- □ DIRECTION OF TRAFFIC

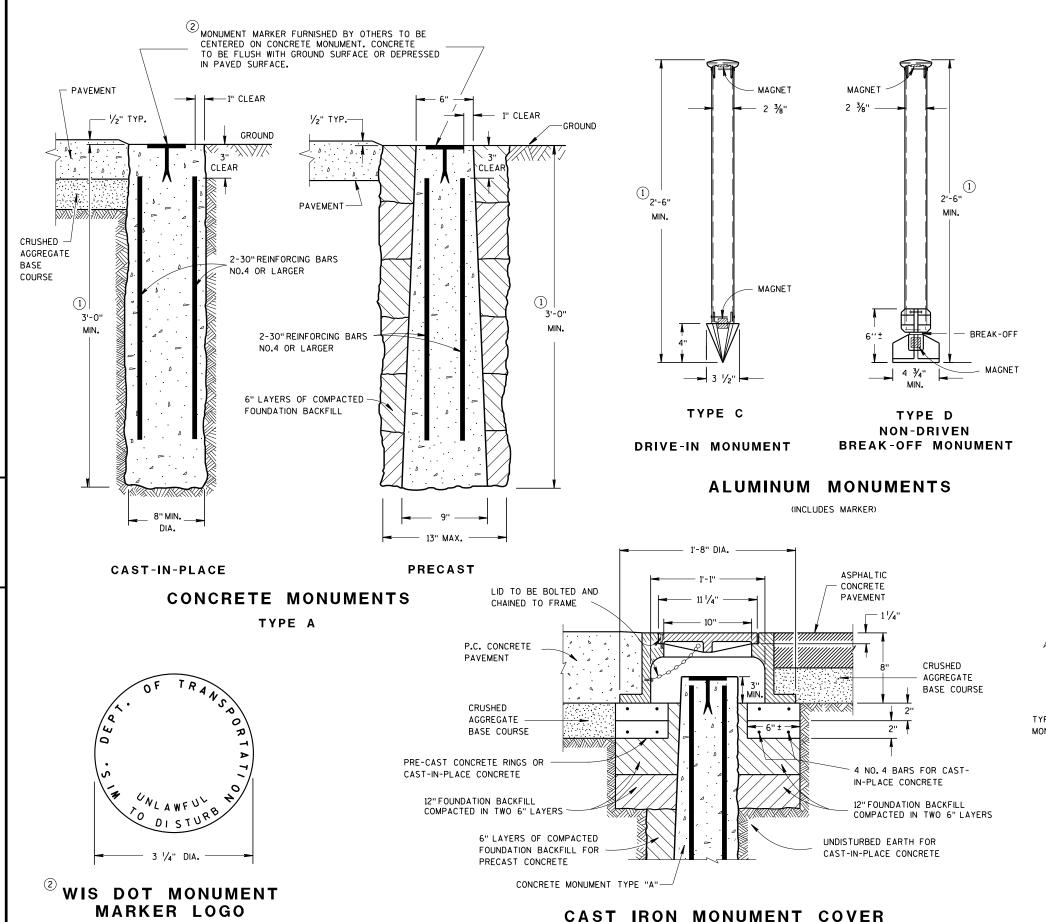
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#### **TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



February 2020 DATE /S/ Andrew Heidtke

WORK ZONE ENGINEER



(APPROXIMATE WEIGHT 95 LBS)

#### **GENERAL NOTES**

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

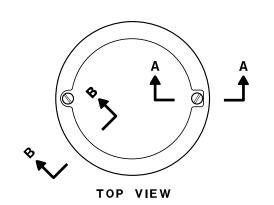
MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

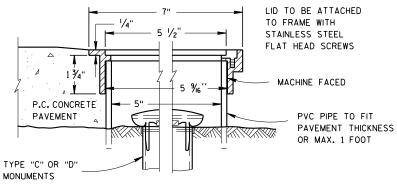
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

- (1) MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- (2) AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.





SECTION A-A

## **ALUMINUM MONUMENT COVER**

(APPROXIMATE WEIGHT 2 LBS) (FOR CONCRETE PAVEMENT ONLY)

SECTION B-B

LANDMARK REFERENCE **MONUMENTS AND COVERS** 

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

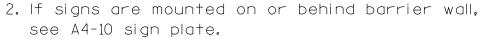
APPROVED

March 2018 DATE FHWA

/S/ Raymond A. Kumapayi CHIEF SURVEYING AND MAPPING ENGINEER

Ω

FOR TYPES "A", "C", & "D"



The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" ( $\pm$ ). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" ( $\pm$ ).

- 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
- 4. Minimum mounting height for signs mounted on traffic signal poles is  $5'-3''(\frac{+}{2})$ .
- 5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 6. The (±) tolerance for mounting height is 3 inches.
- 7. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) or as directd by the Engineer.

2' Min - 4' Max (See Note 6)

\*\* Curb Flowline

D
White Edgeline Location

\*

6'-3"(±)

D |

Outside Edge

of Gravel

White Edgeline
Location

Outside Edge
of Gravel

d.

POST EMBEDMENT DEPTH

Area of Sign
Installation
( Sq.Ft.)
( Min )
20 or Less
4'
Greater than 20
5'

The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

HWY:

\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

Matther & Rawk For State Traffic Engineer

DATE 5/13/2020 PLATE NO. \_A4-3.22

SHEET NO:

Ε

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A43.dgn

PROJECT NO:

PLOT DATE: 13-MAY 2020 1:04

COUNTY:

PLOT BY : mscj9h

PLOT NAME :

PLOT SCALE: \$\$.....plo†scale.....\$\$ WISDOT/CADDS SHEET 42

APPROVED



NOTES: 1. ALL MATERIAL TO BE APPROVED

BY ENGINEER PRIOR TO INSTALLATION

- 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
- 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



### **ELEVATION VIEW**

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

HWY:



#### PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 13.659812:1.000000

APPROVED

WISDOT/CADDS SHEET 42

### GENERAL NOTES

- 1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- 2. See tables below for required number of posts.
- 3. For expressways and freeways, mounting height is 7'-3'' (±) or 6'-3'' (±) depending upon existence of sub-sign.
- 4. The (±) tolerance for mounting height is 3 inches.
- 5. J-Assemblies are considered to be one sign for mounting height.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) or as directed by the engineer.
- 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8). Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4''-3'' (±).
- \* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- \*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- \*\* \* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

# POST EMBEDMENT DEPTH

D
(Min)
4'
5'

WISCONSIN DEPT OF TRANSPORTATION APPROVED For State Traffic Engineer DATE 8/21/17 PLATE NO. <u>A4-4.15</u>





	SIGN SHAPE OTHER THAN (TWO POSTS REQUIRE)		
	L	E	
***	Greater than 48" Less than 60"	12"	
	60" to 108"	L/5	

HWY:

SIGN SHAPE OTHER THAN (THREE POSTS REQUIR	
L	E
Greater than 108" to 144"	12''

COUNTY:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A44.DGN

PROJECT NO:

PLOT DATE: 21-AUG-2017 15:54

PLOT SCALE: 108.188297:1.000000

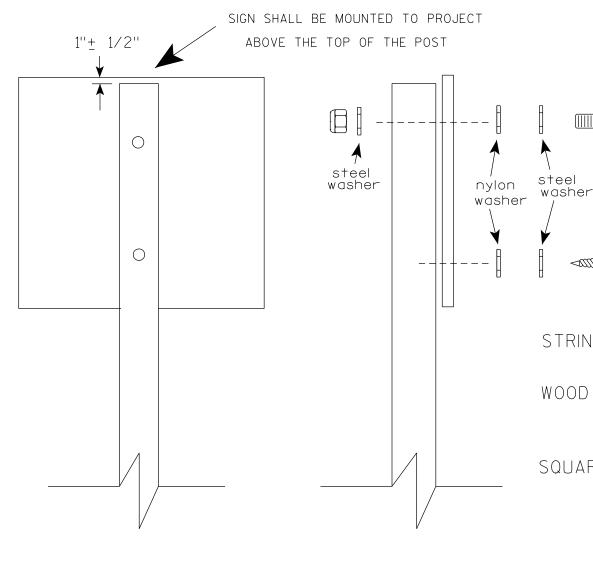
WISDOT/CADDS SHEET 42

OF TYPE II SIGNS ON MULTIPLE POSTS

TYPICAL INSTALLATION

SHEET NO:

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either:

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation: B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS  $(4" \times 6")$ 

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN) 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS -  $\frac{1}{32}$  " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew

For State Traffic Engineer

SHEET NO:

DATE <u>4/1/202</u>0

PLATE NO. <u>44-8.9</u>

PROJECT NO:

PLOT DATE: 01-APRIL-2020

PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

Ε

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A48.DGN



PROJECT NO: HWY: COUNTY: SHEET NO: FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A49.DGN PLOT DATE: 05-FEB-2015 17:09 PLOT BY: mscsja PLOT NAME : PLOT SCALE: 13.659812:1.000000

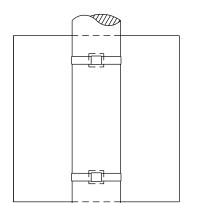
DATE 2/05/15

PLATE NO. <u>A4-9.9</u>

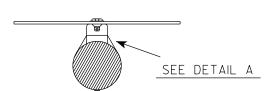
For State Traffic Engineer

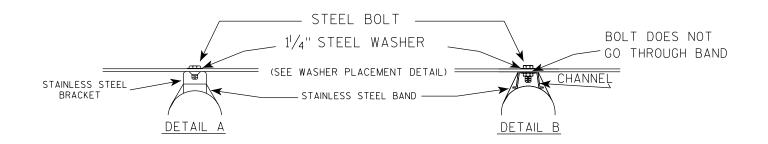


# BANDING

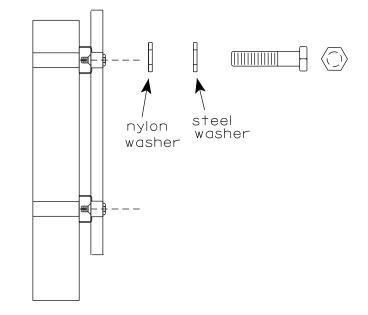


SINGLE SIGN





# WASHER PLACEMENT



HWY:

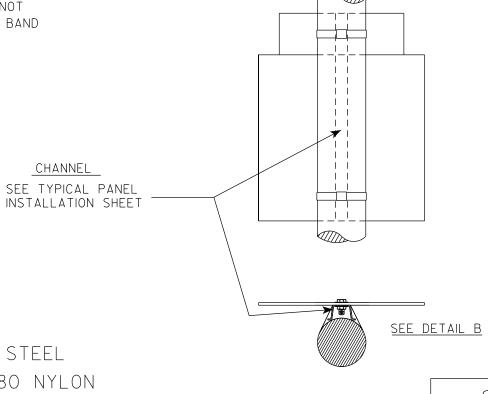
WASHERS (ALL POSTS) -

1-1/4" O.D. X<sup>3</sup>/<sub>8</sub>" I.D. X<sup>1</sup>/<sub>16</sub>" STEEL 1-1/4" O.D.  $\times \frac{3}{8}$ " I.D.  $\times$  .080 NYLON FOR ALL TYPE H SIGNS

#### GENERAL NOTES

- 1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
- 2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
- 3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
- 4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

#### "J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

State Traffic Engineer

Ε

APPROVED

DATE 6/10/19 PLATE NO. A5-9.4

COUNTY:

PLOT DATE: 10-JUN 2019 4:10

PLOT NAME :

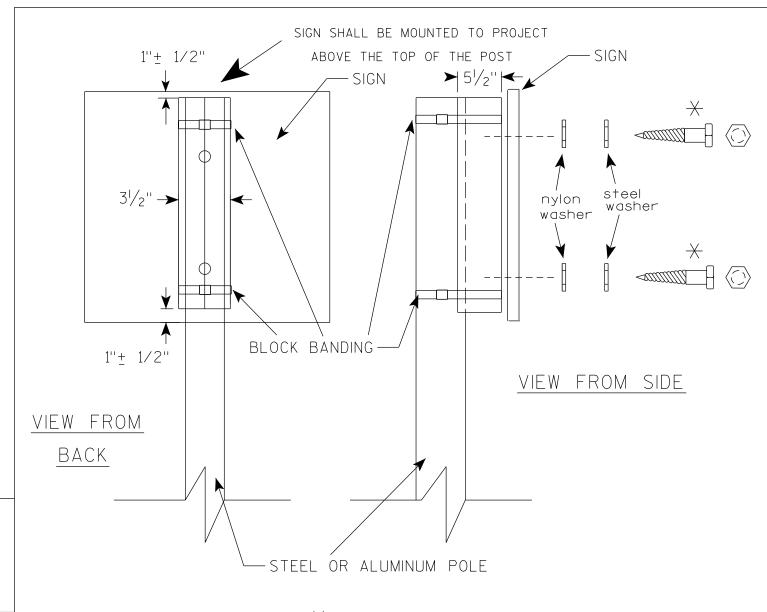
PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

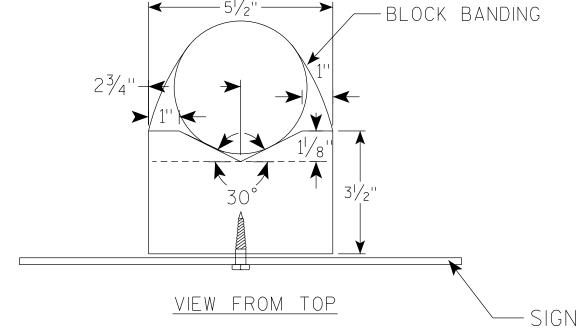
FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A59.dgn

PROJECT NO:

PLOT BY: mscj9h

CHANNEL





## GENERAL NOTES

- 1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
- 2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
- 3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS.

  SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
- 4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
- 5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation: B 633, TYPE III, SC 3
- 6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
- 7. STEEL WASHERS SHALL BE  $1\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
- 8. NYLON WASHERS SHALL BE  $1^{1}/_{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

 $\rightarrow$  LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL ( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

| APPROVED

For State Traffic Engineer

SHEET NO:

Matthew R

DATE 6/10/19

PLATE NO. \_A5-10.2

PROJECT NO:

FILE NAME: C:\CAEfiles\Projects\tr\_stdplate\A510.dgn

PLOT DATE: 10-JUN 2019 4:15

PLOT BY: mscj9h

WISDOT/CADDS SHEET 42

- 1. Sign is Type II Type F Reflective
- 2. Color:

Background - Orange Message - Black

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

C —		<b>A</b> A
D->  <del>-</del> E->   <del>-</del>		H → F → H B
	NEXT O MILES	F G J
•	A —	<u> </u>
	G20-1	

SIZ	Ε Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.
1																											
2	60	24	1 3/8	1/2	5/8	6	4 ½	3 ¾		16 ¾	18 1/2	3		16	18 %												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 %												10
5																											

COUNTY:

STANDARD SIGN G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew & Rauch

For State Traffic Engineer
DATE 3/14/17 PLATE NO. G20-1.8

SHEET NO:

PROJECT NO:

FILE NAME: C:\CAEfiles\Projects\tr\_stdplate\G201.DGN

HWY:

PLOT DATE: 14-MAR-2017 13:28

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE : 6.889165:1.000000

WISDOT/CADDS SHEET 42

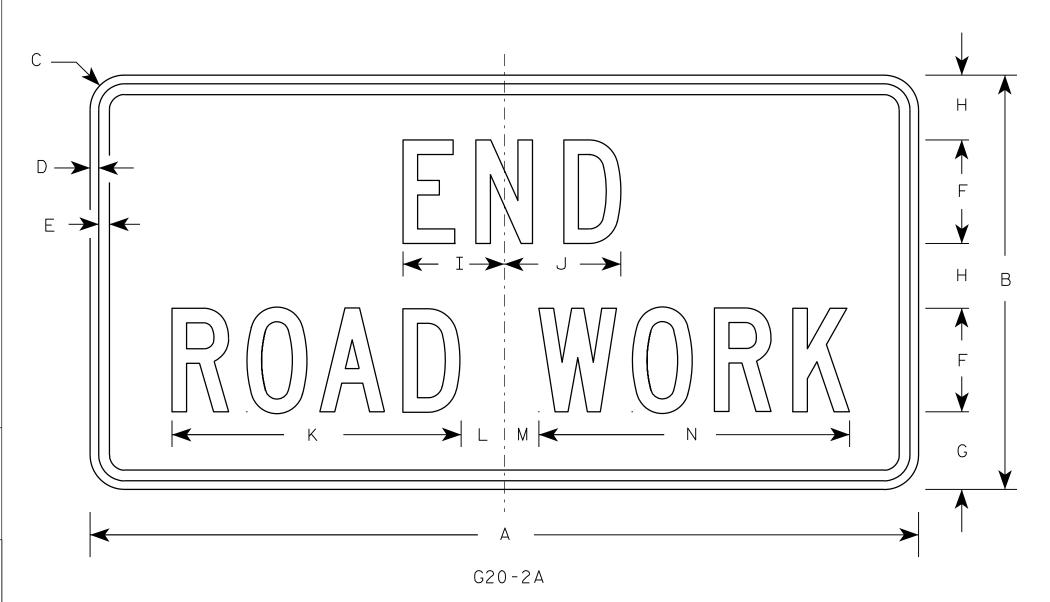
| "

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.

2. Color:

Background - Orange Message - Black

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Metric equivalent for this sign is:

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 %	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 %	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 %	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 1/8	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72

COUNTY:

STANDARD SIGN G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

AP

for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\G202A.DGN

HWY:

PROJECT NO:

PLOT DATE: 30-SEP-2009 09:31

PLOT BY : ditjph

PLOT NAME :

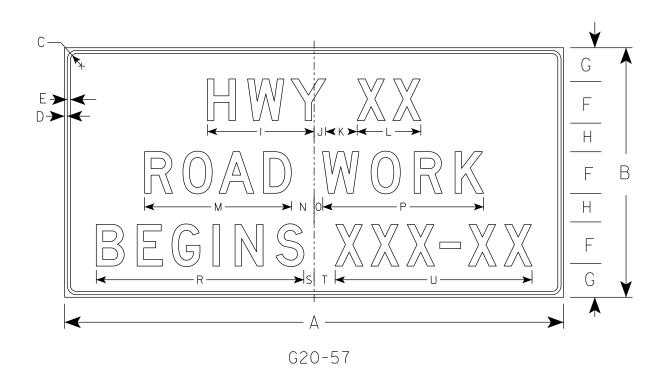
PLOT SCALE : 5.561773:1.000000

5.561773:1.000000 WISDOT/CADDS SHEET 42

- 1. Sign is Type II Type F Reflective
- 2. Color:

Background – Orange Message – Black

- 3. Message Series D
- 4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	٧	W	X	Υ	Z	Area sq.ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 1/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 %	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 1/8						32.0
5																											

COUNTY:

STANDARD SIGN G20-57

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

APPROVED

For State Traffic Engineer

DATE 1/22/19

PLATE NO. G20-57.3

Ε

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\_G2057.dgn

HWY:

PROJECT NO:

PLOT DATE: 22-JAN-2019 1:46

PLOT BY: mscj9h

PLOT NAME :

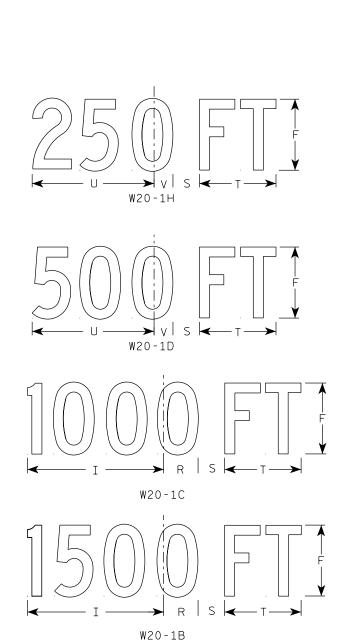
PLOT SCALE: \$\$.....plo†scale.....\$\$ WISDOT/CADDS SHEET 42

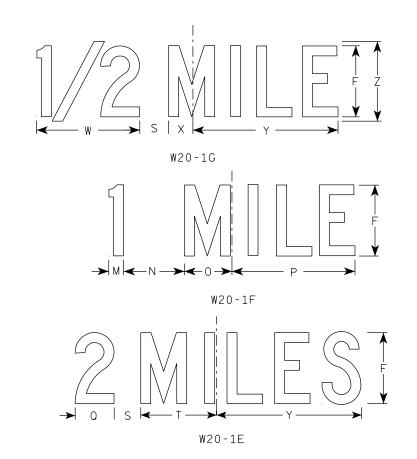
7

- 1. Sign is Type II Type F Reflective
- 2. Color:

Background – Orange Message – Black

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.





SIZE	А	В	С	D	E	F	G	H I	J	K	_ M	N	0	Р	Q	R	S	Т	U	٧	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4 10 1/8	7	7 % 8	7/8 1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 %	9	1 3/8	8	1 3/4	10 3/4	6	9.0
25	48		2 1/4	3/4	1	8	3 3/4	5 1/8 15 3/8	11 1/8	12 1/8 14	3/8 1 5/8	6 1/8	5 3/8	13 1/8	4 3/8	3 1/8	3	8 %	13 ¾	2 1/8	11 1/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8 15 3/8	11 1/8	12 1/8 14	3/8 1 5/8	6 1/8	5 3/8	13 1/8	4 3/8	3 1/8	3	8 %	13 3/4	2 1/8	11 1/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8 15 3/8	11 1/8	12 1/8 14	3/8 1 5/8	6 1/8	5 3/8	13 1/8	4 3/8	3 1/8	3	8 %	13 3/4	2 1/8	11 1/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8 15 3/8	11 1/8	12 1/8 14	3/8 1 5/8	6 1/8	5 3/8	13 1/8	4 3/8	3 1/8	3	8 %	13 3/4	2 1/8	11 1/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8 15 3/8	11 1/8	12 1/8 14	<sup>3</sup> / <sub>8</sub> 1 <sup>5</sup> / <sub>8</sub>	6 %	5 3/8	13 1/8	4 3/8	3 1/8	3	8 %	13 ¾	2 1/8	11 1/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

 $f_{or}$  State Traffic Engineer DATE 3/25/2020 PLATE NO. W20-1.11

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\W201.DGN

PROJECT NO:

W20-1A

PLOT DATE: 25-MARCH-2020

PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

9

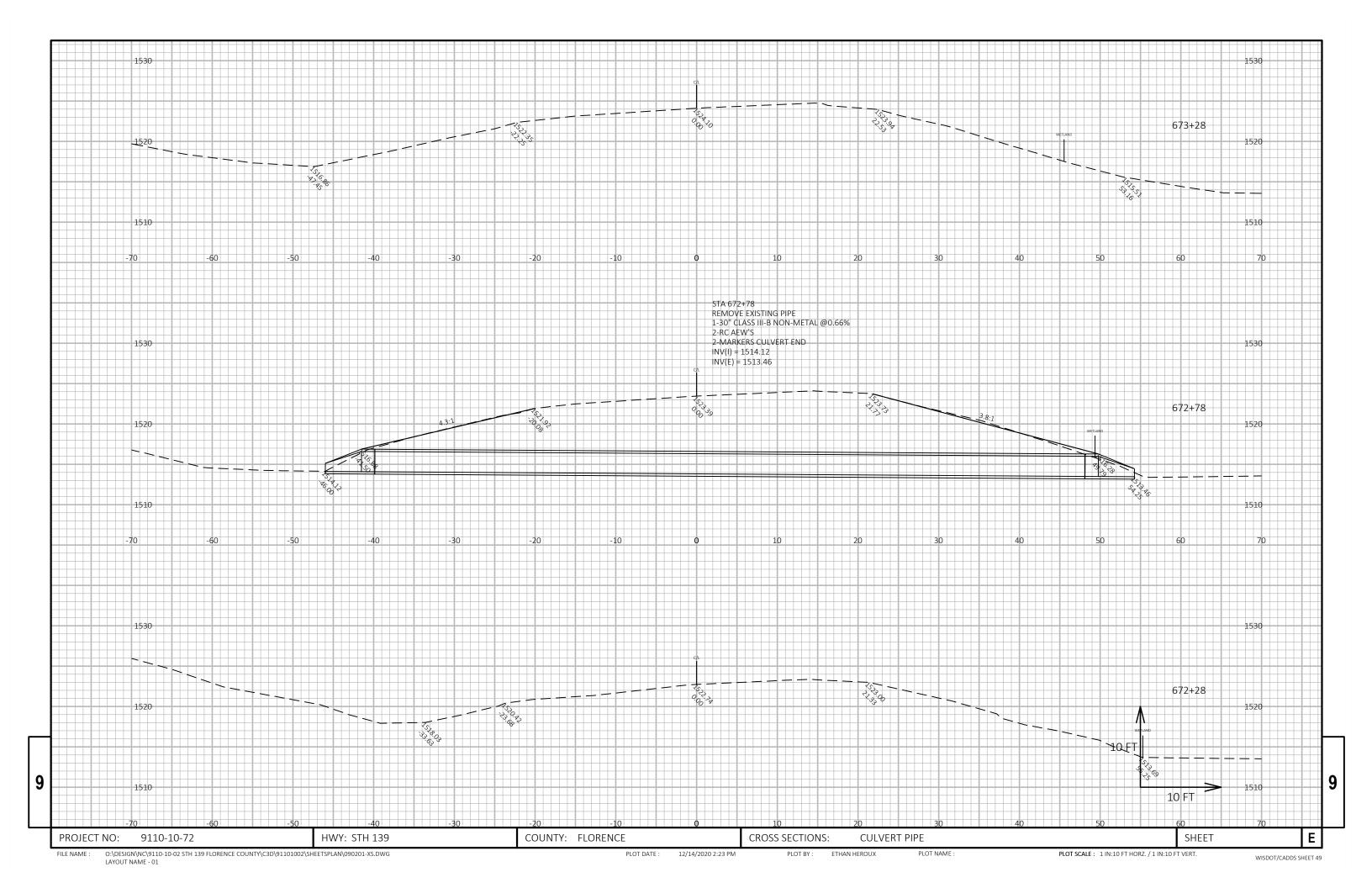
Division 1 - STH 139

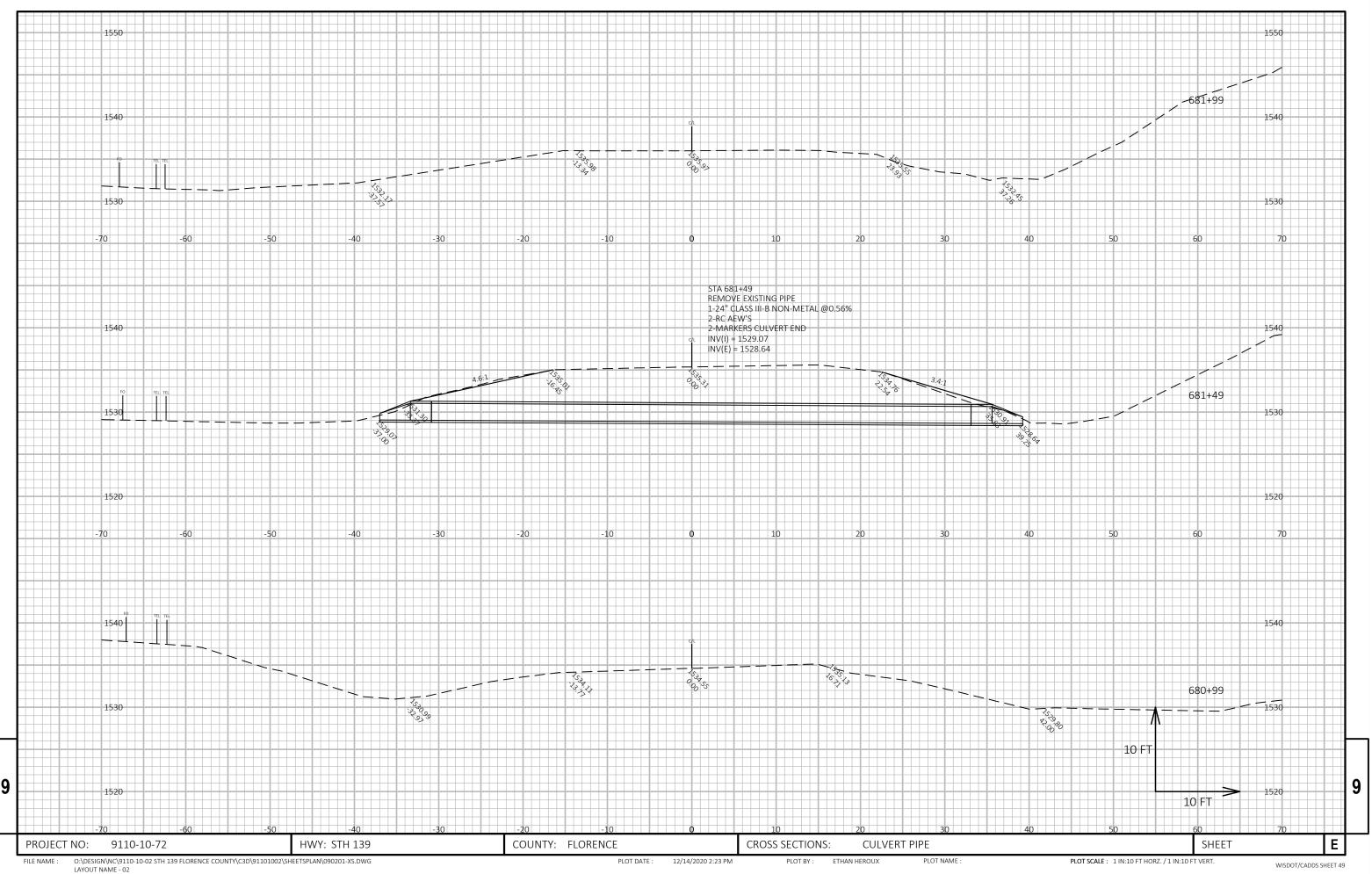
			AREA (SF)						INCREMENTAL VOL (CY) (UNADJUSTED)							CUMULATIVE VOL	(CY)						
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL		MARSH EXC	ROCK EXC	EBS	сит	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH E	KC R	OCK EXC E	≣BS	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	EXPANDED ROCK	EXPANDED EBS/BACKFILL	REDUCED MARSH IN FILL	REDUCED EBS IN FILL	MASS ORDINATE
STATION	REAL STATION	DISTANCE														1.00	1.25	1.50	1.10	1.30	0.00	0.80	
663+59	66359.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0		0	0	0	0	0	0	0	0	0	0
663+84	66384.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0		0	0	0	0	0	0	0	0	0	0
664+09	66409.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0		0	0	0	0	0	0	0	0	0	0
664+22	66422.00	13.00	0.00	0.00	0.95	0.00	0.00	0.00	0	0	0	0		0	0	0	0	0	0	0	0	0	0
664+47	66447.00	25.00	0.00	0.00	3.48	0.00	0.00	0.00	0	0	0	0		0	0	0	0	0	0	0	0	0	0
664+72	66472.00	25.00	0.00	0.00	2.26	0.00	0.00	0.00		0	3	0		0	0	0	4	0	0	0	0	0	-4
665+00	66500.00	28.00	0.00	0.00	5.58	0.00	0.00	0.00		0	4	0		0	0	0	9	0	0	0	0	0	-9
665+50	66550.00	50.00	0.00	0.00	7.33		0.00	0.00		0	12	0		0	0	0	24	0	0	0	0	0	-24
666+75	66675.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0	0	0		0	0	0	24	0	0	0	0	0	-24
667+27	66727.00	52.00	0.00	0.00	4.18	0.00	0.00	0.00	0	0	4	0		0	0	0	29	0	0	0	0	0	-29
667+52	66752.00	25.00	0.00	0.00	1.51	0.00	0.00	0.00		0	3	0		0	0	0	32	0	0	0	0	0	-32
667+77	66777.00	25.00	0.00	0.00	6.90	0.00	0.00	0.00		0	4	0		0	0	0	37	0	0	0	0	0	-37
668+15	66815.00	38.00	0.00	0.00	0.00	0.00	0.00	0.00		0	5	0		0	0	0	43	0	0	0	0	0	-43
668+40	66840.00	25.00	0.00	0.00	1.47	0.00	0.00	0.00		0	1	0		0	0	0	44	0	0	0	0	0	-44
668+65	66865.00	25.00	0.00	0.00	7.66		0.00	0.00	<u> </u>	0	4	0		0	0	0	49	0	0	0	0	0	-49
701+21	70121.00	0.00	0.00	0.00	21.68		0.00	0.00		0	0	0		0	0	0	49	0	0	0	0	0	-49
701+26	70126.00	5.00	0.00	0.00	47.25		0.00	0.00		0	6	0		0	0	0	57	0	0	0	0	0	-57
701+46	70146.00	20.00	0.00	0.00	40.76		0.00	0.00		0	33	0		0	0	0	98	0	0	0	0	0	-98
701+51	70151.00	5.00	0.00	0.00	38.08		0.00	0.00		0	/	0		0	0	0	107	0	0	0	0	0	-107
701+71	70171.00	20.00	0.00	0.00	45.29		0.00	0.00		0	31	0		0	0	0	145	0	0	0	0	0	-145
701+76	70176.00	5.00	0.00	0.00	3.85	0.00	0.00	0.00		0	5	0		0	0	0	151	0	0	0	0	0	-151
702+00	70200.00	24.00	0.00	0.00	1.77	0.00	0.00	0.00		0	2	0		0	0	0	154	0	0	0	0	0	-154
702+50	70250.00	50.00	0.00	0.00	2.83		0.00	0.00		0	4	0		0	0	0	160	0	0	0	0	0	-160
703+00 703+50	70300.00 70350.00	50.00 50.00	0.00	0.00 0.00	10.55 17.29		0.00	0.00		0	12 26	0		0	0	0	175 207	0	0	0	0	0	-175 -207
703+50	70350.00	50.00	0.00	0.00	25.11		0.00	0.00		0	39	0		0	0	0	256	0	0	0	0	0	-207
704+50	70450.00	50.00	0.00	0.00	22.17		0.00	0.00		0	44	0		0	0	0	311	0	0	0	0	0	-311
705+00	70500.00	50.00	0.00	0.00	1.82		0.00	0.00		0	22	0		0	0	0	339	0	0	0	0	0	-339
705+50	70550.00	50.00	0.00	0.00	20.93		0.00	0.00		0	21	0		0	0	0	365	0	0	0	0	0	-365
706+00	70600.00	50.00	0.00	0.00	19.71		0.00	0.00		0	38	0		0	0	0	412	0	0	0	0	0	-412
706+50	70650.00	50.00	0.00	0.00	15.07	0.00	0.00	0.00		0	32	0		0	0	0	452	0	0	0	0	0	-452
707+00	70700.00	50.00	0.00	0.00	6.15	0.00	0.00	0.00		0	20	0		0	0	0	477	0	0	0	0	0	-477
707+27	70727.00	27.00	0.00	0.00	4.68		0.00	0.00		0	5	0		n	0	0	484	0	0	0	0	0	-484
707+52	70752.00	25.00	0.00	0.00	25.50		0.00	0.00		Ö	14	0		Ö	0	ŏ	501	ŏ	ő	Ö	Õ	ő	-501
707+77	70777.00	25.00	0.00	0.00	33.95		0.00	0.00		0	28	0		0	0	0	536	0	0	0	0	0	-536
708+00	70800.00	23.00	0.00	0.00	2.23	0.00	0.00	0.00		0	15	0		0	0	0	555	0	0	0	0	0	-555
708+57	70857.00	57.00	0.00	0.00	1.68	0.00	0.00	0.00		0	4	0		0	0	0	560	0	0	0	0	0	-560
708+82	70882.00	25.00	0.00	0.00	6.81	0.00	0.00	0.00		0	4	0		0	0	0	565	0	0	0	0	0	-565
709+07	70907.00	25.00	0.00	0.00	13.69		0.00	0.00		0	9	0		0	0	0	577	0	0	0	0	0	-577
709+50	70950.00	43.00	0.00	0.00	0.00		0.00	0.00		0	11	0		0	0	0	591	Ō	Ö	0	0	Ō	-591

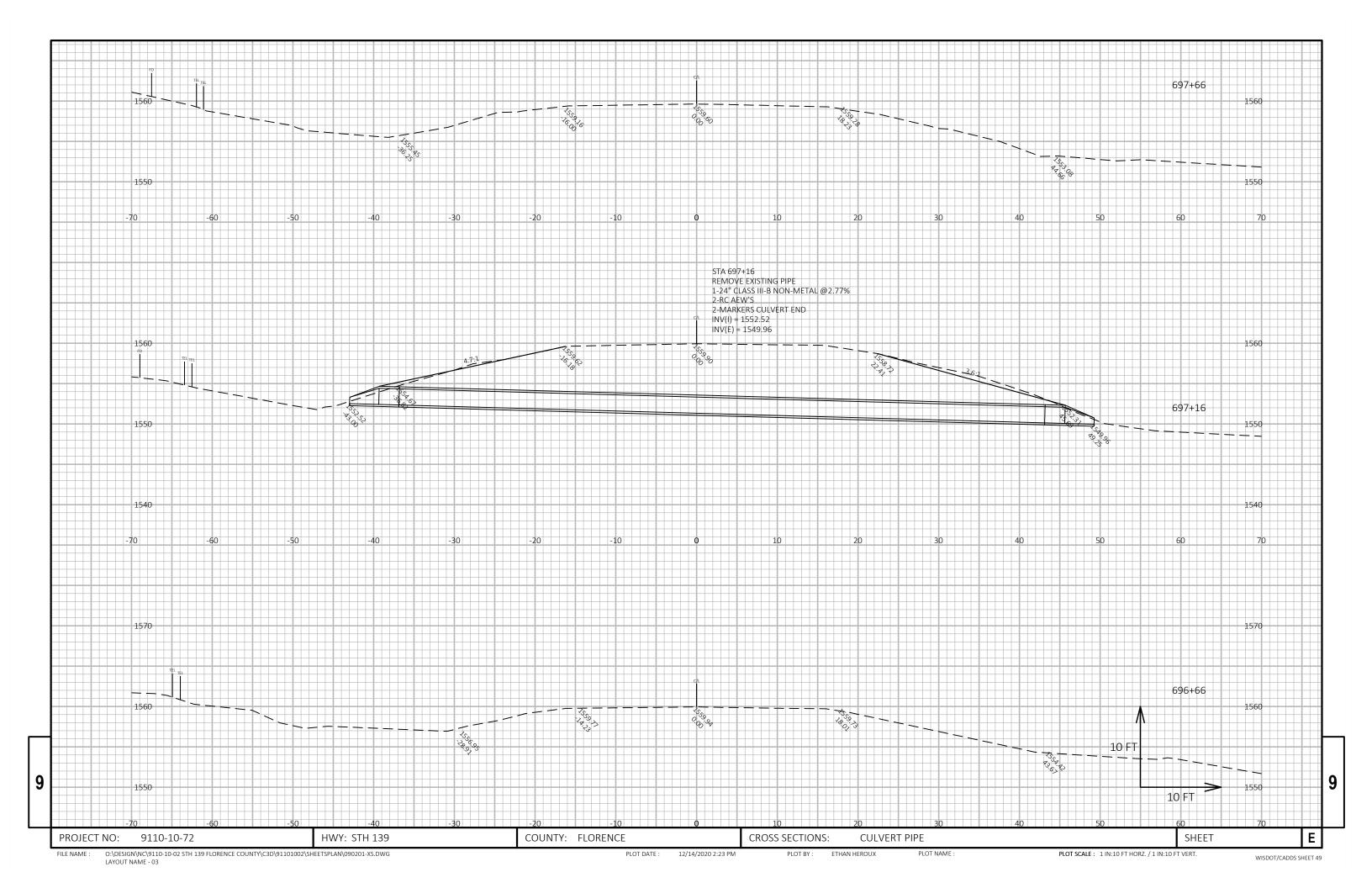
NOTES:		
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL	
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS	
	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME	
4 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW)	NOTE 4 - SELECT ONE BASED ON INPUT DIALOG SELECTION
5 - EXPANDED EBS	WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW)	NOTE 5 - SELECT ONE BASED ON INPUT DIALOG SELECTION
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL	NOTE 6 - IF EXCAVATED MARSH CAN BE USED IN FILL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL	NOTE 7 - IF EXCAVATED EBS CAN BE USED IN FILL
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: ((CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR))	NOTE 8 - SELECT ONE BASED ON MASS HAUL INPUT DIALOG SELECTION. EBS AND MARSH EXC USED OUTSIDE 1:1 IN FILL SLOPES
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK)* FILL FACTOR)]	EBS AND MARSH EXC USED OUTSIDE 1:1 IN FILL SLOPES
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - EXPANDED ROCK) * FILL FACTOR)]	MARSH AND EBS ARE NOT USABLE OUTSIDE THE 1:1 SLOPES
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)]	MARSH AND EBS ARE NOT USABLE OUTSIDE THE 1:1 SLOPES

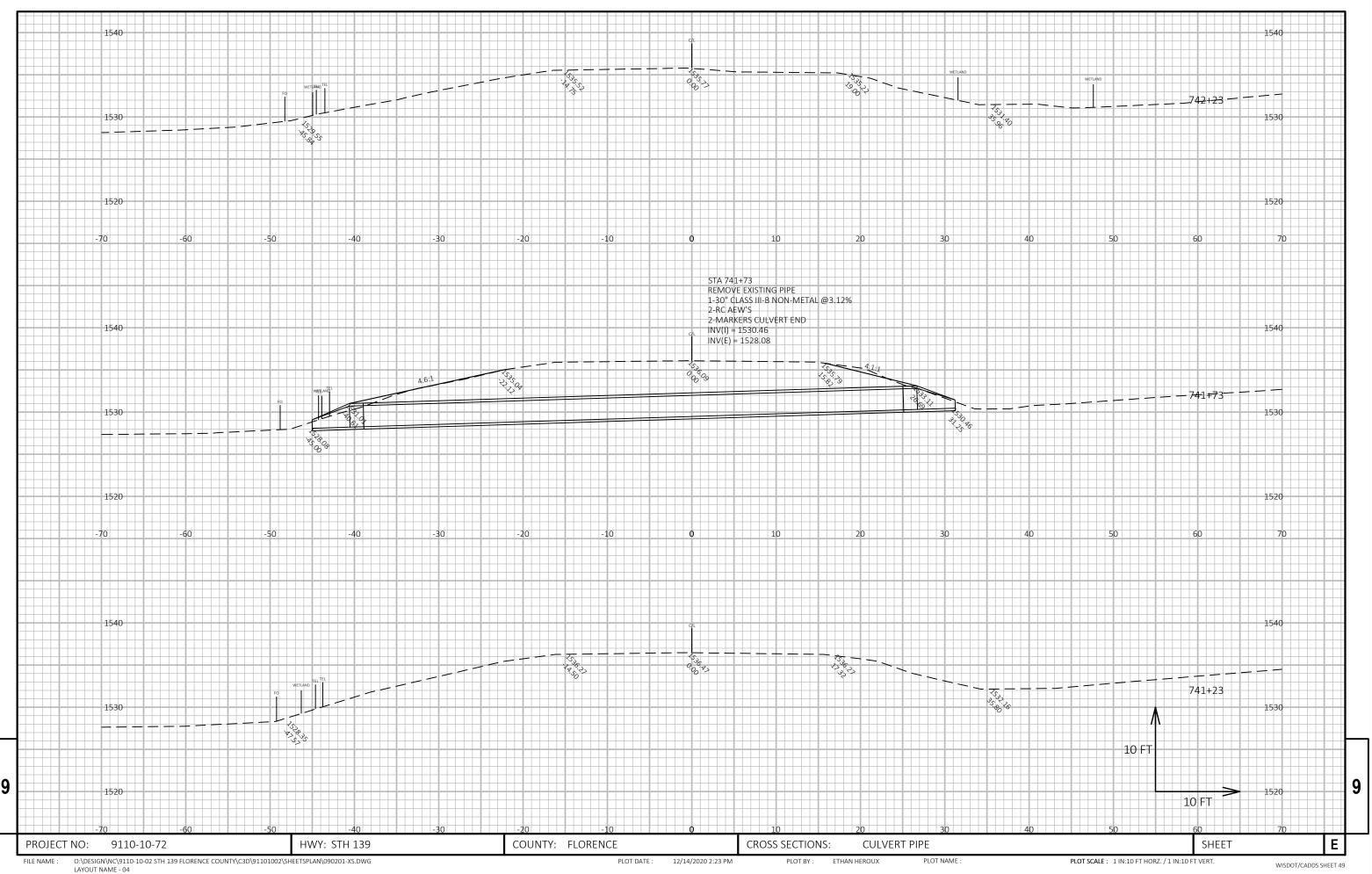
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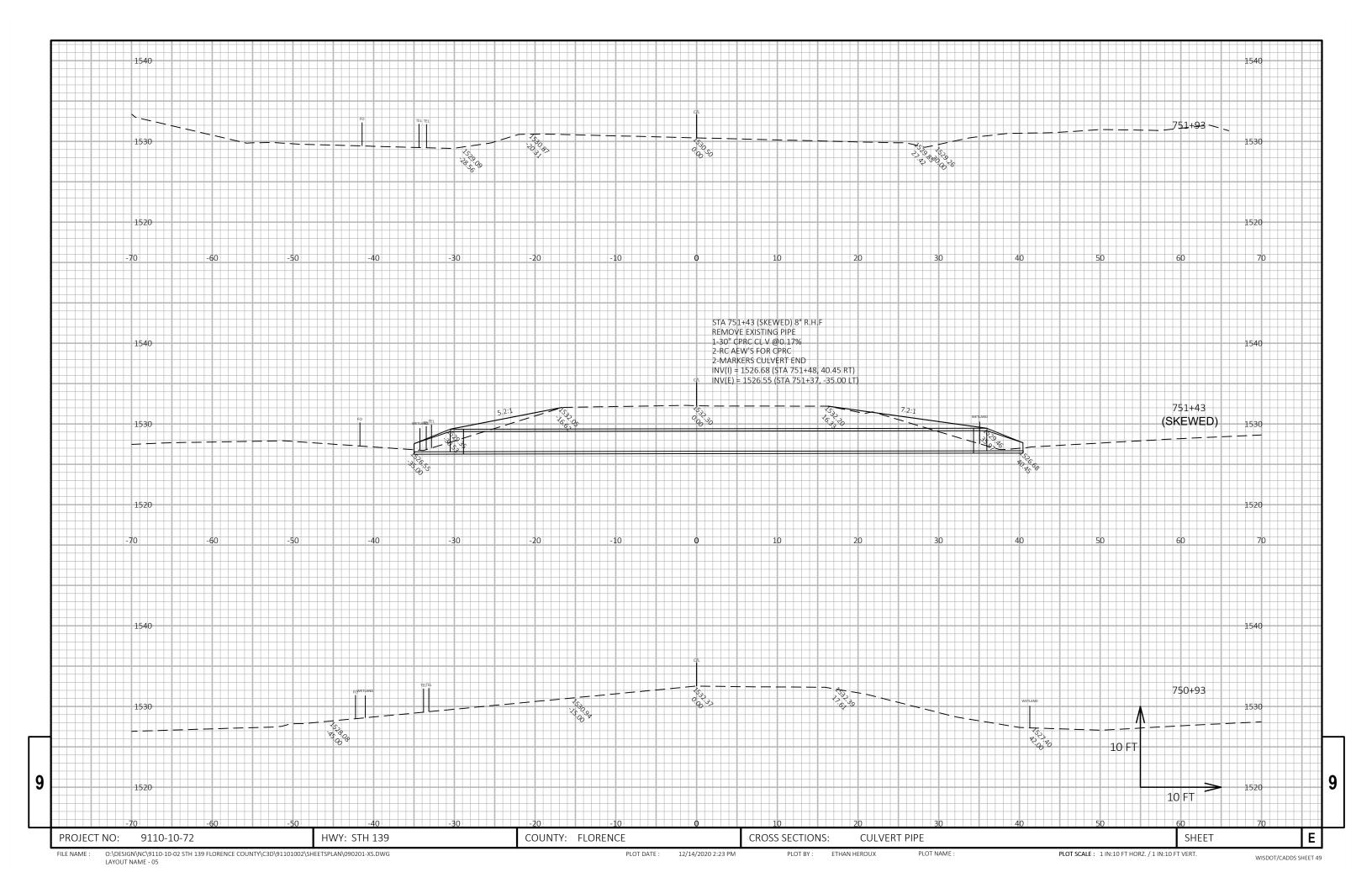
FILE NAME : PLOT DATE : \_\_\_\_\_ PLOT BY : \_\_\_\_ PLOT NAME : \_\_\_\_ ORG DATE : \_\_\_\_ ORIGINATOR : DIST PLOT SCALE : 1:1

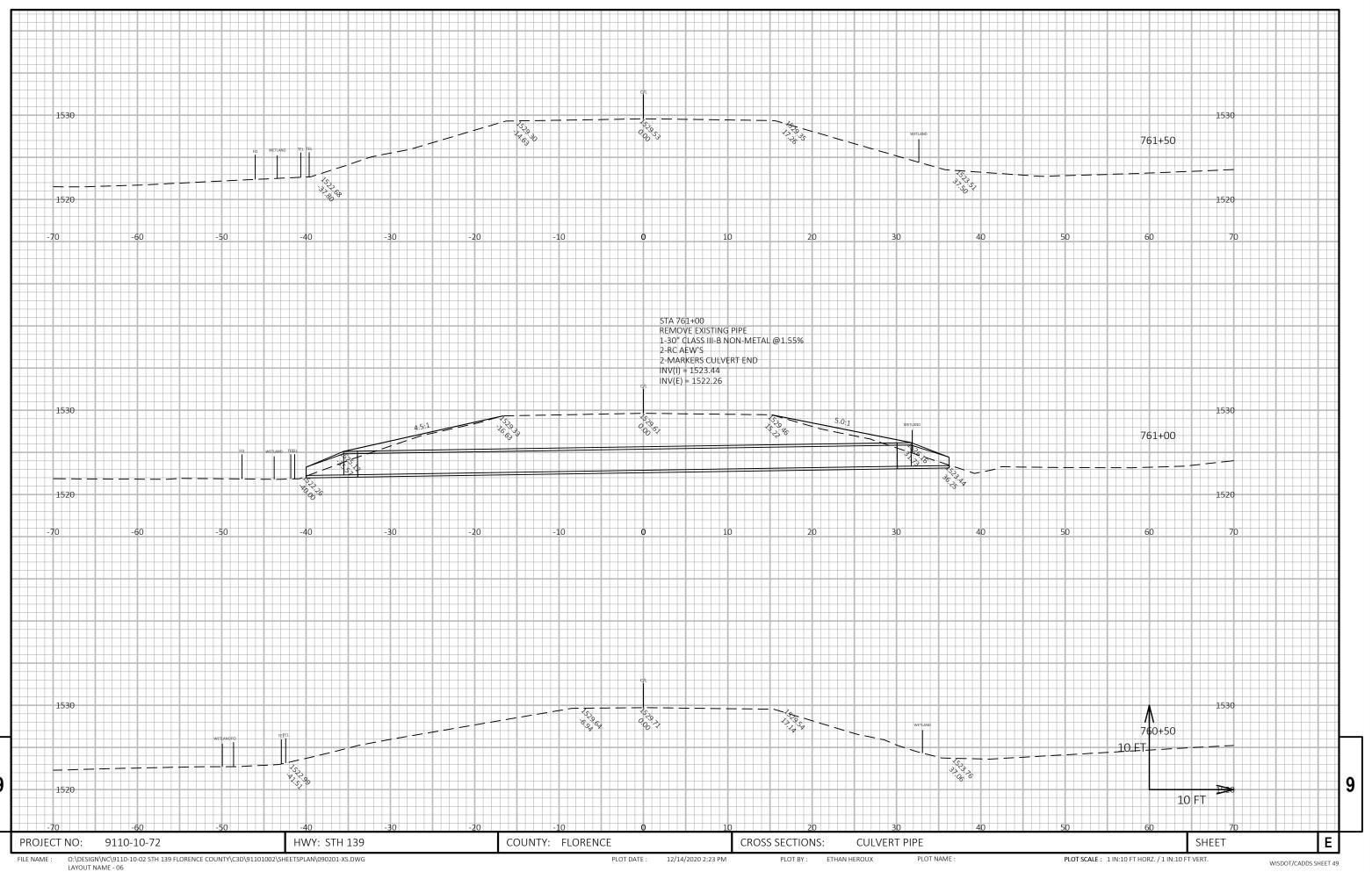


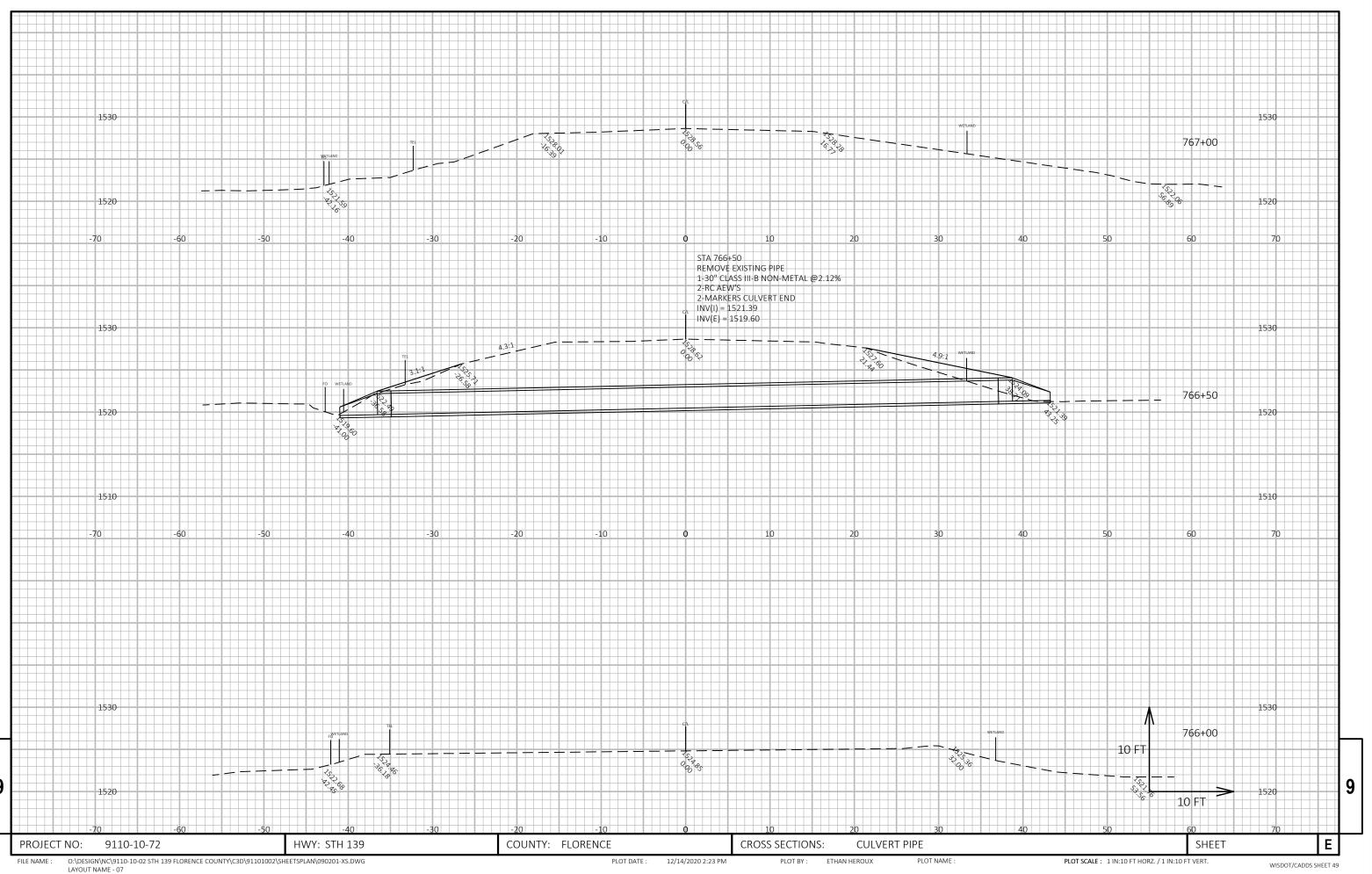


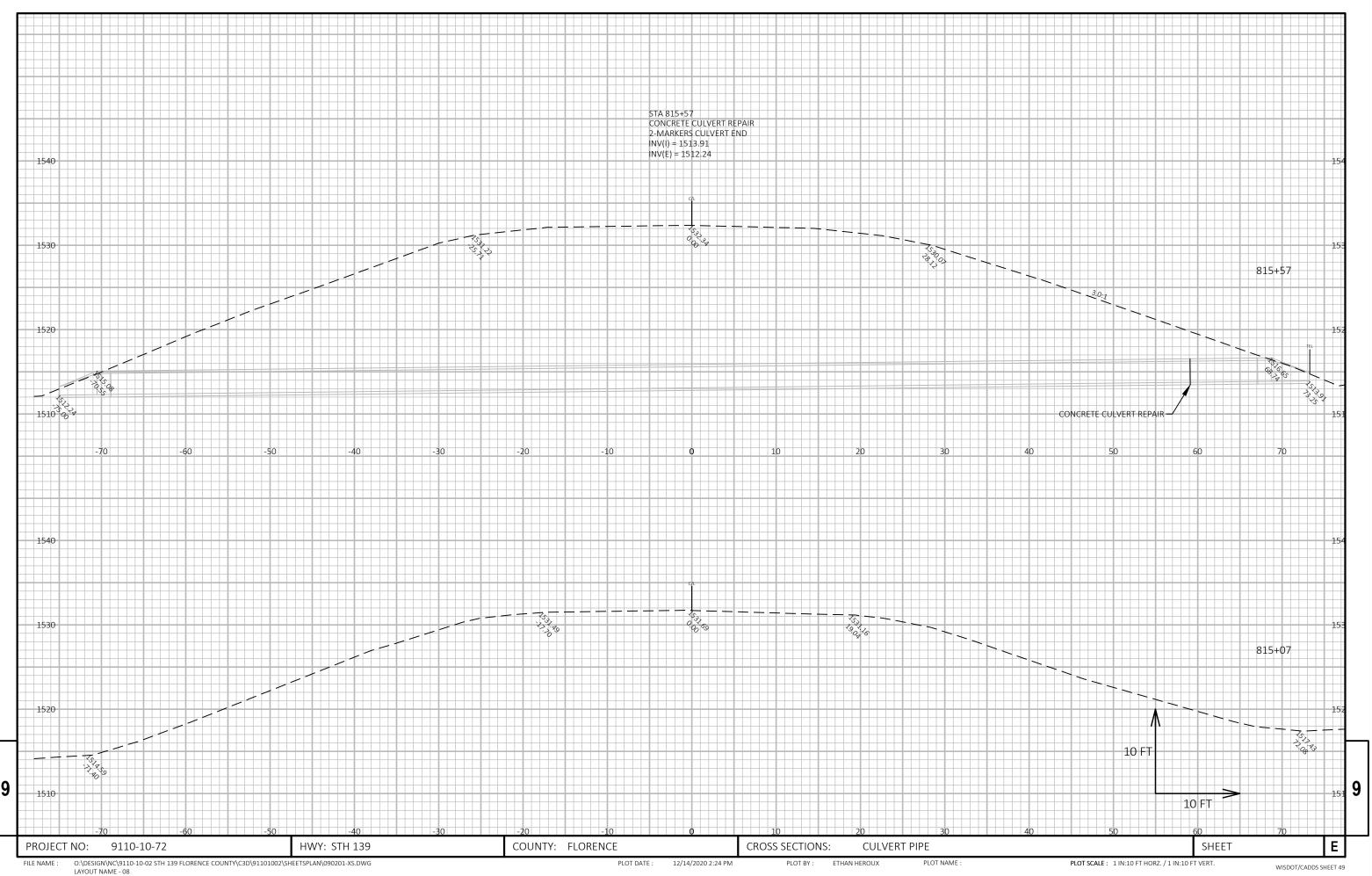


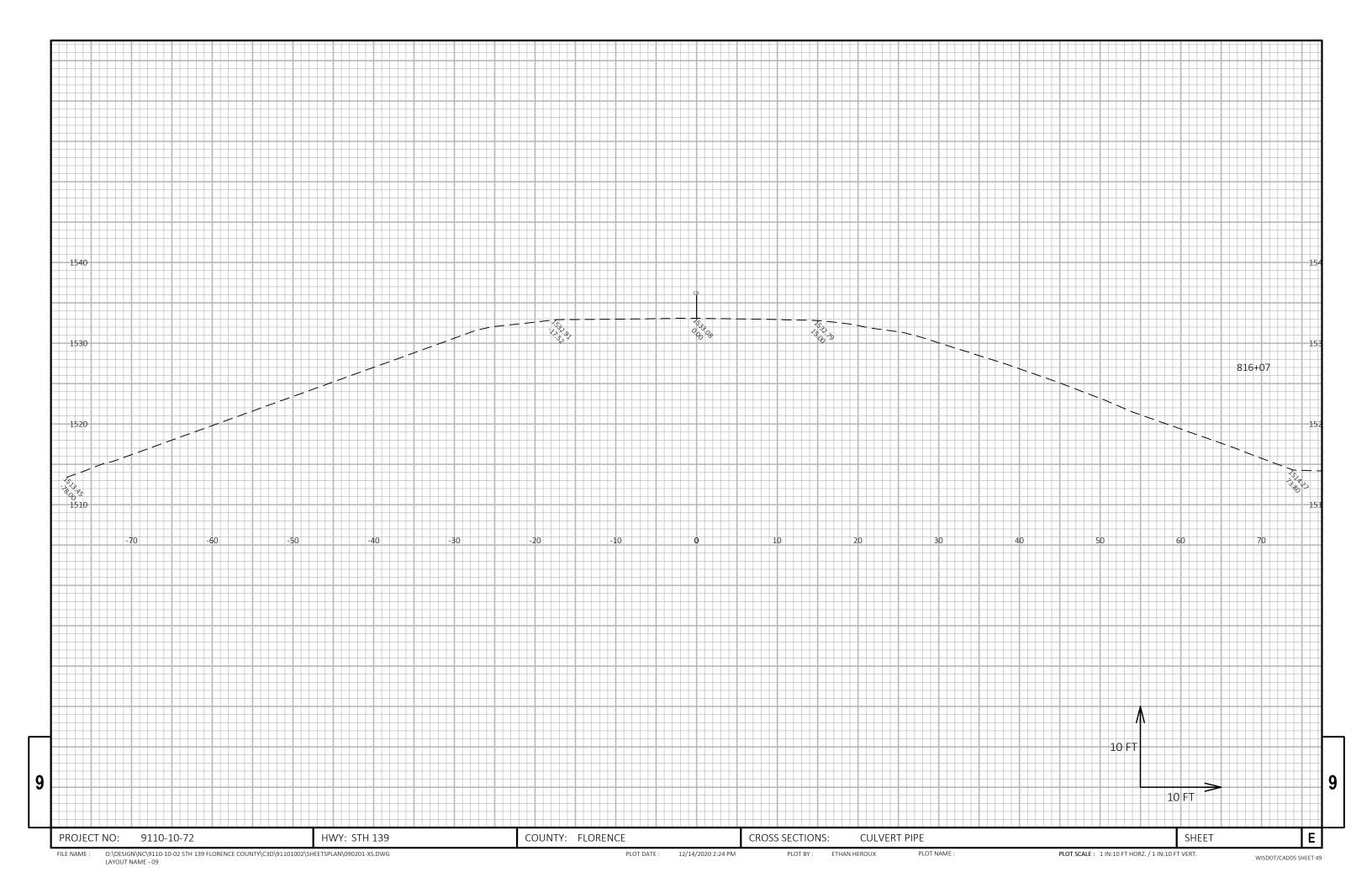


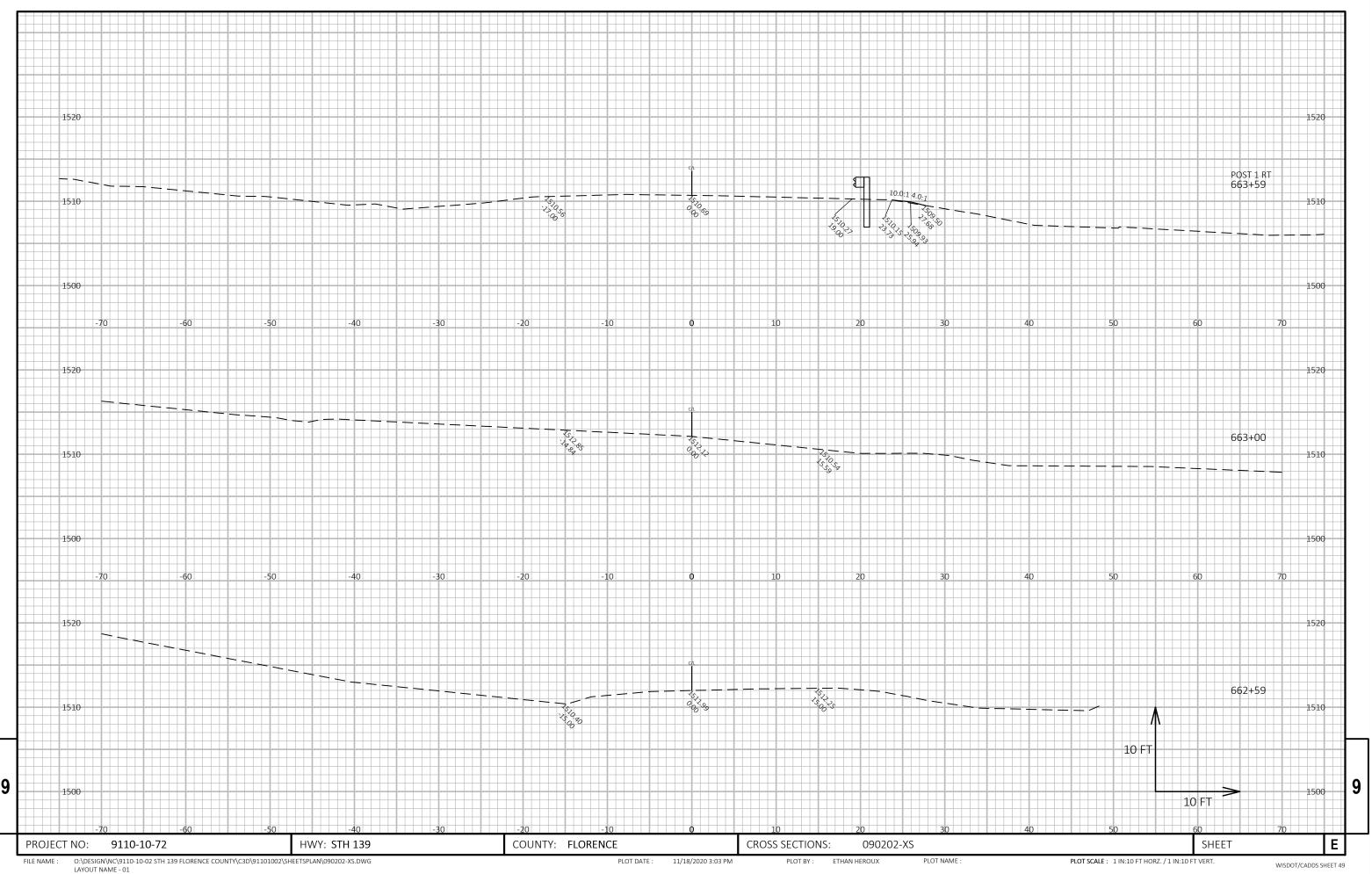


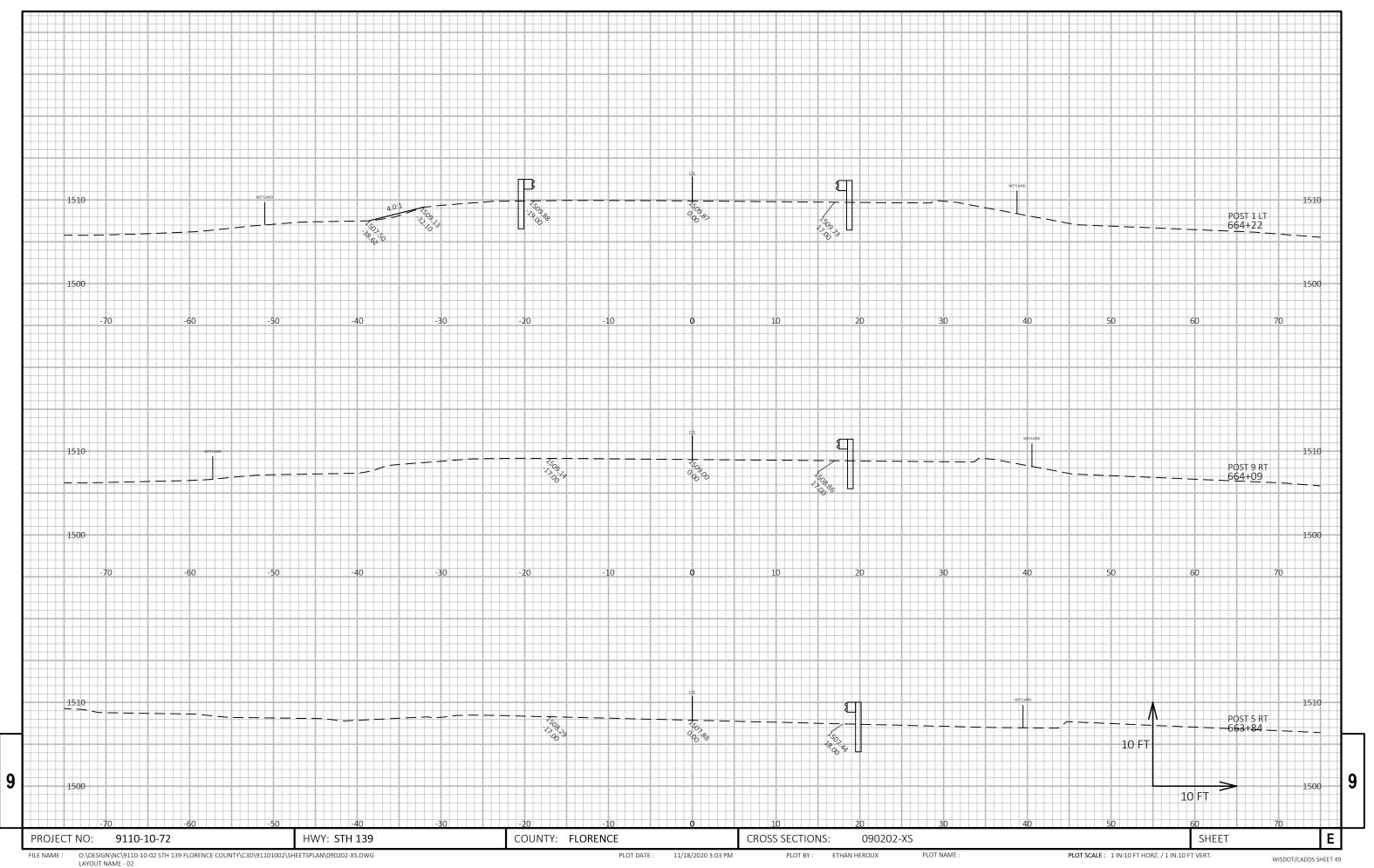


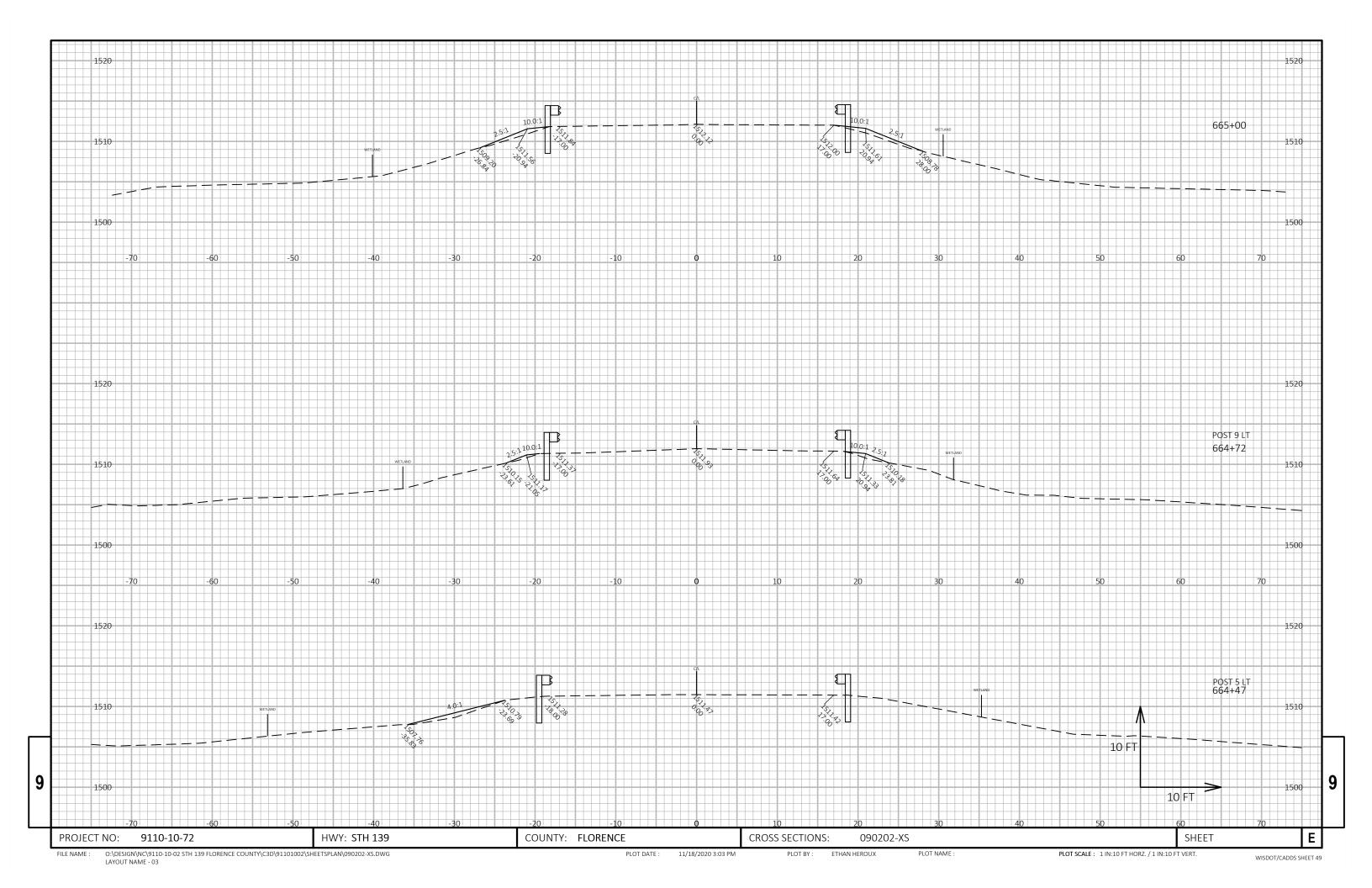


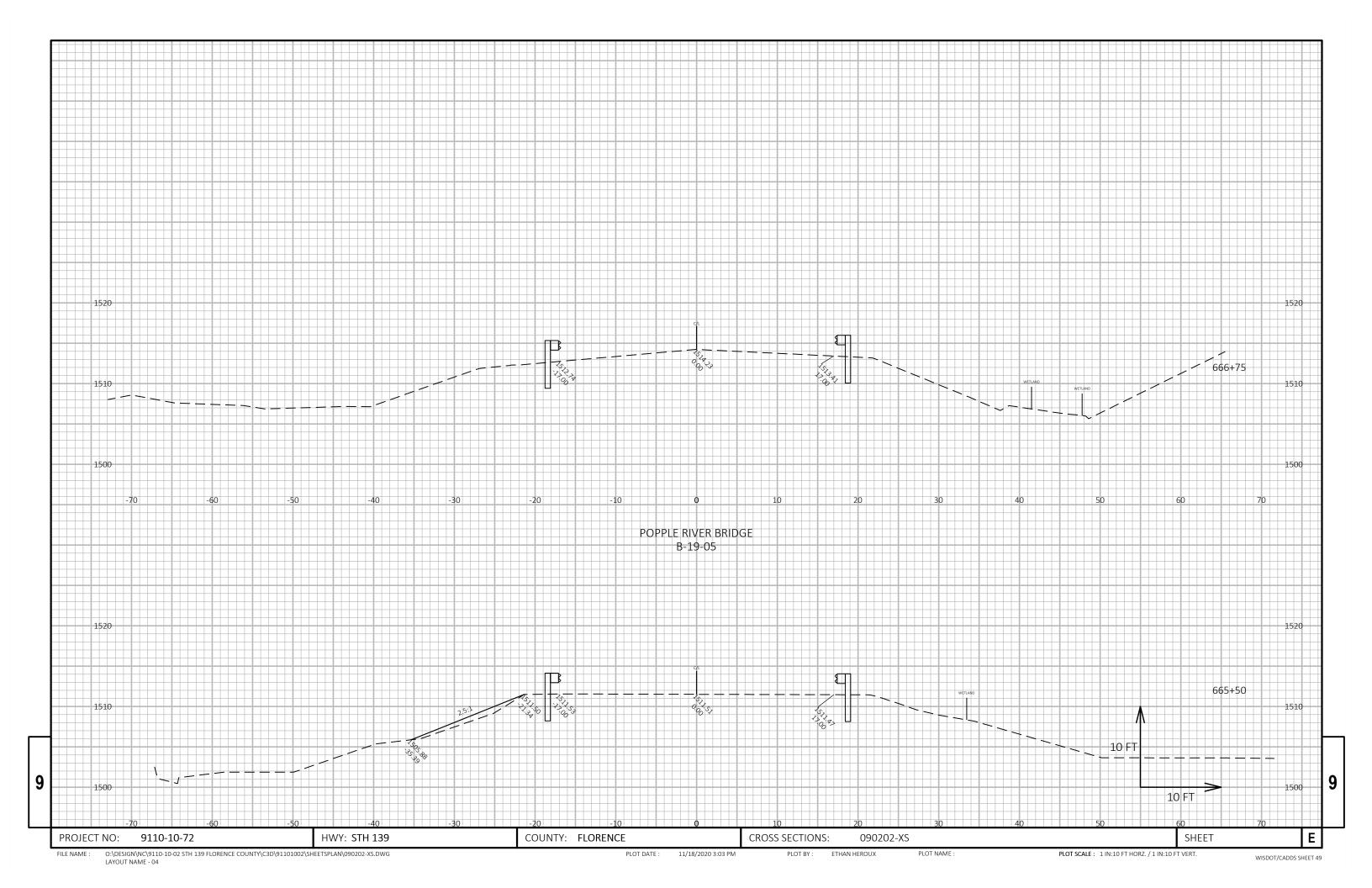


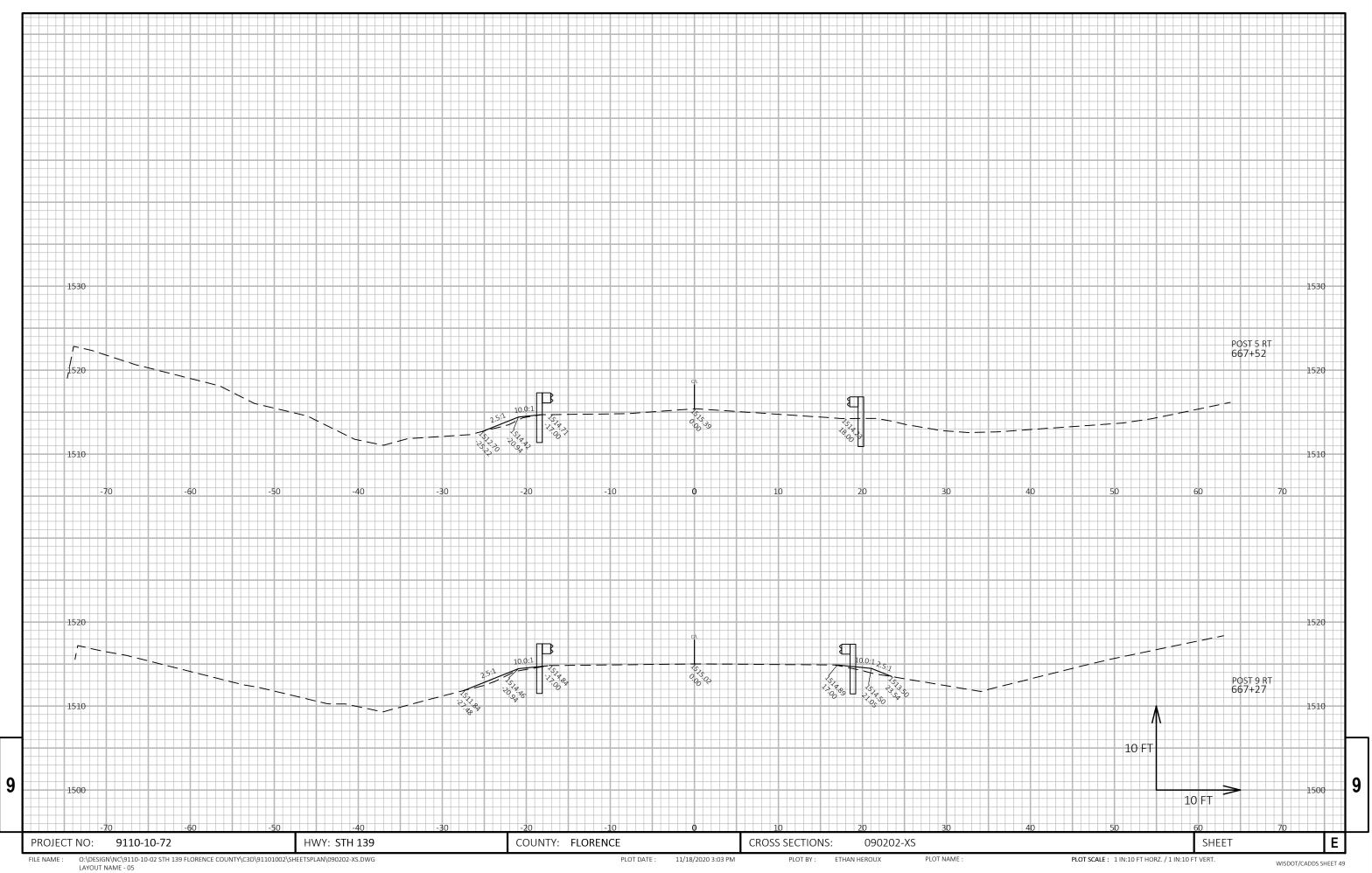


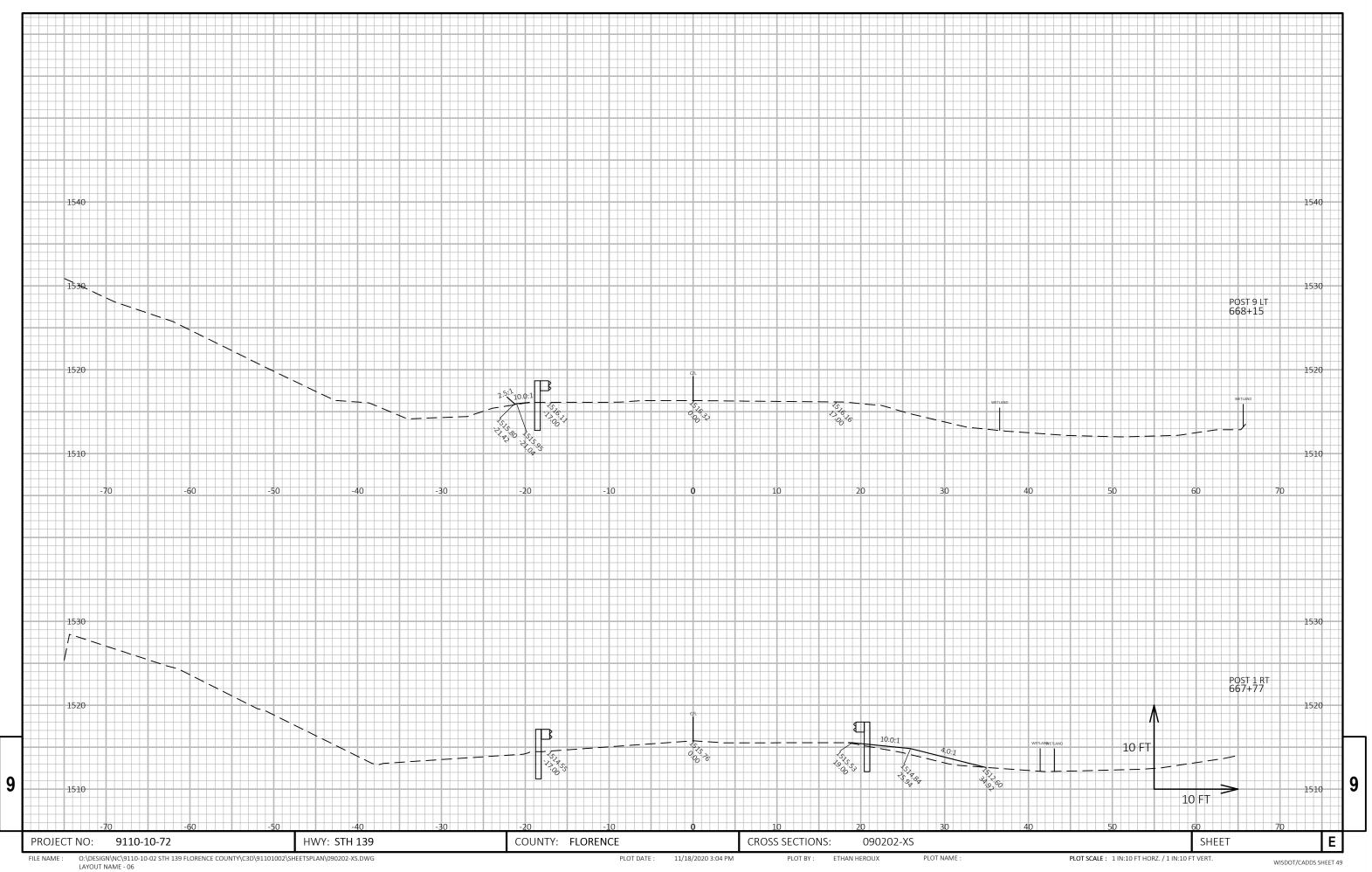


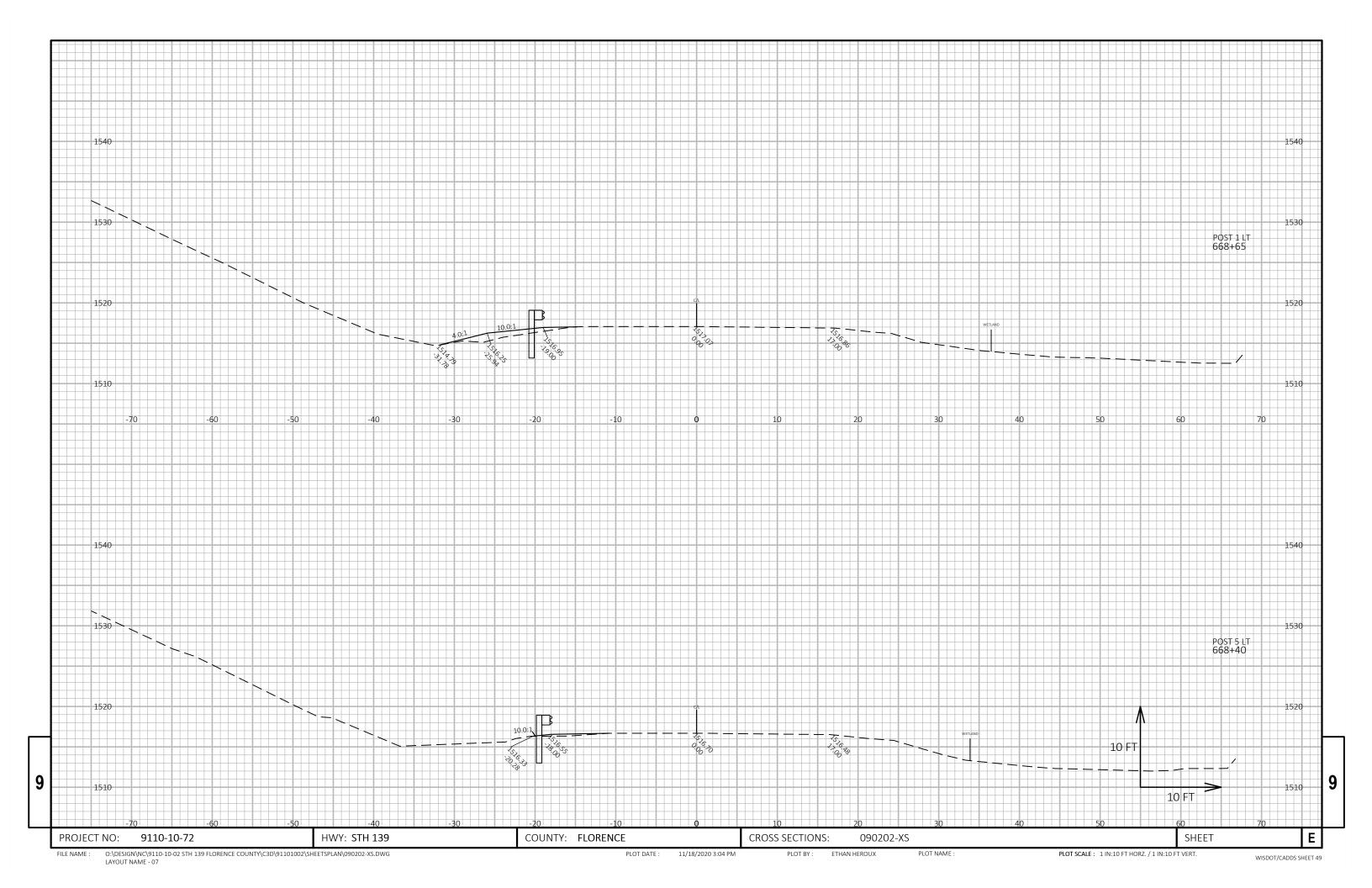


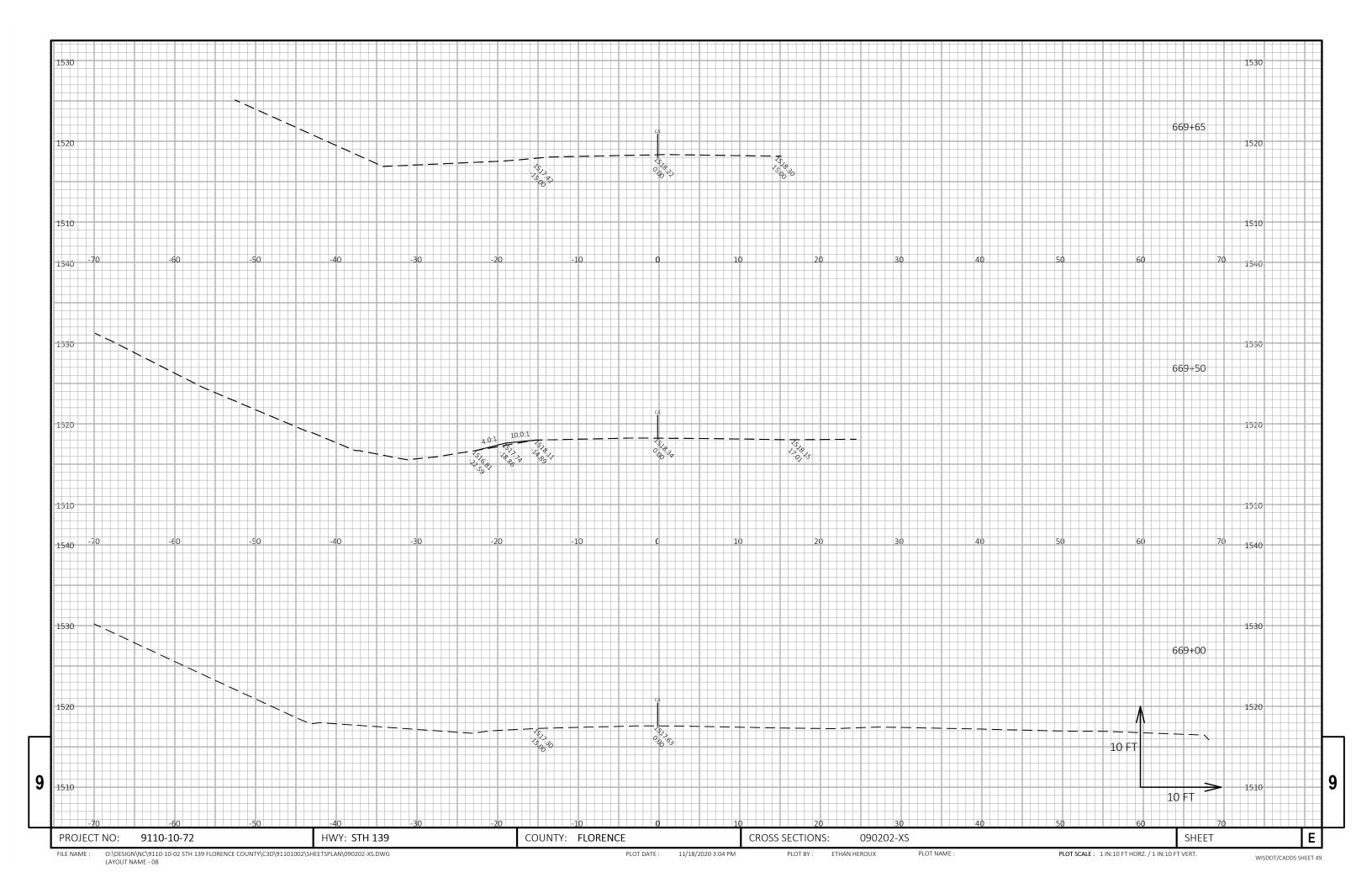


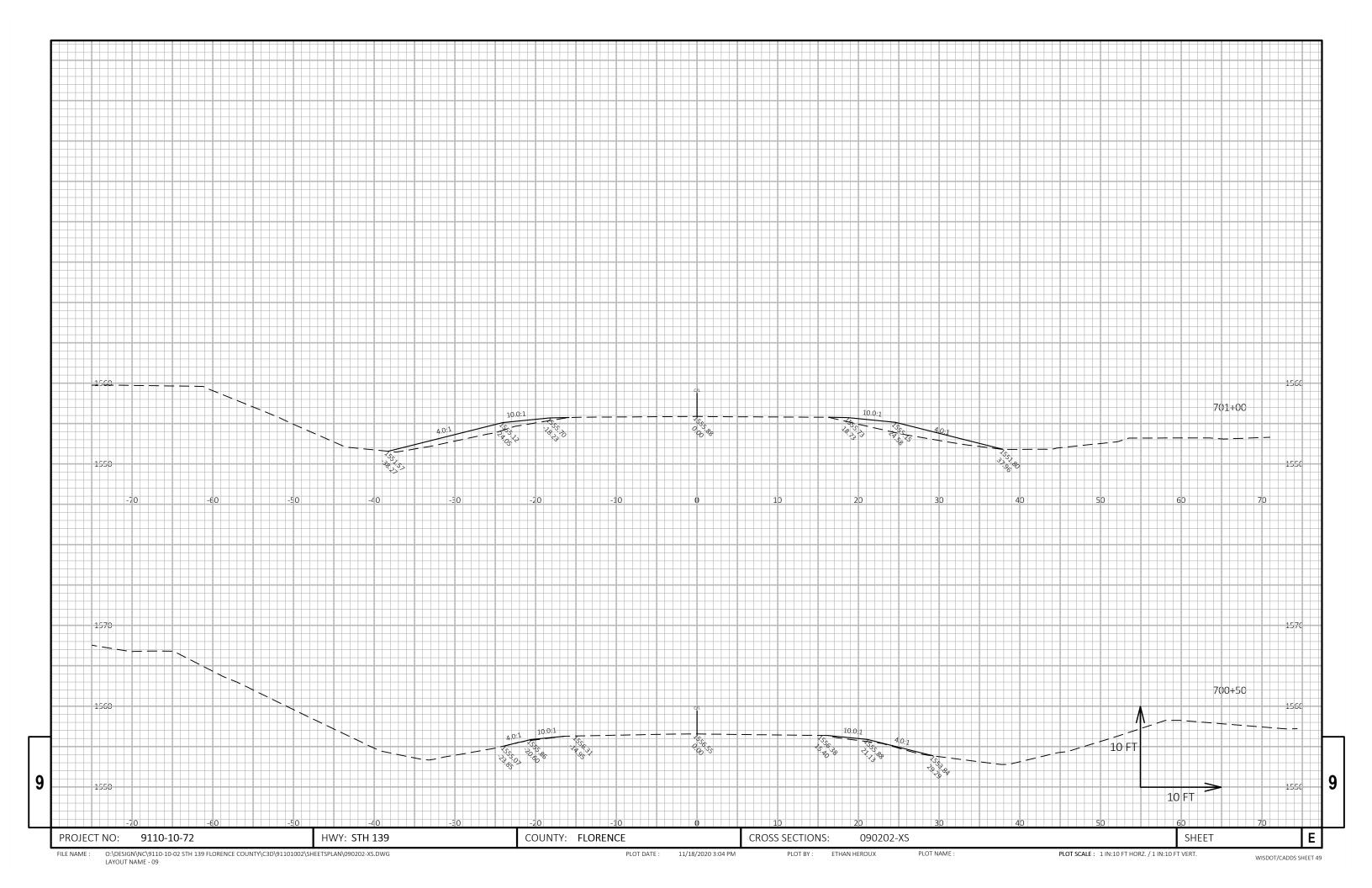


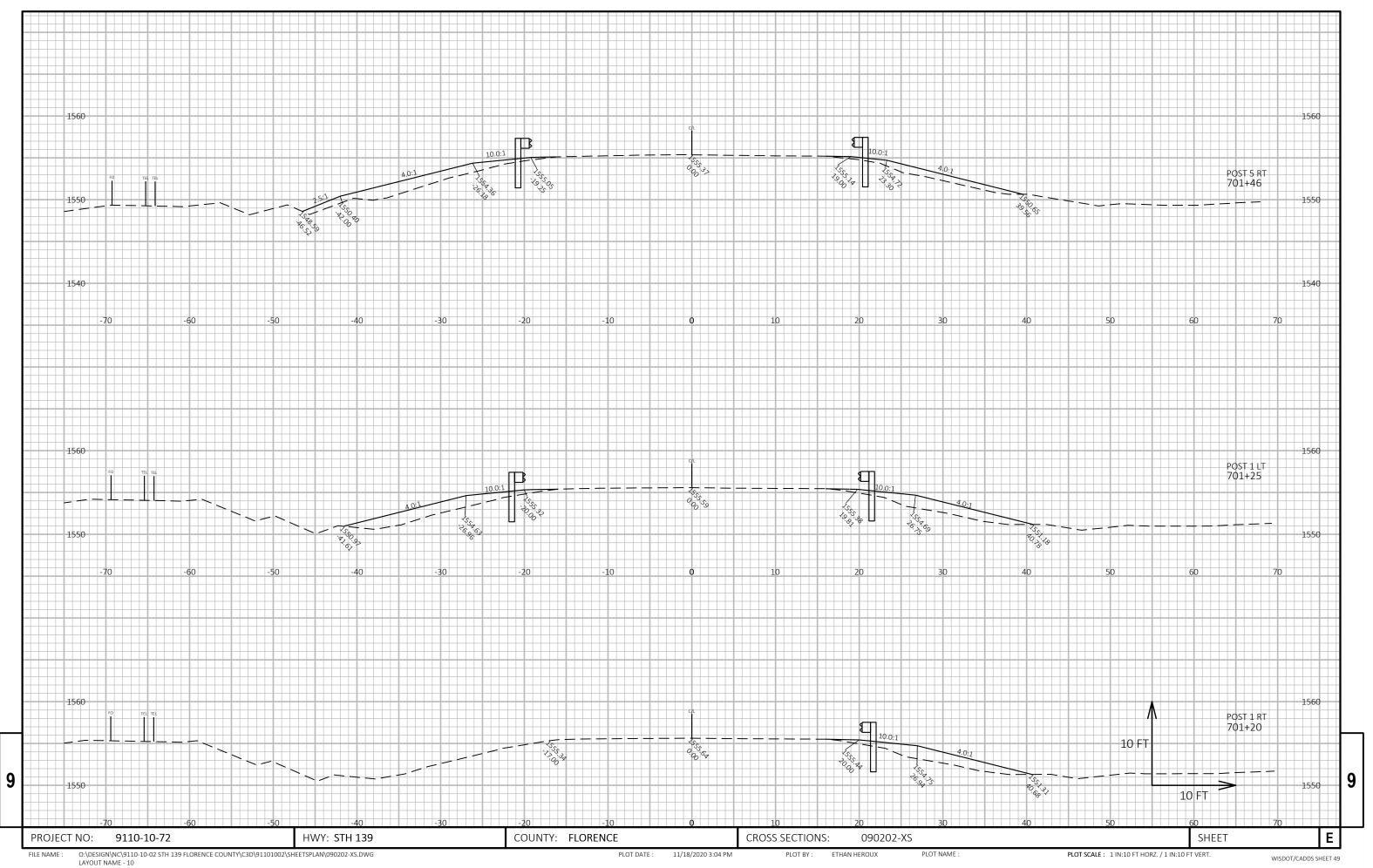


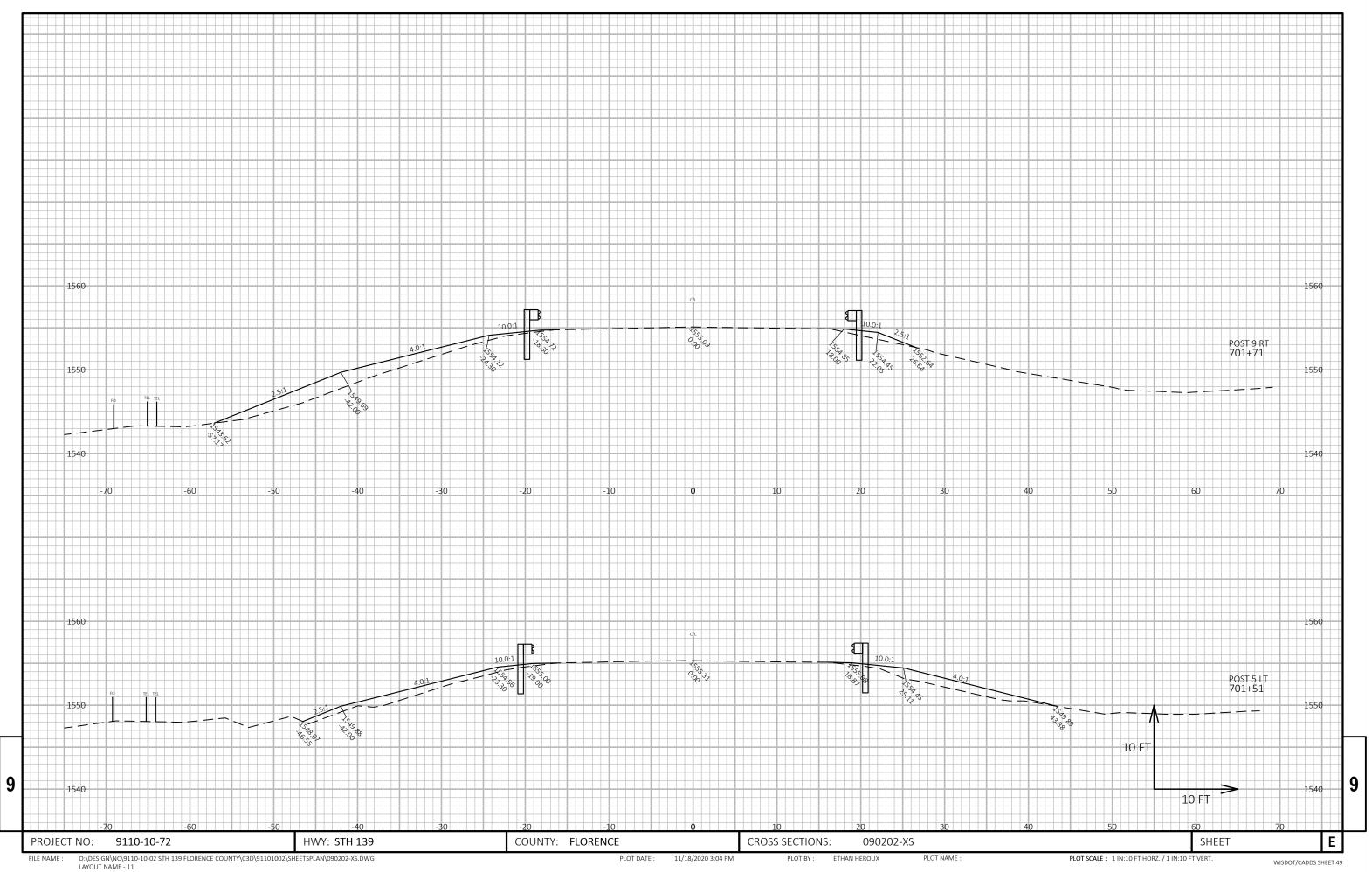


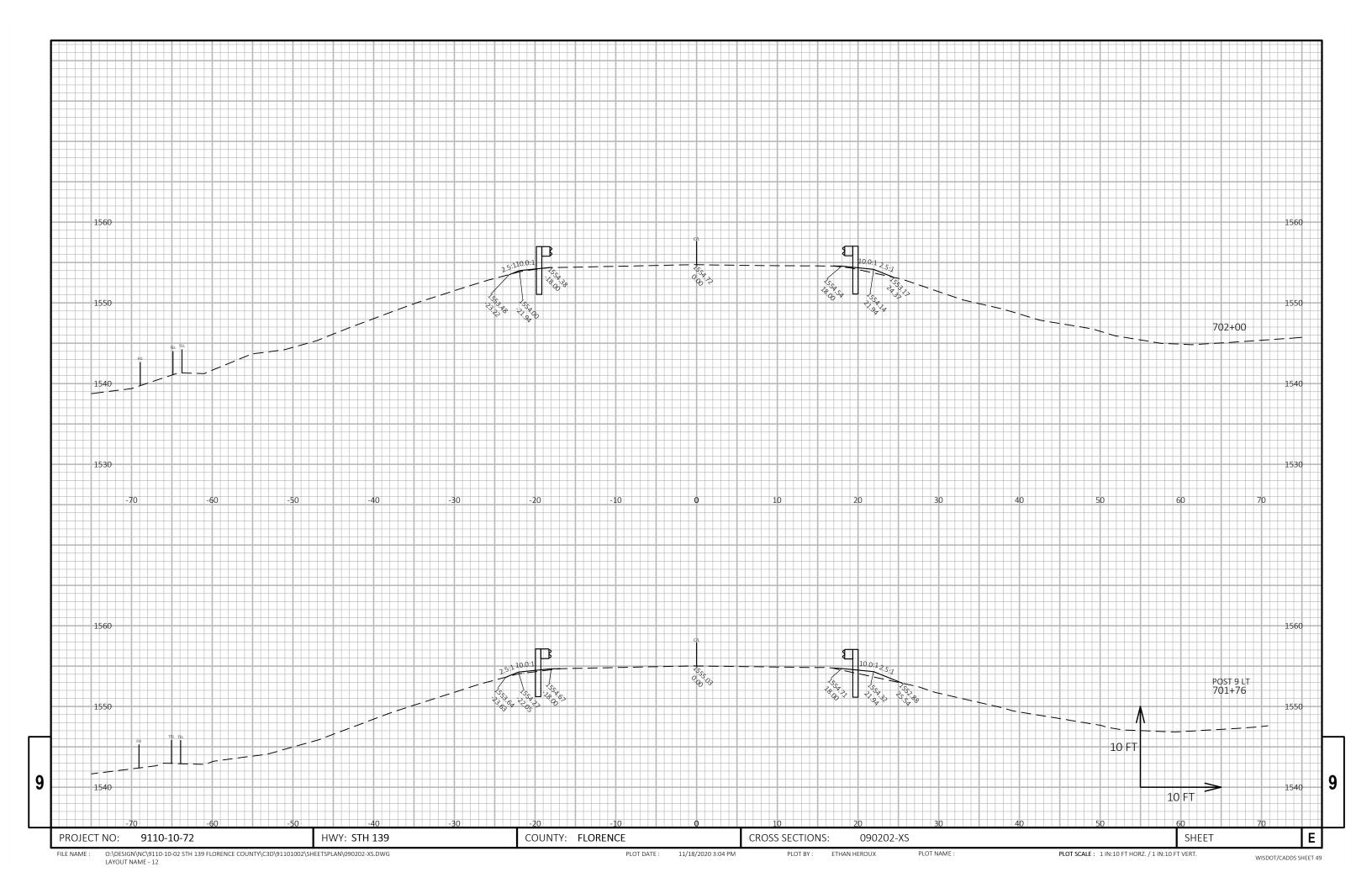


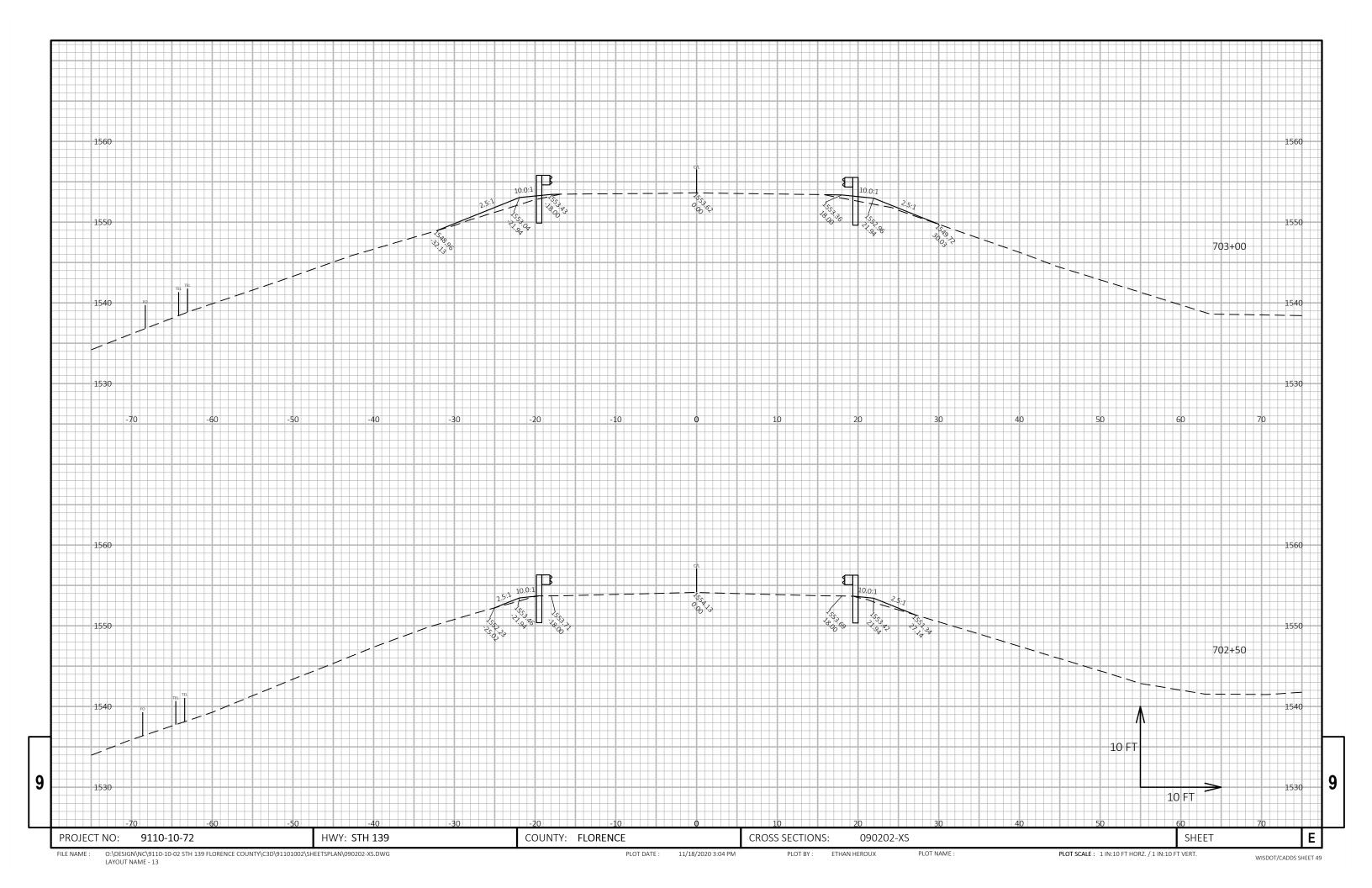


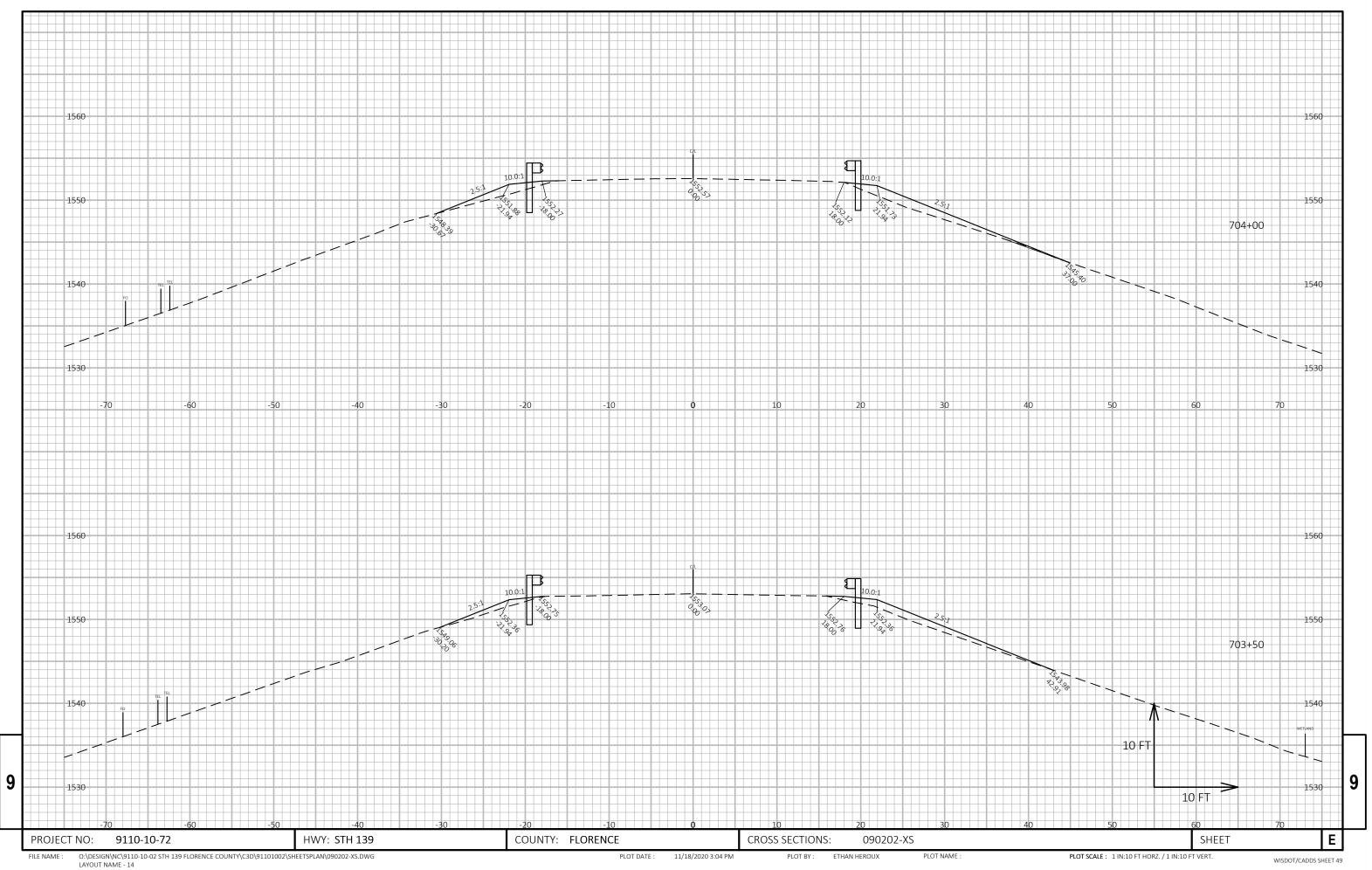


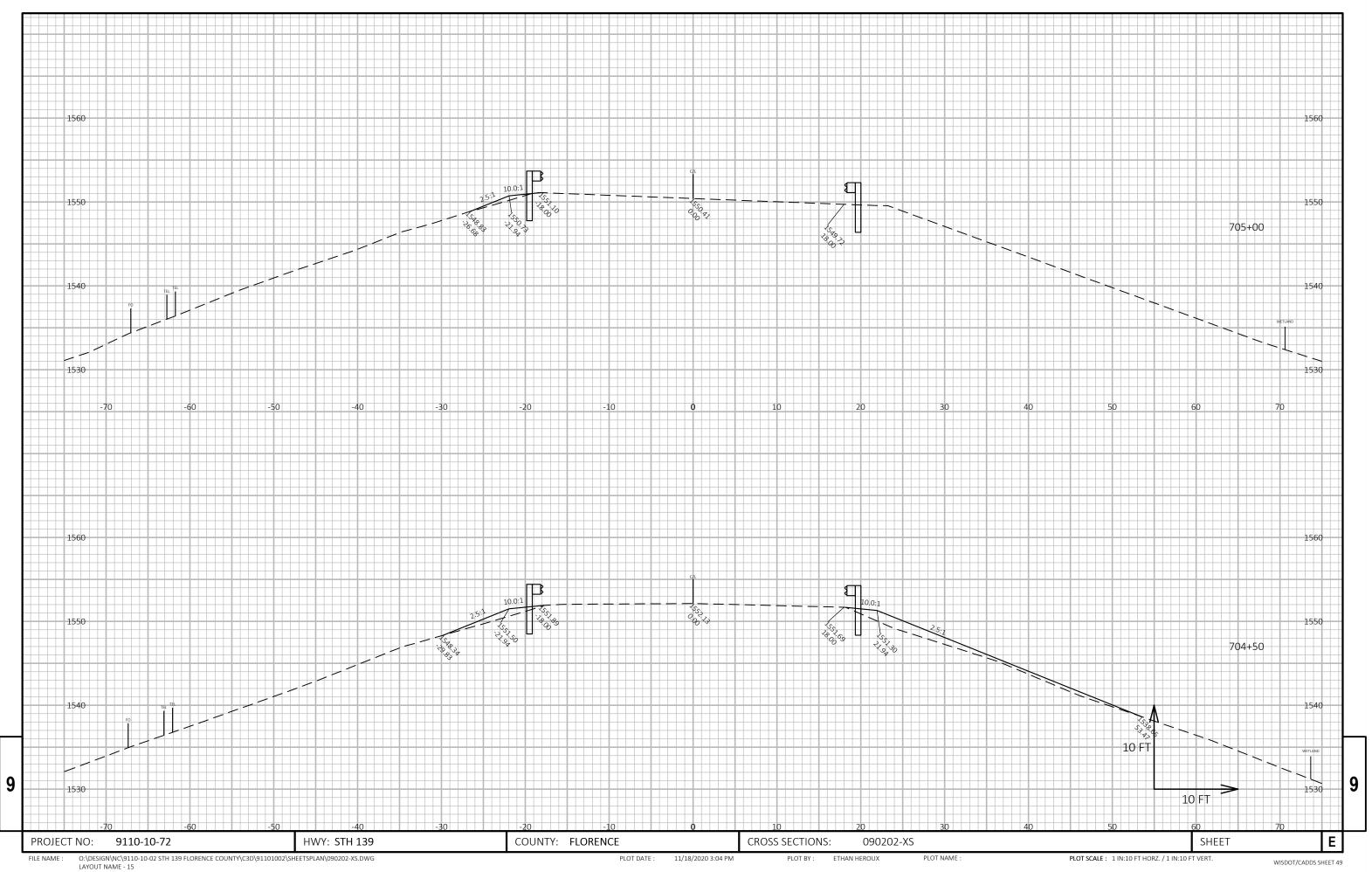


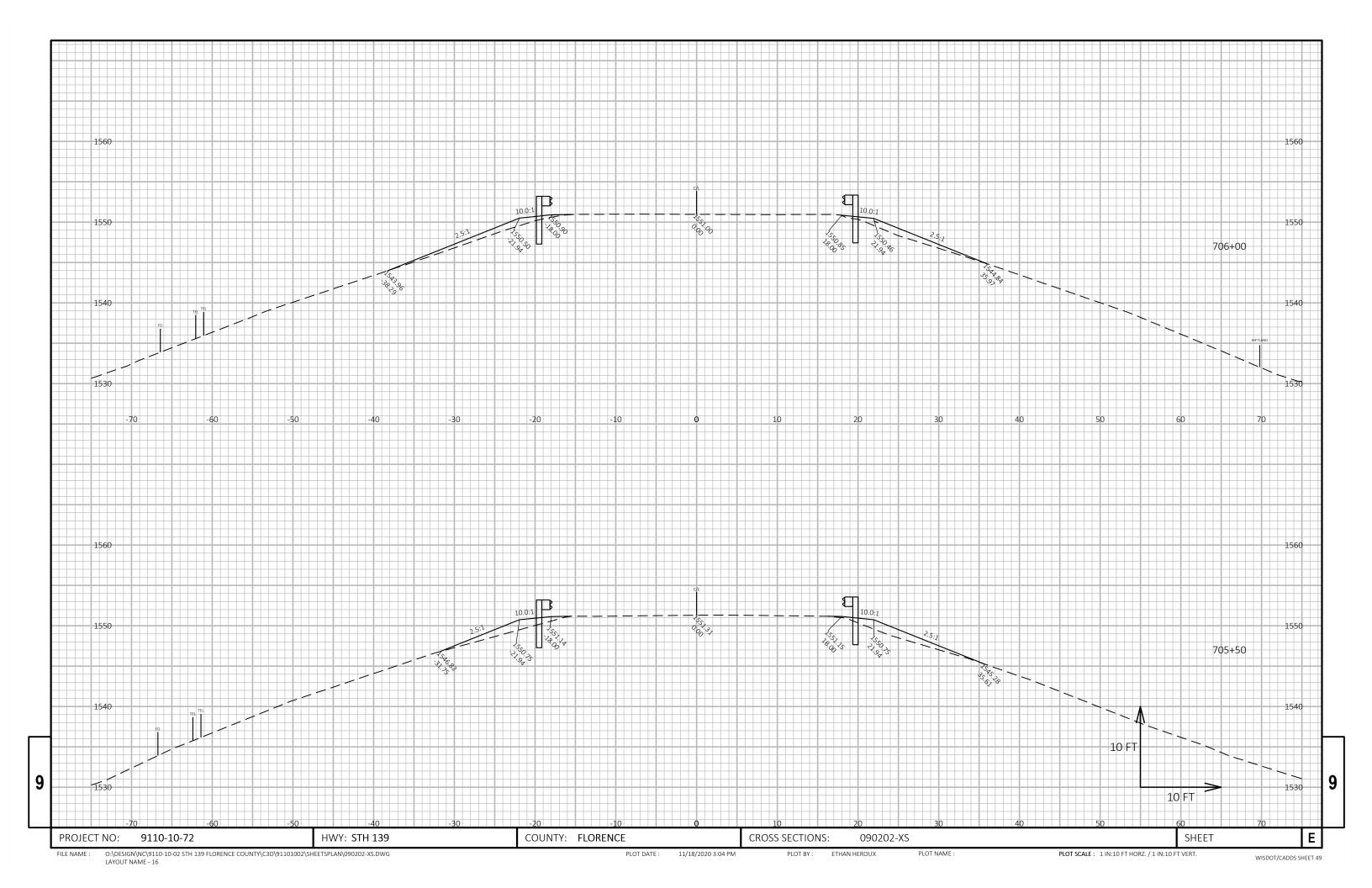


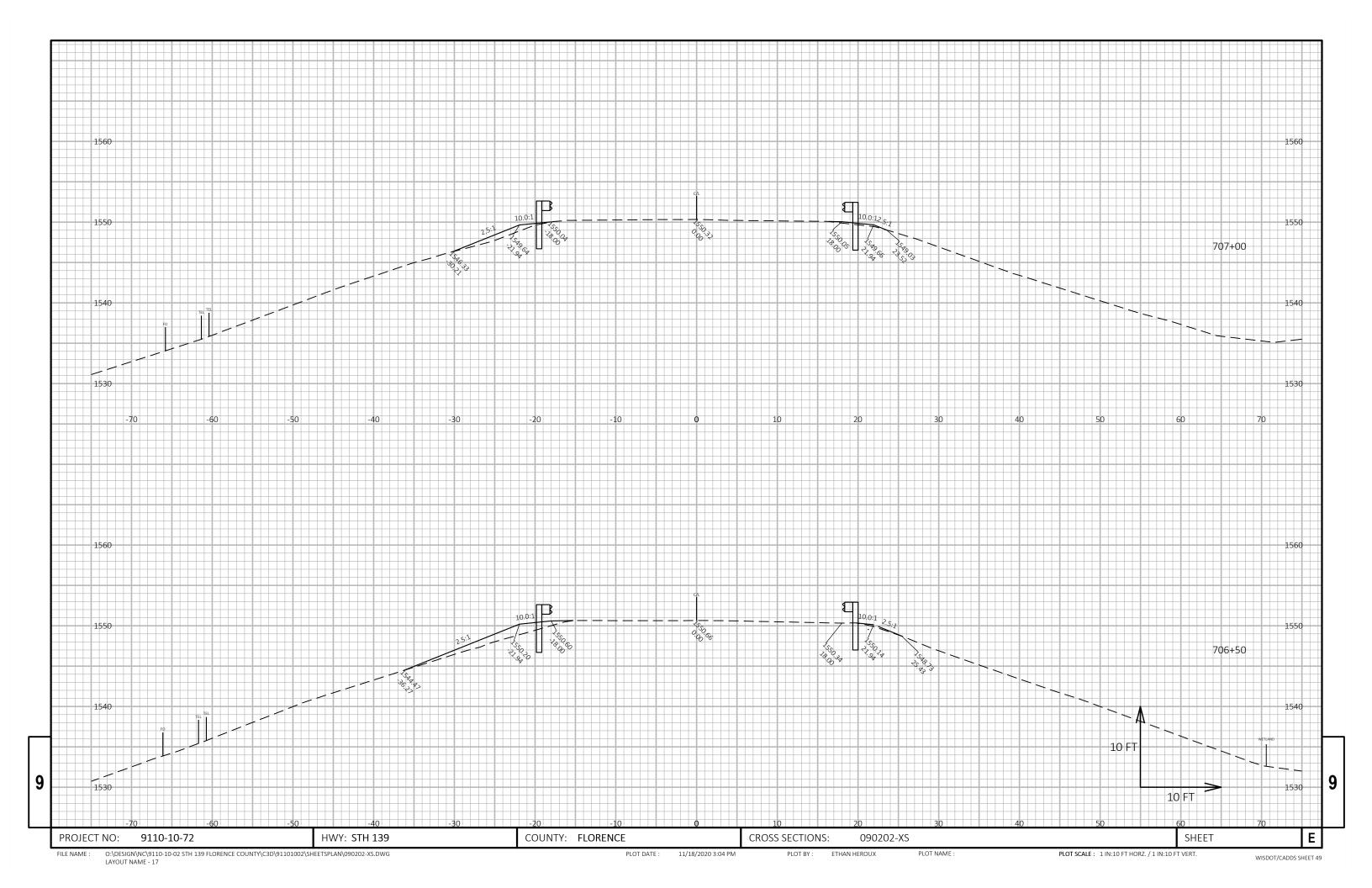


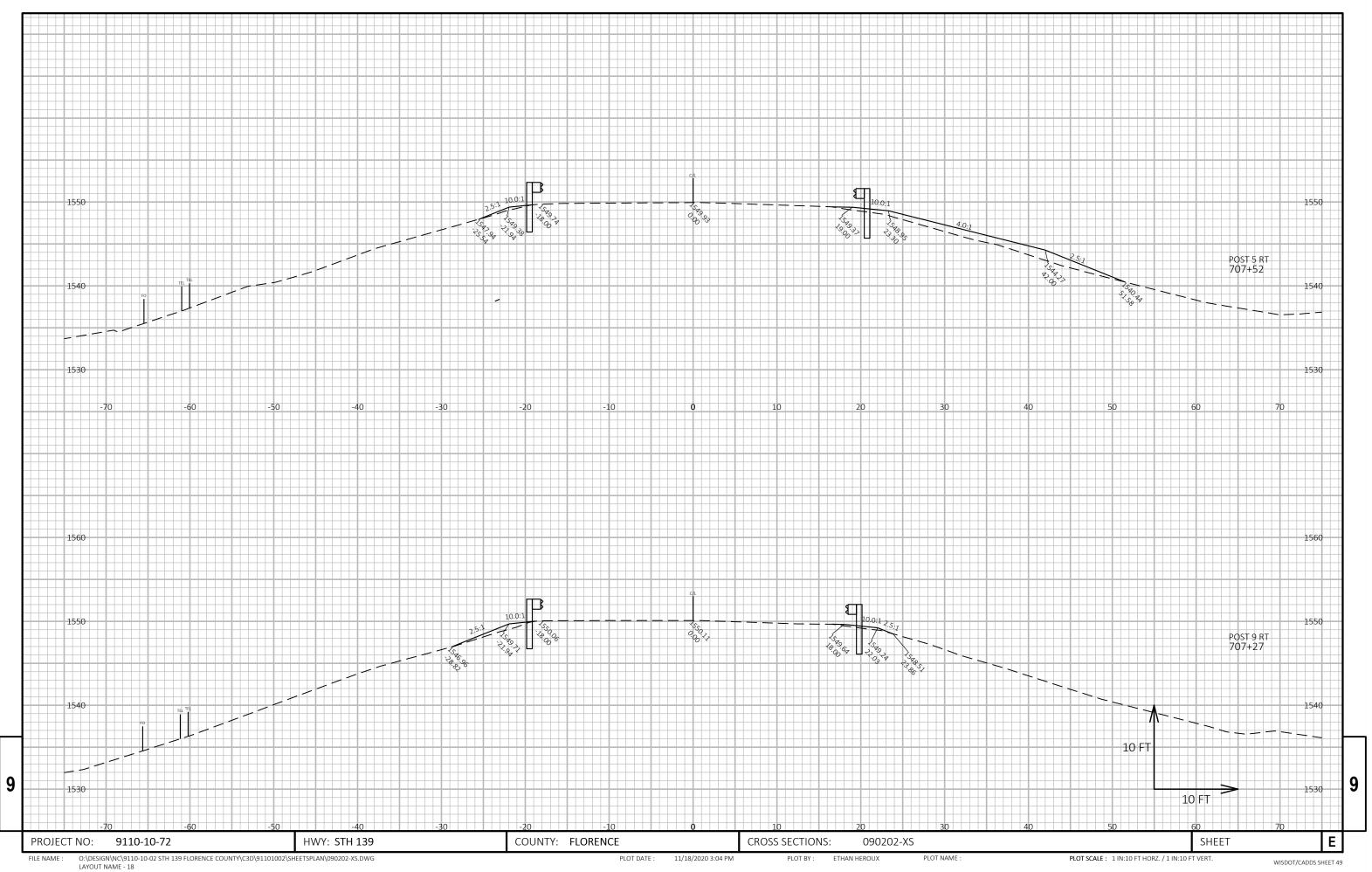


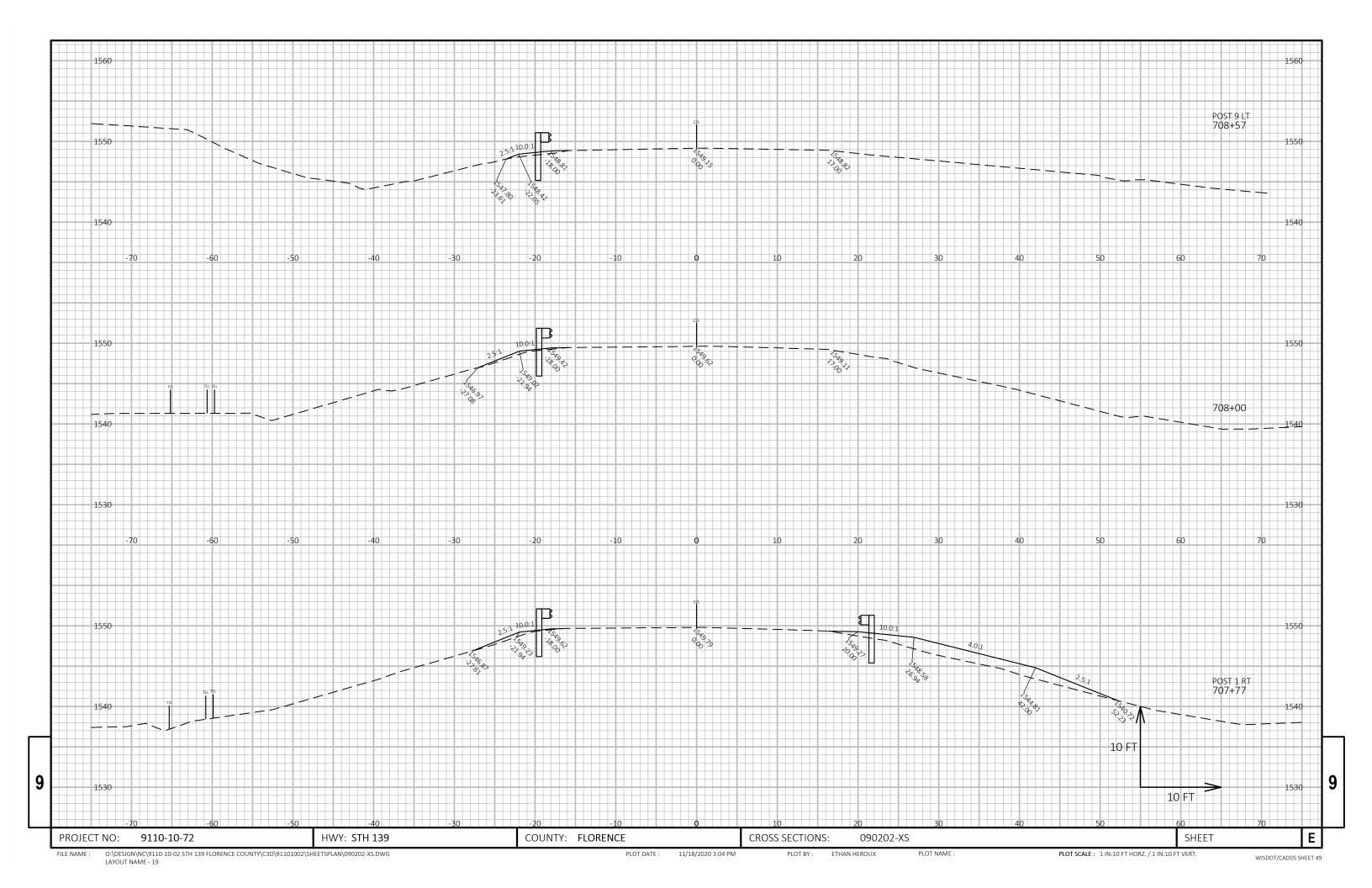


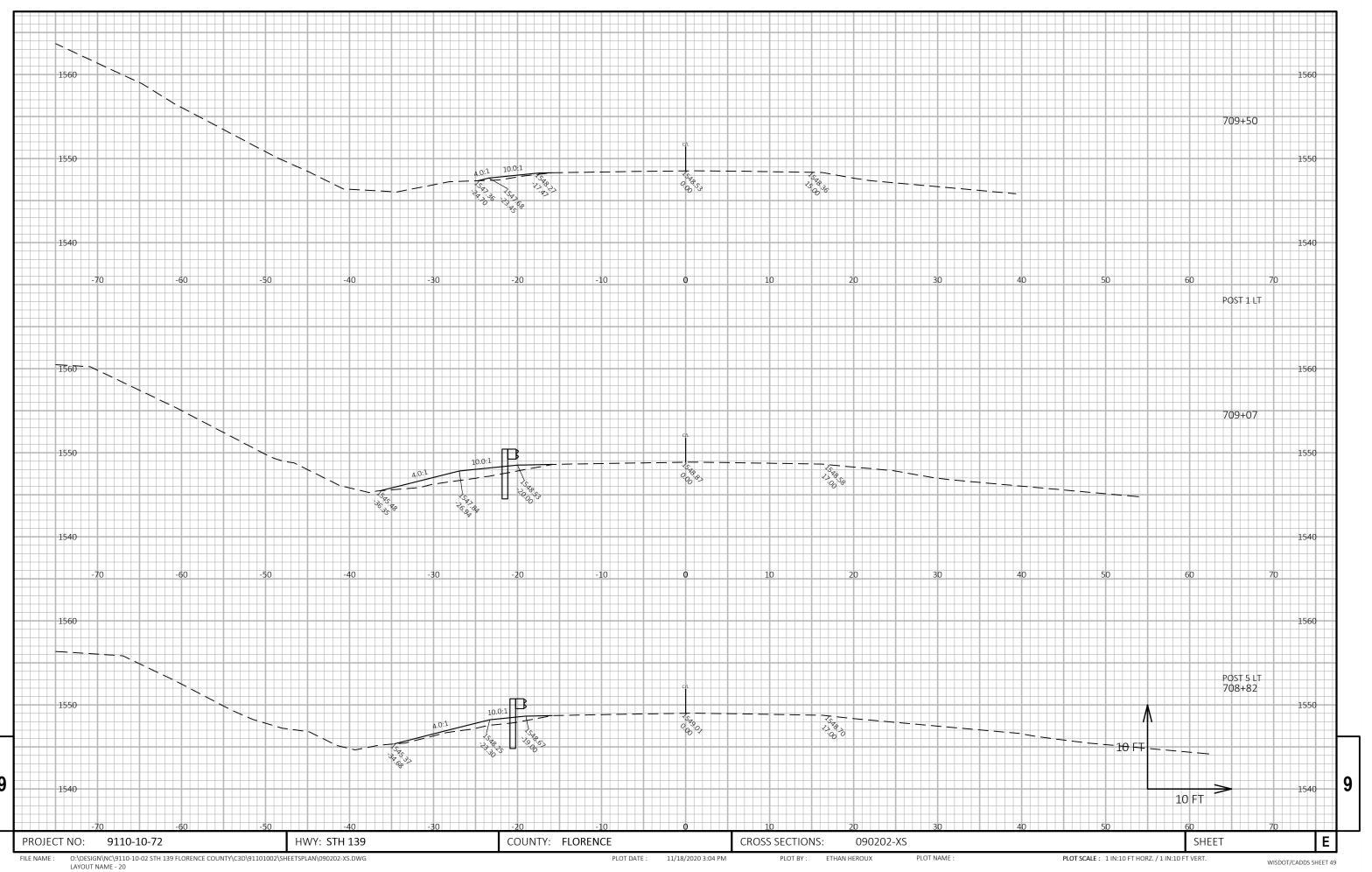












Notes



## Wisconsin Department of Transportation

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